N83447.AR.000522
NAS FORT WORTH
5090.3a

FINAL AREA OF CONCERN 4 1999 ANNUAL GROUNDWATER REPORT VOLUME 2 OF 2
NAS FORT WORTH TX
7/1/2000
HYDROGEOLOGIC

643 0

File: 17G
P.W.

# NAVAL AIR STATION
# FORT WORTH JRB
# CARSWELL FIELD
# TEXAS

# ADMINISTRATIVE RECORD
# COVER SHEET

**AR File Number** 643

File:
P.W. 17A-80-11643

613 1

# FINAL AREA OF CONCERN 4
# 1999 ANNUAL GROUNDWATER REPORT
# NAS FORT WORTH JRB, TEXAS

**VOLUME II OF II**

Prepared for
U.S. Air Force Center for Environmental Excellence
Brooks AFB, Texas

Contract Number F41624-95-D-8005
Delivery Order Number 0016

July 2000

HydroGeoLogic, Inc.
1155 Herndon Parkway
Suite 900
Herndon, Virginia 20170
(703) 478-5186

# APPENDIX E

# SIGNED LABORATORY SUMMARY REPORTS

# TAB

Appendix E January 99

Committed To *Your* Success

Severn Trent Laboratories
2417 Bond Street
University Park, IL 60466

Tel (708) 534-5200
Fax (708) 534-5211
www.stl-inc.com

February 10, 1999

Mr. Ken Rapuano
HydroGeoLogic, Inc.
1155 Herndon Parkway, Suite 900
Herndon, VA 20170

FEB 1 2 1999

RE: AFC-001-15IDA
Analytical Report & EDD
Lot 9901G858

Dear Mr. Rapuano:

The enclosed analytical report is for the project and lot number listed above. The Methane analyses were completed at Data/Analysis Technologies, Inc. If you have any questions, please contact me at 708-534-5200.

Sincerely,
Severn Trent Laboratories

Bosco Ramirez
Project Manager

sj

Enclosures

cc: CLP Report & 1 Summary/Nancy Weaver-Environmental Data Services, Inc.
EDD - Omar Abdi/HydroGeoLogic, Inc.

Approved By:

Michael J. Healy
General Manager

The results presented in this report relate only to the analytical testing and conditions of sample at receipt. This report pertains to only those samples actually tested. All 573 pages of this report are integral parts of the analytical data. Therefore, this report should be reproduced only in its entirety.

Severn Trent Laboratories Chicago
INORGANIC ANALYTICAL DATA PACKAGE FOR
AFC001-15IDA

LOT # 9901G858

| CLIENT ID /ANALYSIS | SAMPLE # | MTX | PREP # | COLLECTN | DATE REC | EXT/PREP | ANALYSIS |
|---|---|---|---|---|---|---|---|
| SPOT35-8WG07 | | | | | | | |
| ALKALINITY | 001 | W | 99GAK004 | 01/12/99 | 01/14/99 | 01/25/99 | 01/25/99 |
| ALKALINITY | 001 MS | W | 99GAK004 | 01/12/99 | 01/14/99 | 01/25/99 | 01/25/99 |
| ALKALINITY | 001 MSD | W | 99GAK004 | 01/12/99 | 01/14/99 | 01/25/99 | 01/25/99 |
| CHLORIDE BY IC | 001 | W | 99GIC019 | 01/12/99 | 01/14/99 | 01/14/99 | 01/14/99 |
| CHLORIDE BY IC | 001 MS | W | 99GIC019 | 01/12/99 | 01/14/99 | 01/14/99 | 01/14/99 |
| CHLORIDE BY IC | 001 MSD | W | 99GIC019 | 01/12/99 | 01/14/99 | 01/14/99 | 01/14/99 |
| NITRATE BY IC | 001 | W | 99GIC019 | 01/12/99 | 01/14/99 | 01/14/99 | 01/14/99 |
| NITRATE BY IC | 001 MS | W | 99GIC019 | 01/12/99 | 01/14/99 | 01/14/99 | 01/14/99 |
| NITRATE BY IC | 001 MSD | W | 99GIC019 | 01/12/99 | 01/14/99 | 01/14/99 | 01/14/99 |
| SULFATE BY IC | 001 | W | 99GIC019 | 01/12/99 | 01/14/99 | 01/14/99 | 01/14/99 |
| SULFATE BY IC | 001 MS | W | 99GIC019 | 01/12/99 | 01/14/99 | 01/14/99 | 01/14/99 |
| SULFATE BY IC | 001 MSD | W | 99GIC019 | 01/12/99 | 01/14/99 | 01/14/99 | 01/14/99 |
| TOTAL ORGANIC CARBON | 001 | W | 98GTC005 | 01/12/99 | 01/14/99 | 01/19/99 | 01/19/99 |
| TOTAL ORGANIC CARBON | 001 MS | W | 98GTC005 | 01/12/99 | 01/14/99 | 01/19/99 | 01/19/99 |
| TOTAL ORGANIC CARBON | 001 MSD | W | 98GTC005 | 01/12/99 | 01/14/99 | 01/19/99 | 01/19/99 |
| TOTAL ORGANIC CARBON | 001 | W | 98GTC005 | 01/12/99 | 01/14/99 | 01/19/99 | 01/19/99 |
| SUB-OUT TEST FOR SUB | 001 | W | | 01/12/99 | 01/14/99 | | |
| EB011299 | | | | | | | |
| ALKALINITY | 002 | W | 99GAK004 | 01/12/99 | 01/14/99 | 01/25/99 | 01/25/99 |
| CHLORIDE BY IC | 002 | W | 99GIC019 | 01/12/99 | 01/14/99 | 01/14/99 | 01/14/99 |
| NITRATE BY IC | 002 | W | 99GIC019 | 01/12/99 | 01/14/99 | 01/14/99 | 01/14/99 |
| SULFATE BY IC | 002 | W | 99GIC019 | 01/12/99 | 01/14/99 | 01/14/99 | 01/14/99 |
| TOTAL ORGANIC CARBON | 002 | W | 98GTC005 | 01/12/99 | 01/14/99 | 01/19/99 | 01/19/99 |
| TOTAL ORGANIC CARBON | 002 | W | 98GTC005 | 01/12/99 | 01/14/99 | 01/19/99 | 01/19/99 |
| SUB-OUT TEST FOR SUB | 002 | W | | 01/12/99 | 01/14/99 | | |
| TB011299 | | | | | | | |
| SUB-OUT TEST FOR SUB | 003 | W | | 01/12/99 | 01/14/99 | | |
| SPOT35-9WG07 | | | | | | | |
| ALKALINITY | 004 | W | 99GAK004 | 01/13/99 | 01/14/99 | 01/25/99 | 01/25/99 |
| CHLORIDE BY IC | 004 | W | 99GIC019 | 01/13/99 | 01/14/99 | 01/14/99 | 01/14/99 |
| NITRATE BY IC | 004 | W | 99GIC019 | 01/13/99 | 01/14/99 | 01/14/99 | 01/14/99 |



NY CERTIFICATION # 11006

Severn Trent Laboratories Chicago
INORGANIC ANALYTICAL DATA PACKAGE FOR
AFC001-15IDA

LOT # 9901G858

| CLIENT ID /ANALYSIS | SAMPLE # | MTX | PREP # | COLLECTN | DATE REC | EXT/PREP | ANALYSIS |
|---|---|---|---|---|---|---|---|
| SULFATE BY IC | 004 | W | 99GIC019 | 01/13/99 | 01/14/99 | 01/14/99 | 01/14/99 |
| TOTAL ORGANIC CARBON | 004 | W | 98GTC005 | 01/13/99 | 01/14/99 | 01/19/99 | 01/19/99 |
| TOTAL ORGANIC CARBON | 004 | W | 98GTC005 | 01/13/99 | 01/14/99 | 01/19/99 | 01/19/99 |
| SUB-OUT TEST FOR SUB | 004 | W | | 01/13/99 | 01/14/99 | | |
| WCHMHTA009WG07 | | | | | | | |
| ALKALINITY | 005 | W | 99GAK004 | 01/13/99 | 01/14/99 | 01/25/99 | 01/25/99 |
| CHLORIDE BY IC | 005 | W | 99GIC019 | 01/13/99 | 01/14/99 | 01/14/99 | 01/14/99 |
| NITRATE BY IC | 005 | W | 99GIC019 | 01/13/99 | 01/14/99 | 01/14/99 | 01/14/99 |
| SULFATE BY IC | 005 | W | 99GIC019 | 01/13/99 | 01/14/99 | 01/14/99 | 01/14/99 |
| TOTAL ORGANIC CARBON | 005 | W | 98GTC005 | 01/13/99 | 01/14/99 | 01/19/99 | 01/19/99 |
| TOTAL ORGANIC CARBON | 005 | W | 98GTC005 | 01/13/99 | 01/14/99 | 01/19/99 | 01/19/99 |
| SUB-OUT TEST FOR SUB | 005 | W | | 01/13/99 | 01/14/99 | | |
| EB011399 | | | | | | | |
| ALKALINITY | 006 | W | 99GAK004 | 01/13/99 | 01/14/99 | 01/25/99 | 01/25/99 |
| CHLORIDE BY IC | 006 | W | 99GIC019 | 01/13/99 | 01/14/99 | 01/14/99 | 01/14/99 |
| NITRATE BY IC | 006 | W | 99GIC019 | 01/13/99 | 01/14/99 | 01/14/99 | 01/14/99 |
| SULFATE BY IC | 006 | W | 99GIC019 | 01/13/99 | 01/14/99 | 01/14/99 | 01/14/99 |
| TOTAL ORGANIC CARBON | 006 | W | 98GTC005 | 01/13/99 | 01/14/99 | 01/19/99 | 01/19/99 |
| TOTAL ORGANIC CARBON | 006 | W | 98GTC005 | 01/13/99 | 01/14/99 | 01/19/99 | 01/19/99 |
| SUB-OUT TEST FOR SUB | 006 | W | | 01/13/99 | 01/14/99 | | |
| TB011399 | | | | | | | |
| SUB-OUT TEST FOR SUB | 008 | W | | 01/13/99 | 01/14/99 | | |

LAB QC

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| ALKALINITY | LCS BS | W | 99GAK004 | N/A | N/A | 01/25/99 | 01/25/99 |
| ALKALINITY | MB1 | W | 99GAK004 | N/A | N/A | 01/25/99 | 01/25/99 |
| CHLORIDE BY IC | LC1 BS | W | 99GIC019 | N/A | N/A | 01/14/99 | 01/14/99 |
| SULFATE BY IC | LC1 BS | W | 99GIC019 | N/A | N/A | 01/14/99 | 01/14/99 |
| CHLORIDE BY IC | LC2 BS | W | 99GIC019 | N/A | N/A | 01/14/99 | 01/14/99 |
| SULFATE BY IC | LC2 BS | W | 99GIC019 | N/A | N/A | 01/14/99 | 01/14/99 |

Severn Trent Laboratories Chicago
INORGANIC ANALYTICAL DATA PACKAGE FOR
AFC001-15IDA

LOT # 9901G858

| CLIENT ID /ANALYSIS | SAMPLE # | MTX | PREP # | COLLECTN | DATE REC | EXT/PREP | ANALYSIS |
|---|---|---|---|---|---|---|---|
| NITRATE BY IC | LCS BS | W | 99GIC019 | N/A | N/A | 01/14/99 | 01/14/99 |
| CHLORIDE BY IC | MB1 | W | 99GIC019 | N/A | N/A | 01/14/99 | 01/14/99 |
| NITRATE BY IC | MB1 | W | 99GIC019 | N/A | N/A | 01/14/99 | 01/14/99 |
| SULFATE BY IC | MB1 | W | 99GIC019 | N/A | N/A | 01/14/99 | 01/14/99 |
| TOTAL ORGANIC CARBON | LCS BS | W | 98GTC005 | N/A | N/A | 01/19/99 | 01/19/99 |
| TOTAL ORGANIC CARBON | MB1 | W | 98GTC005 | N/A | N/A | 01/19/99 | 01/19/99 |



NY CERTIFICATION # 11006

RECRA LabNet

# Cust dy Transf r R cord/Lab Work R quest

RECRA LabNet Use Only: 99016858

Client: ~~NAS Fl.wsh CDE~~ AFC-001-15IDA

Project #:

Date Rec'd.: 1/14/99 Date Due:

RECRA PM: Bosco Ramirez

Client Contact/Phone: Ken Rapuano

| RECRA Use Only Lab ID | Client ID/Description | Matrix | Date Collected | Refrigerator# P | 8 | 8 | 8 | 5 | 5 | 5/0 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | #/Type Container 1/P | 1/P | 1/G | 1/G | 3/G | 3/G | 3/G | | |
| | | | | Volume 1-l | 250ml | 1-l | 1-l | 40ml | 40ml | 40ml | | |
| | | | | Preservative | H2SO4 | | | HCl | HCl | HCl | | |
| | | | | ANALYSIS REQUESTED | Anions * ALKL | OCT OCT2 | TPH DRO | PAH OHPAH | BTEX+MTBE 8020 | TPH GRO | Meth. ISUB | RCRA |
| 001 | SPOT35-8WG07 W/MSD** | W | 1/12/99 | X | X | X | X | X | X | X | | ✓ |
| 002 | EB011299 | | | X | X | X | X | X | X | X | | |
| 003 | TB011299 | | | | | | | X | | X | | |
| 004 | SPOT35-9WG07 | | 1/13/99 | X | X | X | X | X | X | X | | |
| 005 | WCHMHTA2009WG07 | | | X | | | | | | | | |
| 006 | EB011399 | | | X | | | | | | | | |
| 007 | AB011399 | | | | | | | X | | | | |
| 008 | TB011399 | | | | | | | X | | X | | |

Matrix: W - Water, S - Soil, SE - Sediment, SO - Solid, DS - Drum Solids, O - Oil, A - Air, WI - Wipe, DL - Drum Liquids, F - Fish, L - EP/TCLP Leachate, X - Other

Special Instructions: * NO3, CL, SO4 (by IC) ** rec'd 3x vol.

QC = Custom Del = Cap-Like Internal COC

| Item/Reason | Relinquished by | Received by | Date | Time | Item/Reason | Relinquished by | Received by | Date | Time |
|---|---|---|---|---|---|---|---|---|---|
| 1-8 | | [illegible] | 1/14/99 | 1500 | | | | | |
| 1-6, 8 5/0 ISUB | [illegible] | FA → DAT | 1/18/99 | 1600 | | | | | |

OPEN 1/14/99

USED 1/16/99

-003, 007, 008 only 2, 40ml ea.

ISUB → DAT

RECRA LabNet Use Only

Samples Were
1 Shipped or Hand-Delivered
NOTES see
2 Ambient or Chilled
NOTES COC
3 Received Broken/Leaking (Improperly Sealed) Y N
NOTES
4 Properly Preserved Y N
NOTES 1/14/99
5 Received Within Holding Times Y N
NOTES

COC Tape Was
1 Present on Outer Package Y N
2 Unbroken on Outer Package Y N
3 Present on Sample Y N
4 Unbroken on Sample Y N
NOTES

COC Record Was
1 Present Upon Receipt of Samples Y N

Discrepancies Between Sample Labels and COC Record? Y N
NOTES

RECRA LabNet Use Only
99016858

# Custody Transf r R cord/Lab Work Requ st

RECRA LabNet

Client: HydroGeologic Inc
Est. Final Proj. Sampling Date: 2-5-99
Project #: AFC 001 1507 CDE
Project Contact/Phone #: Lynn Morgan
RECRA Project Manager: Bosco Ramirez
QC: ____ Del: ____ TAT: ____
Date Rec'd: ____ Date Due: ____
Account #: ____

Refrigerator #
#/Type Container: Liquid / Solid
Volume: Liquid / Solid
Preservatives

ANALYSES REQUESTED →

| Lab ID | Client ID/Description | Matrix QC Chosen (✓) MS | MSD | Matrix | Date Collected | Time Collected | ORGANIC VOA | BNA | Pest/PCB | Herb | BTEX MTBE | Methane | TPH-GRO | INORG Metal | CN | TPH DRO | TOC | Alk. Anion | PAH |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | ~~ET MW 01FW009~~ | | | ~~W~~ | ~~1/12/99~~ | | ~~3~~ | | | | | ~~3~~ | | ~~1~~ | | | ~~1~~ | ~~1~~ | ~~PD~~ |
| 001 | SPOT35-8WG07 | | | W | 1/12/99 | 1546 | | | | | 3 | 3 | 3 | | | 1 | 1 | 1 | 1 |
| | SPOT35-8WG07MS | X | | W | 1/12/99 | 1546 | | | | | 3 | 3 | 3 | | | 1 | 1 | 1 | 1 |
| | SPOT35-8WG07MD | | X | W | 1/12/99 | 1546 | | | | | 3 | 3 | 3 | | | 1 | 1 | 1 | 1 |
| 002 | EB011299 | | | W | 1/12/99 | 1800 | | PD | | | 3 | 3 | 3 | | | 1 | 1 | 1 | 1 |
| 003 | TB011299 | | | W | 1/12/99 | 1800 | ~~2~~ | | | | 2 | 2 | | | | | | | |

MATRIX CODES
S - Soil
SE - Sediment
SO - Solid
SL - Sludge
W - Water
O - Oil
A - Air
DS - Drum Solids
DL - Drum Liquids
L - EP/TCLP Leachate
WI - Wipe
X - Other
F - Fish

FIELD PERSONNEL COMPLETE ONLY SHADED AREAS

Special Instructions
~~Total Metals + mercury~~ PD

DATE/REVISIONS
1
2 ~~0902~~ 2.6 kms
3 60750 (0.2, 0.2, 1.3)
4 60752 (0.2, 0.6, 1.0)
5 60752 (0.9, 3.5, 1.3)
6 60738 (1.1, 1.6, 1.7)

RECRA LabNet Use Only

Samples were 1) Shipped ✓ or Hand Delivered ____
Airbill # ____
2) Ambient or Chilled
3) Received in Good Condition Y or N
4) Labels Indicate Properly Preserved Y or N
5) Received Within Holding Times Y or N

COC Tape was 1) Present on Outer Package Y or N 60754
2) Unbroken on Outer Package Y or N
3) Present on Sample Y or N
4) Unbroken on Sample Y or N
COC Record Present Upon Sample Rec't Y or N

| Relinquished by | Received by | Date | Time |
|---|---|---|---|
| [signature] | | 1/13/99 | 1600 |
| | [signature] | 1/14/99 | 1350 |

| Relinquished by | Received by | Date | Time |
|---|---|---|---|
| | | | |
| | | | |

Discrepancies Between Samples Lables and COC Record? Y or N
NOTES

643 9

643 . 10

RECRA LabNet Use Only
99016858

# Custody Transfer Record/Lab Work Request

RECRA LabNet

Client: HydroGeoLogic Inc
Est. Final Proj. Sampling Date: 2-5-99
Project #: AFC 001 07 CDE
Project Contact/Phone #: Lynn Morgan
RECRA Project Manager: Basco Ramirez
QC: ____ Del: ____ TAT: ____
Date Rec'd: ____ Date Due: ____
Account #: ____

Refrigerator #
#/Type Container: Liquid / Solid
Volume: Liquid / Solid
Preservatives

ANALYSES REQUESTED →

MATRIX CODES
S - Soil
SE - Sediment
SO - Solid
SL - Sludge
W - Water
O - Oil
A - Air
DS - Drum Solids
DL - Drum Liquids
L - EP/TCLP Leachate
WI - Wipe
X - Other
F - Fish

| Lab ID | Client ID/Description | Matrix QC Chosen (✓) MS | MSD | Matrix | Date Collected | Time Collected | ORGANIC VOA | BNA | Pest/PCB | Herb | BTEX MTBE | Methane | TPH-GRO | INORG Metal | CN | TOC | PAH | TPH-DRO | Alkalinity Anion |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 004 | SPOT 3 5-9W609 | | | W | 1/13/99 | 1407 | | | | | 3 | 3 | 3 | | | 1 | 1 | 1 | 1 |
| 005 | WCHMHTA 009W609 | | | W | 1/13/99 | 1100 | | | | | 3 | 3 | 3 | | | 1 | 1 | 1 | 1 |
| 006 | EB011399 | | | W | 1/13/99 | 1630 | | | | | 3 | 3 | 3 | | | 1 | 1 | 1 | 1 |
| 007 | AB011399 | | | W | 1/13/99 | 1407 | | | | | 2 | | | | | | | | |
| 008 | TB011399 | | | W | 1/13/99 | 0800 | | | | | 2 | 2 | | | | | | | |

RECRA LabNet Use Only

FIELD PERSONNEL COMPLETE ONLY SHADED AREAS

Special Instructions

DATE/REVISIONS
1
2 60750 (0.2, 0.2, 13)
3 60754 (0.2, 0.6, 1.0)
4 ~~6962 2.6 g/L~~
5 60752 (0.9, 3.5, 1.3)
6 60738 (1, 1.6, 1.7)

| Relinquished by | Received by | Date | Time |
|---|---|---|---|
| B. Drook | | 1/13/99 | 1700 |
| | K. Mechuff | 1/14/99 | 1350 |

| Relinquished by | Received by | Date | Time |
|---|---|---|---|
| | | | |
| | | | |

RECRA LabNet Use Only

Samples were 1) Shipped ☒ or Hand Delivered ___
Airbill # ____
2) Ambient or Chilled
3) Received in Good Condition Y or N
4) Labels Indicate Properly Preserved Y or N
5) Received Within Holding Times Y or N

COC Tape was
1) Present on Outer Package Y or N
2) Unbroken on Outer Package Y or N
3) Present on Sample Y or N
4) Unbroken on Sample Y or N
COC Record Present Upon Sample Rec't Y or N

Discrepancies Between Samples Lables and COC Record? Y or N
NOTES

Page ___ of 1

To AFC001-15IDA
c/o HydroGeoLogic, Inc.
1155 Herndon Parkway, Ste. 900
Herndon, VA 20170

Attn Mr. Ken Rapuano

Date Tuesday February 2nd, 1999

RE SPOT35-8WG07
Project # 60025-001-001-0001
Lab ID. 9901G858-001
Sample Date: 01/12/99
Date Received. 01/14/99

## Inorganic Data Report

| Parameters | Result | | Units | Reporting Limit |
|---|---|---|---|---|
| Alkalinity | 445 | | mg/L | 10 0 |
| Chloride by IC | 87.4 | | mg/L | 25.0 |
| Nitrate-N by IC | 0 10 | u | mg/L | 0 10 |
| Sulfate by IC | 32.5 | | mg/L | 5.0 |
| Total Organic Carbon | 3.0 | | mg/L | 1 0 |
| TOC Test 2 | 3.0 | | mg/L | 1 0 |

To: AFC001-15IDA
c/o HydroGeoLogic, Inc.
1155 Herndon Parkway, Ste. 900
Herndon, VA 20170

Attn Mr. Ken Rapuano

Date Tuesday February 2nd, 1999

RE EB011299
Project # 60025-001-001-0001
Lab ID. 9901G858-002
Sample Date· 01/12/99
Date Received 01/14/99

## Inorganic Data Report

| Parameters | Result | | Units | Reporting Limit |
|---|---|---|---|---|
| Alkalinity | 10.0 | u | mg/L | 10 0 |
| Chloride by IC | 0.20 | u | mg/L | 0.20 |
| Nitrate-N by IC | 0 10 | u | mg/L | 0.10 |
| Sulfate by IC | 0.20 | u | mg/L | 0.20 |
| Total Organic Carbon | 1 0 | u | mg/L | 1 0 |
| TOC Test 2 | 1 0 | u | mg/L | 1 0 |

To AFC001-15IDA
c/o HydroGeoLogic, Inc.
1155 Herndon Parkway, Ste. 900
Herndon, VA 20170

Attn Mr. Ken Rapuano

Date: Tuesday February 2nd, 1999

RE SPOT35-9WG07
Project # 60025-001-001-0001
Lab ID 9901G858-004
Sample Date 01/13/99
Date Received 01/14/99

## Inorganic Data Report

| Parameters | Result | Units | Reporting Limit |
|---|---|---|---|
| Alkalinity | 384 | mg/L | 10.0 |
| Chloride by IC | 44.6 | mg/L | 5.0 |
| Nitrate-N by IC | 0.68 | mg/L | 0.10 |
| Sulfate by IC | 51 4 | mg/L | 5 0 |
| Total Organic Carbon | 6 3 | mg/L | 1.0 |
| TOC Test 2 | 6 5 | mg/L | 1 0 |

To AFC001-15IDA
c/o HydroGeoLogic, Inc.
1155 Herndon Parkway, Ste. 900
Herndon, VA 20170

Attn Mr. Ken Rapuano

Date Tuesday February 2nd, 1999

RE. WCHMHTA009WG07
Project # 60025-001-001-0001
Lab ID· 9901G858-005
Sample Date. 01/13/99
Date Received 01/14/99

## Inorganic Data Report

| Parameters | Result | Units | Reporting Limit |
|---|---|---|---|
| Alkalinity | 278 | mg/L | 10 0 |
| Chloride by IC | 66.7 | mg/L | 5.0 |
| Nitrate-N by IC | 8.5 | mg/L | 0 50 |
| Sulfate by IC | 36.8 | mg/L | 5 0 |
| Total Organic Carbon | 1 7 | mg/L | 1 0 |
| TOC Test 2 | 1.7 | mg/L | 1 0 |

To AFC001-15IDA
c/o HydroGeoLogic, Inc.
1155 Herndon Parkway, Ste. 900
Herndon, VA 20170

Attn: Mr. Ken Rapuano

Date: Tuesday February 2nd, 1999

RE. EB011399
Project # 60025-001-001-0001
Lab ID. 9901G858-006
Sample Date. 01/13/99
Date Received: 01/14/99

## Inorganic Data Report

| Parameters | Result | | Units | Reporting Limit |
|---|---|---|---|---|
| Alkalinity | 10.0 | u | mg/L | 10 0 |
| Chloride by IC | 0.20 | u | mg/L | 0.20 |
| Nitrate-N by IC | 0 10 | u | mg/L | 0 10 |
| Sulfate by IC | 0 20 | u | mg/L | 0.20 |
| Total Organic Carbon | 1.0 | u | mg/L | 1 0 |
| TOC Test 2 | 1 0 | u | mg/L | 1 0 |

To: AFC001-15IDA
c/o HydroGeoLogic, Inc.
1155 Herndon Parkway, Ste. 900
Herndon, VA 20170

Attn Mr. Ken Rapuano

Date Tuesday February 2nd, 1999

Project # 60025-001-001-0001
Lab Batch. 9901G858

## Inorganic Method Blank Data Report

| Sample | Lab ID | Parameter | Result | | Units | Reporting Limit |
|---|---|---|---|---|---|---|
| Blank 1 | 99GAK004-MB1 | Alkalinity | 10 0 | u | mg/L | 10 0 |
| Blank 1 | 99GIC019-MB1 | Chloride by IC | 0 20 | u | mg/L | 0.20 |
| | | Nitrate-N by IC | 0.10 | u | mg/L | 0 10 |
| | | Sulfate by IC | 0.20 | u | mg/L | 0.20 |
| Blank 1 | 98GTC005-MB1 | Total Organic Carbon | 1 0 | u | mg/L | 1 0 |

To AFC001-15IDA
c/o HydroGeoLogic, Inc.
1155 Herndon Parkway, Ste. 900
Herndon, VA 20170

Attn Mr. Ken Rapuano

Date Tuesday February 2nd, 1999

Project # 60025-001-001-0001
Lab Batch. 9901G858

## Inorganic Accuracy Data Report

| Sample | Site ID | Parameter | Spiked Sample | Initial Result | | Spiked Amount | % Recov |
|---|---|---|---|---|---|---|---|
| -001 | SPOT35-8WG07 | Alkalinity | 540 | 445 | | 100 | NA |
| | | Alkalinity MSD | 541 | 445 | | 100 | NA |
| | | Chloride by IC | 185 | 87 4 | | 125 | 77.7 |
| | | Chloride by IC MSD | 191 | 87 4 | | 125 | 83 2 |
| | | Nitrate-N by IC | 44 | 0.10 | u | 50 | 87[illegible] |
| | | Nitrate-N by IC MSD | 46 | 0.10 | u | 50 | 91.0 |
| | | Sulfate by IC | 137 | 32 5 | | 125 | 83 3 |
| | | Sulfate by IC MSD | 147 | 32.5 | | 125 | 92 0 |
| | | TOC | 13.3 | 3 0 | | 10 0 | 103 |
| | | TOC MSD | 13 4 | 3.0 | | 10.0 | 104 |

To AFC001-15IDA
c/o HydroGeoLogic, Inc.
1155 Herndon Parkway, Ste. 900
Herndon, VA 20170

Attn Mr. Ken Rapuano

Date Tuesday February 2nd, 1999

Project # 60025-001-001-0001
Lab Batch 9901G858

## Inorganic Duplicate Spike Report

| Sample | Site ID | Parameter | Spike #1 % Recov | Spike #2 % Recov | RPD |
|---|---|---|---|---|---|
| -001 | SPOT35-8WG07 | Alkalinity | NA | NA | NC |
| | | Chloride by IC | 77.7 | 83.2 | 6.8 |
| | | Nitrate-N by IC | 87.4 | 91.0 | 4 1 |
| | | Sulfate by IC | 83 3 | 92 0 | 9.8 |
| | | TOC | 103 | 104 | 1.4 |

To AFC001-15IDA
c/o HydroGeoLogic, Inc.
1155 Herndon Parkway, Ste. 900
Herndon, VA 20170

Attn Mr. Ken Rapuano

Date Tuesday February 2nd, 1999

Project # 60025-001-001-0001
Lab Batch 9901G858

## Inorganic Laboratory Control Standards Report

| Lab ID | Parameter | Spiked Amount | Units | Spike #1 % Recov. | Spike #2 % Recov. | RPD |
|---|---|---|---|---|---|---|
| 99GAK004-LCS | Alkalinity | 100 | mg/L | 94 8 | NA | NA |
| 99GIC019-LC1 | Chloride by IC | 5 0 | mg/L | 98 8 | NA | NA |
| | Sulfate by IC | 5 0 | mg/L | 93.0 | NA | NA |
| 99GIC019-LC2 | Chloride by IC | 50 0 | mg/L | 96 6 | NA | NA |
| | Sulfate by IC | 50.0 | mg/L | 93 9 | NA | NA |
| 99GIC019-LCS | Nitrate-N by IC | 2.0 | mg/L | 92 4 | NA | NA |
| 98GTC005-LCS | TOC | 5.0 | mg/L | 107 | NA | NA |

# Severn Trent Laboratories Chicago
# Wet Chemistry Case Narrative

Client: HydroGeoLogic NAS Ft. Worth AFC001-15IDA
RFW Lot: 9901G858 Date Rec'd: 01/14/99

1. This narrative covers the analysis of the samples in the above RFW Lot by the following methods.

   Alkalinity - EPA Method 310.1
   Anions by Ion Chromatography - SW 846 9056
   - Chloride
   - Nitrate as N
   - Sulfate as $SO_4$

   TOC - EPA Method 415.1

2. The EPA water holding times were met. Refer to the Laboratory Chronicle Page for dates of sampling, receipt, and analysis

3. The initial and continuing calibration verification standards and blanks were in control. There are two ICVs and two CCVs every 10 readings in the IC sets. Please see the LCS discussion below, in item 5.

4. All method blanks were below the detection limits

5. All LCS recoveries were within control limits Severn Trent Laboratories Chicago has recently started using 2 IC standard curves and calculating each sample chromatogram against the better curve for its concentration This cuts down on the number of dilutions that are needed and expedites analysis, which can be especially important for those ions with short holding times. Accommodating two linear ranges technically within one analytical prep batch requires 2 LCSs, one mid-range on each curve. Both LCSs are included in the data, but they are not duplicates of each other and no RPD is calculated between them. Please see the LCS Summary Pages of this report for additional details.

6. Matrix QC was designated on sample 9901G858-001, and was all within acceptance limits. The alkalinity MS/MSD concentration was less than 1/4 the sample concentration, and therefore appears as NA on the Inorganic Accuracy Report page.

Diane L. Harper
Wet Chemistry Section Manager

2/3/99
Date

[illegible] Chicago
[illegible] ANAL TICAL [illegible] PAGE FOR
AFC-001-1[illegible]DA

LOT = 9901G858

| [illegible] | SAMPLE # | MTX | PREP # | COLLECTION | DATE REC | EXT/PREP | ANALYSIS |
|---|---|---|---|---|---|---|---|
| [illegible] 8WG0 | 001 | W | 99GP0045 | 01 12 99 | 01 14 99 | 01/18/99 | 01/19/99 |
| [illegible]-8WG0[illegible] | 001 MS | W | 99GP0045 | 01 12/99 | 01/14/99 | 01/18/99 | 01/19/99 |
| [illegible] 8WG0 | 001 MSD | W | 99GP0045 | 01 12 99 | 01 14/99 | 01/18/99 | 01/19/99 |
| EB011299 | 002 | W | 99GP0045 | 01/12/99 | 01/14/99 | 01/18/99 | 01/19/99 |
| SPOT35-9WG07 | 004 | W | 99GP0045 | 01/13/99 | 01/14/99 | 01/18/99 | 01/19/99 |
| WCHMHTA009WG07 | 005 | W | 99GP0045 | 01/13/99 | 01/14/99 | 01/18/99 | 01/19/99 |
| [illegible]011399 | 006 | W | 99GP0045 | 01 13 99 | 01/14/99 | 01/18/99 | 01/20/99 |

LAB QC

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| PBLKHC | MB1 | W | 99GP0045 | N/A | N/A | 01/18/99 | 01/19/99 |
| PBLKHC | MB1 BS | W | 99GP0045 | N/A | N/A | 01/18/99 | 01/19/99 |

Recra LabNet - Chicago
DIESEL RANGE ORGANICS

RFW Batch Number 9901G858 Client AFC-001-15IDA Work Order: 60025-001-001-0 Report Date 01/20/99 10 55 Page 1

| | Cust ID | SPOT35-8WG07 | SPOT35-8WG07 | SPOT35-8WG07 | EB011299 | SPOT35-9WG07 | WCHMHTA009WG07 |
|---|---|---|---|---|---|---|---|
| Sample Information | RFW# | 001 | 001 MS | 001 MSD | 002 | 004 | 005 |
| | Matrix | WATER | WATER | WATER | WATER | WATER | WATER |
| | D F | 0 50 | 0 50 | 0 50 | 0 50 | 0 50 | 0 50 |
| | Units | MG/L | MG/L | MG/L | MG/L | MG/L | MG/L |
| Surrogate | 2 Fluorobiphenyl | 88 % | 95 % | 94 % | 99 % | 79 % | 86 % |
| | o-Terphenyl | 74 % | 61 % | 61 % | 87 % | 71 % | 82 % |
| Diesel Range Organics | | 0 13 Y | 65 % | 66 % | 0 10 JZ | 0 12 U | 0 17 7 |

| | Cust ID | EB011399 | PBLKHC | PBLKHC BS |
|---|---|---|---|---|
| Sample Information | RFW# | 006 | 99GP0045-MB1 | 99GP0045-MB1 |
| | Matrix | WATER | WATER | WATER |
| | D F | 0 50 | 0 50 | 0 50 |
| | Units | MG/L | MG/L | MG/L |
| Surrogate | 2-Fluorobiphenyl | 94 % | 93 % | 104 % |
| | o-Terphenyl | 82 % | 88 % | 68 % |
| Diesel Range Organics | | 0 093 JZ | 0 12 U | 70 % |

U= Analyzed not detected J= Present below detection limit B= Present in blank NR= Not requested NS= Not spiked
%= Percent recovery D= Diluted out I= Interference NA= Not Applicable *= Outside of EPA CLP QC

Severn Trent Laboratories Chicago
Extractable Hydrocarbon Case Narrative

AFC-001-15IDA
RFW# 9901G858-001, 002, 004, 005 and 006
Diesel Range Organics (DRO)

1 These samples were extracted based on SW846 method 3520 and analyzed for DRO based on SW846 method 8015 and the California LUFT Manual An HP5890 gas chromatograph equipped with a flame ionization detector and an Xti-5 column was used for the analysis

2 All required holding times were met for the extraction and the analysis

3 The method blank was below the reporting limit for DRO

4 The surrogate compounds used for this analysis were o-Terphenyl and 2-Fluorobiphenyl All surrogate recoveries were within control limits and are summarized on Form 2E

5 The blank spike recovery was within control limits and is summarized on Form 3E A solution of Diesel Fuel was used for spiking

6 A matrix spike and a matrix spike duplicate were performed on sample 9901G858-001 (SPOT35-8WG07) The recoveries and the RPD were within control limits and are summarized on Form 3E A solution of Diesel Fuel was used for spiking

7 A Diesel Fuel #2 standard was used for quantitating DRO results, using a hydrocarbon range from C10 through C28 A hydrocarbon standard ranging from C8 through C36 was analyzed for qualitative purposes of interfering hydrocarbons

8 All initial and continuing standard calibrations were within control limits

9 All positive hits in these have been flagged with a "Y" if they appear to match a typical fuel pattern, and with a "Z" if they do not appear to match a typical fuel pattern

Linda S Mackley
Linda S Mackley
Organics Section Manager

2-1-99
Date

Severn Trent Laboratories Chicago
GRO ANALYTICAL DATA PACKAGE FOR
AFC001-15IDA

643 21

LOT # 9901G858

| CLIENT ID | SAMPLE # | MTX | PREP # | COLLECTN | DATE REC | EXT/PREP | ANALYSIS |
|---|---|---|---|---|---|---|---|
| SPOT35-8WG07 | 001 | W | 99GVD005 | 01/12/99 | 01/14/99 | N/A | 01/22/99 |
| SPOT35-8WG07 | 001 MS | W | 99GVD005 | 01/12/99 | 01/14/99 | N/A | 01/22/99 |
| SPOT35-8WG07 | 001 MSD | W | 99GVD005 | 01/12/99 | 01/14/99 | N/A | 01/22/99 |
| EB011299 | 002 | W | 99GVD005 | 01/12/99 | 01/14/99 | N/A | 01/22/99 |
| SPOT35-9WG07 | 004 | W | 99GVD005 | 01/13/99 | 01/14/99 | N/A | 01/22/99 |
| WCHMHTA009WG07 | 005 | W | 99GVD005 | 01/13/99 | 01/14/99 | N/A | 01/22/99 |
| EB011399 | 006 | W | 99GVD005 | 01/13/99 | 01/14/99 | N/A | 01/22/99 |
| LAB QC | | | | | | | |
| BLK | MB1 | W | 99GVD005 | N/A | N/A | N/A | 01/22/99 |
| BLK | MB1 BS | W | 99GVD005 | N/A | N/A | N/A | 01/22/99 |

NY CERTIFICATION # 11006

Recra LabNet - Chicago
GASOLINE RANGE ORGANICS

Report Date. 02/01/99 14:59
Page 1

RFW Batch Number 9901G858 Client: AFC001-15IDA Work Order 60025-001-001-0

| | Cust ID: | SPOT35-8WG07 | SPOT35-8WG07 | SPOT35-8WG07 | EB011299 | SPOT35-9WG07 | WCHMHTA009WG07 |
|---|---|---|---|---|---|---|---|
| Sample Information | RFW#. | 001 | 001 MS | 001 MSD | 002 | 004 | 005 |
| | Matrix | WATER | WATER | WATER | WATER | WATER | WATER |
| | D F | 1 0 | 1 0 | 1 0 | 1 0 | 1 0 | 1 0 |
| | Units. | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Surrogate | a,a,a-Trifluorotoluene | 95 % | 107 % | 107 % | 94 % | 88 % | 98 % |
| | 4-Bromofluorobenzene | 95 % | 102 % | 102 % | 94 % | 85 % | 89 % |
| Gasoline Range Organics | | 53 Z | 89 % | 85 % | 50 U | 58 Z | 130 Z |

| | Cust ID | EB011399 | BLK | BLK BS |
|---|---|---|---|---|
| Sample Information | RFW#· | 006 | 99GVD005-MB1 | 99GVD005-MB1 |
| | Matrix | WATER | WATER | WATER |
| | D.F | 1 0 | 1 0 | 1 0 |
| | Units | ug/L | ug/L | ug/L |
| Surrogate | a,a,a-Trifluorotoluene | 96 % | 77 % | 93 % |
| | 4-Bromofluorobenzene | 96 % | 77 % | 89 % |
| Gasoline Range Organics | | 50 U | 50 U | 92 % |

U= Analyzed, not detected J= Present below detection limit B= Present in blank NR= Not requested NS= Not spiked
%= Percent recovery D= Diluted out I= Interference NA= Not Applicable *= Outside of EPA CLP QC

Severn Trent Laboratories Chicago
Volatiles Case Narrative

AFC001-15IDA
RFW# 9901G858-001, 002, 004, 005 and 006
Gasoline Range Organics (GRO)

1 These samples were analyzed for Gasoline Range Organics (GRO) based on SW846 methods 5030 and 8015 An HP5890 gas chromatograph equipped with a flame ionization detector and a Tekmar LSC-2000/2016 ALS was used for the analysis of these samples

2 All required holding times were met for the analysis

3 The method blank was below the reporting limit for GRO

4 The surrogate compounds used for this analysis were a,a,a-Trifluorotoluene and 4-Bromofluorobenzene All surrogate recoveries were within control limits and are summarized on Form 2

5 The blank spike recovery was within control limits and is summarized on Form 3 A solution of Gasoline was used for spiking

6 A matrix spike and a matrix spike duplicate were performed on sample 9901G858-001 (SPOT35-8WG07) The recoveries and the RPD were within control limits and are summarized on Form 3 A solution of Gasoline was used for spiking.

7 All initial and continuing standard calibrations for GRO were within control limits

8 All positive hits for these samples have been flagged with a "Z" because they do not appear to match a typical fuel pattern

Linda S Mackley
Linda S Mackley
Organics Section Manager

2-4-99
Date

Severn Trent Laboratories Chicago
8020 ANALYTICAL DATA PACKAGE FOR
AFC001-15IDA

LOT # :9901G858

| CLIENT ID | SAMPLE # | MTX | PREP # | COLLECTN | DATE REC | EXT/PREP | ANALYSIS |
|---|---|---|---|---|---|---|---|
| SPOT35-8WG07 | 001 | W | 99GVD010 | 01/12/99 | 01/14/99 | N/A | 01/22/99 |
| SPOT35-8WG07 | 001 C1 | W | 99GVD014 | 01/12/99 | 01/14/99 | N/A | 01/26/99 |
| SPOT35-8WG07 | 001 MS | W | 99GVD010 | 01/12/99 | 01/14/99 | N/A | 01/22/99 |
| SPOT35-8WG07 | 001 MS C1 | W | 99GVD014 | 01/12/99 | 01/14/99 | N/A | 01/26/99 |
| SPOT35-8WG07 | 001 MSD | W | 99GVD010 | 01/12/99 | 01/14/99 | N/A | 01/22/99 |
| SPOT35-8WG07 | 001 MSD C1 | W | 99GVD014 | 01/12/99 | 01/14/99 | N/A | 01/26/99 |
| EB011299 | 002 | W | 99GVD010 | 01/12/99 | 01/14/99 | N/A | 01/22/99 |
| TB011299 | 003 | W | 99GVD010 | 01/12/99 | 01/14/99 | N/A | 01/22/99 |
| SPOT35-9WG07 | 004 | W | 99GVD010 | 01/13/99 | 01/14/99 | N/A | 01/22/99 |
| WCHMHTA009WG07 | 005 | W | 99GVD010 | 01/13/99 | 01/14/99 | N/A | 01/22/99 |
| EB011399 | 006 | W | 99GVD010 | 01/13/99 | 01/14/99 | N/A | 01/22/99 |
| AB011399 | 007 | W | 99GVD010 | 01/13/99 | 01/14/99 | N/A | 01/22/99 |
| TB011399 | 008 | W | 99GVD010 | 01/13/99 | 01/14/99 | N/A | 01/22/99 |
| LAB QC: | | | | | | | |
| BLK | MB1 | W | 99GVD010 | N/A | N/A | N/A | 01/22/99 |
| BLK | MB1 BS | W | 99GVD010 | N/A | N/A | N/A | 01/22/99 |
| BLK | MB1 | W | 99GVD014 | N/A | N/A | N/A | 01/26/99 |
| BLK | MB1 BS | W | 99GVD014 | N/A | N/A | N/A | 01/26/99 |

NY CERTIFICATION # 11006

643 28

10

Recra LabNet - Chicago
PURGEABLE AROMATICS BY GC

RFW Batch Number 9901G858 Client AFC001-15IDA Work Order 60025-001-001-0 Report Date 02/05/99 10 36 Page 1

| | Cust ID | SPOT35-8WG07 | SPOT35-8WG07 | SPOT35-8WG07 | SPOT35-8WG07 | SPOT35-8WG07 | SPOT35-8WG07 |
|---|---|---|---|---|---|---|---|
| Sample Information | RFW# | 001 | 001 | 001 MS | 001 MS | 001 MSD | 001 MSD |
| | Matrix | WATER | WATER | WATER | WATER | WATER | WATER |
| | D F | 1 0 | 1 0 | 1 0 | 1 0 | 1 0 | 1 0 |
| | Units | ug/L | ug/L CONFIRM | ug/L | ug/L CONFIRM | ug/L | ug/L CONFIRM |
| Surrogate | a a a Trifluorotoluene | 102 % | 85 % | 100 % | 83 % | 102 % | 86 % |
| | 4-Bromofluorobenzene | 95 % | 83 % | 93 % | 82 % | 95 % | 96 % |
| Benzene | | 1 2 J | 0 72 J J | 106 % | 100 % | 104 % | 96 % |
| Toluene | | 1 0 U | NA | 103 % | 101 % | 102 % | 96 % |
| Ethylbenzene | | 1 0 U | NA | 100 | 100 % | 97 % | 94 % |
| Xylene (total) | | 1 0 U | NA | 101 | 102 % | 98 % | 96 % |
| Methyl tert butyl ether | | 1 0 U | NA | 144 * % | 1 % | 141 * % | 1 % |

LSM 2-5-99

| | Cust ID | EB011299 | TB011299 | SPOT35-9WG07 | WCHMHTA009WG07 | EB011399 | AB011399 |
|---|---|---|---|---|---|---|---|
| Sample Information | RFW# | 002 | 003 | 004 | 005 | 006 | 007 |
| | Matrix | WATER | WATER | WATER | WATER | WATER | WATER |
| | D F | 1 0 | 1 0 | 1 0 | 1 0 | 1 0 | 1 0 |
| | Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Surrogate | a a a Trifluorotoluene | 100 % | 103 % | 102 | 99 % | 100 % | 107 % |
| | 4 Bromofluorobenzene | 92 % | 97 % | 94 % | 86 % | 92 % | 98 % |
| Benzene | | 1 0 U | 1 0 U | 1 0 U | 1 0 U | 1 0 U | 1 0 U |
| Toluene | | 1 0 U | 1 0 U | 1 0 U | 1 0 U | 1 0 U | 1 0 U |
| Ethylbenzene | | 1 0 U | 1 0 U | 1 0 U | 1 0 U | 1 0 U | 1 0 U |
| Xylene (total) | | 1 0 U | 1 0 U | 1 0 U | 1 0 U | 1 0 U | 1 0 U |
| Methyl tert butyl ether | | 1 0 U | 1 0 U | 1 0 U | 1 0 U | 1 0 U | 1 0 U |

U= Analyzed not detected J= Present below detection limit B= Present in blank NR= Not requested NS= Not spiked
- Percent recovery D= Diluted out I= Interference NA= Not Applicable = Outside of EPA CLP QC

Recra LabNet - Chicago
PURGEABLE AROMATICS BY GC

RFW Batch Number 9901G858 Client AFC001-15IDA Work Order 60025-001-001-0 Report Date 02/05/99 10 36 Page 2

| | Cust ID | TB011399 | BLK | BLK BS | BLK | BLK BS |
|---|---|---|---|---|---|---|
| Sample Information | RFW# | 008 | 99GVD010-MB1 | 99GVD010-MB1 | 99GVD014-MB1 | 99GVD014-MB1 |
| | Matrix | WATER | WATER | WATER | WATER | WATER |
| | D F | 1 0 | 1 0 | 1 0 | 1 0 | 1 0 |
| | Units | ug/L | ug/L | ug/L | ug/L | ug/L |
| Surrogate | a a a-Trifluorotoluene | 97 % | 104 % | 102 % | 77 % | 80 % |
| | 4-Bromofluorobenzene | 97 % | 97 % | 99 % | 81 % | 81 % |
| Benzene | | 1 0 U | 1 0 U | 103 % | 1 0 U | 97 % |
| Toluene | | 1 0 U | 1 0 U | 102 % | 1 0 U | 98 % |
| Ethylbenzene | | 1 0 U | 1 0 U | 101 % | 1 0 U | 97 % |
| Xylene (total) | | 1 0 U | 1 0 U | 102 % | 1 0 U | 100 % |
| Methyl tert butyl ether | | 1 0 U | 1 0 U | 82 % | 1 0 U | 94 % |

U= Analyzed but not detected J= Present below detection limit B= Present in blank NR= Not requested N= Not spiked
= Percent recovery D= Diluted out I= Interference NA= Not Applicable *= Outside of EPA CLP QC

Severn Trent Laboratories Chicago
Volatiles Case Narrative

AFC003-151DA
RFW # 9901G858-001,008
Purgeable Aromatics

1 These samples were analyzed for Benzene, Toluene, Ethylbenzene, Xylene (total) and Methyl-tert-butyl ether based on SW 846 methods 5030 and 8020 An HP5890 gas chromatograph, equipped with a Photoionization Detector and interfaced with a Tekmar LCS 2000/2016 ALS system, was used for the primary analysis A Tracor 540 gas chromatograph, equipped with a Photoionization Detector and interfaced with a Tekmar LCS 2000/2016 ALS system, was used for the confirmation analysis

2 All required holding times were met for the analysis

3 All method blanks were below the reporting limits for all target compounds

4 The surrogate compounds used for this analysis were a,a,a-Trifluorotoluene and 4-Bromofluorobenzene All surrogate recoveries were within control limits and are summarized on Form 2

5 All blank spike recoveries were within control limits and are summarized on Forms 3

6 A matrix spike and matrix spike duplicate were performed on 9901G858-001 (SPOT35-8WG07) The Methyl-tert-butyl ether in the matrix spike and matrix spike duplicate were 144% and 141% respectively on the primary column The same compound on the confirmation column was interfered with and flagged with an "I" All recoveries and RPDs are summarized on Forms 3

7 All initial and continuing standard calibrations associated with these samples were within control limits on the both columns with the following exception

CCV run 01/27/99 at 14 23 on the DB-624 column had Benzene biased low at 84 2% recovery

8 Analyte concentrations that are greater than 25% difference between the two columns have been flagged with a "I"

Linda S Mackley
Linda S Mackley
Organics Section Manager

2-5-99
Date

Severn Trent Laboratories Chicago
HPAH ANALYTICAL DATA PACKAGE FOR
AFC001-151DA

LOT # 9901G858

| CLIENT ID | SAMPLE # | MTX | PREP # | COLLECTN | DATE REC | EXT/PREP | ANALYSIS |
|---|---|---|---|---|---|---|---|
| SPOT35-8WG07 | 001 | W | 99GP0042 | 01/12/99 | 01/14/99 | 01/17/99 | 01/20/99 |
| SPOT35-8WG07 | 001 MS | W | 99GP0042 | 01/12/99 | 01/14/99 | 01/17/99 | 01/20/99 |
| SPOT35-8WG07 | 001 MSD | W | 99GP0042 | 01/12/99 | 01/14/99 | 01/17/99 | 01/20/99 |
| EB011299 | 002 | W | 99GP0042 | 01/12/99 | 01/14/99 | 01/17/99 | 01/20/99 |
| SPOT35-9WG07 | 004 | W | 99GP0042 | 01/13/99 | 01/14/99 | 01/17/99 | 01/20/99 |
| WCHMHTA009WG07 | 005 | W | 99GP0042 | 01/13/99 | 01/14/99 | 01/17/99 | 01/20/99 |
| EB011399 | 006 | W | 99GP0042 | 01/13/99 | 01/14/99 | 01/17/99 | 01/20/99 |
| LAB QC | | | | | | | |
| BLK | MB1 | W | 99GP0042 | N/A | N/A | 01/17/99 | 01/20/99 |
| BLK | MB1 BS | W | 99GP0042 | N/A | N/A | 01/17/99 | 01/20/99 |



NY CERTIFICATION # 11006

Recra LabNet - Chicago
PAHs BY HPLC

Report Date 02/01/99 16 41
Page 1

RFW Batch Number 9901G858 Client AFC001-15IDA Work Order 60025-001-001-0

| | Cust ID | SPOT35-8WG07 | SPOT35-8WG07 | SPOT35-8WG07 | EB011299 | SPOT35-9WG07 | WCHMHTA009WG07 |
|---|---|---|---|---|---|---|---|
| Sample Information | RFW# | 001 | 001 MS | 001 MSD | 002 | 004 | 005 |
| | Matrix | WATER | WATER | WATER | WATER | WATER | WATER |
| | D F | 1 0 | 1 0 | 1 0 | 1 0 | 1 0 | 1 0 |
| | Units | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Surrogate | Decafluorobiphenyl | 67 % | 74 % | 77 % | 65 % | 65 % | 61 % |
| | Benzo(e)pyrene | 92 % | 93 % | 92 % | 89 % | 90 % | 92 % |
| Naphthalene | | 18 U | 98 % | 97 % | 18 U | 18 U | 18 U |
| Acenaphthene | | 18 U | 97 % | 96 % | 18 U | 18 U | 18 U |
| Acenaphthylene | | 23 U | 91 % | 92 % | 23 U | 22 U | 22 U |
| Fluorene | | 2 1 U | 99 % | 100 % | 2 1 U | 2.0 U | 2 0 U |
| Phenanthrene | | 6 4 U | 101 % | 104 % | 6 3 U | 6.3 U | 6 3 U |
| Anthracene | | 6 6 U | 85 % | 86 % | 6 5 U | 6 5 U | 6 5 U |
| Fluoranthene | | 2 1 U | 92 % | 97 % | 2 1 U | 2.0 U | 2 0 U |
| Pyrene | | 2 7 U | 106 % | 116 % | 2 7 U | 2 6 U | 2 6 U |
| Benzo(a)anthracene | | 0 13 U | 96 % | 99 % | 0 13 U | 0 13 U | 0 13 U |
| Chrysene | | 1 5 U | 96 % | 99 % | 1 5 U | 1 5 U | 1 5 U |
| Benzo(b)fluoranthene | | 0 18 U | 91 % | 89 % | 0 18 U | 0 18 U | 0 18 U |
| Benzo(k)fluoranthene | | 0 17 U | 90 % | 88 % | 0 17 U | 0 17 U | 0 17 U |
| Benzo(a)pyrene | | 0 23 U | 92 % | 86 % | 0 23 U | 0 22 U | 0 22 U |
| Dibenzo(a h)anthracene | | 0 30 U | 78 % | 72 % | 0 30 U | 0 29 U | 0 29 U |
| Benzo(g h i)perylene | | 0 76 U | 84 % | 79 % | 0 75 U | 0 74 U | 0 74 U |
| Indeno(1 2 3 cd)pyrene | | 0 43 U | 98 % | 86 % | 0 42 U | 0 42 U | 0 42 U |

U= Analyzed not detected J= Present below detection limit B= Present in blank NR= Not requested NS= Not spiked
%= Percent recovery D= Diluted out I= Interference NA= Not Applicable *= Outside of EPA CLP QC

Recra LabNet - Chicago
PAHs BY HPLC

RFW Batch Number 9901G858 Client AFC001-15IDA Work Order 60025-001-001-0 Report Date 02/01/99 16 41 Page 2

| | Cust ID | EB011399 | BLK | BLK BS |
|---|---|---|---|---|
| Sample Information | RFW# | 006 | 99GP0042-MB1 | 99GP0042-MB1 |
| | Matrix | WATER | WATER | WATER |
| | D F | 1 0 | 1 0 | 1 0 |
| | Units | ug/L | ug/L | ug/L |
| Surrogate | Decafluorobiphenyl | 67 % | 45 % | 58 % |
| | Benzo(e)pyrene | 91 % | 90 % | 89 % |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| Naphthalene | 18 | U | 18 | U | 81 | % | |
| Acenaphthene | 18 | U | 18 | U | 84 | % | |
| Acenaphthylene | 23 | U | 23 | U | 85 | % | |
| Fluorene | 2 1 | U | 2 1 | U | 86 | % | |
| Phenanthrene | 6 4 | U | 6 4 | U | 92 | % | |
| Anthracene | 6 6 | U | 6 6 | U | 80 | % | |
| Fluoranthene | 2 1 | U | 2 1 | U | 88 | % | |
| Pyrene | 2 7 | U | 2 7 | U | 102 | % | |
| Benzo(a)anthracene | 0 13 | U | 0.13 | U | 92 | % | |
| Chrysene | 1 5 | U | 1 5 | U | 91 | % | |
| Benzo(b)fluoranthene | 0 18 | U | 0 18 | U | 86 | % | |
| Benzo(k)fluoranthene | 0 17 | U | 0 17 | U | 85 | % | |
| Benzo(a)pyrene | 0 23 | U | 0 23 | U | 86 | % | |
| Dibenzo(a h)anthracene | 0 30 | U | 0 30 | U | 53 | % | |
| Benzo(g h i)perylene | 0 76 | U | 0 76 | U | 70 | % | |
| Indeno(1 2 3 cd)pyrene | 0 43 | U | 0 43 | U | 94 | % | |

U= Analyzed not detected J= Present below detection limit B= Present in blank NR= Not requested NS= Not spiked
%= Percent recovery D= Diluted out I= Interference NA= Not Applicable *= Outside of EPA CLP QC

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Severn Trent Laboratories Chicago
PAH Case Narrative

AFC001-15IDA
RFW# 9901G858-001, 002, 004, 005 and 006
PAHs

1 Severn Trent Laboratories Chicago used the following High Performance Liquid Chromatographic system for analysis of polynuclear aromatic hydrocarbons

| ID# | INSTRUMENT | COLUMN TYPE | DETECTOR |
|---|---|---|---|
| 25 | SpectraPhysics | C-18 PAH | UV - 254nm |
| 26 | SpectraPhysics | C-18 PAH | Fluorescence |

2 These samples were extracted based on SW846 method 3510 The extracts were analyzed for PAHs (i.e PNAs) based on SW846 method 8310 protocols

3 All required holding times were met for the extraction and analysis

4 The method blank was below the reporting limit for all target compounds

5. The surrogate compounds used for this analysis were Decafluorobiphenyl and Benzo(e)pyrene. All surrogate recoveries were within control limits and are summarized on Form 2E

6 All blank spike recoveries were within control limits and are summarized on Form 3E

7 A matrix spike and a matrix spike duplicate were performed on sample 9901G858-001 (SPOT35-8WG07) All recoveries and RPDs were within control limits and are summarized on Form 3E

8 All initial and continuing standard calibrations were within control limits, with the following exception

CCV run 01/20/99 at 16 54 had Acenaphthylene 0 02 minutes outside of its retention time window and Acenaphthene 0 01 minutes outside of its retention time window on the UV detector Naphthalene was 0 02 minutes outside of its retention time window on the Fluorescence detector These slight shifts were taken into account during the data review

Linda S Mackley
Linda S Mackley
Organics Section Manager

2-2-99
Date

643 35

**Report Prepared**
**for**
**Severn Trent Laboratories**
**Hydrocarbon Headspace Method 3810/8015**
**Project # 0199019**
**Batch #'s 9901G858 & 9901G857**
**Purchase Order # U03068**

**January 28, 1999**

**Report Prepared**
**by**
**DAT, Inc.**
**6385 Shier Rings Rd.**
**Dublin, OH 43016**

**Severn Trent Laboratories**
**Hydrocarbon Headspace Method 3810/8015**
**Project # 0199019**

## Narrative

Sixteen samples were received January 20, 1999 for headspace analysis of methane, ethane and ethene by method 3810/8015 The samples were received in good condition and are listed below The sample results can be reviewed in the Data Summary Table included with this report

| Client ID | DAT ID |
|---|---|
| ITMW-07TWGO7 | 0199019-1 |
| WP07-10CWGO7 | 0199019-2 |
| WHGLTA003WGO7 | 0199019-3 |
| LF05-19WGO7 | 0199019-4 |
| TB011499 | 0199019-5 |
| ST14-02WGO7 MS/MSD | 0199019-6 |
| ST14-04WGO7 | 0199019-7 |
| TB011599 | 0199019-8 |
| ST14-W21WGO7 | 0199019-9 |
| SPOT35-8WGO7 MS/MSD | 0199019-10 |
| EB011299 | 0199019-11 |
| TB011299 | 0199019-12 |
| SPOT35-9WGO7 | 0199019-13 |
| WCHMTA009WGO7 | 0199019-14 |
| EB011399 | 0199019-15 |
| TB011399 | 0199019-16 |

### Method

The analysis methods consisted of method 3810 headspace concentration with method 8015 GC/FID organic analysis A ten milliliter aliquot was removed from each sample vial allowing for 10 mL of headspace and a 30 mL sample volume Each sample vial was placed into an 80°C oven and allowed to reach equilibrium over a period of one hour Each sample was injected at atmospheric pressure via a heated 1 0 mL GC sampling loop

### Instrument Conditions

One milliliter of sample was injected into a GC equipped with a 10' x 1/8" Porapak QS packed column and a Flame Ionization Detector (FID) The initial temperature of the oven was 80°C for one-half minute, increased at a rate of 20°C per minute to a final temperature of 100°C for five minutes

1 Also refer to EPA RSK-175 Revision 0, 1994

**Calibration**

The samples were quantified using a six point calibration ranging from 2 0 ppm to 4000 0 ppm methane, ethene and ethane The calibration curve was run in duplicate and had an $r^2$ value of greater than 0 999 The calibration was non-equilibrium

**Quality Control**

Blank

The method blank showed no response for methane at a detection limit of 0.07 ug/L, no response for ethene at a detection limit of 0 1 ug/L and no response for ethane at a detection limit of 0 1 ug/L.

Duplicates

Samples ST14-02WGO7 MS/MSD and SPOT35-8WGO7 MS/MSD were run in duplicate and the percent differences were 1 0% and 1.7%, respectively

Lab Spikes

A lab spike/lab spike duplicate were performed concurrently with this sample set Spike recoveries can be found in the QC Summary table appended with this report

Report prepared by

Keith Souchereau, Chemist

Report approved for release by

Ronald K Mitchum, Ph D
President, **DAT**, Inc

# Data Summary Table

Client: Severn Trent Laboratories
Project 0199019
Analysis. Methane, Ethene and Ethane Headspace Method 3810/8015
Date: 1/28/99

| Client ID | DAT ID | Methane ug/L | Q | Ethene ug/L | Q | Ethane ug/L | Q | Duplicate % difference |
|---|---|---|---|---|---|---|---|---|
| ITMW-07TWGO7 | 0199019-1 | 1 70 | | 0 10 | ND | 0 108 | ND | |
| WP07-10CWGO7 | 0199019-2 | 663 96 | | 0 26 | J | 0 266 | J | |
| WHGLTA003WGO7 | 0199019-3 | 0 60 | | 0 10 | ND | 0 108 | ND | |
| LF05-19WGO7 | 0199019-4 | 0 50 | | 0 10 | ND | 0 108 | ND | |
| TB011499 | 0199019-5 | 0.61 | | 0 10 | ND | 0 108 | ND | |
| ST14-02WGO7 MS/MSD | 0199019-6 | 1826 70 | D | 0 10 | ND | 0 108 | ND | |
| ST14-02WGO7 MS/MSD | 0898005-6 Dup | 1808 17 | D | 0 10 | ND | 0.108 | ND | 1 0 |
| ST14-04WGO7 | 0199019-7 | 9006.27 | D | 0 10 | ND | 0 753 | J | |
| TB011599 | 0199019-8 | 0 75 | | 0 10 | ND | 0 108 | ND | |
| ST14-W21WGO7 | 0199019-9 | 452 51 | | 0 10 | ND | 5 93 | | |
| SPOT35-8WGO7 MS/MSD | 0199019-10 | 454 14 | D | 0 10 | ND | 0 108 | ND | |
| SPOT35-8WGO7 MS/MSD | 0898005-10 Dup | 446 63 | D | 0 10 | ND | 0.108 | ND | 1 7 |
| EB011299 | 0199019-11 | 0 69 | | 0 10 | ND | 0 108 | ND | |
| TB011299 | 0199019-12 | 0 61 | | 0 10 | ND | 0 108 | ND | |
| SPOT35-9WGO7 | 0199019-13 | 129 30 | | 0 12 | J | 0 108 | ND | |
| WCHMHTA009WGO7 | 0199019-14 | 8 79 | | 0 10 | ND | 0 108 | ND | |
| EB011399 | 0199019-15 | 0.38 | | 0 10 | ND | 0 108 | ND | |
| TB011399 | 0199019-16 | 0 62 | | 0 10 | ND | 0 108 | ND | |

ND - Not detected at the detection limit
J - Analyte detected below the lowest calibrator
D - Dilution result
H - Henrys Law contribution

# Data Summary Table

Client Severn Trent Laboratories
Project 0199019
Analysis Methane, Ethene and Ethane Headspace Method 3810/8015
Date 1/28/99

| Client ID | DAT ID | Methane ppm | Dil Factor | Methane ug/l | H ug/L | Methane ug/L | Q | Ethene ppm | Dil Factor | Ethene ug/L | H ug/L | Ethene ug/L | Q | Ethane ppm | Dil Factor | Ethane ug/L | H ug/L | Ethane ug/L | Q | Duplicate % difference |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ITMW-07TWGO7 | 0199019-1 | 8 874 | 1 | 1 63 | 0 06 | 1 70 | | 0 300 | 1 | 0 10 | 0 002 | 0 10 | ND | 0 300 | 1 | 0 10 | 0 004 | 0 108 | ND | |
| WP07 10CWGO7 | 0199019-2 | 3474 654 | 1 | 639 80 | 24 166 | 663 96 | | 0 801 | 1 | 0 26 | 0 006 | 0 26 | J | 0 743 | 1 | 0 26 | 0 010 | 0 266 | J | |
| WHGLTA003WGO7 | 0199019-3 | 3 118 | 1 | 0 57 | 0 02 | 0 60 | | 0 300 | 1 | 0 10 | 0 002 | 0 10 | ND | 0 300 | 1 | 0 10 | 0 004 | 0 108 | ND | |
| LF05 19WGO7 | 0199019-4 | 2 626 | 1 | 0 48 | 0 02 | 0 50 | | 0 300 | 1 | 0 10 | 0 002 | 0 10 | ND | 0 300 | 1 | 0 10 | 0 004 | 0 108 | ND | |
| TB011499 | 0199019 5 | 3 193 | 1 | 0 59 | 0 02 | 0 61 | | 0 300 | 1 | 0 10 | 0 002 | 0 10 | ND | 0 300 | 1 | 0 10 | 0 004 | 0 108 | ND | |
| ST14-02WGO7 MS/MSD | 0199019-6 | 19 119 | 500 | 1,760 22 | 66 48 | 1826 70 | D | 0 300 | 1 | 0 10 | 0 002 | 0 10 | ND | 0 300 | 1 | 0 10 | 0 004 | 0 108 | ND | 1 0 |
| ST14 02WGO7 MS/MSD | 0898005-6 Dup | 18 925 | 500 | 1,742 36 | 65 81 | 1808 17 | D | 0 300 | 1 | 0 10 | 0 002 | 0 10 | ND | 0 042 | 50 | 0 73 | 0 028 | 0 753 | J | |
| ST14 04WGO7 | 0199019-7 | 942 631 | 50 | 8,678 47 | 327 79 | 9006 27 | D | 0 300 | 1 | 0 10 | 0 002 | 0 10 | ND | 0 300 | 1 | 0 10 | 0 004 | 0 108 | ND | |
| TB011599 | 0199019-8 | 3 946 | 1 | 0 73 | 0 027 | 0 75 | | 0 300 | 1 | 0 10 | 0 002 | 0 10 | ND | 16 539 | 1 | 5 71 | 0 219 | 5 93 | | |
| ST14 W21WGO7 | 0199019 9 | 2368 075 | 1 | 436 04 | 16 47 | 452 51 | | 0 300 | 1 | 0 10 | 0 002 | 0 10 | ND | 0 300 | 1 | 0 10 | 0 004 | 0 108 | ND | |
| SPOT35 8WGO7 MS/MSD | 0199019-10 | 23 766 | 100 | 437 61 | 16 53 | 454 14 | D | 0 300 | 1 | 0 10 | 0 002 | 0 10 | ND | 0 300 | 1 | 0 10 | 0 004 | 0 108 | ND | 1 7 |
| SPOT35 8WGO7 MS/MSD | 0898005 10 Dup | 23 373 | 100 | 430 37 | 16 26 | 446 63 | D | 0 300 | 1 | 0 10 | 0 002 | 0 10 | ND | 0 300 | 1 | 0 10 | 0 004 | 0 108 | ND | |
| EB011299 | 0199019-11 | 3 628 | 1 | 0 67 | 0 03 | 0 69 | | 0 300 | 1 | 0 10 | 0 002 | 0 10 | ND | 0 300 | 1 | 0 10 | 0 004 | 0 108 | ND | |
| TB011299 | 0199019 12 | 3 178 | 1 | 0 59 | 0 022 | 0 61 | | 0 300 | 1 | 0 10 | 0 002 | 0 10 | ND | 0 300 | 1 | 0 10 | 0 004 | 0 108 | ND | |
| SPOT35 9WGO7 | 0199019 13 | 676 666 | 1 | 124 60 | 4 71 | 129 30 | | 0 351 | 1 | 0 11 | 0 003 | 0 12 | J | 0 300 | 1 | 0 10 | 0 004 | 0 108 | ND | |
| WCHMHTA009WGO7 | 0199019 14 | 45 979 | 1 | 8 47 | 0 32 | 8 79 | | 0 300 | 1 | 0 10 | 0 002 | 0 10 | ND | 0 300 | 1 | 0 10 | 0 004 | 0 108 | ND | |
| EB011399 | 0199019-15 | 1 986 | 1 | 0 37 | 0 014 | 0 38 | | 0 300 | 1 | 0 10 | 0 002 | 0 10 | ND | 0 300 | 1 | 0 10 | 0 004 | 0 108 | ND | |
| TB011399 | 0199019-16 | 3 262 | 1 | 0 60 | 0 02 | 0 62 | | 0 300 | 1 | 0 10 | 0 002 | 0 10 | ND | 0 300 | 1 | 0 10 | 0 004 | 0 108 | ND | |

ND Not detected at the detection limit
J - Analyte detected below the lowest calibrator
D Dilution result
H - Henrys Law contribution

| F[illegible]A LabNet Use Only |
|---|
| 99016858 |

# Cust dy Transfer Re d/Lab Work R qu st

RECRA LabNet

Client: Severn Trent Laboratories (STL)

Project #:

Date Rec'd.: 1/14/99 Date Due: 2/2/99

RECRA PM: Bobbie Ramirez

Client Contact/Phone:

| RECRA Use Only Lab ID | Client ID/Description | Matrix | Date Collected | Refrigerator# | #/Type Container | Volume | Preservative | ANALYSIS REQUESTED |
|---|---|---|---|---|---|---|---|---|
| | | | | | 3/G | 40ml | HCl | * |
| | | | | | 9/G | 40ml | DCl | * |
| 001 | SPOT35-8WG07 MS/MSD | W | 1/12/99 | | | | | X |
| 002 | EB011299 | | | | X | | | |
| 003 | TB011299 | | | | | | | |
| 004 | SPOT35-9WG07 | | 1/13/99 | | | | | |
| 005 | WCHMH TA009WG07 | | | | | | | |
| 006 | EB011399 | | | | | | | |
| 008 | TB011399 | | | | | | | |

Matrix: W - Water, DS - Drum Solids, X - Other, S - Soil, O - Oil, DL - Drum Liquids, SE - Sediment, A - Air, F - Fish, SO - Solid, WI - Wipe, L - EP/TCLP Leachate

Special Instructions: * Methane - see attached

| Item/Reason | Relinquished by | Received by | Date | Time | Item/Reason | Relinquished by | Received by | Date | Time |
|---|---|---|---|---|---|---|---|---|---|
| 1-6, 8 S/O | K Schultz | FX → DAT | 1/18/99 | 1600 | | | | | |
| | | | | | | | Robert/[illegible] | 9:00 | 1/20/99 |

** -003 only 2, 40ml
-008 only 2, 40ml

RECRA LabNet Use Only

Samples Were
1 Shipped or Hand-Delivered (Y) N
NOTES

2 Ambient or chilled
NOTES

3 Received Broken/Leaking (Improperly Sealed) Y (N)
NOTES

4 Properly Preserved Y N
NOTES

5 Received Within Holding Times Y (N)
NOTES

COC Tape Was
1 Present on Outer Package (Y) N
2 Unbroken on Outer Package (Y) N
3 Present on Sample Y (N)
4 Unbroken on Sample Y N
NOTES

COC Record Was
1 Present Upon Receipt of Samples (Y) N

Discrepancies Between Sample Labels and COC Record? Y (N)
NOTES

643 40

111153

# Cust dy Transfer R c rd/Lab W rk R quest

RECRA LabNet

| RECRA LabNet Use Only |
|---|
| 99016857 |

Client: Severn Trent Laboratories (STL)
Project #:
Date Rec'd.: 1/14/99 Date Due: 2/2/99
RECRA PM: Bosco Ramirez
Client Contact/Phone:

| RECRA Use Only Lab ID | Client ID/Description | Matrix | Date Collected | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Refrigerator# | | | | | | | | | | | |
| | #/Type Container | | | 3/G | 2/G | 9/G | | | | | | |
| | Volume | | | 40ml | 40ml | 40ml | | | | | | |
| | Preservative | | | HCl | HCl | HCl | | | | | | |
| | ANALYSIS REQUESTED | | | * | * | * | | | | | | |
| 001 | ITMW-01TWG07 | W | 1/12/99 | X | | | | | | | | |
| 002 | WP07-10CWG07 | | 1/14/99 | | | | | | | | | |
| 003 | WITGLTA003WG07 | | | | | | | | | | | |
| 004 | LF05-19WG07 | | | | | | | | | | | |
| 005 | TB011499 | | | | X | | | | | | | |
| 007 | ST14-02WG07 MS/MSD | | 1/15/99 | | | X | | | | | | |
| 008 | ST14-04WG07 | | | X | | | | | | | | |
| 009 | TB011599 | | | | | | | | | | | |
| 011 | ST14-W21WG07 | | | | | | | | | | | |

cd 1/15/99

cd 1/16/99

Matrix:
W - Water, S - Soil, SE - Sediment, SO - Solid, O - Oil, A - Air, WI - Wipe, DS - Drum Solids, DL - Drum Liquids, F - Fish, L - EP/TCLP Leachate, X - Other

Special Instructions: Methane * see attached

| Item/Reason | Relinquished by | Received by | Date | Time | Item/Reason | Relinquished by | Received by | Date | Time |
|---|---|---|---|---|---|---|---|---|---|
| 1-5,7-9,11 S/O | [illegible] | FE → DAT | 1/15/99 | 1600 | | | | | |
| | | | | | | | [illegible] | 9:00 | [illegible] |

RECRA LabNet Use Only

Samples Were (Shipped or Hand-Delivered) FE
NOTES

2 Ambient or (Chilled)
NOTES

3 Received Broken/Leaking (Improperly Sealed) Y N
NOTES

4 Properly Preserved Y N
NOTES

5 Received Within Holding Times Y N
NOTES

COC Tape Was
1 Present on Outer Package Y N
2 Unbroken on Outer Package Y N
3 Present on Sample Y N
4 Unbroken on Sample Y N
NOTES

COC Record Was
1 Present Upon Receipt of Samples Y N

Discrepancies Between Sample Labels and COC Record? Y N
NOTES

643 41

1111152

Committed To *Your* Success

**Severn Trent Laboratories**
2417 Bond Street
University Park, IL 60466

Tel (708) 534-5200
Fax (708) 534-5211
www stl-inc com

February 12, 1999

Mr. Ken Rapuano
HydroGeoLogic, Inc.
1155 Herndon Parkway, Suite 900
Herndon, VA 20170

RE: AFC-001-15IDA
Analytical Report & EDD
Lot 9901G922

Dear Mr. Rapuano:

The enclosed analytical report is for the project and lot number listed above. The Methane analyses were completed at Data/Analysis Technologies, Inc. If you have any questions, please contact me at 708-534-5200.

Sincerely,
Severn Trent Laboratories

Bosco Ramirez
Project Manager

sj

Enclosures

cc: CLP Report & 1 Summary/Nancy Weaver-Environmental Data Services, Inc.
EDD - Lynn Morgan/HydroGeoLogic, Inc.

Approved By:

Michael J. Healy
General Manager

The results presented in this report relate only to the analytical testing and conditions of sample at receipt. This report pertains to only those samples actually tested. All 1310 pages of this report are integral parts of the analytical data. Therefore, this report should be reproduced only in its entirety.

Severn Trent Laboratories Chicago
INORGANIC ANALYTICAL DATA PACKAGE FOR
AFC001-15IDA

LOT # 9901G922

| CLIENT ID /ANALYSIS | SAMPLE # | MTX | PREP # | COLLECTN | DATE RLC | EXT/PREP | ANALYSIS |
|---|---|---|---|---|---|---|---|
| WHGLTA011WG07 | | | | | | | |
| ALKALINITY | 001 | W | 99GAK004 | 01/18/99 | 01/20/99 | 01/25/99 | 01/25/99 |
| CHLORIDE BY IC | 001 | W | 99GIC023 | 01/18/99 | 01/20/99 | 01/20/99 | 01/20/99 |
| NITRATE BY IC | 001 | W | 99GIC023 | 01/18/99 | 01/20/99 | 01/20/99 | 01/20/99 |
| SULFATE BY IC | 001 | W | 99GIC023 | 01/18/99 | 01/20/99 | 01/20/99 | 01/20/99 |
| TOTAL ORGANIC CARBON | 001 | W | 99GTC006 | 01/18/99 | 01/20/99 | 01/21/99 | 01/21/99 |
| TOTAL ORGANIC CARBON | 001 | W | 99GTC006 | 01/18/99 | 01/20/99 | 01/21/99 | 01/21/99 |
| SUB-OUT TEST FOR SUB | 001 | W | | 01/18/99 | 01/20/99 | | |
| WHGLTA010WG07 | | | | | | | |
| ALKALINITY | 002 | W | 99GAK004 | 01/18/99 | 01/20/99 | 01/25/99 | 01/25/99 |
| CHLORIDE BY IC | 002 | W | 99GIC023 | 01/18/99 | 01/20/99 | 01/20/99 | 01/20/99 |
| NITRATE BY IC | 002 | W | 99GIC023 | 01/18/99 | 01/20/99 | 01/20/99 | 01/20/99 |
| SULFATE BY IC | 002 | W | 99GIC023 | 01/18/99 | 01/20/99 | 01/20/99 | 01/20/99 |
| TOTAL ORGANIC CARBON | 002 | W | 99GTC006 | 01/18/99 | 01/20/99 | 01/21/99 | 01/21/99 |
| TOTAL ORGANIC CARBON | 002 | W | 99GTC006 | 01/18/99 | 01/20/99 | 01/21/99 | 01/21/99 |
| SUB-OUT TEST FOR SUB | 002 | W | | 01/18/99 | 01/20/99 | | |
| TB011899 | | | | | | | |
| SUB-OUT TEST FOR SUB | 003 | W | | 01/18/99 | 01/20/99 | | |
| EB011899 | | | | | | | |
| ALKALINITY | 004 | W | 99GAK004 | 01/18/99 | 01/20/99 | 01/25/99 | 01/25/99 |
| CHLORIDE BY IC | 004 | W | 99GIC023 | 01/18/99 | 01/20/99 | 01/20/99 | 01/20/99 |
| NITRATE BY IC | 004 | W | 99GIC023 | 01/18/99 | 01/20/99 | 01/20/99 | 01/20/99 |
| SULFATE BY IC | 004 | W | 99GIC023 | 01/18/99 | 01/20/99 | 01/20/99 | 01/20/99 |
| TOTAL ORGANIC CARBON | 004 | W | 99GTC006 | 01/18/99 | 01/20/99 | 01/21/99 | 01/21/99 |
| TOTAL ORGANIC CARBON | 004 | W | 99GTC006 | 01/18/99 | 01/20/99 | 01/21/99 | 01/21/99 |
| SUB-OUT TEST FOR SUB | 004 | W | | 01/18/99 | 01/20/99 | | |
| WCHMHTA008WG07 | | | | | | | |
| ALKALINITY | 005 | W | 99GAK004 | 01/18/99 | 01/20/99 | 01/25/99 | 01/25/99 |
| CHLORIDE BY IC | 005 | W | 99GIC026 | 01/18/99 | 01/20/99 | 01/22/99 | 01/22/99 |
| NITRATE BY IC | 005 | W | 99GIC023 | 01/18/99 | 01/20/99 | 01/20/99 | 01/20/99 |

Severn Trent Laboratories Chicago
INORGANIC ANALYTICAL DATA PACKAGE FOR
AFC001-15IDA

LOT # 9901G922

| CLIENT ID /ANALYSIS | SAMPLE # | MTX | PREP # | COLLECTN | DATE REC | EXT/PREP | ANALYSIS |
|---|---|---|---|---|---|---|---|
| SULFATE BY IC | 005 | W | 99GIC023 | 01/18/99 | 01/20/99 | 01/20/99 | 01/20/99 |
| TOTAL ORGANIC CARBON | 005 | W | 99GTC010 | 01/18/99 | 01/20/99 | 02/01/99 | 02/01/99 |
| TOTAL ORGANIC CARBON | 005 | W | 99GTC010 | 01/18/99 | 01/20/99 | 02/01/99 | 02/01/99 |
| SUB-OUT TEST FOR SUB | 005 | W | | 01/18/99 | 01/20/99 | | |
| DUP01 | | | | | | | |
| ALKALINITY | 006 | W | 99GAK004 | 01/18/99 | 01/20/99 | 01/25/99 | 01/25/99 |
| CHLORIDE BY IC | 006 | W | 99GIC026 | 01/18/99 | 01/20/99 | 01/22/99 | 01/22/99 |
| NITRATE BY IC | 006 | W | 99GIC023 | 01/18/99 | 01/20/99 | 01/20/99 | 01/20/99 |
| SULFATE BY IC | 006 | W | 99GIC023 | 01/18/99 | 01/20/99 | 01/20/99 | 01/20/99 |
| TOTAL ORGANIC CARBON | 006 | W | 99GTC010 | 01/18/99 | 01/20/99 | 02/01/99 | 02/01/99 |
| TOTAL ORGANIC CARBON | 006 | W | 99GTC010 | 01/18/99 | 01/20/99 | 02/01/99 | 02/01/99 |
| SUB-OUT TEST FOR SUB | 006 | W | | 01/18/99 | 01/20/99 | | |
| WHGLTA009WG07 | | | | | | | |
| ALKALINITY | 007 | W | 99GAK004 | 01/19/99 | 01/20/99 | 01/25/99 | 01/25/99 |
| CHLORIDE BY IC | 007 | W | 99GIC023 | 01/19/99 | 01/20/99 | 01/20/99 | 01/20/99 |
| NITRATE BY IC | 007 | W | 99GIC023 | 01/19/99 | 01/20/99 | 01/20/99 | 01/20/99 |
| SULFATE BY IC | 007 | W | 99GIC023 | 01/19/99 | 01/20/99 | 01/20/99 | 01/20/99 |
| TOTAL ORGANIC CARBON | 007 | W | 99GTC006 | 01/19/99 | 01/20/99 | 01/21/99 | 01/21/99 |
| TOTAL ORGANIC CARBON | 007 | W | 99GTC006 | 01/19/99 | 01/20/99 | 01/21/99 | 01/21/99 |
| SUB-OUT TEST FOR SUB | 007 | W | | 01/19/99 | 01/20/99 | | |
| TB011999 | | | | | | | |
| SUB-OUT TEST FOR SUB | 008 | W | | 01/19/99 | 01/20/99 | | |
| EB011999 | | | | | | | |
| ALKALINITY | 009 | W | 99GAK004 | 01/19/99 | 01/20/99 | 01/25/99 | 01/25/99 |
| CHLORIDE BY IC | 009 | W | 99GIC023 | 01/19/99 | 01/20/99 | 01/20/99 | 01/20/99 |
| NITRATE BY IC | 009 | W | 99GIC023 | 01/19/99 | 01/20/99 | 01/20/99 | 01/20/99 |
| SULFATE BY IC | 009 | W | 99GIC023 | 01/19/99 | 01/20/99 | 01/20/99 | 01/20/99 |
| TOTAL ORGANIC CARBON | 009 | W | 99GTC006 | 01/19/99 | 01/20/99 | 01/21/99 | 01/21/99 |
| TOTAL ORGANIC CARBON | 009 | W | 99GTC006 | 01/19/99 | 01/20/99 | 01/21/99 | 01/21/99 |
| SUB-OUT TEST FOR SUB | 009 | W | | 01/19/99 | 01/20/99 | | |



NY CERTIFICATION # 11006

Severn Trent Laboratories Chicago
INORGANIC ANALYTICAL DATA PACKAGE FOR
AFC001-15IDA

LOT # 9901G922

| CLIENT ID /ANALYSIS | SAMPLE # | MTX | PREP # | COLLECTN | DATE REC | EXT/PREP | ANALYSIS |
|---|---|---|---|---|---|---|---|
| ST14-W31WG07 | | | | | | | |
| ALKALINITY | 011 | W | 99GAK004 | 01/19/99 | 01/20/99 | 01/25/99 | 01/25/99 |
| CHLORIDE BY IC | 011 | W | 99GIC023 | 01/19/99 | 01/20/99 | 01/20/99 | 01/20/99 |
| NITRATE BY IC | 011 | W | 99GIC023 | 01/19/99 | 01/20/99 | 01/20/99 | 01/20/99 |
| SULFATE BY IC | 011 | W | 99GIC023 | 01/19/99 | 01/20/99 | 01/20/99 | 01/20/99 |
| TOTAL ORGANIC CARBON | 011 | W | 99GTC006 | 01/19/99 | 01/20/99 | 01/21/99 | 01/21/99 |
| TOTAL ORGANIC CARBON | 011 | W | 99GTC006 | 01/19/99 | 01/20/99 | 01/21/99 | 01/21/99 |
| SUB-OUT TEST FOR SUB | 011 | W | | 01/19/99 | 01/20/99 | | |
| ST14-29WG07 | | | | | | | |
| ALKALINITY | 012 | W | 99GAK004 | 01/19/99 | 01/20/99 | 01/25/99 | 01/25/99 |
| CHLORIDE BY IC | 012 | W | 99GIC023 | 01/19/99 | 01/20/99 | 01/20/99 | 01/20/99 |
| NITRATE BY IC | 012 | W | 99GIC023 | 01/19/99 | 01/20/99 | 01/20/99 | 01/20/99 |
| SULFATE BY IC | 012 | W | 99GIC023 | 01/19/99 | 01/20/99 | 01/20/99 | 01/20/99 |
| TOTAL ORGANIC CARBON | 012 | W | 99GTC006 | 01/19/99 | 01/20/99 | 01/21/99 | 01/21/99 |
| TOTAL ORGANIC CARBON | 012 | W | 99GTC006 | 01/19/99 | 01/20/99 | 01/21/99 | 01/21/99 |
| SUB-OUT TEST FOR SUB | 012 | W | | 01/19/99 | 01/20/99 | | |
| WHGLTA012WG07 | | | | | | | |
| ALKALINITY | 013 | W | 99GAK004 | 01/19/99 | 01/20/99 | 01/25/99 | 01/25/99 |
| CHLORIDE BY IC | 013 | W | 99GIC024 | 01/19/99 | 01/20/99 | 01/21/99 | 01/21/99 |
| NITRATE BY IC | 013 | W | 99GIC023 | 01/19/99 | 01/20/99 | 01/20/99 | 01/20/99 |
| SULFATE BY IC | 013 | W | 99GIC023 | 01/19/99 | 01/20/99 | 01/20/99 | 01/20/99 |
| TOTAL ORGANIC CARBON | 013 | W | 99GTC010 | 01/19/99 | 01/20/99 | 02/01/99 | 02/01/99 |
| TOTAL ORGANIC CARBON | 013 | W | 99GTC010 | 01/19/99 | 01/20/99 | 02/01/99 | 02/01/99 |
| SUB-OUT TEST FOR SUB | 013 | W | | 01/19/99 | 01/20/99 | | |
| WHGLTA014WG07 | | | | | | | |
| ALKALINITY | 014 | W | 99GAK004 | 01/19/99 | 01/20/99 | 01/25/99 | 01/25/99 |
| CHLORIDE BY IC | 014 | W | 99GIC023 | 01/19/99 | 01/20/99 | 01/20/99 | 01/20/99 |
| NITRATE BY IC | 014 | W | 99GIC023 | 01/19/99 | 01/20/99 | 01/20/99 | 01/20/99 |
| SULFATE BY IC | 014 | W | 99GIC023 | 01/19/99 | 01/20/99 | 01/20/99 | 01/20/99 |
| TOTAL ORGANIC CARBON | 014 | W | 99GTC006 | 01/19/99 | 01/20/99 | 01/21/99 | 01/21/99 |
| TOTAL ORGANIC CARBON | 014 | W | 99GTC006 | 01/19/99 | 01/20/99 | 01/21/99 | 01/21/99 |
| SUB-OUT TEST FOR SUB | 014 | W | | 01/19/99 | 01/20/99 | | |



NY CERTIFICATION # 11006

Severn Trent Laboratories Chicago
INORGANIC ANALYTICAL DATA PACKAGE FOR
AFC001-15IDA

LOT # 9901G922

| CLIENT ID /ANALYSIS | SAMPLE # | MTX | PREP # | COLLECTN | DATE REC | EXT/PREP | ANALYSIS |
|---|---|---|---|---|---|---|---|
| LAB QC | | | | | | | |
| ALKALINITY | LCS BS | W | 99GAK004 | N/A | N/A | 01/25/99 | 01/25/99 |
| ALKALINITY | MB1 | W | 99GAK004 | N/A | N/A | 01/25/99 | 01/25/99 |
| CHLORIDE BY IC | LC1 BS | W | 99GIC023 | N/A | N/A | 01/20/99 | 01/20/99 |
| SULFATE BY IC | LC1 BS | W | 99GIC023 | N/A | N/A | 01/20/99 | 01/20/99 |
| CHLORIDE BY IC | LC2 BS | W | 99GIC023 | N/A | N/A | 01/20/99 | 01/20/99 |
| SULFATE BY IC | LC2 BS | W | 99GIC023 | N/A | N/A | 01/20/99 | 01/20/99 |
| NITRATE BY IC | LCS BS | W | 99GIC023 | N/A | N/A | 01/20/99 | 01/20/99 |
| CHLORIDE BY IC | MB1 | W | 99GIC023 | N/A | N/A | 01/20/99 | 01/20/99 |
| NITRATE BY IC | MB1 | W | 99GIC023 | N/A | N/A | 01/20/99 | 01/20/99 |
| SULFATE BY IC | MB1 | W | 99GIC023 | N/A | N/A | 01/20/99 | 01/20/99 |
| TOTAL ORGANIC CARBON | LCS BS | W | 99GTC006 | N/A | N/A | 01/21/99 | 01/21/99 |
| [illegible]L ORGANIC CARBON | MB1 | W | 99GTC006 | N/A | N/A | 01/21/99 | 01/21/99 |
| [illegible]ORIDE BY IC | LC1 BS | W | 99GIC026 | N/A | N/A | 01/22/99 | 01/22/99 |
| SULFATE BY IC | LC1 BS | W | 99GIC026 | N/A | N/A | 01/22/99 | 01/22/99 |
| CHLORIDE BY IC | LC2 BS | W | 99GIC026 | N/A | N/A | 01/22/99 | 01/22/99 |
| SULFATE BY IC | LC2 BS | W | 99GIC026 | N/A | N/A | 01/22/99 | 01/22/99 |
| NITRATE BY IC | LCS BS | W | 99GIC026 | N/A | N/A | 01/22/99 | 01/22/99 |
| CHLORIDE BY IC | MB1 | W | 99GIC026 | N/A | N/A | 01/22/99 | 01/22/99 |
| NITRATE BY IC | MB1 | W | 99GIC026 | N/A | N/A | 01/22/99 | 01/22/99 |
| SULFATE BY IC | MB1 | W | 99GIC026 | N/A | N/A | 01/22/99 | 01/22/99 |
| TOTAL ORGANIC CARBON | LCS BS | W | 99GTC010 | N/A | N/A | 02/01/99 | 02/01/99 |
| TOTAL ORGANIC CARBON | MB1 | W | 99GTC010 | N/A | N/A | 02/01/99 | 02/01/99 |
| CHLORIDE BY IC | LC1 BS | W | 99GIC024 | N/A | N/A | 01/21/99 | Q1/21/99 |
| SULFATE BY IC | LC1 BS | W | 99GIC024 | N/A | N/A | 01/21/99 | 01/21/99 |
| CHLORIDE BY IC | LC2 BS | W | 99GIC024 | N/A | N/A | 01/21/99 | 01/21/99 |
| SULFATE BY IC | LC2 BS | W | 99GIC024 | N/A | N/A | 01/21/99 | 01/21/99 |
| NITRATE BY IC | LCS BS | W | 99GIC024 | N/A | N/A | 01/21/99 | 01/21/99 |
| CHLORIDE BY IC | MB1 | W | 99GIC024 | N/A | N/A | 01/21/99 | 01/21/99 |
| NITRATE BY IC | MB1 | W | 99GIC024 | N/A | N/A | 01/21/99 | 01/21/99 |
| SULFATE BY IC | MB1 | W | 99GIC024 | N/A | N/A | 01/21/99 | 01/21/99 |



NY CERTIFICATION # 11006

RECRA LabNet

# Cust dy Transfer Record/Lab Work Request

RECRA LabNet Use Only: 9901G922

Client: NAS - AFC001 15 IDA
Project #:
Date Rec'd.: 1/20/99 Date Due: 2/17/99
RECRA PM: Robert Rainwater
Client Contact/Phone: Ken Rapuano

| RECRA Use Only Lab ID | Client ID/Description | Matrix | Date Collected | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Refrigerator# | | | | P(8) | 5 | 5 | 5 | 5/0 | 8 | 8 | 8 | | |
| #/Type Container | | | | 1P | 3G | 3G | 3G | 3G | 2G | 1P | 1P | | |
| Volume | | | | 1L | 40ml | 40ml | 40ml | 40ml | 1L | 250ml | 1L | | |
| Preservative | | | | | HCl | HCl | ~~HCl~~ | HCl | | $H_2SO_4$ | $HNO_3$ | | |
| ANALYSIS REQUESTED (REQD) | | | | * ALK | BRD | BRD | 8240 | 15UB | DRO 625H | TOC x2 | HCl + Hg 4MO metals | | |
| 001 | WHGLTA011WG07 | W | 1/18/99 | X | X | X | | X | X | X | | | |
| 002 | WHGLTA010WG07 | | | ↓ | ↓ | ↓ | | ↓ | ↓ | ↓ | | | |
| 003 | TB011899 | | | | | | | | | | | | |
| 004 | EB011899 | | | X | X | | | | X | X | | | |
| 005 | WCHMHTA008WG07 | | | ↓ | ↓ | ↓ | | | ↓ | ↓ | | | |
| 006 | DUP01 | | | ↓ | ↓ | ↓ | | | | | | | |
| 007 | WHGLTA009WG07 | | 1/19/99 | X | ↓ | ↓ | | | ↓ | ↓ | | | |
| 008 | TB011999 | | | | ↓ | ↓ | | | | | | | |
| 009 | EB011999 | | | X | ↓ | ↓ | | | X | X | | | |
| 010 | STH-24WG07 | | | | ~~X~~ | X | X | | | | X | | |
| 011 | W31WG07 | | | X | | | ↓ | | | X | ↓ | | |
| 012 | 29WG07 | | | ↓ | | X | | | | ↓ | | | |
| 013 | WHGLTA012WG07 | | | ↓ | X | ↓ | | | X | ↓ | | | |
| 014 | WHGLTA014WG07 | | | ↓ | ↓ | ↓ | | | ↓ | ↓ | | | |

Matrix:
W - Water, S - Soil, SE - Sediment, SO - Solid, O - Oil, A - Air, WI - Wipe, DS - Drum Solids, DL - Drum Liquids, F - Fish, L - EP/TCLP Leachate, X- Other

Special Instructions: * ICCL, ICNO3, ICSO4

QC-Custom Del - CLP Like Internal COC

| Item/Reason | Relinquished by | Received by | Date | Time | Item/Reason | Relinquished by | Received by | Date | Time |
|---|---|---|---|---|---|---|---|---|---|
| | | Kreiger | 1/20 | 1700 | | | | | |

15UB = methane

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RECRA LabNet Use Only

Samples Were
1 Shipped or Hand-Delivered
NOTES

2 Ambient or chilled
NOTES See Client COC

3 Received Broken/Leaking (Improperly Sealed) Y N
NOTES CLOR ✓

4 Properly Preserved Y N
NOTES

5 Received Within Holding Times Y N
NOTES

COC Tape Was
1 Present on Outer Package Y N
2 Unbroken on Outer Package Y N
3 Present on Sample Y N
4 Unbroken on Sample Y N
NOTES

COC Record Was
1 Present Upon Receipt of Samples Y N

Discrepancies Between Sample Labels and COC Record? Y N
NOTES

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**Severn Trent Lab ratorie Chicago**
**Internal Sample Custody Transfer Record**

RFW Lot#: 99016922

Client: (NAS) AFC001 15 FDA

| Sample No. | Analysis | Relinquished by: | Received by: | Date | Time | Comments |
|---|---|---|---|---|---|---|
| 10,11 | Hg | E. Mazu | [illegible] | 2/1/99 | 1600 | |
| 5,6,13 | Tl | [illegible] | [illegible] | 2/5/99 | 8:18 | |
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CHI-22-11-001/C-1/99

RECRA LabNet Use Only
9901C922

# Custody Transfer Record/Lab Work Request

RECRA LabNet

Client HydroGeoLogic
Est. Final Proj. Sampling Date 2-5-99
Project # AFC001 15 IDA
Project Contact/Phone # Lynn Morgan
RECRA Project Manager Bosco Ramirez
QC ____ Del ____ TAT ____
Date Rec'd ____ Date Due ____
Account # ____

Refrigerator #
#/Type Container: Liquid / Solid
Volume: Liquid / Solid
Preservatives

ANALYSES REQUESTED → ORGANIC: VOA, BNA, Pest/PCB, Herb; BTEX+MTBE, Methane, TPH-GRO; INORG: Metal, CN; TOC, PAH, TPH-DRO, Alkalinity/Anions

RECRA LabNet Use Only

MATRIX CODES: S - Soil; SE - Sediment; SO - Solid; SL - Sludge; W - Water; O - Oil; A - Air; DS - Drum Solids; DL - Drum Liquids; L - EP/TCLP Leachate; WI - Wipe; X - Other; F - Fish

| Lab ID | Client ID/Description | Matrix QC Chosen (✓) MS | MSD | Matrix | Date Collected | Time Collected | VOA | BNA | Pest/PCB | Herb | BTEX+MTBE | Methane | TPH-GRO | Metal | CN | TOC | PAH | TPH-DRO | Alkalinity/Anions |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 001 | 40HGLTA011WG07 | | | W | 1/18/99 | 1432 | | | | | 3 | 3 | 3 | | | 1 | 1 | 1 | 1 |
| 002 | 1WHGLTA010WG07 | | | W | 1/18/99 | 1620 | | | | | 3 | 3 | 3 | | | 1 | 1 | 1 | 1 |
| 003 | TB011899 | | | W | 1/18/99 | 800 | | | | | 2 | 2 | | | | | | | |
| 004 | EB011899 | | | W | 1/18/99 | 1800 | | | | | 3 | 3 | 3 | | | 1 | 1 | 1 | 1 |
| 005 | WCHMATA008WG07 | | | W | 1/18/99 | 1046 | | | | | 3 | 3 | 3 | | | 1 | 1 | 1 | 1 |
| 006 | DUP01 | | | W | 1/18/99 | 1200 | | | | | 3 | 3 | 3 | | | 1 | 1 | 1 | 1 |

FIELD PERSONNEL COMPLETE ONLY SHADED AREAS

Special Instructions

DATE/REVISIONS
1
2
3
4 2.3, 4.0, 3.9, 3.2, 2.4
5
6

RECRA LabNet Use Only

Samples were 1) Shipped ___ or Hand Delivered ___ Airbill # ____
2) Ambient or Chilled
3) Received in Good Condition Y or N
4) Labels Indicate Properly Preserved Y or N
5) Received Within Holding Times Y or N

COC Tape was 1) Present on Outer Package Y or N 60740 60741
2) Unbroken on Outer Package Y or N 69785 7336
3) Present on Sample Y or N 65726
4) Unbroken on Sample Y or N
COC Record Present Upon Sample Rec'd Y or N

Discrepancies Between Samples Lables and COC Record? Y or N
NOTES

| Relinquished by | Received by | Date | Time |
|---|---|---|---|
| [signature] | | 1/19/99 | 1745 |
| | K Keizer | 1/20 | 1230 |

| Relinquished by | Received by | Date | Time |
|---|---|---|---|
| | | | |
| | | | |

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RECRA LabNet Use Only
99019922

# Custody Transfer Record/Lab Work Request

RECRA LabNet

Client: HydroGeologic, Inc
Est. Final Proj. Sampling Date: 2-5-99
Project #: AFC001.15 IDA
Project Contact/Phone #: Lynn Morgan
RECRA Project Manager: Bosco Ramirez
QC ____ Del ____ TAT ____
Date Rec'd ____ Date Due ____
Account # ____

Refrigerator #
#/Type Container: Liquid / Solid
Volume: Liquid / Solid
Preservatives

ANALYSES REQUESTED →

MATRIX CODES:
S - Soil
SE - Sediment
SO - Solid
SL - Sludge
W - Water
O - Oil
A - Air
DS - Drum Solids
DL - Drum Liquids
L - EP/TCLP Leachate
WI - Wipe
X - Other
F - Fish

| Lab ID | Client ID/Description | Matrix QC Chosen (✓) MS | MSD | Matrix | Date Collected | Time Collected | ORGANIC: VOC VOA | BNA | Pest/PCB | Herb | BTEX + MTBE | Methane | TPH → GRO | INORG: Metal | CN | TOC | PAH | TPH-DRO | Alkalinity Anions | NH-4 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 007 | WHGLTA009WG07 | | | W | 1/19/99 | 1005 | | | | | 3 | 3 | 3 | | | 1 | 1 | 1 | 1 | |
| 008 | TB011999 | | | W | 1/19/99 | 830 | | | | | 2 | 2 | | | | | | | | |
| 009 | EB011999 | | | W | 1/19/99 | 1130 | | | | | 3 | 3 | 3 | | | 1 | 1 | 1 | 1 | |
| 010 | STM-24WG07 | | | W | 1/19/99 | 1309 | 3 | | | | | | | 1 | | | | | | |
| 011 | STM-W31WG07 | | | W | 1/19/99 | 1615 | 3 | | | | | 3 | | 1 | | 1 | | | 1 | |
| 012 | STM-29WG07 | | | W | 1/19/99 | 1426 | | | | | 3 | 3 | | | | 1 | | | 1 | |
| 013 | WHGLTA012WG07 | | | W | 1/19/99 | 1405 | | | | | 3 | 3 | 3 | | | 1 | 1 | 1 | 1 | |
| 014 | WHGLTA014WG07 | | | W | 1/19/99 | 1540 | | | | | 3 | 3 | 3 | | | 1 | 1 | 1 | 1 | |

RECRA LabNet Use Only

FIELD PERSONNEL COMPLETE ONLY SHADED AREAS

Special Instructions:

DATE/REVISIONS.
1
2
3
4 3.9, 3.2, 2.4, 2.3, 4.0,
5
6

RECRA LabNet Use Only

Samples were: 1) Shipped FX or Hand Delivered ____ Airbill # ____
2) Ambient or Chilled
3) Received in Good Condition Y or N
4) Labels Indicate Properly Preserved Y or N
5) Received Within Holding Times Y or N

COC Tape was: 1) Present on Outer Package Y or N
2) Unbroken on Outer Package Y or N
3) Present on Sample Y or N
4) Unbroken on Sample Y or N
COC Record Present Upon Sample Rec't Y or N

60746 60741 60745 7336 6896

Discrepancies Between Samples Lables and COC Record? Y or N
NOTES

| Relinquished by | Received by | Date | Time |
|---|---|---|---|
| [illegible] | | 1/19/99 | 1815 |
| | [illegible] | 1/20 | 1400 |

| Relinquished by | Received by | Date | Time |
|---|---|---|---|
| | | | |
| | | | |

Page ___ of 1

To AFC001-15IDA
c/o HydroGeoLogic, Inc.
1155 Herndon Parkway, Ste. 900
Herndon, VA 20170

Attn Mr. Ken Rapuano

Date: Friday February 5th, 1999

RE: WHGLTA011WG07
Project # 60025-001-001-0001
Lab ID. 9901G922-001
Sample Date 01/18/99
Date Received 01/20/99

## Inorganic Data Report

| Parameters | Result | | Units | Reporting Limit |
|---|---|---|---|---|
| Alkalinity | 474 | | mg/L | 10.0 |
| Chloride by IC | 8.8 | | mg/L | 5.0 |
| Nitrate-N by IC | 0.10 | u | mg/L | 0.10 |
| Sulfate by IC | 9.1 | | mg/L | 0 20 |
| Total Organic Carbon | 3.0 | | mg/L | 1 0 |
| TOC Test 2 | 2.9 | | mg/L | 1.0 |

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To: AFC001-15IDA
c/o HydroGeoLogic, Inc.
1155 Herndon Parkway, Ste. 900
Herndon, VA 20170

Attn: Mr. Ken Rapuano

Date Friday February 5th, 1999

RE WHGLTA010WG07
Project # 60025-001-001-0001
Lab ID. 9901G922-002
Sample Date: 01/18/99
Date Received: 01/20/99

## Inorganic Data Report

| Parameters | Result | | Units | Reporting Limit |
|---|---|---|---|---|
| Alkalinity | 458 | | mg/L | 10 0 |
| Chloride by IC | 23 9 | | mg/L | 5.0 |
| Nitrate-N by IC | 0 10 | u | mg/L | 0 10 |
| Sulfate by IC | 36 1 | | mg/L | 5 0 |
| Total Organic Carbon | 2.1 | | mg/L | 1.0 |
| TOC Test 2 | 2.1 | | mg/L | 1 0 |

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To: AFC001-15IDA
c/o HydroGeoLogic, Inc.
1155 Herndon Parkway, Ste. 900
Herndon, VA 20170

Attn Mr. Ken Rapuano

Date: Friday February 5th, 1999

RE: EB011899
Project # 60025-001-001-0u01
Lab ID: 9901G922-004
Sample Date: 01/18/99
Date Received 01/20/99

## Inorganic Data Report

| Parameters | Result | | Units | Reporting Limit |
|---|---|---|---|---|
| Alkalinity | 10.0 | u | mg/L | 10 0 |
| Chloride by IC | 0.20 | u | mg/L | 0 20 |
| Nitrate-N by IC | 0.10 | u | mg/L | 0.10 |
| Sulfate by IC | 0 20 | u | mg/L | 0.20 |
| Total Organic Carbon | 1.0 | u | mg/L | 1.0 |
| TOC Test 2 | 1.0 | u | mg/L | 1.0 |

To AFC001·15IDA
c/o HydroGeoLogic, Inc.
1155 Herndon Parkway, Ste. 900
Herndon, VA 20170

Attn· Mr. Ken Rapuano

Date Friday February 5th, 1999

RE· WCHMHTA008WG07
Project # 60025-001-001-0001
Lab ID 9901G922-005
Sample Date 01/18/99
Date Received· 01/20/99

## Inorganic Data Report

| Parameters | Result | | Units | Reporting Limit |
|---|---|---|---|---|
| Alkalinity | 466 | | mg/L | 10 0 |
| Chloride by IC | 439 | | mg/L | 25.0 |
| Nitrate-N by IC | 2 3 | | mg/L | 0 10 |
| Sulfate by IC | 35 3 | | mg/L | 5 0 |
| Total Organic Carbon | 10 6 | | mg/L | 5 0 |
| TOC Test 2 | 5 0 | u | mg/L | 5.0 |

643 .55

To. AFC001-15IDA
c/o HydroGeoLogic, Inc.
1155 Herndon Parkway, Ste. 900
Herndon, VA 20170

Attn Mr. Ken Rapuano

Date Friday February 5th, 1999

RE· DUP01
Project # 60025-001-001-0001
Lab ID 9901G922-006
Sample Date 01/18/99
Date Received· 01/20/99

## Inorganic Data Report

| Parameters | Result | | Units | Reporting Limit |
|---|---|---|---|---|
| Alkalinity | 453 | | mg/L | 10.0 |
| Chloride by IC | 379 | | mg/L | 25.0 |
| Nitrate-N by IC | 2.3 | | mg/L | 0 10 |
| Sulfate by IC | 35 0 | | mg/L | 5 0 |
| Total Organic Carbon | 5 0 | u | mg/L | 5 0 |
| TOC Test 2 | 5.0 | u | mg/L | 5.0 |

To AFC001-15IDA
c/o HydroGeoLogic, Inc.
1155 Herndon Parkway, Ste. 900
Herndon, VA 20170

Attn Mr. Ken Rapuano

Date: Friday February 5th, 1999

RE WHGLTA009WG07
Project # 60025-001-001-0001
Lab ID: 9901G922-007
Sample Date: 01/19/99
Date Received. 01/20/99

## Inorganic Data Report

| Parameters | Result | | Units | Reporting Limit |
|---|---|---|---|---|
| Alkalinity | 413 | | mg/L | 10 0 |
| Chloride by IC | 33 8 | | mg/L | 5.0 |
| Nitrate-N by IC | 0 10 | u | mg/L | 0 10 |
| Sulfate by IC | 13.7 | | mg/L | 5.0 |
| Total Organic Carbon | 2 0 | | mg/L | 1 0 |
| TOC Test 2 | 2.0 | | mg/L | 1 0 |

To AFC001-15IDA
c/o HydroGeoLogic, Inc.
1155 Herndon Parkway, Ste. 900
Herndon, VA 20170

Attn Mr. Ken Rapuano

Date: Friday Febr ary 5th, 1999

RE: EB011999
Project # 60025-001-001-0001
Lab ID: 9901G922-009
Sample Date 01/19/99
Date Received 01/20/99

## Inorganic Data Report

| Parameters | Result | | Units | Reporting Limit |
|---|---|---|---|---|
| Alkalinity | 10 0 | u | mg/L | 10 0 |
| Chloride by IC | 0.20 | u | mg/L | 0.20 |
| Nitrate-N by IC | 0 10 | u | mg/L | 0 10 |
| Sulfate by IC | 0 20 | u | mg/L | 0.20 |
| Total Organic Carbon | 1.0 | u | mg/L | 1.0 |
| TOC Test 2 | 1.0 | u | mg/L | 1.0 |

To AFCO 1-15IDA
c/o HydroGeoLogic, Inc.
1155 Herndon Parkway, Ste. 900
Herndon, VA 20170

Attn Mr. Ken Rapuano

Date. Friday February 5th, 1999

RE: ST14-W31WG07
Project # 60025-001-001-0001
Lab ID: 9901G922-011
Sample Date: 01/19/99
Date Received: 01/20/99

## Inorganic Data Report

| Parameters | Result | Units | Reporting Limit |
|---|---|---|---|
| Alkalinity | 335 | mg/L | 10 0 |
| Chloride by IC | 18 5 | mg/L | 5.0 |
| Nitrate-N by IC | 1 5 | mg/L | 0 10 |
| Sulfate by IC | 13.7 | mg/L | 5.0 |
| Total Organic Carbon | 1.5 | mg/L | 1 0 |
| TOC Test 2 | 1.6 | mg/L | 1 0 |

To: AFC001-15IDA
c/o HydroGeoLogic, Inc.
1155 Herndon Parkway, Ste. 900
Herndon, VA 20170

Attn: Mr. Ken Rapuano

Date: Friday February 5th, 1999

RE: WHGLTA014WG07
Project # 60025-001-001-0001
Lab ID 9901G922-014
Sample Date: 01/19/99
Date Received. 01/20/99

## Inorganic Data Report

| Parameters | Result | | Units | Reporting Limit |
|---|---|---|---|---|
| Alkalinity | 427 | | mg/L | 10.0 |
| Chloride by IC | 89 9 | | mg/L | 5 0 |
| Nitrate-N by IC | 0 10 | u | mg/L | 0 10 |
| Sulfate by IC | 27.0 | | mg/L | 5.0 |
| Total Organic Carbon | 2 6 | | mg/L | 1.0 |
| TOC Test 2 | 2 6 | | mg/L | 1.0 |

To AFC001-15IDA
c/o HydroGeoLogic, Inc.
1155 Herndon Parkway, Ste. 900
Herndon, VA 20170

Attn Mr. Ken Rapuano

Date Friday February 5th, 1999

Project # 60025-001-001-0001
Lab Batch: 9901G922

## Inorganic Method Blank Data Report

| Sample | Lab ID | Parameter | Result | | Units | Reporting Limit |
|---|---|---|---|---|---|---|
| Blank 1 | 99GAK004-MB1 | Alkalinity | 10 0 | u | mg/L | 10 0 |
| Blank 1 | 99GIC023-MB1 | Chloride by IC | 0.20 | u | mg/L | 0.20 |
| | | Nitrate-N by IC | 0 10 | u | mg/L | 0 10 |
| | | Sulfate by IC | 0.20 | u | mg/L | 0.20 |
| ank 1 | 99GTC006-MB1 | Total Organic Carbon | 1 0 | u | mg/L | 1.0 |
| Blank 1 | 99GIC026-MB1 | Chloride by IC | 0.20 | u | mg/L | 0 20 |
| | | Nitrate-N by IC | 0 10 | u | mg/L | 0 10 |
| | | Sulfate by IC | 0 20 | u | mg/L | 0 20 |
| Blank 1 | 99GTC010-MB1 | Total Organic Carbon | 1 0 | u | mg/L | 1 0 |
| Blank 1 | 99GIC024-MB1 | Chloride by IC | 0.20 | u | mg/L | 0 20 |
| | | Nitrate-N by IC | 0 10 | u | mg/L | 0 10 |
| | | Sulfate by IC | 0 20 | u | mg/L | 0 20 |

643 61

# Severn Trent Laboratories Chicago
# Wet Chemistry Case Narrative

Client: HydroGeoLogic NAS Ft. Worth AFC001-15IDA
RFW Lot: 9901G922 Date Rec'd: 01/22/99

1. This narrative covers the analysis of the samples in the above RFW Lot by the following methods.

   Alkalinity - EPA Method 310.1
   Anions by Ion Chromatography - SW 846 9056
   - Chloride
   - Nitrate as N
   - Sulfate as $SO_4$

   TOC - EPA Method 415.1
   Samples 9901G922-005, -006, and -013 initially gave "endpoint time out" errors and were later re-analyzed at 1/5 dilution.

2. The EPA water holding times were met. Refer to the Laboratory Chronicle Page for dates of sampling, receipt, and analysis.

3. The initial and continuing calibration verification standards and blanks were in control. There are two ICVs and two CCVs every 10 readings in the IC sets, the higher level one for chloride and sulfate only. Please see the LCS discussion below, in item 5.

4. All method blanks were below the detection limits.

5. All LCS recoveries were within control limits. Severn Trent Laboratories Chicago has recently started using 2 IC standard curves and calculating each sample chromatogram against the better curve for its concentration. The high range curve is for chloride and sulfate only, since those are the anions most likely to be at higher concentrations. This practice cuts down on the number of dilutions that are needed and expedites analysis. Accommodating two linear ranges technically within one analytical prep batch requires 2 LCSs for chlorise and sulfate, one mid-range on each curve. Both LCSs are included in the data, but they are not duplicates of each other and no RPD is calculated between them. Please see the LCS Summary Pages of this report for additional details.

6. No matrix QC was requested or done on these samples.

Diane L. Harper
Wet Chemistry Section Manager

2/5/99
Date

Severn Trent Laboratories Chicago
8260 ANALYTICAL DATA PACKAGE FOR
AFC001-15IDA

LOT # 9901G922

| CLIENT ID | SAMPLE # | MTX | PREP # | COLLECTN | DATE REC | EXT/PREP | ANALYSIS |
|---|---|---|---|---|---|---|---|
| ST14-24WG07 | 010 | W | 99GVF016 | 01/19/99 | 01/20/99 | N/A | 01/25/99 |
| ST14-W31WG07 | 011 | W | 99GVF016 | 01/19/99 | 01/20/99 | N/A | 01/25/99 |
| LAB QC | | | | | | | |
| VBLKXA | MB1 | W | 99GVF016 | N/A | N/A | N/A | 01/25/99 |
| VBLKXA | MB1 BS | W | 99GVF016 | N/A | N/A | N/A | 01/25/99 |



NY CERTIFICATION # 11006

Recra LabNet - Chicago
METHOD 8260 VOLATILES

RFW Batch Number 9901G922 Client AFC001-15IDA Work Order 60025-001-001-0 Report Date 01/26/99 19 20 Page 1a

| | Cust ID | ST14-24WG07 | | ST14-W31WG07 | | VBLKXA | | VBLKXA BS | |
|---|---|---|---|---|---|---|---|---|---|
| Sample Information | RFW# | 010 | | 011 | | 99GVF016-MB1 | | 99GVF016-MB1 | |
| | Matrix | WATER | | WATER | | WATER | | WATER | |
| | D F | 1 | | 1 | | 1 | | 1 | |
| | Units | UG/L | | UG/L | | UG/L | | UG/L | |
| Surrogate Recovery | 1,2-Dichloroethane-d4 | 82 | % | 91 | % | 102 | % | 108 | % |
| | Toluene-d8 | 90 | % | 99 | % | 105 | % | 105 | % |
| | 4-Bromofluorobenzene | 87 | % | 95 | % | 104 | % | 105 | % |
| | Dibromofluoromethane | 89 | % | 98 | % | 112 | % | 115 | % |
| Dichlorodifluoromethane | | 0.5 | U | 0.5 | U | 0.5 | U | 68 | % |
| Chloromethane | | 0.5 | U | 0.5 | U | 0.5 | U | 109 | % |
| Vinyl chloride | | 2 | | 0.5 | U | 0.5 | U | 113 | % |
| Bromomethane | | 0.5 | U | 0.5 | U | 0.5 | U | 110 | % |
| Chloroethane | | 0.5 | U | 0.5 | U | 0.5 | U | 104 | % |
| Trichlorofluoromethane | | 0.5 | U | 0.5 | U | 0.5 | U | 101 | % |
| 1,1 Dichloroethene | | 0.5 | U | 0.5 | U | 0.5 | U | 100 | % |
| Methylene Chloride | | 0.5 | U | 0.5 | U | 0.5 | U | 113 | % |
| trans 1,2-Dichloroethene | | 0.5 | U | 0.5 | U | 0.5 | U | 105 | % |
| 1,1 Dichloroethane | | 0.4 | U | 0.4 | U | 0.4 | U | 112 | % |
| cis 1,2-Dichloroethene | | 0.5 | U | 0.5 | U | 0.5 | U | 112 | % |
| 2,2 Dichloropropane | | 0.5 | U | 0.5 | U | 0.5 | U | 107 | % |
| Bromochloromethane | | 0.4 | U | 0.4 | U | 0.4 | U | 123 | % |
| Chloroform | | 0.3 | U | 0.3 | U | 0.3 | U | 120 | % |
| 1,1,1-Trichloroethane | | 0.5 | U | 0.5 | U | 0.5 | U | 115 | % |
| 1,1-Dichloropropene | | 0.5 | U | 0.5 | U | 0.5 | U | 118 | % |
| Carbon Tetrachloride | | 0.5 | U | 0.5 | U | 0.5 | U | 110 | % |
| Benzene | | 0.4 | U | 0.4 | U | 0.4 | U | 111 | % |
| 1,2 Dichloroethane | | 0.5 | U | 0.5 | U | 0.5 | U | 115 | % |
| Trichloroethene | | 0.5 | U | 0.5 | U | 0.5 | U | 114 | % |
| 1,2 Dichloropropane | | 0.4 | U | 0.4 | U | 0.4 | U | 122 | % |
| Dibromomethane | | 0.5 | U | 0.5 | U | 0.5 | U | 119 | % |
| Bromodichloromethane | | 0.5 | U | [illegible] | U | 0.5 | U | 117 | % |
| cis 1,3 Dichloropropene | | 0.5 | U | 0.5 | U | 0.5 | U | 117 | % |
| Toluene | | 0.5 | U | 0.5 | U | 0.5 | U | 112 | % |

*= Outside of EPA CLP QC limits

RIW Batch Number 9901G922 Client: AFC001-15IDA Work Order 60025-001-001-0 Page 1b

| Cust ID | ST14-24WG07 | ST14-W31WG07 | VBLKXA | VBLKXA BS |
|---|---|---|---|---|
| RFW# | 010 | 011 | 99GVF016-MB1 | 99GVF016-MB1 |
| trans-1,3-Dichloropropene | 0.5 U | 0.5 U | 0.5 U | 119 % |
| 1,1,2-Trichloroethane | 0.5 U | 0.5 U | 0.5 U | 130 * % |
| 1,3-Dichloropropane | 0.4 U | 0.4 U | 0.4 U | 122 % |
| Tetrachloroethene | 6 | 1 | 0.5 U | 109 % |
| Dibromochloromethane | 0.5 U | 0.5 U | 0.5 U | 116 % |
| 1,2-Dibromoethane | 0.5 U | 0.5 U | 0.5 U | 124 % |
| 1-Chlorohexane | 0.5 U | 0.5 U | 0.5 U | 87 % |
| Chlorobenzene | 0.4 U | 0.4 U | 0.4 U | 115 % |
| 1,1,1,2-Tetrachloroethane | 0.5 U | 0.5 U | 0.5 U | 115 % |
| Ethylbenzene | 0.5 U | 0.5 U | 0.5 U | 111 % |
| m/p-Xylene | 0.5 U | 0.5 U | 0.5 U | 114 % |
| o-Xylene | 0.5 U | 0.5 U | 0.5 U | 116 % |
| Styrene | 0.4 U | 0.4 U | 0.4 U | 118 % |
| Bromoform | 0.5 U | 0.5 U | 0.5 U | 126 * % |
| Isopropylbenzene | 0.5 U | 0.5 U | 0.5 U | 115 % |
| 1,1,2,2-Tetrachloroethane | 0.5 U | 0.5 U | 0.5 U | 124 % |
| Bromobenzene | 0.3 U | 0.3 U | 0.3 U | 118 % |
| 1,2,3-Trichloropropane | 0.5 U | 0.5 U | 0.5 U | 124 % |
| n-Propylbenzene | 0.4 U | 0.4 U | 0.4 U | 119 % |
| 2-Chlorotoluene | 0.4 U | 0.4 U | 0.4 U | 120 % |
| 1,3,5-Trimethylbenzene | 0.5 U | 0.5 U | 0.5 U | 111 % |
| 4-Chlorotoluene | 0.5 U | 0.5 U | 0.5 U | 118 % |
| tert-Butylbenzene | 0.5 U | 0.5 U | 0.5 U | 116 % |
| 1,2,4-Trimethylbenzene | 0.5 U | 0.5 U | 0.5 U | 115 % |
| sec-Butylbenzene | 0.5 U | 0.5 U | 0.5 U | 116 % |
| 1,3-Dichlorobenzene | 0.5 U | 0.5 U | 0.5 U | 119 % |
| p-Isopropyltoluene | 0.5 U | 0.5 U | 0.5 U | 113 % |
| 1,4-Dichlorobenzene | 0.3 U | 0.3 U | 0.3 U | 122 % |
| n-Butylbenzene | 0.5 U | 0.5 U | 0.5 U | 116 % |
| 1,2-Dichlorobenzene | 0.3 U | 0.3 U | 0.3 U | 121 % |
| 1,2-Dibromo-3-chloropropane | 0.5 U | 0.5 U | 0.5 U | 117 % |
| 1,2,4-Trichlorobenzene | 0.4 U | 0.4 U | 0.4 U | 121 % |
| Hexachlorobutadiene | 0.5 U | 0.5 U | 0.5 U | 104 % |
| Naphthalene | 0.5 U | 0.5 U | 0.5 U | 110 % |
| 1,2,3-Trichlorobenzene | 0.5 U | 0.5 U | 0.5 U | 122 % |
| Vinyl acetate | 2 U | 2 U | 2 U | 97 % |

*= Outside of EPA CLP QC limits

**Severn Trent Laboratories Chicago**
**GC/MS Case Narrative**

AFC001 - 15IDA
STL# 9901G922
VOA DATA

1 All sample analyses were performed within recommended hold times

2 The Method Blanks had all target compounds below the required reporting limits

3 The QAPP specified QC limits were used to evaluate QC acceptance in the LCS (Laboratory Control Samples) The one spike compound reported, vinyl acetate, that was not listed in the QAPP was given QC limits of 0 - 0% at the client's request and the flags on this compounds have no QC significance The spike recoveries were above the QC limits for 1,1,2-Trichloroethane and Bromoform in the LCS sample Since the spike recoveries were above the QC limits and these compounds were not detected in the associated samples, corrective action was not required All of the other spike recoveries were within the QC limits in the LCS samples

4 Matrix Spike/Matrix Spike Duplicate analyses were not performed in this sample set

5 All of the volatile samples had surrogates recoveries within the QAPP specified QC limits

6 All water samples were prepared following Method 5030B All samples were analyzed following SW846 Method 8260B and 8000B All calibration criteria are met per method or SOP (for minimum R values for certain compounds) There are additional requirements in the QAPP for non-CCC's compounds in the continuing calibration verifications Some of these compounds may have exceeded the % Drift acceptance criteria These compounds were not detected in any of the associated samples, therefore the data is not effected The low point in the calibration verifies the base reporting limit The samples were quantitated using the initial calibration

7 The water samples were initially analyzed low level using a 25 mL purge volume

8 All of the samples had internal standard areas and retention times within the acceptance limits as compared to the corresponding continuing calibration

Gregory L Goodwin
GC/MS Section Manager

2/4/99
Date

Severn Trent Laboratories Chicago
8020 ANALYTICAL DATA PACKAGE FOR
AFC001-15IDA

LOT # :9901G922

| CLIENT ID | SAMPLE # | | MTX | PREP # | COLLECTN | DATE REC | EXT/PREP | ANALYSIS |
|---|---|---|---|---|---|---|---|---|
| WHGLTA011WG07 | 001 | | W | 99GVD012 | 01/18/99 | 01/20/99 | N/A | 01/26/99 |
| WHGLTA010WG07 | 002 | | W | 99GVD012 | 01/18/99 | 01/20/99 | N/A | 01/26/99 |
| WHGLTA010WG07 | 002 | C1 | W | 99GVD017 | 01/18/99 | 01/20/99 | N/A | 01/30/99 |
| TB011899 | 003 | | W | 99GVD012 | 01/18/99 | 01/20/99 | N/A | 01/26/99 |
| EB011899 | 004 | | W | 99GVD012 | 01/18/99 | 01/20/99 | N/A | 01/26/99 |
| WCHMHTA008WG07 | 005 | | W | 99GVD012 | 01/18/99 | 01/20/99 | N/A | 01/26/99 |
| WCHMHTA008WG07 | 005 | C1 | W | 99GVD017 | 01/18/99 | 01/20/99 | N/A | 01/29/99 |
| WCHMHTA008WG07 | 005 | C2 | W | 99GVD017 | 01/18/99 | 01/20/99 | N/A | 01/29/99 |
| WCHMHTA008WG07 | 005 | D1 | W | 99GVD013 | 01/18/99 | 01/20/99 | N/A | 01/28/99 |
| DUP01 | 006 | | W | 99GVD012 | 01/18/99 | 01/20/99 | N/A | 01/26/99 |
| DUP01 | 006 | C1 | W | 99GVD017 | 01/18/99 | 01/20/99 | N/A | 01/30/99 |
| DUP01 | 006 | C2 | W | 99GVD017 | 01/18/99 | 01/20/99 | N/A | 01/30/99 |
| DUP01 | 006 | D1 | W | 99GVD013 | 01/18/99 | 01/20/99 | N/A | 01/28/99 |
| WHGLTA009WG07 | 007 | | W | 99GVD013 | 01/19/99 | 01/20/99 | N/A | 01/28/99 |
| WHGLTA009WG07 | 007 | C1 | W | 99GVD017 | 01/19/99 | 01/20/99 | N/A | 01/30/99 |
| TB011999 | 008 | | W | 99GVD012 | 01/19/99 | 01/20/99 | N/A | 01/26/99 |
| EB011999 | 009 | | W | 99GVD012 | 01/19/99 | 01/20/99 | N/A | 01/26/99 |
| ST14-29WG07 | 012 | | W | 99GVD013 | 01/19/99 | 01/20/99 | N/A | 01/28/99 |
| ST14-29WG07 | 012 | C1 | W | 99GVD017 | 01/19/99 | 01/20/99 | N/A | 01/30/99 |
| WHGLTA012WG07 | 013 | | W | 99GVD013 | 01/19/99 | 01/20/99 | N/A | 01/28/99 |
| WHGLTA012WG07 | 013 | C1 | W | 99GVD017 | 01/19/99 | 01/20/99 | N/A | 01/30/99 |
| WHGLTA014WG07 | 014 | | W | 99GVD013 | 01/19/99 | 01/20/99 | N/A | 01/28/99 |
| WHGLTA014WG07 | 014 | C1 | W | 99GVD017 | 01/19/99 | 01/20/99 | N/A | 01/30/99 |

LAB QC:

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| BLK | MB1 | | W | 99GVD012 | N/A | N/A | N/A | 01/26/99 |
| BLK | MB1 | BS | W | 99GVD012 | N/A | N/A | N/A | 01/26/99 |
| BLK | MB1 | | W | 99GVD017 | N/A | N/A | N/A | 01/28/99 |
| BLK | MB1 | BS | W | 99GVD017 | N/A | N/A | N/A | 01/28/99 |
| BLK | MB1 | | W | 99GVD013 | N/A | N/A | N/A | 01/28/99 |
| BLK | MB1 | BS | W | 99GVD013 | N/A | N/A | N/A | 01/28/99 |

STL Chicago
PURGEABLE AROMATICS BY GC

RFW Batch Number: 9901G922 Client: AFC001-15IDA Work Order: 60025-001-001-0 Report Date: 02/08/99 20:05 Page: 1

| Sample Information | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Cust ID: | WHGLTA011WG07 | | | WHGLTA010WG07 | | | WHGLTA010WG07 | | | TB011899 | | | EB011899 | | | WCHMHTA008WG07 | |
| RFW#: | 001 | | | 002 | | | 002 | | | 003 | | | 004 | | | 005 | |
| Matrix: | WATER | | | WATER | | | WATER | | | WATER | | | WATER | | | WATER | |
| D.F.: | 1.0 | | | 1.0 | | | 1.0 | | | 1.0 | | | 1.0 | | | 1.0 | |
| Units: | ug/L | | | ug/L | | | ug/L CONFIRM | | | ug/L | | | ug/L | | | ug/L | |
| Surrogate a,a,a-Trifluorotoluene | 104 | % | | 107 | % | | 87 | % | | 109 | % | | 102 | % | | 102 | % |
| Surrogate 4-Bromofluorobenzene | 102 | % | | 98 | % | | 77 | % | | 104 | % | | 97 | % | | 121 | % |
| Benzene | 1.0 | U | | 2.5 | J | | 1.6 | J | | 1.0 | U | | 1.0 | U | | | E |
| Toluene | 1.0 | U | | 1.0 | U | | NA | | | 1.0 | U | | 1.0 | U | | 1.0 | U |
| Ethylbenzene | 1.0 | U | | 1.0 | U | | NA | | | 1.0 | U | | 1.0 | U | | 44 | |
| Xylene (total) | 1.0 | U | | 1.0 | U | | NA | | | 1.0 | U | | 1.0 | U | | 1.0 | U |
| Methyl-tert-butyl ether | 1.0 | U | | 1.0 | U | | NA | | | 1.0 | U | | 1.0 | U | | 1.0 | U |

| Sample Information | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Cust ID: | WCHMHTA008WG07 | | | WCHMHTA008WG07 | | | WCHMHTA008WG07 | | | DUP01 | | | DUP01 | | | DUP01 | |
| RFW#: | 005 | | | 005 DL | | | 005 DL | | | 006 | | | 006 | | | 006 DL | |
| Matrix: | WATER | | | WATER | | | WATER | | | WATER | | | WATER | | | WATER | |
| D.F.: | 1.0 | | | 5.0 | | | 5.0 | | | 1.0 | | | 1.0 | | | 5.0 | |
| Units: | ug/L CONFIRM | | | ug/L CONFIRM | | | ug/L | | | ug/L | | | ug/L CONFIRM | | | ug/L CONFIRM | |
| Surrogate a,a,a-Trifluorotoluene | I | % | | 117 | % | | 101 | % | | 109 | % | | I | % | | 122 | % |
| Surrogate 4-Bromofluorobenzene | 79 | % | | 76 | % | | 97 | % | | 134 | % | | 77 | % | | 72 | % |
| Benzene | | | E | 91 | | | 83 | | | | | E | | | E | 92 | |
| Toluene | NA | | | NA | | | NA | | | 1.0 | U | | NA | | | NA | |
| Ethylbenzene | 40 | | | NA | | | NA | | | | | E | | | E | 49 | |
| Xylene (total) | NA | | | NA | | | NA | | | 1.0 | U | | NA | | | NA | |
| Methyl-tert-butyl ether | NA | | | NA | | | NA | | | 1.0 | U | | NA | | | NA | |

U= Analyzed, not detected. J= Present below detection limit. B= Present in blank. NR= Not requested. NS= Not spiked.
%= Percent recovery. D= Diluted out. I= Interference. NA= Not Applicable. *= Outside of EPA CLP QC

LSM
2-9-99

643 67

STL Chicago
PURGEABLE AROMATICS BY GC

Report Date: 02/08/99 20:05
Page: 2

RFW Batch Number: 9901G922 Client: AFC001-15IDA Work Order: 60025-001-001-0

| Sample Information | | | | | | |
|---|---|---|---|---|---|---|
| Cust ID: | DUP01 | WHGLTA009WG07 | WHGLTA009WG07 | TB011999 | EB011999 | ST14-29WG07 |
| RFW#: | 006 DL | 007 | 007 | 008 | 009 | 012 |
| Matrix: | WATER | WATER | WATER | WATER | WATER | WATER |
| D.F.: | 5.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 |
| Units: | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| | | | CONFIRM | | | |
| Surrogate a,a,a-Trifluorotoluene | 105 % | 109 % | I % | 100 % | 106 % | 102 % |
| Surrogate 4-Bromofluorobenzene | 101 % | 109 % | 76 % | 96 % | 97 % | I % |
| Benzene | 88 | 1.8 J | 2.7 J | 1.0 U | 1.0 U | 1.5 J |
| Toluene | NA | 1.0 U | NA | 1.0 U | 1.0 U | 0.60 J J |
| Ethylbenzene | 42 | 1.0 U | NA | 1.0 U | 1.0 U | 1.0 U |
| Xylene (total) | NA | 2.8 | 3.4 | 1.0 U | 1.0 U | 13 J |
| Methyl-tert-butyl ether | NA | 3.2 J | 2.1 J | 1.0 U | 1.0 U | 1.0 U |

| Sample Information | | | | | | |
|---|---|---|---|---|---|---|
| Cust ID: | ST14-29WG07 | WHGLTA012WG07 | WHGLTA012WG07 | WHGLTA014WG07 | WHGLTA014WG07 | BLK |
| RFW#: | 012 | 013 | 013 | 014 | 014 | 99GVD012-MB1 |
| Matrix: | WATER | WATER | WATER | WATER | WATER | WATER |
| D.F.: | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 |
| Units: | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| | CONFIRM | | CONFIRM | | CONFIRM | |
| Surrogate a,a,a-Trifluorotoluene | I % | 105 % | I % | 97 % | 83 % | 70 % |
| Surrogate 4-Bromofluorobenzene | 82 % | I % | 82 % | 93 % | 76 % | 69 % |
| Benzene | 1.1 J | 8.0 | 6.6 | 1.9 | 1.5 | 1.0 U |
| Toluene | 4.1 J | 0.52 J J | 4.4 J | 1.0 U | NA | 1.0 U |
| Ethylbenzene | NA | 1.4 J | 2.2 J | 1.0 U | NA | 1.0 U |
| Xylene (total) | 5.3 J | 7.2 J | 3.6 J | 1.0 U | NA | 1.0 U |
| Methyl-tert-butyl ether | NA | 1.0 U | NA | 1.0 U | NA | 1.0 U |

U= Analyzed, not detected. J= Present below detection limit. B= Present in blank. NR= Not requested. NS= Not spiked.
%= Percent recovery. D= Diluted out. I= Interference. NA= Not Applicable. *= Outside of EPA CLP QC

LBM
2-9-99

STL Chicago
PURGEABLE AROMATICS BY GC

RFW Batch Number: 9901G922 Client: AFC001-151DA Work Order: 60025-001-001-0

Report Date: 02/08/99 20:05
Page: 3

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| | Cust ID: | BLK BS | BLK | BLK BS | BLK | BLK BS |
|---|---|---|---|---|---|---|
| Sample Information | RFW#: | 99GVD012-MB1 | 99GVD017-MB1 | 99GVD017-MB1 | 99GVD013-MB1 | 99GVD013-MB1 |
| | Matrix: | WATER | WATER | WATER | WATER | WATER |
| | D.F.: | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 |
| | Units: | ug/L | ug/L | ug/L | ug/L | ug/L |
| Surrogate | a,a,a-Trifluorotoluene | 113 % | 74 % | 78 % | 107 % | 110 % |
| | 4-Bromofluorobenzene | 110 % | 87 % | 89 % | 99 % | 106 % |
| | | fl | fl | fl | fl | fl |
| Benzene | | 108 % | 1.0 U | 110 % | 1.0 U | 106 % |
| Toluene | | 109 % | 1.0 U | 113 % | 1.0 U | 103 % |
| Ethylbenzene | | 108 % | 1.0 U | 109 % | 1.0 U | 102 % |
| Xylene (total) | | 109 % | 1.0 U | 110 % | 1.0 U | 104 % |
| Methyl-tert-butyl ether | | 91 % | 1.0 U | 101 % | 1.0 U | 82 % |

U= Analyzed, not detected. J= Present below detection limit. B= Present in blank. NR= Not requested. NS= Not spiked.
%= Percent recovery. D= Diluted out. I= Interference. NA= Not Applicable. *= Outside of EPA CLP QC

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Severn Trent Laboratories Chicago
Volatiles Case Narrative

AFC001-15IDA
RFW # 9901G922-001\009, 012\014
Purgeable Aromatics

1 These samples were analyzed for Benzene, Toluene, Ethylbenzene, Xylene (total),and Methyl-tert-butyl ether based on SW 846 methods 5030 and 8020 An HP5890 gas chromatograph, equipped with a Photoionization Detector and interfaced with a Tekmar LCS 2000/2016 ALS system, was used for the primary analysis A Tracor 540 gas chromatograph, equipped with a Photoionization Detector and interfaced with a Tekmar LCS 2000/2016 ALS system, was used for the confirmation analysis

2 All required holding times were met for the analysis

3 All method blanks were below the reporting limits for all target compounds.

4 The surrogate compounds used for this analysis were a,a,a-Trifluorotoluene and 4-Bromofluorobenzene All surrogate recoveries were within control limits, with the exception of those which were interfered with (flagged "I") All surrogate recoveries are summarized on Form 2

5 All blank spike recoveries were within control limits and are summarized on Forms 3

6 A matrix spike and matrix spike duplicate were not designated on this SDG

7 All initial and continuing standard calibrations associated with these samples were within control limits on the primary column (Instrument 33, DB-VRX) The CCV run 01/29/99 at 04 13 on the confirmation column (Instrument 18, DB-624) had MTBE biased low with 81 7% recovery

8 Analyte concentrations that are greater than 25% difference between the two columns have been flagged with a "J"

Linda S Mackley
Linda S Mackley
Organics Section Manager

2-9-99
Date

Severn Trent Laboratories Chicago
DRO ANALYTICAL DATA PACKAGE FOR
AFC001-15IDA

LOT # 9901G922

| CLIENT ID | SAMPLE # | MTX | PREP # | COLLECTN | DATE REC | EXT/PREP | ANALYSIS |
|---|---|---|---|---|---|---|---|
| WHGLTA011WG07 | 001 | W | 99GP0058 | 01/18/99 | 01/20/99 | 01/22/99 | 01/26/99 |
| WHGLTA010WG07 | 002 | W | 99GP0058 | 01/18/99 | 01/20/99 | 01/22/99 | 01/26/99 |
| EB011899 | 004 | W | 99GP0058 | 01/18/99 | 01/20/99 | 01/22/99 | 01/26/99 |
| WCHMHTA008WG07 | 005 | W | 99GP0058 | 01/18/99 | 01/20/99 | 01/22/99 | 01/26/99 |
| DUP01 | 006 | W | 99GP0058 | 01/18/99 | 01/20/99 | 01/22/99 | 01/26/99 |
| WHGLTA009WG07 | 007 | W | 99GP0058 | 01/19/99 | 01/20/99 | 01/22/99 | 01/26/99 |
| EB011999 | 009 | W | 99GP0058 | 01/19/99 | 01/20/99 | 01/22/99 | 01/26/99 |
| WHGLTA012WG07 | 013 | W | 99GP0058 | 01/19/99 | 01/20/99 | 01/22/99 | 01/26/99 |
| WHGLTA014WG07 | 014 | W | 99GP0058 | 01/19/99 | 01/20/99 | 01/22/99 | 01/26/99 |
| LAB QC | | | | | | | |
| PBLKHP | MB1 | W | 99GP0058 | N/A | N/A | 01/22/99 | 01/26/99 |
| PBLKHP | MB1 BS | W | 99GP0058 | N/A | N/A | 01/22/99 | 01/26/99 |

STL Chicago
DIESEL RANGE ORGANICS

Report Date: 02/08/99 16 23
RFW Batch Number: 9901G922 Client AFC001-15IDA Work Order: 60025-001-001-0 Page: 1

| | Cust ID: | WHGLTA011WG0 7 | | WHGLTA010WG0 7 | | EB011899 | | WCHMHTA008WG 07 | | DUP01 | | WHGLTA009WG0 7 | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Sample Information | RFW#: | 001 | | 002 | | 004 | | 005 | | 006 | | 007 | |
| | Matrix | WATER | | WATER | | WATER | | WATER | | WATER | | WATER | |
| | D.F.. | 0 50 | | 0.50 | | 0 50 | | 0 50 | | 0 50 | | 0 50 | |
| | Units | MG/L | | MG/L | | MG/L | | MG/L | | MG/L | | MG/L | |
| Surrogate | 2-Fluorobiphenyl | 81 | % | 88 | % | 96 | % | 86 | % | 88 | % | 92 | % |
| | o-Terphenyl | 88 | % | 93 | % | 91 | % | 85 | % | 87 | % | 93 | % |
| Diesel Range Organics | | 0 12 | U | 0 12 | U | 0 12 | JZ | 0 28 | Z | 0 29 | Z | 0 17 | Z |

| | Cust ID | EB011999 | | WHGLTA012WG0 7 | | WHGLTA014WG0 7 | | PBLKHP | | PBLKHP BS | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Sample Information | RFW#: | 009 | | 013 | | 014 | | 99GP0058-MB1 | | 99GP0058-MB1 | |
| | Matrix: | WATER | | WATER | | WATER | | WATER | | WATER | |
| | D.F. | 0 50 | | 0 50 | | 0 50 | | 0 50 | | 0 50 | |
| | Units | MG/L | | MG/L | | MG/L | | MG/L | | MG/L | |
| Surrogate: | 2-Fluorobiphenyl | 95 | % | 87 | % | 87 | % | 88 | % | 99 | % |
| | o-Terphenyl | 94 | % | 73 | % | 89 | % | 93 | % | 72 | % |
| Diesel Range Organics | | 0 18 | Z | 1 1 | Z | 0 12 | U | 0 12 | U | 73 | % |

U= Analyzed, not detected. J= Present below detection limit B= Present in blank NR= Not requested NS= Not spiked
%= Percent recovery D= Diluted out I= Interference NA= Not Applicable *= Outside of EPA CLP QC

STL Chicago
GASOLINE RANGE ORGANICS

RFW Batch Number: 9901G922 Client: AFC001-151DA Work Order: 60025-001-001-0 Report Date: 02/08/99 13:16 Page: 1

| | Cust ID: | WHGLTA011WG0 | WHGLTA010WG0 | EB011899 | WCHMHTA008WG | DUP01 | WHGLTA009WG0 |
|---|---|---|---|---|---|---|---|
| | | 7 | 7 | | 07 | | 7 |
| Sample Information | RFW#: | 001 | 002 | 004 | 005 | 006 | 007 |
| | Matrix: | WATER | WATER | WATER | WATER | WATER | WATER |
| | D.F.: | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 |
| | Units: | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Surrogate | a,a,a-Trifluorotoluene | 106 % | 107 % | 102 % | 102 % | 99 % | 119 % |
| | 4-Bromofluorobenzene | 104 % | 109 % | 105 % | 106 % | 100 % | 101 % |
| Gasoline Range Organics | | 50 U | 130 Y | 29 JZ | 820 Y | 730 Y | 970 Y |

| | Cust ID: | EB011999 | WHGLTA012WG0 | WHGLTA014WG0 | BLK | BLK BS |
|---|---|---|---|---|---|---|
| | | | 7 | 7 | | |
| Sample Information | RFW#: | 009 | 013 | 014 | 99GVD019-MB1 | 99GVD019-MB1 |
| | Matrix: | WATER | WATER | WATER | WATER | WATER |
| | D.F.: | 1.0 | 5.0 | 1.0 | 1.0 | 1.0 |
| | Units: | ug/L | ug/L | ug/L | ug/L | ug/L |
| Surrogate | a,a,a-Trifluorotoluene | 103 % | 98 % | 101 % | 106 % | 108 % |
| | 4-Bromofluorobenzene | 106 % | 88 % | 106 % | 109 % | 110 % |
| Gasoline Range Organics | | 50 U | 2700 Y | 310 Y | 50 U | 106 % |

U= Analyzed, not detected. J= Present below detection limit. B= Present in blank. NR= Not requested. NS= Not spiked.
%= Percent recovery. D= Diluted out. I= Interference. NA= Not Applicable. *= Outside of EPA CLP QC

643 73

Severn Trent Laboratories Chicago
Volatiles Case Narrative

AFC001-15IDA
RFW# 9901G922-001, 002, 004\007, 009, 013 and 014
Gasoline Range Organics (GRO)

1. These samples were analyzed for Gasoline Range Organics (GRO) based on SW846 methods 5030 and 8015 An HP5890 gas chromatograph equipped with a flame ionization detector and a Tekmar LSC-2000/2016 ALS was used for the analysis of these samples

2. All required holding times were met for the analysis.

3 The method blank was below the reporting limit for GRO.

4 The surrogate compounds used for this analysis were a,a,a-Trifluorotoluene and 4-Bromofluorobenzene. All surrogate recoveries were within control limits and are summarized on Form 2

5. The blank spike recovery was within control limits and is summarized on Form 3. A solution of Gasoline was used for spiking

6 A matrix spike and a matrix spike duplicate were not designated on this SDG

7 All initial and continuing standard calibrations for GRO were within control limits

8 All positive hits for these samples have been flagged with a "Y" because they appear to match a typical fuel pattern.

Linda S Mackley
Linda S Mackley
Organics Section Manager

2-8-99
Date

643 75

Severn Trent Laboratories Chicago
HPAH ANALYTICAL DATA PACKAGE FOR
AFC001-15IDA

LOT # 9901G922

| LOT # | SAMPLE # | | MTX | PREP # | COLLECTION | DATE REC | EXT/PREP | ANALYSIS |
|---|---|---|---|---|---|---|---|---|
| WHGLTA011WG07 | 001 | | W | 99GP0064 | 01/18/99 | 01/20/99 | 01/25/99 | 01/26/99 |
| WHGLTA010WG07 | 002 | | W | 99GP0064 | 01/18/99 | 01/20/99 | 01/25/99 | 01/26/99 |
| TB011899 | 004 | | W | 99GP0064 | 01/18/99 | 01/20/99 | 01/25/99 | 01/26/99 |
| WCHMHTA008WG07 | 005 | | W | 99GP0064 | 01/18/99 | 01/20/99 | 01/25/99 | 01/27/99 |
| WCHMHTA008WG07 | 005 | C1 | W | 99GP0064 | 01/18/99 | 01/20/99 | 01/25/99 | 01/27/99 |
| DUP01 | 006 | | W | 99GP0064 | 01/18/99 | 01/20/99 | 01/25/99 | 01/27/99 |
| DUP01 | 006 | C1 | W | 99GP0064 | 01/18/99 | 01/20/99 | 01/25/99 | 01/27/99 |
| WHGLTA009WG07 | 007 | | W | 99GP0064 | 01/19/99 | 01/20/99 | 01/25/99 | 01/26/99 |
| EB011999 | 009 | | W | 99GP0064 | 01/19/99 | 01/20/99 | 01/25/99 | 01/26/99 |
| WHGLTA012WG07 | 013 | | W | 99GP0064 | 01/19/99 | 01/20/99 | 01/25/99 | 01/27/99 |
| WHGLTA012WG07 | 013 | C1 | W | 99GP0064 | 01/19/99 | 01/20/99 | 01/25/99 | 02/08/99 |
| WHGLTA014WG07 | 014 | | W | 99GP0064 | 01/19/99 | 01/20/99 | 01/25/99 | 01/27/99 |

LAB QC

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| BLK | MB1 | | W | 99GP0064 | N/A | N/A | 01/25/99 | 01/26/99 |
| BLK | MB1 | C1 | W | 99GP0064 | N/A | N/A | 01/25/99 | 01/26/99 |
| BLK | MB1 BS | | W | 99GP0064 | N/A | N/A | 01/25/99 | 01/26/99 |
| BLK | MB1 BS | C1 | W | 99GP0064 | N/A | N/A | 01/25/99 | 01/26/99 |

NY CERTIFICATION # 11006

STL Chicago
PAHs BY HPLC

RFW Batch Number 9901G922 Client: AFC001-15IDA Work Order: 60025-001-001-0 Report Date 02/09/99 16 20 Page 1

| Sample Information | Cust ID | WHGLTA011WG07 | WHGLTA010WG07 | EB011899 | WCHMHTA008WG07 | WCHMHTA008WG07 | DUP01 |
|---|---|---|---|---|---|---|---|
| | RFW# | 001 | 002 | 004 | 005 | 005 | 006 |
| | Matrix | WATER | WATER | WATER | WATER | WATER | WATER |
| | D F | 1 0 | 1 0 | 1 0 | 2 0 | 2.0 | 2 0 |
| | Units | ug/L | ug/L | ug/L | ug/L | ug/L CONFIRM | ug/L |
| Surrogate | Decafluorobiphenyl | 72 % | 73 % | 76 % | 82 % | NA % | 90 % |
| | Benzo(e)pyrene | 88 % | 85 % | 83 % | 81 % | 87 % | 79 % |
| Naphthalene | | 17 U | 17 U | 17 U | 28 | 26 | 30 |
| Acenaphthene | | 17 U | 17 U | 17 U | 34 U | NA | 35 U |
| Acenaphthylene | | 22 U | 22 U | 22 U | 44 U | NA | 45 U |
| Fluorene | | 2 0 U | 2 0 U | 2 0 U | 4 0 U | NA | 4 1 U |
| Phenanthrene | | 6 2 U | 6 1 U | 6 1 U | 12 U | NA | 12 U |
| Anthracene | | 6 4 U | 6 3 U | 6 3 U | 12 U | NA | 13 U |
| Fluoranthene | | 2 0 U | 2 0 U | 2 0 U | 4 0 U | NA | 4 1 U |
| Pyrene | | 2 6 U | 2 6 U | 2 6 U | 5 1 U | NA | 5 2 U |
| Benzo(a)anthracene | | 0 13 U | 0 12 U | 0 12 U | 0 25 U | NA | 0 25 U |
| Chrysene | | 1 4 U | 1 4 U | 1 4 U | 2 8 U | NA | 2 9 U |
| Benzo(b)fluoranthene | | 0 17 U | 0.17 U | 0 17 U | 0 34 U | NA | 0 35 U |
| Benzo(k)fluoranthene | | 0 16 U | 0 16 U | 0 16 U | 0 32 U | NA | 0 33 U |
| Benzo(a)pyrene | | 0 22 U | 0 22 U | 0 22 U | 0 44 U | NA | 0 45 U |
| Dibenzo(a,h)anthracene | | 0 29 U | 0 28 U | 0 28 U | 0 57 U | NA | 0 58 U |
| Benzo(g,h,i)perylene | | 0 74 U | 0 72 U | 0 72 U | 1 4 U | NA | 1 5 U |
| Indeno(1,2,3-cd)pyrene | | 0 42 U | 0 41 U | 0 41 U | 0 82 U | NA | 0 83 U |

U= Analyzed not detected J= Present below detection limit B= Present in blank NR= Not requested NS= Not spiked
Percent recovery D= Diluted out I= Interference NA= Not Applicable *= Outside of EPA CLP QC

STL Chicago
PAHs BY HPLC

RFW Batch Number 9901G922 Client AFC001-15IDA Work Order 60025-001-001-0 Report Date 02/09/99 16 2[illegible] Page 2

| | Cust ID | DUP01 | WHGLTA009WG0 | EB011999 | WHGLTA012WG0 | WHGLTA012WG0 | WHGLTA014WG0 |
|---|---|---|---|---|---|---|---|
| | | | 7 | | 7 | 7 | 7 |
| Sample Information | RFW# | 006 | 007 | 009 | 013 | 013 | 014 |
| | Matrix | WATER | WATER | WATER | WATER | WATER | WATER |
| | D.F | 2 0 | 1.0 | 1 0 | 1 0 | 1 0 | 1 0 |
| | Units: | ug/L | ug/L | ug/l | ug/L | ug/L | ug/L |
| | | CONFIRM | | | | CONFIRM | |
| Surrogate | 2-Fluorobiphenyl | NA % | 77 % | 89 | 120 % | 1[illegible] | 6[illegible] |
| | Benzo(e)pyrene | 80 % | 80 % | 89 % | 61 % | 93 % | 8[illegible] % |
| | | fl | fl | fl | fl | fl | fl |
| Naphthalene | | 27 | 17 U | 17 U | 15 J | 24 | 17 U |
| Acenaphthene | | NA | 17 U | 17 U | 17 U | NA | 17 U |
| Acenaphthylene | | NA | 22 U | 22 U | 22 U | NA | 22 U |
| Fluorene | | NA | 2 0 U | 2 0 U | 1 6 J | 2 5 | 2 0 U |
| Phenanthrene | | NA | 6 2 U | 6 1 U | 6 2 U | NA | 6 1 U |
| Anthracene | | NA | 6 4 U | 6 3 U | 6 4 U | NA | 6 3 U |
| Fluoranthene | | NA | 2 0 U | 2 0 U | 2 0 U | NA | 2 0 U |
| Pyrene | | NA | 2 6 U | 2 6 U | 2 6 U | NA | 2 6 U |
| Benzo(a)anthracene | | NA | 0 13 U | 0 12 U | 0 13 U | NA | 0 [illegible] U |
| Chrysene | | NA | 1 4 U | 1 4 U | 1 4 U | NA | 1 4 U |
| Benzo(b)fluoranthene | | NA | 0 17 U | 0 17 U | 0 17 U | NA | 0 17 U |
| Benzo(k)fluoranthene | | NA | 0 16 U | 0 16 U | 0 16 U | NA | 0 16 U |
| Benzo(a)pyrene | | NA | 0 22 U | 0 22 U | 0 22 U | NA | 0 22 U |
| Dibenzo(a,h)anthracene | | NA | 0 29 U | 0 28 U | 0 29 U | NA | 0 28 U |
| Benzo(g,h,i)perylene | | NA | 0 74 U | 0 72 U | 0 74 U | NA | 0 72 U |
| Indeno(1,2,3-cd)pyrene | | NA | 0 42 U | 0 41 U | 0 42 U | NA | 0 41 U |

U= Analyzed not detected J= Present below detection limit B= Present in blank NR= Not requested NS= Not spiked
%= Percent recovery D= Diluted out I= Interference NA= Not Applicable *= Outside of EPA CLP QC

STL Chicago
PAHs BY HPLC

RFW Batch Number 9901G922 Client AFC001-15IDA Work Order 60025-001-001-0

Report Date: 02/09/99 16:20
Page 3

| Sample Information | Cust ID | BLK | | BLK | | BLK BS | | BLK BS | |
|---|---|---|---|---|---|---|---|---|---|
| | RFW# | 99GP0064-MB1 | | 99GP0064-MB1 | | 99GP0064-MB1 | | 99GP0064-MB1 | |
| | Matrix | WATER | | WATER | | WATER | | WATER | |
| | D F | 1 0 | | 1 0 | | 1 0 | | 1.0 | |
| | Units | ug/L | | ug/L | | ug/L | | ug/L | |
| | | | | CONFIRM | | | | CONFIRM | |
| Surrogate | Decafluorobiphenyl | 71 | % | NA | % | 73 | % | NA | % |
| | Benzo(e)pyrene | 88 | % | 86 | % | 89 | % | 86 | % |
| Naphthalene | | 18 | U | 18 | U | 98 | % | 88 | % |
| Acenaphthene | | 18 | U | 18 | U | 95 | % | NA | % |
| Acenaphthylene | | 23 | U | 23 | U | 90 | % | NA | % |
| Fluorene | | 2 1 | U | 2 1 | U | 91 | % | NA | % |
| Phenanthrene | | 6 4 | U | 6 4 | U | 95 | % | NA | % |
| Anthracene | | 6 6 | U | 6 6 | U | 76 | % | 79 | % |
| Fluoranthene | | 2 1 | U | 2 1 | U | 87 | % | 95 | % |
| Pyrene | | 2 7 | U | 2 7 | U | 120 | % | 96 | % |
| Benzo(a)anthracene | | 0 13 | U | 0.13 | U | 90 | % | 91 | % |
| Chrysene | | 1 5 | U | 1 5 | U | 96 | % | 94 | % |
| Benzo(b)fluoranthene | | 0 18 | U | 0 18 | U | 96 | % | 97 | % |
| Benzo(k)fluoranthene | | 0 17 | U | 0 17 | U | 91 | % | 86 | % |
| Benzo(a)pyrene | | 0 23 | U | 0 23 | U | 80 | % | 81 | % |
| Dibenzo(a,h)anthracene | | 0 30 | U | 0 30 | U | 84 | % | 79 | % |
| Benzo(g,h,i)perylene | | 0 76 | U | 0 76 | U | 86 | % | 81 | % |
| Indeno(1,2,3-cd)pyrene | | 0 43 | U | 0 43 | U | 94 | % | NA | % |

U= Analyzed not detected J= Present below detection limit B= Present in blank NR= Not requested NS= Not spiked
% Percent recovery D= Diluted out I= Interference NA= Not Applicable *= Outside of EPA CLP QC

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**Severn Trent Laboratories**
**Hydrocarbon Headspace Method 3810/8015**
**Project # 0199021**

**January 30 1999**

## Narrative

Twenty-one samples were received January 21, 1999 for headspace analysis of methane, ethane and ethene by method 3810/8015. The samples were received in good condition and are listed on the sample log-in sheet. The sample results can be reviewed in the Data Summary Table included with this report Client samples ST14-W18WGO7 MS and ST14-W18WGO7 MSD were designated for the matrix spike and matrix spike duplicate, respectively

## Method

The analysis methods consisted of method 3810 headspace concentration with method 8015 GC/FID organic analysis. A ten milliliter aliquot was removed from each sample vial allowing for 10 mL of headspace and a 30 mL sample volume Each sample vial was placed into an 80°C oven and allowed to reach equilibrium over a period of one hour. Each sample was injected at atmospheric pressure via a heated 1 0 mL GC sampling loop.

## Instrument Conditions

One milliliter of sample was injected into a GC equipped with a 2m x 2mm Porapak QS packed column and a Flame Ionization Detector (FID) The initial temperature of the oven was 80°C for one-half minute, increased at a rate of 20°C per minute to a final temperature of 100°C for 1 5 minutes.

1. Also refer to EPA RSK-175 Revision 0, 1994

## Calibration

The samples were quantified using a five point calibration ranging from 2.0 ppm to 100 0 ppm methane, ethene and ethane The calibration curve was run in duplicate and had an $r^2$ value of greater than 0 999 The calibration was non-equilibrium

**Quality Control**

Blank

The instrument blank showed no response for methane at a detection limit of 0.07 ug/L, no response for ethene at a detection limit of 0.1 ug/L and no response for ethane at a detection limit of 0.1 ug/L.

Duplicates

Samples DUP01 and ST14-W18WGO7 were run in duplicate and the percent difference was 0 2% and 3.1%, respectively

Lab Spikes

A lab spike/lab spike duplicate were performed concurrently with this sample set. Spike recoveries can be found in the QC Summary table appended with this report

Report prepared by:

Keith Souchereau, Chemist

Report approved for release by

Ronald K Mitchum, Ph D
President, **DAT**, Inc.

# Data Summary Table

Client: Severn Trent Laboratories
Project: 0199021
Analysis: Methane, Ethene and Ethane Headspace Method 3810/8015
Date: 1/30/99

| Client ID | DAT ID | Methane ug/L | Q | Ethene ug/L | Q | Ethane ug/L | Q | Duplicate % difference |
|---|---|---|---|---|---|---|---|---|
| WHGLTA011WGO7 | 0199021-1 | 1.16 | | 0 10 | ND | 0.108 | ND | |
| WHGLTA010WGO7 | 0199021-2 | 1270 26 | D | 0.10 | ND | 0.108 | ND | |
| TB011899 | 0199021-3 | 0.57 | | 0 10 | ND | 0 108 | ND | |
| EB011899 | 0199021-4 | 0.59 | | 0.10 | ND | 0.108 | ND | |
| WCHMHTA008WGO7 | 0199021-5 | 1219.81 | D | 0 10 | ND | 0 108 | ND | |
| DUP01 | 0199021-6 | 3332 00 | D | 0 10 | ND | 0 108 | ND | |
| DUP01 Dup | 0199021-6 Dup | 3325 02 | D | 0.10 | ND | 0.108 | ND | 0 2 |
| WHGLTA009WGO7 | 0199021-7 | 1628 16 | D | 0 10 | ND | 0 108 | ND | |
| TB019999 | 0199021-8 | 0 68 | | 0 10 | ND | 0 108 | ND | |
| EB011999 | 0199021-9 | 0 62 | | 0 10 | ND | 0 108 | ND | |
| ST14-W31WGO7 | 0199021-10 | 0.47 | | 0 10 | ND | 0 108 | ND | |
| ST14-29WGO7 | 0199021-11 | 6447 11 | D | 0.10 | ND | 0 108 | ND | |
| WHGLTA012WGO7 | 0199021-12 | 17124.34 | D | 0 10 | ND | 0.108 | ND | |
| WHGLTA014WGO7 | 0199021-13 | 1796.61 | D | 0.10 | ND | 0.108 | ND | |
| WHGLTA203WGO7 | 0199021-14 | 549 05 | D | 0 10 | ND | 0 108 | ND | |
| 17MWGO7 | 0199021-15 | 4437 16 | D | 0 10 | ND | 0 108 | ND | |
| ST14-03WGO7 | 0199021-16 | 70 48 | D | 0 10 | ND | 0 108 | ND | |
| MW-53WGO7 | 0199021-17 | 0 67 | | 0 10 | ND | 0 108 | ND | |
| ST14-W16WGO7 | 0199021-18 | 3108 43 | D | 0 10 | ND | 0 108 | ND | |
| ST14-W18WGO7 | 0199021-19 | 7335 36 | D | 0 10 | ND | 0 108 | ND | |
| ST14-W18WGO7 Dup | 0199021-19 Dup | 7565 36 | D | 0 10 | ND | 0 108 | ND | 3 1 |
| TB012099 | 0199021-22 | 0.55 | | 0 10 | ND | 0.108 | ND | |
| WHGLTA008WGO7 | 0199021-23 | 4449 38 | D | 0.10 | ND | 0 108 | ND | |

ND - Not detected at the detection limit.
D - Dilution result.
H - Henrys Law contribution

# Data Summary Table

Client Severn Trent Laboratories
Project 0199021
Analysis Methane, Ethene and Ethane Headspace Method 3810/8015
Date 1/30/99

| Client ID | DAT ID | Methane ppm | Dil Factor | Methane ug/L | H ug/L | Methane ug/L | Q | Ethene ppm | Dil Factor | Ethene ug/L | H ug/L | Ethene ug/L | Q | Ethane ppm | Dil Factor | Ethane ug/L | H ug/L | Ethane ug/L | Q | Duplicate % difference |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| WHGLTA011WGO7 | 0199021-1 | 6 062 | 1 | 1 12 | 0 04 | 1 16 | | 0 300 | 1 | 0 10 | 0 002 | 0 10 | ND | 0 300 | 1 | 0 10 | 0 004 | 0 108 | ND | |
| WHGLTA010WGO7 | 0199021-2 | 13 295 | 500 | 1,224 02 | 46 23 | 1270 26 | D | 0 300 | 1 | 0 10 | 0 002 | 0 10 | ND | 0 300 | 1 | 0 10 | 0 004 | 0 108 | ND | |
| TB011899 | 0199021-3 | 2 977 | 1 | 0 55 | 0 02 | 0 57 | | 0 300 | 1 | 0 10 | 0 002 | 0 10 | ND | 0 300 | 1 | 0 10 | 0 004 | 0 108 | ND | |
| LB011899 | 0199021-4 | 3 073 | 1 | 0 57 | 0 02 | 0 59 | | 0 300 | 1 | 0 10 | 0 002 | 0 10 | ND | 0 300 | 1 | 0 10 | 0 004 | 0 108 | ND | |
| WCHMHTA008WGO7 | 0199021-5 | 12 767 | 500 | 1,175 41 | 44 40 | 1219 81 | D | 0 300 | 1 | 0 10 | 0 002 | 0 10 | ND | 0 300 | 1 | 0 10 | 0 004 | 0 108 | ND | |
| DUP01 | 0199021-6 | 34 874 | 500 | 3,210 73 | 121 27 | 3332 00 | D | 0 300 | 1 | 0 10 | 0 002 | 0 10 | ND | 0 300 | 1 | 0 10 | 0 004 | 0 108 | ND | 0 2 |
| DUP01 Dup | 0199021-6 Dup | 34 801 | 500 | 3,204 01 | 121 02 | 3325 02 | D | 0 300 | 1 | 0 10 | 0 002 | 0 10 | ND | 0 300 | 1 | 0 10 | 0 004 | 0 108 | ND | |
| WHGLTA009WGO7 | 0199021-7 | 17 041 | 500 | 1,568 91 | 59 26 | 1628 16 | D | 0 300 | 1 | 0 10 | 0 002 | 0 10 | ND | 0 300 | 1 | 0 10 | 0 004 | 0 108 | ND | |
| TB019999 | 0199021-8 | 3 547 | 1 | 0 65 | 0 02 | 0 68 | | 0 300 | 1 | 0 10 | 0 002 | 0 10 | ND | 0 300 | 1 | 0 10 | 0 004 | 0 108 | ND | |
| EB011999 | 0199021-9 | 3 249 | 1 | 0 60 | 0 02 | 0 62 | | 0 300 | 1 | 0 10 | 0 002 | 0 10 | ND | 0 300 | 1 | 0 10 | 0 004 | 0 108 | ND | |
| ST14-W31WGO7 | 0199021-10 | 2 443 | 1 | 0 45 | 0 02 | 0 47 | | 0 300 | 1 | 0 10 | 0 002 | 0 10 | ND | 0 300 | 1 | 0 10 | 0 004 | 0 108 | ND | |
| ST14 29WGO7 | 0199021-11 | 33 739 | 1000 | 6,212 46 | 234 65 | 6447 11 | D | 0 300 | 1 | 0 10 | 0 002 | 0 10 | ND | 0 300 | 1 | 0 10 | 0 004 | 0 108 | ND | |
| WHGLTA012WGO7 | 0199021-12 | 17 923 | 5000 | 16,501 08 | 623 26 | 17124 34 | D | 0 300 | 1 | 0 10 | 0 002 | 0 10 | ND | 0 300 | 1 | 0 10 | 0 004 | 0 108 | ND | |
| WHGLTA014WGO7 | 0199021-13 | 94 020 | 100 | 1,731 22 | 65 39 | 1796 61 | D | 0 300 | 1 | 0 10 | 0 002 | 0 10 | ND | 0 300 | 1 | 0 10 | 0 004 | 0 108 | ND | |
| WHGLTA203WGO7 | 0199021-14 | 28 733 | 100 | 529 07 | 19 983 | 549 05 | D | 0 300 | 1 | 0 10 | 0 002 | 0 10 | ND | 0 300 | 1 | 0 10 | 0 004 | 0 108 | ND | |
| 17MWGO7 | 0199021-15 | 46 441 | 500 | 4,275 66 | 161 49 | 4437 16 | D | 0 300 | 1 | 0 10 | 0 002 | 0 10 | ND | 0 300 | 1 | 0 10 | 0 004 | 0 108 | ND | |
| ST14 03WGO7 | 0199021-16 | 7 377 | 50 | 67 92 | 2 57 | 70 48 | D | 0 300 | 1 | 0 10 | 0 002 | 0 10 | ND | 0 300 | 1 | 0 10 | 0 004 | 0 108 | ND | |
| MW-53WGO7 | 0199021-17 | 3 491 | 1 | 0 64 | 0 02 | 0 67 | | 0 300 | 1 | 0 10 | 0 002 | 0 10 | ND | 0 300 | 1 | 0 10 | 0 004 | 0 108 | ND | |
| ST14-W16WGO7 | 0199021-18 | 32 534 | 500 | 2,995 29 | 113 13 | 3108 43 | D | 0 300 | 1 | 0 10 | 0 002 | 0 10 | ND | 0 300 | 1 | 0 10 | 0 004 | 0 108 | ND | |
| ST14 W18WGO7 | 0199021-19 | 76 775 | 500 | 7,068 38 | 266 98 | 7335 36 | D | 0 300 | 1 | 0 10 | 0 002 | 0 10 | ND | 0 300 | 1 | 0 10 | 0 004 | 0 108 | ND | 3 1 |
| ST14-W18WGO7 Dup | 0199021-19 Dup | 79 182 | 500 | 7,290 01 | 275 35 | 7565 36 | D | 0 300 | 1 | 0 10 | 0 002 | 0 10 | ND | 0 300 | 1 | 0 10 | 0 004 | 0 108 | ND | |
| TB012099 | 0199021-22 | 2 873 | 1 | 0 53 | 0 02 | 0 55 | | 0 300 | 1 | 0 10 | 0 002 | 0 10 | ND | 0 300 | 1 | 0 10 | 0 004 | 0 108 | ND | |
| WHGLTA008WGO7 | 0199021-23 | 46 569 | 500 | 4,287 44 | 161 94 | 4449 38 | D | 0 300 | 1 | 0 10 | 0 002 | 0 10 | ND | 0 300 | 1 | 0 10 | 0 004 | 0 108 | ND | |

ND - Not detected at the detection limit
D - Dilution result
H - Henrys Law contribution

## QC Summary Table

Client Severn Trent Laboratories
Project 0199021
Analysis Methane, Ethene and Ethane Headspace Method 3810/8015
Date 1/30/99

| Client ID | DAT ID | Methane ppm | Dil Factor | Methane ug/L | H ug/L | Methane ug/L | % Recovery | Ethene ppm | Dil Factor | Ethene ug/L | H ug/L | Ethene ug/L | % Recovery | Ethane ppm | Dil Factor | Ethane ug/L | H ug/l | Ethane ug/L | % Recovery |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Standard | Standard | 50 0 | 1 | 9 2 | 0 3 | 9 6 | | 50 0 | 1 | 16 11 | 0 360 | 16 47 | | 50 0 | 1 | 17 27 | 0 661 | 17 93 | |
| Standard | Standard | 50 0 | 500 | 4603 3 | 173 9 | 4777 2 | | 50 0 | 500 | 8055 00 | 179 86 | 8234 86 | | 50 0 | 500 | 8632 50 | 330 36 | 8962 86 | |
| Lab Spike | 0199021 LS | 70 5 | 1 | 13 0 | 0 5 | 13 5 | 141 0 | 46 438 | 1 | 14 96 | 0 334 | 15 30 | 92 9 | 52 075 | 1 | 17 98 | 0 688 | 18 67 | 104 2 |
| Lab Spike Duplicate | 0199021 LSD | 66 4 | 1 | 12 2 | 0 5 | 12 7 | 132 7 | 47 472 | 1 | 15 30 | 0 342 | 15 64 | 94 9 | 54 654 | 1 | 18 87 | 0 722 | 19 59 | 109 3 |
| ST14 W18WGO7 | 0199021-19 | 76 775 | 500 | 7068 38 | 266 98 | 7335 36 | D | 0 300 | 1 | 0 10 | 0 002 | 0 10 | ND | 0 300 | 1 | 0 10 | 0 004 | 0 108 | ND |
| ST14 W18WGO7 MS | 0199021 20 MS | 116 792 | 500 | 10752 7 | 406 1 | 11158 8 | 80 0 | 55 964 | 500 | 9015 87 | 201 317 | 9217 19 | 111 9 | 61 236 | 500 | 10572 38 | 404 594 | 10976 98 | 122 5 |
| ST14 W18WGO7 MSD | 0199021-21 MSD | 122 001 | 500 | 11232 2 | 424 2 | 11656 4 | 90 5 | 58 251 | 500 | 9384 31 | 209 543 | 9593 85 | 116 5 | 64 225 | 500 | 11088 46 | 424 344 | 11512 80 | 128 4 |

ND Not detected at the detection limit
D - Dilution result
H = Henrys Law contribution

RECRA LabNet Use Only: 99016922

# Custody Transfer Record/Lab Work Request

RECRA LabNet

Client: HydroGeoLogic
Est. Final Proj. Sampling Date: 2-5-99
Project #: AFC001 15 1DA
Project Contact/Phone #: Lynn Morgan
RECRA Project Manager: Bosca Ramirez
QC: ____ Del: ____ TAT: ____
Date Rec'd: ____ Date Due: ____
Account #: ____

Refrigerator #
#/Type Container: Liquid / Solid
Volume: Liquid / Solid
Preservatives

ANALYSES REQUESTED →

| Lab ID | Client ID/Description | Matrix QC Chosen (✓) MS | MSD | Matrix | Date Collected | Time Collected | ORGANIC: VOA | BNA | Pesv PCB | Herb | BTEX+ MTBE | Methanol | TPH-GRO | INORG: Metal | CN | TOC | PAH | TPH-DRO | Alkalinity Anions |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 001 | WHGLTA011WG07 | | | W | 1/18/99 | 1432 | | | | | 3 | 3 | 3 | | | 1 | 1 | 1 | 1 |
| 002 | WHGLTA010WG07 | | | W | 1/18/99 | 1620 | | | | | 3 | 3 | 3 | | | 1 | 1 | 1 | 1 |
| 003 | TB011899 | | | W | 1/18/99 | 800 | | | | | 2 | 2 | | | | | | | |
| 004 | EB011899 | | | W | 1/18/99 | 1800 | | | | | 3 | 3 | 3 | | | 1 | 1 | 1 | 1 |
| 005 | WCHMHTA008WG07 | | | W | 1/18/99 | 1046 | | | | | 3 | 3 | 3 | | | 1 | 1 | 1 | 1 |
| 006 | DUP01 | | | W | 1/18/99 | 1200 | | | | | 3 | 3 | 3 | | | 1 | 1 | 1 | 1 |

MATRIX CODES:
S - Soil
SE - Sediment
SO - Solid
SL - Sludge
W - Water
O - Oil
A - Air
DS - Drum Solids
DL - Drum Liquids
L - EP/TCLP Leachate
WI - Wipe
X - Other
F - Fish

FIELD PERSONNEL: COMPLETE ONLY SHADED AREAS

Special Instructions:

DATE/REVISIONS
1
2
3
4 23, 4.0, 3.9, 3, 2, 2.4
5
6

RECRA LabNet Use Only

Samples were: 1) Shipped or Hand Delivered ____ Airbill # ____
2) Ambient or Chilled
3) Received in Good Condition Y or N
4) Labels Indicate Properly Preserved Y or N
5) Received Within Holding Times Y or N

COC Tape was: 1) Present on Outer Package Y or N 60746 60744
2) Unbroken on Outer Package Y or N 6985 7336
3) Present on Sample Y or N 6876
4) Unbroken on Sample Y or N
COC Record Present Upon Sample Rec't Y or N

Discrepancies Between Samples Lables and COC Record? Y or N
NOTES

| Relinquished by | Received by | Date | Time |
|---|---|---|---|
| P. Daniels | | 1/19/99 | 1745 |
| | Y. Keizer | 1/20 | 1230 |

| Relinquished by | Received by | Date | Time |
|---|---|---|---|
| | | | |
| | B. Douglas | 1/22/99 | 1125 |

Page 1 of 1

643 84

29 62

RECRA LabNet Use Only

99016922

# Custody Transfer Record/Lab Work Request

RECRA LabNet

Client: HydroGeologic, Inc
Est. Final Proj. Sampling Date: 2-5-99
Project #: AFC001 15 IDA
Project Contact/Phone #: Lynn MORGAN
RECRA Project Manager: BOSCO RAMIREZ
QC: ____ Del: ____ TAT: ____
Date Rec'd: ____ Date Due: ____
Account #: ____

Refrigerator #
#/Type Container: Liquid / Solid
Volume: Liquid / Solid
Preservatives

ANALYSES REQUESTED →

MATRIX CODES:
S - Soil
SE - Sediment
SO - Solid
SL - Sludge
W - Water
O - Oil
A - Air
DS - Drum Solids
DL - Drum Liquids
L - EP/TCLP Leachate
WI - Wipe
X - Other
F - Fish

| Lab ID | Client ID/Description | Matrix QC Chosen (✓) MS | MSD | Matrix | Date Collected | Time Collected | ORGANIC: VOC VOA | BNA | Pest/PCB | Herb | BEX + MTBE | Methane | TPH → GRO | INORG: Metal | CN | TOC | PAH | TPH-DRO | Alkalinity Anions | NH4 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 007 | WHGLTA009WG07 | | | W | 1/19/99 | 1005 | | | | | 3 | 3 | 3 | | | 1 | 1 | 1 | 1 | |
| 008 | TB011999 | | | W | 1/19/99 | 830 | | | | | 2 | 2 | | | | | | | | |
| 009 | EB011999 | | | W | 1/19/99 | 1130 | | | | | 3 | 3 | 3 | | | 1 | 1 | 1 | 1 | |
| 010 | STN-24WG07 | | | W | 1/19/99 | 1309 | 3 | | | | | | | 1 | | | | | | |
| 011 | STN-W31WG07 | | | W | 1/19/99 | 1615 | 3 | | | | | 3 | | 1 | | 1 | 1 | | 1 | |
| 012 | STN-29WG07 | | | W | 1/19/99 | 1426 | | | | | 3 | 3 | | | | 1 | | | 1 | |
| 013 | WHGLTA012WG07 | | | W | 1/19/99 | 1405 | | | | | 3 | 3 | 3 | | | 1 | 1 | 1 | 1 | |
| 014 | WHGLTA014WG07 | | | W | 1/19/99 | 1540 | | | | | 3 | 3 | 3 | | | 1 | 1 | 1 | 1 | |

RECRA LabNet Use Only

FIELD PERSONNEL: COMPLETE ONLY SHADED AREAS

Special Instructions:

DATE/REVISIONS:
1
2
3
4 3.9, 3.2, 2.4, 2.3, 4.0,
5
6

RECRA LabNet Use Only

Samples were: 1) Shipped FX or Hand Delivered ____ Airbill # ____
2) Ambient or Chilled
3) Received in Good Condition Y or N
4) Labels Indicate Properly Preserved Y or N
5) Received Within Holding Times Y or N

COC Tape was: 1) Present on Outer Package Y or N
2) Unbroken on Outer Package Y or N
3) Present on Sample Y or N
4) Unbroken on Sample Y or N
COC Record Present Upon Sample Rec'd Y or N

60740, 60746, 60741, 6985, 7336, 6896

See side

Discrepancies Between Samples Lables and COC Record? Y or N
NOTES

| Relinquished by | Received by | Date | Time |
|---|---|---|---|
| [illegible] | | 1/19/99 | 1815 |
| | [illegible] | 1/20 | 1420 |

| Relinquished by | Received by | Date | Time |
|---|---|---|---|
| | | | |
| | B. Dougl | 1/22/99 | 1130 |

Page 1 of 1

643 85

163

# Custody Transfer Record/Lab Work Request

RECRA LabNet

| RECRA LabNet Use Only |
|---|
| 99016922 |

Client: NAS - AFC001 15 IDA
Project #:
Date Rec'd.: 1/20/99 Date Due: 2/17/99
RECRA PM: Bosco Ramirez
Client Contact/Phone: Ken Rapuano

| RECRA Use Only Lab ID | Client ID/Description | Matrix | Date Collected | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Refrigerator# | | | | P(G) | 5 | 5 | 5 | S/O | B | 8 | 8 | 8 |
| #/Type Container | | | | 1P | 2G | 2G | 2G | 2G | 2G | 1P | 1P | |
| Volume | | | | 1L | 40ml | 40ml | 40ml | 40ml | 1L | 250ml | 1L | |
| Preservative | | | | | HCl | HCl | HCl | HCl | | $H_2SO_4$ | $HNO_3$ | |
| ANALYSIS REQUESTED (RCRD) | | | | * ALK | 8260 | 8260 | 8260 | 1SUB | DRO 625H | TOC x2 | HSL + Hg 9MO metals | |
| 001 | WHGLTA011WE07 | W | 1/18/99 | X | X | X | | X | X | X | | |
| 002 | WHGLTA010WE07 | | | ↓ | ↓ | | | | ↓ | ↓ | | |
| 003 | TB011899 | | | | | | | | | | | |
| 004 | EB011899 | | | X | X | | | | X | X | | |
| 005 | WCHMHTA008WE07 | | | | | | | | | | | |
| 006 | DUP01 | | | | | | | | | | | |
| 007 | WHGLTA009WE07 | | 1/19/99 | X | | | | | ↓ | ↓ | | |
| 008 | TB011999 | | | | | | | | | | | |
| 009 | EB011999 | | | X | | | | | X | X | | |
| 010 | ST14-24WE07 | | | | 4L TOC | 3x | X | | | | X | |
| 011 | ↓ W31WE07 | | | X | | | ↓ | | | X | ↓ | |
| 012 | ↓ 29WE07 | | | ↓ | | X | | | | ↓ | | |
| 013 | WHGLTA012WE07 | | | ↓ | X | ↓ | | | X | | | |
| 014 | WHGLTA014WE07 | | | | ↓ | | | | ↓ | | | |

Matrix: W - Water, S - Soil, O - Oil, SE - Sediment, A - Air, SO - Solid, WI - Wipe, DS - Drum Solids, DL - Drum Liquids, F - Fish, L - EP/TCLP Leachate, X - Other

Special Instructions: * ICCL, ICNO3, ICSO4

QC - Custom Del - CLP Like  Internal COC

| Item/Reason | Relinquished by | Received by | Date | Time | Item/Reason | Relinquished by | Received by | Date | Time |
|---|---|---|---|---|---|---|---|---|---|
| | | Kreizer | 1/20 | 1700 | | | | | |
| | | | | | | | S Dough | 1/22/99 | 1130 |

1SUB = methane

RECRA LabNet Use Only

Samples Were
1 Shipped or Hand-Delivered
NOTES

2 Ambient or chilled
NOTES See Client COC

3 Received Broken/Leaking (Improperly Sealed) Y N
NOTES CL2RV

4 Properly Preserved Y N
NOTES

5 Received Within Holding Times Y N
NOTES

COC Tape Was
1 Present on Outer Package Y N
2 Unbroken on Outer Package Y N
3 Present on Sample Y N
4 Unbroken on Sample Y N
NOTES

COC Record Was:
1 Present Upon Receipt of Samples Y N

Discrepancies Between Sample Labels and COC Record? Y N
NOTES

643 86

1111164

RECRA LabNet Use Only
9901G934

# Custody Transfer Record/Lab Work R quest

RECRA LabN t

643 87

Client: HydroGeologic
Est. Final Proj. Sampling Date: 2-5-99
Project #: AFC cel 15 IDA
Project Contact/Phone #: Lynn Morgan
RECRA Project Manager: Bosco Ramirez
QC ____ Del ____ TAT ____
Date Rec'd ____ Date Due ____
Account # ____

Refrigerator #
#/Type Container: Liquid / Solid
Volume: Liquid / Solid
Preservatives

ANALYSES REQUESTED →

MATRIX CODES:
S - Soil
SE - Sediment
SO - Solid
SL - Sludge
W - Water
O - Oil
A - Air
DS - Drum Solids
DL - Drum Liquids
L - EP/TCLP Leachate
WI - Wipe
X - Other
F - Fish

| Lab ID | Client ID/Description | Matrix QC Chosen (✓) MS | MSD | Matrix | Date Collected | Time Collected | ORGANIC VOA | BNA | Pest/PCB | Herb | BTEX + MTBE | Methane | TOC | INORG Metal (Mercury) | CN | Alkalinity Anions | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | RECRA LabNet Use Only | | | | | | | | | | | | | | |
| 001 | WHGLTA203WG07 | | | W | 1-20-99 | 1000 | 3 | | | | | 3 | 1 | | | 1 | | | | | |
| 002 | 17MWG07 | | | W | 1-20-99 | 1325 | | | | | 3 | 3 | 1 | | | 1 | | | | | |
| 003 | ST14-03WG07 | | | W | 1-20-99 | 1331 | | | | | 3 | 3 | 1 | | | 1 | | | | | |
| 004 | MW5.5WG07 | | | W | 1-20-99 | 1435 | 3 | | | | | 3 | 1 | | | 1 | | | | | |
| 005 | ST14-W16WG07 | | | W | 1-20-99 | 942 | | | | | 3 | 3 | 1 | | | 1 | | | | | |
| 006 | ST14-W18WG07 | | | W | 1-20-99 | 1103 | | | | | 3 | 3 | 1 | 1 | | 1 | | | | | |
| 006 | ST14-W18WG07 MS | X | | W | 1-20-99 | 1103 | | | | | 3 | 3 | 1 | 1 | | 1 | | | | | |
| 006 | ST14-W18WG07 MD | | X | W | 1-20-99 | 1103 | | | | | 3 | 3 | 1 | 1 | | 1 | | | | | |
| 007 | TB012099 | | | W | 1-20-99 | 830 | 2 | | | | | 2 | | | | | | | | | |
| 008 | WHGLTA008WG07 | | | W | 1-20-99 | 1440 | 3 | | | | | 3 | 1 | 1 | | 1 | | | | | |

FIELD PERSONNEL: COMPLETE ONLY SHADED AREAS

Special Instructions:

TB012099 – VOCs + BTEX & MTBE

Fed-x 805329515795
805329515800

VOCs 805329515784

DATE/REVISIONS
1
2
3
4 2.0, 2.5, 4.0
5
6

RECRA LabNet Use Only

Samples were 1) Shipped ✓ or Hand Delivered ___
Airbill # ___
2) Ambient or Chilled
3) Received in Good Condition Y or N
4) Labels Indicate Properly Preserved Y or N
5) Received Within Holding Times Y or N

COC Tape was 607310
1) Present on Outer Package Y or N
2) Unbroken on Outer Package Y or N
3) Present on Sample Y or N
4) Unbroken on Sample Y or N
COC Record Present Upon Sample Rec't Y or N

Discrepancies Between Samples Lables and COC Record? Y or N
NOTES

| Relinquished by | Received by | Date | Time |
|---|---|---|---|
| R. Dunda | | 1-20-99 | 1530 |
| | K Keiger | 1/21 | 1100 |

| Relinquished by | Received by | Date | Time |
|---|---|---|---|
| | | | |
| | B Dunda | 1/22/99 | 1130 |

Page 1 of 1

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# Custody Transfer Record/Lab Work Request

RECRA LabNet

| RECRA LabNet Use Only |
|---|
| 9901G934 |

Client: NAS - AFC001 IS IDA

Project #:

Date Rec'd.: 1/21/99 Date Due: 2/18/99

RECRA PM: Bosco Ramirez

Client Contact/Phone: Kim Rapetano

| RECRA Use Only Lab ID | Client ID/Description | Matrix | Date Collected | Refrigerator# | P/B | 5/0 | 5 | 5 | 8 | 8 | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | #/Type Container | 1P | 3G | 3G | 3G | 1P | 1P | | | |
| | | | | Volume | 1L | 40ml | 40ml | 40ml | 250ml | 1L | | | |
| | | | | Preservative | | HCl | HCl | HCl | H2SO4 | HNO3 | | | |
| | | | | ANALYSIS REQUESTED | ALK * | 1SDB | BTEX 8020 MTBE | 8260 | TOC x2 | Hg 245.1 | RCRA | | |
| 001 | WHGLTA203WG07 | W | 1/20/99 | | X | X | | X | X | | ✓ | | |
| 002 | 17MWG07 | | | | | | X | | | | | | |
| 003 | ST14-03WG07 | | | | | | | | | | | | |
| 004 | MW-5 3WG07 | | | | | | | X | | | | | |
| 005 | ST14-W16WG07 | | | | | | X | | | | | | |
| 006 | W18WG07 * ms/msd | | | | | | | | | X | | | |
| 007 | TB012099 ** | | | | | | | X | | | | | |
| 008 | WHELTA008WG07 | | | | X | | | | X | X | | | |

Matrix:
W - Water
S - Soil
O - Oil
SE - Sediment
A - Air
SO - Solid
WI - Wipe
DS - Drum Solids
DL - Drum Liquids
F - Fish
L - EP/TCLP Leachate
X - Other

Special Instructions: * ICCL, ICNO3, ICSO4

QC-Custom Del-CLP like Internal COC

| Item/Reason | Relinquished by | Received by | Date | Time | Item/Reason | Relinquished by | Received by | Date | Time |
|---|---|---|---|---|---|---|---|---|---|
| | | K Keizer | 1/21 | 1530 | | | | | |
| | | | | | | | B. Dougl | 1/22/99 | 1130 |

* 3x's extra vol for ms/msd

** only 2G 40mls rec'd

RECRA LabNet Use Only

Samples Were
1 Shipped or Hand-Delivered
NOTES per client COC
2 Ambient or chilled
NOTES
3 Received Broken/Leaking (Improperly Sealed) Y N
NOTES CLR ✓
4 Properly Preserved Y N
NOTES
5 Received Within Holding Times Y N
NOTES

COC Tape Was
1 Present on Outer Package Y N
2 Unbroken on Outer Package Y N
3 Present on Sample Y N
4 Unbroken on Sample Y N
NOTES

COC Record Was
1 Present Upon Receipt of Samples Y N

Discrepancies Between Sample Labels and COC Record? Y N
NOTES

Committed To *Your* Success

**Severn Trent Laboratories**
2417 Bond Street
University Park, IL 60466

Tel (708) 534-5200
Fax (708) 534-5211
www stl-inc com

February 17, 1999

Mr Ken Rapuano
HydroGeoLogic, Inc
1155 Herndon Parkway, Suite 900
Herndon, VA 20170

RE AFC-001-15IDA
Analytical Report & EDD
Lot 9901G977

Dear Mr Rapuano

The enclosed analytical report is for the project and lot number listed above The analyses for Method 3810/8015 were completed at Data/Analysis Technologies, Inc If you have any questions, please contact me at 708-534-5200.

Sincerely,
Severn Trent Laboratories

Bosco Ramirez
Project Manager

SJ

Enclosures

cc: CLP Report & 1 Summary/Nancy Weaver-Environmental Data Services, Inc
EDD - Lynn Morgan/HydroGeoLogic, Inc

Approved By

Michael J Healy
General Manager

The results presented in this report relate only to the analytical testing and conditions of sample at receipt. This report pertains to only those samples actually tested All 1177 pages of this report are integral parts of the analytical data Therefore, this report should be reproduced only in its entirety

Severn Trent Laboratories Chicago
INORGANIC ANALYTICAL DATA PACKAGE FOR
AFC001-15IDA

LOT # 9901G977

| CLIENT ID /ANALYSIS | SAMPLE # | MTX | PREP # | COLLECTN | DATE REC | EXT/PREP | ANALYSIS |
|---|---|---|---|---|---|---|---|
| SD13-06WG07 | | | | | | | |
| ALKALINITY | 001 | W | 99GAK005 | 01/22/99 | 01/23/99 | 02/03/99 | 02/03/99 |
| CHLORIDE BY IC | 001 | W | 99GIC027 | 01/22/99 | 01/23/99 | 01/23/99 | 01/23/99 |
| NITRATE BY IC | 001 | W | 99GIC027 | 01/22/99 | 01/23/99 | 01/23/99 | 01/23/99 |
| SULFATE BY IC | 001 | W | 99GIC028 | 01/22/99 | 01/23/99 | 01/26/99 | 01/26/99 |
| TOTAL ORGANIC CARBON | 001 | W | 99GTC011 | 01/22/99 | 01/23/99 | 02/01/99 | 02/01/99 |
| TOTAL ORGANIC CARBON | 001 | W | 99GTC011 | 01/22/99 | 01/23/99 | 02/01/99 | 02/01/99 |
| SUB-OUT TEST FOR SUB | 001 | W | | 01/22/99 | 01/23/99 | | |
| ST14-28WG07 | | | | | | | |
| ALKALINITY | 002 | W | 99GAK005 | 01/22/99 | 01/23/99 | 02/03/99 | 02/03/99 |
| CHLORIDE BY IC | 002 | W | 99GIC027 | 01/22/99 | 01/23/99 | 01/23/99 | 01/23/99 |
| NITRATE BY IC | 002 | W | 99GIC027 | 01/22/99 | 01/23/99 | 01/23/99 | 01/23/99 |
| SULFATE BY IC | 002 | W | 99GIC028 | 01/22/99 | 01/23/99 | 01/26/99 | 01/26/99 |
| TOTAL ORGANIC CARBON | 002 | W | 99GTC012 | 01/22/99 | 01/23/99 | 02/03/99 | 02/03/99 |
| TOTAL ORGANIC CARBON | 002 | W | 99GTC012 | 01/22/99 | 01/23/99 | 02/03/99 | 02/03/99 |
| SUB-OUT TEST FOR SUB | 002 | W | | 01/22/99 | 01/23/99 | | |
| SD13-04WG07 | | | | | | | |
| ALKALINITY | 003 | W | 99GAK006 | 01/22/99 | 01/23/99 | 02/05/99 | 02/05/99 |
| CHLORIDE BY IC | 003 | W | 99GIC027 | 01/22/99 | 01/23/99 | 01/23/99 | 01/23/99 |
| NITRATE BY IC | 003 | W | 99GIC027 | 01/22/99 | 01/23/99 | 01/23/99 | 01/23/99 |
| SULFATE BY IC | 003 | W | 99GIC028 | 01/22/99 | 01/23/99 | 01/26/99 | 01/26/99 |
| TOTAL ORGANIC CARBON | 003 | W | 99GTC011 | 01/22/99 | 01/23/99 | 02/02/99 | 02/02/99 |
| TOTAL ORGANIC CARBON | 003 | W | 99GTC011 | 01/22/99 | 01/23/99 | 02/02/99 | 02/02/99 |
| SUB-OUT TEST FOR SUB | 003 | W | | 01/22/99 | 01/23/99 | | |
| WP07-10BWG07 | | | | | | | |
| ALKALINITY | 005 | W | 99GAK006 | 01/22/99 | 01/23/99 | 02/05/99 | 02/05/99 |
| CHLORIDE BY IC | 005 | W | 99GIC027 | 01/22/99 | 01/23/99 | 01/23/99 | 01/23/99 |
| NITRATE BY IC | 005 | W | 99GIC027 | 01/22/99 | 01/23/99 | 01/23/99 | 01/23/99 |
| SULFATE BY IC | 005 | W | 99GIC028 | 01/22/99 | 01/23/99 | 01/26/99 | 01/26/99 |
| TOTAL ORGANIC CARBON | 005 | W | 99GTC011 | 01/22/99 | 01/23/99 | 02/02/99 | 02/02/99 |
| TOTAL ORGANIC CARBON | 005 | W | 99GTC011 | 01/22/99 | 01/23/99 | 02/02/99 | 02/02/99 |
| SUB-OUT TEST FOR SUB | 005 | W | | 01/22/99 | 01/23/99 | | |



NY CERTIFICATION # 11006

Severn Trent Laboratories Chicago
INORGANIC ANALYTICAL DATA PACKAGE FOR
AFC001-15IDA

LOT # 9901G977

| CLIENT ID /ANALYSIS | SAMPLE # | MTX | PREP # | COLLECTN | DATE REC | EXT/PREP | ANALYSIS |
|---|---|---|---|---|---|---|---|
| TB012299 | | | | | | | |
| SUB-OUT TEST FOR SUB | 006 | W | | 01/22/99 | 01/23/99 | | |
| SPOT35-5WG07 | | | | | | | |
| ALKALINITY | 007 | W | 99GAK007 | 01/26/99 | 01/27/99 | 02/08/99 | 02/08/99 |
| CHLORIDE BY IC | 007 | W | 99GIC031 | 01/26/99 | 01/27/99 | 01/27/99 | 01/27/99 |
| NITRATE BY IC | 007 | W | 99GIC031 | 01/26/99 | 01/27/99 | 01/27/99 | 01/27/99 |
| SULFATE BY IC | 007 | W | 99GIC031 | 01/26/99 | 01/27/99 | 01/27/99 | 01/27/99 |
| TOTAL ORGANIC CARBON | 007 | W | 99GTC012 | 01/26/99 | 01/27/99 | 02/03/99 | 02/03/99 |
| TOTAL ORGANIC CARBON | 007 | W | 99GTC012 | 01/26/99 | 01/27/99 | 02/03/99 | 02/03/99 |
| SUB-OUT TEST FOR SUB | 007 | W | | 01/26/99 | 01/27/99 | | |
| AB QC | | | | | | | |
| ALKALINITY | LCS BS | W | 99GAK005 | N/A | N/A | 02/03/99 | 02/03/99 |
| ALKALINITY | MB1 | W | 99GAK005 | N/A | N/A | 02/03/99 | 02/03/99 |
| CHLORIDE BY IC | LC1 BS | W | 99GIC027 | N/A | N/A | 01/23/99 | 01/23/99 |
| CHLORIDE BY IC | LC2 BS | W | 99GIC027 | N/A | N/A | 01/23/99 | 01/23/99 |
| NITRATE BY IC | LCS BS | W | 99GIC027 | N/A | N/A | 01/23/99 | 01/23/99 |
| CHLORIDE BY IC | MB1 | W | 99GIC027 | N/A | N/A | 01/23/99 | 01/23/99 |
| NITRATE BY IC | MB1 | W | 99GIC027 | N/A | N/A | 01/23/99 | 01/23/99 |
| CHLORIDE BY IC | LC1 BS | W | 99GIC028 | N/A | N/A | 01/26/99 | 01/26/99 |
| SULFATE BY IC | LC1 BS | W | 99GIC028 | N/A | N/A | 01/26/99 | 01/26/99 |
| CHLORIDE BY IC | LC2 BS | W | 99GIC028 | N/A | N/A | 01/26/99 | 01/26/99 |
| SULFATE BY IC | LC2 BS | W | 99GIC028 | N/A | N/A | 01/26/99 | 01/26/99 |
| CHLORIDE BY IC | MB1 | W | 99GIC028 | N/A | N/A | 01/26/99 | 01/26/99 |
| SULFATE BY IC | MB1 | W | 99GIC028 | N/A | N/A | 01/26/99 | 01/26/99 |
| TOTAL ORGANIC CARBON | LCS BS | W | 99GTC011 | N/A | N/A | 02/01/99 | 02/01/99 |
| TOTAL ORGANIC CARBON | MB1 | W | 99GTC011 | N/A | N/A | 02/01/99 | 02/01/99 |
| TOTAL ORGANIC CARBON | LCS BS | W | 99GTC012 | N/A | N/A | 02/03/99 | 02/03/99 |
| TOTAL ORGANIC CARBON | MB1 | W | 99GTC012 | N/A | N/A | 02/03/99 | 02/03/99 |
| ALKALINITY | LCS BS | W | 99GAK006 | N/A | N/A | 02/05/99 | 02/05/99 |
| ALKALINITY | MB1 | W | 99GAK006 | N/A | N/A | 02/05/99 | 02/05/99 |
| ALKALINITY | LCS BS | W | 99GAK007 | N/A | N/A | 02/08/99 | 02/08/99 |

Severn Trent Laboratories Chicago
INORGANIC ANALYTICAL DATA PACKAGE FOR
AFC001-15IDA

LOT # 9901G977

| CLIENT ID /ANALYSIS | SAMPLE # | MTX | PREP # | COLLECTN | DATE REC | EXT/PREP | ANALYSIS |
|---|---|---|---|---|---|---|---|
| ALKALINITY | MB1 | W | 99GAK007 | N/A | N/A | 02/08/99 | 02/08/99 |
| CHLORIDE BY IC | LC1 BS | W | 99GIC031 | N/A | N/A | 01/27/99 | 01/27/99 |
| SULFATE BY IC | LC1 BS | W | 99GIC031 | N/A | N/A | 01/27/99 | 01/27/99 |
| CHLORIDE BY IC | LC2 BS | W | 99GIC031 | N/A | N/A | 01/27/99 | 01/27/99 |
| SULFATE BY IC | LC2 BS | W | 99GIC031 | N/A | N/A | 01/27/99 | 01/27/99 |
| NITRATE BY IC | LCS BS | W | 99GIC031 | N/A | N/A | 01/27/99 | 01/27/99 |
| CHLORIDE BY IC | MB1 | W | 99GIC031 | N/A | N/A | 01/27/99 | 01/27/99 |
| NITRATE BY IC | MB1 | W | 99GIC031 | N/A | N/A | 01/27/99 | 01/27/99 |
| SULFATE BY IC | MB1 | W | 99GIC031 | N/A | N/A | 01/27/99 | 01/27/99 |



NY CERTIFICATION # 11006

643 93

| RECRA LabNet Use Only |
|---|
| 9901G977 |

# Custody Transfer R c rd/Lab Work R quest

RECRA LabNet

Client AFC001-15EDA
Project #
Date Rec'd. 1/23/99 Date Due 2/17/99
RECRA PM Bosco Ramirez
Client Contact/Phone Ken Aguilard

| RECRA Use Only Lab ID | Client ID/Description | Matrix | Date Collected | ALK * | HSL metals +Mo | CHPAH | TOC x2 | 8260 | 8000 | TPH GRO | KUB | ~~RED~~ DRO |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Refrigerator# | | | P(g) | 8 | 8 | 8 | 5 | 5 | 5 | 5/0 | 8 |
| | #/Type Container | | | 1P | 1P | 1G | 1P | 3G | 3G | 3G | 3G | 1/G |
| | Volume | | | 1L | 1L | 1L | 350ml | 40ml | 40ml | 40ml | 40ml | 1-l |
| | Preservative | | | | HNO3 | | H2SO4 | HCl | HCl | HCl | HCl | |
| 001 | SD13-06WG07 | W | 1/22/99 | X | X | | X | X | | | X | |
| 002 | ST14-28WG07 | | | | | | | | X | | X | |
| 003 | SD13-04WG07 | | | | | | | | | | | |
| 004 | SPOT35-5WG07 | | | | X | X | | X | | X | | |
| 005 | WP07-10BWG07 | | | X | | | X | | | | X | |
| 006 | TRB012299 | | | | | | | | | | | |
| 007 | SPOT35-5WG07 | W | 1/26/99 | X | | | X | | | | X | X |

Matrix: W - Water, DS - Drum Solids, X- Other, S - Soil, D - Oil, DL - Drum Liquids, SE - Sediment, A - Air, F - Fish, SO - Solid, WI - Wipe, L - EP/TCLP Leachate

Special Instructions: * ICCL, ICNO3, ICSO4

QC - AFCEE Del - CLP Like Universal COC

| Item/Reason | Relinquished by | Received by | Date | Time | Item/Reason | Relinquished by | Received by | Date | Time |
|---|---|---|---|---|---|---|---|---|---|
| | | [illegible] | 1/23 | 1435 | | | | | |
| (7) | | [illegible] | 1/27/99 | 1025 | | | | | |
| transfer to | 9901G005-006 | [illegible] | 2/1/99 | 1600 | | | | | |

RECRA LabNet Use Only

Samples Were
1 Shipped or Hand-Delivered
NOTES Sediment COC
2 Ambient or chilled
NOTES
3 Received Broken/Leaking (Improperly Sealed) Y N
NOTES. CLOK ✓ KK 1/23
4 Properly Preserved Y N
NOTES KK 1/23
5 Received Within Holding Times Y N
NOTES

COC Tape Was
1 Present on Outer Package Y N
2 Unbroken on Outer Package Y N
3 Present on Sample Y N
4 Unbroken on Sample Y N
NOTES

CDC Record Was:
1 Present Upon Receipt of Samples Y N

Discrepancies Between Sample Labels and COC Record? Y N
NOTES

ISUB - DAT

RECRA LabNet Use Only
990G977

# Custody Transfer Record/Lab Work Request

RECRA LabNet

Client: HydroGeoLogic
Est. Final Proj. Sampling Date: 2/5/99
Project #: AFC001-15IDA
Project Contact/Phone #: Lynn Morgan
RECRA Project Manager: Bosco Rimirez
QC ____ Del ____ TAT ____
Date Rec'd ____ Date Due ____
Account # ____

Refrigerator #
#/Type Container: Liquid / Solid
Volume: Liquid / Solid
Preservatives

ANALYSES REQUESTED →

MATRIX CODES:
S - Soil
SE - Sediment
SO - Solid
SL - Sludge
W - Water
O - Oil
A - Air
DS - Drum Solids
DL - Drum Liquids
L - EP/TCLP Leachate
WI - Wipe
X - Other
F - Fish

| Lab ID | Client ID/Description | Matrix QC Chosen (✓) MS | MSD | Matrix | Date Collected | Time Collected | ORGANIC: VOA | BNA | Pest/PCB | Herb | Alkalinity/Anions | Methane | BTEX+MTBE | INORG: Metal Hg | CN | TOC | TPH-GRO | PAH |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 001 | SD13-06WG07 | | | W | 1/22/99 | 1305 | 3 | | | | 1 | 3 | | 1 | | 1 | | |
| 002 | ST14-28WG07 | | | W | 1/22/99 | 1440 | | | | | 1 | 3 | 3 | | | 1 | | |
| 003 | SD13-04WG07 | | | W | 1/22/99 | 1115 | | | | | 1 | 3 | 3 | | | 1 | | |
| 004 | SPOT35-5WG07 | | | W | 1/22/99 | 950 | 3 | | | | | | | | | | 3 | |
| 005 | GWP01-10BWG07 | | | W | 1/22/99 | 959 | 3 | | | | 1 | 3 | | | | 1 | | |
| 006 | TB012299 | | | W | 1/22/99 | 830 | 2 | | | | | 2 | | | | | | |

RECRA LabNet Use Only

FIELD PERSONNEL: COMPLETE ONLY SHADED AREAS

Special Instructions:
metals + mercury
SD13-06WG07 - Serial dilution

DATE/REVISIONS:
1
2
3 2.3
4
5
6

RECRA LabNet Use Only

Samples were: 1) Shipped FX or Hand Delivered ____ Airbill # ____
2) Ambient or Chilled
3) Received in Good Condition Y or N
4) Labels Indicate Properly Preserved Y or N
5) Received Within Holding Times Y or N

COC Tape was: 60816
1) Present on Outer Package Y or N
2) Unbroken on Outer Package Y or N
3) Present on Sample Y or N
4) Unbroken on Sample Y or N
COC Record Present Upon Sample Rec't Y or N

Discrepancies Between Samples Lables and COC Record? Y or N
NOTES

| Relinquished by | Received by | Date | Time |
|---|---|---|---|
| Jon Julian | | 1/22/99 | 1630 |
| | K Keizer | 1/23/99 | |

| Relinquished by | Received by | Date | Time |
|---|---|---|---|
| | | | |
| | | | |

643 91

RECRA LabNet Use Only

9901G005 9901G 9XX

# Custody Transfer Record/Lab Work Request

RECRA LabNet

Client HydroGeoLogic Inc.
Est. Final Proj. Sampling Date 02/05/99
Project # AFC001 15IDA
Project Contact/Phone # Lynn Morgan
RECRA Project Manager Bosco Ramirez
QC ____ Del ____ TAT ____
Date Rec'd ____ Date Due ____
Account # ____

Refrigerator #
#/Type Container: Liquid / Solid
Volume: Liquid / Solid
Preservatives

ANALYSES REQUESTED → ORGANIC: VOA, BNA, Pest/PCB, Herb; methane; Alkalinity Anions; TOC; INORG: Metal + Hg, CN; BTEX + MTBE; TPH DRO

RECRA LabNet Use Only

MATRIX CODES.
S - Soil
SE - Sediment
SO - Solid
SL - Sludge
W - Water
O - Oil
A - Air
DS - Drum Solids
DL - Drum Liquids
L - EP/TCLP Leachate
WI - Wipe
X - Other
F - Fish

| Lab ID | Client ID/Description | Matrix QC Chosen (✓) MS | MSD | Matrix | Date Collected | Time Collected | VOA | BNA | Pest/PCB | Herb | methane | Alkalinity Anions | TOC | Metal + Hg | CN | BTEX + MTBE | TPH DRO |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 001 | WICTA016WG07 | | | W | 1/26/99 | 1415 | 3 | | | | 3 | 1 | 1 | | | | |
| 002 | ST14-W11WG07 | | | W | 1/26/99 | 1020 | 3 | | | | | | | 1 | | | |
| 003 | DUP02 | | | W | 1/26/99 | 1200 | 3 | | | | | | | 1 | | | |
| 004 | SD13026WG07 | | | W | 1/26/99 | 855 | | | | | 3 | 1 | 1 | | | 3 | 1 |
| 005 | TB012699 | | | W | 1/26/99 | 1500 | 2 | | | | 2 | | | | | | |
| 006 | WITCTA044WG07 | | | W | 1/26/99 | 1510 | 3 | | | | 3 | 1 | 1 | | | | |
| ~~007~~ | ~~WHGCTA001WG07~~ | | | W | 1/26/99 | 1340 | 3 | | | | 3 | 1 | 1 | | | | |
| 007 008 | SPOT35-5WG07 | | | W | 1/26/99 | 09:50 | | | | | 3 | 1 | 1 | | | | 1 |
| 009 | WCHMHTA013WG07 | | | W | 1/26/99 | 11:20 | 3 | | | | | | | 1 | | | |

FIELD PERSONNEL COMPLETE ONLY SHADED AREAS

Special Instructions.

metals + mercury
SPOT 35-5WG07 - report results w/ sample from 1-22-99 (SPOT 35-5WG07)

DATE/REVISIONS.
1
2
3 2.6, 2.6
4
5
6

RECRA LabNet Use Only

Samples were: 1) Shipped ✓ or Hand Delivered ____ Airbill # ____
2) Ambient or Chilled
3) Received in Good Condition Y or N
4) Labels Indicate Properly Preserved Y or N
5) Received Within Holding Times Y or N

COC Tape was: 1) Present on Outer Package Y or N
2) Unbroken on Outer Package Y or N
3) Present on Sample Y or N
4) Unbroken on Sample Y or N
COC Record Present Upon Sample Rec'd Y or N

Discrepancies Between Samples Lables and COC Record? Y or N
NOTES

| Relinquished by | Received by | Date | Time |
|---|---|---|---|
| P. Dinele | | 1/26/99 | 450 |
| | K Leizgi | 1/27 | 1145 |

| Relinquished by | Received by | Date | Time |
|---|---|---|---|
| | | | |
| | | | |

To· AFC001-15IDA
c/o HydroGeoLogic, Inc.
1155 Herndon Parkway, Ste. 900
Herndon, VA 20170

Attn Mr. Ken Rapuano

Date· Tuesday February 9th, 1999

RE. SD13-04WG07
Project # 60025-001-001-0001
Lab ID: 9901G977-003
Sample Date 01/22/99
Date Received· 01/23/99

## Inorganic Data Report

| Parameters | Result | | Units | Reporting Limit |
|---|---|---|---|---|
| Alkalinity | 342 | | mg/L | 10 0 |
| Chloride by IC | 39.2 | | mg/L | 5 0 |
| Nitrate-N by IC | 0.10 | u | mg/L | 0.10 |
| Sulfate by IC | 0.25 | | mg/L | 0 20 |
| Total Organic Carbon | 6.1 | | mg/L | 1 0 |
| TOC Test 2 | 6.0 | | mg/L | 1 0 |

To AFC001-15IDA
c/o HydroGeoLogic, Inc.
1155 Herndon Parkway, Ste. 900
Herndon, VA 20170

Attn: Mr. Ken Rapuano

Date Tuesday February 9th, 1999

RE: WP07-10BWG07
Project # 60025-001-001-0001
Lab ID. 9901G977-005
Sample Date: 01/22/99
Date Received. 01/23/99

## Inorganic Data Report

| Parameters | Result | Units | Reporting Limit |
|---|---|---|---|
| Alkalinity | 360 | mg/L | 10 0 |
| Chloride by IC | 25.3 | mg/L | 5.0 |
| Nitrate-N by IC | 1 8 | mg/L | 0.10 |
| Sulfate by IC | 34 1 | mg/L | 5.0 |
| Total Organic Carbon | 2 2 | mg/L | 1 0 |
| TOC Test 2 | 2 0 | mg/L | 1.0 |

643 ' 98

To AFC001-15IDA
c/o HydroGeoLogic, Inc.
1155 Herndon Parkway, Ste. 900
Herndon, VA 20170

Attn. Mr. Ken Rapuano

Date. Tuesday February 9th, 1999

RE SPOT35-5WG07
Project # 60025-001-001-0001
Lab ID 9901G977-007
Sample Date· 01/26/99
Date Received 01/27/99

## Inorganic Data Report

| Parameters | Result | | Units | Reporting Limit |
|---|---|---|---|---|
| Alkalinity | 404 | | mg/L | 10.0 |
| Chloride by IC | 146 | | mg/L | 25 0 |
| Nitrate-N by IC | 0 10 | u | mg/L | 0.10 |
| Sulfate by IC | 0.20 | u | mg/L | 0.20 |
| Total Organic Carbon | 7 0 | | mg/L | 1 0 |
| TOC Test 2 | 7.0 | | mg/L | 1 0 |

To AFC001-15IDA
c/o HydroGeoLogic, Inc.
1155 Herndon Parkway, Ste. 900
Herndon, VA 20170

Attn Mr. Ken Rapuano

Date. Tuesday February 9th, 1999

Project # 60025-001-001-0001
Lab Batch 9901G977

## Inorganic Method Blank Data Report

| Sample | Lab ID | Parameter | Result | | Units | Reporting Limit |
|---|---|---|---|---|---|---|
| Blank 1 | 99GAK005-MB1 | Alkalinity | 10 0 | u | mg/L | 10.0 |
| Blank 1 | 99GIC027-MB1 | Chloride by IC | 0.20 | u | mg/L | 0 20 |
| | | Nitrate-N by IC | 0 20 | u | mg/L | 0.20 |
| Blank 1 | 99GIC028-MB1 | Chloride by IC | 0.20 | u | mg/L | 0 20 |
| | | Sulfate by IC | 0.20 | u | mg/L | 0 20 |
| Blank 1 | 99GTC011-MB1 | Total Organic Carbon | 1 0 | u | mg/L | 1 0 |
| Blank 1 | 99GTC012-MB1 | Total Organic Carbon | 1 0 | u | mg/L | 1 0 |
| Blank 1 | 99GAK006-MB1 | Alkalinity | 10.0 | u | mg/L | 10.0 |
| Blank 1 | 99GAK007-MB1 | Alkalinity | 10 0 | u | mg/L | 10 0 |
| Blank 1 | 99GIC031-MB1 | Chloride by IC | 0 20 | u | mg/L | 0 20 |
| | | Nitrate-N by IC | 0.10 | u | mg/L | 0.10 |
| | | Sulfate by IC | 0.20 | u | mg/L | 0.20 |

643:100

To. AFC001-15IDA
c/o HydroGeoLogic, Inc.
1155 Herndon Parkway, Ste. 900
Herndon, VA 20170

Attn: Mr. Ken Rapuano

Date Tuesday February 9th, 1999

Project # 60025-001-001-0001
Lab Batch 9901G977

## Inorganic Laboratory Control Standards Report

| Lab ID | Parameter | Spiked Amount | Units | Spike #1 % Recov. | Spike #2 % Recov | RPD |
|---|---|---|---|---|---|---|
| 99GAK005-LCS | Alkalinity | 100 | mg/L | 98 9 | NA | NA |
| 99GIC027-LC1 | Chloride by IC | 5.0 | mg/L | 95 5 | NA | NA |
| 99GIC027-LC2 | Chloride by IC | 50.0 | mg/L | 98 3 | NA | NA |
| 99GIC027-LCS | Nitrate-N by IC | 2.0 | mg/L | 94.8 | NA | NA |
| 99GIC028-LC1 | Chloride by IC | 5 0 | mg/L | 98 7 | NA | NA |
| | Sulfate by IC | 5 0 | mg/L | 101 | NA | NA |
| 99GIC028-LC2 | Chloride by IC | 50 0 | mg/L | 102 | NA | NA |
| | Sulfate by IC | 50 0 | mg/L | 97 3 | NA | NA |
| 99GTC011-LCS | TOC | 5 0 | mg/L | 99 9 | NA | NA |
| 99GTC012-LCS | TOC | 5.0 | mg/L | 100 | NA | NA |
| 99GAK006-LCS | Alkalinity | 100 | mg/L | 96 8 | NA | NA |
| 99GAK007-LCS | Alkalinity | 100 | mg/L | 97.4 | NA | NA |
| 99GIC031-LC1 | Chloride by IC | 5.0 | mg/L | 93 5 | NA | NA |
| | Sulfate by IC | 5 0 | mg/L | 98.8 | NA | NA |
| 99GIC031-LC2 | Chloride by IC | 50.0 | mg/L | 98 4 | NA | NA |
| | Sulfate by IC | 50 0 | mg/L | 94 4 | NA | NA |
| 99GIC031-LCS | Nitrate-N by IC | 2 0 | mg/L | 93.8 | NA | NA |

To. AFC001-15IDA
c/o HydroGeoLogic, Inc.
1155 Herndon Parkway, Ste. 900
Herndon, VA 20170

Attn: Mr. Ken Rapuano

Date. Tuesday February 9th. 1999

Project # 60025-001-001-0001
Lab Batch 9901G977

## Inorganic Laboratory Control Standards Report

| Lab ID | Parameter | Spiked Amount | Units | Spike #1 % Recov | Spike #2 % Recov | RPD |
|---|---|---|---|---|---|---|

# Severn Trent Laboratories Chicago
# Wet Chemistry Case Narrative

Client: **HydroGeoLogic NAS Ft. Worth AFC001-15IDA**
RFW Lot: **9901G977** Dates Rec'd: 01/23/99-01/26/99

1. This narrative covers the analysis of the samples in the above RFW Lot by the following methods.

   Alkalinity - EPA Method 310.1
   Anions by Ion Chromatography - SW 846 9056
   - Chloride
   - Nitrate as N
   - Sulfate as $SO_4$

   TOC - EPA Method 415.1

2. The EPA water holding times were met. Refer to the Laboratory Chronicle Page for dates of sampling, receipt, and analysis.

3. The initial and continuing calibration verification standards and blanks were in control. There are two ICVs and two CCVs every 10 readings in the IC sets, the higher level one for chloride and sulfate only. Please see the LCS discussion below, in item 5.

4. All method blanks were below the detection limits.

5. All LCS recoveries were within control limits. Severn Trent Laboratories Chicago has recently started using 2 IC standard curves and calculating each sample chromatogram against the better curve for its concentration. The high range curve is for chloride and sulfate only, since those are the anions most likely to be at higher concentrations. This practice cuts down on the number of dilutions that are needed and expedites analysis. Accommodating two linear ranges technically within one analytical prep batch requires 2 LCSs for chlorine and sulfate, one mid-range on each curve. Both LCSs are included in the data, but they are not duplicates of each other and no RPD is calculated between them. Please see the LCS Summary Pages of this report for additional details.

6. No matrix QC was requested or done on these samples.

Diane L. Harper
Wet Chemistry Section Manager

2/8/99
Date

Severn Trent Laboratories Chicago
INORGANIC ANALYTICAL DATA PACKAGE FOR
AFC001-15IDA

LOT # 9901G977

| CLIENT ID /ANALYSIS | SAMPLE # | MTX | PREP # | COLLECTN | DATE REC | EXT/PREP | ANALYSIS |
|---|---|---|---|---|---|---|---|
| SD13-06WG07 | | | | | | | |
| SILVER. SERIAL DILUT | 001 L | W | 99GI728 | 01/22/99 | 01/23/99 | 02/02/99 | 02/05/99 |
| SILVER. TOTAL | 001 | W | 99GI728 | 01/22/99 | 01/23/99 | 02/02/99 | 02/05/99 |
| ALUMINUM. SERIAL DIL | 001 L | W | 99GI728 | 01/22/99 | 01/23/99 | 02/02/99 | 02/05/99 |
| ALUMINUM. TOTAL | 001 | W | 99GI728 | 01/22/99 | 01/23/99 | 02/02/99 | 02/05/99 |
| ARSENIC SERIAL DILU | 001 L | W | 99GI728 | 01/22/99 | 01/23/99 | 02/02/99 | 02/05/99 |
| ARSENIC. TOTAL | 001 | W | 99GI728 | 01/22/99 | 01/23/99 | 02/02/99 | 02/05/99 |
| BARIUM. SERIAL DILUT | 001 L | W | 99GI728 | 01/22/99 | 01/23/99 | 02/02/99 | 02/05/99 |
| BARIUM. TOTAL | 001 | W | 99GI728 | 01/22/99 | 01/23/99 | 02/02/99 | 02/05/99 |
| BERYLLIUM. SERIAL DI | 001 L | W | 99GI728 | 01/22/99 | 01/23/99 | 02/02/99 | 02/05/99 |
| BERYLLIUM. TOTAL | 001 | W | 99GI728 | 01/22/99 | 01/23/99 | 02/02/99 | 02/05/99 |
| CALCIUM. SERIAL DILU | 001 L | W | 99GI728 | 01/22/99 | 01/23/99 | 02/02/99 | 02/05/99 |
| CALCIUM. TOTAL | 001 | W | 99GI728 | 01/22/99 | 01/23/99 | 02/02/99 | 02/05/99 |
| CADMIUM. SERIAL DILU | 001 L | W | 99GI728 | 01/22/99 | 01/23/99 | 02/02/99 | 02/05/99 |
| CADMIUM. TOTAL | 001 | W | 99GI728 | 01/22/99 | 01/23/99 | 02/02/99 | 02/05/99 |
| COBALT. SERIAL DILUT | 001 L | W | 99GI728 | 01/22/99 | 01/23/99 | 02/02/99 | 02/05/99 |
| COBALT. TOTAL | 001 | W | 99GI728 | 01/22/99 | 01/23/99 | 02/02/99 | 02/05/99 |
| CHROMIUM. TOTAL | 001 | W | 99GF739 | 01/22/99 | 01/23/99 | 02/02/99 | 02/05/99 |
| COPPER. SERIAL DILUT | 001 L | W | 99GI728 | 01/22/99 | 01/23/99 | 02/02/99 | 02/05/99 |
| COPPER. TOTAL | 001 | W | 99GI728 | 01/22/99 | 01/23/99 | 02/02/99 | 02/05/99 |
| IRON. SERIAL DILUTIO | 001 L | W | 99GI728 | 01/22/99 | 01/23/99 | 02/02/99 | 02/05/99 |
| IRON. TOTAL | 001 | W | 99GI728 | 01/22/99 | 01/23/99 | 02/02/99 | 02/05/99 |
| MERCURY. TOTAL | 001 | W | 99HG699 | 01/22/99 | 01/23/99 | 02/02/99 | 02/03/99 |
| POTASSIUM. SERIAL DI | 001 L | W | 99GI728 | 01/22/99 | 01/23/99 | 02/02/99 | 02/05/99 |
| POTASSIUM. TOTAL | 001 | W | 99GI728 | 01/22/99 | 01/23/99 | 02/02/99 | 02/05/99 |
| MAGNESIUM. SERIAL DI | 001 L | W | 99GI728 | 01/22/99 | 01/23/99 | 02/02/99 | 02/05/99 |
| MAGNESIUM. TOTAL | 001 | W | 99GI728 | 01/22/99 | 01/23/99 | 02/02/99 | 02/05/99 |
| MANGANESE. SERIAL DI | 001 L | W | 99GI728 | 01/22/99 | 01/23/99 | 02/02/99 | 02/05/99 |
| MANGANESE. TOTAL | 001 | W | 99GI728 | 01/22/99 | 01/23/99 | 02/02/99 | 02/05/99 |
| Molybdenum. Serial D | 001 L | W | 99GI728 | 01/22/99 | 01/23/99 | 02/02/99 | 02/05/99 |
| MOLYBDENUM TOTAL | 001 | W | 99GI728 | 01/22/99 | 01/23/99 | 02/02/99 | 02/05/99 |
| SODIUM. SERIAL DILUT | 001 L | W | 99GI728 | 01/22/99 | 01/23/99 | 02/02/99 | 02/05/99 |
| SODIUM. TOTAL | 001 | W | 99GI728 | 01/22/99 | 01/23/99 | 02/02/99 | 02/05/99 |
| NICKEL SERIAL DILUT | 001 L | W | 99GI728 | 01/22/99 | 01/23/99 | 02/02/99 | 02/05/99 |
| NICKEL TOTAL | 001 | W | 99GI728 | 01/22/99 | 01/23/99 | 02/02/99 | 02/05/99 |
| LEAD. TOTAL | 001 | W | 99GF739 | 01/22/99 | 01/23/99 | 02/02/99 | 02/03/99 |
| ANTIMONY. SERIAL DIL | 001 L | W | 99GI728 | 01/22/99 | 01/23/99 | 02/02/99 | 02/05/99 |
| ANTIMONY TOTAL | 001 | W | 99GI728 | 01/22/99 | 01/23/99 | 02/02/99 | 02/05/99 |

643·104

Severn Trent Laboratories Chicago
INORGANIC ANALYTICAL DATA PACKAGE FOR
AFC001-15IDA

LOT # 9901G977

| CLIENT ID /ANALYSIS | SAMPLE # | MTX | PREP # | COLLECTN | DATE REC | EXT/PREP | ANALYSIS |
|---|---|---|---|---|---|---|---|
| SELENIUM TOTAL | 001 | W | 99GF739 | 01/22/99 | 01/23/99 | 02/02/99 | 02/03/99 |
| THALLIUM. SERIAL DIL | 001 L | W | 99GI728 | 01/22/99 | 01/23/99 | 02/02/99 | 02/05/99 |
| THALLIUM TOTAL | 001 | W | 99GI728 | 01/22/99 | 01/23/99 | 02/02/99 | 02/05/99 |
| VANADIUM. SERIAL DIL | 001 L | W | 99GI728 | 01/22/99 | 01/23/99 | 02/02/99 | 02/05/99 |
| VANADIUM TOTAL | 001 | W | 99GI728 | 01/22/99 | 01/23/99 | 02/02/99 | 02/05/99 |
| ZINC. SERIAL DILUTIO | 001 L | W | 99GI728 | 01/22/99 | 01/23/99 | 02/02/99 | 02/05/99 |
| ZINC. TOTAL | 001 | W | 99GI728 | 01/22/99 | 01/23/99 | 02/02/99 | 02/05/99 |

NY CERTIFICATION # 11006

Severn Trent Laboratories - Chicago
METALS CASE NARRATIVE

Client. AFC001 - 15IDA
RFW#: 9901G977
SDG# U01977

WO#: 60025-001-001-0001
Date Rec'd 01/23/99

1 This narrative covers the analysis of 1 Water sample for the following metals:

ICP Ag,Al,As,Ba,Be,Ca,Cd,Co,Cu,Fe,K,Mg,Mn,Mo,Na,Ni,Sb,Tl,V,Zn
GFAA ... Cr,Pb,Se
CVAA Hg

Method Ref NAS Fort Worth JRB, Texas QAPP

2 All analyses were performed within the required holding times

3 All Initial and Continuing Calibration Verification (ICV/CCV's) were within control limits.

4 All Initial and Continuing Calibration Blanks (ICB/CCB's) were within control limits except for

ICP Run CCB4 Fe 83 ug/L (3rd. burn was bad)
Sample from this delivery group was not bracketed

5. All ICP Interference Check Samples (ICSA and ICSAB) were within control limits.

6 All Laboratory Control Samples (LCS) were within the 80-120% control limits

7 All Method blanks were within control limits.

8 All Serial Dilution analysis were within control limits except for Sodium (13 6%)

Post matrix spike analysis was performed as following

9801G977-001 Na 11.2%

9. There was no designated sample for MS/MSD

10. All Analytical spike recoveries were within control limits except for.

9901G977-001 Cr,Pb,Se

Metals case narrative
9901G961

11 High Standards(S1 and S2) Read back - Na and K

S2 - Sodium was 105 4% (rounded off to 105%)
Potassium was 94 3%
S1 - Potassium was 103.4%
(Potassium concentration in the sample was < CRDL S1 concentration was 10 mg/L)

Therefore, reanalysis was not performed

12. Please note. The last 6 digits of the client sample ID's were used in all CLP Forms to accomodate the EPA naming convention which allows a maximum of 6 characters on all CLP forms. Please refer to the Cover Page of the CLP Forms to corelate the modified sample ID's and to the COC to corelate the Lab ID #'s to the client ID.

Mani S. Iyer

Mani S Iyer
Metals Section Manager

2/20/93
Date

U.S. EPA - CLP

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COVER PAGE - INORGANIC ANALYSES DATA PACKAGE

ab Name: STL_CHICAGO_____ Contract: _____

ab Code: STL___ Case No.: _____ SAS No.: _____ SDG No.:U01977

OW No.: ILM02

| EPA Sample No. | Lab Sample ID |
|---|---|
| _06WG07_____ | _9901G977-001___ |

ere ICP interelement corrections applied ? Yes/No YES

ere ICP background corrections applied ? Yes/No YES

If yes - were raw data generated before application of background corrections ? Yes/No NO_

omments:

_____

_____

_____

_____

certify that this data package is in compliance with the terms and onditions of the contract, both technically and for completeness, for ther than the conditions detailed above. Release of the data contained n this hardcopy data package and in the computer-readable data submitted n floppy diskette has been authorized by the Laboratory Manager or the anager's designee, as verified by the following signature.

ignature: Mani S. Iyer Name: MANI S. IYER

ate: 2/12/99 Title: Metals Section Manager

643 108

U.S. EPA - CLP

1

INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

06WG07

ab Name: STL_CHICAGO_____ Contract: _____

ab Code: STL___ Case No.: _____ SAS No.: _____ SDG No.: U01977

atrix (soil/water): WATER Lab Sample ID: 9901G977-001

evel (low/med): LOW__ Date Received: 01/23/99

Solids: __0.0

Concentration Units (ug/L or mg/kg dry weight): UG/L_

| CAS No. | Analyte | Concentration | C | Q | M |
|---|---|---|---|---|---|
| 7429-90-5 | Aluminum_ | 61.6 | B | | P_ |
| 7440-36-0 | Antimony_ | 3.2 | U | | P_ |
| 7440-38-2 | Arsenic__ | 2.8 | U | | P_ |
| 7440-39-3 | Barium___ | 106 | B | | P_ |
| 7440-41-7 | Beryllium | 0.20 | U | | P_ |
| 7440-43-9 | Cadmium__ | 0.60 | U | | P_ |
| 7440-70-2 | Calcium__ | 152000 | | | P_ |
| 7440-47-3 | Chromium_ | 2.6 | B | W | F_ |
| 7440-48-4 | Cobalt___ | 0.50 | U | | P_ |
| 7440-50-8 | Copper___ | 1.2 | U | | P_ |
| 7439-89-6 | Iron____ | 13.6 | U | | P_ |
| 7439-92-1 | Lead____ | 1.6 | U | W | F_ |
| 7439-95-4 | Magnesium | 9250 | | | P_ |
| 7439-96-5 | Manganese | 0.20 | U | | P_ |
| 7439-97-6 | Mercury__ | 0.10 | U | | CV |
| 7439-95-4 | Molybdenu | 3.2 | B | | P_ |
| 7440-02-0 | Nickel___ | 1.0 | U | | P_ |
| 7440-09-7 | Potassium | 989 | B | | P_ |
| 7782-49-2 | Selenium_ | 1.9 | U | W | F_ |
| 7440-22-4 | Silver___ | 0.50 | U | | P_ |
| 7440-23-5 | Sodium___ | 44700 | | E | P_ |
| 7440-28-0 | Thallium_ | 1.7 | U | | P_ |
| 7440-31-5 | Tin_____ | | | | NR |
| 7440-62-2 | Vanadium_ | 0.92 | B | | P_ |
| 7440-66-6_ | Zinc____ | 4.3 | B | | P_ |
| | Cyanide__ | | | | NR |

olor Before: COLORLESS Clarity Before: CLEAR_ Texture: _____

olor After: COLORLESS Clarity After: CLEAR_ Artifacts: _____

omments:

SD13-06WG07

Severn Trent Laboratories Chicago
8260 ANALYTICAL DATA PACKAGE FOR
AFC001-15IDA

LOT # 9901G977

| CLIENT ID | SAMPLE # | | MTX | PREP # | COLLECTN | DATE REC | EXT/PREP | ANALYSIS |
|---|---|---|---|---|---|---|---|---|
| SD13-06WG07 | 001 | | W | 99GVC022 | 01/22/99 | 01/23/99 | N/A | 01/29/99 |
| SPOT35-5WG07 | 004 | | W | 99GVC022 | 01/22/99 | 01/23/99 | N/A | 01/29/99 |
| SPOT35-5WG07 | 004 | D1 | W | 99GVF021 | 01/22/99 | 01/23/99 | N/A | 01/29/99 |
| WP07-10BWG07 | 005 | | W | 99GVC022 | 01/22/99 | 01/23/99 | N/A | 01/29/99 |
| WP07-10BWG07 | 005 | D1 | W | 99GVF021 | 01/22/99 | 01/23/99 | N/A | 01/29/99 |
| WP07-10BWG07 | 005 | D2 | W | 99GVF022 | 01/22/99 | 01/23/99 | N/A | 01/29/99 |
| TB012299 | 006 | | W | 99GVF022 | 01/22/99 | 01/23/99 | N/A | 01/29/99 |
| AB QC | | | | | | | | |
| VBLKCB | MB1 | | W | 99GVC022 | N/A | N/A | N/A | 01/28/99 |
| VBLKCB | MB1 | BS | W | 99GVC022 | N/A | N/A | N/A | 01/28/99 |
| VBLKBZ | MB1 | | W | 99GVF021 | N/A | N/A | N/A | 01/28/99 |
| VBLKBZ | MB1 | BS | W | 99GVF021 | N/A | N/A | N/A | 01/28/99 |
| VBLKBX | MB1 | | W | 99GVF022 | N/A | N/A | N/A | 01/29/99 |
| VBLKBX | MB1 | BS | W | 99GVF022 | N/A | N/A | N/A | 01/29/99 |

NY CERTIFICATION # 11006

Recra LabNet - Chicago
METHOD 8260 VOLATILES

Report Date 02/01/99 12 06
Page 1a

RFW Batch Number 9901G977 Client AFC001-15IDA Work Order 60025-001-001-0

| | Cust ID | SD13-06WG07 | | SPOT35-5WG07 | | SPOT35-5WG07 | | WP07-10BWG07 | | WP07-10BWG07 | | WP07-10BWG07 | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Sample Information | RFW# | 001 | | 004 | | 004 DL | | 005 | | 005 DL | | 005 DL | |
| | Matrix | WATER | | WATER | | WATER | | WATER | | WATER | | WATER | |
| | D F | 1 | | 1 | | 5 | | 1 | | 50 | | 250 | |
| | Units | UG/L | | UG/L | | UG/L | | UG/L | | UG/L | | UG/L | |
| Surrogate Recovery | 1 2-Dichloroethane-d4 | 99 | % | 102 | % | 107 | % | 100 | % | 88 | % | 91 | % |
| | Toluene-d8 | 104 | % | 126 * | % | 110 | % | 102 | % | 91 | % | 104 | % |
| | 4-Bromofluorobenzene | 103 | % | 109 | % | 110 | % | 104 | % | 92 | % | 102 | % |
| | Dibromofluoromethane | 104 | % | 110 | % | 125 | % | 108 | % | 97 | % | 95 | % |
| | | | fl | | fl | | fl | | fl | | fl | | fl |
| Dichlorodifluoromethane | | 0 5 | U | 0 5 | U | NA | | 0 5 | U | NA | | NA | |
| Chloromethane | | 0 5 | U | 0 5 | U | NA | | 0 5 | U | NA | | NA | |
| Vinyl chloride | | 0 5 | U | 0 5 | U | NA | | 9 | | NA | | NA | |
| Bromomethane | | 0 5 | U | 0 5 | U | NA | | 0 5 | U | NA | | NA | |
| Chloroethane | | 0 5 | U | 0 5 | U | NA | | 0 5 | U | NA | | NA | |
| Trichlorofluoromethane | | 0.5 | U | 0 5 | U | NA | | 0 5 | U | NA | | NA | |
| 1 1-Dichloroethene | | 0 5 | U | 0 5 | U | NA | | 2 | | NA | | NA | |
| Methylene Chloride | | 0 5 | U | 0 5 | U | NA | | 0 5 | U | NA | | NA | |
| trans 1 2 Dichloroethene | | 0 5 | U | 0 5 | U | NA | | 39 | | NA | | NA | |
| 1,1-Dichloroethane | | 0 4 | U | 0 4 | U | NA | | 0 7 | | NA | | NA | |
| cis-1,2-Dichloroethene | | 0 6 | | 0 5 | U | NA | | | E | 500 | | NA | |
| 2,2-Dichloropropane | | 0 5 | U | 0 5 | U | NA | | 0 5 | U | NA | | NA | |
| Bromochloromethane | | 0 4 | U | 0 4 | U | NA | | 0 4 | U | NA | | NA | |
| Chloroform | | 0 3 | U | 0 3 | U | NA | | 0 7 | | NA | | NA | |
| 1 1 1-Trichloroethane | | 0 5 | U | 0 5 | U | NA | | 0 5 | U | NA | | NA | |
| 1,1-Dichloropropene | | 0 5 | U | 0 5 | U | NA | | 0 5 | U | NA | | NA | |
| Carbon tetrachloride | | 0 5 | U | 0 5 | U | NA | | 0 5 | U | NA | | NA | |
| Benzene | | 0 4 | U | 0 4 | U | NA | | 0 4 | U | NA | | NA | |
| 1 2-Dichloroethane | | 0 5 | U | 0 5 | U | NA | | 0 5 | U | NA | | NA | |
| Trichloroethene | | 0 6 | | 0 5 | U | NA | | | E | | E | 3100 | |
| 1 2 Dichloropropane | | 0 4 | U | 0 4 | U | NA | | 0 4 | U | NA | | NA | |
| Dibromomethane | | 0 5 | U | 0 5 | U | NA | | 0 5 | U | NA | | NA | |
| Bromodichloromethane | | 0 5 | U | 0 5 | U | NA | | 0 5 | U | NA | | NA | |
| cis 1 3 Dichloropropene | | 0 5 | U | 0 5 | U | NA | | 0 5 | U | NA | | NA | |
| Toluene | | 0 5 | U | 0 5 | U | NA | | 0 5 | U | NA | | NA | |

*= Outside of EPA CLP QC Limits

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643 111

RIW Batch Number 9901G977 Client AFC001-15IDA Work Order 60025-001-001-0 Page 1b

| Cust ID | SD13-06WG07 | SPOT35-5WG07 | SPOT35-5WG07 | WP07-10BWG07 | WP07-10BWG07 | WP07-10BWG07 |
|---|---|---|---|---|---|---|
| RFW# | 001 | 004 | 004 DL | 005 | 005 DL | 005 DL |
| trans-1 3-Dichloropropene | 0.5 U | 0.5 U | NA | 0 5 U | NA | NA |
| 1 1 2-Trichloroethane | 0 5 U | 0.5 U | NA | 0 5 U | NA | NA |
| 1,3-Dichloropropane | 0 4 U | 0 4 U | NA | 0 4 U | NA | NA |
| Tetrachloroethene | 15 | 5 | NA | 15 | NA | NA |
| Dibromochloromethane | 0 5 U | 0 5 U | NA | 0 5 U | NA | NA |
| 1,2-Dibromoethane | 0 5 U | 0 5 U | NA | 0 5 U | NA | NA |
| 1-Chlorohexane | 0 5 U | 0 5 U | NA | 0 5 U | NA | NA |
| Chlorobenzene | 0 4 U | 0 4 U | NA | 0 4 | NA | NA |
| 1,1,1 2-Tetrachloroethane | 0 5 U | 0 5 U | NA | 0 5 U | NA | NA |
| Ethylbenzene | 0 5 U | 0.5 U | NA | 0 5 U | NA | NA |
| m/p-Xylene | 0 5 U | 0 5 U | NA | 0 5 U | NA | NA |
| o-Xylene | 0 5 U | 0 5 U | NA | 0 5 U | NA | NA |
| Styrene | 0 4 U | 0 4 U | NA | 0 4 U | NA | NA |
| Bromoform | 0 5 U | 0 5 U | NA | 0 5 U | NA | NA |
| Isopropylbenzene | 0 5 U | 33 | NA | 0 5 U | NA | NA |
| 1 1,2 2-Tetrachloroethane | 0 5 U | 0 5 U | NA | 0 5 U | NA | NA |
| Bromobenzene | 0 3 U | 0 3 U | NA | 0 3 U | NA | NA |
| 1 2,3-Trichloropropane | 0 5 U | 0 5 U | NA | 0 5 U | NA | NA |
| n-Propylbenzene | 0 4 U | E | 44 | 0 4 U | NA | NA |
| 2 Chlorotoluene | 0 4 U | 0 4 U | NA | 0 4 U | NA | NA |
| 1 3,5-Trimethylbenzene | 0 5 U | 0 5 U | NA | 0 5 U | NA | NA |
| 4-Chlorotoluene | 0 5 U | 0 5 U | NA | 0 5 U | NA | NA |
| tert-Butylbenzene | 0 5 U | 2 | NA | 0 5 U | NA | NA |
| 1,2 4-Trimethylbenzene | 0 5 U | 0 5 U | NA | 0 5 U | NA | NA |
| sec-Butylbenzene | 0 5 U | 9 | NA | 0 5 U | NA | NA |
| 1 3-Dichlorobenzene | 0 5 U | 0 5 U | NA | 0 5 U | NA | NA |
| p-Isopropyltoluene | 0 5 U | 0 5 U | NA | 0 5 U | NA | NA |
| 1 4 Dichlorobenzene | 0 3 U | 0.3 U | NA | 0 9 | NA | NA |
| n Butylbenzene | 0 5 U | 2 | NA | 0 5 U | NA | NA |
| 1 2-Dichlorobenzene | 0 3 U | 0 3 U | NA | 0 3 U | NA | NA |
| 1 2-Dibromo 3 chloropropane | 0 5 U | 0 5 U | NA | 0 5 U | NA | NA |
| 1 2 4 Trichlorobenzene | 0 4 U | 0 4 U | NA | 0 4 U | NA | NA |
| Hexachlorobutadiene | 0 5 U | 0 5 U | NA | 0 5 U | NA | NA |
| Naphthalene | 0 5 U | E | 84 | 2 | NA | NA |
| 1 2 3 Trichlorobenzene | 0 5 U | 0.5 U | NA | 0 5 U | NA | NA |
| Vinyl acetate | 2 U | 2 U | NA | 2 U | NA | NA |

*= Outside of EPA CLP QC limits

Recra LabNet - Chicago
METHOD 8260 VOLATILES

RFW Batch Number 9901G977 Client AFC001-15IDA Work Order 60025-001-001-0 Report Date 02/01/99 12 06 Page 2a

| | Cust ID | TB012299 | | VBLKCB | | VBLKCB BS | | VBLKBZ | | VBLKBZ BS | | VBLKBX | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Sample Information | RFW# | 006 | | 99GVC022-MB1 | | 99GVC022-MB1 | | 99GVF021-MB1 | | 99GVF021-MB1 | | 99GVF022-MB1 | |
| | Matrix | WATER | | WATER | | WATER | | WATER | | WATER | | WATER | |
| | D F | 1 | | 1 | | 1 | | 1 | | 1 | | 1 | |
| | Units | UG/L | | UG/L | | UG/L | | UG/L | | UG/L | | UG/L | |
| Surrogate Recovery | 1 2 Dichloroethane-d4 | 86 | % | 90 | % | 97 | % | 85 | % | 95 | % | 89 | % |
| | Toluene-d8 | 103 | % | 97 | % | 101 | % | 96 | % | 97 | % | 103 | % |
| | 4 Bromofluorobenzene | 99 | % | 93 | % | 98 | % | 93 | % | 98 | % | 99 | % |
| | Dibromofluoromethane | 98 | % | 96 | % | 105 | % | 94 | % | 95 | % | 101 | % |
| Dichlorodifluoromethane | | 0 5 | U | 0 5 | U | 58 | % | 0 5 | U | 51 | % | 0 5 | U |
| Chloromethane | | 0 5 | U | 0 5 | U | 102 | % | 0 5 | U | 95 | % | 0 5 | U |
| Vinyl chloride | | 0 5 | U | 0 5 | U | 99 | % | 0 5 | U | 101 | % | 0 5 | U |
| Bromomethane | | 0 5 | U | 0 5 | U | 103 | % | 0 5 | U | 97 | % | 0 5 | U |
| Chloroethane | | 0 5 | U | 0 5 | U | 100 | % | 0 5 | U | 93 | % | 0 5 | U |
| Trichlorofluoromethane | | 0 5 | U | 0 5 | U | 94 | % | 0 5 | U | 89 | % | 0 5 | U |
| 1.1-Dichloroethene | | 0 5 | U | 0 5 | U | 106 | % | 0 5 | U | 103 | % | 0 5 | U |
| Methylene Chloride | | 0 5 | U | 0.5 | U | 111 | % | 0 8 | | 103 | % | 0 5 | U |
| trans 1 2-Dichloroethene | | 0 5 | U | 0 5 | U | 103 | % | 0 5 | U | 102 | % | 0 5 | U |
| 1.1 Dichloroethane | | 0 4 | U | 0 4 | U | 112 | % | 0 4 | U | 102 | % | 0 4 | U |
| cis-1.2-Dichloroethene | | 0 5 | U | 0 5 | U | 106 | % | 0 5 | U | 104 | % | 0 5 | U |
| 2.2-Dichloropropane | | 0 5 | U | 0 5 | U | 95 | % | 0 5 | U | 115 | % | 0 5 | U |
| Bromochloromethane | | 0 4 | U | 0 4 | U | 116 | % | 0 4 | U | 105 | % | 0 4 | U |
| Chloroform | | 0 3 | U | 0 3 | U | 106 | % | 0 3 | U | 106 | % | 0 3 | U |
| 1 1 1-Trichloroethane | | 0 5 | U | 0 5 | U | 99 | % | 0 5 | U | 107 | % | 0 5 | U |
| 1.1 Dichloropropene | | 0.5 | U | 0 5 | U | 106 | % | 0 5 | U | 108 | % | 0 5 | U |
| Carbon Tetrachloride | | 0 5 | U | 0 5 | U | 100 | % | 0 5 | U | 108 | % | 0 5 | U |
| Benzene | | 0 4 | U | 0 4 | U | 104 | % | 0 4 | U | 110 | % | 0 4 | U |
| 1.2-Dichloroethane | | 0 5 | U | 0 5 | U | 104 | % | 0 5 | U | 104 | % | 0 5 | U |
| Trichloroethene | | 0 5 | U | 0 5 | U | 108 | % | 0 5 | U | 110 | % | 0 5 | U |
| 1 2 Dichloropropane | | 0 4 | U | 0 4 | U | 114 | % | 0 4 | U | 111 | % | 0 4 | U |
| Dibromomethane | | 0 5 | U | 0 5 | U | 110 | % | 0 5 | U | 108 | % | 0 5 | U |
| Bromodichloromethane | | [illegible] | U | 0 5 | U | 104 | % | [illegible] | U | 108 | % | 0 5 | U |
| cis 1 3 Dichloropropene | | 0 5 | U | 0.5 | U | 105 | % | 0 5 | U | 106 | % | 0 5 | U |
| Toluene | | 0 5 | U | 0 5 | U | 102 | % | 0 5 | U | 107 | % | 0 5 | U |

*= Outside of EPA CLP QC limits

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RIW Batch Number 9901G977 Client: AFC001-15IDA Work Order 60025-001-001-0 Page 2b 13

| Cust ID | TB012299 | VBLKCB | VBLKCB BS | VBLKBZ | VBLKBZ BS | VBLKBX |
|---|---|---|---|---|---|---|
| RIW# | 006 | 99GVC022-MB1 | 99GVC022-MB1 | 99GVF021-MB1 | 99GVF021-MB1 | 99GVF022-MB1 |
| trans-1 3 Dichloropropene | 0.5 U | 0 5 U | 105 % | 0.5 U | 105 % | 0 5 U |
| 1 1,2-Trichloroethane | 0 5 U | 0 5 U | 111 % | 0.5 U | 107 % | 0 5 U |
| 1,3 Dichloropropane | 0 4 U | 0 4 U | 110 % | 0 4 U | 109 % | 0 4 U |
| Tetrachloroethene | 0 5 U | 0 5 U | 101 % | 0.5 U | 108 % | 0 5 U |
| Dibromochloromethane | 0 5 U | 0 5 U | 106 % | 0 5 U | 108 % | 0 5 U |
| 1,2-Dibromoethane | 0 5 U | 0 5 U | 111 % | 0 5 U | 111 % | 0 5 U |
| 1-Chlorohexane | 0 5 U | 0 5 U | 76 % | 0 5 U | 74 * % | 0 5 U |
| Chlorobenzene | 0 4 U | 0 4 U | 106 % | 0.4 U | 110 % | 0 4 U |
| 1 1 1,2-Tetrachloroethane | 0 5 U | 0 5 U | 108 % | 0 5 U | 110 % | 0 5 U |
| Ethylbenzene | 0 5 U | 0 5 U | 102 % | 0.5 U | 108 % | 0 5 U |
| m/p-Xylene | 0 5 U | 0 5 U | 102 % | 0 5 U | 109 % | 0 5 U |
| o-Xylene | 0 5 U | 0 5 U | 103 % | 0 5 U | 109 % | 0 5 U |
| Styrene | 0 4 U | 0 4 U | 107 % | 0 4 U | 112 % | 0 4 U |
| Bromoform | 0 5 U | 0 5 U | 113 % | 0 5 U | 115 % | 0 5 U |
| Isopropylbenzene | 0 5 U | 0 5 U | 96 % | 0 5 U | 110 % | 0 5 U |
| 1 1,2 2 Tetrachloroethane | 0 5 U | 0 5 U | 106 % | 0 5 U | 110 % | 0 5 U |
| Bromobenzene | 0 3 U | 0 3 U | 105 % | 0 3 U | 111 % | 0 3 U |
| 1 2 3 Trichloropropane | 0 5 U | 0 5 U | 101 % | 0 5 U | 110 % | 0 5 U |
| n-Propylbenzene | 0.4 U | 0 4 U | 97 % | 0 4 U | 114 % | 0 4 U |
| 2-Chlorotoluene | 0 4 U | 0 4 U | 98 % | 0 4 U | 114 % | 0 4 U |
| 1 3,5-Trimethylbenzene | 0 5 U | 0 5 U | 94 % | 0 5 U | 105 % | 0 5 U |
| 4-Chlorotoluene | 0 5 U | 0 5 U | 98 % | 0 5 U | 109 % | 0 5 U |
| tert-Butylbenzene | 0 5 U | 0 5 U | 98 % | 0 5 U | 110 % | 0 5 U |
| 1,2,4-Trimethylbenzene | 0 5 U | 0 5 U | 98 % | 0 5 U | 107 % | 0 5 U |
| sec-Butylbenzene | 0 5 U | 0 5 U | 96 % | 0 5 U | 110 % | 0 5 U |
| 1 3-Dichlorobenzene | 0 5 U | 0 5 U | 105 % | 0 5 U | 111 % | 0 5 U |
| p-Isopropyltoluene | 0.5 U | 0 5 U | 95 % | 0 5 U | 107 % | 0 5 U |
| 1,4 Dichlorobenzene | 0 3 U | 0 3 U | 105 % | 0 3 U | 111 % | 0 3 U |
| n-Butylbenzene | 0 5 U | 0 5 U | 95 % | 0 5 U | 111 % | 0 5 U |
| 1 2 Dichlorobenzene | 0 3 U | 0 3 U | 105 % | 0 3 U | 110 % | 0 3 U |
| 1,2-Dibromo-3-chloropropane | 0 5 U | 0 5 U | 113 % | 0 5 U | 106 % | 0 5 U |
| 1 2 4-Trichlorobenzene | 0 4 U | 0 4 U | 96 % | 0 4 U | 113 % | 0 4 U |
| Hexachlorobutadiene | 0.5 U | 0 5 U | 93 % | 0 5 U | 102 % | 0 5 U |
| Naphthalene | 0.5 U | 0 5 U | 97 % | 0 5 U | 101 % | 0 5 U |
| 1 2 3 Trichlorobenzene | 0 5 U | 0 5 U | 96 % | 0 5 U | 115 % | 0 5 U |
| Vinyl acetate | 2 U | 2 U | 93 % | 2 U | 85 % | 2 U |

*= Outside of EPA CLP QC limits

Recra LabNet - Chicago
METHOD 8260 VOLATILES

RFW Batch Number 9901G977 Client AFC001-15IDA Work Order 60025-001-001-0 Report Date 02/01/99 12 06 Page 3a

| | | |
|---|---|---|
| | Cust ID | VBLKBX BS |
| Sample Information | RFW# | 99GVF022-MB1 |
| | Matrix | WATER |
| | D F | 1 |
| | Units | UG/L |
| Surrogate Recovery | 1 2 Dichloroethane-d4 | 99 % |
| | Toluene-d8 | 103 % |
| | 4 Bromofluorobenzene | 100 % |
| | Dibromofluoromethane | 97 % |
| Dichlorodifluoromethane | | 70 % |
| Chloromethane | | 107 % |
| Vinyl chloride | | 113 % |
| Bromomethane | | 106 % |
| Chloroethane | | 102 % |
| Trichlorofluoromethane | | 102 % |
| 1,1 Dichloroethene | | 101 % |
| Methylene Chloride | | 98 % |
| trans-1 2 Dichloroethene | | 99 % |
| 1,1 Dichloroethane | | 101 % |
| cis-1,2 Dichloroethene | | 101 % |
| 2,2 Dichloropropane | | 111 % |
| Bromochloromethane | | 101 % |
| Chloroform | | 102 % |
| 1 1 1-Trichloroethane | | 106 % |
| 1,1-Dichloropropene | | 107 % |
| Carbon Tetrachloride | | 110 % |
| Benzene | | 109 % |
| 1 2-Dichloroethane | | 104 % |
| Trichloroethene | | 109 % |
| 1 2 Dichloropropane | | 110 % |
| Dibromomethane | | 103 % |
| Bromodichloromethane | | 105 % |
| cis 1 3 Dichloropropene | | 102 % |
| Toluene | | 106 % |

* = Outside of EPA CLP QC Limits

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RFW Batch Number 9901G977 Client: AFC001-15IDA Work Order 60025-001-001-0 Page 35

Cust ID VBLKBX BS

RFW# 99GVF022-MB1

| | | |
|---|---|---|
| trans-1 3-Dichloropropene | 103 | % |
| 1 1,2-Trichloroethane | 99 | % |
| 1,3-Dichloropropane | 107 | % |
| Tetrachloroethene | 109 | % |
| Dibromochloromethane | 102 | % |
| 1 2 Dibromoethane | 106 | % |
| 1-Chlorohexane | 75 | % |
| Chlorobenzene | 108 | % |
| 1 1 1,2-Tetrachloroethane | 105 | % |
| Ethylbenzene | 108 | % |
| m/p-Xylene | 110 | % |
| o-Xylene | 109 | % |
| Styrene | 110 | % |
| Bromoform | 107 | % |
| Isopropylbenzene | 112 | % |
| 1 1,2 2-Tetrachloroethane | 102 | % |
| Bromobenzene | 107 | % |
| 1,2,3-Trichloropropane | 106 | % |
| n Propylbenzene | 116 | % |
| 2-Chlorotoluene | 108 | % |
| 1 3,5-Trimethylbenzene | 107 | % |
| 4-Chlorotoluene | 110 | % |
| tert-Butylbenzene | 112 | % |
| 1 2,4-Trimethylbenzene | 108 | % |
| sec-Butylbenzene | 113 | % |
| 1 3 Dichlorobenzene | 108 | % |
| p-Isopropyltoluene | 110 | % |
| 1 4-Dichlorobenzene | 110 | % |
| n-Butylbenzene | 113 | % |
| 1 2-Dichlorobenzene | 106 | % |
| 1 2 Dibromo 3 chloropropane | 97 | % |
| 1 2 4-Trichlorobenzene | 105 | % |
| Hexachlorobutadiene | 100 | % |
| Naphthalene | 87 | % |
| 1 2 3 Trichlorobenzene | 101 | % |
| Vinyl acetate | 76 | % |

*= Outside of EPA CLP QC Limits

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**Severn Trent Laboratories Chicago**
**GC/MS Case Narrative**

AFC001 - 15IDA
STL# 9901G977
VOA DATA

1 All sample analyses were performed within recommended hold times

2 The Method Blanks had all target compounds below the required reporting limits except for the Method Blank 99GVF021-MB1 had Methylene chloride detected at 0 8 µg/L Since Methylene chloride was not detected in any of the associated samples, corrective action was not required

3 The QAPP specified QC limits were used to evaluate QC acceptance in the LCS (Laboratory Control Samples) The one spike compound reported, vinyl acetate, that was not listed in the QAPP was given QC limits of 0 - 0% at the client's request and the flags on this compounds have no QC significance The spike recovery was slightly below the QC limits (25-125%) for 1-Chlorohexane (74%) in the LCS sample 99GVF021-MB1 BS Since 1-Chlorohexane was not detected in the associated samples, corrective action was not required All of the other spike recoveries were within the QC limits in the LCS samples

4 Matrix Spike/Matrix Spike Duplicate analyses were not performed in this sample set

5 The sample 9901G977-004 had one surrogate recovery above the QC limits The secondary dilution sample 9901G977-004 DL had all surrogate recoveries within the QC limits and is considered the surrogate check for the original sample All of the other volatile samples had surrogates recoveries within the QAPP specified QC limits

6 All water samples were prepared following Method 5030B All samples were analyzed following SW846 Method 8260B and 8000B All calibration criteria are met per method or SOP (for minimum R values for certain compounds) There are additional requirements in the QAPP for non-CCC's compounds in the continuing calibration verifications Some of these compounds may have exceeded the % Drift acceptance criteria These compounds were not detected in any of the associated samples, therefore the data is not effected The low point in the calibration verifies the base reporting limit The samples were quantitated using the initial calibration

7 The water samples were initially analyzed low level using a 25 mL purge volume Secondary dilutions to accurately quantitate target compounds were performed on the samples 9901G977-004 (1/5) and 005 (1/50 and 1/250) The results and reporting limits were adjusted to account for the dilutions

8 The sample 9901G977-004 had all internal standard areas below the acceptance limits The secondary dilution sample 9901G977-004 DL had all internal standard areas within the acceptance limits and is considered the internal standard check for the original sample All of the other samples had internal standard areas and retention times within the acceptance limits as compared to the corresponding continuing calibration

Gregory L Goodwin
GC/MS Section Manager

2/4/99
Date

20

Severn Trent Laboratories Chicago
8020 ANALYTICAL DATA PACKAGE FOR
AFC001-15IDA

LOT # :9901G977

| CLIENT ID | SAMPLE # | | MTX | PREP # | COLLECTN | DATE REC | EXT/PREP | ANALYSIS |
|---|---|---|---|---|---|---|---|---|
| ST14-28WG07 | 002 | | W | 99GVD018 | 01/22/99 | 01/23/99 | N/A | 02/01/99 |
| ST14-28WG07 | 002 | C1 | W | 99GVD015 | 01/22/99 | 01/23/99 | N/A | 02/01/99 |
| SD13-04WG07 | 003 | | W | 99GVD018 | 01/22/99 | 01/23/99 | N/A | 02/01/99 |
| SD13-04WG07 | 003 | C1 | W | 99GVD015 | 01/22/99 | 01/23/99 | N/A | 02/01/99 |
| LAB QC: | | | | | | | | |
| BLK | MB1 | | W | 99GVD018 | N/A | N/A | N/A | 02/01/99 |
| BLK | MB1 | BS | W | 99GVD018 | N/A | N/A | N/A | 02/01/99 |
| BLK | MB1 | | W | 99GVD015 | N/A | N/A | N/A | 02/01/99 |
| BLK | MB1 | BS | W | 99GVD015 | N/A | N/A | N/A | 02/01/99 |

NY CERTIFICATION # 11006

STL Chicago
PURGEABLE AROMATICS BY GC

Report Date: 02/05/99 15:59
Page: 1

RFW Batch Number: 9901G977 Client: AFC001-15IDA Work Order: 60025-001-001-0

| | Cust ID: | ST14-28WG07 | ST14-28WG07 | SD13-04WG07 | SD13-04WG07 | BLK | BLK BS |
|---|---|---|---|---|---|---|---|
| Sample Information | RFW#: | 002 | 002 | 003 | 003 | 99GVD018-MB1 | 99GVD018-MB1 |
| | Matrix: | WATER | WATER | WATER | WATER | WATER | WATER |
| | D.F.: | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 |
| | Units: | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| | | | CONFIRM | | CONFIRM | | |
| Surrogate | a,a,a-Trifluorotoluene | 108 % | I % | 108 % | I % | 105 % | 106 % |
| | 4-Bromofluorobenzene | I % | 168 * % | I % | 103 % | 95 % | 99 % |
| Benzene | | 2.6 J | 3.3 J | 1.4 | 1.3 | 1.0 U | 101 % |
| Toluene | | 1.0 U | NA | 1.0 U | NA | 1.0 U | 99 % |
| Ethylbenzene | | 0.95 J J | 2.4 J | 1.6 | 1.6 | 1.0 U | 95 % |
| Xylene (total) | | 4.7 | 4.9 | 2.0 J | 5.9 J | 1.0 U | 96 % |
| Methyl-tert-butyl ether | | 1.0 U | NA | 1.0 U | NA | 1.0 U | 93 % |

LSM 2-10-99

| | Cust ID: | BLK | BLK BS |
|---|---|---|---|
| Sample Information | RFW#: | 99GVD015-MB1 | 99GVD015-MB1 |
| | Matrix: | WATER | WATER |
| | D.F.: | 1.0 | 1.0 |
| | Units: | ug/L | ug/L |
| Surrogate | a,a,a-Trifluorotoluene | 60 % | 84 % |
| | 4-Bromofluorobenzene | 70 % | 94 % |
| Benzene | | 1.0 U | 109 % |
| Toluene | | 1.0 U | 112 % |
| Ethylbenzene | | 1.0 U | 110 % |
| Xylene (total) | | 1.0 U | 109 % |
| Methyl-tert-butyl ether | | 1.0 U | 96 % |

U= Analyzed, not detected. J= Present below detection limit. B= Present in blank. NR= Not requested. NS= Not spiked.
%= Percent recovery. D= Diluted out. I= Interference. NA= Not Applicable. *= Outside of EPA CLP QC

.643 118

Severn Trent Laboratories Chicago
Volatiles Case Narrative

AFC001-15IDA
RFW # 9901G977-002 and 003
Purgeable Aromatics

1 These samples were analyzed for Benzene, Toluene, Ethylbenzene, Xylene (total),and Methyl-tert-butyl ether based on SW 846 methods 5030 and 8020 An HP5890 gas chromatograph, equipped with a Photoionization Detector and interfaced with a Tekmar LCS 2000/2016 ALS system, was used for the primary analysis A Tracor 540 gas chromatograph, equipped with a Photoionization Detector and interfaced with a Tekmar LCS 2000/2016 ALS system, was used for the confirmation analysis.

2 All required holding times were met for the analysis

3 All method blanks were below the reporting limits for all target compounds

4 The surrogate compounds used for this analysis were a,a,a-Trifluorotoluene and 4-Bromofluorobenzene. The 4-BFB associated with the confirmation analysis of sample 9901G977-002 (ST14-28WG07) was biased high with 168% recovery. A number of other surrogates were interfered with and flagged with an "I" All surrogate recoveries are summarized on Form 2

5 All blank spike recoveries were within control limits and are summarized on Forms 3.

6 A matrix spike and matrix spike duplicate were not designated on this SDG.

7 All initial and continuing standard calibrations associated with these samples were within control limits, with the following exceptions

CCV run 02/01/99 at 13 52 on the primary column (Instrument 33, DB-VRX) had MTBE biased high with 116 3% recovery

CCV run 02/01/99 at 19 08 on the primary column (Instrument 33, DB-VRX) had MTBE biased high with 123 8% recovery.

CCV run 02/02/99 at 02 18 on the confirmation column (Instrument 18, DB-624) had all target compounds biased high

8. Analyte concentrations that are greater than 25% difference between the two columns have been flagged with a "J"

Linda S Mackley
Linda S Mackley
Organics Section Manager

2-10-99
Date

643'120

[illegible]
[illegible]
[illegible]

LOT # 9901G977

| [illegible] | SAMPLE # | MTX | PREP # | COLLECTN | DATE REC | EXT/PREP | ANALYSIS |
|---|---|---|---|---|---|---|---|
| [illegible]WG07 | 007 | W | 99GP0094 | 01 26 99 | 01 27/99 | 02/02/99 | 02/05/99 |
| [illegible] | | | | | | | |
| [illegible] | MBI | W | 99GP0094 | N.A | N A | 02/02/99 | 02/05/99 |
| [illegible] | MBI BS | W | 99GP0094 | N A | N'A | 02/02/99 | 02/05/99 |

NY CERTIFICATION # 11006

643 121

STL Chicago
DIESEL RANGE ORGANICS

Report Date 02/09/99 16 08
Page: 1

RFW Batch Number: 9901G977 Client: AFC001-15IDA Work Order: 60025-001-001-0

| | Cust ID | SPOT35-5WG07 | PBLKJR | PBLKJR BS |
|---|---|---|---|---|
| Sample Information | RFW# | 007 | 99GP0094-MB1 | 99GP0094-MB1 |
| | Matrix | WATER | WATER | WATER |
| | D F | 0 50 | 0.50 | 0 50 |
| | Units | MG/L | MG/L | MG/L |
| Surrogate | 2-Fluorobiphenyl | 87 % | 86 % | 108 * % |
| | o-Terphenyl | 76 % | 88 % | 87 % |
| Diesel Range Organics | | 1 2 Y | 0 12 U | 92 % |

U= Analyzed, not detected J= Present below detection limit B= Present in blank NR= Not requested NS= Not spiked
%= Percent recovery D= Diluted out I= Interference NA= Not Applicable *= Outside of EPA CLP QC

Severn Trent Laboratories Chicago
Extractable Hydrocarbon Case Narrative

AFC001-15IDA
RFW# 9901G977-007
Diesel Range Organics (DRO)

1 This sample was extracted based on SW846 method 3520 and analyzed for DRO based on SW846 method 8015 and the California LUFT Manual. An HP5890 gas chromatograph equipped with a flame ionization detector and an Xti-5 column was used for the analysis

2 All required holding times were met for the extraction and the analysis

3 The method blank was below the reporting limit for DRO

4 The surrogate compounds used for this analysis were o-Terphenyl and 2-Fluorobiphenyl. The 2-Fluorobiphenyl associated with the blank spike was biased high with 108% recovery All other surrogate recoveries were within control limits. All surrogate recoveries are summarized on Form 2E

5. The blank spike recovery was within control limits and is summarized on Form 3E A solution of Diesel Fuel was used for spiking

6 A matrix spike and a matrix spike duplicate were not designated on this SDG

7 A Diesel Fuel #2 standard was used for quantitating DRO results, using a hydrocarbon range from C10 through C28 A hydrocarbon standard ranging from C8 through C36 was analyzed for qualitative purposes of interfering hydrocarbons

8 All initial and continuing standard calibrations were within control limits

9 The DRO in this sample has been flagged with a "Y" because it appears to match a typical fuel pattern

Linda S Mackley
Linda S Mackley
Organics Section Manager

2-10-99
Date

Severn Trent Laboratories Chicago
GRO ANALYTICAL DATA PACKAGE FOR
AFC001-15IDA

LOT # 9901G977

| CLIENT ID | SAMPLE # | MTX | PREP # | COLLECTN | DATE REC | EXT/PREP | ANALYSIS |
|---|---|---|---|---|---|---|---|
| SPOT35-5WG07 | 004 | W | 99GVD019 | 01/22/99 | 01/23/99 | N/A | 01/30/99 |
| LAB QC | | | | | | | |
| BLK | MB1 | W | 99GVD019 | N/A | N/A | N/A | 01/28/99 |
| BLK | MB1 BS | W | 99GVD019 | N/A | N/A | N/A | 01/28/99 |



NY CERTIFICATION # 11006

Recra LabNet - Chicago
GASOLINE RANGE ORGANICS

Report Date: 02/04/99 21:02

RFW Batch Number: 9901G977 Client: AFC001-15IDA Work Order: 60025-001-001-0 Page: 1

| | Cust ID: | SPOT35-5WG07 | | BLK | | BLK BS | |
|---|---|---|---|---|---|---|---|
| Sample Information | RFW#: | 004 | | 99GVD019-MB1 | | 99GVD019-MB1 | |
| | Matrix: | WATER | | WATER | | WATER | |
| | D.F.: | 2.0 | | 1.0 | | 1.0 | |
| | Units: | ug/L | | ug/L | | ug/L | |
| Surrogate | a,a,a-Trifluorotoluene | 111 | % | 106 | % | 108 | % |
| | 4-Bromofluorobenzene | 92 | % | 109 | % | 110 | % |
| Gasoline Range Organics | | 1200 | Y | 50 | U | 106 | % |

U= Analyzed, not detected. J= Present below detection limit. B= Present in blank. NR= Not requested. NS= Not spiked.
%= Percent recovery. D= Diluted out. I= Interference. NA= Not Applicable. *= Outside of EPA CLP QC

Severn Trent Laboratories Chicago
Volatiles Case Narrative

AFC001-15IDA
RFW# 9901G977-004
Gasoline Range Organics (GRO)

1 This sample was analyzed for Gasoline Range Organics (GRO) based on SW846 methods 5030 and 8015 An HP5890 gas chromatograph equipped with a flame ionization detector and a Tekmar LSC-2000/2016 ALS was used for the analysis of this sample.

2 All required holding times were met for the analysis

3 The method blank was below the reporting limit for GRO

4 The surrogate compounds used for this analysis were a,a,a-Trifluorotoluene and 4-Bromofluorobenzene All surrogate recoveries were within control limits and are summarized on Form 2

5 The blank spike recovery was within control limits and is summarized on Form 3 A solution of Gasoline was used for spiking

6 A matrix spike and a matrix spike duplicate were not designated on this SDG

7 All initial and continuing standard calibrations for GRO were within control limits

8 The GRO detected in this sample has been flagged with a "Y" because it appears to match a typical fuel pattern

Linda S Mackley
Linda S Mackley
Organics Section Manager

2-8-99
Date

Severn Trent Laboratories Chicago
HPAH ANALYTICAL DATA PACKAGE FOR
AFC001-15IDA

LOT # 9901G977

| CLIENT ID | SAMPLE # | MTX | PREP # | COLLECTN | DATE REC | EXT/PREP | ANALYSIS |
|---|---|---|---|---|---|---|---|
| SPOT35-5WG07 | 004 | W | 99GP0064 | 01/22/99 | 01/23/99 | 01/25/99 | 01/27/99 |
| SPOT35-5WG07 | 004 C1 | W | 99GP0064 | 01/22/99 | 01/23/99 | 01/25/99 | 01/27/99 |
| LAB QC | | | | | | | |
| BLK | MB1 | W | 99GP0064 | N/A | N/A | 01/25/99 | 01/26/99 |
| BLK | MB1 C1 | W | 99GP0064 | N/A | N/A | 01/25/99 | 01/26/99 |
| BLK | MB1 BS | W | 99GP0064 | N/A | N/A | 01/25/99 | 01/26/99 |
| BLK | MB1 BS C1 | W | 99GP0064 | N/A | N/A | 01/25/99 | 01/26/99 |

# Recra LabNet - Chicago

PAHs BY HPLC

Report Date 02/05/99 10 30
Page 1

RFW Batch Number 9901G977 Client. AFC001-15IDA Work Order 60025-001-001-0

| Sample Information | Cust ID: | SPOT35-5WG07 | SPOT35-5WG07 | BLK | BLK | BLK BS | BLK BS |
|---|---|---|---|---|---|---|---|
| | RFW#: | 004 | 004 | 99GP0064-MB1 | 99GP0064-MB1 | 99GP0064-MB1 | 99GP0064-MB1 |
| | Matrix | WATER | WATER | WATER | WATER | WATER | WATER |
| | D F | 1 0 | 1 0 | 1 0 | 1 0 | 1 0 | 1 0 |
| | Units | ug/L | ug/L CONFIRM | ug/L | ug/L CONFIRM | ug/L | ug/L CONFIRM |
| Surrogate | Decafluorobiphenyl | 122 % | NA % | 71 % | NA % | 73 % | NA % |
| | Benzo(e)pyrene | 63 % | 65 % | 88 % | 86 % | 89 % | 86 % |
| Naphthalene | | 21 | 19 | 18 U | 18 U | 98 % | 88 % |
| Acenaphthene | | 17 U | NA | 18 U | 18 U | 95 % | NA % |
| Acenaphthylene | | 22 U | NA | 23 U | 23 U | 90 % | NA % |
| Fluorene | | 2 0 U | NA | 2 1 U | 2 1 U | 91 % | NA % |
| Phenanthrene | | 6 1 U | NA | 6 4 U | 6 4 U | 95 % | NA |
| Anthracene | | 6 3 U | NA | 6 6 U | 6 6 U | 76 % | 79 % |
| Fluoranthene | | 2.0 U | NA | 2 1 U | 2 1 U | 87 % | 95 % |
| Pyrene | | 2 6 U | NA | 2 7 U | 2 7 U | 120 % | 96 % |
| Benzo(a)anthracene | | 0 12 U | NA | 0 13 U | 0 13 U | 90 % | 91 % |
| Chrysene | | 1.4 U | NA | 1 5 U | 1 5 U | 96 % | 94 % |
| Benzo(b)fluoranthene | | 0 17 U | NA | 0 18 U | 0 18 U | 96 % | 97 % |
| Benzo(k)fluoranthene | | 0 16 U | NA | 0.17 U | 0 17 U | 91 % | 86 % |
| Benzo(a)pyrene | | 0.22 U | NA | 0 23 U | 0 23 U | 80 % | 81 % |
| Dibenzo(a h)anthracene | | 0 28 U | NA | 0 30 U | 0 30 U | 84 % | 79 % |
| Benzo(g h i)perylene | | 0 72 U | NA | 0 76 U | 0 76 U | 86 % | 81 % |
| Indeno(1 2 3 cd)pyrene | | 0 41 U | NA | 0 43 U | 0 43 U | 94 % | NA % |

U= Analyzed not detected. J= Present below detection limit B= Present in blank NR= Not requested NS= Not spiked
%= Percent recovery D= Diluted out I= Interference NA= Not Applicable *= Outside of EPA CLP QC

Severn Trent Laboratories Chicago
PAH Case Narrative

AFC001-15IDA
RFW# 9901G977-004
PAHs

1 Severn Trent Laboratories Chicago used the following High Performance Liquid Chromatographic system for analysis of polynuclear aromatic hydrocarbons

| ID# | INSTRUMENT | COLUMN TYPE | DETECTOR |
|---|---|---|---|
| 25 | SpectraPhysics | C-18 PAH | UV - 254nm |
| 26 | SpectraPhysics | C-18 PAH | Fluorescence |

2 This sample was extracted based on SW846 method 3520 The extracts were analyzed for PAHs (i e PNAs) based on SW846 method 8310 protocols

3 All required holding times were met for the extraction and analysis.

4 The method blank was below the reporting limit for all target compounds

5 The surrogate compounds used for this analysis were Decafluorobiphenyl and Benzo(e)pyrene All surrogate recoveries were within statistical control limits. Decafluorobiphenyl is not detected on the Fluorescence detector, therefore, only Benzo(e)pyrene is reported from the confirmation analysis All surrogate recoveries are summarized on Form 2.

6 All blank spike recoveries were within control limits and are summarized on Form 3

7 There was no designated matrix spike and matrix spike duplicate associated with this SDG

8. All initial and continuing standard calibrations were within control limits

10 All positive hits above the PQL have been confirmed on a second detector

Linda S Mackley
Linda S Mackley
Organics Section Manager

2-5-99
Date

**Report Prepared**
**for**
**Severn Trent Laboratories**
**Hydrocarbon Headspace Method 3810/8015**
**Project # 0199026**
**Batch #'s 9901G961 & 9901G977**
**Purchase Order # U03111**

**January 30, 1999**

**Report Prepared**
**by**
**DAT, Inc.**
**6385 Shier Rings Rd.**
**Dublin, OH 43016**

**Severn Trent Laboratories**
**Hydrocarbon Headspace Method 3810/8015**
**Project # 0199026**

**January 30, 1999**

**Narrative**

Twelve samples were received January 26 & 28, 1999 for headspace analysis of methane, ethane and ethene by method 3810/8015. The samples were received in good condition and are listed below The sample results can be reviewed in the Data Summary Table included with this report

| Client ID | DAT ID |
|---|---|
| GMI-22-04MWWGO7 | 0199026-1 |
| SD13-01WGO7 | 0199026-2 |
| WHGLTA007WGO7 | 0199026-3 |
| DUP03 | 0199026-4 |
| WHGLTA005WGO7 | 0199026-5 |
| GMI-22-06MWGO7 | 0199026-6 |
| TB012199 | 0199026-7 |
| SD13-06WGO7 | 0199026-8 |
| ST14-28WGO7 | 0199026-9 |
| SD13-04WGO7 | 0199026-10 |
| WP07 ~~WP01~~-10BWGO7 | 0199026-11 |
| SJ 2.3.99 WB012299 | 0199026-12 |

**Method**

The analysis methods consisted of method 3810 headspace concentration with method 8015 GC/FID organic analysis. A ten milliliter aliquot was removed from each sample vial allowing for 10 mL of headspace and a 30 mL sample volume. Each sample vial was placed into an 80°C oven and allowed to reach equilibrium over a period of one hour. Each sample was injected at atmospheric pressure via a heated 1 0 mL GC sampling loop

**Instrument Conditions**

One milliliter of sample was injected into a GC equipped with a 2m x 2mm Porapak QS packed column and a Flame Ionization Detector (FID). The initial temperature of the oven was 80°C for one-half minute, increased at a rate of 20°C per minute to a final temperature of 100°C for 1.5 minutes.

1. Also refer to EPA RSK-175 Revision 0, 1994

**Calibration**

The samples were quantified using a five point calibration ranging from 2 0 ppm to 100.0 ppm methane, ethene and ethane The calibration curve was run in duplicate and had an $r^2$ value of greater than 0.999. The calibration was non-equilibrium.

**Quality Control**

Blank

The instrument blank showed no response for methane at a detection limit of 0.07 ug/L, no response for ethene at a detection limit of 0.1 ug/L and no response for ethane at a detection limit of 0.1 ug/L.

Duplicates

Samples WB012299 was ran in duplicate and the percent difference was 15.8%.

Lab Spikes

A lab spike/lab spike duplicate were performed concurrently with this sample set. Spike recoveries can be found in the QC Summary table appended with this report.

Report prepared by:

Keith Souchereau, Chemist

Report approved for release by:

Ronald K. Mitchum, Ph.D
President, DAT, Inc.

# QC Summary Table

Client Severn Trent Laboratories
Project 0199026
Analysis Methane, Ethene and Ethane Headspace Method 3810/8015
Date 1/30/99

| Client ID | DAT ID | Methane ppm | Dil Factor | Methane ug/L | H ug/L | Methane ug/L | % Recovery | Ethene ppm | Ethene ug/L | H ug/L | Ethene ug/L | % Recovery | Ethane ppm | Ethane ug/L | H ug/L | Ethane ug/L | % Recovery |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Standard | Standard | 50 0 | 1 | 9 2 | 0 3 | 9 6 | | 50 0 | 16 11 | 0 360 | 16 47 | | 50 0 | 17 27 | 0 661 | 17 93 | |
| Lab Spike | 0199021-LS | 65 846 | 1 | 12 12 | 0 458 | 12 58 | 131 7 | 44 598 | 14 37 | 0 321 | 14 69 | 89 2 | 51 906 | 17 92 | 0 686 | 18 61 | 103 8 |
| Lab Spike Duplicate | 0199021-LSD | 63 844 | 1 | 11 76 | 0 444 | 12 20 | 127 7 | 42 931 | 13 83 | 0 309 | 14 14 | 85 9 | 49 844 | 17 21 | 0 659 | 17 87 | 99 7 |
| GMI-22-04MWGO7 | 0199026-1 | 15 430 | 1 | 2 84 | 0 11 | 2 95 | | 0 300 | 0 10 | 0 002 | 0 10 | ND | 3 683 | 1 27 | 0 049 | 1 320 | |
| GMI-22-04MWGO7 MS | 0199026-1 MS | 64 955 | 1 | 11 96 | 0 45 | 12.41 | 99 1 | 37 298 | 12 02 | 0 268 | 12 29 | 74 0 | 47 628 | 16 45 | 0 629 | 17 075 | 87 9 |
| GMI-22-04MWGO7 MSD | 0199026-1 MSD | 64 612 | 1 | 11 90 | 0 45 | 12 35 | 98 4 | 37 193 | 11 98 | 0 268 | 12 25 | 73 8 | 46 698 | 16 12 | 0 617 | 16 742 | 86 0 |

ND - Not detected at the detection limit
D - Dilution result
H = Henrys Law contribution

643 132

80

# Cust dy Transf r Rec /Lab Work R qu st

RECRA LabNet

| RECRA LabNet Use Only |
|---|
| 9901G961 |

Client: NAS - AFC001 15 IRA

Project #:

Date Rec'd.: 1/22/99 Date Due: 2/16/99

RECRA PM: Bosco Ramirez

Client Contact/Phone: Ken Kapsano

| RECRA Use Only Lab ID | Client ID/Description | Matrix | Date Collected | Refrigerator# P(8) | 8 | 8 | 5 | 5/0 | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | #/Type Container 1P | 1P | 1P | 2G | 2G | | | | |
| | | | | Volume 1L | 250ml | 1L | 40ml | 40ml | | | | |
| | | | | Preservative | $H_2SO_4$ | $HNO_3$ | HCl | HCl | | | | |
| | | | | ANALYSIS REQUESTED ALK * | TOC x2 | HSL metals | 8260 | 1SUB | LEAD | | | |
| 001 | GMI-22-04MW507 | W | 1/21/99 | X | X | | X | X | ✓ | | | |
| 002 | SN3-01W507 | ↓ | ↓ | ↓ | ↓ | X | ↓ | ↓ | | | | |
| 003 | WHGLTA007W507 | | | ↓ | ↓ | ↓ | | ↓ | | | | |
| 004 | DUP03 | | | | | | | | | | | |
| 005 | AB012199 | | | X | X | X | | X | | | | |
| 006 | WHGLTA005W507 | | | | | | | | | | | |
| 007 | GMI-22-07MW507 | | | X | X | | ↓ | X | | | | |
| 008 | GMI-22-06MW507 | | | | | | X | ↓ | | | | |
| 009 | TB012199 | ↓ | ↓ | | | | | | | | | |

Special Instructions: * ICCL, ICNO3, ICSO4

Matrix: W - Water, S - Soil, SE - Sediment, SO - Solid, O - Oil, A - Air, WI - Wipe, DS - Drum Solids, DL - Drum Liquids, F - Fish, L - EP/TCLP Leachate, X- Other

QC-Custom. Del. CLPlike Internal COC

| Item/Reason | Relinquished by | Received by | Date | Time | Item/Reason | Relinquished by | Received by | Date | Time |
|---|---|---|---|---|---|---|---|---|---|
| | | KKeizer | 1/22 | 1430 | | | | | |
| | | | | | | | [illegible] | 1/26/99 | 1050 |

RECRA LabNet Use Only

Samples Were
1 Shipped or Hand-Delivered
NOTES Ice Chest
2 Ambient or chilled COC
NOTES
3 Received Broken/Leaking (Improperly Sealed) Y N
NOTES
4 Properly Preserved (Y) N
NOTES KK/22
5 Received Within Holding Times Y N
NOTES

COC Tape Was
1 Present on Outer Package Y N
2 Unbroken on Outer Package Y N
3 Present on Sample Y N
4 Unbroken on Sample Y N
NOTES

COC Record Was:
1 Present Upon Receipt of Samples Y N

Discrepancies Between Sample Labels and COC Record? Y N
NOTES

643 133

9 46

# Custody Transfer Rec rd/Lab Work Request

RECRA LabNet

| RECRA LabNet Use Only |
|---|
| 9901G977 |

Client: AFC001-15IDA
Project #:
Date Rec'd.: 1/23/99 Date Due: 2/17/99
RECRA PM: Bosco Ramirez
Client Contact/Phone: Ken Aguilaro

| RECRA Use Only Lab ID | Client ID/Description | Matrix | Date Collected | ALK * | HSL metals | CHRAM | TOC x2 | 8260 | 8000 | TPH GRO | ISUB | REID |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Refrigerator# | | | | P(g) | 8 | 8 | 8 | 5 | 5 | 5 | 5/6 | |
| #/Type Container | | | | 1P | 1P | 1G | 1P | 3G | 3G | 3G | 3G | |
| Volume | | | | 1L | 1L | 1L | 250ml | 40ml | 40ml | 40ml | 40ml | |
| Preservative | | | | | HNO3 | | H2SO4 | HCl | HCl | HCl | HCl | |
| 001 | SD13-06WG07 | W | 1/22/99 | X | X | | X | X | | | X | ✓ |
| 002 | ST14-28WG07 | ↓ | ↓ | ↓ | | | ↓ | | X | | X | |
| 003 | SD13-04WG07 | | | | X | X | | X | ↓ | X | ↓ | |
| 004 | SPOT35-5WG07 | | | X | | | X | ↓ | | | X | |
| 005 | WPOT-10BWG07 | ↓ | ↓ | | | | | | | | X | |
| 006 | TBD12299 | | | | | | | | | | | |

Refrigerator#: P(g) 8 8 8 5 5 5 5/6
#/Type Container: 1P 1P 1G 1P 3G 3G 3G 3G
Volume: 1L 1L 1L 250ml 40ml 40ml 40ml 40ml
Preservative: HNO3 H2SO4 HCl HCl HCl HCl
ANALYSIS REQUESTED: ALK * / HSL metals / CHRAM / TOC x2 / 8260 / 8000 / TPH GRO / ISUB / REID

Matrix: W - Water, S - Soil, SE - Sediment, SO - Solid, O - Oil, A - Air, WI - Wipe, DS - Drum Solids, DL - Drum Liquids, F - Fish, L - EP/TCLP Leachate, X - Other

Special Instructions: * ICCL, ICNO3, ICSO4

QC - AFCEE Del. CLP Like Universal COC

| Item/Reason | Relinquished by | Received by | Date | Time | Item/Reason | Relinquished by | Received by | Date | Time |
|---|---|---|---|---|---|---|---|---|---|
| | | [illegible] | 1/23 | 1435 | | | | | |
| | | | | | | | B. [illegible] | 1/26/99 | 1100 |

RECRA LabNet Use Only

Samples Were
1 Shipped or Hand-Delivered
NOTES: Sediment COC
2 Ambient or Chilled
NOTES
3 Received Broken/Leaking (Improperly Sealed) Y N
NOTES: CLOK ✓ KK 1/23
4 Properly Preserved Y N
NOTES: KK 1/23
5 Received Within Holding Times Y N
NOTES

COC Tape Was
1 Present on Outer Package Y N
2 Unbroken on Outer Package Y N
3 Present on Sample Y N
4 Unbroken on Sample Y N
NOTES

COC Record Was:
1 Present Upon Receipt of Samples Y N

Discrepancies Between Sample Labels and COC Record? Y N
NOTES

ISUB → DAT

48

8 643 134

# TAB

Appendix E April 99

643 136

Committed To *Your* Success

Received 5/26/99

**Severn Trent Laboratories**
2417 Bond Street
University Park, IL 60466

Tel· (708) 534-5200
Fax (708) 534-5211
www.stl-inc com

May 25, 1999

Mr. Ken Rapuano
HydroGeoLogic, Inc
1155 Herndon Parkway, Suite 900
Herndon, VA 20170

RE: AFC001-15IEA
Analytical Report & EDD
Lot 9904G025

Dear Mr. Rapuano.

The enclosed analytical report is for the project and lot number listed above. The Dioxin results will be sent when completed If you have any questions, please contact me at 708-534-5200

Sincerely,
Severn Trent Laboratories

Bosco Ramirez
Project Manager

sj

Enclosures

cc: CLP Report/Nancy Weaver/Environmental Data Services, Inc.
EDD - Lynn Morgan/HydroGeoLogic, Inc

Approved By

Michael J. Healy
General Manager

The results presented in this report relate only to the analytical testing and conditions of sample at receipt This report pertains to only those samples actually tested All 1756 pages of this report are integral parts of the analytical data Therefore, this report should be reproduced only in its entirety

Severn Trent Laboratories Chicago
INORGANIC ANALYTICAL DATA PACKAGE FOR
AFC001-15IEA

LOT # :9904G025

| CLIENT ID /ANALYSIS | SAMPLE # | MTX | PREP # | COLLECTN | DATE REC | EXT/PREP | ANALYSIS |
|---|---|---|---|---|---|---|---|
| WP07-10CWG08 | | | | | | | |
| ALKALINITY | 001 | W | 99GAK036 | 04/14/99 | 04/16/99 | 04/27/99 | 04/27/99 |
| CHLORIDE BY IC | 001 | W | 99GD1007 | 04/14/99 | 04/16/99 | 04/16/99 | 04/16/99 |
| NITRATE BY IC | 001 | W | 99GD1007 | 04/14/99 | 04/16/99 | 04/16/99 | 04/16/99 |
| SULFATE BY IC | 001 | W | 99GD1007 | 04/14/99 | 04/16/99 | 04/16/99 | 04/16/99 |
| TOTAL ORGANIC CARBON | 001 | W | 99GTC059 | 04/14/99 | 04/16/99 | 04/20/99 | 04/20/99 |
| TOTAL ORGANIC CARBON | 001 | W | 99GTC059 | 04/14/99 | 04/16/99 | 04/20/99 | 04/20/99 |
| SUB-OUT TEST FOR SUB | 001 | W | | 04/14/99 | 04/16/99 | | |
| TB041599 | | | | | | | |
| SUB-OUT TEST FOR SUB | 002 | W | | 04/15/99 | 04/16/99 | | |
| WHGLTA009WG08 | | | | | | | |
| ALKALINITY | 003 | W | 99GAK036 | 04/15/99 | 04/16/99 | 04/27/99 | 04/27/99 |
| CHLORIDE BY IC | 003 | W | 99GD1007 | 04/15/99 | 04/16/99 | 04/16/99 | 04/16/99 |
| NITRATE BY IC | 003 | W | 99GD1007 | 04/15/99 | 04/16/99 | 04/16/99 | 04/16/99 |
| SULFATE BY IC | 003 | W | 99GD1007 | 04/15/99 | 04/16/99 | 04/16/99 | 04/16/99 |
| TOTAL ORGANIC CARBON | 003 | W | 99GTC059 | 04/15/99 | 04/16/99 | 04/20/99 | 04/20/99 |
| TOTAL ORGANIC CARBON | 003 | W | 99GTC059 | 04/15/99 | 04/16/99 | 04/20/99 | 04/20/99 |
| SUB-OUT TEST FOR SUB | 003 | W | | 04/15/99 | 04/16/99 | | |
| EB041599 | | | | | | | |
| ALKALINITY | 004 | W | 99GAK036 | 04/15/99 | 04/16/99 | 04/27/99 | 04/27/99 |
| CHLORIDE BY IC | 004 | W | 99GD1007 | 04/15/99 | 04/16/99 | 04/16/99 | 04/16/99 |
| NITRATE BY IC | 004 | W | 99GD1007 | 04/15/99 | 04/16/99 | 04/16/99 | 04/16/99 |
| SULFATE BY IC | 004 | W | 99GD1007 | 04/15/99 | 04/16/99 | 04/16/99 | 04/16/99 |
| TOTAL ORGANIC CARBON | 004 | W | 99GTC059 | 04/15/99 | 04/16/99 | 04/20/99 | 04/20/99 |
| TOTAL ORGANIC CARBON | 004 | W | 99GTC059 | 04/15/99 | 04/16/99 | 04/20/99 | 04/20/99 |
| SUB-OUT TEST FOR SUB | 004 | W | | 04/15/99 | 04/16/99 | | |
| WHGLTA014WG08 | | | | | | | |
| ALKALINITY | 005 | W | 99GAK036 | 04/15/99 | 04/16/99 | 04/27/99 | 04/27/99 |
| CHLORIDE BY IC | 005 | W | 99GD1007 | 04/15/99 | 04/16/99 | 04/16/99 | 04/16/99 |
| NITRATE BY IC | 005 | W | 99GD1007 | 04/15/99 | 04/16/99 | 04/16/99 | 04/16/99 |

To: AFC001-15IEA
c/o HydroGeoLogic, Inc.
1155 Herndon Parkway, Ste. 900
Herndon, VA 20170

Attn: Mr. Ken Rapuano

Date: Monday May 17th, 1999

RE: WHGLTA009WG08
Project # 60025-001-001-0001
Lab ID: 9904G025-003
Sample Date: 04/15/99
Date Received: 04/16/99

## Inorganic Data Report

| Parameters | Result | | Units | Reporting Limit |
|---|---|---|---|---|
| Alkalinity | 447 | | mg/L | 10.0 |
| Chloride by IC | 35.9 | | mg/L | 5.0 |
| Nitrate-N by IC | 0.10 | u | mg/L | 0.10 |
| Sulfate by IC | 16.8 | | mg/L | 5.0 |
| Total Organic Carbon | 1.3 | | mg/L | 1.0 |
| TOC Test 2 | 1.3 | | mg/L | 1.0 |

To: AFC001-15IEA
c/o HydroGeoLogic, Inc.
1155 Herndon Parkway, Ste. 900
Herndon, VA 20170

Attn: Mr. Ken Rapuano

Date: Monday May 17th, 1999

RE: EB041599
Project # 60025-001-001-0001
Lab ID: 9904G025-004
Sample Date: 04/15/99
Date Received: 04/16/99

## Inorganic Data Report

| Parameters | Result | | Units | Reporting Limit |
|---|---|---|---|---|
| Alkalinity | 10.0 | u | mg/L | 10.0 |
| Chloride by IC | 0.10 | u | mg/L | 0.10 |
| Nitrate-N by IC | 0.20 | u | mg/L | 0.20 |
| Sulfate by IC | 0.20 | u | mg/L | 0.20 |
| Total Organic Carbon | 1.9 | | mg/L | 1.0 |
| TOC Test 2 | 1.9 | | mg/L | 1.0 |

To: AFC001-15IEA
c/o HydroGeoLogic, Inc.
1155 Herndon Parkway, Ste. 900
Herndon, VA 20170

Attn: Mr. Ken Rapuano

Date: Monday May 17th, 1999

RE: WHGLTA014WG08
Project # 60025-001-001-0001
Lab ID: 9904G025-005
Sample Date: 04/15/99
Date Received: 04/16/99

Inorganic Data Report

| Parameters | Result | | Units | Reporting Limit |
|---|---|---|---|---|
| Alkalinity | 459 | | mg/L | 10.0 |
| Chloride by IC | 101 | | mg/L | 5.0 |
| Nitrate-N by IC | 0.10 | u | mg/L | 0.10 |
| Sulfate by IC | 29.2 | | mg/L | 5.0 |
| Total Organic Carbon | 3.4 | | mg/L | 1.0 |
| TOC Test 2 | 3.5 | | mg/L | 1.0 |

To: AFC001-15IEA
c/o HydroGeoLogic, Inc.
1155 Herndon Parkway, Ste. 900
Herndon, VA 20170

Attn: Mr. Ken Rapuano

Date: Monday May 17th, 1999

RE: WHGLTA010WG08
Project # 60025-001-001-0001
Lab ID: 9904G025-006
Sample Date: 04/15/99
Date Received: 04/16/99

## Inorganic Data Report

| Parameters | Result | | Units | Reporting Limit |
|---|---|---|---|---|
| Alkalinity | 491 | | mg/L | 10.0 |
| Chloride by IC | 26.5 | | mg/L | 5.0 |
| Nitrate-N by IC | 0.10 | u | mg/L | 0.10 |
| Sulfate by IC | 48.9 | | mg/L | 5.0 |
| Total Organic Carbon | 1.7 | | mg/L | 1.0 |
| TOC Test 2 | 1.7 | | mg/L | 1.0 |

To: AFC001-15IEA
c/o HydroGeoLogic, Inc.
1155 Herndon Parkway, Ste. 900
Herndon, VA 20170

Attn: Mr. Ken Rapuano

Date: Monday May 17th, 1999

RE: SD13-07WG08
Project # 60025-001-001-0001
Lab ID: 9904G025-007
Sample Date: 04/15/99
Date Received: 04/16/99

## Inorganic Data Report

| Parameters | Result | | Units | Reporting Limit |
|---|---|---|---|---|
| Alkalinity | 557 | | mg/L | 10.0 |
| Chloride by IC | 37.2 | | mg/L | 5.0 |
| Nitrate-N by IC | 0.10 | u | mg/L | 0.10 |
| Cyanide, Total | 0.010 | u | mg/L | 0.010 |
| Sulfate by IC | 20.4 | | mg/L | 5.0 |
| Total Organic Carbon | 10.8 | | mg/L | 1.0 |
| TOC Test 2 | 11.0 | | mg/L | 1.0 |
| Sulfide | 1.0 | u | mg/L | 1.0 |

To: AFC001-15IEA
c/o HydroGeoLogic, Inc.
1155 Herndon Parkway, Ste. 900
Herndon, VA 20170

Attn: Mr. Ken Rapuano

Date: Monday May 17th, 1999

RE: SD13-02WG08
Project # 60025-001-001-0001
Lab ID: 9904G025-008
Sample Date: 04/15/99
Date Received: 04/16/99

## Inorganic Data Report

| Parameters | Result | | Units | Reporting Limit |
|---|---|---|---|---|
| Alkalinity | 369 | | mg/L | 10.0 |
| Chloride by IC | 19.2 | | mg/L | 5.0 |
| Nitrate-N by IC | 0.10 | u | mg/L | 0.10 |
| Sulfate by IC | 2.0 | | mg/L | 0.20 |
| Total Organic Carbon | 1.9 | | mg/L | 1.0 |
| TOC Test 2 | 1.7 | | mg/L | 1.0 |

To: AFC001-15IEA
c/o HydroGeoLogic, Inc.
1155 Herndon Parkway, Ste. 900
Herndon, VA 20170

Attn: Mr. Ken Rapuano

Date: Monday May 17th, 1999

Project # 60025-001-001-0001
Lab Batch: 9904G025

## Inorganic Method Blank Data Report

| Sample | Lab ID | Parameter | Result | | Units | Reporting Limit |
|---|---|---|---|---|---|---|
| Blank 1 | 99GAK036-MB1 | Alkalinity | 10.0 | u | mg/L | 10.0 |
| Blank 1 | 99GD1007-MB1 | Chloride by IC | 0.20 | u | mg/L | 0.20 |
| | | Nitrate-N by IC | 0.10 | u | mg/L | 0.10 |
| | | Sulfate by IC | 0.20 | u | mg/L | 0.20 |
| Blank 1 | 99GTC059-MB1 | Total Organic Carbon | 1.0 | u | mg/L | 1.0 |
| Blank 1 | 99GCN058-MB1 | Cyanide, Total | 0.010 | u | mg/L | 0.010 |
| Blank 1 | 99GSF055-MB1 | Sulfide | 1.0 | u | mg/L | 1.0 |

To: AFC001-15IEA
c/o HydroGeoLogic, Inc.
1155 Herndon Parkway, Ste. 900
Herndon, VA 20170

Attn: Mr. Ken Rapuano

Date: Monday May 17th, 1999

Project # 60025-001-001-0001
Lab Batch: 9904G025

## Inorganic Laboratory Control Standards Report

| Lab ID | Parameter | Spiked Amount | Units | Spike #1 % Recov. | Spike #2 % Recov. | RPD |
|---|---|---|---|---|---|---|
| 99GAK036-LCS | Alkalinity | 100 | mg/L | 97.3 | NA | NA |
| 99GD1007-LC1 | Chloride by IC | 5.0 | mg/L | 98.0 | NA | NA |
| | Sulfate by IC | 5.0 | mg/L | 98.3 | NA | NA |
| 99GD1007-LC2 | Chloride by IC | 50.0 | mg/L | 103 | NA | NA |
| | Sulfate by IC | 50.0 | mg/L | 101 | NA | NA |
| 99GD1007-LCS | Nitrate-N by IC | 2.0 | mg/L | 95.8 | NA | NA |
| 99GTC059-LCS | TOC | 5.0 | mg/L | 99.3 | NA | NA |
| 99GCN058-LCS | Cyanide, Total | 0.20 | mg/L | 84.2 | NA | NA |
| 99GSF055-LCS | Sulfide | 3.7 | mg/L | 91.4 | NA | NA |

Severn Trent Laboratories Chicago
Pesticide/PCB Case Narrative

AFC001-15IEA
RFW# 9904G025-007
Pesticides/PCBs

1. Severn Trent Laboratories Chicago used the following Gas Chromatographic systems for the analysis of these pesticides and PCBs:

| ID# | INSTRUMENT | COLUMN TYPE | DETECTOR |
|---|---|---|---|
| 06 | Varian 3400 | Rtx-35 | Electron Capture |
| 05 | Varian 3400 | DB-5 | Electron Capture |

2. This sample was extracted based on SW846 method 3520. The extracts were analyzed for Appendix IX pesticides and PCBs based on SW846 method 8080A. These samples were spiked with both the surrogate compounds for the phosphorus pesticide analysis as well as the chlorinated pesticide analysis. The extracts were then split and run for each analysis.

3. All required holding times were met for the extraction and analysis.

4. The method blank was below the reporting limit for all target compounds.

5. The surrogate compounds used for this analysis were Decachlorobiphenyl (DCB) and Tetrachloro-m-xylene (TCX). The DCB associated with the sample was biased low; however, the TCX was within control limits. All surrogate recoveries associated with the method blank and blank spike were within control limits. All surrogate recoveries are summarized on Form 2E.

6. The blank spikes associated with this prep batch was spiked with all single response pesticides, with the exception of Isodrin and Kepone. A blank spike for the Aroclors was not performed. The hold time for the sample had expired by >2X by the time this was realized.

7. All of the pesticide blank spike recoveries were within control limits and are summarized on Form 3E.

8. There was no designated matrix spike and matrix spike duplicate associated with this SDG.

9. All initial calibration standards and SSVs were within the control limits as specified in the QAPP on both columns.

10. All continuing calibration standards were within control on at least one of the two columns for all non-detects, with the exception of Kepone which was biased high on the Rtx-35 column throughout the analysis. Kepone was not detected in the sample.

Linda S Mackley
Linda S. Mackley
Organics Section Manager

5-20-99
Date

Severn Trent Laboratories Chicago
8020 ANALYTICAL DATA PACKAGE FOR
AFC001-15IEA

LOT # :9904G025

| CLIENT ID | SAMPLE # | | MTX | PREP # | COLLECTN | DATE REC | EXT/PREP | ANALYSIS |
|---|---|---|---|---|---|---|---|---|
| WHGLTA009WG08 | 003 | | W | 99GVD132 | 04/15/99 | 04/16/99 | N/A | 04/23/99 |
| WHGLTA009WG08 | 003 | C1 | W | 99GVD135 | 04/15/99 | 04/16/99 | N/A | 04/23/99 |
| EB041599 | 004 | | W | 99GVD132 | 04/15/99 | 04/16/99 | N/A | 04/23/99 |
| WHGLTA014WG08 | 005 | | W | 99GVD132 | 04/15/99 | 04/16/99 | N/A | 04/23/99 |
| WHGLTA014WG08 | 005 | C1 | W | 99GVD135 | 04/15/99 | 04/16/99 | N/A | 04/23/99 |
| WHGLTA010WG08 | 006 | | W | 99GVD132 | 04/15/99 | 04/16/99 | N/A | 04/23/99 |
| WHGLTA010WG08 | 006 | C1 | W | 99GVD135 | 04/15/99 | 04/16/99 | N/A | 04/23/99 |
| SD13-02WG08 | 008 | | W | 99GVD132 | 04/15/99 | 04/16/99 | N/A | 04/22/99 |
| LAB QC: | | | | | | | | |
| BLK | MB1 | | W | 99GVD132 | N/A | N/A | N/A | 04/22/99 |
| BLK | MB1 BS | | W | 99GVD132 | N/A | N/A | N/A | 04/22/99 |
| BLK | MB1 | | W | 99GVD135 | N/A | N/A | N/A | 04/23/99 |
| BLK | MB1 BS | | W | 99GVD135 | N/A | N/A | N/A | 04/23/99 |



NY CERTIFICATION # 11006

Severn Trent Laboratories Chicago
Volatiles Case Narrative

AFC001-15IEA
RFW# 9904G025-003\006 and 008
Purgeable Aromatics

1. These sampled were analyzed for Benzene, Toluene, Ethylbenzene, Xylene (total),and Methyl-tert-butyl ether based on SW 846 methods 5030 and 8020. An HP5890 gas chromatograph, equipped with a Photoionization Detector and interfaced with a Tekmar LCS 2000/2016 ALS system, was used for the primary analysis. A Tracor 540 gas chromatograph, equipped with a Photoionization Detector and interfaced with a Tekmar LCS 2000/2016 ALS system, was used for the confirmation analysis.

2. All required holding times were met for the analysis.

3. All method blanks were below the reporting limits for all target compounds.

4. The surrogate compounds used for this analysis were a,a,a-Trifluorotoluene and 4-Bromofluorobenzene. The a,a,a-TFT associated with the confirmation analysis of sample 9904G025-003 (WHGLTA009WG08) was interfered (flagged "I"). All other surrogate recoveries were within control limits. All surrogate recoveries are summarized on Form 2.

5. All blank spike recoveries were within control limits and are summarized on Forms 3.

6. A matrix spike and matrix spike duplicate were not designated on this SDG.

7. All initial and continuing standard calibrations associated with these samples were within control limits.

8. Analyte concentrations that are greater than 25% difference between the two columns have been flagged with a "J".

Linda S. Mackley
Linda S. Mackley
Organics Section Manager

5-14-99
Date

STL Chicago
PURGEABLE AROMATICS BY GC

Report Date: 05/13/99 15:40
Page: 1

RFW Batch Number: 9904G025 Client: AFC001-151EA Work Order: 60025-001-001-0

| Sample Information | | | | | | |
|---|---|---|---|---|---|---|
| Cust ID: | WHGLTA009WG08 | WHGLTA009WG08 | EB041599 | WHGLTA014WG08 | WHGLTA014WG08 | WHGLTA010WG08 |
| RFW#: | 003 | 003 | 004 | 005 | 005 | 006 |
| Matrix: | WATER | WATER | WATER | WATER | WATER | WATER |
| D.F.: | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 |
| Units: | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| | | CONFIRM | | | CONFIRM | |
| Surrogate a,a,a-Trifluorotoluene | 88 % | I % | 92 % | 93 % | 107 % | 91 % |
| Surrogate 4-Bromofluorobenzene | 92 % | 107 % | 93 % | 94 % | 99 % | 90 % |
| Methyl-tert-butyl ether | 1.0 U | NA | 1.0 U | 1.0 U | NA | 1.0 U |
| Benzene | 1.4 J | 1.9 J | 1.0 U | 1.7 | 1.5 | 1.4 J |
| Toluene | 1.0 U | NA | 1.0 U | 1.0 U | NA | 1.0 U |
| Ethylbenzene | 0.55 JJ | 1.1 J | 1.0 U | 1.0 U | NA | 1.0 U |
| Xylene (total) | 3.9 | 4.7 | 1.0 U | 1.0 U | NA | 1.0 U |
| | | LSM 5-15-99 | | | | LSM 5-15-99 |

| Sample Information | | | | | | |
|---|---|---|---|---|---|---|
| Cust ID: | WHGLTA010WG08 | SD13-02WG08 | BLK | BLK BS | BLK | BLK BS |
| RFW#: | 006 | 008 | 99GVD132-MB1 | 99GVD132-MB1 | 99GVD135-MB1 | 99GVD135-MB1 |
| Matrix: | WATER | WATER | WATER | WATER | WATER | WATER |
| D.F.: | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 |
| Units: | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| | CONFIRM | | | | | |
| Surrogate a,a,a-Trifluorotoluene | 101 % | 98 % | 97 % | 92 % | 84 % | 90 % |
| Surrogate 4-Bromofluorobenzene | 96 % | 93 % | 95 % | 94 % | 96 % | 102 % |
| Methyl-tert-butyl ether | NA | 1.0 U | 1.0 U | 101 % | 1.0 U | 89 % |
| Benzene | 1.0 J | 1.0 U | 1.0 U | 96 % | 1.0 U | 106 % |
| Toluene | NA | 1.0 U | 1.0 U | 99 % | 1.0 U | 102 % |
| Ethylbenzene | NA | 1.0 U | 1.0 U | 103 % | 1.0 U | 110 % |
| Xylene (total) | NA | 1.0 U | 1.0 U | 101 % | 1.0 U | 113 % |
| | LSM 5-15-99 | | | | | |

U= Analyzed, not detected. J= Present below detection limit. B= Present in blank. NR= Not requested. NS= Not spiked.
%= Percent recovery. D= Diluted out. I= Interference. NA= Not Applicable. *= Outside of EPA CLP QC

Severn Trent Laboratories Chicago
HPAH ANALYTICAL DATA PACKAGE FOR
AFC001-15IEA

LOT # :9904G025

| CLIENT ID | SAMPLE # | | MTX | PREP # | COLLECTN | DATE REC | EXT/PREP | ANALYSIS |
|---|---|---|---|---|---|---|---|---|
| WHGLTA009WG08 | 003 | | W | 99GP0340 | 04/15/99 | 04/16/99 | 04/20/99 | 04/23/99 |
| WHGLTA009WG08 | 003 | C1 | W | 99GP0340 | 04/15/99 | 04/16/99 | 04/20/99 | 04/23/99 |
| EB041599 | 004 | | W | 99GP0340 | 04/15/99 | 04/16/99 | 04/20/99 | 04/23/99 |
| EB041599 | 004 | C1 | W | 99GP0340 | 04/15/99 | 04/16/99 | 04/20/99 | 04/23/99 |
| WHGLTA014WG08 | 005 | | W | 99GP0340 | 04/15/99 | 04/16/99 | 04/20/99 | 04/23/99 |
| WHGLTA014WG08 | 005 | C1 | W | 99GP0340 | 04/15/99 | 04/16/99 | 04/20/99 | 04/23/99 |
| WHGLTA010WG08 | 006 | | W | 99GP0340 | 04/15/99 | 04/16/99 | 04/20/99 | 04/23/99 |
| LAB QC: | | | | | | | | |
| BLK | MB1 | | W | 99GP0340 | N/A | N/A | 04/20/99 | 04/22/99 |
| BLK | MB1 | C1 | W | 99GP0340 | N/A | N/A | 04/20/99 | 04/22/99 |
| BLK | MB1 BS | | W | 99GP0340 | N/A | N/A | 04/20/99 | 04/22/99 |
| BLK | MB1 BS | C1 | W | 99GP0340 | N/A | N/A | 04/20/99 | 04/22/99 |

NY CERTIFICATION # 11006

STL Chicago
PAHs BY HPLC

RFW Batch Number: 9904G025 Client: AFC001-15IEA Work Order: 60025-001-001-0 Report Date: 05/05/99 12:55 Page: 2

| Sample Information | Cust ID: | WHGLTA010WG08 | BLK | BLK | BLK BS | BLK BS |
|---|---|---|---|---|---|---|
| | RFW#: | 006 | 99GP0340-MB1 | 99GP0340-MB1 | 99GP0340-MB1 | 99GP0340-MB1 |
| | Matrix: | WATER | WATER | WATER | WATER | WATER |
| | D.F.: | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 |
| | Units: | ug/L | ug/L | ug/L CONFIRM | ug/L | ug/L CONFIRM |
| Surrogate | Decafluorobiphenyl | 74 % | 59 % | 49 % | 69 % | 61 % |
| | Benzo(e)pyrene | 95 % | 108 % | 103 % | 107 % | 101 % |
| Naphthalene | | 17 U | 18 U | 18 U | 82 % | 80 % |
| Acenaphthene | | 17 U | 18 U | 18 U | 82 % | 76 % |
| Acenaphthylene | | 22 U | 23 U | 23 U | 75 % | 69 % |
| Fluorene | | 2.0 U | 2.1 U | 2.1 U | 82 % | 75 % |
| Phenanthrene | | 6.2 U | 6.4 U | 6.4 U | 95 % | 82 % |
| Anthracene | | 6.4 U | 6.6 U | 6.6 U | 84 % | 84 % |
| Fluoranthene | | 2.0 U | 2.1 U | 2.1 U | 86 % | 98 % |
| Pyrene | | 2.6 U | 2.7 U | 2.7 U | 94 % | 100 % |
| Benzo(a)anthracene | | 0.13 U | 0.13 U | 0.13 U | 98 % | 100 % |
| Chrysene | | 1.4 U | 1.5 U | 1.5 U | 101 % | 98 % |
| Benzo(b)fluoranthene | | 0.17 U | 0.18 U | 0.18 U | 92 % | 91 % |
| Benzo(k)fluoranthene | | 0.16 U | 0.17 U | 0.17 U | 88 % | 90 % |
| Benzo(a)pyrene | | 0.22 U | 0.23 U | 0.23 U | 95 % | 90 % |
| Dibenzo(a,h)anthracene | | 0.29 U | 0.30 U | 0.30 U | 89 % | 86 % |
| Benzo(g,h,i)perylene | | 0.74 U | 0.76 U | 0.76 U | 88 % | 78 % |
| Indeno(1,2,3-cd)pyrene | | 0.42 U | 0.43 U | 0.43 U | 86 % | 81 % |

U= Analyzed, not detected. J= Present below detection limit. B= Present in blank. NR= Not requested. NS= Not spiked.
%= Percent recovery. D= Diluted out. I= Interference. NA= Not Applicable. *= Outside of EPA CLP QC

STL Chicago
PAHs BY HPLC

RFW Batch Number: 9904G025 Client: AFC001-15IEA Work Order: 60025-001-001-0 Report Date: 05/05/99 12:55 Page: 1

| Sample Information | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Cust ID: | WHGLTA009WG08 | | WHGLTA009WG08 | | EB041599 | | EB041599 | | WHGLTA014WG08 | | WHGLTA014WG08 | | |
| RFW#: | 003 | | 003 | | 004 | | 004 | | 005 | | 005 | | |
| Matrix: | WATER | | WATER | | WATER | | WATER | | WATER | | WATER | | |
| D.F.: | 1.0 | | 1.0 | | 1.0 | | 1.0 | | 1.0 | | 1.0 | | |
| Units: | ug/L | | ug/L CONFIRM | | ug/L | | ug/L CONFIRM | | ug/L | | ug/L CONFIRM | | |
| Surrogate: Decafluorobiphenyl | 71 | % | 70 | % | 96 | % | 92 | % | 73 | % | 65 | % | |
| Surrogate: Benzo(e)pyrene | 61 | % | 57 | % | 100 | % | 94 | % | 110 | % | 104 | % | |
| Naphthalene | 17 | U | NA | | 18 | U | NA | | 17 | U | NA | | |
| Acenaphthene | 17 | U | NA | | 18 | U | NA | | 17 | U | NA | | |
| Acenaphthylene | 22 | U | NA | | 23 | U | NA | | 22 | U | NA | | |
| Fluorene | 0.14 | J | 0.16 | J | 0.59 | J | 0.22 | J | 0.15 | J | 0.11 | J | |
| Phenanthrene | 6.2 | U | NA | | 6.3 | U | NA | | 6.2 | U | NA | | |
| Anthracene | 6.3 | U | NA | | 6.5 | U | NA | | 6.4 | U | NA | | |
| Fluoranthene | 0.12 | J | 0.082 | J | 2.1 | U | NA | | 2.0 | U | NA | | |
| Pyrene | 2.6 | U | NA | | 2.7 | U | NA | | 2.6 | U | NA | | |
| Benzo(a)anthracene | 0.12 | U | NA | | 0.13 | U | NA | | 0.13 | U | NA | | |
| Chrysene | 1.4 | U | NA | | 1.5 | U | NA | | 1.4 | U | NA | | |
| Benzo(b)fluoranthene | 0.17 | U | NA | | 0.18 | U | NA | | 0.17 | U | NA | | |
| Benzo(k)fluoranthene | 0.16 | U | NA | | 0.17 | U | NA | | 0.16 | U | NA | | |
| Benzo(a)pyrene | 0.22 | U | NA | | 0.23 | U | NA | | 0.22 | U | NA | | |
| Dibenzo(a,h)anthracene | 0.29 | U | NA | | 0.30 | U | NA | | 0.29 | U | NA | | |
| Benzo(g,h,i)perylene | 0.73 | U | NA | | 0.75 | U | NA | | 0.74 | U | NA | | |
| Indeno(1,2,3-cd)pyrene | 0.41 | U | NA | | 0.42 | U | NA | | 0.42 | U | NA | | |

U= Analyzed, not detected. J= Present below detection limit. B= Present in blank. NR= Not requested. NS= Not spiked.
%= Percent recovery. D= Diluted out. I= Interference. NA= Not Applicable. *= Outside of EPA CLP QC

Severn Trent Laboratories Chicago
PAH Case Narrative

AFC001-15IEA
RFW# 9904G025-003\006
PAHs

1. Severn Trent Laboratories Chicago used the following High Performance Liquid Chromatographic system for analysis of polynuclear aromatic hydrocarbons:

| ID# | INSTRUMENT | COLUMN TYPE | DETECTOR |
|---|---|---|---|
| 25 | SpectraPhysics | C-18 PAH | UV - 254nm |
| 26 | SpectraPhysics | C-18 PAH | Fluorescence |
| 25 | SpectraPhysics | C-18 PAH | UV - 260nm |

2. These samples were extracted based on SW846 method 3520. The extracts were analyzed for PAHs (i.e. PNAs) based on SW846 method 8310 protocols.

3. All required holding times were met for the extraction and analysis.

4. The method blank was below the reporting limit for all target compounds.

5. The surrogate compounds used for this analysis were Decafluorobiphenyl and Benzo(e)pyrene. All surrogate recoveries were within statistical control limits and are summarized on Form 2E.

6. All blank spike recoveries were within control limits and are summarized on Forms 3.

7. There was no designated matrix spike and matrix spike duplicate associated with this SDG.

8. All initial and continuing standard calibrations were within control limits with the following exceptions:

   CCV run 04/23/99 at 10:43 had Acenaphthylene 0.03 minutes outside of its retention time window on the UV detector. Acenaphthylene was not detected in the associated samples. The retention time shift was taken into account during data review.

   SSV run 05/03/99 at 22:14 had Anthracene biased high at 18.5% difference on the UV detector. This was a confirmation analysis and non of the associated samples were being confirmed for Anthracene.

10. All positive hits have been confirmed on a second detector or at a second wavelength on the UV detector.

Linda S. Mackley
Linda S. Mackley
Organics Section Manager

5-10-99
Date

Committed To *Your* Success

**Severn Trent Laboratories**
11 East Olive Road
Pensacola FL 32514

Tel (850) 474-1001
Fax (850) 478-2671

SIGNATURE PAGE

Reviewed by. _____
STL Project Manager

Client: STL/CHICAGO
UNIVERSITY PARK, IL

Project Name: AFC001-15IEA
Project Number: 9904G025
Project Location: N/S
Accession Number: 904423

Project Manager: SHERYL JOHNSON
Sampled By: N/S

THIS IS A REVISED REPORT: December 19, 1999

*SEVERN TRENT LABORATORIES, INC. - PENSACOLA, FLORIDA*
*STATE CERTIFICATIONS*

*Alabama Department of Environmental Management, Laboratory ID No. 40150 (Drinking Water by Reciprocity with FL)*

*Arizona Department of Health Services, Lab ID No. AZ0589 (Hazardous Waste & Wastewater)*

*Arkansas Department of Pollution Control and Ecology, (No Laboratory ID No assigned by state) (Environmental)*

*State of California, Department of Health Services, Laboratory ID No. 2338 (Hazardous Waste and Wastewater)*

*State of Connecticut, Department of Health Services, Connecticut Lab Approval No. PH-0697 (Drinking Water, Hazardous Waste and Wastewater)*

*Delaware Health & Social Services, Division of Public Health, Laboratory ID No. FL094 (Drinking Water by Reciprocity with FL)*

*Florida DOH Laboratory ID No. 81142 (Drinking Water), Laboratory ID No. E81010 (Hazardous Waste and Wastewater)*

*Florida, Radioactive Materials License No. G0733-1*

*Foreign Soil Permit, Permit No. S-37599*

*Kansas Department of Health & Environment, Laboratory ID No. E10253 (Wastewater and Hazardous Waste)*

*Commonwealth of Kentucky, Natural Resources and Environmental Protection Cabinet, Laboratory ID No. 90043 (Drinking Water)*

*State of Louisiana, DHH, Office of Public Health Division of Laboratories, Laboratory ID No. 98-25 (Drinking Water)*

*State of Maryland, DH&MH Laboratory ID No 233 (Drinking Water by Reciprocity with Florida)*

*Commonwealth of Massachusetts, DEP, Laboratory ID No. M-FL094 (Hazardous Waste and Wastewater)*

*State of Michigan, Bureau of E&OccH, Laboratory ID No.9912 (Drinking Water by Reciprocity with Florida)*

*New Hampshire DES, Laboratory ID No. 250598-A (Wastewater)*

*State of New Jersey, Department of Environmental Protection & Energy, Laboratory ID No. 49006 (Wastewate and Hazardous Waster)*

*New York State, Department of Health, Laboratory ID No. 11503 (Wastewater and Solids/Hazardous Waste)*

*North Carolina Department of Environment, Health, & Natural Resources, Laboratory ID No. 314 (Hazardous Waste and Wastewater)*

*North Dakota DH&Consol Labs, Laboratory ID No. R-108 (Hazardous Waste and Wastewater by Reciprocity with Florida)*

*State of Oklahoma, Oklahoma Department of Environmental Quality, Laboratory ID No. 9810 (Hazardous Waste and Wastewater)*

*Commonwealth of Pennsylvania, Department of Environmental Resources, Laboratory ID No 68-467 (Drinking Water)*

*South Carolina DH&EC, Laboratory ID No. 96026 (Wastewater by Reciprocity with FL and Solids/Hazardous Waste by Reciprocity with CA)*

*Tennessee Department of Health & Environment, Laboratory ID No. 02907 (Drinking Water)*

*Tennessee Division of Underground Storage Tanks Approved Laboratory*

*Virginia Department of General Services, Laboratory ID No. 00008 (Drinking Water by Reciprocity with FL)*

*State of Washington, Department of Ecology, Laboratory ID No. C282 (Hazardous Waste and Wastewater)*

*West Virginia Division of Environmental Protection, Office of Water Resources, Laboratory ID No. 136 (Hazardous Waste and Wastewate Reciprocity with FL)*

*American Industrial Hygiene Association (AIHA) Accredited Laboratory, Laboratory ID No. 100704*

SEVERN TRENT LABORATORIES 11 East Olive Road Pensacola, Florida 32514 (850) 474-1001

# Analysis Report

Analysis: DISSOLVED METHANE

| | |
|---|---|
| Accession: | 904423 |
| Client: | STL/CHICAGO |
| Project Number: | 9904G025 |
| Project Name: | AFC001-15IEA |
| Project Location: | N/S |
| Department: | SEMI-VOLATILE FUELS |

SEVERN TRENT LABORATORIES 11 East Olive Road Pensacola, Florida 32514 (850) 474-1001



"FINAL REPORT FORMAT - SINGLE"

Accession: 904423
Client: STL/CHICAGO
Project Number: 9904G025
Project Name: AFC001-15IEA
Project Location: N/S
Test: DISSOLVED METHANE
Analysis Method: RSK 175 (Modified)
Extraction Method: N/A
Matrix: WATER
QC Level: N

Lab Id: 001
Client Sample Id: WP07-10CWG08
Sample Date/Time: 14-APR-99 N/S
Received Date: 20-APR-99

Batch: GEW166
Blank: A
Dry Weight %: N/A
Extraction Date: N/A
Analysis Date: 23-APR-99

| Parameter: | Units: | Results: | Rpt Lmts: | Q: |
|---|---|---|---|---|
| METHANE | UG/L | 355.1931 | 1 | |
| ETHANE | UG/L | ND | 1 | |
| ETHENE | UG/L | ND | 1 | |
| ANALYST | INITIALS | HC | | |

Comments:

SEVERN TRENT LABORATORIES 11 East Olive Road Pensacola, Florida 32514 (850) 474-1001



"FINAL REPORT FORMAT - SINGLE"

Accession: 904423
Client: STL/CHICAGO
Project Number: 9904GO25
Project Name: AFC001-15IEA
Project Location: N/S
Test: DISSOLVED METHANE
Analysis Method: RSK 175 (Modified)
Extraction Method: N/A
Matrix: WATER
QC Level: N

Lab Id: 002
Client Sample Id: TB041599
Sample Date/Time: 15-APR-99 N/S
Received Date: 20-APR-99

Batch: GEW166
Blank: A
Dry Weight %: N/A
Extraction Date: N/A
Analysis Date: 23-APR-99

| Parameter: | Units: | Results: | Rpt Lmts: | Q: |
|---|---|---|---|---|
| METHANE | UG/L | ND | 1 | |
| ETHANE | UG/L | ND | 1 | |
| ETHENE | UG/L | ND | 1 | |
| ANALYST | INITIALS | HC | | |

Comments:

SEVERN TRENT LABORATORIES 11 East Olive Road Pensacola, Florida 32514 (850) 474-1001



"FINAL REPORT FORMAT - SINGLE"

Accession: 904423
Client: STL/CHICAGO
Project Number: 9904G025
Project Name: AFC001-15IEA
Project Location: N/S
Test: DISSOLVED METHANE
Analysis Method: RSK 175 (Modified)
Extraction Method: N/A
Matrix: WATER
QC Level: N

Lab Id: 003
Client Sample Id: WHGLTA009WG08
Sample Date/Time: 15-APR-99 N/S
Received Date: 20-APR-99

Batch: GEW166
Blank: A
Dry Weight %: N/A
Extraction Date: N/A
Analysis Date: 23-APR-99

| Parameter: | Units: | Results: | Rpt Lmts: | Q: |
|---|---|---|---|---|
| METHANE | UG/L | 415.0968 | 1 | |
| ETHANE | UG/L | ND | 1 | |
| ETHENE | UG/L | ND | 1 | |
| ANALYST | INITIALS | HC | | |

Comments:

SEVERN TRENT LABORATORIES 11 East Olive Road Pensacola, Florida 32514 (850) 474-1001



"FINAL REPORT FORMAT - SINGLE"

Accession: 904423
Client: STL/CHICAGO
Project Number: 9904G025
Project Name: AFC001-15IEA
Project Location: N/S
Test: DISSOLVED METHANE
Analysis Method: RSK 175 (Modified)
Extraction Method: N/A
Matrix: WATER
QC Level: N

---

Lab Id: 004 Sample Date/Time: 15-APR-99 N/S
Client Sample Id: EB041599 Received Date: 20-APR-99

Batch: GEW166 Extraction Date: N/A
Blank: A Dry Weight %: N/A Analysis Date: 23-APR-99

| Parameter: | Units: | Results: | Rpt Lmts: | Q: |
|---|---|---|---|---|
| METHANE | UG/L | 6.105 | 1 | |
| ETHANE | UG/L | ND | 1 | |
| ETHENE | UG/L | ND | 1 | |
| ANALYST | INITIALS | HC | | |

Comments:

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SEVERN TRENT LABORATORIES 11 East Olive Road Pensacola, Florida 32514 (850) 474-1001



"FINAL REPORT FORMAT - SINGLE"

Accession: 904423
Client: STL/CHICAGO
Project Number: 9904G025
Project Name: AFC001-15IEA
Project Location: N/S
Test: DISSOLVED METHANE
Analysis Method: RSK 175 (Modified)
Extraction Method: N/A
Matrix: WATER
QC Level: N

Lab Id: 005
Client Sample Id: WHGLTA014WG08
Sample Date/Time: 15-APR-99 N/S
Received Date: 20-APR-99

Batch: GEW166
Blank: A
Dry Weight %: N/A
Extraction Date: N/A
Analysis Date: 23-APR-99

| Parameter: | Units: | Results: | Rpt Lmts: | Q: |
|---|---|---|---|---|
| METHANE | UG/L | 377.0946 | 1 | |
| ETHANE | UG/L | ND | 1 | |
| ETHENE | UG/L | ND | 1 | |
| ANALYST | INITIALS | HC | | |

Comments:

SEVERN TRENT LABORATORIES 11 East Olive Road Pensacola, Florida 32514 (850) 474-1001



"FINAL REPORT FORMAT - SINGLE"

Accession: 904423
Client: STL/CHICAGO
Project Number: 9904G025
Project Name: AFC001-15IEA
Project Location: N/S
Test: DISSOLVED METHANE
Analysis Method: RSK 175 (Modified)
Extraction Method: N/A
Matrix: WATER
QC Level: N

Lab Id: 006
Client Sample Id: WHGLTA010WG08

Sample Date/Time: 15-APR-99 N/S
Received Date: 20-APR-99

Batch: GEW166
Blank: A
Dry Weight %: N/A

Extraction Date: N/A
Analysis Date: 23-APR-99

| Parameter: | Units: | Results: | Rpt Lmts: | Q. |
|---|---|---|---|---|
| METHANE | UG/L | 1284.474 | 1 | |
| ETHANE | UG/L | ND | 1 | |
| ETHENE | UG/L | ND | 1 | |
| ANALYST | INITIALS | HC | | |

Comments:

643 163

SEVERN TRENT LABORATORIES 11 East Olive Road Pensacola, Florida 32514 (850) 474-1001



"FINAL REPORT FORMAT - SINGLE"

Accession: 904423
Client: STL/CHICAGO
Project Number: 9904G025
Project Name: AFC001-151EA
Project Location: N/S
Test: DISSOLVED METHANE
Analysis Method: RSK 175 (Modified)
Extraction Method: N/A
Matrix: WATER
QC Level: N

Lab Id: 007
Client Sample Id: SD13-07WG08

Sample Date/Time: 15-APR-99 N/S
Received Date: 20-APR-99

Batch: GEW166
Blank: A Dry Weight %: N/A

Extraction Date: N/A
Analysis Date: 23-APR-99

| Parameter: | Units: | Results: | Rpt Lmts: | Q: |
|---|---|---|---|---|
| METHANE | UG/L | 63.6376 | 1 | |
| ETHANE | UG/L | ND | 1 | |
| ETHENE | UG/L | ND | 1 | |
| ANALYST | INITIALS | HC | | |

Comments:

SEVERN TRENT LABORATORIES 11 East Olive Road Pensacola, Florida 32514 (850) 474-1001

# Quality Control Report

Analysis: DISSOLVED METHANE

| | |
|---|---|
| Accession: | 904423 |
| Client: | STL/CHICAGO |
| Project Number: | 9904G025 |
| Project Name: | AFC001-15IEA |
| Project Location: | N/S |
| Department: | SEMI-VOLATILE FUELS |

BLANK ANALYSIS

DATE: 23-APR-99

METHOD: RSK 175

BATCH: GEW166

| COMPOUND | UNITS | REPORTING LIMIT | RESULT |
|---|---|---|---|
| METHANE | UG/L | 1 | ND |
| ETHANE | UG/L | 1 | ND |
| ETHENE | UG/L | 1 | ND |

CONTINUING CALIBRATION

DATE: 23-APR-99

METHOD: RSK 175

BATCH: GEW166

| COMPOUND | AMT (IC) | AMT (CC) | %D | QC LIMITS |
|---|---|---|---|---|
| METHANE | 250 | 264 | 3 | 20 |
| ETHANE | 250 | 269 | 4 | 20 |
| ETHENE | 250 | 265 | 3 | 20 |

SOURCE FOR CONTROL LIMIT IS INTERNAL LABORATORY QUALITY ASSURANCE PROGRAM AND RSK 175.

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DUPLICATE SAMPLE ANALYSIS

DATE: 23-APR-99

METHOD: RSK 175

LAB SAMPLE #: 904423-8

BATCH: GEW166

| COMPOUND | SAMPLE RESULT | DUPLICATE RESULT | %RPD | QC LIMITS |
|---|---|---|---|---|
| METHANE | 158.1686 | 126.6547 | 22 | 50 |
| ETHANE | ND | ND | N/A | 50 |
| ETHENE | ND | ND | N/A | 50 |

ALL RESULTS REPORTED IN UG/L.

ND = NOT DETECTED
NC = NOT CALCULABLE

SOURCE FOR CONTROL LIMIT IS INTERNAL LABORATORY QUALITY ASSURANCE PROGRAM AND RSK 175.

CHECK STANDARD (POST-RUN)

DATE: 23-APR-99

METHOD: RSK 175

BATCH: GEW166

| COMPOUND | AMT(CC) | AMT (PS) | %D | QC LIMITS |
|---|---|---|---|---|
| METHANE | 264 | 246 | 4 | 20 |
| ETHANE | 269 | 258 | 2 | 20 |
| ETHENE | 265 | 254 | 2 | 20 |

SOURCE FOR CONTROL LIMIT IS INTERNAL LABORATORY QUALITY ASSURANCE PROGRAM AND RSK 175.

SEVERN TRENT LABORATORIES 11 East Olive Road Pensacola, Florida 32514 (850) 474-1001

# Analysis Report

Analysis: TNRCC TEXAS METHOD 1005 - TOTAL PETROLEUM HYDROCARBONS

| | |
|---|---|
| Accession: | 904423 |
| Client: | STL/CHICAGO |
| Project Number: | 9904G025 |
| Project Name: | AFC001-15IEA |
| Project Location: | N/S |
| Department: | SEMI-VOLATILE FUELS |

SEVERN TRENT LABORATORIES 11 East Olive Road Pensacola, Florida 32514 (850) 474-1001



"FINAL REPORT FORMAT - SINGLE"

Accession: 904423
Client: STL/CHICAGO
Project Number: 9904G025
Project Name: AFC001-15IEA
Project Location: N/S
Test: TNRCC TEXAS METHOD 1005 - TOTAL PETROLEUM HYDROCARBONS
Analysis Method: TNRCC Method 1005 (Rev. 4/98)
Extraction Method: TNRCC Method 1005 (Rev. 4/98)
Matrix: WATER
QC Level: IIMS

Lab Id: 003
Client Sample Id: WHGLTA009WG08
Sample Date/Time: 15-APR-99 N/S
Received Date: 20-APR-99

Batch: GEW168
Blank: A
Dry Weight %: N/A
Extraction Date: 26-APR-99
Analysis Date: 27-APR-99

| Parameter: | Units: | Results: | Rpt Lmts: | Q: |
|---|---|---|---|---|
| C6-C10 | MG/L | ND | 5 | |
| >C10-C28 | MG/L | ND | 5 | |
| C6-C28 | MG/L | ND | 5 | |
| ORTHO TER PHENYL | %REC/SURR | 96 | 50-150 | |
| ANALYST | INITIALS | LBL | | |

Comments:

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SEVERN TRENT LABORATORIES 11 East Olive Road Pensacola, Florida 32514 (850) 474-1001



"FINAL REPORT FORMAT - SINGLE"

Accession: 904423
Client: STL/CHICAGO
Project Number: 9904G025
Project Name: AFC001-15IEA
Project Location: N/S
Test: TNRCC TEXAS METHOD 1005 - TOTAL PETROLEUM HYDROCARBONS
Analysis Method: TNRCC Method 1005 (Rev. 4/98)
Extraction Method: TNRCC Method 1005 (Rev. 4/98)
Matrix: WATER
QC Level: IIMS

Lab Id: 004
Client Sample Id: EB041599
Sample Date/Time: 15-APR-99 N/S
Received Date: 20-APR-99

Batch: GEW168
Blank: A
Dry Weight %: N/A
Extraction Date: 26-APR-99
Analysis Date: 27-APR-99

| Parameter: | Units: | Results: | Rpt Lmts: | Q: |
|---|---|---|---|---|
| C6-C10 | MG/L | ND | 5 | |
| >C10-C28 | MG/L | ND | 5 | |
| C6-C28 | MG/L | ND | 5 | |
| ORTHO TER PHENYL | %REC/SURR | 86 | 50-150 | |
| ANALYST | INITIALS | LBL | | |

Comments:

SEVERN TRENT LABORATORIES 11 East Olive Road Pensacola, Florida 32514 (850) 474-1001



"FINAL REPORT FORMAT - SINGLE"

Accession: 904423
Client: STL/CHICAGO
Project Number: 9904G025
Project Name: AFC001-15IEA
Project Location: N/S
Test: TNRCC TEXAS METHOD 1005 - TOTAL PETROLEUM HYDROCARBONS
Analysis Method: TNRCC Method 1005 (Rev. 4/98)
Extraction Method: TNRCC Method 1005 (Rev. 4/98)
Matrix: WATER
QC Level: IIMS

Lab Id: 005 Sample Date/Time: 15-APR-99 N/S
Client Sample Id: WHGLTA014WG08 Received Date: 20-APR-99

Batch: GEW168 Extraction Date: 26-APR-99
Blank: A Dry Weight %: N/A Analysis Date: 27-APR-99

| Parameter: | Units: | Results: | Rpt Lmts: | Q: |
|---|---|---|---|---|
| C6-C10 | MG/L | ND | 5 | |
| >C10-C28 | MG/L | ND | 5 | |
| C6-C28 | MG/L | ND | 5 | |
| ORTHO TER PHENYL | %REC/SURR | 78 | 50-150 | |
| ANALYST | INITIALS | LBL | | |

Comments:

SEVERN TRENT LABORATORIES 11 East Olive Road Pensacola, Florida 32514 (850) 474-1001



"FINAL REPORT FORMAT - SINGLE"

Accession: 904423
Client: STL/CHICAGO
Project Number: 9904G025
Project Name: AFC001-15IEA
Project Location: N/S
Test: TNRCC TEXAS METHOD 1005 - TOTAL PETROLEUM HYDROCARBONS
Analysis Method: TNRCC Method 1005 (Rev. 4/98)
Extraction Method: TNRCC Method 1005 (Rev. 4/98)
Matrix: WATER
QC Level: IIMS

Lab Id: 006
Client Sample Id: WHGLTA010WG08
Sample Date/Time: 15-APR-99 N/S
Received Date: 20-APR-99

Batch: GEW168
Blank: A
Dry Weight %: N/A
Extraction Date: 26-APR-99
Analysis Date: 27-APR-99

| Parameter: | Units: | Results: | Rpt Lmts: | Q: |
|---|---|---|---|---|
| C6-C10 | MG/L | ND | 5 | |
| >C10-C28 | MG/L | ND | 5 | |
| C6-C28 | MG/L | ND | 5 | |
| ORTHO TER PHENYL | %REC/SURR | 85 | 50-150 | |
| ANALYST | INITIALS | LBL | | |

Comments:

SEVERN TRENT LABORATORIES 11 East Olive Road Pensacola, Florida 32514 (850) 474-1001

# Quality Control Report

Analysis: TNRCC TEXAS METHOD 1005 - TOTAL PETROLEUM HYDROCARBONS

| | |
|---|---|
| Accession: | 904423 |
| Client: | STL/CHICAGO |
| Project Number: | 9904G025 |
| Project Name: | AFC001-15IEA |
| Project Location: | N/S |
| Department: | SEMI-VOLATILE FUELS |

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SEVERN TRENT LABORATORIES 11 East Olive Road Pensacola, Florida 32514 (850) 474-1001



"QC Report"

Title: Water Blank
Batch: GEW168
Analysis Method: TNRCC Method 1005 (Rev. 4/98)
Extraction Method: TNRCC Method 1005 (Rev. 4/98)

Blank Id: A Date Analyzed: 27-APR-99 Date Extracted: 26-APR-99

| Parameters: | Units: | Results: | Reporting Limits: |
|---|---|---|---|
| C6-C10 | MG/L | ND | 5 |
| >C10-C28 | MG/L | ND | 5 |
| C6-C28 | MG/L | ND | 5 |
| ORTHO TER PHENYL | %REC/SURR | 95 | 50-150 |
| ANALYST | INITIALS | LBL | |

Comments:

SEVERN TRENT LABORATORIES 11 East Olive Road Pensacola, Florida 32514 (850) 474-1001



"QC Report"

Title: Water LCS
Batch: GEW168
Analysis Method: TNRCC Method 1005 (Rev. 4/98)
Extraction Method: TNRCC Method 1005 (Rev. 4/98)

RS Date Analyzed: 27-APR-99 RS Date Extracted: 26-APR-99

| Parameters: | Spike Added | Sample Conc | RS Conc | RS %Rec | Rec Lmts |
|---|---|---|---|---|---|
| C6-C10 | 26.7 | <5 | 26.2 | 98 | 70-130 |
| >C10-C28 | 26.8 | <5 | 27.7 | 103 | 70-130 |
| C6-C28 | 53.5 | <5 | 53.9 | 101 | 70-130 |
| Surrogates: | | | | | |
| ORTHO TER PHENYL (OTP) | | | | 106 | 50-150 |

Comments:

Notes:
N/S = NOT SUBMITTED N/A = NOT APPLICABLE D = DILUTED OUT
MG/KG = PARTS PER MILLION. < = LESS THAN REPORTING LIMIT.
* = VALUES OUTSIDE OF QUALITY CONTROL LIMITS.
SOURCES FOR CONTROL LIMITS ARE INTERNAL LABORATORY QUALITY ASSURANCE PROGRAM AND REFERENCED METHOD.

SEVERN TRENT LABORATORIES 11 East Olive Road Pensacola, Florida 32514 (850) 474-1001



"QC Report"

Title: Water Matrix Spike/Matrix Spike Duplicate
Batch: GEW168
Analysis Method: TNRCC Method 1005 (Rev. 4/98)
Extraction Method: TNRCC Method 1005 (Rev. 4/98)

Dry Weight %: N/A
Sample Spiked: 904432-2

MS Date Analyzed: 28-APR-99
MSD Date Analyzed: 28-APR-99

MS Date Extracted: 28-APR-99
MSD Date Extracted: 28-APR-99

| Parameters: | Spike Added | Sample Conc | MS Conc | MS %Rec | MSD Conc | MSD %Rec | RPD | RPD Lmts | Rec Lmts |
|---|---|---|---|---|---|---|---|---|---|
| C6-C10 | 26.5 | <5 | 16.7 | 63* | 18.7 | 71 | 12 | 30 | 50-150 |
| >C10-C28 | 26.8 | <5 | 18.3 | 68* | 21.5 | 80 | 16 | 30 | 70-130 |
| C6-C28 | 53.5 | <5 | 35.0 | 65* | 40.2 | 75 | 14 | 30 | 70-130 |
| Surrogates: | | | | | | | | | |
| ORTHO TER PHENYL (OTP) | | | | 71 | | 94 | | | 50-150 |

Comments:
MATRIX SPIKE/MATRIX SPIKE DUPLICATE HAD RECOVERY(S) AND/OR RPD(S) OUTSIDE ACCEPTANCE LIMITS DUE TO MATRIX INTERFERENCE. REFER TO LCS DATA.

Notes:
N/S = NOT SUBMITTED N/A = NOT APPLICABLE D = DILUTED OUT
MG/KG = PARTS PER MILLION. < = LESS THAN REPORTING LIMIT.
* = VALUES OUTSIDE OF QUALITY CONTROL LIMITS.
SOURCES FOR CONTROL LIMITS ARE INTERNAL LABORATORY QUALITY ASSURANCE PROGRAM AND REFERENCED METHOD.

SEVERN TRENT LABORATORIES 11 East Olive Road Pensacola, Florida 32514 (850) 474-1001



Common Notation for Organic Reporting

N/S = NOT SUBMITTED
N/A = NOT APPLICABLE
UG = MICROGRAMS
UG/L = PARTS PER BILLION
UG/KG = PARTS PER BILLION
MG/M3 = MILLIGRAM PER CUBIC METER
PPMV = PART PER MILLION BY VOLUME
MG/KG = PARTS PER MILLION
MG/L = PARTS PER MILLION
< = LESS THAN
ND = NOT DETECTED AT OR ABOVE THE STL-PENSACOLA REPORTING LIMIT (RL).
E = EXCEED THE CALIBRATION CURVE; THEREFORE, RESULTS ARE ESTIMATED.

SOURCES FOR CONTROL LIMITS ARE INTERNAL LABORATORY QUALITY ASSURANCE PROGRAM AND REFERENCED METHOD.

ORGANIC SOILS ARE REPORTED ON A DRYWEIGHT BASIS.

RPT LMTS = REPORTING LIMITS BASED ON METHOD DETECTION LIMIT STUDIES.

RPD = RELATIVE PERCENT DIFFERENCE (OR DEVIATION)

STL/GC/FID
STL GAS CHROMATOGRAPHIC METHOD EMPLOYING DIRECT INJECTION ON COLUMN WITH FLAME IONIZATION DETECTOR (FID).

STL/GC/FIX
STL GAS CHROMATOGRAPHIC METHOD FOR ANALYSIS OF FIXED GASES EMPLOYING DIRECT INJECTION ON COLUMN WITH THERMAL CONDUCTIVITY DETECTOR (TCD) AND FLAME IONIZATION DETECTOR (FID).

'GC/FPD
STL GAS CHROMATOGRAPHIC METHOD EMPLOYING DIRECT INJECTION ON COLUMN WITH FLAME PHOTOMETRIC DETECTOR (FPD) IN SULFUR-SPECIFIC MODE.

STL/GC/PID
STL GAS CHROMATOGRAPHIC METHOD EMPLOYING DIRECT INJECTION ON COLUMN WITH PHOTOIONIZATION DETECTOR (PID).

STL/GC/TCD
STL GAS CHROMATOGRAPHIC METHOD EMPLOYING DIRECT INJECTION ON COLUMN WITH THERMAL CONDUCTIVITY DETECTOR (TCD).

SW-846 METHOD 9020
PARTICULATE MATTER IS REMOVED BY ALLOWING PARTICULATES TO SETTLE IN THE SAMPLE CONTAINER AND DECANTING THE SUPERNATANT LIQUID. EXCESSIVE PARTICULATES ARE REMOVED BY FILTRATION OF THE SUPERNATANT LIQUID.

RSK 175
SAMPLE PREPARATION AND CALCULATIONS FOR DISSOLVED GAS ANALYSIS IN WATER SAMPLES USING A GC HEADSPACE EQUILIBRATION TECHNIQUE, RSK SOP-175, ROBERT S. KERR ENVIRONMENTAL RESEARCH LABORATORY, USEPA, AUGUST 11, 1994.

STL-PN USES THE MOST CURRENT PROMULGATED METHODS CONTAINED IN THE REFERENCE MANUALS.

SW = STEVE WILHITE
RW = RITA WINGO
KS = KENDALL SMITH
LBL = LISA BIZZELL-LOWE
LP = LEVERNE PETERSON
PLD = PAULA DOUGHTY
DK = DARLENE KINCHEN
[illegible] = BECKY TREMMEL
[illegible]H = HOLLIE HOFFMAN
HC = HOLLY CHANCE

SEVERN TRENT LABORATORIES, INC 11 East Olive Rd Pensacola, FL 32514 (850) 474-1001

## Data Qualifiers for Final Report

STL-Pensacola Inorganic/Organic and AFCEE Projects (under QAPP)

| | | |
|---|---|---|
| | (For positive results) | Temperature limits exceeded (≤2°C or ≥ 6°C) |
| J5 | (TICs) | The reported value is quantitated as a TIC; therefore, it is estimated |
| J6 | (For positive results) | LCS or Surrogate %R is > upper control limit (UCL) or < lower control limit (LCL) |
| J7 | (For positive results) | The reported value is > the laboratory MDL and < lowest calibration standards; therefore, the quantitation is an estimation. |
| J (AFCEE description) | The analyte was positively identified, the quantitation is an estimation | |
| R1 | (For nondetects) | Temperature limits exceeded (≤2°C or ≥ 6°C) |
| R2 | Improper preservation, no preservative present in sample upon receipt | |
| R3 | Improper preservation, incorrect preservative present in sample upon receipt | |
| R4 | Holding time exceeded | |
| R5 | Collection requirements not met, improper container used for sample | |
| R6 | LCS or surrogate %R is < LCL and analyte is not detected or surrogate %R is < 10% for detects/nondetects | |
| R7 | Internal standard area outside –50% to +100% of initial calibration midpoint standard. | |
| R8 | Second source calibration verification exceeds acceptance criteria. | |
| R9 | Improper preservation, sample not filtered in the field. | |
| R (AFCEE description) | The data are unusable due to deficiencies in the ability to analyze the sample and meet QC criteria | |
| F | < laboratory or AFCEE RL and > laboratory MDL | |
| F (AFCEE description) | The analyte was positively identified but the associated numerical value is below the AFCEE or lab RL | |
| U2 | ≤ Laboratory MDL (value for result will be the MDL, never below the MDL) | |
| U (AFCEE description) | The analyte was analyzed for but not detected. The associated numerical value is at or below the MDL | |
| B (AFCEE description) | The analyte was found in the associated blank, as well as in the sample | |
| @ | Adjusted reporting limit due to sample matrix (dilution prior to digestion and/or analysis) | |
| + | Elevated reporting limit due to dilution into calibration range | |
| • | Elevated reporting limit due to matrix interference (dilution prior to digestion and/or analysis) | |
| # | Elevated reporting limit due to insufficient sample size | |
| D | Diluted out | |
| M | A matrix effect was present (sample was analyzed twice to confirm or chromatogram had interfering peaks) | |
| | Incorrect sample amount was submitted to the laboratory for analysis | |
| | Second-column confirmation exceeded the SW-846 criteria of 40% RPD for this compound. | |

ND = Not Detected at or above the STL-Pensacola reporting limit (RL) N/S = Not Submitted N/A = Not Applicable
IDL = Laboratory Instrument Detection Limit MDL = Laboratory Method Detection Limit
RL = Reporting Limit (AFCEE RLs are listed in the AFCEE QAPP)

Any time a sample arrives at the laboratory improperly preserved (at improper pH or temperature) or after holding time has expired or prepared or analyzed after holding time, client must be notified in writing (i.e case narrative)

Florida Projects Inorganic/Organic
Refer to back side of this page

ICR Projects Inorganic/Organic

| | | | |
|---|---|---|---|
| A1 | Acceptable | R6 | Rejected |

Examples: ICR Flags
R6 = Laboratory extracted the sample but the refrigerator malfunctioned so the extract became warm and client was notified
R6 = Sample arrived in laboratory in good condition, however, the laboratory did not analyze it within EPA's established holding time limit

CLP and CLP-like Projects. Refer to referenced CLP Statement of Work (SOW) for explanation of data qualifiers

643 180

received 5/18/99

Committed To *Your* Success

**Severn Trent Laboratories**
2417 Bond Street
University Park, IL 60466

Tel: (708) 534-5200
Fax. (708) 534-5211
www stl-inc.com

May 17, 1999

Mr. Ken Rapuano
HydroGeoLogic, Inc.
1155 Herndon Parkway, Suite 900
Herndon, VA 20170

RE: AFC001-15IEA
Analytical Report & EDD
Lot 9904G038

Dear Mr Rapuano:

The enclosed analytical report is for the project and lot number listed above. Results for DRO and Methane will be sent from STL-Pensacola when completed. If you have any questions, please contact me at 708-534-5200.

Sincerely,
Severn Trent Laboratories

Bosco Ramirez
Project Manager

SJ

Enclosures

cc: CLP Report/Nancy Weaver/Environmental Data Services, Inc.
EDD - Lynn Morgan/HydroGeoLogic, Inc.

Approved By:

Michael J. Healy
General Manager

The results presented in this report relate only to the analytical testing and conditions of sample at receipt. This report pertains to only those samples actually tested All 321 pages of this report are integral parts of the analytical data Therefore, this report should be reproduced only in its entirety.

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00243447 3 **Recipient's Copy**

m
4-16-99

Nicole Hale Phone (703) 478-5136
Dept./Floor/Suite/Room
HYDROGEOLOGIC INC
1155 HERNDON PKY STE 900
HERNDON State VA Zip 20170
r Internal Billing Reference Information AEC CXO - ISTEA

Paul Kimble Phone (630) [illegible]
Dept./Floor/Suite/Room
JUNIOR ACHIEVEMENT LABORATORIES
[illegible] ST.
[illegible] State IL Zip [illegible]

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1272

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643 181

5 7 5 6 2 7 0 8 3 3

To: AFC001-15IEA
c/o HydroGeoLogic, Inc.
1155 Herndon Parkway, Ste. 900
Herndon, VA 20170

Attn: Mr. Ken Rapuano

Date: Monday May 17th, 1999

RE: WHGLTA012WG08
Project # 60025-001-001-0001
Lab ID: 9904G038-002
Sample Date: 04/16/99
Date Received: 04/17/99

Inorganic Data Report

| Parameters | Result | | Units | Reporting Limit |
|---|---|---|---|---|
| Alkalinity | 319 | | mg/L | 10.0 |
| Chloride by IC | 189 | | mg/L | 5.0 |
| Nitrate-N by IC | 0.10 | u | mg/L | 0.10 |
| Sulfate by IC | 0.20 | u | mg/L | 0.20 |
| Total Organic Carbon | 6.3 | | mg/L | 1.0 |
| TOC Test 2 | 3.4 | | mg/L | 1.0 |

To: AFC001-15IEA
c/o HydroGeoLogic, Inc.
1155 Herndon Parkway, Ste. 900
Herndon, VA 20170

Attn: Mr. Ken Rapuano

Date: Monday May 17th, 1999

RE: EB041699
Project # 60025-001-001-0001
Lab ID: 9904G038-003
Sample Date: 04/16/99
Date Received: 04/17/99

Inorganic Data Report

| Parameters | Result | | Units | Reporting Limit |
|---|---|---|---|---|
| Alkalinity | 10.0 | u | mg/L | 10.0 |
| Chloride by IC | 0.20 | u | mg/L | 0.20 |
| Nitrate-N by IC | 0.10 | u | mg/L | 0.10 |
| Sulfate by IC | 0.20 | u | mg/L | 0.20 |
| Total Organic Carbon | 1.0 | | mg/L | 1.0 |
| TOC Test 2 | 1 0 | u | mg/L | 1.0 |

To: AFC001-15IEA
c/o HydroGeoLogic, Inc.
1155 Herndon Parkway, Ste. 900
Herndon, VA 20170

Attn: Mr. Ken Rapuano

Date: Monday May 17th, 1999

RE: SPOT35-9WG08
Project # 60025-001-001-0001
Lab ID: 9904G038-004
Sample Date: 04/16/99
Date Received: 04/17/99

## Inorganic Data Report

| Parameters | Result | Units | Reporting Limit |
|---|---|---|---|
| Alkalinity | 304 | mg/L | 10.0 |
| Chloride by IC | 33.7 | mg/L | 5.0 |
| Nitrate-N by IC | 1.3 | mg/L | 0.10 |
| Sulfate by IC | 36.5 | mg/L | 5.0 |
| Total Organic Carbon | 2.4 | mg/L | 1.0 |
| TOC Test 2 | 2.5 | mg/L | 1.0 |

To: AFC001-15IEA
c/o HydroGeoLogic, Inc.
1155 Herndon Parkway, Ste. 900
Herndon, VA 20170

Attn: Mr. Ken Rapuano

Date: Monday May 17th, 1999

RE: SD13-01WG08
Project # 60025-001-001-0001
Lab ID: 9904G038-007
Sample Date: 04/16/99
Date Received: 04/17/99

## Inorganic Data Report

| Parameters | Result | | Units | Reporting Limit |
|---|---|---|---|---|
| Alkalinity | 263 | | mg/L | 10.0 |
| Chloride by IC | 46.2 | | mg/L | 5.0 |
| Nitrate-N by IC | 0.10 | u | mg/L | 0.10 |
| Sulfate by IC | 0 20 | u | mg/L | 0.20 |
| Total Organic Carbon | 3.6 | | mg/L | 1.0 |
| TOC Test 2 | 3.7 | | mg/L | 1.0 |

643.186

To: AFC001-15IEA
c/o HydroGeoLogic, Inc.
1155 Herndon Parkway, Ste. 900
Herndon, VA 20170

Attn: Mr. Ken Rapuano

Date: Monday May 17th, 1999

Project # 60025-001-001-0001
Lab Batch: 9904G038

## Inorganic Method Blank Data Report

| Sample | Lab ID | Parameter | Result | | Units | Reporting Limit |
|---|---|---|---|---|---|---|
| Blank 1 | 99GAK037-MB1 | Alkalinity | 10.0 | u | mg/L | 10.0 |
| Blank 1 | 99GD1008-MB1 | Chloride by IC | 0.20 | u | mg/L | 0.20 |
| | | Nitrate-N by IC | 0.10 | u | mg/L | 0.10 |
| | | Sulfate by IC | 0.20 | u | mg/L | 0.20 |
| Blank 1 | 99GTC059-MB1 | Total Organic Carbon | 1.0 | u | mg/L | 1.0 |

To: AFC001-15IEA
c/o HydroGeoLogic, Inc.
1155 Herndon Parkway, Ste. 900
Herndon, VA 20170

Attn: Mr. Ken Rapuano

Date: Monday May 17th, 1999

Project # 60025-001-001-0001
Lab Batch: 9904G038

## Inorganic Laboratory Control Standards Report

| Lab ID | Parameter | Spiked Amount | Units | Spike #1 % Recov. | Spike #2 % Recov. | RPD |
|---|---|---|---|---|---|---|
| 99GAK037-LCS | Alkalinity | 100 | mg/L | 99.2 | NA | NA |
| 99GD1008-LC1 | Chloride by IC | 5.0 | mg/L | 99.6 | NA | NA |
| | Sulfate by IC | 5.0 | mg/L | 96.7 | NA | NA |
| 99GD1008-LC2 | Chloride by IC | 50.0 | mg/L | 101 | NA | NA |
| | Sulfate by IC | 50.0 | mg/L | 98.9 | NA | NA |
| 99GD1008-LCS | Nitrate-N by IC | 2.0 | mg/L | 95.4 | NA | NA |
| 99GTC059-LCS | TOC | 5.0 | mg/L | 99.3 | NA | NA |

# Severn Trent Laboratories Chicago
# Wet Chemistry Case Narrative

Client: **HydroGeoLogic NAS Ft. Worth AFC001-15IEA**
RFW Lot: **9904G038** Date Rec'd: 04/17/99

1. This narrative covers the analysis of the samples in the above RFW Lot by the following methods.

   Alkalinity - EPA Method 310.1
   Anions by Ion Chromatography - SW 846 9056
   - Chloride
   - Nitrate as N
   - Sulfate as $SO_4$

   TOC - EPA Method 415.1

2. The EPA water holding times were met. Refer to the Laboratory Chronicle Page for dates of sampling, receipt, and analysis.

3. The initial and continuing calibration verification standards and blanks were in control. There are two ICVs and two CCVs every 10 readings in the IC sets. Please see the LCS discussion below, in item 5.

4. All method blanks were below the detection limits.

5. All LCS recoveries were within control limits. Severn Trent Laboratories Chicago has recently started using 2 IC standard curves and calculating each sample chromatogram against the better curve for its concentration. This cuts down on the number of dilutions that are needed and expedites analysis, which can be especially important for those ions with short holding times. Accommodating two linear ranges technically within one analytical prep batch requires 2 LCSs, one mid-range on each curve. Both LCSs are included in the data, but they are not duplicates of each other and no RPD is calculated between them. Please see the LCS Summary Pages of this report for additional details.

6. No matrix QC was designated or done on these samples.

Diane L. Harper
Wet Chemistry Section Manager

5/14/99
Date

Severn Trent Laboratories Chicago
8020 ANALYTICAL DATA PACKAGE FOR
AFC001-15IEA

LOT # :9904G038

| CLIENT ID | SAMPLE # | | MTX | PREP # | COLLECTN | DATE REC | EXT/PREP | ANALYSIS |
|---|---|---|---|---|---|---|---|---|
| WHGLTA012WG08 | 002 | | W | 99GVD132 | 04/16/99 | 04/17/99 | N/A | 04/22/99 |
| WHGLTA012WG08 | 002 | C1 | W | 99GVD135 | 04/16/99 | 04/17/99 | N/A | 04/23/99 |
| EB041699 | 003 | | W | 99GVD132 | 04/16/99 | 04/17/99 | N/A | 04/22/99 |
| SPOT35-9WG08 | 004 | | W | 99GVD132 | 04/16/99 | 04/17/99 | N/A | 04/22/99 |
| LAB QC. | | | | | | | | |
| BLK | MB1 | | W | 99GVD132 | N/A | N/A | N/A | 04/22/99 |
| BLK | MB1 BS | | W | 99GVD132 | N/A | N/A | N/A | 04/22/99 |
| BLK | MB1 | | W | 99GVD135 | N/A | N/A | N/A | 04/23/99 |
| BLK | MB1 BS | | W | 99GVD135 | N/A | N/A | N/A | 04/23/99 |

NY CERTIFICATION # 11006

STL Chicago
PURGEABLE AROMATICS BY GC

Report Date: 05/13/99 15:41
Page: 1

RFW Batch Number: 9904G038 Client: AFC001-15IEA Work Order: 60025-001-001-0

| Sample Information | Cust ID: | WHGLTA012WG08 | WHGLTA012WG08 | EB041699 | SPOT35-9WG08 | BLK | BLK BS |
|---|---|---|---|---|---|---|---|
| | RFW#: | 002 | 002 | 003 | 004 | 99GVD132-MB1 | 99GVD132-MB1 |
| | Matrix: | WATER | WATER | WATER | WATER | WATER | WATER |
| | D.F.: | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 |
| | Units: | ug/L | ug/L CONFIRM | ug/L | ug/L | ug/L | ug/L |
| Surrogate a,a,a-Trifluorotoluene | | 96 % | I % | 96 % | 96 % | 97 % | 92 % |
| Surrogate 4-Bromofluorobenzene | | I % | 98 % | 97 % | 96 % | 95 % | 94 % |
| Methyl-tert-butyl ether | | 1.0 U | NA | 1.0 U | 1.0 U | 1.0 U | 101 % |
| Benzene | | 7.3 | 7.9 | 1.0 U | 1.0 U | 1.0 U | 96 % |
| Toluene | | 1.0 U | NA | 1.0 U | 1.0 U | 1.0 U | 99 % |
| Ethylbenzene | | 0.74 J J | 2.4 J | 1.0 U | 1.0 U | 1.0 U | 103 % |
| Xylene (total) | | 5.6 J | 2.3 J | 1.0 U | 1.0 U | 1.0 U | 101 % |

LSM 5-14-99

| Sample Information | Cust ID: | BLK | BLK BS |
|---|---|---|---|
| | RFW#: | 99GVD135-MB1 | 99GVD135-MB1 |
| | Matrix: | WATER | WATER |
| | D.F.: | 1.0 | 1.0 |
| | Units: | ug/L | ug/L |
| Surrogate a,a,a-Trifluorotoluene | | 84 % | 90 % |
| Surrogate 4-Bromofluorobenzene | | 96 % | 102 % |
| Methyl-tert-butyl ether | | 1.0 U | 89 % |
| Benzene | | 1.0 U | 106 % |
| Toluene | | 1.0 U | 102 % |
| Ethylbenzene | | 1.0 U | 110 % |
| Xylene (total) | | 1.0 U | 113 % |

U= Analyzed, not detected. J= Present below detection limit. B= Present in blank. NR= Not requested. NS= Not spiked.
%= Percent recovery. D= Diluted out. I= Interference. NA= Not Applicable. *= Outside of EPA CLP QC

Severn Trent Laboratories Chicago
Volatiles Case Narrative

AFC001-15IEA
RFW# 9904G038-002\004
Purgeable Aromatics

1. These sampled were analyzed for Benzene, Toluene, Ethylbenzene, Xylene (total),and Methyl-tert-butyl ether based on SW 846 methods 5030 and 8020. An HP5890 gas chromatograph, equipped with a Photoionization Detector and interfaced with a Tekmar LCS 2000/2016 ALS system, was used for the primary analysis. A Tracor 540 gas chromatograph, equipped with a Photoionization Detector and interfaced with a Tekmar LCS 2000/2016 ALS system, was used for the confirmation analysis.

2. All required holding times were met for the analysis.

3. All method blanks were below the reporting limits for all target compounds.

4. The surrogate compounds used for this analysis were a,a,a-Trifluorotoluene and 4-Bromofluorobenzene. The 4-BFB associated with sample 9904G038-002 (WHGLTA012WG08) was interfered with on the primary column and the a,a,a-TFT was interfered with on the confirmation column. All other surrogate recoveries were within control limits. All surrogate recoveries are summarized on Form 2.

5. All blank spike recoveries were within control limits and are summarized on Forms 3.

6. A matrix spike and matrix spike duplicate were not designated on this SDG.

7. All initial and continuing standard calibrations associated with these samples were within control limits.

8. Analyte concentrations that are greater than 25% difference between the two columns have been flagged with a "J".

Linda S. Mackley
Organics Section Manager

5-14-99
Date

Severn Trent Laboratories Chicago
HPAH ANALYTICAL DATA PACKAGE FOR
AFC001-15IEA

LOT # :9904G038

| CLIENT ID | SAMPLE # | MTX | PREP # | COLLECTN | DATE REC | EXT/PREP | ANALYSIS |
|---|---|---|---|---|---|---|---|
| WHGLTA012WG08 | 002 | W | 99GP0340 | 04/16/99 | 04/17/99 | 04/20/99 | 04/23/99 |
| WHGLTA012WG08 | 002 C1 | W | 99GP0340 | 04/16/99 | 04/17/99 | 04/20/99 | 04/23/99 |
| EB041699 | 003 | W | 99GP0340 | 04/16/99 | 04/17/99 | 04/20/99 | 04/23/99 |
| SPOT35-9WG08 | 004 | W | 99GP0340 | 04/16/99 | 04/17/99 | 04/20/99 | 04/23/99 |
| LAB QC: | | | | | | | |
| BLK | MB1 | W | 99GP0340 | N/A | N/A | 04/20/99 | 04/22/99 |
| BLK | MB1 C1 | W | 99GP0340 | N/A | N/A | 04/20/99 | 04/22/99 |
| BLK | MB1 BS | W | 99GP0340 | N/A | N/A | 04/20/99 | 04/22/99 |
| BLK | MB1 BS C1 | W | 99GP0340 | N/A | N/A | 04/20/99 | 04/22/99 |



NY CERTIFICATION # 11006

STL Chicago
PAHs BY HPLC

Report Date: 05/06/99 16:54
Page: 1

RFW Batch Number: 9904G038 Client: AFC001-15IEA Work Order: 60025-001-001-0

| Sample Information | | | | | | |
|---|---|---|---|---|---|---|
| Cust ID: | WHGLTA012WG08 | WHGLTA012WG08 | EB041699 | SPOT35-9WG08 | BLK | BLK BS |
| RFW#: | 002 | 002 | 003 | 004 | 99GP0340-MB1 | 99GP0340-MB1 |
| Matrix: | WATER | WATER | WATER | WATER | WATER | WATER |
| D.F.: | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 |
| Units: | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| | | CONFIRM | | | | |
| Surrogate: Decafluorobiphenyl | 106 % | NA % | 104 % | 80 % | 59 % | 69 % |
| Surrogate: Benzo(e)pyrene | 80 % | 74 % | 52 % | 85 % | 108 % | 107 % |
| Naphthalene | 14 J | 9.1 J | 17 U | 18 U | 18 U | 82 % |
| Acenaphthene | 18 U | NA | 17 U | 18 U | 18 U | 82 % |
| Acenaphthylene | 22 U | NA | 22 U | 22 U | 23 U | 75 % |
| Fluorene | 2.0 U | NA | 2.0 U | 2.0 U | 2.1 U | 82 % |
| Phenanthrene | 6.3 U | NA | 6.2 U | 6.3 U | 6.4 U | 95 % |
| Anthracene | 6.5 U | NA | 6.3 U | 6.5 U | 6.6 U | 84 % |
| Fluoranthene | 2.0 U | NA | 2.0 U | 2.0 U | 2.1 U | 86 % |
| Pyrene | 2.6 U | NA | 2.6 U | 2.6 U | 2.7 U | 94 % |
| Benzo(a)anthracene | 0.13 U | NA | 0.12 U | 0.13 U | 0.13 U | 98 % |
| Chrysene | 1.5 U | NA | 1.4 U | 1.5 U | 1.5 U | 101 % |
| Benzo(b)fluoranthene | 0.18 U | NA | 0.17 U | 0.18 U | 0.18 U | 92 % |
| Benzo(k)fluoranthene | 0.17 U | NA | 0.16 U | 0.17 U | 0.17 U | 88 % |
| Benzo(a)pyrene | 0.22 U | NA | 0.22 U | 0.22 U | 0.23 U | 95 % |
| Dibenzo(a,h)anthracene | 0.29 U | NA | 0.29 U | 0.29 U | 0.30 U | 89 % |
| Benzo(g,h,i)perylene | 0.74 U | NA | 0.73 U | 0.74 U | 0.76 U | 88 % |
| Indeno(1,2,3-cd)pyrene | 0.42 U | NA | 0.41 U | 0.42 U | 0.43 U | 86 % |

U= Analyzed, not detected. J= Present below detection limit B= Present in blank NR= Not requested NS= Not spiked
%= Percent recovery D= Diluted out I= Interference NA= Not Applicable *= Outside of EPA CLP QC

STL Chicago
PAHs BY HPLC

RFW Batch Number: 9904G038 Client: AFC001-15IEA Work Order: 60025-001-001-0

Report Date. 05/06/99 16:54.
Page: 2

Cust ID: BLK BS

Sample Information

RFW#: 99GP0340-MB1
Matrix: WATER
D.F.: 1.0
Units: ug/L

| | | CONFIRM | |
|---|---|---|---|
| Surrogate | Decafluorobiphenyl | NA | % |
| | Benzo(e)pyrene | 101 | % |

| | | |
|---|---|---|
| Naphthalene | 80 | % |
| Acenaphthene | NA | % |
| Acenaphthylene | NA | % |
| Fluorene | NA | % |
| Phenanthrene | NA | % |
| Anthracene | 84 | % |
| Fluoranthene | 71 | % |
| Pyrene | 105 | % |
| Benzo(a)anthracene | 100 | % |
| Chrysene | 98 | % |
| Benzo(b)fluoranthene | 91 | % |
| Benzo(k)fluoranthene | 90 | % |
| Benzo(a)pyrene | 90 | % |
| Dibenzo(a,h)anthracene | 86 | % |
| Benzo(g,h,i)perylene | 78 | % |
| Indeno(1,2,3-cd)pyrene | NA | % |

U= Analyzed, not detected J= Present below detection limit. B= Present in blank. NR= Not requested NS= Not spiked.
%= Percent recovery. D= Diluted out. I= Interference NA= Not Applicable. *= Outside of EPA CLP QC

Severn Trent Laboratories Chicago
PAH Case Narrative

AFC001-15IEA
RFW# 9904G038-002\004
PAHs

1. Severn Trent Laboratories Chicago used the following High Performance Liquid Chromatographic system for analysis of polynuclear aromatic hydrocarbons:

| ID# | INSTRUMENT | COLUMN TYPE | DETECTOR |
|---|---|---|---|
| 25 | SpectraPhysics | C-18 PAH | UV - 254nm |
| 26 | SpectraPhysics | C-18 PAH | Fluorescence |

2. These samples were extracted based on SW846 method 3520. The extracts were analyzed for PAHs (i.e. PNAs) based on SW846 method 8310 protocols.

3. All required holding times were met for the extraction and analysis.

4. The method blank was below the reporting limit for all target compounds.

5. The surrogate compounds used for this analysis were Decafluorobiphenyl and Benzo(e)pyrene. All surrogate recoveries were within statistical control limits. Decafluorobiphenyl is not detected on the Fluorescence detector, therefore, only Benzo(e)pyrene is reported from the confirmation analysis. All surrogate recoveries are summarized on Form 2E.

6. All blank spike recoveries were within control limits and are summarized on Forms 3.

7. There was no designated matrix spike and matrix spike duplicate associated with this SDG.

8. All initial and continuing standard calibrations were within control limits with the following exception:

   CCV run 04/23/99 at 10:43 had Acenaphthylene 0.03 minutes outside of its retention time window on the UV detector. Acenaphthylene was not detected in the associated samples. The retention time shift was taken into account during data review.

10. All positive hits have been confirmed on a second detector.

Linda S Mackley
Linda S. Mackley
Organics Section Manager

5-10-99
Date

Laboratory Use Only

9904 6038

# SEVERN TRENT LABORATORIES CHICAGO
## CUSTODY TRANSFER RECORD/LAB WORK REQUEST

Client: AFC001-15IEA
Project/WO#:
Date Rec'd: 4/17/99 Date Due: 5/11/99
Fax Date:
Lab PM: Bosco Ramirez
Client Contact: Ken Tapiando

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Refrigerator # | P(1) | 1 | 1 | 5 | 5 | 5/0 | | | | |
| # /Type Container | 1P | 1P | 3G | 3G | 3G | 3G | | | | |
| Volume | 1L | 250ml | 1L | 40ml | 40ml | 40ml | | | | |
| Preservative | | $H_2SO_4$ | | $HCl$ | $HCl$ | $HCl$ | | | | |
| ANALYSIS REQUESTED | ICNO3 ICSO4 ICCL ALK | TOC X2 | OHPAH DRO | 8260 | 8020 | ISUB | PEND | | | |

| LAB ID | CLIENT ID/DESCRIPTION | MATRIX | Date Collected | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 001 | TB041699 * | WO | 4/16/99 | | | | X | | X | ✓ | | |
| 002 | WHGLTA012WG08 | | | X | X | X | | X | | | | |
| 003 | EB041699 | | | | | | | | | | | |
| 004 | SPOT35-9WG08 | | | | | | | | | | | |
| 005 | WHCTA010WG08 | | | X | X | | X | X | X | | | |
| 006 | AB041699 | | | | | | | | | | | |
| 007 | SD13-01WG08 | | | X | X | | | | X | | | |

Matrix: O-Oil, DS-Drum Solid, S-Soil, WI-Wipe, DL-Drum Liquid, SO-Solid, F-Fish, W-Water, X-Other

Special Instructions: * 001-Rec'd 2G, 40ml each for 8260, ISUB

QC-AFCEE Del-CLP like  Internal COC

| Item | Relinquished By | Received By | Date | Time | Item | Relinquished By | Received By | Date | Time |
|---|---|---|---|---|---|---|---|---|---|
| | | KKeizer | 4/17 | 1310 | | | | | |
| 36 ISUB/DRO | [illegible] | [illegible] | 4/19/99 | [illegible] | | | | | |

Lab Use Only

1. Samples were: Shipped or hand delivered
NOTES: See client COC
2. Ambient or chilled
NOTES
3. Received broken/ leaking (improperly sealed) Y N
NOTES
4. Properly Preserved (Y) N
NOTES KK 4/17
5. Received within holding times Y N
NOTES
6. CL2R Checked KK 4/17 (Y) N

COC Tape was:
1. Present on outer package Y N
2. Unbroken on outer package Y N
3. Present on sample Y N
4. Unbroken on sample Y N

COC record was:
1. Present upon receipt of samples Y N

Discrepancies between sample labels and COC Y N
NOTES

643 196

S/O-7 ~~Lionville~~ STL/Pensacola 4/19/99 (m ISUB + DRO)

Committed To *Your* Success

**Severn Trent Laboratories**
11 East Olive Road
Pensacola FL 32514

Tel. (850) 474-1001
Fax. (850) 478-2671

SIGNATURE PAGE

Reviewed by: _____
STL Project Manager

| | |
|---|---|
| Client: | STL/CHICAGO<br>UNIVERSITY PARK, IL |
| Project Name: | AFC001-15IEA |
| Project Number: | 9904G038 |
| Project Location: | N/S |
| Accession Number: | 904434 |
| Project Manager: | SHERYL JOHNSON |
| Sampled By: | N/S |

THIS IS A REVISED REPORT: December 19, 1999

SEVERN TRENT LABORATORIES 11 East Olive Road Pensacola, Florida 32514 (850) 474-1001



"FINAL REPORT FORMAT - SINGLE"

Accession: 904434
Client: STL/CHICAGO
Project Number: 9904G038
Project Name: AFC001-15IEA
Project Location: N/S
Test: DISSOLVED METHANE
Analysis Method: RSK 175 (Modified)
Extraction Method: N/A
Matrix: WATER
QC Level: N

Lab Id: 001
Client Sample Id: TB041699
Sample Date/Time: 16-APR-99 N/S
Received Date: 20-APR-99

Batch: GEW165
Blank: A
Dry Weight %: N/A
Extraction Date: N/A
Analysis Date: 22-APR-99

| Parameter: | Units: | Results: | Rpt Lmts: | Q: |
|---|---|---|---|---|
| METHANE | UG/L | ND | 1 | |
| ETHANE | UG/L | ND | 1 | |
| ETHENE | UG/L | ND | 1 | |
| ANALYST | INITIALS | HC | | |

Comments:

SEVERN TRENT LABORATORIES 11 East Olive Road Pensacola, Florida 32514 (850) 474-1001



"FINAL REPORT FORMAT - SINGLE"

Accession: 904434
Client: STL/CHICAGO
Project Number: 9904G038
Project Name: AFC001-15IEA
Project Location: N/S
Test: DISSOLVED METHANE
Analysis Method: RSK 175 (Modified)
Extraction Method: N/A
Matrix: WATER
QC Level: N

Lab Id: 002
Client Sample Id: WHGLTA012WG08
Sample Date/Time: 16-APR-99 N/S
Received Date: 20-APR-99

Batch: GEW165
Blank: A
Dry Weight %: N/A
Extraction Date: N/A
Analysis Date: 22-APR-99

| Parameter: | Units: | Results: | Rpt Lmts: | Q: |
|---|---|---|---|---|
| METHANE | UG/L | 5058.3860 | 1 | |
| ETHANE | UG/L | ND | 1 | |
| ETHENE | UG/L | ND | 1 | |
| ANALYST | INITIALS | HC | | |

Comments:

SEVERN TRENT LABORATORIES 11 East Olive Road Pensacola, Florida 32514 (850) 474-1001



"FINAL REPORT FORMAT - SINGLE"

Accession: 904434
Client: STL/CHICAGO
Project Number: 9904G038
Project Name: AFC001-15IEA
Project Location: N/S
Test: DISSOLVED METHANE
Analysis Method: RSK 175 (Modified)
Extraction Method: N/A
Matrix: WATER
QC Level: N

Lab Id: 003
Client Sample Id: EB041699

Sample Date/Time: 16-APR-99 N/S
Received Date: 20-APR-99

Batch: GEW165
Blank: A Dry Weight %: N/A

Extraction Date: N/A
Analysis Date: 22-APR-99

| Parameter: | Units: | Results: | Rpt Lmts: | Q: |
|---|---|---|---|---|
| METHANE | UG/L | 6.3605 | 1 | |
| ETHANE | UG/L | ND | 1 | |
| ETHENE | UG/L | ND | 1 | |
| ANALYST | INITIALS | HC | | |

Comments:

SEVERN TRENT LABORATORIES 11 East Olive Road Pensacola, Florida 32514 (850) 474-1001



"FINAL REPORT FORMAT - SINGLE"

Accession: 904434
Client: STL/CHICAGO
Project Number: 9904G038
Project Name: AFC001-15IEA
Project Location: N/S
Test: DISSOLVED METHANE
Analysis Method: RSK 175 (Modified)
Extraction Method: N/A
Matrix: WATER
QC Level: N

Lab Id: 004
Client Sample Id: SPOT35-9WG08

Sample Date/Time: 16-APR-99 N/S
Received Date: 20-APR-99

Batch: GEW165
Blank: A Dry Weight %: N/A

Extraction Date: N/A
Analysis Date: 22-APR-99

| Parameter: | Units: | Results: | Rpt Lmts: | Q: |
|---|---|---|---|---|
| METHANE | UG/L | 24.6686 | 1 | |
| ETHANE | UG/L | ND | 1 | |
| ETHENE | UG/L | ND | 1 | |
| ANALYST | INITIALS | HC | | |

Comments:

643 202

SEVERN TRENT LABORATORIES 11 East Olive Road Pensacola, Florida 32514 (850) 474-1001



"FINAL REPORT FORMAT - SINGLE"

Accession: 904434
Client: STL/CHICAGO
Project Number: 9904G038
Project Name: AFC001-15IEA
Project Location: N/S
Test: DISSOLVED METHANE
Analysis Method: RSK 175 (Modified)
Extraction Method: N/A
Matrix: WATER
QC Level: N

Lab Id: 005
Client Sample Id: WHCTA010WG08

Sample Date/Time: 16-APR-99 N/S
Received Date: 20-APR-99

Batch: GEW165
Blank: A
Dry Weight %: N/A

Extraction Date: N/A
Analysis Date: 22-APR-99

| Parameter: | Units: | Results: | Rpt Lmts: | Q: |
|---|---|---|---|---|
| METHANE | UG/L | 3078.2360 | 1 | |
| ETHANE | UG/L | 204.5084 | 1 | |
| ETHENE | UG/L | ND | 1 | |
| ANALYST | INITIALS | HC | | |

Comments:

SEVERN TRENT LABORATORIES 11 East Olive Road Pensacola, Florida 32514 (850) 474-1001

# Quality Control Report

Analysis: DISSOLVED METHANE

| | |
|---|---|
| Accession: | 904434 |
| Client: | STL/CHICAGO |
| Project Number: | 9904G038 |
| Project Name: | AFC001-15IEA |
| Project Location: | N/S |
| Department: | SEMI-VOLATILE FUELS |

643 204

BLANK ANALYSIS

DATE: 23-APR-99

METHOD: RSK 175

BATCH: GEW165

| COMPOUND | UNITS | REPORTING LIMIT | RESULT |
|---|---|---|---|
| METHANE | UG/L | 1 | ND |
| ETHANE | UG/L | 1 | ND |
| ETHENE | UG/L | 1 | ND |

CONTINUING CALIBRATION

DATE: 23-APR-99

METHOD: RSK 175

BATCH: GEW165

| COMPOUND | AMT (IC) | AMT (CC) | %D | QC LIMITS |
|---|---|---|---|---|
| METHANE | 250 | 279 | 5 | 20 |
| ETHANE | 250 | 291 | 8 | 20 |
| ETHENE | 250 | 288 | 7 | 20 |

SOURCE FOR CONTROL LIMIT IS INTERNAL LABORATORY QUALITY ASSURANCE PROGRAM AND RSK 175.

DUPLICATE SAMPLE ANALYSIS

DATE: 23-APR-99

METHOD: RSK 175

LAB SAMPLE #: 904432-11

BATCH: GEW165

| COMPOUND | SAMPLE RESULT | DUPLICATE RESULT | %RPD | QC LIMITS |
|---|---|---|---|---|
| METHANE | 14.9864 | 16.5233 | 10 | 50 |
| ETHANE | ND | ND | N/A | 50 |
| ETHENE | ND | ND | N/A | 50 |

ALL RESULTS REPORTED IN UG/L.

ND = NOT DETECTED
NC = NOT CALCULABLE

SOURCE FOR CONTROL LIMIT IS INTERNAL LABORATORY QUALITY ASSURANCE PROGRAM AND RSK 175.

CHECK STANDARD (POST-RUN)

DATE: 23-APR-99

METHOD: RSK 175

BATCH: GEW165

| COMPOUND | AMT(CC) | AMT (PS) | %D | QC LIMITS |
|---|---|---|---|---|
| METHANE | 279 | 275 | 1 | 20 |
| ETHANE | 291 | 281 | 2 | 20 |
| ETHENE | 288 | 278 | 2 | 20 |

SOURCE FOR CONTROL LIMIT IS INTERNAL LABORATORY QUALITY ASSURANCE PROGRAM AND RSK 175.

SEVERN TRENT LABORATORIES 11 East Olive Road Pensacola, Florida 32514 (850) 474-1001

# Analysis Report

Analysis: TNRCC TEXAS METHOD 1005 - TOTAL PETROLEUM HYDROCARBONS

| | |
|---|---|
| Accession: | 904434 |
| Client: | STL/CHICAGO |
| Project Number: | 9904G038 |
| Project Name: | AFC001-15IEA |
| Project Location: | N/S |
| Department: | SEMI-VOLATILE FUELS |

SEVERN TRENT LABORATORIES 11 East Olive Road Pensacola, Florida 32514 (850) 474-1001



"FINAL REPORT FORMAT - SINGLE"

Accession: 904434
Client: STL/CHICAGO
Project Number: 9904G038
Project Name: AFC001-15IEA
Project Location: N/S
Test: TNRCC TEXAS METHOD 1005 - TOTAL PETROLEUM HYDROCARBONS
Analysis Method: TNRCC Method 1005 (Rev. 4/98)
Extraction Method: TNRCC Method 1005 (Rev. 4/98)
Matrix: WATER
QC Level: IIMS

Lab Id: 002
Client Sample Id: WHGLTA012WG08
Sample Date/Time: 16-APR-99 N/S
Received Date: 20-APR-99

Batch: GEW168
Blank: A
Dry Weight %: N/A
Extraction Date: 26-APR-99
Analysis Date: 28-APR-99

| Parameter: | Units: | Results: | Rpt Lmts: | Q: |
|---|---|---|---|---|
| C6-C10 | MG/L | ND | 5 | |
| >C10-C28 | MG/L | ND | 5 | |
| C6-C28 | MG/L | ND | 5 | |
| ORTHO TER PHENYL | %REC/SURR | 90 | 50-150 | |
| ANALYST | INITIALS | LBL | | |

Comments:

643 210

SEVERN TRENT LABORATORIES 11 East Olive Road Pensacola, Florida 32514 (850) 474-1001



"FINAL REPORT FORMAT - SINGLE"

Accession: 904434
Client: STL/CHICAGO
Project Number: 9904G038
Project Name: AFC001-15IEA
Project Location: N/S
Test: TNRCC TEXAS METHOD 1005 - TOTAL PETROLEUM HYDROCARBONS
Analysis Method: TNRCC Method 1005 (Rev. 4/98)
Extraction Method: TNRCC Method 1005 (Rev. 4/98)
Matrix: WATER
QC Level: IIMS

Lab Id: 003
Client Sample Id: EB041699
Sample Date/Time: 16-APR-99 N/S
Received Date: 20-APR-99

Batch: GEW168
Blank: A
Dry Weight %: N/A
Extraction Date: 26-APR-99
Analysis Date: 28-APR-99

| Parameter: | Units: | Results: | Rpt Lmts: | Q: |
|---|---|---|---|---|
| C6-C10 | MG/L | ND | 5 | |
| >C10-C28 | MG/L | ND | 5 | |
| C6-C28 | MG/L | ND | 5 | |
| ORTHO TER PHENYL | %REC/SURR | 83 | 50-150 | |
| ANALYST | INITIALS | LBL | | |

Comments:

SEVERN TRENT LABORATORIES 11 East Olive Road Pensacola, Florida 32514 (850) 474-1001



"FINAL REPORT FORMAT - SINGLE"

Accession: 904434
Client: STL/CHICAGO
Project Number: 9904G038
Project Name: AFC001-15IEA
Project Location: N/S
Test: TNRCC TEXAS METHOD 1005 - TOTAL PETROLEUM HYDROCARBONS
Analysis Method: TNRCC Method 1005 (Rev. 4/98)
Extraction Method: TNRCC Method 1005 (Rev. 4/98)
Matrix: WATER
QC Level: IIMS

Lab Id: 004
Client Sample Id: SPOT35-9WG08
Sample Date/Time: 16-APR-99 N/S
Received Date: 20-APR-99

Batch: GEW168
Blank: A
Dry Weight %: N/A
Extraction Date: 26-APR-99
Analysis Date: 28-APR-99

| Parameter: | Units: | Results: | Rpt Lmts: | Q: |
|---|---|---|---|---|
| C6-C10 | MG/L | ND | 5 | |
| >C10-C28 | MG/L | ND | 5 | |
| C6-C28 | MG/L | ND | 5 | |
| ORTHO TER PHENYL | %REC/SURR | 79 | 50-150 | |
| ANALYST | INITIALS | LBL | | |

omments:

643 212

SEVERN TRENT LABORATORIES 11 East Olive Road Pensacola, Florida 32514 (850) 474-1001

# Quality Control Report

Analysis: TNRCC TEXAS METHOD 1005 - TOTAL PETROLEUM HYDROCARBONS

| | |
|---|---|
| Accession: | 904434 |
| Client: | STL/CHICAGO |
| Project Number: | 9904G038 |
| Project Name: | AFC001-15IEA |
| Project Location: | N/S |
| Department: | SEMI-VOLATILE FUELS |

SEVERN TRENT LABORATORIES 11 East Olive Road Pensacola, Florida 32514 (850) 474-1001



"QC Report"

Title: Water Blank
Batch: GEW168
Analysis Method: TNRCC Method 1005 (Rev. 4/98)
Extraction Method: TNRCC Method 1005 (Rev. 4/98)

---

Blank Id: A Date Analyzed: 27-APR-99 Date Extracted: 26-APR-99

| Parameters: | Units: | Results: | Reporting Limits: |
|---|---|---|---|
| C6-C10 | MG/L | ND | 5 |
| >C10-C28 | MG/L | ND | 5 |
| C6-C28 | MG/L | ND | 5 |
| ORTHO TER PHENYL | %REC/SURR | 95 | 50-150 |
| ANALYST | INITIALS | LBL | |

Comments:

643 214

SEVERN TRENT LABORATORIES 11 East Olive Road Pensacola, Florida 32514 (850) 474-1001



"QC Report"

Title: Water LCS
Batch: GEW168
Analysis Method: TNRCC Method 1005 (Rev. 4/98)
Extraction Method: TNRCC Method 1005 (Rev. 4/98)

RS Date Analyzed: 27-APR-99 RS Date Extracted: 26-APR-99

| Parameters: | Spike Added | Sample Conc | RS Conc | RS %Rec | Rec Lmts |
|---|---|---|---|---|---|
| C6-C10 | 26.7 | <5 | 26.2 | 98 | 70-130 |
| >C10-C28 | 26.8 | <5 | 27.7 | 103 | 70-130 |
| C6-C28 | 53.5 | <5 | 53.9 | 101 | 70-130 |
| Surrogates: | | | | | |
| ORTHO TER PHENYL (OTP) | | | | 106 | 50-150 |

Comments:

Notes:
N/S = NOT SUBMITTED N/A = NOT APPLICABLE D = DILUTED OUT
MG/KG = PARTS PER MILLION. < = LESS THAN REPORTING LIMIT.
* = VALUES OUTSIDE OF QUALITY CONTROL LIMITS.
SOURCES FOR CONTROL LIMITS ARE INTERNAL LABORATORY QUALITY ASSURANCE PROGRAM AND REFERENCED METHOD.

SEVERN TRENT LABORATORIES 11 East Olive Road Pensacola, Florida 32514 (850) 474-1001



"QC Report"

ıtle: Water Matrix Spike/Matrix Spike Duplicate
atch: GEW168
nalysis Method: TNRCC Method 1005 (Rev. 4/98)
xtraction Method: TNRCC Method 1005 (Rev. 4/98)

ry Weight %: N/A
ample Spiked: 904432-2

MS Date Analyzed: 28-APR-99
MSD Date Analyzed: 28-APR-99
MS Date Extracted: 28-APR-99
MSD Date Extracted: 28-APR-99

| arameters: | Spike Added | Sample Conc | MS Conc | MS %Rec | MSD Conc | MSD %Rec | RPD | RPD Lmts | Rec Lmts |
|---|---|---|---|---|---|---|---|---|---|
| '6-C10 | 26.5 | <5 | 16.7 | 63* | 18.7 | 71 | 12 | 30 | 50-150 |
| C10-C28 | 26.8 | <5 | 18.3 | 68* | 21.5 | 80 | 16 | 30 | 70-130 |
| '6-C28 | 53.5 | <5 | 35.0 | 65* | 40.2 | 75 | 14 | 30 | 70-130 |
| ;urrogates: | | | | | | | | | |
| )RTHO TER PHENYL (OTP) | | | | 71 | | 94 | | | 50-150 |

:omments:
MATRIX SPIKE/MATRIX SPIKE DUPLICATE HAD RECOVERY(S) AND/OR RPD(S) OUTSIDE ACCEPTANCE LIMITS DUE TO MATRIX INTERFERENCE. REFER TO LCS DATA.

Jotes:
N/S = NOT SUBMITTED N/A = NOT APPLICABLE D = DILUTED OUT
MG/KG = PARTS PER MILLION. < = LESS THAN REPORTING LIMIT.
* = VALUES OUTSIDE OF QUALITY CONTROL LIMITS.
URCES FOR CONTROL LIMITS ARE INTERNAL LABORATORY QUALITY ASSURANCE OGRAM AND REFERENCED METHOD.

received 5/26/99 643 216

Committed To *Your* Success

**Severn Trent Laboratories**
2417 Bond Street
University Park, IL 60466

Tel (708) 534-5200
Fax (708) 534-5211
www.stl-inc.com

May 25, 1999

Mr. Ken Rapuano
HydroGeoLogic, Inc.
1155 Herndon Parkway, Suite 900
Herndon, VA 20170

RE: AFC001-15IEA
Analytical Report & EDD
Lot 9904G055

Dear Mr. Rapuano:

The enclosed analytical report is for the project and lot number listed above. If you have any questions, please contact me at 708-534-5200.

Sincerely,
Severn Trent Laboratories

for Bosco Ramirez
Project Manager

sj

Enclosures

cc: CLP Report/Nancy Weaver/Environmental Data Services, Inc
EDD - Lynn Morgan/HydroGeoLogic, Inc.

Approved By:

Michael J. Healy
General Manager

The results presented in this report relate only to the analytical testing and conditions of sample at receipt This report pertains to only those samples actually tested All 1285 pages of this report are integral parts of the analytical data Therefore, this report should be reproduced only in its entirety

Severn Trent Laboratories Chicago
INORGANIC ANALYTICAL DATA PACKAGE FOR
AFC001-15IEA

LOT # :9904G055

| CLIENT ID /ANALYSIS | SAMPLE # | MTX | PREP # | COLLECTN | DATE REC | EXT/PREP | ANALYSIS |
|---|---|---|---|---|---|---|---|
| TB041999 | | | | | | | |
| SUB-OUT TEST FOR SUB | 001 | W | | 04/19/99 | 04/20/99 | | |
| WITCTA017WG08 | | | | | | | |
| ALKALINITY | 004 | W | 99GAK038 | 04/19/99 | 04/20/99 | 04/30/99 | 04/30/99 |
| CHLORIDE BY IC | 004 | W | 99GD1010 | 04/19/99 | 04/20/99 | 04/20/99 | 04/20/99 |
| NITRATE BY IC | 004 | W | 99GD1010 | 04/19/99 | 04/20/99 | 04/20/99 | 04/20/99 |
| SULFATE BY IC | 004 | W | 99GD1010 | 04/19/99 | 04/20/99 | 04/20/99 | 04/20/99 |
| TOTAL ORGANIC CARBON | 004 | W | 99GTC067 | 04/19/99 | 04/20/99 | 04/29/99 | 04/29/99 |
| TOTAL ORGANIC CARBON | 004 | W | 99GTC067 | 04/19/99 | 04/20/99 | 04/29/99 | 04/29/99 |
| SUB-OUT TEST FOR SUB | 004 | W | | 04/19/99 | 04/20/99 | | |
| WHGLTAG01WG08 | | | | | | | |
| ALKALINITY | 006 | W | 99GAK038 | 04/19/99 | 04/20/99 | 04/30/99 | 04/30/99 |
| CHLORIDE BY IC | 006 | W | 99GD1010 | 04/19/99 | 04/20/99 | 04/20/99 | 04/20/99 |
| NITRATE BY IC | 006 | W | 99GD1010 | 04/19/99 | 04/20/99 | 04/20/99 | 04/20/99 |
| SULFATE BY IC | 006 | W | 99GD1010 | 04/19/99 | 04/20/99 | 04/20/99 | 04/20/99 |
| TOTAL ORGANIC CARBON | 006 | W | 99GTC067 | 04/19/99 | 04/20/99 | 04/29/99 | 04/29/99 |
| TOTAL ORGANIC CARBON | 006 | W | 99GTC067 | 04/19/99 | 04/20/99 | 04/29/99 | 04/29/99 |
| SUB-OUT TEST FOR SUB | 006 | W | | 04/19/99 | 04/20/99 | | |
| WITCTA016WG08 | | | | | | | |
| ALKALINITY | 007 | W | 99GAK038 | 04/19/99 | 04/20/99 | 04/30/99 | 04/30/99 |
| CHLORIDE BY IC | 007 | W | 99GD1010 | 04/19/99 | 04/20/99 | 04/20/99 | 04/20/99 |
| NITRATE BY IC | 007 | W | 99GD1010 | 04/19/99 | 04/20/99 | 04/20/99 | 04/20/99 |
| SULFATE BY IC | 007 | W | 99GD1010 | 04/19/99 | 04/20/99 | 04/20/99 | 04/20/99 |
| TOTAL ORGANIC CARBON | 007 | W | 99GTC067 | 04/19/99 | 04/20/99 | 04/29/99 | 04/29/99 |
| TOTAL ORGANIC CARBON | 007 | W | 99GTC067 | 04/19/99 | 04/20/99 | 04/29/99 | 04/29/99 |
| SUB-OUT TEST FOR SUB | 007 | W | | 04/19/99 | 04/20/99 | | |
| TB042099 | | | | | | | |
| SUB-OUT TEST FOR SUB | 008 | W | | 04/20/99 | 04/21/99 | | |



NY CERTIFICATION # 11006

To: AFC001-15IEA
c/o HydroGeoLogic, Inc.
1155 Herndon Parkway, Ste. 900
Herndon, VA 20170

Attn: Mr. Ken Rapuano

Date: Monday May 17th, 1999

RE: WHGLTA011WG08
Project # 60025-001-001-0001
Lab ID: 9904G055-009
Sample Date: 04/20/99
Date Received: 04/21/99

## Inorganic Data Report

| Parameters | Result | Units | Reporting Limit |
|---|---|---|---|
| Alkalinity | 488 | mg/L | 10.0 |
| Chloride by IC | 288 | mg/L | 25.0 |
| Nitrate-N by IC | 1.8 | mg/L | 0.10 |
| Sulfate by IC | 125 | mg/L | 5.0 |
| Total Organic Carbon | 2.3 | mg/L | 1.0 |
| TOC Test 2 | 2.3 | mg/L | 1.0 |

643 219

To: AFC001-15IEA
c/o HydroGeoLogic, Inc.
1155 Herndon Parkway, Ste. 900
Herndon, VA 20170

Attn: Mr. Ken Rapuano

Date: Monday May 17th, 1999

RE: WCHMHTA008WG08
Project # 60025-001-001-0001
Lab ID: 9904G055-010
Sample Date: 04/20/99
Date Received: 04/21/99

## Inorganic Data Report

| Parameters | Result | Units | Reporting Limit |
|---|---|---|---|
| Alkalinity | 474 | mg/L | 10.0 |
| Chloride by IC | 391 | mg/L | 25.0 |
| Nitrate-N by IC | 1.9 | mg/L | 0.10 |
| Sulfate by IC | 40.3 | mg/L | 5.0 |
| Total Organic Carbon | 5.1 | mg/L | 1.0 |
| TOC Test 2 | 5.1 | mg/L | 1.0 |

To: AFC001-15IEA
c/o HydroGeoLogic, Inc.
1155 Herndon Parkway, Ste. 900
Herndon, VA 20170

Attn: Mr. Ken Rapuano

Date: Monday May 17th, 1999

RE: DUP01WG08
Project # 60025-001-001-0001
Lab ID: 9904G055-011
Sample Date: 04/20/99
Date Received: 04/21/99

## Inorganic Data Report

| Parameters | Result | Units | Reporting Limit |
|---|---|---|---|
| Alkalinity | 461 | mg/L | 10.0 |
| Chloride by IC | 432 | mg/L | 25.0 |
| Nitrate-N by IC | 1.9 | mg/L | 0.10 |
| Sulfate by IC | 40.0 | mg/L | 5.0 |
| Total Organic Carbon | 5.1 | mg/L | 1.0 |
| TOC Test 2 | 5.0 | mg/L | 1.0 |

To: AFC001-15IEA
c/o HydroGeoLogic, Inc.
1155 Herndon Parkway, Ste. 900
Herndon, VA 20170

Attn: Mr. Ken Rapuano

Date: Monday May 17th, 1999

RE: EB042099
Project # 60025-001-001-0001
Lab ID: 9904G055-012
Sample Date: 04/20/99
Date Received: 04/21/99

## Inorganic Data Report

| Parameters | Result | | Units | Reporting Limit |
|---|---|---|---|---|
| Alkalinity | 10.5 | | mg/L | 10.0 |
| Chloride by IC | 0.20 | u | mg/L | 0.20 |
| Nitrate-N by IC | 0.10 | u | mg/L | 0.10 |
| Sulfate by IC | 0.20 | u | mg/L | 0.20 |
| Total Organic Carbon | 1.6 | | mg/L | 1.0 |
| TOC Test 2 | 1.6 | | mg/L | 1.0 |

To: AFC001-15IEA
c/o HydroGeoLogic, Inc.
1155 Herndon Parkway, Ste. 900
Herndon, VA 20170

Attn: Mr. Ken Rapuano

Date: Monday May 17th, 1999

Project # 60025-001-001-0001
Lab Batch: 9904G055

## Inorganic Method Blank Data Report

| Sample | Lab ID | Parameter | Result | | Units | Reporting Limit |
|---|---|---|---|---|---|---|
| Blank 1 | 99GAK038-MB1 | Alkalinity | 10.0 | u | mg/L | 10.0 |
| Blank 1 | 99GD1010-MB1 | Chloride by IC | 0.20 | u | mg/L | 0.20 |
| | | Nitrate-N by IC | 0.10 | u | mg/L | 0.10 |
| | | Phosphate by IC | 0.10 | u | mg/L | 0.10 |
| | | Sulfate by IC | 0.20 | u | mg/L | 0.20 |
| Blank 1 | 99GTC067-MB1 | Total Organic Carbon | 1.0 | u | mg/L | 1.0 |
| Blank 1 | 99GD1011-MB1 | Chloride by IC | 0.20 | u | mg/L | 0.20 |
| | | Nitrate-N by IC | 0 10 | u | mg/L | 0.10 |
| | | Sulfate by IC | 0.20 | u | mg/L | 0.20 |
| Blank 1 | 99GAK039-MB1 | Alkalinity | 10.0 | u | mg/L | 10.0 |

To: AFC001-15IEA
c/o HydroGeoLogic, Inc.
1155 Herndon Parkway, Ste. 900
Herndon, VA 20170

Attn: Mr. Ken Rapuano

Date: Monday May 17th, 1999

Project # 60025-001-001-0001
Lab Batch: 9904G055

## Inorganic Laboratory Control Standards Report

| Lab ID | Parameter | Spiked Amount | Units | Spike #1 % Recov. | Spike #2 % Recov. | RPD |
|---|---|---|---|---|---|---|
| 99GAK038-LCS | Alkalinity | 100 | mg/L | 98.5 | NA | NA |
| 99GD1010-LC1 | Chloride by IC | 5.0 | mg/L | 99.6 | NA | NA |
| | Sulfate by IC | 5.0 | mg/L | 96.8 | NA | NA |
| 99GD1010-LC2 | Chloride by IC | 50.0 | mg/L | 102 | NA | NA |
| | Sulfate by IC | 50.0 | mg/L | 100 | NA | NA |
| 99GD1010-LCS | Nitrate-N by IC | 2.0 | mg/L | 102 | NA | NA |
| | Phosphate by IC | 2.0 | mg/L | 97.1 | NA | NA |
| 99GTC067-LCS | TOC | 5.0 | mg/L | 93.8 | NA | NA |
| 99GD1011-LC1 | Chloride by IC | 5 0 | mg/L | 99.2 | NA | NA |
| | Sulfate by IC | 5.0 | mg/L | 97.0 | NA | NA |
| 99GD1011-LC2 | Chloride by IC | 50.0 | mg/L | 99.7 | NA | NA |
| | Sulfate by IC | 50.0 | mg/L | 96.2 | NA | NA |
| 99GD1011-LCS | Nitrate-N by IC | 2.0 | mg/L | 98.3 | NA | NA |
| 99GAK039-LCS | Alkalinity | 100 | mg/L | 94.6 | NA | NA |

# Severn Trent Laboratories Chicago
# Wet Chemistry Case Narrative

643 224

Client: **HydroGeoLogic NAS Ft. Worth AFC001-15IEA**
RFW Lot: **9904G055** Date Rec'd: 04/20/99

1. This narrative covers the analysis of the samples in the above RFW Lot by the following methods.

   Alkalinity - EPA Method 310.1
   Anions by Ion Chromatography - SW 846 9056
   - Chloride
   - Nitrate as N
   - Sulfate as $SO_4$

   TOC - EPA Method 415.1

2. The EPA water holding times were met. Refer to the Laboratory Chronicle Page for dates of sampling, receipt, and analysis.

3. The initial and continuing calibration verification standards and blanks were in control. There are two ICVs and two CCVs every 10 readings in the IC sets. Please see the LCS discussion below, in item 5.

4. All method blanks were below the detection limits.

5. All LCS recoveries were within control limits.

   Severn Trent Laboratories Chicago has recently started using 2 IC standard curves and calculating each sample chromatogram against the better curve for its concentration. This cuts down on the number of dilutions that are needed and expedites analysis, which can be especially important for those ions with short holding times. Accommodating two linear ranges technically within one analytical prep batch requires 2 LCSs, one mid-range on each curve. Both LCSs are included in the data, but they are not duplicates of each other and no RPD is calculated between them.

   Please see the LCS Summary Pages of this report for additional details.

6. No matrix QC was designated or done on these samples.

Diane L. Harper
Wet Chemistry Section Manager

5/14/99
Date

Severn Trent Laboratories Chicago
8020 ANALYTICAL DATA PACKAGE FOR
AFC001-15IEA

LOT # :9904G055

| CLIENT ID | SAMPLE # | | MTX | PREP # | COLLECTN | DATE REC | EXT/PREP | ANALYSIS |
|---|---|---|---|---|---|---|---|---|
| WHGLTA011WG08 | 009 | | W | 99GVD133 | 04/20/99 | 04/21/99 | N/A | 04/23/99 |
| WCHMHTA008WG08 | 010 | | W | 99GVD133 | 04/20/99 | 04/21/99 | N/A | 04/23/99 |
| WCHMHTA008WG08 | 010 | C1 | W | 99GVD136 | 04/20/99 | 04/21/99 | N/A | 04/27/99 |
| WCHMHTA008WG08 | 010 | C2 | W | 99GVD136 | 04/20/99 | 04/21/99 | N/A | 04/27/99 |
| WCHMHTA008WG08 | 010 | D1 | W | 99GVD133 | 04/20/99 | 04/21/99 | N/A | 04/23/99 |
| DUP01WG08 | 011 | | W | 99GVD133 | 04/20/99 | 04/21/99 | N/A | 04/23/99 |
| DUP01WG08 | 011 | C1 | W | 99GVD136 | 04/20/99 | 04/21/99 | N/A | 04/27/99 |
| DUP01WG08 | 011 | C2 | W | 99GVD136 | 04/20/99 | 04/21/99 | N/A | 04/27/99 |
| DUP01WG08 | 011 | D1 | W | 99GVD133 | 04/20/99 | 04/21/99 | N/A | 04/23/99 |
| EB042099 | 012 | | W | 99GVD133 | 04/20/99 | 04/21/99 | N/A | 04/23/99 |
| LAB QC | | | | | | | | |
| BLK | MB1 | | W | 99GVD133 | N/A | N/A | N/A | 04/23/99 |
| BLK | MB1 | BS | W | 99GVD133 | N/A | N/A | N/A | 04/23/99 |
| BLK | MB1 | | W | 99GVD136 | N/A | N/A | N/A | 04/27/99 |
| BLK | MB1 | BS | W | 99GVD136 | N/A | N/A | N/A | 04/27/99 |

NY CERTIFICATION # 11006

STL Chicago
PURGEABLE AROMATICS BY GC

Report Date: 05/13/99 15:42
Page: 1

RFW Batch Number: 9904G055 Client: AFC001-15IEA Work Order: 60025-001-001-0

| Sample Information | Cust ID: | WHGLTA011WG08 | WCHMHTA008WG08 | WCHMHTA008WG08 | WCHMHTA008WG08 | WCHMHTA008WG08 | DUP01WG08 |
|---|---|---|---|---|---|---|---|
| | RFW#: | 009 | 010 | 010 | 010 DL | 010 DL | 011 |
| | Matrix: | WATER | WATER | WATER | WATER | WATER | WATER |
| | D.F.: | 1.0 | 1.0 | 1.0 | 5.0 | 5.0 | 1.0 |
| | Units: | ug/L | ug/L | ug/L CONFIRM | ug/L CONFIRM | ug/L | ug/L |
| Surrogate a,a,a-Trifluorotoluene | | 101 % | 104 % | I % | 132 % | 101 % | 98 % |
| Surrogate 4-Bromofluorobenzene | | 98 % | 127 % | 91 % | 92 % | 104 % | 122 % |
| Methyl-tert-butyl ether | | 1.0 U | 1.0 U | NA | NA | NA | 1.0 U |
| Benzene | | 1.0 U | E | E | 110 | 95 | E |
| Toluene | | 1.0 U | 1.0 U | NA | NA | NA | 1.0 U |
| Ethylbenzene | | 1.0 U | E | E | 44 | 48 | E |
| Xylene (total) | | 1.0 U | 0.59 J | 0.61 J | NA | NA | 0.58 J |

| Sample Information | Cust ID: | DUP01WG08 | DUP01WG08 | DUP01WG08 | EB042099 | BLK | BLK BS |
|---|---|---|---|---|---|---|---|
| | RFW#: | 011 | 011 DL | 011 DL | 012 | 99GVD133-MB1 | 99GVD133-MB1 |
| | Matrix: | WATER | WATER | WATER | WATER | WATER | WATER |
| | D.F.: | 1.0 | 5.0 | 5.0 | 1.0 | 1.0 | 1.0 |
| | Units: | ug/L CONFIRM | ug/L CONFIRM | ug/L | ug/L | ug/L | ug/L |
| Surrogate a,a,a-Trifluorotoluene | | I % | 146 % | 99 % | 97 % | 97 % | 100 % |
| Surrogate 4-Bromofluorobenzene | | 101 % | 104 % | 103 % | 96 % | 93 % | 101 % |
| Methyl-tert-butyl ether | | NA | NA | NA | 1.0 U | 1.0 U | 104 % |
| Benzene | | E | 120 | 98 | 1.0 U | 1.0 U | 99 % |
| Toluene | | NA | NA | NA | 1.0 U | 1.0 U | 103 % |
| Ethylbenzene | | E | 47 | 49 | 1.0 U | 1.0 U | 107 % |
| Xylene (total) | | 0.65 J | NA | NA | 1.0 U | 1.0 U | 105 % |

U= Analyzed, not detected. J= Present below detection limit. B= Present in blank. NR= Not requested. NS= Not spiked.
%= Percent recovery. D= Diluted out. I= Interference. NA= Not Applicable. *= Outside of EPA CLP QC

STL Chicago
PURGEABLE AROMATICS BY GC

Report Date: 05/13/99 15:42
Page: 2

RFW Batch Number: 9904G055 Client: AFC001-15IEA Work Order: 60025-001-001-0

| | Cust ID: | BLK | BLK BS |
|---|---|---|---|
| Sample Information | RFW#: | 99GVD136-MB1 | 99GVD136-MB1 |
| | Matrix: | WATER | WATER |
| | D.F.: | 1.0 | 1.0 |
| | Units: | ug/L | ug/L |
| Surrogate | a,a,a-Trifluorotoluene | 84 % | 88 % |
| | 4-Bromofluorobenzene | 95 % | 98 % |
| Methyl-tert-butyl ether | | 1.0 U | 90 % |
| Benzene | | 1.0 U | 96 % |
| Toluene | | 1.0 U | 96 % |
| Ethylbenzene | | 1.0 U | 103 % |
| Xylene (total) | | 1.0 U | 104 % |

U= Analyzed, not detected. J= Present below detection limit. B= Present in blank. NR= Not requested. NS= Not spiked.
%= Percent recovery. D= Diluted out. I= Interference. NA= Not Applicable. *= Outside of EPA CLP QC

Severn Trent Laboratories Chicago
Volatiles Case Narrative

AFC001-15IEA
RFW# 9904G055-009\012
Purgeable Aromatics

1. These sampled were analyzed for Benzene, Toluene, Ethylbenzene, Xylene (total),and Methyl-tert-butyl ether based on SW 846 methods 5030 and 8020. An HP5890 gas chromatograph, equipped with a Photoionization Detector and interfaced with a Tekmar LCS 2000/2016 ALS system, was used for the primary analysis. A Tracor 540 gas chromatograph, equipped with a Photoionization Detector and interfaced with a Tekmar LCS 2000/2016 ALS system, was used for the confirmation analysis.

2. All required holding times were met for the analysis.

3. All method blanks were below the reporting limits for all target compounds.

4. The surrogate compounds used for this analysis were a,a,a-Trifluorotoluene and 4-Bromofluorobenzene. The a,a,a-TFT associated with the undiluted analysis of samples 9904G055-010 (WCHMHTA008WG08) and 9904G055-011 (DUP01WG08) were interfered with on the confirmation column. All other surrogate recoveries were within control limits. All surrogate recoveries are summarized on Form 2.

5. All blank spike recoveries were within control limits and are summarized on Forms 3.

6. A matrix spike and matrix spike duplicate were not designated on this SDG.

7. All initial and continuing standard calibrations associated with these samples were within control limits.

Linda S Mackley
Linda S. Mackley
Organics Section Manager

5-16-99
Date

Severn Trent Laboratories Chicago
HPAH ANALYTICAL DATA PACKAGE FOR
AFC001-15IEA

LOT # :9904G055

| CLIENT ID | SAMPLE # | | MTX | PREP # | COLLECTN | DATE REC | EXT/PREP | ANALYSIS |
|---|---|---|---|---|---|---|---|---|
| WHGLTA011WG08 | 009 | | W | 99GP0353 | 04/20/99 | 04/21/99 | 04/23/99 | 04/30/99 |
| WCHMHTA008WG08 | 010 | | W | 99GP0353 | 04/20/99 | 04/21/99 | 04/23/99 | 04/30/99 |
| WCHMHTA008WG08 | 010 | 01 | W | 99GP0353 | 04/20/99 | 04/21/99 | 04/23/99 | 05/03/99 |
| WCHMHTA008WG08 | 010 | C1 | W | 99GP0353 | 04/20/99 | 04/21/99 | 04/23/99 | 04/30/99 |
| WCHMHTA008WG08 | 010 | C2 | W | 99GP0353 | 04/20/99 | 04/21/99 | 04/23/99 | 05/03/99 |
| DUP01WG08 | 011 | | W | 99GP0353 | 04/20/99 | 04/21/99 | 04/23/99 | 04/30/99 |
| DUP01WG08 | 011 | 01 | W | 99GP0353 | 04/20/99 | 04/21/99 | 04/23/99 | 05/03/99 |
| DUP01WG08 | 011 | C1 | W | 99GP0353 | 04/20/99 | 04/21/99 | 04/23/99 | 04/30/99 |
| DUP01WG08 | 011 | C2 | W | 99GP0353 | 04/20/99 | 04/21/99 | 04/23/99 | 05/03/99 |
| EB042099 | 012 | | W | 99GP0353 | 04/20/99 | 04/21/99 | 04/23/99 | 05/01/99 |
| LAB QC. | | | | | | | | |
| BLK | MB1 | | W | 99GP0353 | N/A | N/A | 04/23/99 | 04/30/99 |
| BLK | MB1 | C1 | W | 99GP0353 | N/A | N/A | 04/23/99 | 04/30/99 |
| BLK | MB1 BS | | W | 99GP0353 | N/A | N/A | 04/23/99 | 04/30/99 |
| BLK | MB1 BS | C1 | W | 99GP0353 | N/A | N/A | 04/23/99 | 04/30/99 |



NY CERTIFICATION # 11006

STL Chicago
PAHs BY HPLC

RFW Batch Number: 9904G055 Client: AFC001-15IEA Work Order: 60025-001-001-0

Report Date: 05/18/99 10:58
Page: 1

| Sample Information | | | | | | |
|---|---|---|---|---|---|---|
| Cust ID: | WHGLTA011WG08 | WCHMHTA008WG08 | WCHMHTA008WG08 | WCHMHTA008WG08 | WCHMHTA008WG08 | DUP01WG08 |
| RFW#: | 009 | 010 | 010 DL | 010 | 010 DL | 011 |
| Matrix: | WATER | WATER | WATER | WATER | WATER | WATER |
| D.F.: | 1.0 | 1.0 | 5.0 | 1.0 | 5.0 | 1.0 |
| Units: | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| | | | | CONFIRM | CONFIRM | |
| Surrogate Decafluorobiphenyl | 74 % | 77 % | 107 % | 78 % | D % | 74 % |
| Surrogate Benzo(e)pyrene | 93 % | 90 % | 105 % | 80 % | 106 % | 89 % |
| ========== | fl | fl | fl | fl | fl | fl |
| Naphthalene | 17 U | E | 30 J | E | 28 J | E |
| Acenaphthene | 17 U | 17 U | NA | NA | NA | 17 U |
| Acenaphthylene | 22 U | 22 U | NA | NA | NA | 22 U |
| Fluorene | 2.0 U | 2.0 U | NA | NA | NA | 2.0 U |
| Phenanthrene | 6.2 U | 6.2 U | NA | NA | NA | 6.2 U |
| Anthracene | 6.3 U | 6.4 U | NA | NA | NA | 6.4 U |
| Fluoranthene | 2.0 U | 2.0 U | NA | NA | NA | 2.0 U |
| Pyrene | 2.6 U | 2.6 U | NA | NA | NA | 2.6 U |
| Benzo(a)anthracene | 0.12 U | 0.13 U | NA | NA | NA | 0.13 U |
| Chrysene | 1.4 U | 1.4 U | NA | NA | NA | 1.4 U |
| Benzo(b)fluoranthene | 0.17 U | 0.17 U | NA | NA | NA | 0.17 U |
| Benzo(k)fluoranthene | 0.16 U | 0.16 U | NA | NA | NA | 0.16 U |
| Benzo(a)pyrene | 0.22 U | 0.22 U | NA | NA | NA | 0.22 U |
| Dibenzo(a,h)anthracene | 0.29 U | 0.29 U | NA | NA | NA | 0.29 U |
| Benzo(g,h,i)perylene | 0.73 U | 0.74 U | NA | NA | NA | 0.74 U |
| Indeno(1,2,3-cd)pyrene | 0.41 U | 0.42 U | NA | NA | NA | 0.42 U |

U= Analyzed, not detected. J= Present below detection limit. B= Present in blank. NR= Not requested. NS= Not spiked.
%= Percent recovery. D= Diluted out. I= Interference. NA= Not Applicable. *= Outside of EPA CLP QC

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STL Chicago
PAHs BY HPLC

Report Date: 05/18/99 10:58
Page: 2

RFW Batch Number: 9904G055 Client: AFC001-15IEA Work Order: 60025-001-001-0

| Sample Information | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Cust ID: | DUP01WG08 | | DUP01WG08 | | DUP01WG08 | | EB042099 | | BLK | | BLK | | | | | | |
| RFW#: | 011 DL | | 011 | | 011 DL | | 012 | | 99GP0353-MB1 | | 99GP0353-MB1 | | | | | | |
| Matrix: | WATER | | WATER | | WATER | | WATER | | WATER | | WATER | | | | | | |
| D.F.: | 5.0 | | 1.0 | | 5.0 | | 1.0 | | 1.0 | | 1.0 | | | | | | |
| Units: | ug/L | | ug/L CONFIRM | | ug/L CONFIRM | | ug/L | | ug/L | | ug/L CONFIRM | | | | | | |
| Surrogate: Decafluorobiphenyl | 93 | % | 74 | % | D | % | 77 | % | 73 | % | 72 | % | | | | | |
| Surrogate: Benzo(e)pyrene | 103 | % | 82 | % | 96 | % | 96 | % | 103 | % | 99 | % | | | | | |
| Naphthalene | 28 | J | | E | 27 | J | 17 | U | 18 | U | 18 | U | | | | | |
| Acenaphthene | NA | | NA | | NA | | 17 | U | 18 | U | 18 | U | | | | | |
| Acenaphthylene | NA | | NA | | NA | | 22 | U | 23 | U | 23 | U | | | | | |
| Fluorene | NA | | NA | | NA | | 2.0 | U | 2.1 | U | 2.1 | U | | | | | |
| Phenanthrene | NA | | NA | | NA | | 6.2 | U | 6.4 | U | 6.4 | U | | | | | |
| Anthracene | NA | | NA | | NA | | 6.4 | U | 6.6 | U | 6.6 | U | | | | | |
| Fluoranthene | NA | | NA | | NA | | 2.0 | U | 2.1 | U | 2.1 | U | | | | | |
| Pyrene | NA | | NA | | NA | | 2.6 | U | 2.7 | U | 2.7 | U | | | | | |
| Benzo(a)anthracene | NA | | NA | | NA | | 0.13 | U | 0.13 | U | 0.13 | U | | | | | |
| Chrysene | NA | | NA | | NA | | 1.4 | U | 1.5 | U | 1.5 | U | | | | | |
| Benzo(b)fluoranthene | NA | | NA | | NA | | 0.17 | U | 0.18 | U | 0.18 | U | | | | | |
| Benzo(k)fluoranthene | NA | | NA | | NA | | 0.16 | U | 0.17 | U | 0.17 | U | | | | | |
| Benzo(a)pyrene | NA | | NA | | NA | | 0.22 | U | 0.23 | U | 0.23 | U | | | | | |
| Dibenzo(a,h)anthracene | NA | | NA | | NA | | 0.29 | U | 0.30 | U | 0.30 | U | | | | | |
| Benzo(g,h,i)perylene | NA | | NA | | NA | | 0.74 | U | 0.76 | U | 0.76 | U | | | | | |
| Indeno(1,2,3-cd)pyrene | NA | | NA | | NA | | 0.42 | U | 0.43 | U | 0.43 | U | | | | | |

U= Analyzed, not detected. J= Present below detection limit. B= Present in blank. NR= Not requested. NS= Not spiked.
%= Percent recovery. D= Diluted out. I= Interference. NA= Not Applicable. *= Outside of EPA CLP QC

| Sample Information | Cust ID: | BLK BS | BLK BS |
|---|---|---|---|
| | RFW#: | 99GP0353-MB1 | 99GP0353-MB1 |
| | Matrix: | WATER | WATER |
| | D.F.: | 1.0 | 1.0 |
| | Units: | ug/L | ug/L |
| | | | CONFIRM |
| Surrogate | Decafluorobiphenyl | 76 % | 75 % |
| | Benzo(e)pyrene | 110 % | 105 % |
| Naphthalene | | 80 % | 75 % |
| Acenaphthene | | 84 % | 81 % |
| Acenaphthylene | | 75 % | 77 % |
| Fluorene | | 84 % | 82 % |
| Phenanthrene | | 86 % | 82 % |
| Anthracene | | 75 % | 75 % |
| Fluoranthene | | 90 % | 89 % |
| Pyrene | | 111 % | 100 % |
| Benzo(a)anthracene | | 92 % | 95 % |
| Chrysene | | 94 % | 94 % |
| Benzo(b)fluoranthene | | 89 % | 89 % |
| Benzo(k)fluoranthene | | 88 % | 90 % |
| Benzo(a)pyrene | | 90 % | 91 % |
| Dibenzo(a,h)anthracene | | 85 % | 89 % |
| Benzo(g,h,i)perylene | | 91 % | 86 % |
| Indeno(1,2,3-cd)pyrene | | 96 % | 98 % |

U= Analyzed, not detected. J= Present below detection limit. B= Present in blank. NR= Not requested. NS= Not spiked.
%= Percent recovery. D= Diluted out. I= Interference. NA= Not Applicable. *= Outside of EPA CLP QC

Severn Trent Laboratories Chicago
PAH Case Narrative

AFC001-15IEA
RFW# 9904G055-009\012
PAHs

1. Severn Trent Laboratories Chicago used the following High Performance Liquid Chromatographic system for analysis of polynuclear aromatic hydrocarbons:

| ID# | INSTRUMENT | COLUMN TYPE | DETECTOR |
|---|---|---|---|
| 25 | SpectraPhysics | C-18 PAH | UV - 254nm |
| 25 | SpectraPhysics | C-18 PAH | UV - 260nm |
| 26 | SpectraPhysics | C-18 PAH | Fluorescence |

2. These samples were extracted based on SW846 methods 3520. The extracts were analyzed for PAHs (i.e. PNAs) based on SW846 method 8310 protocols.

3. All required holding times were met for the extraction and analysis.

4. The method blank was below the reporting limit for all target compounds.

5. The surrogate compounds used for this analysis were Decafluorobiphenyl and Benzo(e)pyrene. All surrogate recoveries were within control limits, with the exception of those which were diluted out (flagged "D"). All surrogate recoveries are summarized on Form 2E.

6. All blank spike recoveries were within control limits and are summarized on Form 3E.

7. A matrix spike and a matrix spike duplicate was not designated on this SDG.

8. All initial and continuing standard calibrations were within control limits, with the following exceptions:

   Some CCVs displayed a slight shift in retention times for some analytes. The retention time shifts were taken into account during the data review.

   CCV run 05/03/99 at 11:37 had Pyrene biased high at 18.2% difference on the Fluorescence detector; however, Pyrene was in control on the UV detector. Pyrene was not detected in any of the associated samples.

   CCV run 05/03/99 at 14:22 had Pyrene biased low at 17.9% difference on the Fluorescence detector; however, Pyrene was in control on the UV detector. Pyrene was not detected in any of the associated samples.

643 234

9. All positive hits were confirmed on a second detector. A second wavelength on the UV detector was used in some cases to confirm the absence of some analytes.

Linda S Mackley

Linda S. Mackley
Organics Section Manager

5-18-99
Date



5/18 ok

Committed To *Your* Success

**Severn Trent Laboratories**
11 East Olive Road
Pensacola FL 32514

Tel: (850) 474-1001
Fax. (850) 478-2671

May 17, 1999

CASE NARRATIVE
HydroGeologic
NAS Fort Worth, Texas (AFCEE)
Accession #904491
Method Ref: RSK-175 & TX-1005

| Lab Accession Number | Client ID |
|---|---|
| 904491-01 | TB042099 |
| 904491-02 | WHGLTA011WG08 |
| 904491-03 | WCHMHTA008WG08 |
| 904491-04 | DUP01WG08 |
| 904491-05 | EBO42099 |
| 904491-06 | LF04-02WG08 |
| 904491-07 | DUP04WG08 |
| 904491-08 | HM-125WG08 |
| 904491-09 | HM-116WG08 |
| 904491-10 | HM-123WG08 |
| 904491-11 | WP07-10BWG08 |

These samples were received at the laboratory on 22-Apr-99 in good condition at a temperature of 6°C. Only samples listed on the COC as 008 through 018 received. 001 through 007 received on 21-Apr-99.

Reference RSK-175 and TX-1005 for procedures and calculations.

There were no problems associated with the analysis of these samples.

Lance W. Larson
STL-Fl Project Manager

643 236

Committed To *Your* Success

**Severn Trent Laboratories**
11 East Olive Road
Pensacola FL 32514

Tel: (850) 474-1001
Fax: (850) 478-2671

SIGNATURE PAGE

Reviewed by: _____
STL Project Manager

Client: STL/CHICAGO
UNIVERSITY PARK, IL

Project Name: AFC001-15IEA
Project Number: 9904G055
Project Location: N/S
Accession Number: 904491

Project Manager: SHERYL JOHNSON
Sampled By: N/S

SEVERN TRENT LABORATORIES 11 East Olive Road Pensacola, Florida 32514 (850) 474-1001

# Analysis Report

Analysis: DISSOLVED METHANE

| | |
|---|---|
| Accession: | 904447 |
| Client: | STL/CHICAGO |
| Project Number. | 9904G055 |
| Project Name: | AFC001-15IEA |
| Project Location: | N/S |
| Department: | SEMI-VOLATILE FUELS |

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SEVERN TRENT LABORATORIES 11 East Olive Road Pensacola, Florida 32514 (850) 474-1001



"FINAL REPORT FORMAT - SINGLE"

Accession: 904447
Client: STL/CHICAGO
Project Number: 9904G055
Project Name: AFC001-15IEA
Project Location: N/S
Test: DISSOLVED METHANE
Analysis Method: RSK 175 (Modified)
Extraction Method: N/A
Matrix: WATER
QC Level: N

---

Lab Id: 001
Client Sample Id: TB041999

Sample Date/Time: 19-APR-99 N/S
Received Date: 21-APR-99

Batch: GEW166
Blank: A Dry Weight %: N/A

Extraction Date: N/A
Analysis Date: 23-APR-99

| Parameter: | Units: | Results: | Rpt Lmts: | Q: |
|---|---|---|---|---|
| METHANE | UG/L | ND | 1 | |
| ETHANE | UG/L | ND | 1 | |
| ETHENE | UG/L | ND | 1 | |
| ANALYST | INITIALS | HC | | |

Comments:

SEVERN TRENT LABORATORIES 11 East Olive Road Pensacola, Florida 32514 (850) 474-1001



"FINAL REPORT FORMAT - SINGLE"

Accession: 904447
Client: STL/CHICAGO
Project Number: 9904G055
Project Name: AFC001-15IEA
Project Location: N/S
Test: DISSOLVED METHANE
Analysis Method: RSK 175 (Modified)
Extraction Method: N/A
Matrix: WATER
QC Level: N

Lab Id: 002
Client Sample Id: WITCTA017WG08
Sample Date/Time: 19-APR-99 N/S
Received Date: 21-APR-99

Batch: GEW166
Blank: A
Dry Weight %: N/A
Extraction Date: N/A
Analysis Date: 23-APR-99

| Parameter: | Units: | Results: | Rpt Lmts: | Q: |
|---|---|---|---|---|
| METHANE | UG/L | ND | 1 | |
| ETHANE | UG/L | ND | 1 | |
| ETHENE | UG/L | ND | 1 | |
| ANALYST | INITIALS | HC | | |

Comments:

643 240

SEVERN TRENT LABORATORIES 11 East Olive Road Pensacola, Florida 32514 (850) 474-1001



"FINAL REPORT FORMAT - SINGLE"

Accession: 904447
Client: STL/CHICAGO
Project Number: 9904G055
Project Name: AFC001-15IEA
Project Location: N/S
Test: DISSOLVED METHANE
Analysis Method: RSK 175 (Modified)
Extraction Method: N/A
Matrix: WATER
QC Level: N

Lab Id: 003
Client Sample Id: WHGLTA601WG08
Sample Date/Time: 19-APR-99 N/S
Received Date: 21-APR-99

Batch: GEW166
Blank: A
Dry Weight %: N/A
Extraction Date: N/A
Analysis Date: 23-APR-99

| Parameter: | Units: | Results: | Rpt Lmts: | Q: |
|---|---|---|---|---|
| METHANE | UG/L | ND | 1 | |
| ETHANE | UG/L | ND | 1 | |
| ETHENE | UG/L | ND | 1 | |
| ANALYST | INITIALS | HC | | |

Comments:

SEVERN TRENT LABORATORIES 11 East Olive Road Pensacola, Florida 32514 (850) 474-1001



"FINAL REPORT FORMAT - SINGLE"

| | |
|---|---|
| Accession: | 904447 |
| Client: | STL/CHICAGO |
| Project Number. | 9904G055 |
| Project Name: | AFC001-15IEA |
| Project Location: | N/S |
| Test: | DISSOLVED METHANE |
| Analysis Method: | RSK 175 (Modified) |
| Extraction Method. | N/A |
| Matrix: | WATER |
| QC Level: | N |

| | | | |
|---|---|---|---|
| Lab Id: | 004 | Sample Date/Time: | 19-APR-99 N/S |
| Client Sample Id: | WITCTA016WG08 | Received Date: | 21-APR-99 |
| Batch: GEW166 | | Extraction Date: | N/A |
| Blank: A | Dry Weight %: N/A | Analysis Date: | 23-APR-99 |

| Parameter: | Units: | Results: | Rpt Lmts: | Q: |
|---|---|---|---|---|
| METHANE | UG/L | 87.5664 | 1 | |
| ETHANE | UG/L | 11.1797 | 1 | |
| ETHENE | UG/L | ND | 1 | |
| ANALYST | INITIALS | HC | | |

Comments:

643 242

SEVERN TRENT LABORATORIES 11 East Olive Road Pensacola, Florida 32514 (850) 474-1001



"Method Report Summary"

Accession Number: 904447
Client: STL/CHICAGO
Project Number: 9904G055
Project Name: AFC001-15IEA
Project Location: N/S
Test: DISSOLVED METHANE

| Client Sample Id: | Parameter: | Unit: | Result: |
|---|---|---|---|
| WITCTA016WG08 | METHANE | UG/L | 87.5664 |
| | ETHANE | UG/L | 11.1797 |

SEVERN TRENT LABORATORIES 11 East Olive Road Pensacola, Florida 32514 (850) 474-1001

# Quality Control Report

Analysis: DISSOLVED METHANE

| | |
|---|---|
| Accession: | 904447 |
| Client: | STL/CHICAGO |
| Project Number: | 9904G055 |
| Project Name: | AFC001-15IEA |
| Project Location: | N/S |
| Department: | SEMI-VOLATILE FUELS |

643 241

BLANK ANALYSIS

DATE: 23-APR-99

METHOD: RSK 175

BATCH: GEW166

| COMPOUND | UNITS | REPORTING LIMIT | RESULT |
|---|---|---|---|
| METHANE | UG/L | 1 | ND |
| ETHANE | UG/L | 1 | ND |
| ETHENE | UG/L | 1 | ND |

CONTINUING CALIBRATION

DATE: 23-APR-99

METHOD: RSK 175

BATCH: GEW166

| COMPOUND | AMT (IC) | AMT (CC) | %D | QC LIMITS |
|---|---|---|---|---|
| METHANE | 250 | 264 | 3 | 20 |
| ETHANE | 250 | 269 | 4 | 20 |
| ETHENE | 250 | 265 | 3 | 20 |

SOURCE FOR CONTROL LIMIT IS INTERNAL LABORATORY QUALITY ASSURANCE PROGRAM AND RSK 175.

643 246

DUPLICATE SAMPLE ANALYSIS

DATE: 23-APR-99

METHOD: RSK 175

LAB SAMPLE #: 904423-8

BATCH: GEW166

| COMPOUND | SAMPLE RESULT | DUPLICATE RESULT | %RPD | QC LIMITS |
|---|---|---|---|---|
| METHANE | 158.1686 | 126.6547 | 22 | 50 |
| ETHANE | ND | ND | N/A | 50 |
| ETHENE | ND | ND | N/A | 50 |

ALL RESULTS REPORTED IN UG/L.

ND = NOT DETECTED
NC = NOT CALCULABLE

SOURCE FOR CONTROL LIMIT IS INTERNAL LABORATORY QUALITY ASSURANCE PROGRAM AND RSK 175.

CHECK STANDARD (POST-RUN)

DATE: 23-APR-99

METHOD: RSK 175

BATCH: GEW166

| COMPOUND | AMT(CC) | AMT (PS) | %D | QC LIMITS |
|---|---|---|---|---|
| METHANE | 264 | 246 | 4 | 20 |
| ETHANE | 269 | 258 | 2 | 20 |
| ETHENE | 265 | 254 | 2 | 20 |

SOURCE FOR CONTROL LIMIT IS INTERNAL LABORATORY QUALITY ASSURANCE PROGRAM AND RSK 175.

SEVERN TRENT LABORATORIES 11 East Olive Road Pensacola, Florida 32514 (850) 474-1001

# Analysis Report

Analysis: DISSOLVED METHANE

| | |
|---|---|
| Accession: | 904491 |
| Client: | STL/CHICAGO |
| Project Number: | 9904G055 |
| Project Name: | AFC001-15IEA |
| Project Location: | N/S |
| Department: | SEMI-VOLATILE FUELS |

643 249

SEVERN TRENT LABORATORIES 11 East Olive Road Pensacola, Florida 32514 (850) 474-1001



"FINAL REPORT FORMAT - SINGLE"

Accession: 904491
Client: STL/CHICAGO
Project Number: 9904G055
Project Name: AFC001-15IEA
Project Location: N/S
Test: DISSOLVED METHANE
Analysis Method: RSK 175 (Modified)
Extraction Method: N/A
Matrix: WATER
QC Level: N

Lab Id: 001
Client Sample Id: TB042099

Sample Date/Time: 20-APR-99 N/S
Received Date: 22-APR-99

Batch: GEW169
Blank: A Dry Weight %: N/A

Extraction Date: N/A
Analysis Date: 27-APR-99

| Parameter: | Units: | Results: | Rpt Lmts: | Q |
|---|---|---|---|---|
| METHANE | UG/L | ND | 1 | |
| ETHANE | UG/L | ND | 1 | |
| ETHENE | UG/L | ND | 1 | |
| ANALYST | INITIALS | BT | | |

Comments:

SEVERN TRENT LABORATORIES 11 East Olive Road Pensacola, Florida 32514 (850) 474-1001



"FINAL REPORT FORMAT - SINGLE"

Accession: 904491
Client: STL/CHICAGO
Project Number: 9904G055
Project Name: AFC001-15IEA
Project Location: N/S
Test: DISSOLVED METHANE
Analysis Method: RSK 175 (Modified)
Extraction Method: N/A
Matrix: WATER
QC Level: N

Lab Id: 002
Client Sample Id: WHGLTA011WG08

Sample Date/Time: 20-APR-99 N/S
Received Date: 22-APR-99

Batch: GEW169
Blank: A

Dry Weight %: N/A

Extraction Date: N/A
Analysis Date: 27-APR-99

| Parameter: | Units: | Results: | Rpt Lmts: | Q: |
|---|---|---|---|---|
| METHANE | UG/L | 5.3485 | 1 | |
| ETHANE | UG/L | ND | 1 | |
| ETHENE | UG/L | ND | 1 | |
| ANALYST | INITIALS | BT | | |

Comments

SEVERN TRENT LABORATORIES 11 East Olive Road Pensacola, Florida 32514 (850) 474-1001



"FINAL REPORT FORMAT - SINGLE"

Accession: 904491
Client: STL/CHICAGO
Project Number: 9904G055
Project Name: AFC001-15IEA
Project Location: N/S
Test: DISSOLVED METHANE
Analysis Method: RSK 175 (Modified)
Extraction Method: N/A
Matrix: WATER
QC Level: N

Lab Id: 003
Client Sample Id: WCHMHTA008WG08

Sample Date/Time: 20-APR-99 N/S
Received Date: 22-APR-99

Batch: GEW169
Blank: A
Dry Weight %: N/A

Extraction Date: N/A
Analysis Date: 27-APR-99

| Parameter: | Units: | Results: | Rpt Lmts: | Q: |
|---|---|---|---|---|
| METHANE | UG/L | 2058.6310 | 1 | |
| ETHANE | UG/L | ND | 1 | |
| ETHENE | UG/L | ND | 1 | |
| ANALYST | INITIALS | BT | | |

Comments:

SEVERN TRENT LABORATORIES 11 East Olive Road Pensacola, Florida 32514 (850) 474-1001



"FINAL REPORT FORMAT - SINGLE"

Accession: 904491
Client: STL/CHICAGO
Project Number: 9904G055
Project Name: AFC001-15IEA
Project Location: N/S
Test: DISSOLVED METHANE
Analysis Method: RSK 175 (Modified)
Extraction Method: N/A
Matrix: WATER
QC Level. N

Lab Id: 004
Client Sample Id: DUP01WG08

Sample Date/Time: 20-APR-99 N/S
Received Date: 22-APR-99

Batch: GEW169
Blank: A Dry Weight %: N/A

Extraction Date: N/A
Analysis Date: 27-APR-99

| Parameter: | Units: | Results: | Rpt Lmts: | Q: |
|---|---|---|---|---|
| METHANE | UG/L | 3066.1660 | 1 | |
| ETHANE | UG/L | ND | 1 | |
| ETHENE | UG/L | ND | 1 | |
| ANALYST | INITIALS | BT | | |

Comments:

SEVERN TRENT LABORATORIES 11 East Olive Road Pensacola, Florida 32514 (850) 474-1001



"FINAL REPORT FORMAT - SINGLE"

Accession: 904491
Client: STL/CHICAGO
Project Number: 9904G055
Project Name: AFC001-15IEA
Project Location: N/S
Test: DISSOLVED METHANE
Analysis Method: RSK 175 (Modified)
Extraction Method: N/A
Matrix: WATER
QC Level: N

Lab Id: 005
Client Sample Id: EB042099
Sample Date/Time: 20-APR-99 N/S
Received Date: 22-APR-99

Batch: GEW169
Blank: A
Dry Weight %: N/A
Extraction Date: N/A
Analysis Date: 27-APR-99

| Parameter: | Units: | Results: | Rpt Lmts: | Q: |
|---|---|---|---|---|
| METHANE | UG/L | 60.8394 | 1 | |
| ETHANE | UG/L | ND | 1 | |
| ETHENE | UG/L | ND | 1 | |
| ANALYST | INITIALS | BT | | |

Comments:

SEVERN TRENT LABORATORIES 11 East Olive Road Pensacola, Florida 32514 (850) 474-1001



"FINAL REPORT FORMAT - SINGLE"

Accession: 904491
Client: STL/CHICAGO
Project Number: 9904G055
Project Name: AFC001-15IEA
Project Location: N/S
Test: DISSOLVED METHANE
Analysis Method: RSK 175 (Modified)
Extraction Method: N/A
Matrix: WATER
QC Level: N

Lab Id: 006
Client Sample Id: LFO4-O2WGO8
Sample Date/Time: 20-APR-99 N/S
Received Date: 22-APR-99

Batch: GEW169
Blank: A
Dry Weight %: N/A
Extraction Date: N/A
Analysis Date: 27-APR-99

| Parameter: | Units: | Results: | Rpt Lmts: | Q: |
|---|---|---|---|---|
| METHANE | UG/L | 9.5720 | 1 | |
| ETHANE | UG/L | ND | 1 | |
| ETHENE | UG/L | ND | 1 | |
| ANALYST | INITIALS | BT | | |

Comments:

SEVERN TRENT LABORATORIES 11 East Olive Road Pensacola, Florida 32514 (850) 474-1001



"FINAL REPORT FORMAT - SINGLE"

Accession: 904491
Client: STL/CHICAGO
Project Number: 9904G055
Project Name: AFC001-15IEA
Project Location: N/S
Test: DISSOLVED METHANE
Analysis Method: RSK 175 (Modified)
Extraction Method: N/A
Matrix: WATER
QC Level: N

Lab Id: 007
Client Sample Id: DUP04WG08

Sample Date/Time: 20-APR-99 N/S
Received Date: 22-APR-99

Batch: GEW169
Blank: A Dry Weight %: N/A

Extraction Date: N/A
Analysis Date: 27-APR-99

| Parameter: | Units: | Results: | Rpt Lmts: | Q: |
|---|---|---|---|---|
| METHANE | UG/L | 9.0245 | 1 | |
| ETHANE | UG/L | ND | 1 | |
| ETHENE | UG/L | ND | 1 | |
| ANALYST | INITIALS | BT | | |

Comments:

SEVERN TRENT LABORATORIES 11 East Olive Road Pensacola, Florida 32514 (850) 474-1001



"Method Report Summary"

Accession Number: 904491
Client: STL/CHICAGO
Project Number: 9904G055
Project Name: AFC001-15IEA
Project Location: N/S
Test: DISSOLVED METHANE

| Client Sample Id: | Parameter: | Unit: | Result. |
|---|---|---|---|
| WHGLTA011WG08 | METHANE | UG/L | 5.3485 |
| WCHMHTA008WG08 | METHANE | UG/L | 2058.6310 |
| DUP01WG08 | METHANE | UG/L | 3066.1660 |
| EB042099 | METHANE | UG/L | 60.8394 |
| LF04-02WG08 | METHANE | UG/L | 9.5720 |
| DUP04WG08 | METHANE | UG/L | 9.0245 |
| HM-123WG08 | METHANE | UG/L | 68.7215 |
| WPC7-10BWG08 | METHANE | UG/L | 52.2178 |

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SEVERN TRENT LABORATORIES 11 East Olive Road Pensacola, Florida 32514 (850) 474-1001

# Quality Control Report

Analysis: DISSOLVED METHANE

| | |
|---|---|
| Accession: | 904491 |
| Client: | STL/CHICAGO |
| Project Number: | 9904G055 |
| Project Name: | AFC001-15IEA |
| Project Location: | N/S |
| Department: | SEMI-VOLATILE FUELS |

BLANK ANALYSIS

DATE: 27-APR-99

METHOD: RSK 175

BATCH: GEW169

| COMPOUND | UNITS | REPORTING LIMIT | RESULT |
|---|---|---|---|
| METHANE | UG/L | 1 | ND |
| ETHANE | UG/L | 1 | ND |
| ETHENE | UG/L | 1 | ND |

643 259

CONTINUING CALIBRATION

DATE: 27-APR-99

METHOD: RSK 175

BATCH: GEW169

| COMPOUND | AMT (IC) | AMT (CC) | %D | QC LIMITS |
|---|---|---|---|---|
| METHANE | 250 | 272 | 4 | 20 |
| ETHANE | 250 | 271 | 4 | 20 |
| ETHENE | 250 | 260 | 2 | 20 |

SOURCE FOR CONTROL LIMIT IS INTERNAL LABORATORY QUALITY ASSURANCE PROGRAM AND RSK 175.

DUPLICATE SAMPLE ANALYSIS

DATE: 27-APR-99

METHOD: RSK 175

LAB SAMPLE #: 904491-2

BATCH: GEW169

| COMPOUND | SAMPLE RESULT | DUPLICATE RESULT | %RPD | QC LIMITS |
|---|---|---|---|---|
| METHANE | 5.3485 | 5.4037 | 1 | 50 |
| ETHANE | ND | ND | N/A | 50 |
| ETHENE | ND | ND | N/A | 50 |

ALL RESULTS REPORTED IN UG/L.

ND = NOT DETECTED
NC = NOT CALCULABLE

SOURCE FOR CONTROL LIMIT IS INTERNAL LABORATORY QUALITY ASSURANCE PROGRAM AND RSK 175.

643 261

CHECK STANDARD (POST-RUN)

DATE: 27-APR-99

METHOD: RSK 175

BATCH: GEW169

| COMPOUND | AMT(CC) | AMT (PS) | %D | QC LIMITS |
|---|---|---|---|---|
| METHANE | 272 | 261 | 4 | 20 |
| ETHANE | 271 | 268 | 1 | 20 |
| ETHENE | 260 | 261 | 0 | 20 |

SOURCE FOR CONTROL LIMIT IS INTERNAL LABORATORY QUALITY ASSURANCE PROGRAM AND RSK 175.

Received 5/19/99

643 262

Committed To *Your* Success

**Severn Trent Laboratories**
11 East Olive Road
Pensacola FL 32514

Tel: (850) 474-1001
Fax: (850) 478-2671

May 17, 1999

CASE NARRATIVE
HydroGeologic
NAS Fort Worth, Texas (AFCEE)
Accession #904491
Method Ref: RSK-175 & TX-1005

9904G055

| Lab Accession Number | Client ID |
|---|---|
| 904491-01 | TB042099 |
| 904491-02 | WHGLTA011WG08 |
| 904491-03 | WCHMHTA008WG08 |
| 904491-04 | DUP01WG08 |
| 904491-05 | EBO42099 |
| 904491-06 | LF04-02WG08 |
| 904491-07 | DUP04WG08 |
| 904491-08 | HM-125WG08 |
| 904491-09 | HM-116WG08 |
| 904491-10 | HM-123WG08 |
| 904491-11 | WP07-10BWG08 |

These samples were received at the laboratory on 22-Apr-99 in good condition at a temperature of 6°C. Only samples listed on the COC as 008 through 018 received. 001 through 007 received on 21-Apr-99.

Reference RSK-175 and TX-1005 for procedures and calculations.

There were no problems associated with the analysis of these samples.

Lance W. Larson
STL-Fl Project Manager

613 263

Committed To *Your* Success

**Severn Trent Laboratories**
11 East Olive Road
Pensacola FL 32514

Tel. (850) 474-1001
Fax: (850) 478-2671

SIGNATURE PAGE

Reviewed by: _____
STL Project Manager

| | |
|---|---|
| Client: | STL/CHICAGO<br>UNIVERSITY PARK, IL |
| Project Name: | AFC001-15IEA |
| Project Number: | 9904G055 |
| Project Location: | N/S |
| Accession Number: | 904491 |
| Project Manager: | SHERYL JOHNSON |
| Sampled By: | N/S |

Committed To Your Success

**SEVERN TRENT LABORATORIES, INC. – PENSACOLA, FLORIDA**
**STATE CERTIFICATIONS**

*Iabama Department of Environmental Management, Laboratory ID No. 40150 (Drinking Water by Reciprocity with FL)*

*Arizona Department of Health Services, Lab ID No AZ0589 (Hazardous Waste & Wastewater)*

*Arkansas Department of Pollution Control and Ecology, (No Laboratory ID No assigned by state) (Environmental)*

*State of California, Department of Health Services, Laboratory ID No. 2338 (Hazardous Waste and Wastewater)*

*State of Connecticut, Department of Health Services, Connecticut Lab Approval No. PH-0697 (Drinking Water, Hazardous Waste and Wastewater)*

*Delaware Health & Social Services, Division of Public Health, Laboratory ID No FL094 (Drinking Water by Reciprocity with FL)*

*Florida DOH Laboratory ID No 81142 (Drinking Water), Laboratory ID No E81010 (Hazardous Waste and Wastewater)*

*Florida, Radioactive Materials License No G0733-1*

*Foreign Soil Permit, Permit No S-37599*

*Kansas Department of Health & Environment, Laboratory ID No E10253 (Wastewater and Hazardous Waste)*

*Commonwealth of Kentucky, Natural Resources and Environmental Protection Cabinet, Laboratory ID No 90043 (Drinking Water)*

*State of Louisiana, DHH, Office of Public Health Division of Laboratories, Laboratory ID No 98-25 (Drinking Water)*

*State of Maryland, DH&MH Laboratory ID No 233 (Drinking Water by Reciprocity with Florida)*

*Commonwealth of Massachusetts, DEP, Laboratory ID No. M-FL094 (Hazardous Waste and Wastewater)*

*State of Michigan, Bureau of E&OccH (No Laboratory ID No assigned by state) (Drinking Water by Reciprocity with Florida)*

*New Hampshire DES, Laboratory ID No 250598-A (Wastewater)*

*State of New Jersey, Department of Environmental Protection & Energy, Laboratory ID No 49006 (Wastewate and Hazardous Waster)*

*New York State, Department of Health, Laboratory ID No 11503 (Wastewater and Solids/Hazardous Waste)*

*North Carolina Department of Environment, Health, & Natural Resources, Laboratory ID No. 314 (Hazardous Waste and Wastewater)*

*North Dakota DH&Consol Labs, Laboratory ID No R-108 (Hazardous Waste and Wastewater by Reciprocity with California)*

*State of Oklahoma, Oklahoma Department of Environmental Quality, Laboratory ID No 9810 (Hazardous Waste and Wastewater)*

*Commonwealth of Pennsylvania, Department of Environmental Resources, Laboratory ID No 68-467 (Drinking Water)*

*South Carolina DH&EC, Laboratory ID No 96026 (Wastewater by Reciprocity with FL and Solids/Hazardous Waste by Reciprocity with CA)*

*Tennessee Department of Health & Environment, Laboratory ID No 02907 (Drinking Water)*

*Tennessee Division of Underground Storage Tanks Approved Laboratory*

*Virginia Department of General Services, Laboratory ID No 00008 (Drinking Water by Reciprocity with FL)*

*State of Washington, Department of Ecology, Laboratory ID No C282 (Hazardous Waste and Wastewater)*

*West Virginia Division of Environmental Protection, Office of Water Resources, Laboratory ID No 136 (Hazardous Waste and Wastewate Reciprocity with FL)*

*American Industrial Hygiene Association (AIHA) Accredited Laboratory, Laboratory ID No 9133*

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SEVERN TRENT LABORATORIES 11 East Olive Road Pensacola, Florida 32514 (850) 474-1001

# Analysis Report

Analysis: DISSOLVED METHANE

| | |
|---|---|
| Accession: | 904491 |
| Client: | STL/CHICAGO |
| Project Number: | 9904G055 |
| Project Name: | AFC001-15IEA |
| Project Location: | N/S |
| Department: | SEMI-VOLATILE FUELS |

EVERN TRENT LABORATORIES 11 East Olive Road Pensacola, Florida 32514 (850) 474-1001



"FINAL REPORT FORMAT - SINGLE"

Accession: 904491
Client: STL/CHICAGO
Project Number: 9904G055
Project Name: AFC001-15IEA
Project Location: N/S
Test: DISSOLVED METHANE
Analysis Method: RSK 175
Extraction Method: N/A
Matrix: WATER
QC Level: N

Lab Id: 001
Client Sample Id: TB042099
Sample Date/Time: 20-APR-99 N/S
Received Date: 22-APR-99

Batch: GEW169
Blank: A
Dry Weight %: N/A
Extraction Date: N/A
Analysis Date: 27-APR-99

| Parameter: | Units: | Results: | Rpt Lmts: | Q: |
|---|---|---|---|---|
| METHANE | UG/L | ND | 1 | |
| ANALYST | INITIALS | BT | | |

Comments:

643 267

SEVERN TRENT LABORATORIES 11 East Olive Road Pensacola, Florida 32514 (850) 474-1001



"FINAL REPORT FORMAT - SINGLE"

Accession: 904491
Client: STL/CHICAGO
Project Number: 9904G055
Project Name: AFC001-15IEA
Project Location: N/S
Test: DISSOLVED METHANE
Analysis Method: RSK 175
Extraction Method: N/A
Matrix: WATER
QC Level: N

Lab Id: 002
Client Sample Id: WHGLTA011WG08
Sample Date/Time: 20-APR-99 N/S
Received Date: 22-APR-99

Batch: GEW169
Blank: A
Dry Weight %: N/A
Extraction Date: N/A
Analysis Date: 27-APR-99

| Parameter: | Units: | Results: | Rpt Lmts: | Q: |
|---|---|---|---|---|
| METHANE | UG/L | 5 | 1 | |
| ANALYST | INITIALS | BT | | |

Comments:

SEVERN TRENT LABORATORIES 11 East Olive Road Pensacola, Florida 32514 (850) 474-1001



"FINAL REPORT FORMAT - SINGLE"

| | |
|---|---|
| Accession: | 904491 |
| Client: | STL/CHICAGO |
| Project Number: | 9904G055 |
| Project Name: | AFC001-15IEA |
| Project Location: | N/S |
| Test: | DISSOLVED METHANE |
| Analysis Method: | RSK 175 |
| Extraction Method: | N/A |
| Matrix: | WATER |
| QC Level: | N |

| | | | |
|---|---|---|---|
| Lab Id: | 003 | Sample Date/Time: | 20-APR-99 N/S |
| Client Sample Id: | WCHMHTA008WG08 | Received Date: | 22-APR-99 |
| Batch: GEW169 | | Extraction Date: | N/A |
| Blank: A | Dry Weight %: N/A | Analysis Date: | 27-APR-99 |

| Parameter: | Units: | Results: | Rpt Lmts: | Q: |
|---|---|---|---|---|
| METHANE | UG/L | 2100 | 1 | |
| ANALYST | INITIALS | BT | | |

Comments:

SEVERN TRENT LABORATORIES 11 East Olive Road Pensacola, Florida 32514 (850) 474-1001



"FINAL REPORT FORMAT - SINGLE"

Accession: 904491
Client: STL/CHICAGO
Project Number: 9904G055
Project Name: AFC001-15IEA
Project Location: N/S
Test: DISSOLVED METHANE
Analysis Method: RSK 175
Extraction Method: N/A
Matrix: WATER
QC Level: N

Lab Id: 004
Client Sample Id: DUP01WG08

Sample Date/Time: 20-APR-99 N/S
Received Date: 22-APR-99

Batch: GEW169
Blank: A

Dry Weight %: N/A

Extraction Date: N/A
Analysis Date: 27-APR-99

| Parameter: | Units: | Results: | Rpt Lmts: | Q: |
|---|---|---|---|---|
| METHANE | UG/L | 3100 | 1 | |
| ANALYST | INITIALS | BT | | |

Comments:

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"FINAL REPORT FORMAT - SINGLE"

| | |
|---|---|
| Accession: | 904491 |
| Client: | STL/CHICAGO |
| Project Number: | 9904G055 |
| Project Name: | AFC001-15IEA |
| Project Location: | N/S |
| Test: | DISSOLVED METHANE |
| Analysis Method: | RSK 175 |
| Extraction Method: | N/A |
| Matrix: | WATER |
| QC Level: | N |

| | | | |
|---|---|---|---|
| Lab Id: | 005 | Sample Date/Time: | 20-APR-99 N/S |
| Client Sample Id: | EB042099 | Received Date: | 22-APR-99 |
| Batch: GEW169 | | Extraction Date: | N/A |
| Blank: A | Dry Weight %: N/A | Analysis Date: | 27-APR-99 |

| Parameter: | Units: | Results: | Rpt Lmts: | Q: |
|---|---|---|---|---|
| METHANE | UG/L | 61 | 1 | |
| ANALYST | INITIALS | BT | | |

Comments:

643 271

SEVERN TRENT LABORATORIES 11 East Olive Road Pensacola, Florida 32514 (850) 474-1001

# Analysis Report

Analysis: TNRCC TEXAS METHOD 1005 - TOTAL PETROLEUM HYDROCARBONS

| | |
|---|---|
| Accession: | 904491 |
| Client: | STL/CHICAGO |
| Project Number: | 9904G055 |
| Project Name: | AFC001-15IEA |
| Project Location: | N/S |
| Department: | SEMI-VOLATILE FUELS |

SEVERN TRENT LABORATORIES 11 East Olive Road Pensacola, Florida 32514 (850) 474-1001



"FINAL REPORT FORMAT - SINGLE"

Accession: 904491
Client: STL/CHICAGO
Project Number: 9904G0S5
Project Name: AFC001-15IEA
Project Location: N/S
Test: TNRCC TEXAS METHOD 1005 - TOTAL PETROLEUM HYDROCARBONS
Analysis Method: TNRCC Method 1005 (Rev. 4/98)
Extraction Method: TNRCC Method 1005 (Rev. 4/98)
Matrix: WATER
QC Level: IIMS

Lab Id: 002
Client Sample Id: WHGLTAO11WG08
Sample Date/Time: 20-APR-99 N/S
Received Date: 22-APR-99

Batch: GEW168
Blank: A
Dry Weight %: N/A
Extraction Date: 26-APR-99
Analysis Date: 28-APR-99

| Parameter: | Units: | Results: | Rpt Lmts: | Q: |
|---|---|---|---|---|
| C6-C10 | MG/L | ND | 5 | |
| >C10-C28 | MG/L | ND | 5 | |
| C6-C28 | MG/L | ND | 5 | |
| ORTHO TER PHENYL | %REC/SURR | 76 | 50-150 | |
| ANALYST | INITIALS | LBL | | |

Comments:

643 273

SEVERN TRENT LABORATORIES 11 East Olive Road Pensacola, Florida 32514 (850) 474-1001



"FINAL REPORT FORMAT - SINGLE"

| | |
|---|---|
| Accession: | 904491 |
| Client: | STL/CHICAGO |
| Project Number: | 9904G055 |
| Project Name: | AFC001-15IEA |
| Project Location: | N/S |
| Test: | TNRCC TEXAS METHOD 1005 - TOTAL PETROLEUM HYDROCARBONS |
| Analysis Method: | TNRCC Method 1005 (Rev. 4/98) |
| Extraction Method: | TNRCC Method 1005 (Rev. 4/98) |
| Matrix: | WATER |
| QC Level: | IIMS |

| | | | |
|---|---|---|---|
| Lab Id: | 003 | Sample Date/Time: | 20-APR-99 N/S |
| Client Sample Id: | WCHMHTA008WG08 | Received Date: | 22-APR-99 |
| Batch: GEW168 | | Extraction Date: | 26-APR-99 |
| Blank: A | Dry Weight %: N/A | Analysis Date: | 28-APR-99 |

| Parameter: | Units: | Results: | Rpt Lmts: | Q: |
|---|---|---|---|---|
| C6-C10 | MG/L | ND | 5 | |
| >C10-C28 | MG/L | ND | 5 | |
| C6-C28 | MG/L | ND | 5 | |
| ORTHO TER PHENYL | %REC/SURR | 85 | 50-150 | |
| ANALYST | INITIALS | LBL | | |

Comments:

SEVERN TRENT LABORATORIES 11 East Olive Road Pensacola, Florida 32514 (850) 474-100



"FINAL REPORT FORMAT - SINGLE"

Accession: 904491
Client: STL/CHICAGO
Project Number: 9904G055
Project Name: AFC001-15IEA
Project Location: N/S
Test: TNRCC TEXAS METHOD 1005 - TOTAL PETROLEUM HYDROCARBONS
Analysis Method: TNRCC Method 1005 (Rev. 4/98)
Extraction Method: TNRCC Method 1005 (Rev. 4/98)
Matrix: WATER
QC Level: IIMS

Lab Id: 004
Client Sample Id: DUP01WG08
Sample Date/Time: 20-APR-99 N/S
Received Date: 22-APR-99

Batch: GEW168
Blank: A
Dry Weight %: N/A
Extraction Date: 26-APR-99
Analysis Date: 28-APR-99

| Parameter: | Units: | Results: | Rpt Lmts: | Q: |
|---|---|---|---|---|
| C6-C10 | MG/L | ND | 5 | |
| >C10-C28 | MG/L | ND | 5 | |
| C6-C28 | MG/L | ND | 5 | |
| ORTHO TER PHENYL | %REC/SURR | 50 | 50-150 | |
| ANALYST | INITIALS | LBL | | |

Comments:

SEVERN TRENT LABORATORIES 11 East Olive Road Pensacola, Florida 32514 (850) 474-100



"FINAL REPORT FORMAT - SINGLE"

| | |
|---|---|
| Accession: | 904491 |
| Client: | STL/CHICAGO |
| Project Number: | 9904G055 |
| Project Name: | AFC001-15IEA |
| Project Location: | N/S |
| Test: | TNRCC TEXAS METHOD 1005 - TOTAL PETROLEUM HYDROCARBONS |
| Analysis Method: | TNRCC Method 1005 (Rev. 4/98) |
| Extraction Method: | TNRCC Method 1005 (Rev. 4/98) |
| Matrix: | WATER |
| QC Level: | IIMS |

| | | | |
|---|---|---|---|
| Lab Id: | 005 | Sample Date/Time: | 20-APR-99 N/S |
| Client Sample Id: | EB042099 | Received Date: | 22-APR-99 |
| Batch: GEW168 | | Extraction Date: | 26-APR-99 |
| Blank: A | Dry Weight %: N/A | Analysis Date: | 28-APR-99 |

| Parameter: | Units: | Results: | Rpt Lmts: | Q: |
|---|---|---|---|---|
| C6-C10 | MG/L | ND | 5 | |
| >C10-C28 | MG/L | ND | 5 | |
| C6-C28 | MG/L | ND | 5 | |
| ORTHO TER PHENYL | %REC/SURR | 73 | 50-150 | |
| ANALYST | INITIALS | LBL | | |

Comments:

SEVERN TRENT LABORATORIES, INC. 11 East Olive Rd Pensacola, FL 32514 (850) 474-1001

## Data Qualifiers for Final Report

STL-Pensacola Inorganic/Organic and AFCEE Projects (under QAPP)

| | | |
|---|---|---|
| | (For positive results) | Temperature limits exceeded (≤2°C or ≥ 6°C) |
| J5 | (TICs) | The reported value is quantitated as a TIC; therefore, it is estimated |
| J6 | (For positive results) | LCS or Surrogate %R is > upper control limit (UCL) or < lower control limit (LCL) |
| J7 | (For positive results) | The reported value is > the laboratory MDL and < lowest calibration standards; therefore, the quantitation is an estimation. |
| J (AFCEE description) | The analyte was positively identified, the quantitation is an estimation | |
| R1 | (For nondetects) | Temperature limits exceeded (≤2°C or ≥ 6°C) |
| R2 | Improper preservation, no preservative present in sample upon receipt | |
| R3 | Improper preservation, incorrect preservative present in sample upon receipt | |
| R4 | Holding time exceeded | |
| R5 | Collection requirements not met, improper container used for sample | |
| R6 | LCS or surrogate %R is < LCL and analyte is not detected or surrogate %R is < 10% for detects/nondetects | |
| R7 | Internal standard area outside –50% to +100% of initial calibration midpoint standard. | |
| R8 | Second source calibration verification exceeds acceptance criteria. | |
| R9 | Improper preservation, sample not filtered in the field | |
| R (AFCEE description) | The data are unusable due to deficiencies in the ability to analyze the sample and meet QC criteria | |
| F | < laboratory or AFCEE RL and > laboratory MDL | |
| F (AFCEE description) | The analyte was positively identified but the associated numerical value is below the AFCEE or lab RL | |
| U2 | ≤ Laboratory MDL (value for result will be the MDL, never below the MDL) | |
| U (AFCEE description) | The analyte was analyzed for but not detected The associated numerical value is at or below the MDL | |
| B (AFCEE description) | The analyte was found in the associated blank, as well as in the sample | |
| @ | Adjusted reporting limit due to sample matrix (dilution prior to digestion and/or analysis) | |
| + | Elevated reporting limit due to dilution into calibration range | |
| * | Elevated reporting limit due to matrix interference (dilution prior to digestion and/or analysis) | |
| # | Elevated reporting limit due to insufficient sample size | |
| D | Diluted out | |
| M | A matrix effect was present (sample was analyzed twice to confirm or chromatogram had interfering peaks) | |
| C | Incorrect sample amount was submitted to the laboratory for analysis | |
| | Second-column confirmation exceeded the SW-846 criteria of 40% RPD for this compound. | |

ND = Not Detected at or above the STL-Pensacola reporting limit (RL) N/S = Not Submitted N/A = Not Applicable
IDL = Laboratory Instrument Detection Limit MDL = Laboratory Method Detection Limit
RL = Reporting Limit (AFCEE RLs are listed in the AFCEE QAPP)

Any time a sample arrives at the laboratory improperly preserved (at improper pH or temperature) or after holding time has expired or prepared or analyzed after holding time, client must be notified in writing (i.e case narrative)

Florida Projects Inorganic/Organic
Refer to back side of this page

ICR Projects Inorganic/Organic

| | | | |
|---|---|---|---|
| A1 | Acceptable | R6 | Rejected |

Examples ICR Flags
R6 = Laboratory extracted the sample but the refrigerator malfunctioned so the extract became warm and client was notified
R6 = Sample arrived in laboratory in good condition, however, the laboratory did not analyze it within EPA's established holding time limit

CLP and CLP-like Projects Refer to referenced CLP Statement of Work (SOW) for explanation of data qualifiers

643 277

received 5/27

Committed To *Your* Success

**Severn Trent Laboratories**
2417 Bond Street
University Park, IL 60466

Tel: (708) 534-5200
Fax: (708) 534-5211
www.stl-inc.com

May 26, 1999

Mr. Ken Rapuano
HydroGeoLogic, Inc.
1155 Herndon Parkway, Suite 900
Herndon, VA 20170

RE: AFC001-15IEA
Analytical Report & EDD
Lot 9904G094

Dear Mr. Rapuano:

The enclosed analytical report is for the project and lot number listed above. If you have any questions, please contact me at 708-534-5200.

Sincerely,
Severn Trent Laboratories

Donna Ingersoll

Donna Ingersoll
Project Manager

sj

Enclosures

cc: CLP Report/Nancy Weaver/Environmental Data Services, Inc.
EDD - Lynn Morgan/HydroGeoLogic, Inc.

Approved By:

Michael J. Healy

Michael J. Healy
General Manager

The results presented in this report relate only to the analytical testing and conditions of sample at receipt. This report pertains to only those samples actually tested. All 1162 pages of this report are integral parts of the analytical data. Therefore, this report should be reproduced only in its entirety

Severn Trent Laboratories Chicago
INORGANIC ANALYTICAL DATA PACKAGE FOR
AFC001-15IEA

LOT # :9904G094

| CLIENT ID /ANALYSIS | SAMPLE # | MTX | PREP # | COLLECTN | DATE REC | EXT/PREP | ANALYSIS |
|---|---|---|---|---|---|---|---|
| TB042199 | | | | | | | |
| SUB-OUT TEST FOR SUB | 001 | W | | 04/21/99 | 04/22/99 | | |
| GMI-22-04MWG08 | | | | | | | |
| ALKALINITY | 002 | W | 99GAK039 | 04/21/99 | 04/22/99 | 05/03/99 | 05/03/99 |
| CHLORIDE BY IC | 002 | W | 99GD1012 | 04/21/99 | 04/22/99 | 04/22/99 | 04/22/99 |
| NITRATE BY IC | 002 | W | 99GD1012 | 04/21/99 | 04/22/99 | 04/22/99 | 04/22/99 |
| SULFATE BY IC | 002 | W | 99GD1012 | 04/21/99 | 04/22/99 | 04/22/99 | 04/22/99 |
| TOTAL ORGANIC CARBON | 002 | W | 99GTC069 | 04/21/99 | 04/22/99 | 04/30/99 | 04/30/99 |
| TOTAL ORGANIC CARBON | 002 | W | 99GTC069 | 04/21/99 | 04/22/99 | 04/30/99 | 04/30/99 |
| SUB-OUT TEST FOR SUB | 002 | W | | 04/21/99 | 04/22/99 | | |
| LSA1628-3WG08 | | | | | | | |
| ALKALINITY | 003 | W | 99GAK039 | 04/21/99 | 04/22/99 | 05/03/99 | 05/03/99 |
| CHLORIDE BY IC | 003 | W | 99GD1012 | 04/21/99 | 04/22/99 | 04/22/99 | 04/22/99 |
| NITRATE BY IC | 003 | W | 99GD1012 | 04/21/99 | 04/22/99 | 04/22/99 | 04/22/99 |
| SULFATE BY IC | 003 | W | 99GD1012 | 04/21/99 | 04/22/99 | 04/22/99 | 04/22/99 |
| TOTAL ORGANIC CARBON | 003 | W | 99GTC069 | 04/21/99 | 04/22/99 | 04/30/99 | 04/30/99 |
| TOTAL ORGANIC CARBON | 003 | W | 99GTC069 | 04/21/99 | 04/22/99 | 04/30/99 | 04/30/99 |
| SUB-OUT TEST FOR SUB | 003 | W | | 04/21/99 | 04/22/99 | | |
| GMI-22-06MWG08 | | | | | | | |
| ALKALINITY | 005 | W | 99GAK039 | 04/21/99 | 04/22/99 | 05/03/99 | 05/03/99 |
| ALKALINITY | 005 REP | W | 99GAK039 | 04/21/99 | 04/22/99 | 05/03/99 | 05/03/99 |
| ALKALINITY | 005 MS | W | 99GAK039 | 04/21/99 | 04/22/99 | 05/03/99 | 05/03/99 |
| CHLORIDE BY IC | 005 | W | 99GD1012 | 04/21/99 | 04/22/99 | 04/22/99 | 04/22/99 |
| CHLORIDE BY IC | 005 MS | W | 99GD1012 | 04/21/99 | 04/22/99 | 04/22/99 | 04/22/99 |
| CHLORIDE BY IC | 005 MSD | W | 99GD1012 | 04/21/99 | 04/22/99 | 04/22/99 | 04/22/99 |
| NITRATE BY IC | 005 | W | 99GD1012 | 04/21/99 | 04/22/99 | 04/22/99 | 04/22/99 |
| NITRATE BY IC | 005 MS | W | 99GD1012 | 04/21/99 | 04/22/99 | 04/22/99 | 04/22/99 |
| NITRATE BY IC | 005 MSD | W | 99GD1012 | 04/21/99 | 04/22/99 | 04/22/99 | 04/22/99 |
| SULFATE BY IC | 005 | W | 99GD1012 | 04/21/99 | 04/22/99 | 04/22/99 | 04/22/99 |
| SULFATE BY IC | 005 MS | W | 99GD1012 | 04/21/99 | 04/22/99 | 04/22/99 | 04/22/99 |
| SULFATE BY IC | 005 MSD | W | 99GD1012 | 04/21/99 | 04/22/99 | 04/22/99 | 04/22/99 |
| TOTAL ORGANIC CARBON | 005 | W | 99GTC069 | 04/21/99 | 04/22/99 | 04/30/99 | 04/30/99 |

NY CERTIFICATION # 11006

To: AFC001-15IEA
c/o HydroGeoLogic, Inc.
1155 Herndon Parkway, Ste. 900
Herndon, VA 20170

Attn: Mr. Ken Rapuano

Date: Monday May 17th, 1999

RE: SPOT35-5WG08
Project # 60025-001-001-0001
Lab ID: 9904G094-013
Sample Date: 04/22/99
Date Received: 04/23/99

Inorganic Data Report

| Parameters | Result | | Units | Reporting Limit |
|---|---|---|---|---|
| Alkalinity | 408 | | mg/L | 10.0 |
| Chloride by IC | 91.6 | | mg/L | 5.0 |
| Nitrate-N by IC | 0.10 | u | mg/L | 0.10 |
| Sulfate by IC | 1.7 | | mg/L | 0.20 |
| Total Organic Carbon | 6.0 | | mg/L | 1.0 |
| TOC Test 2 | 6.1 | | mg/L | 1.0 |

To: AFC001-15IEA
c/o HydroGeoLogic, Inc.
1155 Herndon Parkway, Ste. 900
Herndon, VA 20170

Attn: Mr. Ken Rapuano

Date: Monday May 17th, 1999

RE: MW-53WG08
Project # 60025-001-001-0001
Lab ID: 9904G094-017
Sample Date: 04/22/99
Date Received: 04/23/99

## Inorganic Data Report

| Parameters | Result | | Units | Reporting Limit |
|---|---|---|---|---|
| Alkalinity | 206 | | mg/L | 10.0 |
| Chloride by IC | 6.7 | | mg/L | 0.20 |
| Nitrate-N by IC | 5.3 | | mg/L | 0.50 |
| Sulfate by IC | 16.5 | | mg/L | 5.0 |
| Total Organic Carbon | 1.0 | u | mg/L | 1.0 |
| TOC Test 2 | 1.0 | u | mg/L | 1.0 |

To: AFC001-15IEA
c/o HydroGeoLogic, Inc.
1155 Herndon Parkway, Ste. 900
Herndon, VA 20170

Attn: Mr. Ken Rapuano

Date: Monday May 17th, 1999

Project # 60025-001-001-0001
Lab Batch: 9904G094

## Inorganic Method Blank Data Report

| Sample | Lab ID | Parameter | Result | | Units | Reporting Limit |
|---|---|---|---|---|---|---|
| Blank 1 | 99GAK039-MB1 | Alkalinity | 10.0 | u | mg/L | 10.0 |
| Blank 1 | 99GD1012-MB1 | Chloride by IC | 0.20 | u | mg/L | 0.20 |
| | | Nitrate-N by IC | 0.10 | u | mg/L | 0.10 |
| | | Sulfate by IC | 0.20 | u | mg/L | 0.20 |
| Blank 1 | 99GTC069-MB1 | Total Organic Carbon | 1.0 | u | mg/L | 1.0 |
| Blank 1 | 99GD1013-MB1 | Chloride by IC | 0.20 | u | mg/L | 0.20 |
| | | Nitrate-N by IC | 0.10 | u | mg/L | 0.10 |
| | | Phosphate by IC | 0.10 | u | mg/L | 0.10 |
| | | Sulfate by IC | 0.20 | u | mg/L | 0.20 |
| Blank 1 | 99GAK040-MB1 | Alkalinity | 10.0 | u | mg/L | 10.0 |

643 282

To: AFC001-15IEA
c/o HydroGeoLogic, Inc.
1155 Herndon Parkway, Ste. 900
Herndon, VA 20170

Attn: Mr. Ken Rapuano

Date: Monday May 17th, 1999

Project # 60025-001-001-0001
Lab Batch: 9904G094

## Inorganic Precision Data Report

| Sample | Site ID | Parameter | Initial Result | Replicate | RPD |
|---|---|---|---|---|---|
| -005REP | GMI-22-06MWG08 | Alkalinity | 404 | 412 | 1.9 |

To: AFC001-15IEA
c/o HydroGeoLogic, Inc.
1155 Herndon Parkway, Ste. 900
Herndon, VA 20170

Attn: Mr. Ken Rapuano

Date: Monday May 17th, 1999

Project # 60025-001-001-0001
Lab Batch: 9904G094

## Inorganic Accuracy Data Report

| Sample | Site ID | Parameter | Spiked Sample | Initial Result | Spiked Amount | % Recov |
|---|---|---|---|---|---|---|
| -005 | GMI-22-06MWG08 | Alkalinity | 502 | 404 | 100 | NA |
| | | Chloride by IC | 128 | 107 | 50.0 | 41.1 |
| | | Chloride by IC MSD | 133 | 107 | 50.0 | 51.8 |
| | | Nitrate-N by IC | 19 | 2.0 | 20 | 84.2 |
| | | Nitrate-N by IC MSD | 19 | 2.0 | 20 | 86. |
| | | Sulfate by IC | 113 | 77.8 | 50.0 | 70.2 |
| | | Sulfate by IC MSD | 115 | 77.8 | 50.0 | 74.8 |
| | | TOC | 12.0 | 2.2 | 10.0 | 97 8 |
| | | TOC MSD | 11.9 | 2.2 | 10.0 | 97.6 |

643 281

To: AFC001-15IEA
c/o HydroGeoLogic, Inc.
1155 Herndon Parkway, Ste. 900
Herndon, VA 20170

Attn: Mr. Ken Rapuano

Date: Monday May 17th, 1999

Project # 60025-001-001-0001
Lab Batch: 9904G094

## Inorganic Duplicate Spike Report

| Sample | Site ID | Parameter | Spike #1 % Recov | Spike #2 % Recov | RPD |
|---|---|---|---|---|---|
| -005 | GMI-22-06MWG08 | Chloride by IC | 41.1 | 51.8 | 22.9 |
| | | Nitrate-N by IC | 84.2 | 86.3 | 2.5 |
| | | Sulfate by IC | 70.2 | 74.8 | 6.3 |
| | | TOC | 97.8 | 97.6 | 0.20 |

To: AFC001-15IEA
c/o HydroGeoLogic, Inc.
1155 Herndon Parkway, Ste. 900
Herndon, VA 20170

Attn: Mr. Ken Rapuano

Date: Monday May 17th, 1999

Project # 60025-001-001-0001
Lab Batch: 9904G094

## Inorganic Laboratory Control Standards Report

| Lab ID | Parameter | Spiked Amount | Units | Spike #1 % Recov. | Spike #2 % Recov. | RPD |
|---|---|---|---|---|---|---|
| 99GAK039-LCS | Alkalinity | 100 | mg/L | 94.6 | NA | NA |
| 99GD1012-LC1 | Chloride by IC | 5.0 | mg/L | 96.8 | NA | NA |
| | Sulfate by IC | 5.0 | mg/L | 98.1 | NA | NA |
| 99GD1012-LC2 | Chloride by IC | 50.0 | mg/L | 102 | NA | NA |
| | Sulfate by IC | 50.0 | mg/L | 101 | NA | NA |
| 99GD1012-LCS | Nitrate-N by IC | 2.0 | mg/L | 99.6 | NA | NA |
| 99GTC069-LCS | TOC | 5.0 | mg/L | 92.3 | NA | NA |
| 99GD1013-LC1 | Chloride by IC | 5.0 | mg/L | 99.3 | NA | NA |
| | Sulfate by IC | 5.0 | mg/L | 97.0 | NA | NA |
| 99GD1013-LC2 | Chloride by IC | 50.0 | mg/L | 99.0 | NA | NA |
| | Sulfate by IC | 50.0 | mg/L | 98.0 | NA | NA |
| 99GD1013-LCS | Nitrate-N by IC | 2.0 | mg/L | 100 | NA | NA |
| | Phosphate by IC | 2.0 | mg/L | 101 | NA | NA |
| 99GAK040-LCS | Alkalinity | 100 | mg/L | 95.4 | NA | NA |

# Severn Trent Laboratories Chicago
# Wet Chemistry Case Narrative

**Client:** **HydroGeoLogic NAS Ft. Worth AFC001-15IEA**
**RFW Lot:** **9904G094** Date Rec'd: 04/22/99

1. This narrative covers the analysis of the samples in the above RFW Lot by the following methods.

   Alkalinity - EPA Method 310.1
   Anions by Ion Chromatography - SW 846 9056
   - Chloride
   - Nitrate as N
   - Sulfate as $SO_4$

   TOC - EPA Method 415.1

2. The EPA water holding times were met. Refer to the Laboratory Chronicle Page for dates of sampling, receipt, and analysis.

3. The initial and continuing calibration verification standards and blanks were in control. There are two ICVs and two CCVs every 10 readings in the IC sets. Please see the LCS discussion below, in item 5.

4. All method blanks were below the detection limits.

5. All LCS recoveries were within control limits.

   Severn Trent Laboratories Chicago has recently started using 2 IC standard curves and calculating each sample chromatogram against the better curve for its concentration. This cuts down on the number of dilutions that are needed and expedites analysis, which can be especially important for those ions with short holding times. Accommodating two linear ranges technically within one analytical prep batch requires 2 LCSs, one mid-range on each curve. Both LCSs are included in the data, but they are not duplicates of each other and no RPD is calculated between them.

   Please see the LCS Summary Pages of this report for additional details.

6. Matrix QC was client-designated on sample GMI-22-06MWG08. The chloride and sulfate spike recoveries were biased low. The alkalinity analyst did a duplicate and single spike rather than two spikes. Please see the Precision and Accuray pages of this report for additional details.

Diane L. Harper
Wet Chemistry Section Manager

5/14/99
Date

Severn Trent Laboratories Chicago
8260 ANALYTICAL DATA PACKAGE FOR
AFC001-15IEA

LOT # :9904G094

| CLIENT ID | SAMPLE # | MTX | PREP # | COLLECTN | DATE REC | EXT/PREP | ANALYSIS |
|---|---|---|---|---|---|---|---|
| TB042199 | 001 | W | 99GVF139 | 04/21/99 | 04/22/99 | N/A | 04/29/99 |
| GMI-22-04MWG08 | 002 | W | 99GVF139 | 04/21/99 | 04/22/99 | N/A | 04/29/99 |
| GMI-22-04MWG08 | 002 D1 | W | 99GVF141 | 04/21/99 | 04/22/99 | N/A | 04/30/99 |
| LSA1628-3WG08 | 003 | W | 99GVF139 | 04/21/99 | 04/22/99 | N/A | 04/29/99 |
| LSA1628-3WG08 | 003 D1 | W | 99GVF141 | 04/21/99 | 04/22/99 | N/A | 04/30/99 |
| GMI-22-07MWG08 | 004 | W | 99GVF139 | 04/21/99 | 04/22/99 | N/A | 04/29/99 |
| GMI-22-06MWG08 | 005 | W | 99GVF139 | 04/21/99 | 04/22/99 | N/A | 04/29/99 |
| GMI-22-06MWG08 | 005 D1 | W | 99GVF141 | 04/21/99 | 04/22/99 | N/A | 04/30/99 |
| GMI-22-06MWG08 | 005 MS | W | 99GVF139 | 04/21/99 | 04/22/99 | N/A | 04/29/99 |
| GMI-22-06MWG08 | 005 MSD | W | 99GVF139 | 04/21/99 | 04/22/99 | N/A | 04/29/99 |
| WCHMHTA013WG08 | 006 | W | 99GVF139 | 04/21/99 | 04/22/99 | N/A | 04/29/99 |
| LF03-3DWG08 | 007 | W | 99GVF139 | 04/21/99 | 04/22/99 | N/A | 04/29/99 |
| HM-110WG08 | 008 | W | 99GVF139 | 04/21/99 | 04/22/99 | N/A | 04/29/99 |
| HM-110WG08 | 008 D1 | W | 99GVF141 | 04/21/99 | 04/22/99 | N/A | 04/30/99 |
| DUP06WG08 | 009 | W | 99GVF139 | 04/21/99 | 04/22/99 | N/A | 04/29/99 |
| DUP06WG08 | 009 D1 | W | 99GVF141 | 04/21/99 | 04/22/99 | N/A | 04/30/99 |
| LF05-01WG08 | 010 | W | 99GVF139 | 04/21/99 | 04/22/99 | N/A | 04/29/99 |
| LF05-01WG08 | 010 D1 | W | 99GVF141 | 04/21/99 | 04/22/99 | N/A | 04/30/99 |
| [illegible]42299 | 011 | W | 99GVF141 | 04/22/99 | 04/23/99 | N/A | 04/30/99 |
| [illegible]GLTA203WG08 | 012 | W | 99GVF141 | 04/22/99 | 04/23/99 | N/A | 04/30/99 |
| SPOT35-5WG08 | 013 | W | 99GVF141 | 04/22/99 | 04/23/99 | N/A | 04/30/99 |
| SPOT35-5WG08 | 013 R1 | W | 99GVF141 | 04/22/99 | 04/23/99 | N/A | 04/30/99 |
| ST14-24WG08 | 014 | W | 99GVF141 | 04/22/99 | 04/23/99 | N/A | 04/30/99 |
| ST14-W11G08 | 015 | W | 99GVF141 | 04/22/99 | 04/23/99 | N/A | 04/30/99 |
| DUP02WG08 | 016 | W | 99GVF141 | 04/22/99 | 04/23/99 | N/A | 04/30/99 |
| MW-53WG08 | 017 | W | 99GVF141 | 04/22/99 | 04/23/99 | N/A | 04/30/99 |
| MW-53WG08 | 017 D1 | W | 99GVC120 | 04/22/99 | 04/23/99 | N/A | 05/02/99 |

LAB QC.

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| VBLKYY | MB1 | W | 99GVF139 | N/A | N/A | N/A | 04/29/99 |
| VBLKYY | MB1 BS | W | 99GVF139 | N/A | N/A | N/A | 04/29/99 |
| VBLKYW | MB1 | W | 99GVF141 | N/A | N/A | N/A | 04/30/99 |
| VBLKYW | MB1 BS | W | 99GVF141 | N/A | N/A | N/A | 04/30/99 |
| VBLKYU | MB1 | W | 99GVC120 | N/A | N/A | N/A | 05/02/99 |
| VBLKYU | MB1 BS | W | 99GVC120 | N/A | N/A | N/A | 05/02/99 |

NY CERTIFICATION # 11006

RFW Batch Number: 9904G094 Client: AFC001-15IEA Work Order: 60025-001-001-0 Page: 3b

| Cust ID: | HM-110WG08 | HM-110WG08 | DUP06WG08 | DUP06WG08 | LF05-01WG08 | LF05-01WG08 |
|---|---|---|---|---|---|---|
| RFW#: | 008 | 008 DL | 009 | 009 DL | 010 | 010 DL |
| trans-1,3-Dichloropropene | 0.5 U | NA | 0.5 U | NA | 0.5 U | NA |
| 1,1,2-Trichloroethane | 0.5 U | NA | 0.5 U | NA | 0.5 U | NA |
| 1,3-Dichloropropane | 0.4 U | NA | 0.4 U | NA | 0.4 U | NA |
| Tetrachloroethene | 0.5 U | NA | 0.5 U | NA | 0.5 U | NA |
| Dibromochloromethane | 0.5 U | NA | 0.5 U | NA | 0.5 U | NA |
| 1,2-Dibromoethane | 0.5 U | NA | 0.5 U | NA | 0.5 U | NA |
| 1-Chlorohexane | 0.5 U | NA | 0.5 U | NA | 0.5 U | NA |
| Chlorobenzene | 0.4 U | NA | 0.4 U | NA | 0.4 U | NA |
| 1,1,1,2-Tetrachloroethane | 0.5 U | NA | 0.5 U | NA | 0.5 U | NA |
| Ethylbenzene | 0.5 U | NA | 0.5 U | NA | 0.5 U | NA |
| m/p-Xylene | 0.5 U | NA | 0.5 U | NA | 0.5 U | NA |
| o-Xylene | 0.5 U | NA | 0.5 U | NA | 0.5 U | NA |
| Styrene | 0.4 U | NA | 0.4 U | NA | 0.4 U | NA |
| Bromoform | 0.5 U | NA | 0.5 U | NA | 0.5 U | NA |
| Isopropylbenzene | 0.5 U | NA | 0.5 U | NA | 0.5 U | NA |
| 1,1,2,2-Tetrachloroethane | 0.5 U | NA | 0.5 U | NA | 0.5 U | NA |
| Bromobenzene | 0.3 U | NA | 0.3 U | NA | 0.3 U | NA |
| 1,2,3-Trichloropropane | 0.5 U | NA | 0.5 U | NA | 0.5 U | NA |
| n-Propylbenzene | 0.4 U | NA | 0.4 U | NA | 0.4 U | NA |
| 2-Chlorotoluene | 0.4 U | NA | 0.4 U | NA | 0.4 U | NA |
| 1,3,5-Trimethylbenzene | 0.5 U | NA | 0.5 U | NA | 0.5 U | NA |
| 4-Chlorotoluene | 0.5 U | NA | 0.5 U | NA | 0.5 U | NA |
| tert-Butylbenzene | 0.5 U | NA | 0.5 U | NA | 0.5 U | NA |
| 1,2,4-Trimethylbenzene | 0.5 U | NA | 0.5 U | NA | 0.5 U | NA |
| sec-Butylbenzene | 0.5 U | NA | 0.5 U | NA | 0.5 U | NA |
| 1,3-Dichlorobenzene | 0.5 U | NA | 0.5 U | NA | 0.5 U | NA |
| p-Isopropyltoluene | 0.5 U | NA | 0.5 U | NA | 0.5 U | NA |
| 1,4-Dichlorobenzene | 0.3 U | NA | 0.3 U | NA | 0.3 U | NA |
| n-Butylbenzene | 0.5 U | NA | 0.5 U | NA | 0.5 U | NA |
| 1,2-Dichlorobenzene | 0.3 U | NA | 0.3 U | NA | 0.3 U | NA |
| 1,2-Dibromo-3-chloropropane | 0.5 U | NA | 0.5 U | NA | 0.5 U | NA |
| 1,2,4-Trichlorobenzene | 0.4 U | NA | 0.4 U | NA | 0.4 U | NA |
| Hexachlorobutadiene | 0.5 U | NA | 0.5 U | NA | 0.5 U | NA |
| Naphthalene | 0.5 U | NA | 0.5 U | NA | 0.5 U | NA |
| 1,2,3-Trichlorobenzene | 0.5 U | NA | 0.5 U | NA | 0.5 U | NA |
| Vinyl acetate | 2 U | NA | 2 U | NA | 2 U | NA |

*= Outside of EPA CLP QC limits.

STL Chicago
METHOD 8260 VOLATILES

RFW Batch Number: 9904G094 Client: AFC001-15IEA Work Order: 60025-001-001-0

Report Date: 05/06/99 15:11
Page: 4a

| Sample Information | | | | | | | |
|---|---|---|---|---|---|---|---|
| Cust ID: | TB042299 | WHGLTA203WG08 | SPOT35-5WG08 | SPOT35-5WG08 | ST14-24WG08 | ST14-W11G08 | |
| RFW#: | 011 | 012 | 013 | 013 | 014 | 015 | |
| Matrix: | WATER | WATER | WATER | WATER | WATER | WATER | |
| D.F.: | 1 | 1 | 1 | 1 | 1 | 1 | |
| Units: | UG/L | UG/L | UG/L | UG/L | UG/L | UG/L | |
| | | | | REPREP | | | |
| Surrogate Recovery: 1,2-Dichloroethane-d4 | 94 % | 98 % | 111 % | 103 % | 95 % | 95 % | |
| Toluene-d8 | 109 % | 111 % | 133 * % | 131 * % | 107 % | 106 % | |
| 4-Bromofluorobenzene | 96 % | 97 % | 98 % | 101 % | 97 % | 94 % | |
| Dibromofluoromethane | 84 % | 88 % | 89 % | 80 % | 85 % | 85 % | |
| | fl | fl | fl | fl | fl | fl | |
| Dichlorodifluoromethane | 0.5 U | 0.5 U | 0.5 U | 0.5 U | 0.5 U | 0.5 U | |
| Chloromethane | 0.5 U | 0.5 U | 0.5 U | 0.5 U | 0.5 U | 0.5 U | |
| Vinyl chloride | 0.5 U | 3 | 0.5 U | 0.5 U | 0.5 U | 0.5 U | |
| Bromomethane | 0.5 U | 0.5 U | 0.5 U | 0.5 U | 0.5 U | 0.5 U | |
| Chloroethane | 0.5 U | 0.5 U | 0.5 U | 0.5 U | 0.5 U | 0.5 U | |
| Trichlorofluoromethane | 0.5 U | 0.5 U | 0.5 U | 0.5 U | 0.5 U | 0.5 U | |
| 1,1-Dichloroethene | 0.5 U | 0.5 U | 0.5 U | 0.5 U | 0.5 U | 0.5 U | |
| Methylene Chloride | 0.5 U | 0.5 U | 0.5 U | 0.5 U | 0.5 U | 0.5 U | |
| trans-1,2-Dichloroethene | 0.5 U | 5 | 0.5 U | 0.5 U | 0.5 U | 0.5 U | |
| 1,1-Dichloroethane | 0.4 U | 0.4 U | 0.4 U | 0.4 U | 0.4 U | 0.4 U | |
| cis-1,2-Dichloroethene | 0.5 U | 7 | 0.5 U | 0.5 U | 0.5 U | 0.5 U | |
| 2,2-Dichloropropane | 0.5 U | 0.5 U | 0.5 U | 0.5 U | 0.5 U | 0.5 U | |
| Bromochloromethane | 0.4 U | 0.4 U | 0.4 U | 0.4 U | 0.4 U | 0.4 U | |
| Chloroform | 0.3 U | 0.3 U | 0.3 U | 0.3 U | 0.3 U | 0.3 U | |
| 1,1,1-Trichloroethane | 0.5 U | 0.5 U | 0.5 U | 0.5 U | 0.5 U | 0.5 U | |
| 1,1-Dichloropropene | 0.5 U | 0.5 U | 0.5 U | 0.5 U | 0.5 U | 0.5 U | |
| Carbon Tetrachloride | 0.5 U | 0.5 U | 0.5 U | 0.5 U | 0.5 U | 0.5 U | |
| Benzene | 0.4 U | 0.4 U | 0.4 U | 0.4 U | 0.4 U | 0.4 U | |
| 1,2-Dichloroethane | 0.5 U | 0.5 U | 0.5 U | 0.5 U | 0.5 U | 0.5 U | |
| Trichloroethene | 0.5 U | 0.5 U | 0.5 U | 0.5 U | 0.5 U | 0.5 U | |
| 1,2-Dichloropropane | 0.4 U | 0.4 U | 0.4 U | 0.4 U | 0.4 U | 0.4 U | |
| Dibromomethane | 0.5 U | 0.5 U | 0.5 U | 0.5 U | 0.5 U | 0.5 U | |
| Bromodichloromethane | 0.5 U | 0.5 U | 0.5 U | 0.5 U | 0.5 U | 0.5 U | |
| cis-1,3-Dichloropropene | 0.5 U | 0.5 U | 0.5 U | 0.5 U | 0.5 U | 0.5 U | |
| Toluene | 0.5 U | 0.5 U | 0.5 U | 0.5 U | 0.5 U | 0.5 U | |

*= Outside of EPA CLP QC limits.

RFW Batch Number: 9904G094 Client: AFC001-15IEA Work Order: 60025-001-001-0 Page: 4b

| Cust ID: | TB042299 | WHGLTA203WG0 | SPOT35-5WG08 | SPOT35-5WG08 | ST14-24WG08 | ST14-W11G08 |
|---|---|---|---|---|---|---|
| RFW#: | 011 | 012 | 013 | 013 REPREP | 014 | 015 |
| trans-1,3-Dichloropropene | 0.5 U | 0.5 U | 0.5 U | 0.5 U | 0.5 U | 0.5 U |
| 1,1,2-Trichloroethane | 0.5 U | 0.5 U | 0.5 U | 0.5 U | 0.5 U | 0.5 U |
| 1,3-Dichloropropane | 0.4 U | 0.4 U | 0.4 U | 0.4 U | 0.4 U | 0.4 U |
| Tetrachloroethene | 0.5 U | 0.5 U | 0.5 U | 0.5 U | 0.5 U | 0.5 U |
| Dibromochloromethane | 0.5 U | 0.5 U | 0.5 U | 0.5 U | 0.5 U | 0.5 U |
| 1,2-Dibromoethane | 0.5 U | 0.5 U | 0.5 U | 0.5 U | 0.5 U | 0.5 U |
| 1-Chlorohexane | 0.5 U | 0.5 U | 0.5 U | 0.5 U | 0.5 U | 0.5 U |
| Chlorobenzene | 0.4 U | 0.4 U | 0.4 U | 0.4 U | 0.4 U | 0.4 U |
| 1,1,1,2-Tetrachloroethane | 0.5 U | 0.5 U | 0.5 U | 0.5 U | 0.5 U | 0.5 U |
| Ethylbenzene | 0.5 U | 0.5 U | 0.5 U | 0.5 U | 0.5 U | 0.5 U |
| m/p-Xylene | 0.5 U | 0.5 U | 0.5 U | 0.5 U | 0.5 U | 0.5 U |
| o-Xylene | 0.5 U | 0.5 U | 0.5 U | 0.5 U | 0.5 U | 0.5 U |
| Styrene | 0.4 U | 0.4 U | 0.4 U | 0.4 U | 0.4 U | 0.4 U |
| Bromoform | 0.5 U | 0.5 U | 0.5 U | 0.5 U | 0.5 U | 0.5 U |
| Isopropylbenzene | 0.5 U | 0.5 U | 20 | 24 | 0.5 U | 0.5 U |
| 1,1,2,2-Tetrachloroethane | 0.5 U | 0.5 U | 0.5 U | 0.5 U | 0.5 U | 0.5 U |
| Bromobenzene | 0.3 U | 0.3 U | 0.3 U | 0.3 U | 0.3 U | 0.3 U |
| 1,2,3-Trichloropropane | 0.5 U | 0.5 U | 0.5 U | 0.5 U | 0.5 U | 0.5 U |
| n-Propylbenzene | 0.4 U | 0.4 U | 22 | 27 | 0.4 U | 0.4 U |
| 2-Chlorotoluene | 0.4 U | 0.4 U | 0.4 U | 0.4 U | 0.4 U | 0.4 U |
| 1,3,5-Trimethylbenzene | 0.5 U | 0.5 U | 0.5 U | 0.5 U | 0.5 U | 0.5 U |
| 4-Chlorotoluene | 0.5 U | 0.5 U | 0.5 U | 0.5 U | 0.5 U | 0.5 U |
| tert-Butylbenzene | 0.5 U | 0.5 U | 2 | 2 | 0.5 U | 0.5 U |
| 1,2,4-Trimethylbenzene | 0.5 U | 0.5 U | 0.5 U | 0.5 U | 0.5 U | 0.5 U |
| sec-Butylbenzene | 0.5 U | 0.5 U | 7 | 8 | 0.5 U | 0.5 U |
| 1,3-Dichlorobenzene | 0.5 U | 0.5 U | 0.5 U | 0.5 U | 0.5 U | 0.5 U |
| p-Isopropyltoluene | 0.5 U | 0.5 U | 0.5 U | 0.5 U | 0.5 U | 0.5 U |
| 1,4-Dichlorobenzene | 0.3 U | 0.3 U | 0.3 U | 0.3 U | 0.3 U | 0.3 U |
| n-Butylbenzene | 0.5 U | 0.5 U | 0.5 U | 0.5 U | 0.5 U | 0.5 U |
| 1,2-Dichlorobenzene | 0.3 U | 0.3 U | 0.3 U | 0.3 U | 0.3 U | 0.3 U |
| 1,2-Dibromo-3-chloropropane | 0.5 U | 0.5 U | 0.5 U | 0.5 U | 0.5 U | 0.5 U |
| 1,2,4-Trichlorobenzene | 0.4 U | 0.4 U | 0.4 U | 0.4 U | 0.4 U | 0.4 U |
| Hexachlorobutadiene | 0.5 U | 0.5 U | 0.5 U | 0.5 U | 0.5 U | 0.5 U |
| Naphthalene | 0.5 U | 0.5 U | 37 | 36 | 0.5 U | 0.5 U |
| 1,2,3-Trichlorobenzene | 0.5 U | 0.5 U | 0.5 U | 0.5 U | 0.5 U | 0.5 U |
| Vinyl acetate | 2 U | 2 U | 2 U | 2 U | 2 U | 2 U |

*= Outside of EPA CLP QC limits.

STL Chicago
METHOD B260 VOLATILES

Report Date: 05/06/99 15:11
Page: 5a

RFW Batch Number: 9904G094 Client: AFC001-15IEA Work Order: 60025-001-001-0

| Sample Information | Cust ID: | DUP02WG0B | | MW-53WG0B | | MW-53WG0B | | VBLKYY | | VBLKYY BS | | VBLKYW | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | RFW#: | 016 | | 017 | | 017 DL | | 99GVF139-MB1 | | 99GVF139-MB1 | | 99GVF141-MB1 | |
| | Matrix: | WATER | | WATER | | WATER | | WATER | | WATER | | WATER | |
| | D.F.: | 1 | | 1 | | 5 | | 1 | | 1 | | 1 | |
| | Units: | UG/L | | UG/L | | UG/L | | UG/L | | UG/L | | UG/L | |
| Surrogate Recovery | 1,2-Dichloroethane-d4 | 97 | % | 96 | % | 93 | % | 97 | % | 100 | % | 100 | % |
| | Toluene-d8 | 109 | % | 106 | % | 104 | % | 106 | % | 110 | % | 114 | % |
| | 4-Bromofluorobenzene | 98 | % | 94 | % | 95 | % | 96 | % | 99 | % | 104 | % |
| | Dibromofluoromethane | 86 | % | 86 | % | 91 | % | 89 | % | 88 | % | 92 | % |
| | | | fl | | fl | | fl | | fl | | fl | | fl |
| Dichlorodifluoromethane | | 0.5 | U | 0.5 | U | NA | | 0.5 | U | 76 | % | 0.5 | U |
| Chloromethane | | 0.5 | U | 0.5 | U | NA | | 0.5 | U | 84 | % | 0.5 | U |
| Vinyl chloride | | 0.5 | U | 0.5 | U | NA | | 0.5 | U | 94 | % | 0.5 | U |
| Bromomethane | | 0.5 | U | 0.5 | U | NA | | 0.5 | U | 92 | % | 0.5 | U |
| Chloroethane | | 0.5 | U | 0.5 | U | NA | | 0.5 | U | 97 | % | 0.5 | U |
| Trichlorofluoromethane | | 0.5 | U | 0.5 | U | NA | | 0.5 | U | 91 | % | 0.5 | U |
| 1,1-Dichloroethene | | 0.5 | U | 0.5 | U | NA | | 0.5 | U | 88 | % | 0.5 | U |
| Methylene Chloride | | 0.5 | U | 0.5 | U | NA | | 0.5 | U | 90 | % | 0.5 | U |
| trans-1,2-Dichloroethene | | 0.5 | U | 0.5 | U | NA | | 0.5 | U | 92 | % | 0.5 | U |
| 1,1-Dichloroethane | | 0.4 | U | 0.4 | U | NA | | 0.4 | U | 92 | % | 0.4 | U |
| cis-1,2-Dichloroethene | | 0.5 | U | 13 | | NA | | 0.5 | U | 96 | % | 0.5 | U |
| 2,2-Dichloropropane | | 0.5 | U | 0.5 | U | NA | | 0.5 | U | 111 | % | 0.5 | U |
| Bromochloromethane | | 0.4 | U | 0.4 | U | NA | | 0.4 | U | 101 | % | 0.4 | U |
| Chloroform | | 0.3 | U | 0.3 | U | NA | | 0.3 | U | 95 | % | 0.3 | U |
| 1,1,1-Trichloroethane | | 0.5 | U | 0.5 | U | NA | | 0.5 | U | 100 | % | 0.5 | U |
| 1,1-Dichloropropene | | 0.5 | U | 0.5 | U | NA | | 0.5 | U | 99 | % | 0.5 | U |
| Carbon Tetrachloride | | 0.5 | U | 0.5 | U | NA | | 0.5 | U | 101 | % | 0.5 | U |
| Benzene | | 0.4 | U | 0.4 | U | NA | | 0.4 | U | 100 | % | 0.4 | U |
| 1,2-Dichloroethane | | 0.5 | U | 0.5 | U | NA | | 0.5 | U | 94 | % | 0.5 | U |
| Trichloroethene | | 0.5 | U | | E | 93 | | 0.5 | U | 106 | % | 0.5 | U |
| 1,2-Dichloropropane | | 0.4 | U | 0.4 | U | NA | | 0.4 | U | 99 | % | 0.4 | U |
| Dibromomethane | | 0.5 | U | 0.5 | U | NA | | 0.5 | U | 84 | % | 0.5 | U |
| Bromodichloromethane | | 0.5 | U | 0.5 | U | NA | | 0.5 | U | 91 | % | 0.5 | U |
| cis-1,3-Dichloropropene | | 0.5 | U | 0.5 | U | NA | | 0.5 | U | 95 | % | 0.5 | U |
| Toluene | | 0.5 | U | 0.5 | U | NA | | 0.5 | U | 101 | % | 0.5 | U |

*= Outside of EPA CLP QC limits.

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RFW Batch Number: 9904G094 Client: AFC001-15IEA Work Order: 60025-001-001-0 Page: 5b

| Cust ID: | DUP02WG0B | MW-53WG08 | MW-53WG08 | VBLKYY | VBLKYY BS | VBLKYW |
|---|---|---|---|---|---|---|
| RFW#: | 016 | 017 | 017 DL | 99GVF139-MB1 | 99GVF139-MB1 | 99GVF141-MB1 |
| trans-1,3-Dichloropropene | 0.5 U | 0.5 U | NA | 0.5 U | 93 % | 0.5 U |
| 1,1,2-Trichloroethane | 0.5 U | 0.5 U | NA | 0.5 U | 94 % | 0.5 U |
| 1,3-Dichloropropane | 0.4 U | 0.4 U | NA | 0.4 U | 98 % | 0.4 U |
| Tetrachloroethene | 0.5 U | 0.5 U | NA | 0.5 U | 101 % | 0.5 U |
| Dibromochloromethane | 0.5 U | 0.5 U | NA | 0.5 U | 84 % | 0.5 U |
| 1,2-Dibromoethane | 0.5 U | 0.5 U | NA | 0.5 U | 90 % | 0.5 U |
| 1-Chlorohexane | 0.5 U | 0.5 U | NA | 0.5 U | 110 % | 0.5 U |
| Chlorobenzene | 0.4 U | 0.4 U | NA | 0.4 U | 104 % | 0.4 U |
| 1,1,1,2-Tetrachloroethane | 0.5 U | 0.5 U | NA | 0.5 U | 101 % | 0.5 U |
| Ethylbenzene | 0.5 U | 0.5 U | NA | 0.5 U | 107 % | 0.5 U |
| m/p-Xylene | 0.5 U | 0.5 U | NA | 0.5 U | 104 % | 0.5 U |
| o-Xylene | 0.5 U | 0.5 U | NA | 0.5 U | 105 % | 0.5 U |
| Styrene | 0.4 U | 0.4 U | NA | 0.4 U | 108 % | 0.4 U |
| Bromoform | 0.5 U | 0.5 U | NA | 0.5 U | 82 % | 0.5 U |
| Isopropylbenzene | 0.5 U | 0.5 U | NA | 0.5 U | 108 % | 0.5 U |
| 1,1,2,2-Tetrachloroethane | 0.5 U | 0.5 U | NA | 0.5 U | 88 % | 0.5 U |
| Bromobenzene | 0.3 U | 0.3 U | NA | 0.3 U | 99 % | 0.3 U |
| 1,2,3-Trichloropropane | 0.5 U | 0.5 U | NA | 0.5 U | 104 % | 0.5 U |
| n-Propylbenzene | 0.4 U | 0.4 U | NA | 0.4 U | 109 % | 0.4 U |
| 2-Chlorotoluene | 0.4 U | 0.4 U | NA | 0.4 U | 102 % | 0.4 U |
| 1,3,5-Trimethylbenzene | 0.5 U | 0.5 U | NA | 0.5 U | 104 % | 0.5 U |
| 4-Chlorotoluene | 0.5 U | 0.5 U | NA | 0.5 U | 101 % | 0.5 U |
| tert-Butylbenzene | 0.5 U | 0.5 U | NA | 0.5 U | 112 % | 0.5 U |
| 1,2,4-Trimethylbenzene | 0.5 U | 0.5 U | NA | 0.5 U | 105 % | 0.5 U |
| sec-Butylbenzene | 0.5 U | 0.5 U | NA | 0.5 U | 111 % | 0.5 U |
| 1,3-Dichlorobenzene | 0.5 U | 0.5 U | NA | 0.5 U | 105 % | 0.5 U |
| p-Isopropyltoluene | 0.5 U | 0.5 U | NA | 0.5 U | 109 % | 0.5 U |
| 1,4-Dichlorobenzene | 0.3 U | 0.3 U | NA | 0.3 U | 106 % | 0.3 U |
| n-Butylbenzene | 0.5 U | 0.5 U | NA | 0.5 U | 106 % | 0.5 U |
| 1,2-Dichlorobenzene | 0.3 U | 0.3 U | NA | 0.3 U | 102 % | 0.3 U |
| 1,2-Dibromo-3-chloropropane | 0.5 U | 0.5 U | NA | 0.5 U | 76 % | 0.5 U |
| 1,2,4-Trichlorobenzene | 0.4 U | 0.4 U | NA | 0.4 U | 102 % | 0.4 U |
| Hexachlorobutadiene | 0.5 U | 0.5 U | NA | 0.5 U | 92 % | 0.5 U |
| Naphthalene | 0.5 U | 0.5 U | NA | 0.5 U | 95 % | 0.5 U |
| 1,2,3-Trichlorobenzene | 0.5 U | 0.5 U | NA | 0.5 U | 101 % | 0.5 U |
| Vinyl acetate | 2 U | 2 U | NA | 2 U | 68 * % | 2 U |

*= Outside of EPA CLP QC limits.

STL Chicago
METHOD 8260 VOLATILES

Report Date: 05/06/99 15:11
Page: 6a

RFW Batch Number: 9904G094 Client: AFC001-15IEA Work Order: 60025-001-001-0

| Sample Information | Cust ID: | VBLKYW BS | | VBLKYU | | VBLKYU BS | |
|---|---|---|---|---|---|---|---|
| | RFW#: | 99GVF141-MB1 | | 99GVC120-MB1 | | 99GVC120-MB1 | |
| | Matrix: | WATER | | WATER | | WATER | |
| | D.F.: | 1 | | 1 | | 1 | |
| | Units: | UG/L | | UG/L | | UG/L | |
| Surrogate Recovery | 1,2-Dichloroethane-d4 | 101 | % | 105 | % | 96 | % |
| | Toluene-d8 | 110 | % | 119 | % | 105 | % |
| | 4-Bromofluorobenzene | 100 | % | 106 | % | 94 | % |
| | Dibromofluoromethane | 89 | % | 100 | % | 87 | % |
| Dichlorodifluoromethane | | 70 | % | 0.5 | U | 65 | % |
| Chloromethane | | 81 | % | 0.5 | U | 71 | % |
| Vinyl chloride | | 91 | % | 0.5 | U | 75 | % |
| Bromomethane | | 88 | % | 0.5 | U | 87 | % |
| Chloroethane | | 93 | % | 0.5 | U | 87 | % |
| Trichlorofluoromethane | | 81 | % | 0.5 | U | 72 | % |
| 1,1-Dichloroethene | | 84 | % | 0.5 | U | 94 | % |
| Methylene Chloride | | 87 | % | 0.5 | U | 89 | % |
| trans-1,2-Dichloroethene | | 90 | % | 0.5 | U | 95 | % |
| 1,1-Dichloroethane | | 92 | % | 0.4 | U | 93 | % |
| cis-1,2-Dichloroethene | | 96 | % | 0.5 | U | 94 | % |
| 2,2-Dichloropropane | | 97 | % | 0.5 | U | 102 | % |
| Bromochloromethane | | 97 | % | 0.4 | U | 178 * | % |
| Chloroform | | 96 | % | 0.3 | U | 91 | % |
| 1,1,1-Trichloroethane | | 97 | % | 0.5 | U | 102 | % |
| 1,1-Dichloropropene | | 98 | % | 0.5 | U | 98 | % |
| Carbon Tetrachloride | | 99 | % | 0.5 | U | 124 | % |
| Benzene | | 98 | % | 0.4 | U | 107 | % |
| 1,2-Dichloroethane | | 95 | % | 0.5 | U | 97 | % |
| Trichloroethene | | 104 | % | 0.5 | U | 119 | % |
| 1,2-Dichloropropane | | 99 | % | 0.4 | U | 106 | % |
| Dibromomethane | | 84 | % | 0.5 | U | 107 | % |
| Bromodichloromethane | | 90 | % | 0.5 | U | 106 | % |
| cis-1,3-Dichloropropene | | 95 | % | 0.5 | U | 100 | % |
| Toluene | | 101 | % | 0.5 | U | 108 | % |

*= Outside of EPA CLP QC limits.

RFW Batch Number: 9904G094 Client: AFC001-15IEA Work Order: 60025-001-001-0 Page: 6b

| Cust ID: | VBLKYW BS | | VBLKYU | | VBLKYU BS | |
|---|---|---|---|---|---|---|
| RFW#: | 99GVF141-MB1 | | 99GVC120-MB1 | | 99GVC120-MB1 | |
| trans-1,3-Dichloropropene | 93 | % | 0.5 | U | 94 | % |
| 1,1,2-Trichloroethane | 95 | % | 0.5 | U | 85 | % |
| 1,3-Dichloropropane | 99 | % | 0.4 | U | 104 | % |
| Tetrachloroethene | 101 | % | 0.5 | U | 138 * | % |
| Dibromochloromethane | 84 | % | 0.5 | U | 108 | % |
| 1,2-Dibromoethane | 90 | % | 0.5 | U | 102 | % |
| 1-Chlorohexane | 105 | % | 0.5 | U | 89 | % |
| Chlorobenzene | 105 | % | 0.4 | U | 106 | % |
| 1,1,1,2-Tetrachloroethane | 101 | % | 0.5 | U | 113 | % |
| Ethylbenzene | 107 | % | 0.5 | U | 109 | % |
| m/p-Xylene | 106 | % | 0.5 | U | 110 | % |
| o-Xylene | 106 | % | 0.5 | U | 106 | % |
| Styrene | 108 | % | 0.4 | U | 106 | % |
| Bromoform | 80 | % | 0.5 | U | 119 | % |
| Isopropylbenzene | 109 | % | 0.5 | U | 102 | % |
| 1,1,2,2-Tetrachloroethane | 88 | % | 0.5 | U | 94 | % |
| Bromobenzene | 100 | % | 0.3 | U | 113 | % |
| 1,2,3-Trichloropropane | 107 | % | 0.5 | U | 90 | % |
| n-Propylbenzene | 110 | % | 0.4 | U | 108 | % |
| 2-Chlorotoluene | 102 | % | 0.4 | U | 103 | % |
| 1,3,5-Trimethylbenzene | 105 | % | 0.5 | U | 100 | % |
| 4-Chlorotoluene | 104 | % | 0.5 | U | 100 | % |
| tert-Butylbenzene | 113 | % | 0.5 | U | 105 | % |
| 1,2,4-Trimethylbenzene | 106 | % | 0.5 | U | 100 | % |
| sec-Butylbenzene | 112 | % | 0.5 | U | 108 | % |
| 1,3-Dichlorobenzene | 108 | % | 0.5 | U | 107 | % |
| p-Isopropyltoluene | 112 | % | 0.5 | U | 105 | % |
| 1,4-Dichlorobenzene | 107 | % | 0.3 | U | 107 | % |
| n-Butylbenzene | 108 | % | 0.5 | U | 112 | % |
| 1,2-Dichlorobenzene | 104 | % | 0.3 | U | 102 | % |
| 1,2-Dibromo-3-chloropropane | 77 | % | 0.5 | U | 91 | % |
| 1,2,4-Trichlorobenzene | 102 | % | 0.4 | U | 98 | % |
| Hexachlorobutadiene | 93 | % | 0.5 | U | 140 * | % |
| Naphthalene | 96 | % | 0.5 | U | 7B | % |
| 1,2,3-Trichlorobenzene | 102 | % | 0.5 | U | 93 | % |
| Vinyl acetate | 68 * | % | 2 | U | 61 * | % |

*= Outside of EPA CLP QC limits.

**Severn Trent Laboratories Chicago**
**GC/MS Case Narrative**

AFC001- 15IEA
STL# 9904G094
VOA DATA:

1. All volatile analyses were performed within the requested holding times

2 All Method Blank target compounds were below reporting limits

3. The QC limits specified in the QAPP were used for QC evaluation. There are not any QC limits specified in the QAPP for the compound Vinyl acetate At the client's instructions, the spike limits of 0-0% were used and the flagging of Vinyl acetate has no QC significance The spike recoveries were above the QC limits for Bromochloromethane, Tetrachloroethene, and Hexachlorobutadiene in the LCS (Laboratory Control Sample) 99GVC120-MB1 BS Since the spike recoveries were above the QC limits and these compounds were not detected in the associated sample, corrective action was not required The spike recoveries were within the QC limits for all other compounds in the LCS samples

4 Matrix Spike/Matrix Spike Duplicate analyses were performed on the sample 9904G094-005. The QC limits specified in the QAPP were used for QC evaluation There are not any QC limits specified in the QAPP for the compound Vinyl acetate At the client's instructions, the spike limits of 0-0% were used and the flagging of Vinyl acetate has no QC significance The spike recoveries were below the QC limits for Styrene in both of the samples 9904G094-005 MS/MSD and for Trichloroethene in the sample 9904G094-005 MS The spike recovery was below the QC limits for Trichloroethene in the sample 9904G094-005 MSD The inconsistent Trichloroethene spike recoveries in the matrix spike samples is due to the high level of Trichloroethene in the unspiked sample 9904G094-005. Since the LCS samples exhibited acceptable spike recoveries, corrective action was not required All of the other spike recoveries were within the QC limits in the samples 9904G094-005 MS/MSD There were three RPD values above the QC limits, but corrective action was not required

5. The sample 9904G094-013 had one surrogate recovery above the QC limits and was reanalyzed The reanalyzed sample 9904G094-013 RE had the same surrogate recovery above the QC limits, confirming a matrix interference in the sample Both the initial and reanalyzed results were reported on the sample 9904G094-013 All of the other volatile samples had surrogate recoveries within the QAPP specified QC limits

6 The water samples were prepared using Method 5030B. All samples were analyzed following SW846 Method 8260B and 8000B. All calibration criteria are met per method or SOP (for minimum R values for certain compounds) The low point in the initial calibration verifies the base reporting limits The target compounds were quantitated using the initial calibration

7 All internal standard areas and retention times were within the acceptance limits as compared to the corresponding continuing calibration standard

8 The water samples were initially analyzed without dilution using a 25 0 mL purge volume Secondary dilutions to accurately quantitate target compounds were performed on the samples 9904G094-002 (1/25), 003 (1/10), 005 (1/25), 008 (1/25), 009 (1/25), 010 (1/25) and 017 (1/5). The results and reporting limits were adjusted to account for the dilutions performed

Gregory L. Goodwin
GC/MS Section Manager

5/12/99
Date

Severn Trent Laboratories Chicago
HPAH ANALYTICAL DATA PACKAGE FOR
AFC001-15IEA

LOT # :9904G094

| CLIENT ID | SAMPLE # | MTX | PREP # | COLLECTN | DATE REC | EXT/PREP | ANALYSIS |
|---|---|---|---|---|---|---|---|
| SPOT35-5WG08 | 013 | W | 99GP0365 | 04/22/99 | 04/23/99 | 04/27/99 | 05/01/99 |
| LAB QC: | | | | | | | |
| BLK | MB1 | W | 99GP0365 | N/A | N/A | 04/27/99 | 05/01/99 |
| BLK | MB1 BS | W | 99GP0365 | N/A | N/A | 04/27/99 | 05/01/99 |

STL Chicago
PAHs BY HPLC

Report Date: 05/18/99 14:54
Page: 1

RFW Batch Number: 9904G094 Client: AFC001-15IEA Work Order: 60025-001-001-0

| | Cust ID: | SPOT35-5WG08 | | BLK | | BLK BS | |
|---|---|---|---|---|---|---|---|
| Sample Information | RFW#: | 013 | | 99GP0365-MB1 | | 99GP0365-MB1 | |
| | Matrix: | WATER | | WATER | | WATER | |
| | D.F.: | 1.0 | | 1.0 | | 1.0 | |
| | Units: | ug/L | | ug/L | | ug/L | |
| Surrogate | Decafluorobiphenyl | 79 | % | 74 | % | 69 | % |
| | Benzo(e)pyrene | 78 | % | 107 | % | 105 | % |
| Naphthalene | | 19 | U | 18 | U | 82 | % |
| Acenaphthene | | 19 | U | 18 | U | 75 | % |
| Acenaphthylene | | 24 | U | 23 | U | 65 | % |
| Fluorene | | 2.2 | U | 2.1 | U | 77 | % |
| Phenanthrene | | 6.7 | U | 6.4 | U | 84 | % |
| Anthracene | | 6.9 | U | 6.6 | U | 71 | % |
| Fluoranthene | | 2.2 | U | 2.1 | U | 81 | % |
| Pyrene | | 2.8 | U | 2.7 | U | 104 | % |
| Benzo(a)anthracene | | 0.14 | U | 0.13 | U | 89 | % |
| Chrysene | | 1.6 | U | 1.5 | U | 95 | % |
| Benzo(b)fluoranthene | | 0.19 | U | 0.18 | U | 86 | % |
| Benzo(k)fluoranthene | | 0.18 | U | 0.17 | U | 88 | % |
| Benzo(a)pyrene | | 0.24 | U | 0.23 | U | 92 | % |
| Dibenzo(a,h)anthracene | | 0.32 | U | 0.30 | U | 82 | % |
| Benzo(g,h,i)perylene | | 0.80 | U | 0.76 | U | 85 | % |
| Indeno(1,2,3-cd)pyrene | | 0.45 | U | 0.43 | U | 95 | % |

U= Analyzed, not detected. J= Present below detection limit. B= Present in blank. NR= Not requested. NS= Not spiked.
%= Percent recovery. D= Diluted out. I= Interference. NA= Not Applicable. *= Outside of EPA CLP QC

Severn Trent Laboratories Chicago
PAH Case Narrative

AFC001-15IEA
RFW# 9904G094-013
PAHs

1. Severn Trent Laboratories Chicago used the following High Performance Liquid Chromatographic system for analysis of polynuclear aromatic hydrocarbons:

| ID# | INSTRUMENT | COLUMN TYPE | DETECTOR |
|---|---|---|---|
| 25 | SpectraPhysics | C-18 PAH | UV - 254nm |
| 26 | SpectraPhysics | C-18 PAH | Fluorescence |

2. This sample was extracted based on SW846 method 3520. The extracts were analyzed for PAHs (i.e. PNAs) based on SW846 method 8310 protocols.

3. All required holding times were met for the extraction and analysis.

4. The method blank was below the reporting limit for all target compounds.

5. The surrogate compounds used for this analysis were Decafluorobiphenyl and Benzo(e)pyrene. All surrogate recoveries were within statistical control limits and are summarized on Form 2E.

6. All blank spike recoveries were within control limits and are summarized on Forms 3.

7. There was no designated matrix spike and matrix spike duplicate associated with this SDG.

8. All initial and continuing standard calibrations were within control limits with the following exception:

   CCV run 05/10/99 at 07:53 had Naphthalene outside of its retention time window on the UV and Fluorescence detector and Acenaphthylene outside of its retention time window on the UV detector. Naphthalene and Acenaphthylene were not detected in the associated samples. The retention time shift was taken into account during data review.

Linda S Mackley
Linda S. Mackley
Organics Section Manager

5-19-99
Date

643 300

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**Severn Trent Laboratories**
11 East Olive Road
Pensacola FL 32514

Tel· (850) 474-1001
Fax. (850) 478-2671

May 17, 1999

CASE NARRATIVE
HydroGeologic
NAS Fort Worth, Texas (AFCEE)
Accession #904504
Method Ref: RSK-175

| Lab Accession Number | Client ID |
|---|---|
| 904504-01 | TB042199 |
| 904504-02 | GMI-22-W04MWG08 |
| 904504-03 | LSA1628-3WG08 |
| 904504-04 | GMI-22-06MWWG08 |
| 904504-05 | LF03-3DWG08 |
| 904504-06 | HM-110WG08 |
| 904504-07 | DUP06WG08 |
| 904504-08 | LF05-01WG08 |

These samples were received at the laboratory on 23-Apr-99 in good condition at a temperature of 4°C.

Reference RSK-175 for procedures and calculations.

There were no problems associated with the analysis of these samples.

Lance W. Larson
STL-Fl Project Manager

643 301

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11 East Olive Road
Pensacola FL 32514

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SIGNATURE PAGE

Reviewed by: _____
STL Project Manager

| | |
|---|---|
| Client: | STL/CHICAGO<br>UNIVERSITY PARK, IL |
| Project Name: | AFC001-15IEA |
| Project Number: | 9904G094 |
| Project Location: | N/S |
| Accession Number: | 904504 |
| Project Manager: | SHERYL JOHNSON |
| Sampled By: | N/S |

SEVERN TRENT LABORATORIES 11 East Olive Road Pensacola, Florida 32514 (850) 474-1001

# Analysis Report

Analysis: DISSOLVED METHANE

| | |
|---|---|
| Accession: | 904536 |
| Client: | STL/CHICAGO |
| Project Number: | 9904GO94 |
| Project Name: | AFC001-15IEA |
| Project Location: | N/S |
| Department: | SEMI-VOLATILE FUELS |

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"FINAL REPORT FORMAT - SINGLE"

Accession: 904536
Client: STL/CHICAGO
Project Number: 9904G094
Project Name: AFC001-15IEA
Project Location: N/S
Test: DISSOLVED METHANE
Analysis Method: RSK 175 (Modified)
Extraction Method: N/A
Matrix: WATER
QC Level: N

Lab Id: 001
Client Sample Id: TB042299
Sample Date/Time: 22-APR-99 N/S
Received Date: 24-APR-99

Batch: GEW169
Blank: A
Dry Weight %: N/A
Extraction Date: N/A
Analysis Date: 27-APR-99

| Parameter: | Units: | Results: | Rpt Lmts: | Q: |
|---|---|---|---|---|
| METHANE | UG/L | ND | 1 | |
| ETHANE | UG/L | ND | 1 | |
| ETHENE | UG/L | ND | 1 | |
| ANALYST | INITIALS | BT | | |

Comments:

SEVERN TRENT LABORATORIES 11 East Olive Road Pensacola, Florida 32514 (850) 474-1001



"FINAL REPORT FORMAT - SINGLE"

Accession: 904536
Client: STL/CHICAGO
Project Number: 9904GO94
Project Name: AFC001-15IEA
Project Location: N/S
Test: DISSOLVED METHANE
Analysis Method: RSK 175 (Modified)
Extraction Method: N/A
Matrix: WATER
QC Level: N

Lab Id: 002
Client Sample Id: WHGLTA203WG08
Sample Date/Time: 22-APR-99 N/S
Received Date: 24-APR-99

Batch: GEW169
Blank: A
Dry Weight %: N/A
Extraction Date: N/A
Analysis Date: 27-APR-99

| Parameter: | Units: | Results: | Rpt Lmts: | Q· |
|---|---|---|---|---|
| METHANE | UG/L | 94.6304 | 1 | |
| ETHANE | UG/L | 10.4594 | 1 | |
| ETHENE | UG/L | ND | 1 | |
| ANALYST | INITIALS | BT | | |

Comments:

SEVERN TRENT LABORATORIES 11 East Olive Road Pensacola, Florida 32514 (850) 474-1001



"FINAL REPORT FORMAT - SINGLE"

Accession: 904536
Client: STL/CHICAGO
Project Number: 9904G094
Project Name: AFC001-15IEA
Project Location: N/S
Test: DISSOLVED METHANE
Analysis Method: RSK 175 (Modified)
Extraction Method: N/A
Matrix: WATER
QC Level: N

Lab Id: 003
Client Sample Id: SPOT35-5WG08
Sample Date/Time: 22-APR-99 N/S
Received Date: 24-APR-99

Batch: GEW169
Blank: A
Dry Weight %: N/A
Extraction Date: N/A
Analysis Date: 27-APR-99

| Parameter: | Units: | Results: | Rpt Lmts: | Q: |
|---|---|---|---|---|
| METHANE | UG/L | 4157.9590 | 1 | |
| ETHANE | UG/L | 11.5264 | 1 | |
| ETHENE | UG/L | ND | 1 | |
| ANALYST | INITIALS | BT | | |

Comments:

SEVERN TRENT LABORATORIES 11 East Olive Road Pensacola, Florida 32514 (850) 474-1001

# Quality Control Report

Analysis: DISSOLVED METHANE

| | |
|---|---|
| Accession: | 904536 |
| Client: | STL/CHICAGO |
| Project Number: | 9904G094 |
| Project Name: | AFC001-15IEA |
| Project Location: | N/S |
| Department: | SEMI-VOLATILE FUELS |

643 307

BLANK ANALYSIS

DATE: 27-APR-99

METHOD: RSK 175

BATCH: GEW169

| COMPOUND | UNITS | REPORTING LIMIT | RESULT |
|---|---|---|---|
| METHANE | UG/L | 1 | ND |
| ETHANE | UG/L | 1 | ND |
| ETHENE | UG/L | 1 | ND |

CONTINUING CALIBRATION

DATE: 27-APR-99

METHOD: RSK 175

BATCH: GEW169

| COMPOUND | AMT (IC) | AMT (CC) | %D | QC LIMITS |
|---|---|---|---|---|
| METHANE | 250 | 272 | 4 | 20 |
| ETHANE | 250 | 271 | 4 | 20 |
| ETHENE | 250 | 260 | 2 | 20 |

SOURCE FOR CONTROL LIMIT IS INTERNAL LABORATORY QUALITY ASSURANCE PROGRAM AND RSK 175.

643 309

DUPLICATE SAMPLE ANALYSIS

DATE: 27-APR-99

METHOD: RSK 175

LAB SAMPLE #: 904536-2

BATCH: GEW169

| COMPOUND | SAMPLE RESULT | DUPLICATE RESULT | %RPD | QC LIMITS |
|---|---|---|---|---|
| METHANE | 94.6304 | 101.0600 | 7 | 50 |
| ETHANE | 10.4594 | ND | NC | 50 |
| ETHENE | ND | ND | N/A | 50 |

ALL RESULTS REPORTED IN UG/L.

ND = NOT DETECTED
NC = NOT CALCULABLE

SOURCE FOR CONTROL LIMIT IS INTERNAL LABORATORY QUALITY ASSURANCE PROGRAM AND RSK 175.

CHECK STANDARD (POST-RUN)

DATE: 27-APR-99

METHOD: RSK 175

BATCH: GEW169

| COMPOUND | AMT(CC) | AMT (PS) | %D | QC LIMITS |
|---|---|---|---|---|
| METHANE | 272 | 261 | 4 | 20 |
| ETHANE | 271 | 268 | 1 | 20 |
| ETHENE | 260 | 261 | 0 | 20 |

SOURCE FOR CONTROL LIMIT IS INTERNAL LABORATORY QUALITY ASSURANCE PROGRAM AND RSK 175.

SEVERN TRENT LABORATORIES 11 East Olive Road Pensacola, Florida 32514 (850) 474-1001

# Analysis Report

Analysis: TNRCC TEXAS METHOD 1005 - TOTAL PETROLEUM HYDROCARBONS

| | |
|---|---|
| Accession: | 904536 |
| Client: | STL/CHICAGO |
| Project Number: | 9904GO94 |
| Project Name: | AFC001-15IEA |
| Project Location: | N/S |
| Department: | SEMI-VOLATILE FUELS |

SEVERN TRENT LABORATORIES 11 East Olive Road Pensacola, Florida 32514 (850) 474-1001



"FINAL REPORT FORMAT - SINGLE"

Accession: 904536
Client: STL/CHICAGO
Project Number: 9904G094
Project Name: AFC001-15IEA
Project Location: N/S
Test: TNRCC TEXAS METHOD 1005 - TOTAL PETROLEUM HYDROCARBONS
Analysis Method: TNRCC Method 1005 (Rev. 4/98)
Extraction Method: TNRCC Method 1005 (Rev. 4/98)
Matrix: WATER
QC Level: IIMS

Lab Id: 003
Client Sample Id: SPOT35-5WG08
Sample Date/Time: 22-APR-99 N/S
Received Date: 24-APR-99

Batch: GEW168
Blank: A
Dry Weight %: N/A
Extraction Date: 26-APR-99
Analysis Date: 28-APR-99

| Parameter: | Units: | Results: | Rpt Lmts: | Q: |
|---|---|---|---|---|
| C6-C10 | MG/L | ND | 5 | |
| >C10-C28 | MG/L | ND | 5 | |
| C6-C28 | MG/L | ND | 5 | |
| ORTHO TER PHENYL | %REC/SURR | 76 | 50-150 | |
| ANALYST | INITIALS | LBL | | |

Comments:

SEVERN TRENT LABORATORIES 11 East Olive Road Pensacola, Florida 32514 (850) 474-1001



"QC Report"

Title: Water Blank
Batch: GEW168
Analysis Method: TNRCC Method 1005 (Rev. 4/98)
Extraction Method: TNRCC Method 1005 (Rev. 4/98)

Blank Id: A Date Analyzed: 27-APR-99 Date Extracted: 26-APR-99

| Parameters: | Units: | Results: | Reporting Limits: |
|---|---|---|---|
| C6-C10 | MG/L | ND | 5 |
| >C10-C28 | MG/L | ND | 5 |
| C6-C28 | MG/L | ND | 5 |
| ORTHO TER PHENYL | %REC/SURR | 95 | 50-150 |
| ANALYST | INITIALS | LBL | |

Comments:

643 314

SEVERN TRENT LABORATORIES 11 East Olive Road Pensacola, Florida 32514 (850) 474-1001



"QC Report"

Title: Water LCS
Batch: GEW168
Analysis Method: TNRCC Method 1005 (Rev. 4/98)
Extraction Method: TNRCC Method 1005 (Rev. 4/98)

RS Date Analyzed: 27-APR-99 RS Date Extracted: 26-APR-99

| Parameters: | Spike Added | Sample Conc | RS Conc | RS %Rec | Rec Lmts |
|---|---|---|---|---|---|
| C6-C10 | 26.7 | <5 | 26.2 | 98 | 70-130 |
| >C10-C28 | 26.8 | <5 | 27.7 | 103 | 70-130 |
| C6-C28 | 53.5 | <5 | 53.9 | 101 | 70-130 |
| Surrogates: | | | | | |
| ORTHO TER PHENYL (OTP) | | | | 106 | 50-150 |

Comments:

Notes:
N/S = NOT SUBMITTED N/A = NOT APPLICABLE D = DILUTED OUT
MG/KG = PARTS PER MILLION. < = LESS THAN REPORTING LIMIT.
* = VALUES OUTSIDE OF QUALITY CONTROL LIMITS.
SOURCES FOR CONTROL LIMITS ARE INTERNAL LABORATORY QUALITY ASSURANCE PROGRAM AND REFERENCED METHOD.

SEVERN TRENT LABORATORIES 11 East Olive Road Pensacola, Florida 32514 (850) 474-1001



"QC Report"

'itle: Water Matrix Spike/Matrix Spike Duplicate
atch: GEW168
:nalysis Method: TNRCC Method 1005 (Rev. 4/98)
:xtraction Method: TNRCC Method 1005 (Rev. 4/98)

)ry Weight %: N/A
:ample Spiked: 904432-2

MS Date Analyzed: 28-APR-99
MSD Date Analyzed: 28-APR-99

MS Date Extracted: 28-APR-99
MSD Date Extracted: 28-APR-99

| 'arameters: | Spike Added | Sample Conc | MS Conc | MS %Rec | MSD Conc | MSD %Rec | RPD | RPD Lmts | Rec Lmts |
|---|---|---|---|---|---|---|---|---|---|
| :6-C10 | 26.5 | <5 | 16.7 | 63* | 18.7 | 71 | 12 | 30 | 50-150 |
| C10-C28 | 26.8 | <5 | 18.3 | 68* | 21.5 | 80 | 16 | 30 | 70-130 |
| '6-C28 | 53.5 | <5 | 35.0 | 65* | 40.2 | 75 | 14 | 30 | 70-130 |
| urrogates: | | | | | | | | | |
| )RTHO TER PHENYL (OTP) | | | | 71 | | 94 | | | 50-150 |

'omments:
MATRIX SPIKE/MATRIX SPIKE DUPLICATE HAD RECOVERY(S) AND/OR RPD(S) OUTSIDE ACCEPTANCE LIMITS DUE TO MATRIX INTERFERENCE. REFER TO LCS DATA.

otes:
N/S = NOT SUBMITTED N/A = NOT APPLICABLE D = DILUTED OUT
MG/KG = PARTS PER MILLION. < = LESS THAN REPORTING LIMIT.
* = VALUES OUTSIDE OF QUALITY CONTROL LIMITS.
SOURCES FOR CONTROL LIMITS ARE INTERNAL LABORATORY QUALITY ASSURANCE PROGRAM AND REFERENCED METHOD.

SEVERN TRENT LABORATORIES 11 East Olive Road Pensacola, Florida 32514 (850) 474-1001



Common Notation for Organic Reporting

/S = NOT SUBMITTED
/A = NOT APPLICABLE
G = MICROGRAMS
G/L = PARTS PER BILLION
G/KG = PARTS PER BILLION
G/M3 = MILLIGRAM PER CUBIC METER
PMV = PART PER MILLION BY VOLUME
G/KG = PARTS PER MILLION
G/L = PARTS PER MILLION
= LESS THAN
D = NOT DETECTED AT OR ABOVE THE STL-PENSACOLA REPORTING LIMIT (RL).
= EXCEED THE CALIBRATION CURVE; THEREFORE, RESULTS ARE ESTIMATED.

OURCES FOR CONTROL LIMITS ARE INTERNAL LABORATORY QUALITY ASSURANCE PROGRAM
ND REFERENCED METHOD.

RGANIC SOILS ARE REPORTED ON A DRYWEIGHT BASIS.

PT LMTS = REPORTING LIMITS BASED ON METHOD DETECTION LIMIT STUDIES.

PD = RELATIVE PERCENT DIFFERENCE (OR DEVIATION)

TL/GC/FID
STL GAS CHROMATOGRAPHIC METHOD EMPLOYING DIRECT INJECTION ON COLUMN WITH FLAME IONIZATION DETECTOR (FID).

TL/GC/FIX
STL GAS CHROMATOGRAPHIC METHOD FOR ANALYSIS OF FIXED GASES EMPLOYING DIRECT INJECTION ON COLUMN WITH THERMAL CONDUCTIVITY DETECTOR (TCD) AND FLAME IONIZATION DETECTOR (FID).

TL/GC/FPD
STL GAS CHROMATOGRAPHIC METHOD EMPLOYING DIRECT INJECTION ON COLUMN WITH FLAME PHOTOMETRIC DETECTOR (FPD) IN SULFUR-SPECIFIC MODE.

TL/GC/PID
STL GAS CHROMATOGRAPHIC METHOD EMPLOYING DIRECT INJECTION ON COLUMN WITH PHOTOIONIZATION DETECTOR (PID).

TL/GC/TCD
STL GAS CHROMATOGRAPHIC METHOD EMPLOYING DIRECT INJECTION ON COLUMN WITH THERMAL CONDUCTIVITY DETECTOR (TCD).

W-846 METHOD 9020
PARTICULATE MATTER IS REMOVED BY ALLOWING PARTICULATES TO SETTLE IN THE SAMPLE CONTAINER AND DECANTING THE SUPERNATANT LIQUID. EXCESSIVE PARTICULATES ARE REMOVED BY FILTRATION OF THE SUPERNATANT LIQUID.

SK 175
SAMPLE PREPARATION AND CALCULATIONS FOR DISSOLVED GAS ANALYSIS IN WATER SAMPLES USING A GC HEADSPACE EQUILIBRATION TECHNIQUE, RSK SOP-175, ROBERT S. KERR ENVIRONMENTAL RESEARCH LABORATORY, USEPA, AUGUST 11, 1994.

TL-PN USES THE MOST CURRENT PROMULGATED METHODS CONTAINED IN THE REFERENCE
ANUALS.

W = STEVE WILHITE
W = RITA WINGO
S = KENDALL SMITH
BL = LISA BIZZELL-LOWE
P = LEVERNE PETERSON
LD = PAULA DOUGHTY
K = DARLENE KINCHEN
T = BECKY TREMMEL
AH = HOLLIE HOFFMAN
C = HOLLY CHANCE

643 317

Committed To *Your* Success

Received 5/27

Severn Trent Laboratories
2417 Bond Street
University Park, IL 60466

Tel. (708) 534-5200
Fax. (708) 534-5211
www stl-inc com

May 26, 1999

Mr. Ken Rapuano
HydroGeoLogic, Inc.
1155 Herndon Parkway, Suite 900
Herndon, VA 20170

RE: AFC001-15IEA
Analytical Report & EDD
Lot 9904G981

Dear Mr. Rapuano:

The enclosed analytical report is for the project and lot number listed above. If you have any questions, please contact me at 708-534-5200.

Sincerely,
Severn Trent Laboratories

Donna Ingersoll
Project Manager

sj

Enclosures

cc CLP Report/Nancy Weaver/Environmental Data Services, Inc.
EDD - Lynn Morgan/HydroGeoLogic, Inc.

Approved By

Michael J. Healy
General Manager

The results presented in this report relate only to the analytical testing and conditions of sample at receipt. This report pertains to only those samples actually tested All 1117 pages of this report are integral parts of the analytical data Therefore, this report should be reproduced only in its entirety.

643 318

Severn Trent Laboratories Chicago
INORGANIC ANALYTICAL DATA PACKAGE FOR
AFC001-151EA

LOT # 9904G981

| CLIENT ID . ANALYSIS | SAMPLE # | MTX | PREP # | COLLECTN | DATE REC | EXT/PREP | ANALYSIS |
|---|---|---|---|---|---|---|---|
| LF05-19CWG08 | | | | | | | |
| ALKALINITY | 002 | W | 99GAK035 | 04/12/99 | 04/14/99 | 04/26/99 | 04/26/99 |
| CHLORIDE BY IC | 002 | W | 99GD1005 | 04/12/99 | 04/14/99 | 04/14/99 | 04/14/99 |
| NITRATE BY IC | 002 | W | 99GD1005 | 04/12/99 | 04/14/99 | 04/14/99 | 04/14/99 |
| SULFATE BY IC | 002 | W | 99GD1005 | 04/12/99 | 04/14/99 | 04/14/99 | 04/14/99 |
| TOTAL ORGANIC CARBON | 002 | W | 99GTC059 | 04/12/99 | 04/14/99 | 04/20/99 | 04/20/99 |
| TOTAL ORGANIC CARBON | 002 | W | 99GTC059 | 04/12/99 | 04/14/99 | 04/20/99 | 04/20/99 |
| SUB-OUT TEST FOR SUB | 002 | W | | 04/12/99 | 04/14/99 | | |
| WCHMHTA009WG08 | | | | | | | |
| ALKALINITY | 003 | W | 99GAK035 | 04/13/99 | 04/14/99 | 04/26/99 | 04/26/99 |
| CHLORIDE BY IC | 003 | W | 99GD1005 | 04/13/99 | 04/14/99 | 04/14/99 | 04/14/99 |
| NITRATE BY IC | 003 | W | 99GD1005 | 04/13/99 | 04/14/99 | 04/14/99 | 04/14/99 |
| SULFATE BY IC | 003 | W | 99GD1005 | 04/13/99 | 04/14/99 | 04/14/99 | 04/14/99 |
| TOTAL ORGANIC CARBON | 003 | W | 99GTC059 | 04/13/99 | 04/14/99 | 04/20/99 | 04/20/99 |
| TOTAL ORGANIC CARBON | 003 | W | 99GTC059 | 04/13/99 | 04/14/99 | 04/20/99 | 04/20/99 |
| SUB-OUT TEST FOR SUB | 003 | W | | 04/13/99 | 04/14/99 | | |
| LF04-40WG08 | | | | | | | |
| ALKALINITY | 004 | W | 99GAK035 | 04/13/99 | 04/14/99 | 04/26/99 | 04/26/99 |
| CHLORIDE BY IC | 004 | W | 99GD1005 | 04/13/99 | 04/14/99 | 04/14/99 | 04/14/99 |
| NITRATE BY IC | 004 | W | 99GD1005 | 04/13/99 | 04/14/99 | 04/14/99 | 04/14/99 |
| SULFATE BY IC | 004 | W | 99GD1005 | 04/13/99 | 04/14/99 | 04/14/99 | 04/14/99 |
| TOTAL ORGANIC CARBON | 004 | W | 99GTC060 | 04/13/99 | 04/14/99 | 04/20/99 | 04/20/99 |
| TOTAL ORGANIC CARBON | 004 | W | 99GTC060 | 04/13/99 | 04/14/99 | 04/20/99 | 04/20/99 |
| SUB-OUT TEST FOR SUB | 004 | W | | 04/13/99 | 04/14/99 | | |
| TB04-[illegible] | | | | | | | |
| SUB-OUT TEST FOR SUB | 005 | W | | 04/12/99 | 04/14/99 | | |
| TB04[illegible] | | | | | | | |
| SUB-OUT TEST FOR SUB | 006 | W | | 04/13/99 | 04/14/99 | | |

To: AFC001-15IEA
c/o HydroGeoLogic, Inc.
1155 Herndon Parkway, Ste. 900
Herndon, VA 20170

Attn: Mr. Ken Rapuano

Date: Friday May 14th, 1999

RE: WCHMHTA009WG08
Project # 60025-001-001-0001
Lab ID: 9904G981-003
Sample Date: 04/13/99
Date Received: 04/14/99

## Inorganic Data Report

| Parameters | Result | Units | Reporting Limit |
|---|---|---|---|
| Alkalinity | 300 | mg/L | 10.0 |
| Chloride by IC | 82.6 | mg/L | 5.0 |
| Nitrate-N by IC | 11 | mg/L | 0.50 |
| Sulfate by IC | 44.5 | mg/L | 5.0 |
| Total Organic Carbon | 1.7 | mg/L | 1.0 |
| TOC Test 2 | 1.7 | mg/L | 1.0 |

To: AFC001-15IEA
c/o HydroGeoLogic, Inc.
1155 Herndon Parkway, Ste. 900
Herndon, VA 20170

Attn: Mr. Ken Rapuano

Date: Friday May 14th, 1999

RE: LF04-4CWG08
Project # 60025-001-001-0001
Lab ID: 9904G981-004
Sample Date: 04/13/99
Date Received: 04/14/99

## Inorganic Data Report

| Parameters | Result | | Units | Reporting Limit |
|---|---|---|---|---|
| Alkalinity | 442 | | mg/L | 10.0 |
| Chloride by IC | 30.2 | | mg/L | 5.0 |
| Nitrate-N by IC | 0.10 | u | mg/L | 0.10 |
| Sulfate by IC | 33.6 | | mg/L | 5.0 |
| Total Organic Carbon | 3.8 | | mg/L | 1.0 |
| TOC Test 2 | 3.8 | | mg/L | 1.0 |

To: AFC001-15IEA
c/o HydroGeoLogic, Inc.
1155 Herndon Parkway, Ste. 900
Herndon, VA 20170

Attn. Mr. Ken Rapuano

Date: Friday May 14th, 1999

RE: EB041399
Project # 60025-001-001-0001
Lab ID: 9904G981-007
Sample Date: 04/13/99
Date Received: 04/14/99

## Inorganic Data Report

| Parameters | Result | | Units | Reporting Limit |
|---|---|---|---|---|
| Alkalinity | 10.0 | u | mg/L | 10.0 |
| Chloride by IC | 0.10 | u | mg/L | 0.10 |
| Nitrate-N by IC | 0.20 | u | mg/L | 0.20 |
| Sulfate by IC | 0.20 | u | mg/L | 0.20 |
| Total Organic Carbon | 1 0 | u | mg/L | 1.0 |
| TOC Test 2 | 1.0 | u | mg/L | 1.0 |

To: AFC001-15IEA
c/o HydroGeoLogic, Inc.
1155 Herndon Parkway, Ste. 900
Herndon, VA 20170

Attn: Mr. Ken Rapuano

Date: Friday May 14th, 1999

RE: SPOT35-8WG08
Project # 60025-001-001-0001
Lab ID: 9904G981-010
Sample Date: 04/14/99
Date Received: 04/15/99

## Inorganic Data Report

| Parameters | Result | | Units | Reporting Limit |
|---|---|---|---|---|
| Alkalinity | 446 | | mg/L | 10.0 |
| Chloride by IC | 72.9 | | mg/L | 5.0 |
| Nitrate-N by IC | 0.10 | u | mg/L | 0.10 |
| Sulfate by IC | 32.9 | | mg/L | 5.0 |
| Total Organic Carbon | 2.5 | | mg/L | 1.0 |
| TOC Test 2 | 2 6 | | mg/L | 1.0 |

To: AFC001-15IEA
c/o HydroGeoLogic, Inc.
1155 Herndon Parkway, Ste. 900
Herndon, VA 20170

Attn: Mr. Ken Rapuano

Date: Friday May 14th, 1999

RE: EB041499
Project # 60025-001-001-0001
Lab ID: 9904G981-011
Sample Date: 04/14/99
Date Received: 04/15/99

Inorganic Data Report

| Parameters | Result | | Units | Reporting Limit |
|---|---|---|---|---|
| Alkalinity | 10.0 | u | mg/L | 10.0 |
| Chloride by IC | 0.20 | u | mg/L | 0.20 |
| Nitrate-N by IC | 0.10 | u | mg/L | 0.10 |
| Sulfate by IC | 0.20 | u | mg/L | 0.20 |
| Total Organic Carbon | 1.0 | u | mg/L | 1.0 |
| TOC Test 2 | 1.0 | u | mg/L | 1.0 |

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To: AFC001-15IEA
c/o HydroGeoLogic, Inc.
1155 Herndon Parkway, Ste. 900
Herndon, VA 20170

Attn: Mr. Ken Rapuano

Date: Friday May 14th, 1999

RE: WHGLTA003WG08
Project # 60025-001-001-0001
Lab ID: 9904G981-012
Sample Date: 04/14/99
Date Received: 04/15/99

Inorganic Data Report

| Parameters | Result | Units | Reporting Limit |
|---|---|---|---|
| Alkalinity | 340 | mg/L | 10.0 |
| Chloride by IC | 34.5 | mg/L | 5.0 |
| Nitrate-N by IC | 4.5 | mg/L | 0.50 |
| Sulfate by IC | 107 | mg/L | 5.0 |
| Total Organic Carbon | 1.3 | mg/L | 1.0 |
| TOC Test 2 | 1.2 | mg/L | 1.0 |

To: AFC001-15IEA
c/o HydroGeoLogic, Inc.
1155 Herndon Parkway, Ste. 900
Herndon, VA 20170

Attn: Mr. Ken Rapuano

Date: Friday May 14th, 1999

RE: SD13-06WG08
Project # 60025-001-001-0001
Lab ID: 9904G981-013
Sample Date: 04/14/99
Date Received: 04/15/99

## Inorganic Data Report

| Parameters | Result | Units | Reporting Limit |
|---|---|---|---|
| Alkalinity | 556 | mg/L | 10.0 |
| Chloride by IC | 22.0 | mg/L | 5.0 |
| Nitrate-N by IC | 0.33 | mg/L | 0.10 |
| Sulfate by IC | 50.0 | mg/L | 5.0 |
| Total Organic Carbon | 6.8 | mg/L | 1.0 |
| TOC Test 2 | 6.8 | mg/L | 1.0 |

To: AFC001-15IEA
c/o HydroGeoLogic, Inc.
1155 Herndon Parkway, Ste. 900
Herndon, VA 20170

Attn: Mr. Ken Rapuano

Date: Friday May 14th, 1999

Project # 60025-001-001-0001
Lab Batch: 9904G981

## Inorganic Method Blank Data Report

| Sample | Lab ID | Parameter | Result | | Units | Reporting Limit |
|---|---|---|---|---|---|---|
| Blank 1 | 99GAK035-MB1 | Alkalinity | 10.0 | u | mg/L | 10.0 |
| Blank 1 | 99GD1005-MB1 | Chloride by IC | 0.20 | u | mg/L | 0.20 |
| | | Nitrate-N by IC | 0.10 | u | mg/L | 0.10 |
| | | Sulfate by IC | 0.20 | u | mg/L | 0.20 |
| Blank 1 | 99GTC059-MB1 | Total Organic Carbon | 1.0 | u | mg/L | 1.0 |
| Blank 1 | 99GTC060-MB1 | Total Organic Carbon | 1.0 | u | mg/L | 1.0 |
| Blank 1 | 99GD1006-MB1 | Chloride by IC | 0.20 | u | mg/L | 0.20 |
| | | Nitrate-N by IC | 0.10 | u | mg/L | 0.10 |
| | | Sulfate by IC | 0 20 | u | mg/L | 0.20 |

To: AFC001-15IEA
c/o HydroGeoLogic, Inc.
1155 Herndon Parkway, Ste. 900
Herndon, VA 20170

Attn. Mr. Ken Rapuano

Date: Friday May 14th, 1999

Project # 60025-001-001-0001
Lab Batch: 9904G981

## Inorganic Accuracy Data Report

| Sample | Site ID | Parameter | Spiked Sample | Initial Result | Spiked Amount | % Recov |
|---|---|---|---|---|---|---|
| -012 | WHGLTA003WG08 | Alkalinity | 430 | 340 | 100 | 90.4 |
| | | Alkalinity MSD | 432 | 340 | 100 | 92.3 |
| | | Chloride by IC | 78.3 | 34.5 | 50.0 | 87.6 |
| | | Chloride by IC MSD | 77.4 | 34.5 | 50.0 | 85.9 |
| | | Nitrate-N by IC | 22 | 4.5 | 20 | 88.6 |
| | | Nitrate-N by IC MSD | 23 | 4.5 | 20 | 90.4 |
| | | Sulfate by IC | 140 | 107 | 50.0 | 66.6 |
| | | Sulfate by IC MSD | 141 | 107 | 50 0 | 67.5 |
| | | TOC | 11.8 | 1 3 | 10.0 | 105 |
| | | TOC MSD | 11 8 | 1.3 | 10.0 | 105 |

643 328

To: AFC001-15IEA
c/o HydroGeoLogic, Inc.
1155 Herndon Parkway, Ste. 900
Herndon, VA 20170

Attn: Mr. Ken Rapuano

Date: Friday May 14th, 1999

Project # 60025-001-001-0001
Lab Batch: 9904G981

## Inorganic Duplicate Spike Report

| Sample | Site ID | Parameter | Spike #1 % Recov | Spike #2 % Recov | RPD |
|---|---|---|---|---|---|
| -012 | WHGLTA003WG08 | Alkalinity | 90.4 | 92.3 | 2.1 |
| | | Chloride by IC | 87 6 | 85.9 | 1.9 |
| | | Nitrate-N by IC | 88.6 | 90.4 | 2.0 |
| | | Sulfate by IC | 66 6 | 67.5 | 1.2 |
| | | TOC | 105 | 105 | 0.40 |

To: AFC001-15IEA
c/o HydroGeoLogic, Inc.
1155 Herndon Parkway, Ste. 900
Herndon, VA 20170

Attn: Mr. Ken Rapuano

Date: Friday May 14th, 1999

Project # 60025-001-001-0001
Lab Batch: 9904G981

## Inorganic Laboratory Control Standards Report

| Lab ID | Parameter | Spiked Amount | Units | Spike #1 % Recov. | Spike #2 % Recov. | RPD |
|---|---|---|---|---|---|---|
| 99GAK035-LCS | Alkalinity | 100 | mg/L | 92.5 | NA | NA |
| 99GD1005-LC1 | Chloride by IC | 5.0 | mg/L | 99.1 | NA | NA |
| | Sulfate by IC | 5.0 | mg/L | 98.9 | NA | NA |
| 99GD1005-LC2 | Chloride by IC | 50.0 | mg/L | 101 | NA | NA |
| | Sulfate by IC | 50.0 | mg/L | 96.9 | NA | NA |
| 99GD1005-LCS | Nitrate-N by IC | 2.0 | mg/L | 102 | NA | NA |
| 99GTC059-LCS | TOC | 5.0 | mg/L | 99.3 | NA | NA |
| 99GTC060-LCS | TOC | 5.0 | mg/L | 102 | NA | NA |
| 99GD1006-LC1 | Chloride by IC | 5.0 | mg/L | 96.9 | NA | NA |
| | Sulfate by IC | 5.0 | mg/L | 97.2 | NA | NA |
| 99GD1006-LC2 | Chloride by IC | 50 0 | mg/L | 96.8 | 96.8 | 0.10 |
| | Sulfate by IC | 50.0 | mg/L | 94.4 | NA | NA |
| 99GD1006-LCS | Nitrate-N by IC | 2.0 | mg/L | 100 | NA | NA |

643 330

# Severn Trent Laboratories Chicago
# Wet Chemistry Case Narrative

Client: **HydroGeoLogic NAS Ft. Worth AFC001-15IEA**
RFW Lot: **9904G981** Dates Rec'd: 04/14/99-04/15/99

1. This narrative covers the analysis of the samples in the above RFW Lot by the following methods.

   Alkalinity - EPA Method 310.1
   Anions by Ion Chromatography - SW 846 9056
   - Chloride
   - Nitrate as N
   - Sulfate as $SO_4$

   TOC - EPA Method 415.1

2. The EPA water holding times were met. Refer to the Laboratory Chronicle Page for dates of sampling, receipt, and analysis.

3. The initial and continuing calibration verification standards and blanks were in control. There are two ICVs and two CCVs every 10 readings in the IC sets. Please see the LCS discussion below, in item 5.

4. All method blanks were below the detection limits.

5. All LCS recoveries were within control limits. Severn Trent Laboratories Chicago has recently started using 2 IC standard curves and calculating each sample chromatogram against the better curve for its concentration. This cuts down on the number of dilutions that are needed and expedites analysis, which can be especially important for those ions with short holding times. Accommodating two linear ranges technically within one analytical prep batch requires 2 LCSs, one mid-range on each curve. Both LCSs are included in the data, but they are not duplicates of each other and no RPD is calculated between them. Please see the LCS Summary Pages of this report for additional details.

6. Matrix QC was designated on sample 9904G981-012, and was all within acceptance limits, except for the sulfate spikes which were both biased low. Please see the Precision and Accuracy pages for aditional details.

Diane L. Harper
Wet Chemistry Section Manager

5/13/99
Date

Severn Trent Laboratories Chicago
8020 ANALYTICAL DATA PACKAGE FOR
AFC001-15IEA

LOT # :9904G981

| CLIENT ID | SAMPLE # | | MTX | PREP # | COLLECTN | DATE REC | EXT/PREP | ANALYSIS |
|---|---|---|---|---|---|---|---|---|
| WCHMHTA009WG08 | 003 | | W | 99GVD132 | 04/13/99 | 04/14/99 | N/A | 04/22/99 |
| EB041399 | 007 | | W | 99GVD132 | 04/13/99 | 04/14/99 | N/A | 04/22/99 |
| SPOT35-8WG08 | 010 | | W | 99GVD132 | 04/14/99 | 04/15/99 | N/A | 04/22/99 |
| SPOT35-8WG08 | 010 | C1 | W | 99GVD135 | 04/14/99 | 04/15/99 | N/A | 04/23/99 |
| EB041499 | 011 | | W | 99GVD132 | 04/14/99 | 04/15/99 | N/A | 04/22/99 |
| LAB QC: | | | | | | | | |
| BLK | MB1 | | W | 99GVD132 | N/A | N/A | N/A | 04/22/99 |
| BLK | MB1 | BS | W | 99GVD132 | N/A | N/A | N/A | 04/22/99 |
| BLK | MB1 | | W | 99GVD135 | N/A | N/A | N/A | 04/23/99 |
| BLK | MB1 | BS | W | 99GVD135 | N/A | N/A | N/A | 04/23/99 |



NY CERTIFICATION # 11006

STL Chicago
PURGEABLE AROMATICS BY GC

Report Date: 05/13/99 13:26
Page: 1

RFW Batch Number: 9904G981 Client: AFC001-15IEA Work Order: 60025-001-001-0

| Sample Information | | | | | | |
|---|---|---|---|---|---|---|
| Cust ID: | WCHMHTA009WG08 | EB041399 | SPOT35-8WG08 | SPOT35-8WG08 | EB041499 | BLK |
| RFW#: | 003 | 007 | 010 | 010 | 011 | 99GVD132-MB1 |
| Matrix: | WATER | WATER | WATER | WATER | WATER | WATER |
| D.F.: | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 |
| Units: | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| | | | | CONFIRM | | |
| Surrogate a,a,a-Trifluorotoluene | 94 % | 90 % | 97 % | 84 % | 96 % | 97 % |
| Surrogate 4-Bromofluorobenzene | 94 % | 93 % | 96 % | 88 % | 96 % | 95 % |
| Methyl-tert-butyl ether | 1.0 U | 1.0 U | 1.0 U | NA | 1.0 U | 1.0 U |
| Benzene | 1.0 U | 1.0 U | 1.0 J | 0.69 JJ | 1.0 U | 1.0 U |
| Toluene | 1.0 U | 1.0 U | 1.0 U | NA | 1.0 U | 1.0 U |
| Ethylbenzene | 1.0 U | 1.0 U | 1.0 U | NA | 1.0 U | 1.0 U |
| Xylene (total) | 1.0 U | 1.0 U | 1.0 U | NA | 1.0 U | 1.0 U |

LSM 5-13-99

| Sample Information | | | |
|---|---|---|---|
| Cust ID: | BLK BS | BLK | BLK BS |
| RFW#: | 99GVD132-MB1 | 99GVD135-MB1 | 99GVD135-MB1 |
| Matrix: | WATER | WATER | WATER |
| D.F.: | 1.0 | 1.0 | 1.0 |
| Units: | ug/L | ug/L | ug/L |
| Surrogate a,a,a-Trifluorotoluene | 92 % | 84 % | 90 % |
| Surrogate 4-Bromofluorobenzene | 94 % | 96 % | 102 % |
| Methyl-tert-butyl ether | 101 % | 1.0 U | 89 % |
| Benzene | 96 % | 1.0 U | 106 % |
| Toluene | 99 % | 1.0 U | 102 % |
| Ethylbenzene | 103 % | 1.0 U | 110 % |
| Xylene (total) | 101 % | 1.0 U | 113 % |

U= Analyzed, not detected. J= Present below detection limit B= Present in blank. NR= Not requested. NS= Not spiked.
%= Percent recovery. D= Diluted out. I= Interference. NA= Not Applicable. *= Outside of EPA CLP QC

Severn Trent Laboratories Chicago
Volatiles Case Narrative

AFC001-15IEA
RFW# 9904G981-003, 007, 010 and 011
Purgeable Aromatics

1. These sampled were analyzed for Benzene, Toluene, Ethylbenzene, Xylene (total),and Methyl-tert-butyl ether based on SW 846 methods 5030 and 8020. An HP5890 gas chromatograph, equipped with a Photoionization Detector and interfaced with a Tekmar LCS 2000/2016 ALS system, was used for the primary analysis. A Tracor 540 gas chromatograph, equipped with a Photoionization Detector and interfaced with a Tekmar LCS 2000/2016 ALS system, was used for the confirmation analysis.

2. All required holding times were met for the analysis.

3. All method blanks were below the reporting limits for all target compounds.

4. The surrogate compounds used for this analysis were a,a,a-Trifluorotoluene and 4-Bromofluorobenzene. All surrogate recoveries were within control limits and are summarized on Form 2.

5. All blank spike recoveries were within control limits and are summarized on Forms 3.

6. A matrix spike and matrix spike duplicate were not designated on this SDG.

7. All initial and continuing standard calibrations associated with these samples were within control limits.

8. Analyte concentrations that are greater than 25% difference between the two columns have been flagged with a "J".

Linda S. Mackley
Linda S. Mackley
Organics Section Manager

5-13-99
Date

643 331

Severn Trent Laboratories Chicago
HPAH ANALYTICAL DATA PACKAGE FOR
AFC001-15IEA

LOT # :9904G981

| CLIENT ID | SAMPLE # | MTX | PREP # | COLLECTN | DATE REC | EXT/PREP | ANALYSIS |
|---|---|---|---|---|---|---|---|
| WCHMHTA009WG08 | 003 | W | 99GP0340 | 04/13/99 | 04/14/99 | 04/20/99 | 04/23/99 |
| EB041399 | 007 | W | 99GP0340 | 04/13/99 | 04/14/99 | 04/20/99 | 04/23/99 |
| SPOT35-8WG08 | 010 | W | 99GP0340 | 04/14/99 | 04/15/99 | 04/20/99 | 04/23/99 |
| EB041499 | 011 | W | 99GP0340 | 04/14/99 | 04/15/99 | 04/20/99 | 04/23/99 |
| LAB QC: | | | | | | | |
| BLK | MB1 | W | 99GP0340 | N/A | N/A | 04/20/99 | 04/22/99 |
| BLK | MB1 BS | W | 99GP0340 | N/A | N/A | 04/20/99 | 04/22/99 |

NY CERTIFICATION # 11006

STL Chicago
PAHs BY HPLC

Report Date: 05/06/99 13:33
Page: 1

RFW Batch Number: 9904G981 Client: AFC001-15IEA Work Order: 60025-001-001-0

| Sample Information | Cust ID: | WCHMHTA009WG08 | EB041399 | SPOT35-8WG08 | EB041499 | BLK | BLK BS |
|---|---|---|---|---|---|---|---|
| | RFW#: | 003 | 007 | 010 | 011 | 99GP0340-MB1 | 99GP0340-MB1 |
| | Matrix: | WATER | WATER | WATER | WATER | WATER | WATER |
| | D.F.: | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 |
| | Units: | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| Surrogate | Decafluorobiphenyl | 83 % | 92 % | 76 % | 99 % | 59 % | 69 % |
| | Benzo(e)pyrene | 109 % | 108 % | 91 % | 104 % | 108 % | 107 % |
| | | fl | fl | fl | fl | fl | fl |
| Naphthalene | | 17 U | 17 U | 17 U | 17 U | 18 U | 82 % |
| Acenaphthene | | 17 U | 17 U | 17 U | 17 U | 18 U | 82 % |
| Acenaphthylene | | 22 U | 22 U | 22 U | 22 U | 23 U | 75 % |
| Fluorene | | 2.0 U | 2.0 U | 2.0 U | 2.0 U | 2.1 U | 82 % |
| Phenanthrene | | 6.2 U | 6.2 U | 6.2 U | 6.2 U | 6.4 U | 95 % |
| Anthracene | | 6.4 U | 6.3 U | 6.4 U | 6.4 U | 6.6 U | 84 % |
| Fluoranthene | | 2.0 U | 2.0 U | 2.0 U | 2.0 U | 2.1 U | 86 % |
| Pyrene | | 2.6 U | 2.6 U | 2.6 U | 2.6 U | 2.7 U | 94 % |
| Benzo(a)anthracene | | 0.13 U | 0.12 U | 0.13 U | 0.13 U | 0.13 U | 98 % |
| Chrysene | | 1.4 U | 1.4 U | 1.4 U | 1.4 U | 1.5 U | 101 % |
| Benzo(b)fluoranthene | | 0.17 U | 0.17 U | 0.17 U | 0.17 U | 0.18 U | 92 % |
| Benzo(k)fluoranthene | | 0.16 U | 0.16 U | 0.16 U | 0.16 U | 0.17 U | 88 % |
| Benzo(a)pyrene | | 0.22 U | 0.22 U | 0.22 U | 0.22 U | 0.23 U | 95 % |
| Dibenzo(a,h)anthracene | | 0.29 U | 0.29 U | 0.29 U | 0.29 U | 0.30 U | 89 % |
| Benzo(g,h,i)perylene | | 0.74 U | 0.73 U | 0.74 U | 0.74 U | 0.76 U | 88 % |
| Indeno(1,2,3-cd)pyrene | | 0.42 U | 0.41 U | 0.42 U | 0.42 U | 0.43 U | 86 % |

U= Analyzed, not detected. J= Present below detection limit. B= Present in blank. NR= Not requested. NS= Not spiked.
%= Percent recovery. D= Diluted out. I= Interference. NA= Not Applicable. *= Outside of EPA CLP QC

Severn Trent Laboratories Chicago
PAH Case Narrative

AFC001-15IEA
RFW# 9904G981-003, 007, 010 and 011
PAHs

1. Severn Trent Laboratories Chicago used the following High Performance Liquid Chromatographic system for analysis of polynuclear aromatic hydrocarbons:

| ID# | INSTRUMENT | COLUMN TYPE | DETECTOR |
|---|---|---|---|
| 25 | SpectraPhysics | C-18 PAH | UV - 254nm |
| 26 | SpectraPhysics | C-18 PAH | Fluorescence |
| 25 | SpectraPhysics | C-18 PAH | UV - 260nm |

2. These samples were extracted based on SW846 method 3520. The extracts were analyzed for PAHs (i.e. PNAs) based on SW846 method 8310 protocols.

3. All required holding times were met for the extraction and analysis.

4. The method blank was below the reporting limit for all target compounds.

5. The surrogate compounds used for this analysis were Decafluorobiphenyl and Benzo(e)pyrene. All surrogate recoveries were within control limits and are summarized on Form 2E.

6. All blank spike recoveries were within control limits and are summarized on Form 3.

7 There was no designated matrix spike and matrix spike duplicate associated with this SDG.

8. All initial and continuing standard calibrations were within control limits with the following exceptions:

   CCV run 04/23/99 at 10:43 had Acenaphthylene 0.03 minutes outside of its retention time window on the UV detector. Acenaphthylene was not detected in the associated samples. The retention time shift was taken into account during data review.

   SSV run 05/03/99 at 22:14 had Anthracene biased high at 18.5% difference on the UV detector. This was a confirmation analysis and none of the associated samples were being confirmed for Anthracene.

   CCV run 05/04/99 at 13:10 had Acenaphthylene and Fluorene 0.01 minutes outside of their retention time windows on the UV detector. These analytes were not detected in the associated samples. The shift was taken into account during data review.

CCV run 05/04/99 at 15:13 had Acenaphthylene 0.03 minutes outside of its retention time window and Fluorene 0.02 minutes outside of its retention time window on the UV detector. These analytes were not detected in the associated samples. The shift was taken into account during data review.

10. A second wavelength on the UV detector was used to determine that there were no confirmed positive hits in these samples.

Linda S. Mackley

Linda S. Mackley
Organics Section Manager

5-10-99
Date

Committed To *Your* Success

**Severn Trent Laboratories**
11 East Olive Road
Pensacola FL 32514

Tel (850) 474-1001
Fax (850) 478-2671

SIGNATURE PAGE

Reviewed by: _____
STL Project Manager

Client: STL/CHICAGO
UNIVERSITY PARK, IL

Project Name: AFC001-15IEA
Project Number: 9904G981
Project Location: N/S
Accession Number: 904432

Project Manager: SHERYL JOHNSON
Sampled By: N/S

THIS IS A REVISED REPORT: December 19, 1999

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## SEVERN TRENT LABORATORIES, INC. - PENSACOLA, FLORIDA
## STATE CERTIFICATIONS

*Alabama Department of Environmental Management, Laboratory ID No 40150 (Drinking Water by Reciprocity with FL)*

*Arizona Department of Health Services, Lab ID No. AZ0589 (Hazardous Waste & Wastewater)*

*Arkansas Department of Pollution Control and Ecology, (No Laboratory ID No. assigned by state) (Environmental)*

*State of California, Department of Health Services, Laboratory ID No. 2338 (Hazardous Waste and Wastewater)*

*State of Connecticut, Department of Health Services, Connecticut Lab Approval No PH-0697 (Drinking Water, Hazardous Waste and Wastewater)*

*Delaware Health & Social Services, Division of Public Health, Laboratory ID No FL094 (Drinking Water by Reciprocity with FL)*

*Florida DOH Laboratory ID No. 81142 (Drinking Water), Laboratory ID No. E81010 (Hazardous Waste and Wastewater)*

*Florida, Radioactive Materials License No. G0733-1*

*Foreign Soil Permit, Permit No S-37599*

*Kansas Department of Health & Environment, Laboratory ID No. E10253 (Wastewater and Hazardous Waste)*

*Commonwealth of Kentucky, Natural Resources and Environmental Protection Cabinet, Laboratory ID No. 90043 (Drinking Water)*

*State of Louisiana, DHH, Office of Public Health Division of Laboratories, Laboratory ID No. 98-25 (Drinking Water)*

*State of Maryland, DH&MH Laboratory ID No. 233 (Drinking Water by Reciprocity with Florida)*

*Commonwealth of Massachusetts, DEP, Laboratory ID No. M-FL094 (Hazardous Waste and Wastewater)*

*State of Michigan, Bureau of E&OccH, Laboratory ID No.9912 (Drinking Water by Reciprocity with Florida)*

*New Hampshire DES, Laboratory ID No 250598-A (Wastewater)*

*State of New Jersey, Department of Environmental Protection & Energy, Laboratory ID No 49006 (Wastewate and Hazardous Waster)*

*New York State, Department of Health, Laboratory ID No 11503 (Wastewater and Solids/Hazardous Waste)*

*North Carolina Department of Environment, Health, & Natural Resources, Laboratory ID No. 314 (Hazardous Waste and Wastewater)*

*North Dakota DH&Consol Labs, Laboratory ID No. R-108 (Hazardous Waste and Wastewater by Reciprocity with Florida)*

*State of Oklahoma, Oklahoma Department of Environmental Quality, Laboratory ID No. 9810 (Hazardous Waste and Wastewater)*

*Commonwealth of Pennsylvania, Department of Environmental Resources, Laboratory ID No. 68-467 (Drinking Water)*

*South Carolina DH&EC, Laboratory ID No 96026 (Wastewater by Reciprocity with FL and Solids/Hazardous Waste by Reciprocity with CA)*

*Tennessee Department of Health & Environment, Laboratory ID No 02907 (Drinking Water)*

*Tennessee Division of Underground Storage Tanks Approved Laboratory*

*Virginia Department of General Services, Laboratory ID No. 00008 (Drinking Water by Reciprocity with FL)*

*State of Washington, Department of Ecology, Laboratory ID No. C282 (Hazardous Waste and Wastewater)*

*West Virginia Division of Environmental Protection, Office of Water Resources, Laboratory ID No 136 (Hazardous Waste and Wastewater by Reciprocity with FL)*

*American Industrial Hygiene Association (AIHA) Accredited Laboratory, Laboratory ID No. 100704*

SEVERN TRENT LABORATORIES 11 East Olive Road Pensacola, Florida 32514 (850) 474-1001



"FINAL REPORT FORMAT - SINGLE"

Accession: 904432
Client: STL/CHICAGO
Project Number: 9904G981
Project Name: AFC001-15IEA
Project Location: N/S
Test: DISSOLVED METHANE
Analysis Method: RSK 175 (Modified)
Extraction Method: N/A
Matrix: WATER
QC Level: N

Lab Id: 002
Client Sample Id: WCHMHTA009WG08
Sample Date/Time: 13-APR-99 N/S
Received Date: 20-APR-99

Batch: GEW165
Blank: A
Dry Weight %: N/A
Extraction Date: N/A
Analysis Date: 22-APR-99

| Parameter: | Units: | Results: | Rpt Lmts: | Q: |
|---|---|---|---|---|
| METHANE | UG/L | 3.4102 | 1 | |
| ETHANE | UG/L | ND | 1 | |
| ETHENE | UG/L | ND | 1 | |
| ANALYST | INITIALS | HC | | |

Comments:

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"FINAL REPORT FORMAT - SINGLE"

Accession: 904432
Client: STL/CHICAGO
Project Number: 9904G981
Project Name: AFC001-15IEA
Project Location: N/S
Test: DISSOLVED METHANE
Analysis Method: RSK 175 (Modified)
Extraction Method: N/A
Matrix: WATER
QC Level: N

Lab Id: 003
Client Sample Id: LF04-4CWG08

Sample Date/Time: 13-APR-99 N/S
Received Date: 20-APR-99

Batch: GEW165
Blank: A

Dry Weight %: N/A

Extraction Date: N/A
Analysis Date: 22-APR-99

| Parameter: | Units: | Results: | Rpt Lmts: | Q: |
|---|---|---|---|---|
| METHANE | UG/L | 109.7988 | 1 | |
| ETHANE | UG/L | 10.5523 | 1 | |
| ETHENE | UG/L | ND | 1 | |
| ANALYST | INITIALS | HC | | |

Comments:

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"FINAL REPORT FORMAT - SINGLE"

Accession: 904432
Client: STL/CHICAGO
Project Number: 9904G981
Project Name: AFC001-151EA
Project Location: N/S
Test: DISSOLVED METHANE
Analysis Method: RSK 175 (Modified)
Extraction Method: N/A
Matrix: WATER
QC Level: N

Lab Id: 004
Client Sample Id: TB041299
Sample Date/Time: 12-APR-99 N/S
Received Date: 20-APR-99

Batch: GEW165
Blank: A
Dry Weight %: N/A
Extraction Date: N/A
Analysis Date: 22-APR-99

| Parameter. | Units: | Results: | Rpt Lmts. | Q: |
|---|---|---|---|---|
| METHANE | UG/L | ND | 1 | |
| ETHANE | UG/L | ND | 1 | |
| ETHENE | UG/L | ND | 1 | |
| ANALYST | INITIALS | HC | | |

Comments:

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"FINAL REPORT FORMAT - SINGLE"

Accession: 904432
Client: STL/CHICAGO
Project Number: 9904G981
Project Name: AFC001-15IEA
Project Location: N/S
Test: DISSOLVED METHANE
Analysis Method: RSK 175 (Modified)
Extraction Method: N/A
Matrix: WATER
QC Level: N

Lab Id: 005 Sample Date/Time: 13-APR-99 N/S
Client Sample Id: TB041399 Received Date: 20-APR-99

Batch: GEW165 Extraction Date: N/A
Blank: A Dry Weight %: N/A Analysis Date: 22-APR-99

| Parameter: | Units: | Results | Rpt Lmts: | Q: |
|---|---|---|---|---|
| METHANE | UG/L | ND | 1 | |
| ETHANE | UG/L | ND | 1 | |
| ETHENE | UG/L | ND | 1 | |
| ANALYST | INITIALS | HC | | |

Comments:

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"FINAL REPORT FORMAT - SINGLE"

Accession: 904432
Client: STL/CHICAGO
Project Number: 9904G981
Project Name: AFC001-15IEA
Project Location: N/S
Test: DISSOLVED METHANE
Analysis Method: RSK 175 (Modified)
Extraction Method: N/A
Matrix: WATER
QC Level: N

Lab Id: 006
Client Sample Id: EB041399

Sample Date/Time: 13-APR-99 N/S
Received Date: 20-APR-99

Batch: GEW165
Blank. A Dry Weight %: N/A

Extraction Date: N/A
Analysis Date: 22-APR-99

| Parameter: | Units: | Results: | Rpt Lmts: | Q: |
|---|---|---|---|---|
| METHANE | UG/L | ND | 1 | |
| ETHANE | UG/L | ND | 1 | |
| ETHENE | UG/L | ND | 1 | |
| ANALYST | INITIALS | HC | | |

Comments:

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"FINAL REPORT FORMAT - SINGLE"

Accession: 904432
Client: STL/CHICAGO
Project Number: 9904G981
Project Name: AFC001-15IEA
Project Location: N/S
Test: DISSOLVED METHANE
Analysis Method: RSK 175 (Modified)
Extraction Method: N/A
Matrix: WATER
QC Level: N

Lab Id: 007
Client Sample Id: TB041499

Sample Date/Time: 14-APR-99 N/S
Received Date: 20-APR-99

Batch: GEW165
Blank: A Dry Weight %: N/A

Extraction Date: N/A
Analysis Date: 22-APR-99

| Parameter: | Units: | Results: | Rpt Lmts: | Q: |
|---|---|---|---|---|
| METHANE | UG/L | ND | 1 | |
| ETHANE | UG/L | ND | 1 | |
| ETHENE | UG/L | ND | 1 | |
| ANALYST | INITIALS | HC | | |

Comments:

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"FINAL REPORT FORMAT - SINGLE"

Accession: 904432
Client: STL/CHICAGO
Project Number: 9904G981
Project Name: AFC001-15IEA
Project Location: N/S
Test: DISSOLVED METHANE
Analysis Method: RSK 175 (Modified)
Extraction Method: N/A
Matrix: WATER
QC Level: N

---

Lab Id: 008
Client Sample Id: SPOT35-8WG08

Sample Date/Time: 14-APR-99 N/S
Received Date: 20-APR-99

Batch: GEW165
Blank: A

Dry Weight %: N/A

Extraction Date: N/A
Analysis Date: 22-APR-99

| Parameter: | Units: | Results: | Rpt Lmts: | Q: |
|---|---|---|---|---|
| METHANE | UG/L | 132.7662 | 1 | |
| ETHANE | UG/L | ND | 1 | |
| ETHENE | UG/L | ND | 1 | |
| ANALYST | INITIALS | HC | | |

Comments:

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"FINAL REPORT FORMAT - SINGLE"

Accession: 904432
Client: STL/CHICAGO
Project Number: 9904G981
Project Name: AFC001-15IEA
Project Location: N/S
Test: DISSOLVED METHANE
Analysis Method: RSK 175 (Modified)
Extraction Method: N/A
Matrix: WATER
QC Level: N

Lab Id: 009
Client Sample Id: EB041499
Sample Date/Time: 14-APR-99 N/S
Received Date: 20-APR-99

Batch: GEW165
Blank: A
Dry Weight %: N/A
Extraction Date: N/A
Analysis Date: 22-APR-99

| Parameter: | Units: | Results: | Rpt Lmts: | Q: |
|---|---|---|---|---|
| METHANE | UG/L | ND | 1 | |
| ETHANE | UG/L | ND | 1 | |
| ETHENE | UG/L | ND | 1 | |
| ANALYST | INITIALS | HC | | |

Comments:

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"FINAL REPORT FORMAT - SINGLE"

Accession: 904432
Client: STL/CHICAGO
Project Number: 9904G981
Project Name: AFC001-151EA
Project Location: N/S
Test: DISSOLVED METHANE
Analysis Method: RSK 175 (Modified)
Extraction Method: N/A
Matrix: WATER
QC Level: N

Lab Id: 010
Client Sample Id: WHGLTA003WG08
Sample Date/Time: 14-APR-99 N/S
Received Date: 20-APR-99

Batch: GEW165
Blank: A
Dry Weight %: N/A
Extraction Date: N/A
Analysis Date: 22-APR-99

| Parameter: | Units: | Results: | Rpt Lmts: | Q: |
|---|---|---|---|---|
| METHANE | UG/L | ND | 1 | |
| ETHANE | UG/L | ND | 1 | |
| ETHENE | UG/L | ND | 1 | |
| ANALYST | INITIALS | HC | | |

Comments:

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"FINAL REPORT FORMAT - SINGLE"

Accession: 904432
Client: STL/CHICAGO
Project Number: 9904G981
Project Name: AFC001-15IEA
Project Location: N/S
Test: DISSOLVED METHANE
Analysis Method: RSK 175 (Modified)
Extraction Method: N/A
Matrix: WATER
QC Level: N

Lab Id: 011
Client Sample Id: SD13-06WG08
Sample Date/Time: 14-APR-99 N/S
Received Date: 20-APR-99

Batch: GEW165
Blank: A
Dry Weight %: N/A
Extraction Date: N/A
Analysis Date: 22-APR-99

| Parameter: | Units: | Results: | Rpt Lmts: | Q: |
|---|---|---|---|---|
| METHANE | UG/L | 14.9864 | 1 | |
| ETHANE | UG/L | ND | 1 | |
| ETHENE | UG/L | ND | 1 | |
| ANALYST | INITIALS | HC | | |

Comments:

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Severn Trent Laboratories, Inc
Pensacola, FL 32514
Tel (850) 474-1001
Fax. (850) 478-2671

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# Data Qualifiers for Final Report

STL-Pensacola Inorganic/Organic and AFCEE Projects (under QAPP)

| | | |
|---|---|---|
| J4 | (For positive results) | Temperature limits exceeded (<2°C or > 6°C) |
| J5 | (TICs) | The reported value is quantitated as a TIC, therefore, it is estimated |
| J6 | (For positive results) | LCS or Surrogate %R is > upper control limit (UCL) or < lower control limit (LCL) |
| J7 | (For positive results) | The reported value is > the laboratory MDL and < lowest calibration standards; therefore, the quantitation is an estimation. |
| J (AFCEE description) | The analyte was positively identified, the quantitation is an estimation | |
| R1 | (For nondetects) | Temperature limits exceeded (<2°C or > 6°C) |
| R2 | Improper preservation, no preservative present in sample upon receipt | |
| R3 | Improper preservation, incorrect preservative present in sample upon receipt | |
| R4 | Holding time exceeded | |
| R10 | Holding time exceeded, non-reportable for NDPES compliance monitoring | |
| R5 | Collection requirements not met, improper container used for sample | |
| R6 | LCS or surrogate %R is < LCL and analyte is not detected or surrogate %R is < 10% for detects/nondetects | |
| R7 | Internal standard area outside -50% to +100% of initial calibration midpoint standard. | |
| R8 | Initial calibration or any calibration verification exceeds acceptance criteria. | |
| R9 | Improper preservation, sample not filtered in the field. | |
| R (AFCEE description) | The data are unusable due to deficiencies in the ability to analyze the sample and meet QC criteria | |
| F | < laboratory or AFCEE RL and > laboratory MDL | |
| F (AFCEE description) | The analyte was positively identified but the associated numerical value is below the AFCEE or lab RL | |
| U2 | ≤ Laboratory MDL (value for result will be the MDL, never below the MDL) | |
| U (AFCEE description) | The analyte was analyzed for but not detected. The associated numerical value is at or below the MDL | |
| B (AFCEE description) | The analyte was found in the associated blank, as well as in the sample | |
| B1 | Analyte was detected in the associated method blank. | |
| @ | Adjusted reporting limit due to sample matrix (dilution prior to digestion and/or analysis) | |
| + | Elevated reporting limit due to dilution into calibration range | |
| * (Metals & Wet Chem) | Elevated reporting limit due to matrix interference (dilution prior to digestion and/or analysis) | |
| ** (Organics) | Compounds flagged are not within the five point initial calibration curve. They are searched for qualitatively or as TICs. | |
| # | Elevated reporting limit due to insufficient sample size | |
| D | Diluted out | |
| | A matrix effect was present (sample was analyzed twice to confirm or chromatogram had interfering peaks) | |
| | Incorrect sample amount was submitted to the laboratory for analysis | |
| T | Second-column confirmation exceeded the SW-846 criteria of 40% RPD for this compound. | |
| TIC | Samples are searched for qualitatively as Tentatively Identified Compounds. | |
| E | Compound concentration exceeds the upper calibration range of the instrument. | |
| W | Post-digestion spike for Furnace AA is out of control limits (85-115%), while sample absorbance is less than 50% spike absorbance. | |

ND = Not Detected at or above the STL-Pensacola reporting limit (RL)
IDL = Laboratory Instrument Detection Limit
RL = Reporting Limit (AFCEE RLs are listed in the AFCEE QAPP)
N/S = Not Submitted
N/A = Not Applicable
MDL = Laboratory Method Detection Limit

Any time a sample arrives at the laboratory improperly preserved (at improper pH or temperature) or after holding time has expired or prepared or analyzed after holding time, client must be notified in writing (i.e. case narrative)

Florida Projects Inorganic/Organic

| | |
|---|---|
| Y1 | Improper preservation, no preservative present in sample upon receipt |
| Y2 | Improper preservation, incorrect preservative present in sample upon receipt |
| Y3 | Improper preservation, sample temperature exceeded EPA temperature limits of 2-6°C upon receipt |
| Y (FL description) | The analysis was from an unpreserved or improperly preserved sample. Data may not be accurate |
| Q | Sample held beyond the accepted holding time |
| I | The reported value is < Laboratory RL and > laboratory MDL |
| U1 | The reported value is ≤ Laboratory MDL (value for sample result is reported as the MDL) |
| U (FL description) | Indicates the compound was analyzed for but not detected |
| T | The reported value is < Laboratory MDL (value shall not be used for statistical analysis) |
| V | The analyte was detected in both the sample and the associated method blank |
| J1 | Surrogate recovery outside acceptance limits. Not enough sample available to reextract and/or reanalyze. |
| J2 | The sample matrix interfered with the ability to make any accurate determinations |
| J3 | The reported value failed to meet the established quality control criteria for either precision or accuracy |
| J (FL description) | Estimated value; not accurate |

CLP and CLP-like Projects: Refer to referenced CLP Statement of Work (SOW) for explanation of data qualifiers.

SEVERN TRENT LABORATORIES 11 East Olive Road Pensacola, Florida 32514 (850) 474-1001

# Quality Control Report

Analysis: DISSOLVED METHANE

| | |
|---|---|
| Accession: | 904432 |
| Client: | STL/CHICAGO |
| Project Number: | 9904G981 |
| Project Name: | AFC001-15IEA |
| Project Location: | N/S |
| Department: | SEMI-VOLATILE FUELS |

BLANK ANALYSIS

DATE: 23-APR-99

METHOD: RSK 175

BATCH: GEW165

| COMPOUND | UNITS | REPORTING LIMIT | RESULT |
|---|---|---|---|
| METHANE | UG/L | 1 | ND |
| ETHANE | UG/L | 1 | ND |
| ETHENE | UG/L | 1 | ND |

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CONTINUING CALIBRATION

DATE: 23-APR-99

METHOD: RSK 175

BATCH: GEW165

| COMPOUND | AMT (IC) | AMT (CC) | %D | QC LIMITS |
|---|---|---|---|---|
| METHANE | 250 | 279 | 5 | 20 |
| ETHANE | 250 | 291 | 8 | 20 |
| ETHENE | 250 | 288 | 7 | 20 |

SOURCE FOR CONTROL LIMIT IS INTERNAL LABORATORY QUALITY ASSURANCE PROGRAM AND RSK 175.

DUPLICATE SAMPLE ANALYSIS

DATE: 23-APR-99

METHOD: RSK 175

LAB SAMPLE #: 904432-11

BATCH: GEW165

| COMPOUND | SAMPLE RESULT | DUPLICATE RESULT | %RPD | QC LIMITS |
|---|---|---|---|---|
| METHANE | 14.9864 | 16.5233 | 10 | 50 |
| ETHANE | ND | ND | N/A | 50 |
| ETHENE | ND | ND | N/A | 50 |

ALL RESULTS REPORTED IN UG/L.

ND = NOT DETECTED
NC = NOT CALCULABLE

SOURCE FOR CONTROL LIMIT IS INTERNAL LABORATORY QUALITY ASSURANCE PROGRAM AND RSK 175.

643 355

CHECK STANDARD (POST-RUN)

DATE: 23-APR-99

METHOD: RSK 175

BATCH: GEW165

| COMPOUND | AMT(CC) | AMT (PS) | %D | QC LIMITS |
|---|---|---|---|---|
| METHANE | 279 | 275 | 1 | 20 |
| ETHANE | 291 | 281 | 2 | 20 |
| ETHENE | 288 | 278 | 2 | 20 |

SOURCE FOR CONTROL LIMIT IS INTERNAL LABORATORY QUALITY ASSURANCE PROGRAM AND RSK 175.

SEVERN TRENT LABORATORIES 11 East Olive Road Pensacola, Florida 32514 (850) 474-1001

# Analysis Report

Analysis: TNRCC TEXAS METHOD 1005 - TOTAL PETROLEUM HYDROCARBONS

| | |
|---|---|
| Accession: | 904432 |
| Client: | STL/CHICAGO |
| Project Number: | 9904G981 |
| Project Name: | AFCO01-15IEA |
| Project Location: | N/S |
| Department: | SEMI-VOLATILE FUELS |

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SEVERN TRENT LABORATORIES 11 East Olive Road Pensacola, Florida 32514 (850) 474-1001



"FINAL REPORT FORMAT - SINGLE"

Accession: 904432
Client: STL/CHICAGO
Project Number: 9904G981
Project Name: AFCO01-15IEA
Project Location: N/S
Test: TNRCC TEXAS METHOD 1005 - TOTAL PETROLEUM HYDROCARBONS
Analysis Method: TNRCC Method 1005 (Rev. 4/98)
Extraction Method: TNRCC Method 1005 (Rev. 4/98)
Matrix: WATER
QC Level: IIMS

Lab Id: 002
Client Sample Id: WCHMHTA009WG08
Sample Date/Time: 13-APR-99 N/S
Received Date: 20-APR-99

Batch: GEW168
Blank: A
Dry Weight %: N/A
Extraction Date: 26-APR-99
Analysis Date: 28-APR-99

| Parameter: | Units: | Results: | Rpt Lmts: | Q: |
|---|---|---|---|---|
| C6-C10 | MG/L | ND | 5 | |
| >C10-C28 | MG/L | ND | 5 | |
| C6-C28 | MG/L | ND | 5 | |
| ORTHO TER PHENYL | %REC/SURR | 92 | 50-150 | |
| ANALYST | INITIALS | LBL | | |

Comments:

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"FINAL REPORT FORMAT - SINGLE"

Accession: 904432
Client: STL/CHICAGO
Project Number: 9904G981
Project Name: AFC001-15IEA
Project Location: N/S
Test: TNRCC TEXAS METHOD 1005 - TOTAL PETROLEUM HYDROCARBONS
Analysis Method: TNRCC Method 1005 (Rev. 4/98)
Extraction Method: TNRCC Method 1005 (Rev. 4/98)
Matrix: WATER
QC Level: IIMS

Lab Id: 006
Client Sample Id: EB041399
Sample Date/Time: 13-APR-99 N/S
Received Date: 20-APR-99

Batch: GEW168
Blank: A
Dry Weight %: N/A
Extraction Date: 26-APR-99
Analysis Date: 28-APR-99

| Parameter: | Units: | Results: | Rpt Lmts: | Q: |
|---|---|---|---|---|
| C6-C10 | MG/L | ND | 5 | |
| >C10-C28 | MG/L | ND | 5 | |
| C6-C28 | MG/L | ND | 5 | |
| ORTHO TER PHENYL | %REC/SURR | 88 | 50-150 | |
| ANALYST | INITIALS | LBL | | |

Comments:

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SEVERN TRENT LABORATORIES 11 East Olive Road Pensacola, Florida 32514 (850) 474-1001



"FINAL REPORT FORMAT - SINGLE"

Accession: 904432
Client: STL/CHICAGO
Project Number: 9904G981
Project Name: AFCO01-15IEA
Project Location: N/S
Test: TNRCC TEXAS METHOD 1005 - TOTAL PETROLEUM HYDROCARBONS
Analysis Method: TNRCC Method 1005 (Rev. 4/98)
Extraction Method: TNRCC Method 1005 (Rev. 4/98)
Matrix: WATER
QC Level: IIMS

Lab Id: 008 Sample Date/Time: 14-APR-99 N/S
Client Sample Id: SPOT35-8WG08 Received Date: 20-APR-99

Batch: GEW168 Extraction Date: 26-APR-99
Blank: A Dry Weight %: N/A Analysis Date: 28-APR-99

| Parameter: | Units: | Results: | Rpt Lmts: | Q: |
|---|---|---|---|---|
| C6-C10 | MG/L | ND | 5 | |
| >C10-C28 | MG/L | ND | 5 | |
| C6-C28 | MG/L | ND | 5 | |
| ORTHO TER PHENYL | %REC/SURR | 82 | 50-150 | |
| ANALYST | INITIALS | LBL | | |

Comments:

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"FINAL REPORT FORMAT - SINGLE"

Accession: 904432
Client: STL/CHICAGO
Project Number: 9904G981
Project Name: AFC001-15IEA
Project Location: N/S
Test: TNRCC TEXAS METHOD 1005 - TOTAL PETROLEUM HYDROCARBONS
Analysis Method: TNRCC Method 1005 (Rev. 4/98)
Extraction Method: TNRCC Method 1005 (Rev. 4/98)
Matrix: WATER
QC Level: IIMS

Lab Id: 009 Sample Date/Time: 14-APR-99 N/S
Client Sample Id: EB041499 Received Date: 20-APR-99

Batch: GEW168 Extraction Date: 26-APR-99
Blank: A Dry Weight %: N/A Analysis Date: 28-APR-99

| Parameter: | Units: | Results: | Rpt Lmts: | Q: |
|---|---|---|---|---|
| C6-C10 | MG/L | ND | 5 | |
| >C10-C28 | MG/L | ND | 5 | |
| C6-C28 | MG/L | ND | 5 | |
| ORTHO TER PHENYL | %REC/SURR | 79 | 50-150 | |
| ANALYST | INITIALS | LBL | | |

ments:

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## Data Qualifiers for Final Report

STL-Pensacola Inorganic/Organic and AFCEE Projects (under QAPP)

| | | |
|---|---|---|
| J4 | (For positive results) | Temperature limits exceeded (≤2°C or ≥ 6°C) |
| J5 | (TICs) | The reported value is quantitated as a TIC; therefore, it is estimated |
| J6 | (For positive results) | LCS or Surrogate %R is > upper control limit (UCL) or < lower control limit (LCL) |
| J7 | (For positive results) | The reported value is > the laboratory MDL and < lowest calibration standards; therefore, the quantitation is an estimation. |
| J (AFCEE description) | The analyte was positively identified, the quantitation is an estimation | |
| R1 | (For nondetects) | Temperature limits exceeded (≤2°C or ≥ 6°C) |
| R2 | Improper preservation, no preservative present in sample upon receipt | |
| R3 | Improper preservation, incorrect preservative present in sample upon receipt | |
| R4 | Holding time exceeded | |
| R5 | Collection requirements not met, improper container used for sample | |
| R6 | LCS or surrogate %R is < LCL and analyte is not detected or surrogate %R is < 10% for detects/nondetects | |
| R7 | Internal standard area outside –50% to +100% of initial calibration midpoint standard | |
| R8 | Second source calibration verification exceeds acceptance criteria | |
| R9 | Improper preservation, sample not filtered in the field | |
| R (AFCEE description) | The data are unusable due to deficiencies in the ability to analyze the sample and meet QC criteria | |
| F | < laboratory or AFCEE RL and > laboratory MDL | |
| F (AFCEE description) | The analyte was positively identified but the associated numerical value is below the AFCEE or lab RL | |
| U2 | < Laboratory MDL (value for result will be the MDL, never below the MDL) | |
| U (AFCEE description) | The analyte was analyzed for but not detected. The associated numerical value is at or below the MDL | |
| B (AFCEE description) | The analyte was found in the associated blank, as well as in the sample | |
| @ | Adjusted reporting limit due to sample matrix (dilution prior to digestion and/or analysis) | |
| + | Elevated reporting limit due to dilution into calibration range | |
| • | Elevated reporting limit due to matrix interference (dilution prior to digestion and/or analysis) | |
| # | Elevated reporting limit due to insufficient sample size | |
| D | Diluted out | |
| M | A matrix effect was present (sample was analyzed twice to confirm or chromatogram had interfering peaks) | |
| S | Incorrect sample amount was submitted to the laboratory for analysis | |
| T | Second-column confirmation exceeded the SW-846 criteria of 40% RPD for this compound | |

ND = Not Detected at or above the STL-Pensacola reporting limit (RL)
IDL = Laboratory Instrument Detection Limit
RL = Reporting Limit (AFCEE RLs are listed in the AFCEE QAPP)
N/S = Not Submitted
N/A = Not Applicable
MDL = Laboratory Method Detection Limit

Any time a sample arrives at the laboratory improperly preserved (at improper pH or temperature) or after holding time has expired or prepared or analyzed after holding time, client must be notified in writing (i.e case narrative)

Florida Projects Inorganic/Organic
Refer to back side of this page

ICR Projects Inorganic/Organic

| | | | |
|---|---|---|---|
| A1 | Acceptable | R6 | Rejected |

Examples: ICR Flags
R6 = Laboratory extracted the sample but the refrigerator malfunctioned so the extract became warm and client was notified
R6 = Sample arrived in laboratory in good condition; however, the laboratory did not analyze it within EPA's established holding time limit

CLP and CLP-like Projects: Refer to referenced CLP Statement of Work (SOW) for explanation of data qualifiers

SEVERN TRENT LABORATORIES 11 East Olive Road Pensacola, Florida 32514 (850) 474-1001

# Quality Control Report

Analysis: TNRCC TEXAS METHOD 1005 - TOTAL PETROLEUM HYDROCARBONS

| | |
|---|---|
| Accession: | 904432 |
| Client: | STL/CHICAGO |
| Project Number: | 9904G981 |
| Project Name: | AFCO01-15IEA |
| Project Location: | N/S |
| Department: | SEMI-VOLATILE FUELS |

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SEVERN TRENT LABORATORIES 11 East Olive Road Pensacola, Florida 32514 (850) 474-1001


Date 12-May-99

"QC Report"

Title: Water Blank
Batch: GEW168
Analysis Method: TNRCC Method 1005 (Rev. 4/98)
Extraction Method: TNRCC Method 1005 (Rev. 4/98)

Blank Id: A Date Analyzed: 27-APR-99 Date Extracted: 26-APR-99

| Parameters: | Units: | Results: | Reporting Limits: |
|---|---|---|---|
| C6-C10 | MG/L | ND | 5 |
| >C10-C28 | MG/L | ND | 5 |
| C6-C28 | MG/L | ND | 5 |
| ORTHO TER PHENYL | %REC/SURR | 95 | 50-150 |
| ANALYST | INITIALS | LBL | |

Comments:

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"QC Report"

Title: Water LCS
Batch: GEW168
Analysis Method: TNRCC Method 1005 (Rev. 4/98)
Extraction Method: TNRCC Method 1005 (Rev. 4/98)

RS Date Analyzed: 27-APR-99 RS Date Extracted: 26-APR-99

| Parameters: | Spike Added | Sample Conc | RS Conc | RS %Rec | Rec Lmts |
|---|---|---|---|---|---|
| C6-C10 | 26.7 | <5 | 26.2 | 98 | 70-130 |
| >C10-C28 | 26.8 | <5 | 27.7 | 103 | 70-130 |
| C6-C28 | 53.5 | <5 | 53.9 | 101 | 70-130 |
| Surrogates: | | | | | |
| ORTHO TER PHENYL (OTP) | | | | 106 | 50-150 |

Comments:

Notes:
N/S = NOT SUBMITTED N/A = NOT APPLICABLE D = DILUTED OUT
MG/KG = PARTS PER MILLION. < = LESS THAN REPORTING LIMIT.
* = VALUES OUTSIDE OF QUALITY CONTROL LIMITS.
SOURCES FOR CONTROL LIMITS ARE INTERNAL LABORATORY QUALITY ASSURANCE PROGRAM AND REFERENCED METHOD.

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SEVERN TRENT LABORATORIES 11 East Olive Road Pensacola, Florida 32514 (850) 474-1001



"QC Report"

.tle: Water Matrix Spike/Matrix Spike Duplicate
ıtch: GEW168
ıalysis Method: TNRCC Method 1005 (Rev. 4/98)
:traction Method: TNRCC Method 1005 (Rev. 4/98)

:y Weight %: N/A
ımple Spiked: 904432-2

MS Date Analyzed: 28-APR-99
MSD Date Analyzed: 28-APR-99

MS Date Extracted: 28-APR-99
MSD Date Extracted: 28-APR-99

| ırameters: | Spike Added | Sample Conc | MS Conc | MS %Rec | MSD Conc | MSD %Rec | RPD | RPD Lmts | Rec Lmts |
|---|---|---|---|---|---|---|---|---|---|
| ;-C10 | 26.5 | <5 | 16.7 | 63* | 18.7 | 71 | 12 | 30 | 50-150 |
| :10-C28 | 26.8 | <5 | 18.3 | 68* | 21.5 | 80 | 16 | 30 | 70-130 |
| ;-C28 | 53.5 | <5 | 35.0 | 65* | 40.2 | 75 | 14 | 30 | 70-130 |
| ırrogates: | | | | | | | | | |
| RTHO TER PHENYL (OTP) | | | | 71 | | 94 | | | 50-150 |

ɔmments:
MATRIX SPIKE/MATRIX SPIKE DUPLICATE HAD RECOVERY(S) AND/OR RPD(S) OUTSIDE ACCEPTANCE LIMITS DUE TO MATRIX INTERFERENCE. REFER TO LCS DATA.

ɔtes:
N/S = NOT SUBMITTED N/A = NOT APPLICABLE D = DILUTED OUT
MG/KG = PARTS PER MILLION. < = LESS THAN REPORTING LIMIT.
* = VALUES OUTSIDE OF QUALITY CONTROL LIMITS.
SOURCES FOR CONTROL LIMITS ARE INTERNAL LABORATORY QUALITY ASSURANCE PROGRAM AND REFERENCED METHOD.

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# TAB

Appendix E July 99

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Committed To *Your* Success

**Severn Trent Laboratories**
19 Loveton Circle
Sparks, MD 21152

Tel (410) 771-4920
Fax (410) 771-4407
www.stl-inc.com

August 9, 1999

Mr. Ken Rapuano
HydroGeoLogic, Inc.
11 55 Herndon Parkway, Suite 900
Herndon, VA 20170

Re:HydroGeoLogic, Inc. NAS Ft. Worth (70001.01)

Dear Mr. Raguano:

Enclosed is our report on the analysis of 11 water samples collected for the HydroGeoLogic, Inc. NAS Ft. Worth project on 13 July 1999. The invoice is included.

Please contact me if you have any questions or require further information and refer to report 990891. Unless other arrangements are made, we reserve the right to dispose of your samples sixty (60) days from the date of this letter. We will retain the raw data for seven years from this date.

Sincerely,

Mary E. Asper
Laboratory Project Manager

enclosure

Committed To *Your* Success

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# LABORATORY DATA REPORT

Prepared for:

HydroGeoLogic, Inc.
NAS Ft. Worth

Prepared by:

Severn Trent Laboratories
19 Loveton Circle
Sparks, MD 21152

Report 990891

August 1999

# 1. NARRATIVE

**Severn Trent Laboratories**
**ANALYTICAL NARRATIVE**

Client: **HydroGeoLogic, Inc.**
Site: **NAS Ft. Worth**
Project number: **70001.01**

ST Laboratories Report: **990891**
Laboratory Project Manager: **Mary E. Asper**
Report Date: **9 August 1999**

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This report contains the results of the analysis of 11 water samples collected on 13 July 1999 in support of the referenced project.

*SAMPLE RECEIPT*

The samples and one trip blank arrived intact by Federal Express at Severn Trent Laboratories on 14 July 1999. Upon receipt, the samples were inspected and compared with the chain-of-custody records. The samples were then logged into the laboratory computer system with assigned laboratory accession numbers and released for analysis.

| Client Sample Designation | ST Lab Number |
|---|---|
| HM-110WG09 | 9907050 |
| LF03-3DWG09 | 9907051 |
| FT09-12CWG09 | 9907052 |
| HM-123WG09 | 9907053 |
| DUP02 | 9907054 |
| WHGLTA011WG09 | 9907055 |
| WCHMHTA008WG09 | 9907056 |
| DUP04 | 9907057 |
| TB071399 | 9907058 |
| WCHMHTA009WG09 | 9907059 |
| EB071399 | 9907060 |
| AB071399 | 9907061 |

Following this narrative section are a table of analytical methods used (Table 1), glossaries of data qualifiers (Tables 2 and 3), codes associated with manual integration of chromatographic peaks (Table 4), and the chain of custody records. Analytical results and quality control information are summarized in the appended data package which has been formatted to be consistent with the deliverable requirements of this project.

*QUALITY CONTROL*

The following sections are ordered as the data appears in this report. They contain observations made during sample analysis, summarize the results of quality control measurements, and address the impact on data usability based upon project Data Quality Objectives. For each fractional analysis the narrative includes:

**Severn Trent Laboratories**
**ANALYTICAL NARRATIVE**

Client: **HydroGeoLogic, Inc.**
Site: **NAS Ft. Worth**
Project number: **70001.01**

ST Laboratories Report: **990891**
Laboratory Project Manager: **Mary E. Asper**
Report Date: **9 August 1999**

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- Sample chronology: This section summarizes the sample history by fraction including the sample preparation method and date, analytical method, and analysis date. Anything unusual about the samples, digestates, or extracts is identified. Holding time compliance is evaluated in this section.

- Laboratory method performance: All quality control criteria for method performance must be met for all target analytes for data to be reported. These criteria generally apply to instrument tune, calibration, method blanks, and Laboratory Control Samples (LCS). In some instances where method criteria fail, useable data can be obtained and are reported with client approval. The narrative will then include a thorough discussion of the impact on data quality.

- Sample performance: Quality control field samples are analyzed to determine any measurement bias due to the sample matrix based on evaluation of matrix spikes (MS), matrix spike duplicates (MSD), and laboratory duplicates (D). If acceptance criteria are not met, matrix interferences are confirmed either by reanalysis or by inspection of the LCS results to verify that laboratory method performance is in control. Data are reported with appropriate qualifiers or discussion.

**VOLATILES by GC/MS - WATER (ST9907050 - ST9907061)**

Sample Chronology: Twelve samples and associated quality control were analyzed on 21 - 22 July 1999 and 22 - 23 July 1999 for the project specified list of analytes by USEPA SW-846, Methods 5030B/8260B. All holding times were met.

Samples HM-123WG09 DUP02 required a 200X dilution to bring the concentrations of target analytes within instrument calibration range.

The MS/MSD, analyzed on 22 July 1999, was performed on sample WHGLTA011WG09, at a 20X dilution. The sample, MS, and MSD were later reanalyzed undiluted on 23 July 1999. As a result the diluted analyses of the sample and MS/MSD have been reported for batch QC purposes only and have been labeled as REFERENCE. All usable results for this sample should be taken from the undiluted analyses performed on 23 July 1999.

Laboratory Method Performance· All laboratory method performance criteria were met for the reported samples.

Sample Performance: All quality control criteria were met for the reported samples with the following exceptions;

Severn Trent Laboratories
ANALYTICAL NARRATIVE

Client: **HydroGeoLogic, Inc.**
Site: **NAS Ft. Worth**
Project number: **70001.01**

ST Laboratories Report: **990891**
Laboratory Project Manager: **Mary E. Asper**
Report Date: **9 August 1999**

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- the MS/MSDs, performed on sample WHGLTA011WG09, had the recoveries of many target analytes outside their respective QC limits.

**PAHs by HPLC- WATER (STL9907055-STL9907057; STL9907059-STL9907060)**

Sample Chronology: The samples and associated quality control were extracted on 15 July 1999 by USEPA SW-846, Method 3520. The sample extracts and associated QC extracts were analyzed 31 July 1999 for the project specified list of analytes by USEPA SW-846, Method 8310. All holding times were met.

Laboratory Method Performance: All laboratory method performance criteria were met for the reported samples.

Sample Performance: All sample performance criteria were met for the reported samples with the following exceptions:

The MS/MSD performed on sample WHGLTA011WG09 had the recoveries for anthracene below the lower QC limit of 54% at 44% and 39%. The MS also had the recovery for benzo[a]pyrene below the lower QC limit of 52% at 45%. The RPDs for anthracene and benzo[a]pyrene were above QC limits of 30% and 30% at 39% and 62%. The LCS had recoveries within QC limits for all analytes, indicating acceptable method performance.

**EXTRACTABLE TPH by GC - WATER (STL9907055-STL9907057,STL9907059,STL9907060)**

Sample Chronology: The samples and associated quality control were extracted on 19 July 1999 by TNRCC Method 1005. The extracts were analyzed on 19-20 July 1999 for the method list of analytes by the same method. All holding times were met.

The batch MS/MSD was performed on sample SPOT35-9WG09 from another STL/Hydrogeologic report. All data associated with these QC samples are included in this report.

Laboratory Method Performance: All laboratory method performance criteria were met for the reported samples.

Sample Performance: All quality control criteria were met for the reported samples.

**ANIONS by IC- WATER (STL9907050- STL9907057, STL9907059, STL9907060)**

**Severn Trent Laboratories**
**ANALYTICAL NARRATIVE**

Client: **HydroGeoLogic, Inc.**
Site: **NAS Ft. Worth**
Project number: **70001.01**

ST Laboratories Report: **990891**
Laboratory Project Manager: **Mary E. Asper**
Report Date: **9 August 1999**

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Sample Chronology: The samples and associated quality control were analyzed on 14 and 15 July 1999 by USEPA Method 9056 for the chloride, nitrate, and sulfate anions. All holding times were met.

- Samples HM-110WG09, WCHMHTA008WG09, and DUP04 were reanalyzed at fifty times (50X) dilutions, sample WHGLTA011WG09 was reanalyzed at a twenty-five times (25X) dilution, and samples HM-123WG09 and DUP02 were reanalyzed at ten times (10X) dilutions in order to bring the concentration of target analytes within calibration range.

Laboratory Method Performance: All laboratory method performance criteria were met for the reported samples.

Sample Performance: All sample performance criteria were met for the reported samples with the following exceptions:

- The batch MS/MSD, performed on sample WHGLTA011WG09, had chloride (0%/ 0%), nitrate (82%/ 80%), and sulfate (0%/ 0%) recoveries below the client specified QC limits of 91%, 90%, and 88%, respectively. The 0% recoveries are due to a high native concentration in the sample. The same sample was used for the batch MS/MSD at a 25X dilution with chloride (128%/ 128%) and nitrate (88%/ 88%) recoveries outside the client specified limits of 91-111% and 90-110%, respectively. The LCSs were within limits indicating acceptable method performance

**GENERAL CHEMISTRY -Water ( STL9907050-STL9907057, STL9907059-STL9907060)**

Sample Chronology: Ten water samples were analyzed according to the following USEPA methods.

| Parameter | Method# | Prep Date | Analysis Date |
|---|---|---|---|
| Alkalinity | 310.1 | NA | 07/22,27/99 |
| Total Organic Carbon | 9060 | NA | 07/18,20,21,29/99 |

All holding times were met for the reported samples.

Laboratory Method Performance: All laboratory method performance criteria were met for the reported samples.

**Severn Trent Laboratories**
**ANALYTICAL NARRATIVE**

Client: **HydroGeoLogic, Inc.**
Site: **NAS Ft. Worth**
Project number: **70001.01**

ST Laboratories Report: **990891**
Laboratory Project Manager: **Mary E. Asper**
Report Date: **9 August 1999**

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Sample Performance: All quality control criteria were met for the reported samples with the following exceptions:

- The batch matrix spike and matrix spike duplicate for Alkalinity analysis were performed on sample WHGLTA-011WG09, and reported recoveries of (18%/21%) below the lower control limit of 98%. The laboratory control sample was in control therefore the high results were due to the high native concentrations within the sample.

- The batch matrix spike and matrix spike duplicate for TOC analysis were performed on sample WHGLTA-011WG09, and reported recoveries of (88.0%/86.5%) below the lower control limit of 90%. There is no impact on the sample results.

- The laboratory is experiencing a matrix interference for TOC analysis, most probably caused by Sodium in the samples, that causes the continuing calibration verification standards to recover progressively lower over the range of the analysis run. The frequent cleansing of the system with the analysis of blanks does not correct the problem. Upon discussions with the Project Manager, Ken Rapuano, it was decided that since the TOC is considered a screening parameter, the laboratory acceptance limits could be widened to allow the analysis to proceed without seriously affecting the results. Therefore, the CCV acceptance range has been widened from 90-110% to 85-115%, and the Laboratory Control Sample acceptance range has been widened from 96-104% to 90-110%.

## CERTIFICATION OF RESULTS

The Laboratory certifies that this report meets the project requirements for analytical data as stated in the Analytical Task Order (ATO) and the chain-of-custody. In addition, the Laboratory certifies that the data as reported meet the Data Quality Objectives for precision, accuracy, and completeness specified for this project or as stated in Severn Trent Laboratories Quality Assurance program for other than the conditions detailed above. It is recommended by the Laboratory that this analytical report should only be reproduced in its entirety. Severn Trent Laboratories is not responsible for any assumptions of data quality if partial packages are used to interpret data. Release of the data contained in this report has been authorized by the appropriate Laboratory Manager as verified by the following signature.

Mary E. Asper August 9, 1999
Mary E. Asper, Laboratory Project Manager

## TABLE 2. LABORATORY ORGANIC ANALYSIS DATA QUALIFIERS [1]

Qualifiers other than those listed below may be required to properly define the results. If used, they are given an alphabetic designation not already specified in this table or in a project/program document. such as a Quality Assurance Project Plan or a contract Statement of Work. Each additional qualifier is fully described in the Analytical Narrative section of the laboratory report.

**U** Indicates a target compound was analyzed for but not detected. The sample Reporting Limit (RL) is corrected for dilution and, if a soil sample, for percent moisture, if reported on a dry weight basis.

**J** - Indicates an estimated value. This qualifier is used under the following circumstances:

1) when estimating a concentration for tentatively identified compounds (TICs) in GC/MS analyses, where a 1:1 response is assumed,
2) when the mass spectral and retention time data indicate the presence of a compound that meets the volatile and semivolatile GC/MS identification criteria, and the result is less than the RL but greater than the method detection limit (MDL).

**B** This qualifier is used when the analyte is found in the associated method blank as well as in the sample. It indicates possible/probable blank contamination and warns the data user to take appropriate action. For GC/MS analyses, this qualifier is used for a TIC, as well as, for a positively identified target compound.

**E** This qualifier identifies compounds whose concentrations exceed the calibration range of the instrument for that specific analysis.

**D** When applied, this qualifier identifies all compound concentrations reported from a secondary dilution analysis.

**A** This qualifier indicates that a TIC is a suspected aldol-condensation product.

**N** Indicates presumptive evidence of a compound. This qualifier is only used for GC/MS TICs, where the identification is based on a mass spectral library search. For generic characterization of a TIC, such as chlorinated hydrocarbon, the N qualifier is not used.

**P** When applied, this qualifier indicates a reported value from a GC analysis when there is greater than 25% difference for detected concentrations between the two GC columns.

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(1) These Data Qualifiers are added by the laboratory to provide additional information for the reported results. ***They should not be confused with the qualifiers applied to the reported data as a result of a data validation process performed independently of the laboratory reporting procedure.***

## TABLE 3. LABORATORY INORGANIC ANALYSIS DATA QUALIFIERS [1]

*C* *(Concentration) qualifiers:*

| | |
|---|---|
| **B** | Reported value is less than the project-specified Reporting Limit (RL), but greater than the method-specified Instrument Detection Limit (IDL) or Method Detection Limit (MDL). |
| **U** | Analyte analyzed for but not detected (concentration is less than the method-specified Instrument Detection Limit (IDL) or Method Detection Limit (MDL). |

*Q* *(Quality control) qualifiers:*

| | |
|---|---|
| **E** | Reported value is estimated because of presence of interference. |
| **M** | Duplicate injection precision not met. |
| **N** | Spiked sample recovery is not within control limits. |
| **S** | Reported value is determined by the method of standard additions (MSA). |
| **W** | Postdigestion spike for furnace Atomic Absorption Spectrophotometric (AAS) AAS analysis is out of control limits (85-115%) and sample absorbance is less than 50% of spike absorbance. |
| * | Duplicate analyses is not within control limits. |
| + | Correlation coefficient for MSA is less than 0.995. |

*M* *(Method) qualifiers:*

| | |
|---|---|
| **P** | Inductively Coupled Plasma (ICP) |
| **A** | Flame AAS |
| **F** | Furnace AAS |
| **CV** | Cold Vapor AAS |
| **AV** | Automated Cold Vapor AAS |
| **AS** | Semiautomated Spectrophotometric |
| **C** | Manual Spectrophotometric |
| **T** | Titrimetric |
| **NR** | Analyte is not required to be determined. |

(1) These Data Qualifiers are added by the laboratory to provide additional information for the reported results. ***They should not be confused with the qualifiers applied to the reported data as a result of a data validation process performed independently of the laboratory reporting procedure.***

STL
Committed To Your Success

**Chicago Laboratory**
2417 Bond Street
University Park, IL 60466
Phone 708-534-5200
Fax 708-534-5211

990891

Contact: Lynn Marsa
Company: HydroGeologic
Address: 11155 Herndon Pkwy
Ste 900 Herndon VA 20170
Phone: (703) 478-5786
Fax: (703) 471-4180
E-Mail:

**Bill To:**
Contact: SAME
Company:
Address:
Phone:
Fax:
PO#: Quote:

Shaded Areas For Int[illegible] Use Only 2 of

**Lab Lot #**

| | |
|---|---|
| Package Sealed (Yes) No | Samples Sealed (Yes) No |
| Received on Ice (Yes) No | Samples Intact (Yes) No |
| Temperature °C of Cooler: 5 | |
| Within Hold Time (Yes) No | Preserv. Indicated (Yes) No NA |
| pH Check ok (Yes) No NA | Res. $Cl_2$ Check ok Yes No (NA) |
| Sample Labels and COC Agree (Yes) No COC not present | |

Sampler Name: P. Darmanla
Signature:
Project Name: A July Quarterly
Project Number: AFC 001 26HAA
Project Location: NAS Fort Worth JRB, TX
Date Required: Hard Copy __/__/__ Fax __/__/__
Lab PM: MARY MSPER

| Laboratory ID | MS-MSD | Client Sample ID | Sampling Date | Sampling Time | Matrix | Comp/Grab | Volatile 30 SEMIVOLATILES 30 PAHs 8270 | Metals | VOC COMP 8260 | TOC 9060 | BTEX + 8260 MTBE | TPH TX 1005 | PAH 8310 | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Refrg # | | | | | | | | | | | | | | | | |
| # Cont. | | | | | | | 1 | 2 | 2 | 1 | 2 | 2 | 4 | | | |
| Volume | | | | | | | 1L | 40ml | 40ml | 250ml | 40ml | 40ml | 1L | | | |
| Preserv | | | | | | | 7 | 1 | 1 | 2 | 1 | 1 | 7 | | | |
| 997060 | | EB071399 | 7-13-99 | 1630 | W | G | 1 | 3 | NH 2 | 1 | 3 | 3 | 1 | | | |
| 997061 | | AB071399 | 7-13-99 | 918 | W | G | | | 2 | | | | | | | |

**Additional Analyses / Remarks**
level 4D plus TRPHs
30 EDD
Due 8/11/99
EAZ-PS145

B4/VOA21

COC00005498

L16339

| RELINQUISHED BY | COMPANY | DATE | TIME | RECEIVED BY | COMPANY | DATE | TIME |
|---|---|---|---|---|---|---|---|
| [illegible] | HydroGeologic | 7-13-99 | 1730 | Aanita Conlin | STL-Baltimore | 7/14/99 | 1000 |
| RELINQUISHED BY | COMPANY | DATE | TIME | RECEIVED BY | COMPANY | DATE | TIME |

**Matrix Key**
WW = Wastewater
W = Water
S = Soil
SL = Sludge
MS = Miscellaneous
OL = Oil
A = Air
SE = Sediment
SO = Solid
DS = Drum Solid
DL = Drum Liquid
L = Leachate
WI = Wipe
O = _____

**Container Key**
1 Plastic
2 VOA Vial
3 Sterile Plastic
4 Amber Glass
5 Widemouth Glass
6 Other _____

**Preservative Key**
1 HCl, Cool to 4°
2 H2SO4, Cool to 4°
3 HNO3, Cool to 4°
4 NaOH, Cool to 4°
5 NaOH/Zn Acetate, Cool to 4°
6 Cool to 4°
7 None

COMMENTS:

Date Received 7/14/99
Courier FEDEX Hand Delivered ☐
Bill of Lading 5178[illegible]

643 377

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Committed To Your Success

**Chicago Laboratory**
2417 Bond Street
University Park, IL 60466
Phone 708-534-5200
Fax 708-534-5211

990891

643 378

Shaded Areas For Internal Use Only 1 of 1

**Lab Lot #**

| | |
|---|---|
| Package Sealed (Yes) No | Samples Sealed (Yes) No |
| Received on Ice (Yes) No | Samples Intact (Yes) No |
| Temperature °C 5 of Cooler | |
| Within Hold Time (Yes) No | Preserv. indicated (Yes) No NA |
| pH Check ok (Yes) No NA | Res. $Cl_2$ Check ok Yes No (NA) |
| Sample Labels and COC Agree (Yes) No COC not present | |

Ship To:
Contact: Lynn Morgan
Company: Hydrogeologic
Address: 11555 Herndon Pkwy Ste 900 Herndon, VA 20170
Phone: (703) 478-5786
Fax: (703) 471-4130
E-Mail:

Bill To:
Contact: Same
Company:
Address:
Phone:
Fax:
PO#: Quote:

Sampler Name: T. Darcuvala
Signature:
Project Name: A July Quarterly
Project Number: AFC 001 26 HAA
Project Location: NAS Fort Worth JRB, TX
Date Required: Hard Copy ___/___/___ Fax ___/___/___
Lab PM: Mary Asper

| Laboratory ID | MS-MSD | Client Sample ID | Sampling Date | Sampling Time | Matrix | Comp/Grab | Alkalinity, Cl, Anions 9056 | Methane Ethane Ethylene GC/FID | VOCs 8260 | TOC 9060 | BTEX + MTBE 8260 | TPH TX 1005 | PAH 8310 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Refrg # | | | | | | | | | | | | | |
| #/Cont. | | | | | | | 1 | 2 | 3 | 1 | 2 | 2 | 4 |
| Volume | | | | | | | 1L | 40ml | 40ml | 250 | 40ml | 1L | 1L |
| Preserv | | | | | | | N | | | | | | |
| | | | | | | | 1 | 1 | 1 | 2 | 1 | 1 | 7 |
| 9907050 | | HM-116WG09 | 7-13-99 | 915 | W | G | 1 | 3 | 3 | 1 | | | |
| 9907051 | | LF03-3DWG09 | | 1035 | | | 1 | 3 | 3 | 1 | | | |
| 9907052 | | FT09-12CWG09 | | 1250 | | | 1 | 3 | 3 | 1 | | | |
| 9907053 | | HM123WG09 | | 1416 | | | 1 | 3 | 3 | 1 | | | |
| 9907054 | | DUP02 | | 1200 | | | 1 | 3 | 3 | 1 | | | |
| | ✓ | WHGL TM011WG09 | | 918 | | | 1 | 3 | | 1 | 3 | 3 | 1 |
| 9907055 | | WHGL TM011WG09MS | | 918 | | | 1 | 3 | | 1 | 3 | 3 | 1 |
| | | WHGL TM011WG09MSD | | 918 | | | 1 | 3 | | 1 | 3 | 3 | 1 |
| 9907056 | | WC HMHT A003WG09 | | 1151 | | | 1 | 3 | | 1 | 3 | 3 | 1 |
| 9907057 | | DUP04 | | 1305 | | | 1 | 3 | | 1 | 3 | 3 | 1 |
| 9907058 | | TB071399 | | 720 | | | | 2 | 2 | | | | |
| 9907059 | | WCHMHTA004WG09 | | 1502 | | | 1 | 3 | | 1 | 3 | 3 | 1 |

**Additional Analyses / Remarks**
Level 4D QC IRPIMS
3.0 EDDs
due 8/11/99
EM-PS-145
B9/VOA21
COC0005498
7 PEST, 12A, 12B, 98 VOA
L16339

| | | | |
|---|---|---|---|
| RELINQUISHED BY: [signature] | COMPANY: Hydrogeologic | DATE: 7-13-99 | TIME: 1730 |
| RELINQUISHED BY: | COMPANY: | DATE: | TIME: |
| RECEIVED BY: Laurie Corin | COMPANY: STL-Baltimore | DATE: 7/14/99 | TIME: 1000 |
| RECEIVED BY: | COMPANY: | DATE: | TIME: |

**Matrix Key**
WW = Wastewater
W = Water
S = Soil
SL = Sludge
MS = Miscellaneous
OL = Oil
A = Air
SE = Sediment
SO = Solid
DS = Drum Solid
DL = Drum Liquid
L = Leachate
WI = Wipe
O = ____

**Container Key**
1 Plastic
2 VOA Vial
3 Sterile Plastic
4 Amber Glass
5 Widemouth Glass
6 Other ____

**Preservative Key**
1 HCl, Cool to 4°
2 $H_2SO_4$, Cool to 4°
3 $HNO_3$, Cool to 4°
4 NaOH, Cool to 4°
5 NaOH/Zn Acetate, Cool to 4°
6 Cool to 4°
7 None

COMMENTS:
LF03-3DWG09 Bubbles in Discharge Flow
Pumping 7/14/99 11:00

Date Received 7, 14, 99
Courier: FEDEX Hand Delivered ☐
Bill of Lading 50.8.5

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

WHGLTA011WG09

Lab Name: STL BALTIMORE Contract. 990891

Lab Code: ST LABS Case No.: SAS No.: SDG No.:

Matrix. (soil/water) WATER Lab Sample ID: 9907055

Sample wt/vol. 25.0 (g/ml) ML Lab File ID: VC3A3054.D

Level: (low/med) LOW Date Received: 7/14/99

% Moisture: not dec. Date Analyzed: 7/23/99

GC Column: DB-624 ID: 0.25 (mm) Dilution Factor: 1.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

CONCENTRATION UNITS:

| CAS NO. | COMPOUND (ug/L or ug/Kg) UG/L | | Q |
|---|---|---|---|
| 95-47-6 | o-Xylene | 1 | U |
| 1634-04-4 | Methyl t-butyl ether | 1 | U |
| 71-43-2 | Benzene | 1 | U |
| 108-88-3 | Toluene | 1 | U |
| 100-41-4 | Ethylbenzene | 1 | U |
| 1330-20-7 | m&p Xylenes | 1 | U |

643 380

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

WCHMHTA008WG09

Lab Name: STL BALTIMORE Contract: 990891

Lab Code: ST LABS Case No.: SAS No.: SDG No.:

Matrix: (soil/water) WATER Lab Sample ID: 9907056

Sample wt/vol: 25.0 (g/ml) ML Lab File ID: VC3A3063.D

Level: (low/med) LOW Date Received: 7/14/99

% Moisture: not dec. Date Analyzed: 7/23/99

GC Column: DB-624 ID: 0.25 (mm) Dilution Factor: 1.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

CONCENTRATION UNITS:

| CAS NO. | COMPOUND | (ug/L or ug/Kg) UG/L | Q |
|---|---|---|---|
| 95-47-6 | o-Xylene | 1 | U |
| 1634-04-4 | Methyl t-butyl ether | 1 | U |
| 71-43-2 | Benzene | 39 | |
| 108-88-3 | Toluene | 1 | U |
| 100-41-4 | Ethylbenzene | 34 | |
| 1330-20-7 | m&p Xylenes | 1 | U |

FORM I VOA

120070

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

**DUP04**

Lab Name. STL BALTIMORE Contract: 990891

Lab Code: ST LABS Case No.. SAS No.: SDG No.:

Matrix. (soil/water) WATER Lab Sample ID: 9907057

Sample wt/vol. 25.0 (g/ml) ML Lab File ID: VC3A3064.D

Level: (low/med) LOW Date Received. 7/14/99

% Moisture: not dec. Date Analyzed: 7/23/99

GC Column: DB-624 ID: 0.25 (mm) Dilution Factor: 1.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

CONCENTRATION UNITS:

| CAS NO. | COMPOUND | (ug/L or ug/Kg) UG/L | Q |
|---|---|---|---|
| 95-47-6 | o-Xylene | 1 | U |
| 1634-04-4 | Methyl t-butyl ether | 1 | U |
| 71-43-2 | Benzene | 39 | |
| 108-88-3 | Toluene | 0.7 | J |
| 100-41-4 | Ethylbenzene | 31 | |
| 1330-20-7 | m&p Xylenes | 1 | U |

FORM I VOA

643 382

1A

# VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO

**TB071399**

Lab Name: STL BALTIMORE Contract: 990891

Lab Code: ST LABS Case No.: SAS No.: SDG No.:

Matrix: (soil/water) WATER Lab Sample ID: 9907058

Sample wt/vol: 25.0 (g/ml) ML Lab File ID: VC3A3021.D

Level: (low/med) LOW Date Received: 7/14/99

% Moisture: not dec. Date Analyzed: 7/22/99

GC Column: DB-624 ID: 0.25 (mm) Dilution Factor: 1.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

CONCENTRATION UNITS:

| CAS NO. | COMPOUND (ug/L or ug/Kg) | UG/L | Q |
|---|---|---|---|
| 75-71-8 | Dichlorodifluoromethane | 1 | U |
| 74-87-3 | Chloromethane | 1 | U |
| 75-01-4 | Vinyl Chloride | 1 | U |
| 74-83-9 | Bromomethane | 1 | U |
| 75-00-3 | Chloroethane | 1 | U |
| 75-69-4 | Trichlorofluoromethane | 1 | U |
| 75-35-4 | 1,1-Dichloroethene | 1 | U |
| 75-09-2 | Methylene Chloride | 1 | U |
| 156-60-5 | trans-1,2-Dichloroethene | 1 | U |
| 75-34-3 | 1,1-Dichloroethane | 1 | U |
| 156-59-2 | cis-1,2-Dichloroethene | 1 | U |
| 67-66-3 | Chloroform | 1 | U |
| 71-55-6 | 1,1,1-Trichloroethane | 1 | U |
| 56-23-5 | Carbon Tetrachloride | 2 | U |
| 107-06-2 | 1,2-Dichloroethane | 1 | U |
| 71-43-2 | Benzene | 1 | U |
| 67-64-1 | Acetone | 20 | U |
| 79-01-6 | Trichloroethene | 1 | U |
| 75-15-0 | Carbon Disulfide | 5 | U |
| 78-93-3 | 2-Butanone | 20 | U |
| 78-87-5 | 1,2-Dichloropropane | 1 | U |
| 108-10-1 | 4-Methyl-2-Pentanone | 20 | U |
| 75-27-4 | Bromodichloromethane | 1 | U |
| 591-78-6 | 2-Hexanone | 20 | U |
| 1330-20-7 | m&p Xylenes | 1 | U |
| 74-95-3 | Dibromomethane | 2 | U |
| 107-02-8 | Acrolein | 100 | U |
| 75-05-8 | Acetonitrile | 100 | U |
| 107-05-1 | Allyl Chloride | 10 | U |
| 10061-01-5 | cis-1,3-Dichloropropene | 1 | U |
| 107-13-1 | Acrylonitrile | 100 | U |
| 108-05-4 | Vinyl Acetate | 10 | U |
| 126-99-8 | Chloroprene | 10 | U |
| 108-88-3 | Toluene | 1 | U |
| 107-12-0 | Propionitrile | 100 | U |
| 10061-02-6 | trans-1,3-Dichloropropene | 1 | U |
| 126-98-7 | Methacrylonitrile | 100 | U |
| 79-00-5 | 1,1,2-Trichloroethane | 1 | U |
| 78-83-1 | Isobutyl Alcohol | 200 | U |

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO

TB071399

Lab Name: STL BALTIMORE Contract: 990891

Lab Code: ST LABS Case No.: SAS No.: SDG No.

Matrix: (soil/water) WATER Lab Sample ID: 9907058

Sample wt/vol: 25.0 (g/ml) ML Lab File ID: VC3A3021.D

Level: (low/med) LOW Date Received: 7/14/99

% Moisture not dec. Date Analyzed: 7/22/99

GC Column. DB-624 ID: 0.25 (mm) Dilution Factor: 1.0

Soil Extract Volume: (uL) Soil Aliquot Volume. (uL)

CONCENTRATION UNITS:

| CAS NO. | COMPOUND | (ug/L or ug/Kg) UG/L | Q |
|---|---|---|---|
| 80-62-6 | Methyl Methacrylate | 5 | U |
| 97-63-2 | Ethyl Methacrylate | 5 | U |
| 110-57-6 | trans-1,4-Dichloro-2-butene | 25 | U |
| 127-18-4 | Tetrachloroethene | 1 | U |
| 563-58-6 | 1,1-Dichloropropene | 1 | U |
| 106-93-4 | 1,2-Dibromoethane (EDB) | 1 | U |
| 87-61-6 | 1,2,3-Trichlorobenzene | 2 | U |
| 124-48-1 | Chlorodibromomethane | 1 | U |
| 120-82-1 | 1,2,4-Trichlorobenzene | 1 | U |
| 108-90-7 | Chlorobenzene | 1 | U |
| 95-63-6 | 1,2,4-Trimethylbenzene | 1 | U |
| 630-20-6 | 1,1,1,2-Tetrachloroethane | 1 | U |
| 108-67-8 | 1,3,5-Trimethylbenzene | 1 | U |
| 95-50-1 | 1,2-Dichlorobenzene | 1 | U |
| 100-41-4 | Ethylbenzene | 1 | U |
| 541-73-1 | 1,3-Dichlorobenzene | 1 | U |
| 142-28-9 | 1,3-Dichloropropane | 1 | U |
| 106-46-7 | 1,4-Dichlorobenzene | 1 | U |
| 544-10-5 | 1-Chlorohexane | 1 | U |
| 100-42-5 | Styrene | 1 | U |
| 594-20-7 | 2,2-Dichloropropane | 4 | U |
| 95-49-8 | 2-Chlorotoluene | 1 | U |
| 106-43-4 | 4-Chlorotoluene | 1 | U |
| 75-25-2 | Bromoform | 1 | U |
| 108-86-1 | Bromobenzene | 1 | U |
| 79-34-5 | 1,1,2,2-Tetrachloroethane | 1 | U |
| 74-97-5 | Bromochloromethane | 1 | U |
| 87-68-3 | Hexachlorobutadiene | 1 | U |
| 96-18-4 | 1,2,3-Trichloropropane | 3 | U |
| 98-82-8 | Isopropylbenzene | 1 | U |
| 104-51-8 | n-Butylbenzene | 1 | U |
| 103-65-1 | n-Propylbenzene | 1 | U |
| 91-20-3 | Naphthalene | 2 | U |
| 95-47-6 | o-Xylene | 1 | U |
| 99-87-6 | p-Isopropyltoluene | 1 | U |
| 135-98-8 | sec-Butylbenzene | 1 | U |
| 98-06-6 | tert-Butylbenzene | 1 | U |
| 74-88-4 | Iodomethane | 5 | U |
| 96-12-8 | 1,2-Dibromo-3-chloropropane | 3 | U |

FORM I VOA

643 384

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

WCHMHTA009WG09

Lab Name: STL BALTIMORE Contract: 990891

Lab Code: ST LABS Case No: SAS No.: SDG No.:

Matrix: (soil/water) WATER Lab Sample ID: 9907059

Sample wt/vol: 25.0 (g/ml) ML Lab File ID: VC3A3055.D

Level: (low/med) LOW Date Received: 7/14/99

% Moisture: not dec. Date Analyzed: 7/23/99

GC Column: DB-624 ID: 0.25 (mm) Dilution Factor: 1.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

CONCENTRATION UNITS:

| CAS NO. | COMPOUND | (ug/L or ug/Kg) UG/L | Q |
|---|---|---|---|
| 95-47-6 | o-Xylene | 1 | U |
| 1634-04-4 | Methyl t-butyl ether | 1 | U |
| 71-43-2 | Benzene | 1 | U |
| 108-88-3 | Toluene | 1 | U |
| 100-41-4 | Ethylbenzene | 1 | U |
| 1330-20-7 | m&p Xylenes | 1 | U |

FORM I VOA

0200590

1A

EPA SAMPLE NO.

VOLATILE ORGANICS ANALYSIS DATA SHEET

EB071399

Lab Name: STL BALTIMORE Contract: 990891

Lab Code: ST LABS Case No. SAS No.: SDG No.:

Matrix: (soil/water) WATER Lab Sample ID: 9907060

Sample wt/vol. 25.0 (g/ml) ML Lab File ID: VC3A3022.D

Level: (low/med) LOW Date Received: 7/14/99

% Moisture: not dec. Date Analyzed: 7/22/99

GC Column: DB-624 ID: 0.25 (mm) Dilution Factor: 1.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

CONCENTRATION UNITS:

| CAS NO. | COMPOUND | (ug/L or ug/Kg) UG/L | Q |
|---|---|---|---|
| 75-71-8 | Dichlorodifluoromethane | 1 | U |
| 74-87-3 | Chloromethane | 1 | U |
| 75-01-4 | Vinyl Chloride | 1 | U |
| 74-83-9 | Bromomethane | 1 | U |
| 75-00-3 | Chloroethane | 1 | U |
| 75-69-4 | Trichlorofluoromethane | 1 | U |
| 75-35-4 | 1,1-Dichloroethene | 1 | U |
| 75-09-2 | Methylene Chloride | 1 | U |
| 156-60-5 | trans-1,2-Dichloroethene | 1 | U |
| 75-34-3 | 1,1-Dichloroethane | 1 | U |
| 156-59-2 | cis-1,2-Dichloroethene | 1 | U |
| 67-66-3 | Chloroform | 1 | U |
| 71-55-6 | 1,1,1-Trichloroethane | 1 | U |
| 56-23-5 | Carbon Tetrachloride | 2 | U |
| 107-06-2 | 1,2-Dichloroethane | 1 | U |
| 71-43-2 | Benzene | 1 | U |
| 67-64-1 | Acetone | 20 | U |
| 79-01-6 | Trichloroethene | 1 | U |
| 75-15-0 | Carbon Disulfide | 5 | U |
| 78-93-3 | 2-Butanone | 20 | U |
| 78-87-5 | 1,2-Dichloropropane | 1 | U |
| 108-10-1 | 4-Methyl-2-Pentanone | 20 | U |
| 75-27-4 | Bromodichloromethane | 1 | U |
| 591-78-6 | 2-Hexanone | 20 | U |
| 1330-20-7 | m&p Xylenes | 1 | U |
| 74-95-3 | Dibromomethane | 2 | U |
| 107-02-8 | Acrolein | 100 | U |
| 75-05-8 | Acetonitrile | 100 | U |
| 107-05-1 | Allyl Chloride | 10 | U |
| 10061-01-5 | cis-1,3-Dichloropropene | 1 | U |
| 107-13-1 | Acrylonitrile | 100 | U |
| 108-05-4 | Vinyl Acetate | 10 | U |
| 126-99-8 | Chloroprene | 10 | U |
| 108-88-3 | Toluene | 1 | U |
| 107-12-0 | Propionitrile | 100 | U |
| 10061-02-6 | trans-1,3-Dichloropropene | 1 | U |
| 126-98-7 | Methacrylonitrile | 100 | U |
| 79-00-5 | 1,1,2-Trichloroethane | 1 | U |
| 78-83-1 | Isobutyl Alcohol | 200 | U |

FORM I VOA

1A

643 386 VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO

EB071399

Lab Name: STL BALTIMORE Contract: 990891

Lab Code: ST LABS Case No.: SAS No.: SDG No.:

Matrix: (soil/water) WATER Lab Sample ID: 9907060

Sample wt/vol: 25.0 (g/ml) ML Lab File ID: VC3A3022.D

Level: (low/med) LOW Date Received: 7/14/99

% Moisture: not dec. Date Analyzed: 7/22/99

GC Column: DB-624 ID: 0.25 (mm) Dilution Factor: 1.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

CONCENTRATION UNITS:

| CAS NO. | COMPOUND | (ug/L or ug/Kg) UG/L | Q |
|---|---|---|---|
| 80-62-6 | Methyl Methacrylate | 5 | U |
| 97-63-2 | Ethyl Methacrylate | 5 | U |
| 110-57-6 | trans-1,4-Dichloro-2-butene | 25 | U |
| 127-18-4 | Tetrachloroethene | 1 | U |
| 563-58-6 | 1,1-Dichloropropene | 1 | U |
| 106-93-4 | 1,2-Dibromoethane (EDB) | 1 | U |
| 87-61-6 | 1,2,3-Trichlorobenzene | 2 | U |
| 124-48-1 | Chlorodibromomethane | 1 | U |
| 120-82-1 | 1,2,4-Trichlorobenzene | 1 | U |
| 108-90-7 | Chlorobenzene | 1 | U |
| 95-63-6 | 1,2,4-Trimethylbenzene | 1 | U |
| 630-20-6 | 1,1,1,2-Tetrachloroethane | 1 | U |
| 108-67-8 | 1,3,5-Trimethylbenzene | 1 | U |
| 95-50-1 | 1,2-Dichlorobenzene | 1 | U |
| 100-41-4 | Ethylbenzene | 1 | U |
| 541-73-1 | 1,3-Dichlorobenzene | 1 | U |
| 142-28-9 | 1,3-Dichloropropane | 1 | U |
| 106-46-7 | 1,4-Dichlorobenzene | 1 | U |
| 544-10-5 | 1-Chlorohexane | 1 | U |
| 100-42-5 | Styrene | 1 | U |
| 594-20-7 | 2,2-Dichloropropane | 4 | U |
| 95-49-8 | 2-Chlorotoluene | 1 | U |
| 106-43-4 | 4-Chlorotoluene | 1 | U |
| 75-25-2 | Bromoform | 1 | U |
| 108-86-1 | Bromobenzene | 1 | U |
| 79-34-5 | 1,1,2,2-Tetrachloroethane | 1 | U |
| 74-97-5 | Bromochloromethane | 1 | U |
| 87-68-3 | Hexachlorobutadiene | 1 | U |
| 96-18-4 | 1,2,3-Trichloropropane | 3 | U |
| 98-82-8 | Isopropylbenzene | 1 | U |
| 104-51-8 | n-Butylbenzene | 1 | U |
| 103-65-1 | n-Propylbenzene | 1 | U |
| 91-20-3 | Naphthalene | 2 | U |
| 95-47-6 | o-Xylene | 1 | U |
| 99-87-6 | p-Isopropyltoluene | 1 | U |
| 135-98-8 | sec-Butylbenzene | 1 | U |
| 98-06-6 | tert-Butylbenzene | 1 | U |
| 74-88-4 | Iodomethane | 5 | U |
| 96-12-8 | 1,2-Dibromo-3-chloropropane | 3 | U |

FORM I VOA

030095

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO. 643 387

AB071399

Lab Name: STL BALTIMORE Contract: 990891

Lab Code: ST LABS Case No.: SAS No.: SDG No.:

atrix: (soil/water) WATER Lab Sample ID: 9907061

Sample wt/vol: 25.0 (g/ml) ML Lab File ID: VC3A3023.D

Level. (low/med) LOW Date Received: 7/14/99

% Moisture not dec. Date Analyzed: 7/22/99

GC Column: DB-624 ID: 0.25 (mm) Dilution Factor: 1.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

CONCENTRATION UNITS:

| CAS NO. | COMPOUND | (ug/L or ug/Kg) UG/L | Q |
|---|---|---|---|
| 75-71-8 | Dichlorodifluoromethane | 1 | U |
| 74-87-3 | Chloromethane | 1 | U |
| 75-01-4 | Vinyl Chloride | 1 | U |
| 74-83-9 | Bromomethane | 1 | U |
| 75-00-3 | Chloroethane | 1 | U |
| 75-69-4 | Trichlorofluoromethane | 1 | U |
| 75-35-4 | 1,1-Dichloroethene | 1 | U |
| 75-09-2 | Methylene Chloride | 1 | U |
| 156-60-5 | trans-1,2-Dichloroethene | 1 | U |
| 75-34-3 | 1,1-Dichloroethane | 1 | U |
| 156-59-2 | cis-1,2-Dichloroethene | 1 | U |
| 67-66-3 | Chloroform | 1 | U |
| 71-55-6 | 1,1,1-Trichloroethane | 1 | U |
| 56-23-5 | Carbon Tetrachloride | 2 | U |
| 107-06-2 | 1,2-Dichloroethane | 1 | U |
| 71-43-2 | Benzene | 1 | U |
| 67-64-1 | Acetone | 20 | U |
| 79-01-6 | Trichloroethene | 1 | U |
| 75-15-0 | Carbon Disulfide | 5 | U |
| 78-93-3 | 2-Butanone | 20 | U |
| 78-87-5 | 1,2-Dichloropropane | 1 | U |
| 108-10-1 | 4-Methyl-2-Pentanone | 20 | U |
| 75-27-4 | Bromodichloromethane | 1 | U |
| 591-78-6 | 2-Hexanone | 20 | U |
| 1330-20-7 | m&p Xylenes | 1 | U |
| 74-95-3 | Dibromomethane | 2 | U |
| 107-02-8 | Acrolein | 100 | U |
| 75-05-8 | Acetonitrile | 100 | U |
| 107-05-1 | Allyl Chloride | 10 | U |
| 10061-01-5 | cis-1,3-Dichloropropene | 1 | U |
| 107-13-1 | Acrylonitrile | 100 | U |
| 108-05-4 | Vinyl Acetate | 10 | U |
| 126-99-8 | Chloroprene | 10 | U |
| 108-88-3 | Toluene | 1 | U |
| 107-12-0 | Propionitrile | 100 | U |
| 10061-02-6 | trans-1,3-Dichloropropene | 1 | U |
| 126-98-7 | Methacrylonitrile | 100 | U |
| 79-00-5 | 1,1,2-Trichloroethane | 1 | U |
| 78-83-1 | Isobutyl Alcohol | 200 | U |

FORM I VOA

643 388 VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

AB071399

Lab Name: STL BALTIMORE Contract: 990891

Lab Code: ST LABS Case No.: SAS No.: SDG No.:

Matrix: (soil/water) WATER Lab Sample ID 9907061

Sample wt/vol: 25.0 (g/ml) ML Lab File ID: VC3A3023.D

Level: (low/med) LOW Date Received: 7/14/99

% Moisture: not dec. Date Analyzed: 7/22/99

GC Column: DB-624 ID. 0.25 (mm) Dilution Factor: 1.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

CONCENTRATION UNITS:

| CAS NO. | COMPOUND (ug/L or ug/Kg) | UG/L | Q |
|---|---|---|---|
| 80-62-6 | Methyl Methacrylate | 5 | U |
| 97-63-2 | Ethyl Methacrylate | 5 | U |
| 110-57-6 | trans-1,4-Dichloro-2-butene | 25 | U |
| 127-18-4 | Tetrachloroethene | 1 | U |
| 563-58-6 | 1,1-Dichloropropene | 1 | U |
| 106-93-4 | 1,2-Dibromoethane (EDB) | 1 | U |
| 87-61-6 | 1,2,3-Trichlorobenzene | 2 | U |
| 124-48-1 | Chlorodibromomethane | 1 | U |
| 120-82-1 | 1,2,4-Trichlorobenzene | 1 | U |
| 108-90-7 | Chlorobenzene | 1 | U |
| 95-63-6 | 1,2,4-Trimethylbenzene | 1 | U |
| 630-20-6 | 1,1,1,2-Tetrachloroethane | 1 | U |
| 108-67-8 | 1,3,5-Trimethylbenzene | 1 | U |
| 95-50-1 | 1,2-Dichlorobenzene | 1 | U |
| 100-41-4 | Ethylbenzene | 1 | U |
| 541-73-1 | 1,3-Dichlorobenzene | 1 | U |
| 142-28-9 | 1,3-Dichloropropane | 1 | U |
| 106-46-7 | 1,4-Dichlorobenzene | 1 | U |
| 544-10-5 | 1-Chlorohexane | 1 | U |
| 100-42-5 | Styrene | 1 | U |
| 594-20-7 | 2,2-Dichloropropane | 4 | U |
| 95-49-8 | 2-Chlorotoluene | 1 | U |
| 106-43-4 | 4-Chlorotoluene | 1 | U |
| 75-25-2 | Bromoform | 1 | U |
| 108-86-1 | Bromobenzene | 1 | U |
| 79-34-5 | 1,1,2,2-Tetrachloroethane | 1 | U |
| 74-97-5 | Bromochloromethane | 1 | U |
| 87-68-3 | Hexachlorobutadiene | 1 | U |
| 96-18-4 | 1,2,3-Trichloropropane | 3 | U |
| 98-82-8 | Isopropylbenzene | 1 | U |
| 104-51-8 | n-Butylbenzene | 1 | U |
| 103-65-1 | n-Propylbenzene | 1 | U |
| 91-20-3 | Naphthalene | 2 | U |
| 95-47-6 | o-Xylene | 1 | U |
| 99-87-6 | p-Isopropyltoluene | 1 | U |
| 135-98-8 | sec-Butylbenzene | 1 | U |
| 98-06-6 | tert-Butylbenzene | 1 | U |
| 74-88-4 | Iodomethane | 5 | U |
| 96-12-8 | 1,2-Dibromo-3-chloropropane | 3 | U |

Method 300 0 Sample Duplicate Summary Form

643 389

Project. Hydrogeologic
Report #. 990891
Method: 300.0
Analyst· IH
Date Analyzed· 7/14/99

Client ID: WHGLTA011WG09
EA #: 9907055
Data File: LC3H347

| Compound | Concentration (mg/L) | Flag |
|---|---|---|
| Chloride | 250 | E |
| Nitrate | 2.1 | |
| Sulfate | 140 | E |

Client ID: WHGLTA011WG09
EA #: 9907055
Data File. LC3H348

| Compound | Concentration (mg/L) | Flag | % RPD |
|---|---|---|---|
| Chloride | 250 | E | 0.0 |
| Nitrate | 2.1 | | 0.0 |
| Sulfate | 140 | E | 0.0 |



050002

Method 300.0 Sample Duplicate Summary Form

643 390

Project: Hydrogeologic
Report #. 990891
Method 300 0
Analyst· IH
Date Analyzed: 7/15/99

Client ID: WHGLTA011WG09 DL
EA #: 9907055X25
Data File· LC3H365

| Compound | Concentration (mg/L) | Flag |
|---|---|---|
| Chloride | 180 | D |
| Nitrate | 25 | U |
| Sulfate | 86 | D |

Client ID: WHGLTA011WG09 DL
EA #: 9907055X25
Data File: LC3H366

| Compound | Concentration (mg/L) | Flag | % RPD |
|---|---|---|---|
| Chloride | 180 | D | 0.0 |
| Nitrate | 25 | U | 0.0 |
| Sulfate | 85 | D | 1.2 |



650003

1B
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.
WHGLTA011WG09 DL

Lab Name: Severn Trent Labs Contract: 990891

Lab Code: STL-BALT Case No.: _____ SAS No.: _____ SDG No : _____

Matrix: (soil/water) WATER Lab Sample ID: 9907055X25

Sample wt/vol: 1 (g/ml) ML Lab File ID: LC3H365.D

Level: (low/med) LOW Date Received: 07/14/99

% Moisture: _____ decanted:(Y/N) N Date Extracted: _____

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 07/15/99

Injection Volume: 1.0 (uL) Dilution Factor: 25.0

GPC Cleanup: (Y/N) N pH: _____

| CAS NO. | COMPOUND | CONCENTRATION UNITS: (ug/L or ug/Kg) ~~UG~~ mg/L | Q |
|---|---|---|---|
| | CHLORIDE | 180 | D |
| | NITRATE | 25 | U |
| | SULFATE | 86 | D |

643 392

1B

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

CHMHTA008WG07

Lab Name: Severn Trent Labs Contract: 990891

Lab Code: STL-BALT Case No.: _____ SAS No.: _____ SDG No.: _____

Matrix: (soil/water) WATER Lab Sample ID: 9907056

Sample wt/vol: 1 (g/ml) ML Lab File ID: LC3H353.D

Level: (low/med) LOW Date Received: 07/14/99

% Moisture: _____ decanted:(Y/N) N Date Extracted: _____

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 07/14/99

Injection Volume: 1.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: _____

| CAS NO. | COMPOUND | CONCENTRATION UNITS: (ug/L or ug/Kg) ~~UG~~ mg/L | Q |
|---|---|---|---|
| | CHLORIDE | 370 | E |
| | NITRATE | 1.8 | |
| | SULFATE | 45 | E |

[illegible] 081299

1B
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

WCHMHTA008WG09 DL

Lab Name: Severn Trent Labs Contract: 990891

Lab Code: STL-BALT Case No.: _____ SAS No.: _____ SDG No.: _____

Matrix: (soil/water) WATER Lab Sample ID: 9907056X50

Sample wt/vol: 1 (g/ml) ML Lab File ID: LC3H369.D

Level: (low/med) LOW Date Received: 07/14/99

% Moisture: _____ decanted:(Y/N) N Date Extracted: _____

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 07/15/99

Injection Volume: 1.0 (uL) Dilution Factor: 50.0

GPC Cleanup: (Y/N) N pH: _____

CONCENTRATION UNITS:
(ug/L or ug/Kg) ~~UG~~ mg/L

| CAS NO. | COMPOUND | | Q |
|---|---|---|---|
| | CHLORIDE | 290 | D |
| | NITRATE | 50 | U |
| | SULFATE | 50 | U |

Add 08259

643 394

1B

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

DUP04

Lab Name: Severn Trent Labs Contract: 990891

Lab Code: STL-BALT Case No.: SAS No.: SDG No.:

Matrix: (soil/water) WATER Lab Sample ID: 9907057

Sample wt/vol: 1 (g/ml) ML Lab File ID: LC3H354.D

Level: (low/med) LOW Date Received: 07/14/99

% Moisture: decanted:(Y/N) N Date Extracted:

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 07/14/99

Injection Volume: 1.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH:

CONCENTRATION UNITS:

| CAS NO. | COMPOUND | (ug/L or ug/Kg) ~~UG~~ mg/L | Q |
|---|---|---|---|
| | CHLORIDE | 380 | E |
| | NITRATE | 1.8 | |
| | SULFATE | 46 | E |

1B
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

DUP04 DL

Lab Name: Severn Trent Labs Contract: 990891

Lab Code: STL-BALT Case No.: _____ SAS No.: _____ SDG No.: _____

Matrix: (soil/water) WATER Lab Sample ID: 9907057X50

Sample wt/vol: 1 (g/ml) ML Lab File ID: LC3H370.D

Level: (low/med) LOW Date Received: 07/14/99

% Moisture: _____ decanted:(Y/N) N Date Extracted: _____

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 07/15/99

Injection Volume: 1.0 (uL) Dilution Factor: 50.0

GPC Cleanup: (Y/N) N pH: _____

| CAS NO. | COMPOUND | CONCENTRATION UNITS: (ug/L or ug/Kg) ~~ug~~ mg/L | Q |
|---|---|---|---|
| | CHLORIDE | 290 | D |
| | NITRATE | 50 | U |
| | SULFATE | 50 | U |

643 396

1B

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

CHMHTH009WGc

Lab Name: Severn Trent Labs Contract: 990891

Lab Code: STL-BALT Case No.: SAS No.: SDG No.:

Matrix: (soil/water) WATER Lab Sample ID: 9907059

Sample wt/vol: 1 (g/ml) ML Lab File ID: LC3H355.D

Level: (low/med) LOW Date Received: 07/14/99

% Moisture: decanted:(Y/N) N Date Extracted:

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 07/14/99

Injection Volume: 1.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH:

CONCENTRATION UNITS:

| CAS NO. | COMPOUND | (ug/L or ug/Kg) ~~UG~~ mg/L | Q |
|---|---|---|---|
| | CHLORIDE | 73 | E |
| | NITRATE | 7.7 | |
| | SULFATE | 44 | E |

1B

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

WCHMHTH009WG09 DL

Lab Name: Severn Trent Labs Contract: 990891

Lab Code: STL-BALT Case No.: _____ SAS No.: _____ SDG No.: _____

Matrix: (soil/water) WATER Lab Sample ID: 9907059X10

Sample wt/vol: 1 (g/ml) ML Lab File ID: LC3H373.D

Level: (low/med) LOW Date Received: 07/14/99

% Moisture: _____ decanted:(Y/N) N Date Extracted: _____

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 07/15/99

Injection Volume: 1.0 (uL) Dilution Factor: 10.0

GPC Cleanup: (Y/N) N pH: _____

| CAS NO. | COMPOUND | CONCENTRATION UNITS: (ug/L or ug/Kg) ~~UG~~ mg/L | Q |
|---|---|---|---|
| | CHLORIDE | 57 | D |
| | NITRATE | 5.3 | JD |
| | SULFATE | 32 | D |

AW 080299

643 398

1B

# SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

EB071399

Lab Name: Severn Trent Labs Contract: 990891

Lab Code: STL-BALT Case No.: _____ SAS No.: _____ SDG No.: _____

Matrix: (soil/water) WATER Lab Sample ID: 9907060

Sample wt/vol: 1 (g/ml) ML Lab File ID: LC3H356.D

Level: (low/med) LOW Date Received: 07/14/99

% Moisture: _____ decanted:(Y/N) N Date Extracted: _____

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 07/14/99

Injection Volume: 1.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: _____

| CAS NO. | COMPOUND | CONCENTRATION UNITS: (ug/L or ug/Kg) ~~UG~~ mg/L | Q |
|---|---|---|---|
| | CHLORIDE | 1.0 | U |
| | NITRATE | 1.0 | U |
| | SULFATE | 1.0 | U |

1D
PESTICIDE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO
WHGLTA011WG01

Lab Name: STL BALTIMORE Contract: HYDROGE

Lab Code: STLB Case No.: 990891 SAS No.: _____ SDG No.: 9907050

Matrix: (soil/water) WATER Lab Sample ID: 9907055

Sample wt/vol: 1000 (g/ml) ML Lab File ID: LA1R857F.D

% Moisture: _____ decanted:(Y/N) N Date Received: 07/14/99

Extraction: (SepF/Cont/Sonc) _____ Date Extracted: 07/15/99

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 07/31/99

Injection Volume: 1.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: _____ Sulfur Cleanup: (Y/N) N

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/L

| CAS NO. | COMPOUND | | Q |
|---|---|---|---|
| 91-20-3 | NAPHTHALENE | 18 | U |
| 208-96-8 | ACENAPHTHYLENE | 23 | U |
| 83-32-9 | ACENAPHTHENE | 18 | U |
| 86-73-7 | FLUORENE | 2.1 | U |
| 85-01-8 | PHENANTHRENE | 6.4 | U |
| 120-12-7 | ANTHRACENE | 6.6 | U |
| 206-44-0 | FLUORANTHENE | 2.1 | U |
| 129-00-0 | PYRENE | 2.7 | U |
| 56-55-3 | BENZO[a]ANTHRACENE | 0.13 | U |
| 218-01-9 | CHRYSENE | 1.5 | U |
| 205-99-2 | BENZO[b]FLUORANTHENE | 0.18 | U |
| 207-08-9 | BENZO[k]FLUORANTHENE | 0.17 | U |
| 50-32-8 | BENZO[a]PYRENE | 0.23 | U |
| 53-70-3 | DIBENZO[a,h]ANTHRACENE | 0.30 | U |
| 191-24-2 | BENZO[g,h,i]PERYLENE | 0.76 | U |
| 193-39-5 | INDENO[1,2,3-cd]PYRENE | 0.43 | U |

1D

PESTICIDE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

CHMHTA008WG0

Lab Name: STL BALTIMORE Contract: HYDROGE

Lab Code: STLB Case No.: 990891 SAS No.: SDG No.: 9907050

Matrix: (soil/water) WATER Lab Sample ID: 9907056

Sample wt/vol: 1000 (g/ml) ML Lab File ID: LA1R858F.D

% Moisture: decanted:(Y/N) N Date Received: 07/14/99

Extraction: (SepF/Cont/Sonc) Date Extracted: 07/15/99

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 07/31/99

Injection Volume: 1.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: Sulfur Cleanup: (Y/N) N

CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L

| CAS NO. | COMPOUND | | Q |
|---|---|---|---|
| 91-20-3 | NAPHTHALENE | 17 | J |
| 208-96-8 | ACENAPHTHYLENE | 23 | U |
| 83-32-9 | ACENAPHTHENE | 18 | U |
| 86-73-7 | FLUORENE | 0.15 | J |
| 85-01-8 | PHENANTHRENE | 0.13 | J |
| 120-12-7 | ANTHRACENE | 6.6 | U |
| 206-44-0 | FLUORANTHENE | 2.1 | U |
| 129-00-0 | PYRENE | 2.7 | U |
| 56-55-3 | BENZO[a]ANTHRACENE | 0.13 | U |
| 218-01-9 | CHRYSENE | 1.5 | U |
| 205-99-2 | BENZO[b]FLUORANTHENE | 0.18 | U |
| 207-08-9 | BENZO[k]FLUORANTHENE | 0.17 | U |
| 50-32-8 | BENZO[a]PYRENE | 0.23 | U |
| 53-70-3 | DIBENZO[a,h]ANTHRACENE | 0.30 | U |
| 191-24-2 | BENZO[g,h,i]PERYLENE | 0.76 | U |
| 193-39-5 | INDENO[1,2,3-cd]PYRENE | 0.43 | U |

1D

PESTICIDE ORGANICS ANALYSIS DATA SHEET

DUP04

643 401

Lab Name: STL BALTIMORE Contract: HYDROGE

Lab Code: STLB Case No.: 990891 SAS No.: _____ SDG No.: 9907050

Matrix: (soil/water) WATER Lab Sample ID: 9907057

Sample wt/vol: 1000 (g/ml) ML Lab File ID: LA1R862F.D

% Moisture: _____ decanted:(Y/N) N Date Received: 07/14/99

Extraction: (SepF/Cont/Sonc) _____ Date Extracted: 07/15/99

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 07/31/99

Injection Volume: 1.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: _____ Sulfur Cleanup: (Y/N) N

CONCENTRATION UNITS:

| CAS NO. | COMPOUND | (ug/L or ug/Kg) UG/L | Q |
|---|---|---|---|
| 91-20-3 | NAPHTHALENE | 21 | |
| 208-96-8 | ACENAPHTHYLENE | 23 | U |
| 83-32-9 | ACENAPHTHENE | 18 | U |
| 86-73-7 | FLUORENE | 0.15 | J |
| 85-01-8 | PHENANTHRENE | 0.15 | J |
| 120-12-7 | ANTHRACENE | 6.6 | U |
| 206-44-0 | FLUORANTHENE | 2.1 | U |
| 129-00-0 | PYRENE | 2.7 | U |
| 56-55-3 | BENZO[a]ANTHRACENE | 0.13 | U |
| 218-01-9 | CHRYSENE | 1.5 | U |
| 205-99-2 | BENZO[b]FLUORANTHENE | 0.18 | U |
| 207-08-9 | BENZO[k]FLUORANTHENE | 0.17 | U |
| 50-32-8 | BENZO[a]PYRENE | 0.23 | U |
| 53-70-3 | DIBENZO[a,h]ANTHRACENE | 0.30 | U |
| 191-24-2 | BENZO[g,h,i]PERYLENE | 0.76 | U |
| 193-39-5 | INDENO[1,2,3-cd]PYRENE | 0.43 | U |

643 402

1D

# PESTICIDE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

CHMHTA009WG09

Lab Name: STL BALTIMORE Contract: HYDROGE

Lab Code: STLB Case No.: 990891 SAS No.: _____ SDG No.: 9907050

Matrix: (soil/water) WATER Lab Sample ID: 9907059

Sample wt/vol: 1000 (g/ml) ML Lab File ID: LA1R863F.D

% Moisture: _____ decanted:(Y/N) N Date Received: 07/14/99

Extraction: (SepF/Cont/Sonc) _____ Date Extracted: 07/15/99

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 07/31/99

Injection Volume: 1.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: _____ Sulfur Cleanup: (Y/N) N

CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L

| CAS NO. | COMPOUND | | Q |
|---|---|---|---|
| 91-20-3 | NAPHTHALENE | 18 | U |
| 208-96-8 | ACENAPHTHYLENE | 23 | U |
| 83-32-9 | ACENAPHTHENE | 18 | U |
| 86-73-7 | FLUORENE | 2.1 | U |
| 85-01-8 | PHENANTHRENE | 6.4 | U |
| 120-12-7 | ANTHRACENE | 6.6 | U |
| 206-44-0 | FLUORANTHENE | 2.1 | U |
| 129-00-0 | PYRENE | 2.7 | U |
| 56-55-3 | BENZO[a]ANTHRACENE | 0.13 | U |
| 218-01-9 | CHRYSENE | 1.5 | U |
| 205-99-2 | BENZO[b]FLUORANTHENE | 0.18 | U |
| 207-08-9 | BENZO[k]FLUORANTHENE | 0.17 | U |
| 50-32-8 | BENZO[a]PYRENE | 0.23 | U |
| 53-70-3 | DIBENZO[a,h]ANTHRACENE | 0.30 | U |
| 191-24-2 | BENZO[g,h,i]PERYLENE | 0.76 | U |
| 193-39-5 | INDENO[1,2,3-cd]PYRENE | 0.43 | U |

1D
PESTICIDE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

643 403

EB071399

Lab Name: STL BALTIMORE Contract: HYDROGE

Lab Code: STLB Case No.: 990891 SAS No.: _____ SDG No.: 9907050

Matrix: (soil/water) WATER Lab Sample ID: 9907060

Sample wt/vol: 1000 (g/ml) ML Lab File ID: LA1R864F.D

% Moisture: _____ decanted.(Y/N) N Date Received: 07/14/99

Extraction: (SepF/Cont/Sonc) _____ Date Extracted: 07/15/99

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 07/31/99

Injection Volume: 1.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: _____ Sulfur Cleanup: (Y/N) N

CONCENTRATION UNITS:

| CAS NO. | COMPOUND | (ug/L or ug/Kg) UG/L | Q |
|---|---|---|---|
| 91-20-3 | NAPHTHALENE | 18 | U |
| 208-96-8 | ACENAPHTHYLENE | 23 | U |
| 83-32-9 | ACENAPHTHENE | 18 | U |
| 86-73-7 | FLUORENE | 2.1 | U |
| 85-01-8 | PHENANTHRENE | 6.4 | U |
| 120-12-7 | ANTHRACENE | 6.6 | U |
| 206-44-0 | FLUORANTHENE | 2.1 | U |
| 129-00-0 | PYRENE | 2.7 | U |
| 56-55-3 | BENZO[a]ANTHRACENE | 0.13 | U |
| 218-01-9 | CHRYSENE | 1.5 | U |
| 205-99-2 | BENZO[b]FLUORANTHENE | 0.18 | U |
| 207-08-9 | BENZO[k]FLUORANTHENE | 0.17 | U |
| 50-32-8 | BENZO[a]PYRENE | 0.23 | U |
| 53-70-3 | DIBENZO[a,h]ANTHRACENE | 0.30 | U |
| 191-24-2 | BENZO[g,h,i]PERYLENE | 0.76 | U |
| 193-39-5 | INDENO[1,2,3-cd]PYRENE | 0.43 | U |

643 404

1D

# PESTICIDE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

NB907151

Lab Name: STL BALTIMORE Contract: HYDROGE

Lab Code: STLB Case No.: 990891 SAS No.: SDG No.: 9907050

Matrix: (soil/water) WATER Lab Sample ID: NB907151

Sample wt/vol: 1000 (g/ml) ML Lab File ID: LA1R849F.D

% Moisture: decanted:(Y/N) N Date Received:

Extraction: (SepF/Cont/Sonc) Date Extracted: 07/15/99

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 07/31/99

Injection Volume: 1.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: Sulfur Cleanup: (Y/N) N

CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L

| CAS NO. | COMPOUND | | Q |
|---|---|---|---|
| 91-20-3 | NAPHTHALENE | 18 | U |
| 208-96-8 | ACENAPHTHYLENE | 23 | U |
| 83-32-9 | ACENAPHTHENE | 18 | U |
| 86-73-7 | FLUORENE | 2.1 | U |
| 85-01-8 | PHENANTHRENE | 6.4 | U |
| 120-12-7 | ANTHRACENE | 6.6 | U |
| 206-44-0 | FLUORANTHENE | 2.1 | U |
| 129-00-0 | PYRENE | 2.7 | U |
| 56-55-3 | BENZO[a]ANTHRACENE | 0.13 | U |
| 218-01-9 | CHRYSENE | 1.5 | U |
| 205-99-2 | BENZO[b]FLUORANTHENE | 0.18 | U |
| 207-08-9 | BENZO[k]FLUORANTHENE | 0.17 | U |
| 50-32-8 | BENZO[a]PYRENE | 0.23 | U |
| 53-70-3 | DIBENZO[a,h]ANTHRACENE | 0.30 | U |
| 191-24-2 | BENZO[g,h,i]PERYLENE | 0.76 | U |
| 193-39-5 | INDENO[1,2,3-cd]PYRENE | 0.43 | U |

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

HGLTA011WG0

643 405

Lab Name. STL-Baltimore Contract: HYDROGE

Lab Code. Case No.: 990891 SAS No.: SDG No :

Matrix: (soil/water) WATER Lab Sample ID: 9907055

Sample wt/vol: 30 (g/ml) ML Lab File ID: SW3Z989F D

Level: (low/med) LOW Date Received: 07/14/99

% Moisture: decanted:(Y/N) N Date Extracted: 07/19/99

Concentrated Extract Volume: 3000 (uL) Date Analyzed: 07/19/99

Injection Volume. 1.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH:

CONCENTRATION UNITS:

| CAS NO. | COMPOUND | (ug/L or ug/Kg) UG/L | Q |
|---|---|---|---|
| | C6-C10 | 2500 | U |
| | C10-C28 | 2500 | U |
| | C6-C28 | 5000 | U |

070007

1B
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

643 406

W CHMHTA008WG09

Lab Name: STL-Baltimore Contract: HYDROGE

Lab Code: Case No.: 990891 SAS No.: SDG No..

Matrix (soil/water) WATER Lab Sample ID. 9907056

Sample wt/vol 30 (g/ml) ML Lab File ID: SW3Z990F.D

Level: (low/med) LOW Date Received: 07/14/99

% Moisture: decanted:(Y/N) N Date Extracted: 07/19/99

Concentrated Extract Volume: 3000 (uL) Date Analyzed: 07/20/99

Injection Volume: 1.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH:

| CAS NO. | COMPOUND | CONCENTRATION UNITS. (ug/L or ug/Kg) UG/L | Q |
|---|---|---|---|
| | C6-C10 | 2500 | U |
| | C10-C28 | 2500 | U |
| | C6-C28 | 5000 | U |

070010

1B

# SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO

**DUP04**

Lab Name: STL-Baltimore Contract: HYDROGE

Lab Code. Case No.: 990891 SAS No.: SDG No.:

Matrix: (soil/water) WATER Lab Sample ID: 9907057

Sample wt/vol: 30 (g/ml) ML Lab File ID: SW3Z991F.D

Level: (low/med) LOW Date Received: 07/14/99

% Moisture: decanted:(Y/N) N Date Extracted: 07/19/99

Concentrated Extract Volume: 3000 (uL) Date Analyzed: 07/20/99

Injection Volume: 1.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH:

CONCENTRATION UNITS:

| CAS NO. | COMPOUND | (ug/L or ug/Kg) UG/L | Q |
|---|---|---|---|
| | C6-C10 | 2500 | U |
| | C10-C28 | 2500 | U |
| | C6-C28 | 5000 | U |

070013

1B

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO

643 408

WCHMHTA009WG09

Lab Name: STL-Baltimore Contract: HYDROGE

Lab Code: Case No.: 990891 SAS No.: SDG No.:

Matrix: (soil/water) WATER Lab Sample ID. 9907059

Sample wt/vol: 30 (g/ml) ML Lab File ID: SW3Z992F.D

Level. (low/med) LOW Date Received: 07/14/99

% Moisture: decanted:(Y/N) N Date Extracted: 07/19/99

Concentrated Extract Volume: 3000 (uL) Date Analyzed: 07/20/99

Injection Volume: 1.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH:

CONCENTRATION UNITS:

| CAS NO. | COMPOUND | (ug/L or ug/Kg) UG/L | Q |
|---|---|---|---|
| | C6-C10 | 2500 | U |
| | C10-C28 | 2500 | U |
| | C6-C28 | 5000 | U |

070012

643 409

1B

# SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

EB071399

Lab Name: STL-Baltimore Contract: HYDROGE

Lab Code _____ Case No.: 990891 SAS No.: _____ SDG No.: _____

Matrix. (soil/water) WATER Lab Sample ID: 9907060

Sample wt/vol: 30 (g/ml) ML Lab File ID: SW3Z993F.D

Level: (low/med) LOW Date Received: 07/14/99

% Moisture: _____ decanted:(Y/N) N Date Extracted: 07/19/99

Concentrated Extract Volume: 3000 (uL) Date Analyzed: 07/20/99

Injection Volume: 1.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: _____

CONCENTRATION UNITS:

| CAS NO. | COMPOUND | (ug/L or ug/Kg) UG/L | Q |
|---|---|---|---|
| | C6-C10 | 2500 | U |
| | C10-C28 | 2500 | U |
| | C6-C28 | 5000 | U |

070449

1B
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO

TB907191

643 410

Lab Name. STL-Baltimore Contract: HYDROGE

Lab Code: Case No.: 990891 SAS No.: SDG No.:

Matrix: (soil/water) WATER Lab Sample ID: TB907191

Sample wt/vol. 30 (g/ml) ML Lab File ID: SW3Z987F D

Level: (low/med) LOW Date Received: 07/14/99

% Moisture: decanted:(Y/N) N Date Extracted: 07/19/99

Concentrated Extract Volume: 3000 (uL) Date Analyzed: 07/19/99

Injection Volume: 1.0 (uL) Dilution Factor: 1.0

GPC Cleanup (Y/N) N pH:

| CAS NO. | COMPOUND | CONCENTRATION UNITS. (ug/L or ug/Kg) UG/L | Q |
|---|---|---|---|
| | C6-C10 | 2500 | U |
| | C10-C28 | 2500 | U |
| | C6-C28 | 5000 | U |

070075

643 411

1B

# SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO

TL907191

Lab Name: STL-Baltimore Contract: HYDROGE

Lab Code: Case No.: 990891 SAS No.: SDG No :

Matrix: (soil/water) WATER Lab Sample ID: TL907191

Sample wt/vol 30 (g/ml) ML Lab File ID: SW3Z988F.D

Level: (low/med) LOW Date Received: 07/14/99

% Moisture: decanted:(Y/N) N Date Extracted: 07/19/99

Concentrated Extract Volume: 3000 (uL) Date Analyzed: 07/19/99

Injection Volume: 1.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH:

CONCENTRATION UNITS:

| CAS NO. | COMPOUND | (ug/L or ug/Kg) UG/L | Q |
|---|---|---|---|
| | C6-C10 | 30000 | |
| | C10-C28 | 32000 | |
| | C6-C28 | 65000 | |

070076

1B

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO

SPOT35-9WG09

643 412

Lab Name: STL-Baltimore Contract: HYDROGE

Lab Code. Case No.: 990891 SAS No.: SDG No.:

Matrix: (soil/water) WATER Lab Sample ID: 9907277

Sample wt/vol. 30 (g/ml) ML Lab File ID: SW4A005F D

Level. (low/med) LOW Date Received: 07/14/99

% Moisture. decanted:(Y/N) N Date Extracted. 07/19/99

Concentrated Extract Volume: 3000 (uL) Date Analyzed: 07/20/99

Injection Volume: 1.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH:

| CAS NO. | COMPOUND | CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L | Q |
|---|---|---|---|
| | C6-C10 | 2500 | U |
| | C10-C28 | 2500 | U |
| | C6-C28 | 5000 | U |

070082

1B

643 413 SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO

POT35-9WG09M

Lab Name: STL-Baltimore Contract: HYDROGE

Lab Code: Case No.: 990891 SAS No.: SDG No.:

Matrix: (soil/water) WATER Lab Sample ID: 9907277MS

Sample wt/vol. 30 (g/ml) ML Lab File ID. SW4A006F.D

Level: (low/med) LOW Date Received: 07/14/99

% Moisture: decanted:(Y/N) N Date Extracted: 07/19/99

Concentrated Extract Volume: 3000 (uL) Date Analyzed: 07/20/99

Injection Volume: 1.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH:

| CAS NO. | COMPOUND | CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L | Q |
|---|---|---|---|
| | C6-C10 | 31000 | |
| | C10-C28 | 31000 | |
| | C6-C28 | 61000 | |

070081

1B

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

SPOT35-9WG09MSD

643 411

Lab Name: STL-Baltimore Contract: HYDROGE

Lab Code: Case No.: 990891 SAS No.: SDG No.:

atrix: (soil/water) WATER Lab Sample ID: 9907277MSD

Sample wt/vol: 30 (g/ml) ML Lab File ID: SW4A007F.D

Level: (low/med) LOW Date Received: 07/14/99

% Moisture: decanted:(Y/N) N Date Extracted: 07/19/99

Concentrated Extract Volume: 3000 (uL) Date Analyzed: 07/20/99

Injection Volume: 1.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH:

CONCENTRATION UNITS:

| CAS NO. | COMPOUND | (ug/L or ug/Kg) UG/L | Q |
|---|---|---|---|
| | C6-C10 | 32000 | |
| | C10-C28 | 32000 | |
| | C6-C28 | 65000 | |

070088

643 415

COVER PAGE
*INORGANIC ANALYSES DATA PACKAGE*

Lab Name: EA Laboratories  Contract: HYDROGEOLO
SAS Case No.:990891  SDG No.: 9907050

| Lab Sample ID. | EPA Sample No. |
|---|---|
| | ~~METHBK~~ KLE 08/02/99 |
| 9907050 | HM-110WG09 |
| 9907051 | LF03-30WG09 |
| 9907052 | FT09-12CWG09 |
| 9907053 | HM-123WG09 |
| 9907054 | DUP02 |
| 9907055 | WHGLTP011WG09 |
| 9907056 | WCHMHTA008WG09 |
| 9907057 | DUP04 |
| 9907059 | WCHMHTA009WG09 |
| 9907060 | EB071399 |

I certify that this data package is in compliance with the terms and conditions of the contract, both technically and for completeness, for other than the conditions detailed above. Release of the data contained in this hardcopy data package has been authorized by the Laboratory Manager or the Manager's designee, as verified by the following signature.

Signature: Kelli L. Eidinger  Name: ~~Phyllis Christopher~~ Kelli L Eidinger

Date: 08/02/99  Title: ~~Inorganic Manager~~ for Dave Burman

FORM I
SAMPLE ANALYSIS RESULTS

643 416

ab Name: EA Laboratories
AS Case No.: 990891
PA [redacted] No.: WHGLTP011WG0
ampl[redacted]trix: WATER
otal Solids: %

Contract: HYDROGEOLO
SDG No.: 9907050
Lab Sample ID No.: 9907055
Date Received: 07/14/99

| .ab :D | Parameter | Sample Conc. | Concentration Units | Analyzed Date |
|---|---|---|---|---|
| 9907055 | ALKALINITY | 500 | mg/L | 07/27/99 |
| | TOC AVERAGE | <1.0 | mg/L | 07/18/99 |
| | TOC REPLICATE 1 | <1.0 | mg/L | 07/20/99 |
| | TOC REPLICATE 2 | 1.0 | mg/L | 07/20/99 |

080008
080009

Committed To *Your* Success

643 417

**Severn Trent Laboratories**
11 East Olive Road
Pensacola FL 32514

Tel: (850) 474-1001
Fax (850) 478-2671

SIGNATURE PAGE

Reviewed by: _____
STL Project Manager

| | |
|---|---|
| Client: | STL/MARYLAND<br>SPARKS, MARYLAND |
| Project Name: | AFC001-26HAA |
| Project Number: | 990891 |
| Project Location: | NAS, FORT WORTH, TX |
| Accession Number: | 907290 |
| Project Manager: | MARY ASPER |
| Sampled By: | P. DARAUWAY |

SAMPLE ANALYSIS RESULTS

643 418

ab Name: EA Laboratories
AS Case No.: 990891
PA Sample No.: EB071399
an [illegible]trix: WATER
ot. [illegible]ids: %

Contract: HYDROGEOLO
SDG No.: 9907050
Lab Sample ID No.: 9907060
Date Received: 07/14/99

| .ab 'D | Parameter | Sample Conc. | Concentration Units | Analyzed Date |
|---|---|---|---|---|
| 9907060 | ALKALINITY | <2.0 | mg/L | 07/27/99 |
| | TOC AVERAGE | <1.0 | mg/L | 07/29/99 |
| | TOC REPLICATE 1 | <1.0 | mg/L | 07/29/99 |
| | TOC REPLICATE 2 | <1.0 | mg/L | 07/29/99 |

SAMPLE ANALYSIS RESULTS

643 419

ab Name: EA Laboratories
AS Case No.: 990891
PA Sample No.: DUP04
San Matrix: WATER
Total Solids: %

Contract: HYDROGEOLO
SDG No.: 9907050
Lab Sample ID No.: 9907057
Date Received: 07/14/99

| Lab ID | Parameter | Sample Conc. | Concentration Units | Analyzed Date |
|---|---|---|---|---|
| 9907057 | ALKALINITY | 496 | mg/L | 07/27/99 |
| | TOC AVERAGE | 1.4 | mg/L | 07/18/99 |
| | TOC REPLICATE 1 | 1.4 | mg/L | 07/20/99 |
| | TOC REPLICATE 2 | 1.5 | mg/L | 07/20/99 |

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"FINAL REPORT FORMAT - SINGLE"

Accession: 907290
Client: STL/MARYLAND
Project Number: 990891
Project Name: AFC001-26HAA
Project Location: NAS, FORT WORTH, TX
Test: GENERIC GROUP GC/SEMI-VOLATILE
Analysis Method: RSK 175
Extraction Method: N/A
Matrix: WATER
QC Level: N

Lab Id: 006
Client Sample Id: WHGLTA011WG09
Sample Date/Time: 13-JUL-99 0918
Received Date: 16-JUL-99

Batch: GEW264
Blank: A
Dry Weight %: N/A
Extraction Date: N/A
Analysis Date: 23-JUL-99

| Parameter: | Units: | Results: | Rpt Lmts: | Q: |
|---|---|---|---|---|
| METHANE | UG/L | 0.8968 | 1 | |
| ETHANE | UG/L | ND | 1 | |
| ETHENE | UG/L | ND | 1 | |
| ANALYST | INITIALS | AHT | | |

Comments:
Preparation Time: 08:00
Analysis Time. 09:43

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"FINAL REPORT FORMAT - SINGLE"

Accession: 907290
Client: STL/MARYLAND
Project Number: 990891
Project Name: AFC001-26HAA
Project Location: NAS, FORT WORTH, TX
Test: GENERIC GROUP GC/SEMI-VOLATILE
Analysis Method: RSK 175
Extraction Method: N/A
Matrix: WATER
QC Level: N

---

Lab Id: 007
Client Sample Id: WCHMHTA008WG09

Sample Date/Time: 13-JUL-99 1151
Received Date: 16-JUL-99

Batch: GEW264
Blank: A Dry Weight %: N/A

Extraction Date: N/A
Analysis Date: 23-JUL-99

| Parameter: | Units: | Results. | Rpt Lmts: | Q: |
|---|---|---|---|---|
| METHANE | UG/L | 3401.1431 | 1 | |
| ETHANE | UG/L | ND | 1 | |
| ETHENE | UG/L | ND | 1 | |
| ANALYST | INITIALS | AHT | | |

Comments:
Preparation Time: 08:00
Analysis Time: 09:57

SEVERN TRENT LABORATORIES 11 East Olive Road Pensacola, Florida 32514 (850) 474-1001



"FINAL REPORT FORMAT - SINGLE"

Accession. 907290
Client: STL/MARYLAND
Project Number: 990891
Project Name: AFC001-26HAA
Project Location: NAS, FORT WORTH, TX
Test: GENERIC GROUP GC/SEMI-VOLATILE
Analysis Method: RSK 175
Extraction Method: N/A
Matrix· WATER
QC Level: N

Lab Id: 008 Sample Date/Time: 13-JUL-99 1305
Client Sample Id: DUP04 Received Date: 16-JUL-99

Batch: GEW264 Extraction Date: N/A
Blank: A Dry Weight %: N/A Analysis Date. 23-JUL-99

| Parameter: | Units: | Results: | Rpt Lmts: | Q: |
|---|---|---|---|---|
| METHANE | UG/L | 3176.7550 | 1 | |
| ETHANE | UG/L | ND | 1 | |
| ETHENE | UG/L | ND | 1 | |
| ANALYST | INITIALS | AHT | | |

Comments:
Preparation Time: 08:00
Analysis Time: 10:11

643 423

SEVERN TRENT LABORATORIES 11 East Olive Road Pensacola, Florida 32514 (850) 474-1001



"FINAL REPORT FORMAT - SINGLE"

Accession: 907290
Client: STL/MARYLAND
Project Number: 990891
Project Name: AFC001-26HAA
Project Location: NAS, FORT WORTH, TX
Test: GENERIC GROUP GC/SEMI-VOLATILE
Analysis Method: RSK 175
Extraction Method: N/A
Matrix: WATER
QC Level: N

Lab Id: 009
Client Sample Id: TB071399
Sample Date/Time: 13-JUL-99 0720
Received Date: 16-JUL-99

Batch: GEW264
Blank: A
Dry Weight %: N/A
Extraction Date: N/A
Analysis Date: 23-JUL-99

| Parameter: | Units: | Results· | Rpt Lmts: | Q: |
|---|---|---|---|---|
| METHANE | UG/L | 13.9332 | 1 | |
| ETHANE | UG/L | ND | 1 | |
| ETHENE | UG/L | ND | 1 | |
| ANALYST | INITIALS | AHT | | |

Comments:
Preparation Time: 06:00
Analysis Time: 10:18

SEVERN TRENT LABORATORIES 11 East Olive Road Pensacola, Florida 32514 (850) 474-1001



"FINAL REPORT FORMAT - SINGLE"

Accession: 907290
Client: STL/MARYLAND
Project Number 990891
Project Name: AFC001-26HAA
Project Location: NAS, FORT WORTH, TX
Test: GENERIC GROUP GC/SEMI-VOLATILE
Analysis Method: RSK 175
Extraction Method: N/A
Matrix: WATER
QC Level. N

Lab Id: 010
Client Sample Id· WCHMHTA009WG09
Sample Date/Time: 13-JUL-99 1502
Received Date: 16-JUL-99

Batch: GEW264
Blank: A
Dry Weight %: N/A
Extraction Date: N/A
Analysis Date: 23-JUL-99

| Parameter: | Units: | Results. | Rpt Lmts: | Q: |
|---|---|---|---|---|
| METHANE | UG/L | 3.4641 | 1 | |
| ETHANE | UG/L | ND | 1 | |
| ETHENE | UG/L | ND | 1 | |
| ANALYST | INITIALS | AHT | | |

Comments:
Preparation Time. 08:00
Analysis Time: 10:29

SEVERN TRENT LABORATORIES 11 East Olive Road Pensacola, Florida 32514 (850) 474-1001



"FINAL REPORT FORMAT - SINGLE"

Accession: 907290
Client: STL/MARYLAND
Project Number: 990891
Project Name: AFC001-26HAA
Project Location: NAS, FORT WORTH, TX
Test: GENERIC GROUP GC/SEMI-VOLATILE
Analysis Method: RSK 175
Extraction Method: N/A
Matrix. WATER
QC Level: N

---

Lab Id: 011
Client Sample Id: EB071399

Sample Date/Time: 13-JUL-99 1630
Received Date: 16-JUL-99

Batch: GEW264
Blank: A
Dry Weight %: N/A

Extraction Date: N/A
Analysis Date: 23-JUL-99

| Parameter: | Units: | Results: | Rpt Lmts: | Q: |
|---|---|---|---|---|
| METHANE | UG/L | ND | 1 | |
| ETHANE | UG/L | ND | 1 | |
| ETHENE | UG/L | ND | 1 | |
| ANALYST | INITIALS | AHT | | |

Comments:
Preparation Time: 08:00
Analysis Time: 10:37

SEVERN TRENT LABORATORIES 11 East Olive Road Pensacola, Florida 32514 (850) 474-1001



"Method Report Summary"

Accession Number: 907290
Client: STL/MARYLAND
Project Number: 990891
Project Name: AFC001-26HAA
Project Location: NAS, FORT WORTH, TX
Test: GENERIC GROUP GC/SEMI-VOLATILE

| Client Sample Id: | Parameter: | Unit: | Result: |
|---|---|---|---|
| HM-110WG09 | METHANE | UG/L | 0.7635 |
| | ETHANE | UG/L | 3.4379 |
| | ETHENE | UG/L | 2.0822 |
| FT09-12CWG09 | METHANE | UG/L | 1756.7756 |
| | ETHANE | UG/L | 1.3326 |
| HM-123WG09 | METHANE | UG/L | 165.8527 |
| | ETHANE | UG/L | 0.8712 |
| DUP02 | METHANE | UG/L | 176.1041 |
| | ETHANE | UG/L | 1.0004 |
| WHGLTA011WG09 | METHANE | UG/L | 0.8968 |
| WCHMHTA008WG09 | METHANE | UG/L | 3401.1431 |
| DUP04 | METHANE | UG/L | 3176.7550 |
| TB071399 | METHANE | UG/L | 13.9332 |
| WCHMHTA009WG09 | METHANE | UG/L | 3.4641 |

SEVERN TRENT LABORATORIES 11 East Olive Road Pensacola, Florida 32514 (850) 474-1001



Common Notation for Organic Reporting

N/S = NOT SUBMITTED
N/A = NOT APPLICABLE
UG = MICROGRAMS
UG/L = PARTS PER BILLION
UG/KG = PARTS PER BILLION
MG/M3 = MILLIGRAM PER CUBIC METER
PPMV = PART PER MILLION BY VOLUME
MG/KG = PARTS PER MILLION
MG/L = PARTS PER MILLION
< = LESS THAN
ND = NOT DETECTED AT OR ABOVE THE STL-PENSACOLA REPORTING LIMIT (RL).
E = EXCEED THE CALIBRATION CURVE; THEREFORE, RESULTS ARE ESTIMATED.

SOURCES FOR CONTROL LIMITS ARE INTERNAL LABORATORY QUALITY ASSURANCE PROGRAM AND REFERENCED METHOD.

ORGANIC SOILS ARE REPORTED ON A DRYWEIGHT BASIS.

RPT LMTS = REPORTING LIMITS BASED ON METHOD DETECTION LIMIT STUDIES.

RPD = RELATIVE PERCENT DIFFERENCE (OR DEVIATION)

STL/GC/FID
STL GAS CHROMATOGRAPHIC METHOD EMPLOYING DIRECT INJECTION ON COLUMN WITH FLAME IONIZATION DETECTOR (FID).

STL/GC/FIX
STL GAS CHROMATOGRAPHIC METHOD FOR ANALYSIS OF FIXED GASES EMPLOYING DIRECT INJECTION ON COLUMN WITH THERMAL CONDUCTIVITY DETECTOR (TCD) AND FLAME IONIZATION DETECTOR (FID)

L/GC/FPD
STL GAS CHROMATOGRAPHIC METHOD EMPLOYING DIRECT INJECTION ON COLUMN WITH FLAME PHOTOMETRIC DETECTOR (FPD) IN SULFUR-SPECIFIC MODE.

STL/GC/PID
STL GAS CHROMATOGRAPHIC METHOD EMPLOYING DIRECT INJECTION ON COLUMN WITH PHOTOIONIZATION DETECTOR (PID).

STL/GC/TCD
STL GAS CHROMATOGRAPHIC METHOD EMPLOYING DIRECT INJECTION ON COLUMN WITH THERMAL CONDUCTIVITY DETECTOR (TCD).

SW-846 METHOD 9020
PARTICULATE MATTER IS REMOVED BY ALLOWING PARTICULATES TO SETTLE IN THE SAMPLE CONTAINER AND DECANTING THE SUPERNATANT LIQUID. EXCESSIVE PARTICULATES ARE REMOVED BY FILTRATION OF THE SUPERNATANT LIQUID.

RSK 175
SAMPLE PREPARATION AND CALCULATIONS FOR DISSOLVED GAS ANALYSIS IN WATER SAMPLES USING A GC HEADSPACE EQUILIBRATION TECHNIQUE, RSK SOP-175, ROBERT S. KERR ENVIRONMENTAL RESEARCH LABORATORY, USEPA, AUGUST 11, 1994.

STL-PN USES THE MOST CURRENT PROMULGATED METHODS CONTAINED IN THE REFERENCE MANUALS.

SW = STEVE WILHITE
RP = ROB PEREZ
RW = RITA WINGO
WEM = WARREN MILBRANDT
PLD = PAULA DOUGHTY
AHT = AUBURN H. THOMPSON, JR
MG = MARY GUTIERREZ
KA = KIM AYERS
SB = STEPHANIE BUBIEN
BT = BECKY TREMMEL
HAH = HOLLIE HOFFMAN
LFB = LISA BRASCH

643 428

Committed To *Your* Success

**Severn Trent Laboratories**
19 Loveton Circle
Sparks, MD 21152

Tel (410) 771-4920
Fax (410) 771-4407
www.stl-inc.com

August 9, 1999

Mr. Kenneth Rapuano
HydroGeoLogic, Inc.
11 55 Herndon Parkway, Suite 900
Herndon, VA 20170

Re:HydroGeoLogic, Inc. NAS Ft Worth (70001.01)DO#26, AFC00126HAA

Dear Mr. Rapuano.

Enclosed is our report on the analysis of 11 water samples collected for the HydroGeoLogic, Inc. NAS Ft. Worth project on 13 and 14 July 1999. The invoice is included.

Please contact me if you have any questions or require further information and refer to report 990908. Unless other arrangements are made, we reserve the right to dispose of your samples sixty (60) days from the date of this letter. We will retain the raw data for seven years from this date.

Sincerely,

Mary E. Asper
Laboratory Project Manager

enclosure

643 429

Committed To Your Success

# LABORATORY DATA REPORT

Prepared for:

HydroGeoLogic, Inc.
NAS Ft. Worth

Prepared by:

Severn Trent Laboratories
19 Loveton Circle
Sparks, MD 21152

Report 990908

August 1999

643 430

# 1. NARRATIVE

**Severn Trent Laboratories**
**ANALYTICAL NARRATIVE**

Client: **HydroGeoLogic, Inc.**
Site: **NAS Ft. Worth**
Project number: **70001.01**

ST Laboratories Report: **990908**
Laboratory Project Manager: **Mary E. Asper**
Report Date: **9 August 1999**

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This report contains the results of the analysis of 11 water samples collected on 13 and 14 July 1999 in support of the referenced project.

*SAMPLE RECEIPT*

The samples arrived intact by Federal Express at Severn Trent Laboratories on 15 July 1999. Upon receipt, the samples were inspected and compared with the chain-of-custody record. The samples were then logged into the laboratory computer system with assigned laboratory accession numbers and released for analysis.

| Client Sample Designation | ST Lab Number |
|---|---|
| TB071499 | 9907170 |
| EB071499 | 9907171 |
| WHGCTA009WG09 | 9907172 |
| WHGCTA010WG09 | 9907173 |
| GMI-22-07MWG09 | 9907174 |
| SD13-07WG09 | 9907175 |
| WHGLTA004WG09 | 9907176 |
| DUP01WG09 | 9907177 |
| MW-53WG09 | 9907178 |
| LF01-1DWG09 | 9907179 |
| EB071399 | 9907180 |

Following this narrative section are a table of analytical methods used (Table 1), glossaries of data qualifiers (Tables 2 and 3), codes associated with manual integration of chromatographic peaks (Table 4), and the chain of custody record. Analytical results and quality control information are summarized in the appended data package which has been formatted to be consistent with the deliverable requirements of this project.

*QUALITY CONTROL*

The following sections are ordered as the data appears in this report. They contain observations made during sample analysis, summarize the results of quality control measurements, and address the impact on data usability based upon project Data Quality Objectives. For each fractional analysis the narrative includes:

- Sample chronology: This section summarizes the sample history by fraction including the sample

preparation method and date, analytical method, and analysis date. Anything unusual about the samples, digestates, or extracts is identified. Holding time compliance is evaluated in this section.

- Laboratory method performance: All quality control criteria for method performance must be met for all target analytes for data to be reported. These criteria generally apply to instrument tune, calibration, method blanks, and Laboratory Control Samples (LCS). In some instances where method criteria fail, useable data can be obtained and are reported with client approval. The narrative will then include a thorough discussion of the impact on data quality.

- Sample performance: Quality control field samples are analyzed to determine any measurement bias due to the sample matrix based on evaluation of matrix spikes (MS), matrix spike duplicates (MSD), and laboratory duplicates (D). If acceptance criteria are not met, matrix interferences are confirmed either by reanalysis or by inspection of the LCS results to verify that laboratory method performance is in control. Data are reported with appropriate qualifiers or discussion.

**VOLATILES by GC/MS - WATER (ST9907170 - ST9907178)**

Sample Chronology: Nine water samples and associated quality control were analyzed on 22 - 28 July 1999 for project specified list of analytes by USEPA SW-846, Methods 5030B/8260B using a 25 mL purging volume. All holding times were met.

Sample WHGLTA009WG09 was reanalyzed at a 10X dilution in order to bring the concentrations of target analytes within calibration range. Sample SD13-07WG09 was reanalyzed at a 2X dilution. Sample MW-53WG09 was reanalyzed at a 5X dilution Sample WHGLTA004WG09 was reanalyzed at a 50X dilution.

The batch MS/MSD, analyzed on 27 July 1999, was performed on another HydroGeologic sample (WHGLTA005WG09). All data associated with these QC analyses have been included in this report. A batch MS/MSD was not analyzed on 28 July 1999 due to insufficient sample volumes. Therefore, a duplicate LCS was analyzed in order to provide precision data.

Laboratory Method Performance: All laboratory method performance criteria were met for the reported samples with the following exceptions;

- the control analyte 1-chlorohexane was not included in the MS/MSD standards analyzed on 22 July 1999. As a result no percent recoveries or percent differences exist for this analyte.

- the daily calibration standard, analyzed on 22 July 1999, had the percent difference for acrolein (-73.8 %) above the QC limit of 50%. However, since the high percent difference was the result in an increase in analyte response and no acrolein was detected in any of the samples, there should be no impact on data usability.

- the daily calibration standard, analyzed on 27 July 1999, had the percent difference for iodomethane (-116.4 %) above the QC limit of 50%. However, since the high percent difference was the result in an increase in analyte response and no iodomethane was detected in any of the samples, there should be no impact on data usability.

- the daily LCS/LCSDUP, analyzed on 28 July 1999, had the recoveries of tetrachloroethene (67%/63%) below the lower QC limit of 71%. However, since the only analysis associated with this LCS/LCSDUP was a reanalysis and no tetrachloroethene was detected in the initial analysis which was performed under a compliant LCS, there should be no impact on data usability.

Sample Performance: All quality control criteria were met for the reported sample with the following exceptions;

- samples SD13-07WG09 and DUP01WG09 had the surrogate recoveries of 1,2-dichloroethane-d4 (145%/150%) above the upper QC limit of 139%. These samples were reanalyzed with the surrogate recoveries of toluene-d8 (44%/50%) below the lower QC limit of 75%. These high/low recoveries may be indicative of a bias.

- the batch MS/MSD, performed on sample ST14-24W09, had the recoveries of tetrachloroethene (69%/70%) below the lower QC limit of 71%.

- the batch MSD, performed on sample WHGLTA004WG09, had the recovery of 1-chlorohexane (74%) slightly below the lower QC limit 75% (the MS recovery was 96%).

- the batch MSD, performed on sample WHGLTA005WG09, had the recoveries for many analytes below their lower QC limits, while all recoveries in the MS were within QC limits. These low recoveries may have been the result of a spiking error.

## EXTRACTABLE TPH by GC - WATER (STL9907171-STL9907173)

Sample Chronology: The samples and associated quality control were extracted on 19 July 1999 by TNRCC Method 1005. The extracts were analyzed on 19-20 July 1999 for the method list of analytes by the same method. All holding times were met.

The batch MS/MSD was performed on sample SPOT35-9WG09 from another STL/Hydrogeologic report. All data associated with these QC samples are included in this report.

Laboratory Method Performance: All laboratory method performance criteria were met for the

reported samples.

Sample Performance: All quality control criteria were met for the reported samples.

**PAHs by HPLC- WATER (STL9907171-STL9907173)**

Sample Chronology: The samples and associated quality control were extracted on 16 July 1999 by USEPA SW-846, Method 3520. The sample extracts and associated QC extracts were analyzed 31 July -01 August 1999 for the project specified list of analytes by USEPA SW-846, Method 8310. All holding times were met.

Laboratory Method Performance: All laboratory method performance criteria were met for the reported samples.

Sample Performance: All sample performance criteria were met for the reported samples.

**METALS - WATER (ST9907175, ST9907177, ST9907179)**

Sample Chronology: Three samples were prepared (SW846 methods 3010/3020/7470M*) on 26 July 1999 - 4 August 1999 and analyzed for TAL metals by SW846 methods 6010/7841/7470M on 28 July 1999 - 5 August 1999.

*modification includes the use of an autoclave in place of a waterbath for digestion.

Laboratory Method Performance: All laboratory method performance criteria were met for the reported samples with the following exceptions:

The selenium continuing calibration blank #2 (5.05 ug/L) was above the reporting limit (5.0 ug/L). However, selenium was not detected in the samples above the reporting limit.

Sample Performance: All quality control criteria were met for the reported samples with the following exceptions:

The recoveries of mercury (65.5%, 69.5%) and potassium (126.4%, 129.5%) were outside of the control limits (80%-120%), indicating a potential for bias to the sample data.

**ANIONS by IC- WATER (STL9907171- STL9907173, STL9907175- STL9907178)**

Sample Chronology: The samples and associated quality control were analyzed on 15 and 16 July 1999 by USEPA Method 9056 for the chloride, nitrate, and sulfate anions. All holding times were met.

**Severn Trent Laboratories**
**ANALYTICAL NARRATIVE**

Client: **HydroGeoLogic, Inc.**
Site: **NAS Ft. Worth**
Project number: **70001.01**

ST Laboratories Report: **990908**
Laboratory Project Manager: **Mary E. Asper**
Report Date: **9 August 1999**

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Sample WHGLTA010WG09 was reanalyzed at a five times (5X) dilution and samples WHGLTA009WG09, SD13-07WG09, WHGLTA004WG09, and DUP01WG09 were reanalyzed at two times (2X) dilutions in order to bring the concentration of target analytes within calibration range.

The batch MS/MSDs analyzed on 15 July and 16 July 1999 were performed on other Hydrogeologic samples, WHGLTA011WG09 and SD13-02WG09 respectively. All data associated with these QC samples are included in this report.

Laboratory Method Performance: All laboratory method performance criteria were met for the reported samples.

Sample Performance· All sample performance criteria were met for the reported samples with the following exceptions:

The batch MS/MSD, performed on sample WHGLTA011WG09 DL, had chloride (128%/ 128%) and nitrate (88%/ 88%) recoveries outside the client specified limits of 91-111% and 90-110%, respectively. The batch MS/MSD, performed on sample SD13-04WG09, had chloride (80%/ 80%), nitrate (82%/ 82%), and sulfate (76%/ 76%) below the client specified limits of 91%, 90%, and 88%, respectively. The LCSs were within limits indicating acceptable method performance.

The relative percent difference between the sample and sample duplicate, performed on sample SD13-04WG09, was outside the client specified limit of 20% at 73%

**GENERAL CHEMISTRY -Water ( STL9907171-STL9907173, STL9907175-STL9907178)**

Sample Chronology: Seven water samples were analyzed according to the following USEPA methods.

| Parameter | Method# | Prep Date | Analysis Date |
|---|---|---|---|
| Alkalinity | 310.1 | NA | 07/28/99 |
| Total Organic Carbon | 9060 | NA | 07/29/99 |
| | | | 08/02/99 |

All holding times were met for the reported samples

Laboratory Method Performance: All laboratory method performance criteria were met for the reported samples

Sample Performance: All quality control criteria were met for the reported samples with the following exceptions:

- The batch matrix spike and matrix spike duplicate for Alkalinity analysis were performed on

sample MW-53WG09, and reported recoveries of (70%/69%) below the lower control limit of 98%. The laboratory control sample was in control therefore the high results were due to the high native concentrations within the sample.

- The batch matrix spike and matrix spike duplicate for TOC analysis were performed on sample SD13-07WG09, and reported recoveries of (89.5%/89.0%) below the lower control limit of 90%. There is no impact on the sample results.

- The laboratory is experiencing a matrix interference for TOC analysis, most probably caused by Sodium in the samples, that causes the continuing calibration verification standards to recover progressively lower over the range of the analysis run. The frequent cleansing of the system with the analysis of blanks does not correct the problem. Upon discussions with the Project Manager, Ken Rapuano, it was decided that since the TOC is considered a screening parameter, the laboratory acceptance limits could be widened to allow the analysis to proceed without seriously affecting the results. Therefore, the CCV acceptance range has been widened from 90-110% to 85-115%, and the Laboratory Control Sample acceptance range has been widened from 96-104% to 90-110%.

## CERTIFICATION OF RESULTS

The Laboratory certifies that this report meets the project requirements for analytical data as stated in the Analytical Task Order (ATO) and the chain-of-custody. In addition, the Laboratory certifies that the data as reported meet the Data Quality Objectives for precision, accuracy, and completeness specified for this project or as stated in Severn Trent Laboratories Quality Assurance program for other than the conditions detailed above It is recommended by the Laboratory that this analytical report should only be reproduced in its entirety Severn Trent Laboratories is not responsible for any assumptions of data quality if partial packages are used to interpret data. Release of the data contained in this report has been authorized by the appropriate Laboratory Manager as verified by the following signature.

Mary E. Asper August 9, 1999
Mary E. Asper, Laboratory Project Manager

643 437

2. CHAIN-OF-CUSTODY

STL
Committed To Your Success

**Chicago Laboratory**
2417 Bond Street
University Park, IL 60466
Phone: 708-534-5200
Fax 708-534-5211

990908

Contact: Lynn Morgan
Company: HydroGeologic
Address: 1155 Herndon Pkwy
900 Ste Herndon VA 20170
Phone: (703) 478-5186
Fax: (703) 471-4180
E-Mail:

Contact: Same
Company:
Address:
Phone:
Fax:
PO#: Quote:

**Lab Lot**

Package Seal: Yes No
Samples Se: Yes No
Received on Ice: Yes No
Samples Int: Yes No
Temperature 4 °C of Cooler
Within Hold Time: Yes No
Preserv. In: Yes No
pH Check ok: Yes No NA
Res. $Cl_2$ Ch: Yes No
Sample Labels and COC Agree: Yes No COC not pres

Sampler Name: N. Hade
Signature:
Project Name: July Quarterly
Project Number: AFCC001-26HAA
Project Location: NAS Fort Worth JRB
Date Required: Hard Copy ___/___/___ Fax ___/___/___
Lab PM: MARY ASPER

| Laboratory ID | MS-MSD | Client Sample ID | Sampling Date | Sampling Time | Matrix | Comp/Grab | Alkalinity 310.1 Anions 300.0 | TOC 9060 | Methane, Ethane, Ethene | VOCs 8260 | BTEX, MTBE 8260 | TPH TX 1005 | PAHs 8310 | Metals + Mercury 6010/7470 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Refrg # | | | | | | | | | | | | | | | | |
| #/Cont. | | | | | | | 1 | 1 | 2 | 2 | 2 | 2 | 4 | 1 | | |
| Volume | | | | | | | 1L | 250ml | 40ml | 40ml | 40ml | 40ml | 1L | 1L | | |
| Preserv | | | | | | | 7 | 2 | 1 | 1 | 1 | 1 | 7 | 3 | | |
| 9907170 | | TB071499 | 7-14-99 | 7:35 | W | G | | | 2 | 2 | | | | | | |
| 9907171 | | EB071499 | | 1500 | W | G | 1 | 1 | 3 | | 3 | 3 | 1 | | | |
| 9907172 | | WHGLTAC09W609 | | 1000 | W | G | 1 | 1 | 3 | 3 | | 3 | 1 | | | |
| 9907173 | | WHGLTAC01W609 | | 1205 | W | G | 1 | 1 | 3 | | 3 | 3 | 1 | | | |
| 9907174 | | GMI-22-07MW609 | | 1423 | W | G | | | | 3 | | | | | | |
| 9907175 | | SD13-07MW611 | | 1410 | W | G | 1 | 1 | 3 | 3 | | | | 1 | | |
| 9907176 | | WHGLTAC04W609 | | 935 | W | G | 1 | 1 | 3 | 3 | | | | | | |
| 9907177 | | DUP01W609 | | 1200 | W | G | 1 | 1 | 3 | 3 | | | | 1 | | |
| 9907178 | | MW-53W609 | | 1040 | W | G | 1 | 1 | 3 | 3 | | | | | | |
| 9907179 | | LF01-1DW609 | | 1215 | W | G | | | | | | | | 1 | | |
| 9907180 | | EB071399 | 7-13-99 | 1630 | W | G | | | 3 | | | | | | | |

Additional Analyses / Rem:
VOA16/B7
STL-PS-145
Level 4D plus Sum
Package TRANS3
EDD
Due 8/12/99
COC#005516
L1634

| RELINQUISHED BY | COMPANY | DATE | TIME | RECEIVED BY | COMPANY | DATE | TIME |
|---|---|---|---|---|---|---|---|
| Nicole Hade | HydroGeologic | 7-14-99 | 1615 | Emilio Williams | | 7/15/99 | 100 |
| RELINQUISHED BY | COMPANY | DATE | TIME | RECEIVED BY | COMPANY | DATE | TIME |

**Matrix Key**
WW = Wastewater
W = Water
S = Soil
SL = Sludge
MS = Miscellaneous
OL = Oil
A = Air
SE = Sediment
SO = Solid
DS = Drum Solid
DL = Drum Liquid
L = Leachate
WI = Wipe
O = ____

**Container Key**
1 Plastic
2 VOA Vial
3 Sterile Plastic
4 Amber Glass
5 Widemouth Glass
6 Other ____

**Preservative Key**
1 HCl, Cool to 4°
2 H2SO4 Cool to 4°
3 HNO3, Cool to 4°
4 NaOH, Cool to 4°
5 NaOH/Zn Acetate, Cool to 4°
6 Cool to 4°
7 None

COMMENTS:

Date Received 7/15
Courier: FedEx
Hand Del
Bill of Lading 5085189 1
5085189 1

STL Chicago Chain of Custody CHI

643 438

1B

# SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

EB071499

Lab Name: STL-Baltimore Contract: HYDROGE

Lab Code: Case No.: 990908 SAS No.: SDG No.:

Matrix: (soil/water) WATER Lab Sample ID. 9907171

Sample wt/vol: 30 (g/ml) ML Lab File ID: SW3Z994F.D

Level: (low/med) LOW Date Received: 07/15/99

% Moisture: decanted:(Y/N) N Date Extracted: 07/19/99

Concentrated Extract Volume. 3000 (uL) Date Analyzed: 07/20/99

Injection Volume: 1.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH:

613 139

CONCENTRATION UNITS:

| CAS NO. | COMPOUND | (ug/L or ug/Kg) UG/L | Q |
|---|---|---|---|
| | C6-C10 | 2500 | U |
| | C10-C28 | 2500 | U |
| | C6-C28 | 5000 | U |

030007

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

WHGLTA009WG04

643 440

Lab Name STL-Baltimore Contract: HYDROGE

Lab Code. Case No.: 990908 SAS No.: SDG No.:

Matrix: (soil/water) WATER Lab Sample ID: 9907172

Sample wt/vol: 30 (g/ml) ML Lab File ID: SW3Z995F.D

Level: (low/med) LOW Date Received: 07/15/99

% Moisture: decanted:(Y/N) N Date Extracted: 07/19/99

Concentrated Extract Volume: 3000 (uL) Date Analyzed: 07/20/99

Injection Volume: 1 0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH:

| CAS NO. | COMPOUND | CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L | Q |
|---|---|---|---|
| | C6-C10 | 2500 | U |
| | C10-C28 | 2500 | U |
| | C6-C28 | 5000 | U |

643 441

# SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

HGLTA010WG0 9

Lab Name: STL-Baltimore Contract HYDROGE

Lab Code: Case No.: 990908 SAS No.: SDG No.:

Matrix: (soil/water) WATER Lab Sample ID. 9907173

Sample wt/vol: 30 (g/ml) ML Lab File ID: SW3Z996F.D

Level: (low/med) LOW Date Received: 07/15/99

% Moisture: decanted:(Y/N) N Date Extracted: 07/19/99

Concentrated Extract Volume: 3000 (uL) Date Analyzed: 07/20/99

Injection Volume: 1.0 (uL) Dilution Factor: 1.0

GPC Cleanup. (Y/N) N pH:

| CAS NO. | COMPOUND | CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L | Q |
|---|---|---|---|
| | C6-C10 | 2500 | U |
| | C10-C28 | 2500 | U |
| | C6-C28 | 5000 | U |

030013

SEMIVOLATILE ORGANICS ANALYSIS DATA

TB907191

Lab Name: STL-Baltimore Contract: HYDROGE

Lab Code: Case No.: 990908 SAS No.: SDG No.:

643 442

Matrix: (soil/water) WATER Lab Sample ID: TB907191

Sample wt/vol. 30 (g/ml) ML Lab File ID: SW3Z987F.D

Level: (low/med) LOW Date Received: 07/15/99

% Moisture: decanted:(Y/N) N Date Extracted: 07/19/99

Concentrated Extract Volume: 3000 (uL) Date Analyzed: 07/19/99

Injection Volume: 1.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH.

CONCENTRATION UNITS:

| CAS NO. | COMPOUND | (ug/L or ug/Kg) UG/L | Q |
|---|---|---|---|
| | C6-C10 | 2500 | U |
| | C10-C28 | 2500 | U |
| | C6-C28 | 5000 | U |

030069

643 443 SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

TL907191

Lab Name: STL-Baltimore Contract: HYDROGE

Lab Code: Case No.: 990908 SAS No.: SDG No.:

Matrix. (soil/water) WATER Lab Sample ID: TL907191

Sample wt/vol: 30 (g/ml) ML Lab File ID: SW3Z988F.D

Level: (low/med) LOW Date Received: 07/15/99

% Moisture: decanted:(Y/N) N Date Extracted: 07/19/99

Concentrated Extract Volume: 3000 (uL) Date Analyzed: 07/19/99

Injection Volume: 1.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH:

CONCENTRATION UNITS:

| CAS NO. | COMPOUND | (ug/L or ug/Kg) UG/L | Q |
|---|---|---|---|
| | C6-C10 | 30000 | |
| | C10-C28 | 32000 | |
| | C6-C28 | 65000 | |

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

SPOT35-9WG09

643 444

Lab Name: STL-Baltimore Contract: HYDROGE

Lab Code: Case No.: 990908 SAS No.: SDG No.:

Matrix. (soil/water) WATER Lab Sample ID: 9907277

Sample wt/vol: 30 (g/ml) ML Lab File ID: SW4A005F.D

Level (low/med) LOW Date Received: 07/15/99

% Moisture: decanted:(Y/N) N Date Extracted: 07/19/99

Concentrated Extract Volume: 3000 (uL) Date Analyzed: 07/20/99

Injection Volume: 1.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH:

| CAS NO. | COMPOUND | CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L | Q |
|---|---|---|---|
| | C6-C10 | 2500 | U |
| | C10-C28 | 2500 | U |
| | C6-C28 | 5000 | U |

030076

643 445

# SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

POT35-9WG09M

Lab Name: STL-Baltimore Contract: HYDROGE

Lab Code: Case No.: 990908 SAS No.: SDG No.:

Matrix (soil/water) WATER Lab Sample ID: 9907277MS

Sample wt/vol: 30 (g/ml) ML Lab File ID: SW4A006F.D

Level: (low/med) LOW Date Received: 07/15/99

% Moisture: decanted:(Y/N) N Date Extracted: 07/19/99

Concentrated Extract Volume. 3000 (uL) Date Analyzed: 07/20/99

Injection Volume: 1.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH:

CONCENTRATION UNITS:

| CAS NO. | COMPOUND | (ug/L or ug/Kg) UG/L | Q |
|---|---|---|---|
| | C6-C10 | 31000 | |
| | C10-C28 | 31000 | |
| | C6-C28 | 61000 | |

030079

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

Lab Name: STL-Baltimore Contract: HYDROGE SP OT35-9WG09MSD

Lab Code: Case No.: 990908 SAS No.: SDG No.:

643 446

Matrix: (soil/water) WATER Lab Sample ID: 9907277MSD

Sample wt/vol: 30 (g/ml) ML Lab File ID: SW4A007F.D

Level: (low/med) LOW Date Received: 07/15/99

% Moisture: decanted:(Y/N) N Date Extracted: 07/19/99

Concentrated Extract Volume. 3000 (uL) Date Analyzed: 07/20/99

Injection Volume: 1.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH:

CONCENTRATION UNITS:

| CAS NO. | COMPOUND | (ug/L or ug/Kg) UG/L | Q |
|---|---|---|---|
| | C6-C10 | 32000 | |
| | C10-C28 | 32000 | |
| | C6-C28 | 65000 | |

030083

643 447

TB071499

Lab Name: ST LABORATORIES Contract: 990908

Lab Code: ST LABS Case No.: SAS No.: SDG No..

Matrix: (soil/water) WATER Lab Sample ID: #9907170

Sample wt/vol: 25.0 (g/mL) ML Lab File ID: VH8C1505.D

Level: (low/med) Date Received: 7/15/99

% Moisture: not dec. 0 Date Analyzed: 7/22/99

GC Column: RTX 502.2 ID: 0.53 (mm) Dilution Factor: 1.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

| CAS No. | Compound | Concentration Units: (ug/L or ug/Kg) ug/L | Q |
|---|---|---|---|
| 75-71-8 | Dichlorodifluoromethane | 1 | U |
| 74-87-3 | Chloromethane | 1 | U |
| 75-01-4 | Vinyl Chloride | 1 | U |
| 74-83-9 | Bromomethane | 1 | U |
| 75-00-3 | Chloroethane | 1 | U |
| 75-69-4 | Trichlorofluoromethane | 1 | U |
| 75-35-4 | 1,1-Dichloroethene | 1 | U |
| 75-09-2 | Methylene Chloride | 1 | U |
| 156-60-5 | trans-1,2-Dichloroethene | 1 | U |
| 75-34-3 | 1,1-Dichloroethane | 1 | U |
| 594-20-7 | 2,2-Dichloropropane | 4 | U |
| 156-59-2 | cis-1,2-Dichloroethene | 1 | U |
| 67-66-3 | Chloroform | 1 | U |
| 74-97-5 | Bromochloromethane | 1 | U |
| 71-55-6 | 1,1,1-Trichloroethane | 1 | U |
| 563-58-6 | 1,1-Dichloropropene | 1 | U |
| 56-23-5 | Carbon Tetrachloride | 2 | U |
| 107-06-2 | 1,2-Dichloroethane | 1 | U |
| 71-43-2 | Benzene | 1 | U |
| 79-01-6 | Trichloroethene | 1 | U |
| 78-87-5 | 1,2-Dichloropropane | 1 | U |
| 75-27-4 | Bromodichloromethane | 1 | U |
| 74-95-3 | Dibromomethane | 2 | U |
| 108-88-3 | Toluene | 1 | U |
| 79-00-5 | 1,1,2-Trichloroethane | 1 | U |
| 106-93-4 | 1,2-Dibromoethane (EDB) | 1 | U |
| 142-28-9 | 1,3-Dichloropropane | 1 | U |
| 127-18-4 | Tetrachloroethene | 1 | U |
| 124-48-1 | Chlorodibromomethane | 1 | U |
| 108-90-7 | Chlorobenzene | 1 | U |
| 630-20-6 | 1,1,1,2-Tetrachloroethane | 1 | U |
| 100-41-4 | Ethylbenzene | 1 | U |
| 106-42-3 | m&p Xylenes | 1 | U |

Lab Name: ST LABORATORIES Contract: 990908

Lab Code: ST LABS Case No.: SAS No.: SDG No.:

Matrix: (soil/water) WATER Lab Sample ID: #9907170 643 448

Sample wt/vol: 25.0 (g/mL) ML Lab File ID: VH8C1505.D

Level: (low/med) Date Received: 7/15/99

% Moisture: not dec. 0 Date Analyzed: 7/22/99

GC Column: RTX 502.2 ID: 0.53 (mm) Dilution Factor: 1.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

| CAS No. | Compound | Concentration Units: (ug/L or ug/Kg) ug/L | Q |
|---|---|---|---|
| 95-47-6 | o-Xylene | 1 | U |
| 100-42-5 | Styrene | 1 | U |
| 75-25-2 | Bromoform | 1 | U |
| 98-82-8 | Isopropylbenzene | 1 | U |
| 79-34-5 | 1,1,2,2-Tetrachloroethane | 1 | U |
| 96-18-4 | 1,2,3-Trichloropropane | 3 | U |
| 103-65-1 | n-Propylbenzene | 1 | U |
| 108-86-1 | Bromobenzene | 1 | U |
| 108-67-8 | 1,3,5-Trimethylbenzene | 1 | U |
| 95-49-8 | 2-Chlorotoluene | 1 | U |
| 106-43-4 | 4-Chlorotoluene | 1 | U |
| 98-06-6 | tert-Butylbenzene | 1 | U |
| 95-63-6 | 1,2,4-Trimethylbenzene | 1 | U |
| 135-98-8 | sec-Butylbenzene | 1 | U |
| 99-87-6 | p-Isopropyltoluene | 1 | U |
| 541-73-1 | 1,3-Dichlorobenzene | 1 | U |
| 106-46-7 | 1,4-Dichlorobenzene | 1 | U |
| 104-51-8 | n-Butylbenzene | 1 | U |
| 95-50-1 | 1,2-Dichlorobenzene | 1 | U |
| 96-12-8 | 1,2-Dibromo-3-chloropropane | 3 | U |
| 120-82-1 | 1,2,4-Trichlorobenzene | 1 | U |
| 87-68-3 | Hexachlorobutadiene | 1 | U |
| 91-20-3 | Naphthalene | 2 | U |
| 00544-10-5 | 1-Chlorohexane | 1 | U |
| 10061-01-5 | cis-1,3-Dichloropropene | 1 | U |
| 10061-02-6 | trans-1,3-Dichloropropene | 1 | U |
| 75-05-8 | Acetonitrile | 100 | U |
| 67-64-1 | Acetone | 20 | U |
| 107-02-8 | Acrolein | 100 | U |
| 107-13-1 | Acrylonitrile | 100 | U |
| 107-05-1 | Allyl Chloride | 10 | U |
| 78-93-3 | 2-Butanone | 20 | U |
| 75-15-0 | Carbon Disulfide | 5 | U |

643 449

TB071499

Lab Name: ST LABORATORIES Contract: 990908

Lab Code: ST LABS Case No.: SAS No.: SDG No.:

Matrix: (soil/water) WATER Lab Sample ID: #9907170

Sample wt/vol: 25.0 (g/mL) ML Lab File ID: VH8C1505.D

Level: (low/med) Date Received: 7/15/99

% Moisture: not dec. 0 Date Analyzed: 7/22/99

GC Column: RTX 502.2 ID: 0.53 (mm) Dilution Factor: 1.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

| CAS No. | Compound | Concentration Units: (ug/L or ug/Kg) ug/L | Q |
|---|---|---|---|
| 126-99-8 | Chloroprene | 10 | U |
| 110-57-6 | trans-1,4-Dichloro-2-butene | 25 | U |
| 97-63-2 | Ethyl methacrylate | 5 | U |
| 591-78-6 | 2-Hexanone | 20 | U |
| 78-83-1 | Isobuytl Alcohol | 200 | U |
| 126-98-7 | Methacrylonitrile | 100 | U |
| 74-88-4 | Idomethane | 5 | U |
| 80-62-6 | Methyl methacrylate | 5 | U |
| 108-10-1 | 4-Methyl-2-Pentanone | 20 | U |
| 107-12-0 | Propionitrile | 100 | U |
| 108-05-4 | Vinyl acetate | 10 | U |
| 87-61-6 | 1,2,3-Trichlorobenzene | 2 | U |

EB071499

Lab Name: ST LABORATORIES Contract: 990908

Lab Code: ST LABS Case No.: SAS No.: SDG No.:

Matrix: (soil/water) WATER Lab Sample ID: #9907171 643 450

Sample wt/vol: 25.0 (g/mL) ML Lab File ID: VH8C1506.D

Level: (low/med) Date Received: 7/15/99

% Moisture: not dec. 0 Date Analyzed: 7/23/99

GC Column: RTX 502.2 ID: 0.53 (mm) Dilution Factor: 1.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

| CAS No. | Compound | Concentration Units: (ug/L or ug/Kg) ug/L | Q |
|---|---|---|---|
| 71-43-2 | Benzene | 1 | U |
| 108-88-3 | Toluene | 1 | U |
| 100-41-4 | Ethylbenzene | 1 | U |
| | m&p Xylenes | 1 | U |
| 95-47-6 | o-Xylene | 1 | U |

FORM I VOA 3/90

643 451

WHGLTA009WG09

Lab Name: ST LABORATORIES Contract: 990908

Lab Code: ST LABS Case No.: SAS No.: SDG No.:

Matrix: (soil/water) WATER Lab Sample ID: #9907172

Sample wt/vol: 25.0 (g/mL) ML Lab File ID: VH8C1507.D

Level: (low/med) Date Received: 7/15/99

% Moisture: not dec. 0 Date Analyzed: 7/23/99

GC Column: RTX 502.2 ID: 0.53 (mm) Dilution Factor: 1.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

Concentration Units: (ug/L or ug/Kg) ug/L

| CAS No. | Compound | | Q |
|---|---|---|---|
| 75-71-8 | Dichlorodifluoromethane | 1 | U |
| 74-87-3 | Chloromethane | 1 | U |
| 75-01-4 | Vinyl Chloride | 1 | U |
| 74-83-9 | Bromomethane | 1 | U |
| 75-00-3 | Chloroethane | 1 | U |
| 75-69-4 | Trichlorofluoromethane | 1 | U |
| 75-35-4 | 1,1-Dichloroethene | 1 | U |
| 75-09-2 | Methylene Chloride | 1 | U |
| 156-60-5 | trans-1,2-Dichloroethene | 1 | |
| 75-34-3 | 1,1-Dichloroethane | 1 | U |
| 594-20-7 | 2,2-Dichloropropane | 4 | U |
| 156-59-2 | cis-1,2-Dichloroethene | 58 | E |
| 67-66-3 | Chloroform | 1 | U |
| 74-97-5 | Bromochloromethane | 1 | U |
| 71-55-6 | 1,1,1-Trichloroethane | 1 | U |
| 563-58-6 | 1,1-Dichloropropene | 1 | U |
| 56-23-5 | Carbon Tetrachloride | 2 | U |
| 107-06-2 | 1,2-Dichloroethane | 1 | U |
| 71-43-2 | Benzene | 1 | U |
| 79-01-6 | Trichloroethene | 110 | E |
| 78-87-5 | 1,2-Dichloropropane | 1 | U |
| 75-27-4 | Bromodichloromethane | 1 | U |
| 74-95-3 | Dibromomethane | 2 | U |
| 108-88-3 | Toluene | 1 | U |
| 79-00-5 | 1,1,2-Trichloroethane | 1 | U |
| 106-93-4 | 1,2-Dibromoethane (EDB) | 1 | U |
| 142-28-9 | 1,3-Dichloropropane | 1 | U |
| 127-18-4 | Tetrachloroethene | 1 | U |
| 124-48-1 | Chlorodibromomethane | 1 | U |
| 108-90-7 | Chlorobenzene | 1 | U |
| 630-20-6 | 1,1,1,2-Tetrachloroethane | 1 | U |
| 100-41-4 | Ethylbenzene | 1 | U |
| 106-42-3 | m&p Xylenes | 1 | U |

Lab Name: ST LABORATORIES Contract: 990908

Lab Code: ST LABS Case No.: SAS No.: SDG No.:

Matrix: (soil/water) WATER Lab Sample ID: #9907172 643 452

Sample wt/vol: 25.0 (g/mL) ML Lab File ID: VH8C1507.D

Level: (low/med) Date Received: 7/15/99

% Moisture: not dec. 0 Date Analyzed: 7/23/99

GC Column: RTX 502.2 ID: 0.53 (mm) Dilution Factor: 1.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

Concentration Units: (ug/L or ug/Kg) ug/L

| CAS No. | Compound | | Q |
|---|---|---|---|
| 95-47-6 | o-Xylene | 1 | U |
| 100-42-5 | Styrene | 1 | U |
| 75-25-2 | Bromoform | 1 | U |
| 98-82-8 | Isopropylbenzene | 1 | U |
| 79-34-5 | 1,1,2,2-Tetrachloroethane | 1 | U |
| 96-18-4 | 1,2,3-Trichloropropane | 3 | U |
| 103-65-1 | n-Propylbenzene | 1 | U |
| 108-86-1 | Bromobenzene | 1 | U |
| 108-67-8 | 1,3,5-Trimethylbenzene | 1 | U |
| 95-49-8 | 2-Chlorotoluene | 1 | U |
| 106-43-4 | 4-Chlorotoluene | 1 | U |
| 98-06-6 | tert-Butylbenzene | 1 | U |
| 95-63-6 | 1,2,4-Trimethylbenzene | 1 | U |
| 135-98-8 | sec-Butylbenzene | 1 | J |
| 99-87-6 | p-Isopropyltoluene | 1 | U |
| 541-73-1 | 1,3-Dichlorobenzene | 1 | U |
| 106-46-7 | 1,4-Dichlorobenzene | 1 | U |
| 104-51-8 | n-Butylbenzene | 1 | U |
| 95-50-1 | 1,2-Dichlorobenzene | 1 | U |
| 96-12-8 | 1,2-Dibromo-3-chloropropane | 3 | U |
| 120-82-1 | 1,2,4-Trichlorobenzene | 1 | U |
| 87-68-3 | Hexachlorobutadiene | 1 | U |
| 91-20-3 | Naphthalene | 2 | U |
| 00544-10-5 | 1-Chlorohexane | 1 | U |
| 10061-01-5 | cis-1,3-Dichloropropene | 1 | U |
| 10061-02-6 | trans-1,3-Dichloropropene | 1 | U |
| 75-05-8 | Acetonitrile | 100 | U |
| 67-64-1 | Acetone | 20 | U |
| 107-02-8 | Acrolein | 100 | U |
| 107-13-1 | Acrylonitrile | 100 | U |
| 107-05-1 | Allyl Chloride | 10 | U |
| 78-93-3 | 2-Butanone | 20 | U |
| 75-15-0 | Carbon Disulfide | 5 | U |

643 453

WHGLTA009WG09

Lab Name: ST LABORATORIES Contract: 990908

Lab Code: ST LABS Case No.: SAS No.: SDG No.:

Matrix: (soil/water) WATER Lab Sample ID: #9907172

Sample wt/vol: 25.0 (g/mL) ML Lab File ID: VH8C1507.D

Level: (low/med) Date Received: 7/15/99

% Moisture: not dec. 0 Date Analyzed: 7/23/99

GC Column: RTX 502.2 ID: 0.53 (mm) Dilution Factor: 1.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

| CAS No. | Compound | Concentration Units: (ug/L or ug/Kg) ug/L | Q |
|---|---|---|---|
| 126-99-8 | Chloroprene | 10 | U |
| 110-57-6 | trans-1,4-Dichloro-2-butene | 25 | U |
| 97-63-2 | Ethyl methacrylate | 5 | U |
| 591-78-6 | 2-Hexanone | 20 | U |
| 78-83-1 | Isobuytl Alcohol | 200 | U |
| 126-98-7 | Methacrylonitrile | 100 | U |
| 74-88-4 | Idomethane | 5 | U |
| 80-62-6 | Methyl methacrylate | 5 | U |
| 108-10-1 | 4-Methyl-2-Pentanone | 20 | U |
| 107-12-0 | Propionitrile | 100 | U |
| 108-05-4 | Vinyl acetate | 10 | U |
| 87-61-6 | 1,2,3-Trichlorobenzene | 2 | U |

Lab Name: ST LABORATORIES Contract: 990908

Lab Code: ST LABS Case No.: SAS No.: SDG No.:

Matrix: (soil/water) WATER Lab Sample ID: #9907172DL 613 454

Sample wt/vol: 25.0 (g/mL) ML Lab File ID: VH8C1573.D

Level: (low/med) Date Received: 7/15/99

% Moisture: not dec. 0 Date Analyzed: 7/27/99

GC Column: RTX 502.2 ID: 0.53 (mm) Dilution Factor: 10.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

| CAS No. | Compound | Concentration Units: (ug/L or ug/Kg) ug/L | Q |
|---|---|---|---|
| 75-71-8 | Dichlorodifluoromethane | 10 | U |
| 74-87-3 | Chloromethane | 13 | U |
| 75-01-4 | Vinyl Chloride | 11 | U |
| 74-83-9 | Bromomethane | 11 | U |
| 75-00-3 | Chloroethane | 10 | U |
| 75-69-4 | Trichlorofluoromethane | 10 | U |
| 75-35-4 | 1,1-Dichloroethene | 12 | U |
| 75-09-2 | Methylene Chloride | 10 | U |
| 156-60-5 | trans-1,2-Dichloroethene | 10 | U |
| 75-34-3 | 1,1-Dichloroethane | 10 | U |
| 594-20-7 | 2,2-Dichloropropane | 35 | U |
| 156-59-2 | cis-1,2-Dichloroethene | 86 | D |
| 67-66-3 | Chloroform | 10 | U |
| 74-97-5 | Bromochloromethane | 10 | U |
| 71-55-6 | 1,1,1-Trichloroethane | 10 | U |
| 563-58-6 | 1,1-Dichloropropene | 10 | U |
| 56-23-5 | Carbon Tetrachloride | 21 | U |
| 107-06-2 | 1,2-Dichloroethane | 10 | U |
| 71-43-2 | Benzene | 10 | U |
| 79-01-6 | Trichloroethene | 190 | D |
| 78-87-5 | 1,2-Dichloropropane | 10 | U |
| 75-27-4 | Bromodichloromethane | 10 | U |
| 74-95-3 | Dibromomethane | 24 | U |
| 108-88-3 | Toluene | 11 | U |
| 79-00-5 | 1,1,2-Trichloroethane | 10 | U |
| 106-93-4 | 1,2-Dibromoethane (EDB) | 10 | U |
| 142-28-9 | 1,3-Dichloropropane | 10 | U |
| 127-18-4 | Tetrachloroethene | 14 | U |
| 124-48-1 | Chlorodibromomethane | 10 | U |
| 108-90-7 | Chlorobenzene | 10 | U |
| 630-20-6 | 1,1,1,2-Tetrachloroethane | 10 | U |
| 100-41-4 | Ethylbenzene | 10 | U |
| 106-42-3 | m&p Xylenes | 13 | U |

643 455

Lab Name: ST LABORATORIES Contract: 990908

Lab Code: ST LABS Case No.: SAS No.: SDG No.:

Matrix: (soil/water) WATER Lab Sample ID: #9907172DL

Sample wt/vol: 25.0 (g/mL) ML Lab File ID: VH8C1573.D

Level: (low/med) Date Received: 7/15/99

% Moisture: not dec. 0 Date Analyzed: 7/27/99

GC Column: RTX 502.2 ID: 0.53 (mm) Dilution Factor: 10.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

| CAS No. | Compound | Concentration Units: (ug/L or ug/Kg) ug/L | Q |
|---|---|---|---|
| 95-47-6 | o-Xylene | 11 | U |
| 100-42-5 | Styrene | 10 | U |
| 75-25-2 | Bromoform | 12 | U |
| 98-82-8 | Isopropylbenzene | 10 | U |
| 79-34-5 | 1,1,2,2-Tetrachloroethane | 10 | U |
| 96-18-4 | 1,2,3-Trichloropropane | 32 | U |
| 103-65-1 | n-Propylbenzene | 10 | U |
| 108-86-1 | Bromobenzene | 10 | U |
| 108-67-8 | 1,3,5-Trimethylbenzene | 10 | U |
| 95-49-8 | 2-Chlorotoluene | 10 | U |
| 106-43-4 | 4-Chlorotoluene | 10 | U |
| 98-06-6 | tert-Butylbenzene | 14 | U |
| 95-63-6 | 1,2,4-Trimethylbenzene | 13 | U |
| 135-98-8 | sec-Butylbenzene | 13 | U |
| 99-87-6 | p-Isopropyltoluene | 12 | U |
| 541-73-1 | 1,3-Dichlorobenzene | 12 | U |
| 106-46-7 | 1,4-Dichlorobenzene | 10 | U |
| 104-51-8 | n-Butylbenzene | 11 | U |
| 95-50-1 | 1,2-Dichlorobenzene | 10 | U |
| 96-12-8 | 1,2-Dibromo-3-chloropropane | 26 | U |
| 120-82-1 | 1,2,4-Trichlorobenzene | 10 | U |
| 87-68-3 | Hexachlorobutadiene | 11 | U |
| 91-20-3 | Naphthalene | 20 | U |
| 00544-10-5 | 1-Chlorohexane | 10 | U |
| 10061-01-5 | cis-1,3-Dichloropropene | 10 | U |
| 10061-02-6 | trans-1,3-Dichloropropene | 10 | U |
| 75-05-8 | Acetonitrile | 1000 | U |
| 67-64-1 | Acetone | 31 | JBD |
| 107-02-8 | Acrolein | 1000 | U |
| 107-13-1 | Acrylonitrile | 1000 | U |
| 107-05-1 | Allyl Chloride | 100 | U |
| 78-93-3 | 2-Butanone | 200 | U |
| 75-15-0 | Carbon Disulfide | 50 | U |

Lab Name: ST LABORATORIES Contract: 990908 WHGLTA009WG09DL

Lab Code. ST LABS Case No.: SAS No.: SDG No.:

Matrix: (soil/water) WATER Lab Sample ID: #9907172DL 643 456

Sample wt/vol: 25.0 (g/mL) ML Lab File ID: VH8C1573.D

Level: (low/med) Date Received: 7/15/99

% Moisture: not dec. 0 Date Analyzed: 7/27/99

GC Column: RTX 502.2 ID: 0.53 (mm) Dilution Factor: 10.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

Concentration Units: (ug/L or ug/Kg) ug/L

| CAS No. | Compound | | Q |
|---|---|---|---|
| 126-99-8 | Chloroprene | 100 | U |
| 110-57-6 | trans-1,4-Dichloro-2-butene | 250 | U |
| 97-63-2 | Ethyl methacrylate | 50 | U |
| 591-78-6 | 2-Hexanone | 200 | U |
| 78-83-1 | Isobuytl Alcohol | 2000 | U |
| 126-98-7 | Methacrylonitrile | 1000 | U |
| 74-88-4 | Idomethane | 50 | U |
| 80-62-6 | Methyl methacrylate | 50 | U |
| 108-10-1 | 4-Methyl-2-Pentanone | 200 | U |
| 107-12-0 | Propionitrile | 1000 | U |
| 108-05-4 | Vinyl acetate | 100 | U |
| 87-61-6 | 1,2,3-Trichlorobenzene | 20 | U |

643 457

WHGLTA010WG09

Lab Name: ST LABORATORIES Contract: 990908

Lab Code: ST LABS Case No.: SAS No.: SDG No.:

Matrix (soil/water) WATER Lab Sample ID: #9907173

Sample wt/vol: 25.0 (g/mL) ML Lab File ID: VH8C1508.D

Level: (low/med) Date Received: 7/15/99

% Moisture: not dec. 0 Date Analyzed: 7/23/99

GC Column: RTX 502.2 ID: 0.53 (mm) Dilution Factor: 1.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

Concentration Units: (ug/L or ug/Kg) ug/L

| CAS No. | Compound | | Q |
|---|---|---|---|
| 71-43-2 | Benzene | 0.9 | J |
| 108-88-3 | Toluene | 1 | U |
| 100-41-4 | Ethylbenzene | 1 | U |
| | m&p Xylenes | 1 | U |
| 95-47-6 | o-Xylene | 1 | U |

FORM I VOA 3/90

1D
PESTICIDE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

EB071499

643 458

Lab Name: STL BALTIMORE Contract: HYDROGE

Lab Code: STLB Case No.: 990908 SAS No.: SDG No.: 9907170

Matrix: (soil/water) WATER Lab Sample ID: 9907171

Sample wt/vol: 1000 (g/ml) ML Lab File ID: LA1R887F.D

% Moisture: decanted:(Y/N) N Date Received: 07/15/99

Extraction: (SepF/Cont/Sonc) Date Extracted: 07/16/99

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 07/31/99

Injection Volume: 1.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: Sulfur Cleanup: (Y/N) N

| CAS NO. | COMPOUND | CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L | Q |
|---|---|---|---|
| 91-20-3 | NAPHTHALENE | 18 | U |
| 208-96-8 | ACENAPHTHYLENE | 23 | U |
| 83-32-9 | ACENAPHTHENE | 18 | U |
| 86-73-7 | FLUORENE | 2.1 | U |
| 85-01-8 | PHENANTHRENE | 6.4 | U |
| 120-12-7 | ANTHRACENE | 6.6 | U |
| 206-44-0 | FLUORANTHENE | 2.1 | U |
| 129-00-0 | PYRENE | 2.7 | U |
| 56-55-3 | BENZO[a]ANTHRACENE | 0.13 | U |
| 218-01-9 | CHRYSENE | 1.5 | U |
| 205-99-2 | BENZO[b]FLUORANTHENE | 0.18 | U |
| 207-08-9 | BENZO[k]FLUORANTHENE | 0.17 | U |
| 50-32-8 | BENZO[a]PYRENE | 0.23 | U |
| 53-70-3 | DIBENZO[a,h]ANTHRACENE | 0.30 | U |
| 191-24-2 | BENZO[g,h,i]PERYLENE | 0.76 | U |
| 193-39-5 | INDENO[1,2,3-cd]PYRENE | 0.43 | U |

1D

# PESTICIDE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

A009WG09

Lab Name: STL BALTIMORE Contract: HYDROGE

Lab Code: STLB Case No.: 990908 SAS No.: _____ SDG No.: 9907170

Matrix: (soil/water) WATER Lab Sample ID: 9907172

Sample wt/vol: 1000 (g/ml) ML Lab File ID: LA1R891F.D

% Moisture: _____ decanted:(Y/N) N Date Received: 07/15/99

Extraction: (SepF/Cont/Sonc) _____ Date Extracted: 07/16/99

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 08/01/99

Injection Volume: 1.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: _____ Sulfur Cleanup: (Y/N) N

CONCENTRATION UNITS:

| CAS NO. | COMPOUND | (ug/L or ug/Kg) UG/L | Q |
|---|---|---|---|
| 91-20-3 | NAPHTHALENE | 18 | U |
| 208-96-8 | ACENAPHTHYLENE | 23 | U |
| 83-32-9 | ACENAPHTHENE | 18 | U |
| 86-73-7 | FLUORENE | 0.10 | J |
| 85-01-8 | PHENANTHRENE | 0.046 | J |
| 120-12-7 | ANTHRACENE | 6.6 | U |
| 206-44-0 | FLUORANTHENE | 0.14 | J- |
| 129-00-0 | PYRENE | 2.7 | U |
| 56-55-3 | BENZO[a]ANTHRACENE | 0.13 | U |
| 218-01-9 | CHRYSENE | 1.5 | U |
| 205-99-2 | BENZO[b]FLUORANTHENE | 0.18 | U |
| 207-08-9 | BENZO[k]FLUORANTHENE | 0.17 | U |
| 50-32-8 | BENZO[a]PYRENE | 0.23 | U |
| 53-70-3 | DIBENZO[a,h]ANTHRACENE | 0.30 | U |
| 191-24-2 | BENZO[g,h,i]PERYLENE | 0.76 | U |
| 193-39-5 | INDENO[1,2,3-cd]PYRENE | 0.43 | U |

1D
PESTICIDE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

643 460

A010WG09

Lab Name: STL BALTIMORE Contract: HYDROGE

Lab Code: STLB Case No.: 990908 SAS No.: SDG No.: 9907170

Matrix: (soil/water) WATER Lab Sample ID: 9907173

Sample wt/vol: 1000 (g/ml) ML Lab File ID: LA1R892F.D

% Moisture: decanted:(Y/N) N Date Received: 07/15/99

Extraction: (SepF/Cont/Sonc) Date Extracted: 07/16/99

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 08/01/99

Injection Volume: 1.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: Sulfur Cleanup: (Y/N) N

CONCENTRATION UNITS:

| CAS NO. | COMPOUND | (ug/L or ug/Kg) UG/L | Q |
|---|---|---|---|
| 91-20-3 | NAPHTHALENE | 18 | U |
| 208-96-8 | ACENAPHTHYLENE | 23 | U |
| 83-32-9 | ACENAPHTHENE | 18 | U |
| 86-73-7 | FLUORENE | 2.1 | U |
| 85-01-8 | PHENANTHRENE | 6.4 | U |
| 120-12-7 | ANTHRACENE | 6.6 | U |
| 206-44-0 | FLUORANTHENE | 2.1 | U |
| 129-00-0 | PYRENE | 2.7 | U |
| 56-55-3 | BENZO[a]ANTHRACENE | 0.13 | U |
| 218-01-9 | CHRYSENE | 1.5 | U |
| 205-99-2 | BENZO[b]FLUORANTHENE | 0.18 | U |
| 207-08-9 | BENZO[k]FLUORANTHENE | 0.17 | U |
| 50-32-8 | BENZO[a]PYRENE | 0.23 | U |
| 53-70-3 | DIBENZO[a,h]ANTHRACENE | 0.30 | U |
| 191-24-2 | BENZO[g,h,i]PERYLENE | 0.76 | U |
| 193-39-5 | INDENO[1,2,3-cd]PYRENE | 0.43 | U |

643 461

1D

# PESTICIDE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

NB907161

Lab Name: STL BALTIMORE Contract: HYDROGE

Lab Code: STLB Case No.: 990908 SAS No.: SDG No.: 9907170

Matrix: (soil/water) WATER Lab Sample ID: NB907161

Sample wt/vol: 1000 (g/ml) ML Lab File ID: LA1R883F.D

% Moisture: decanted:(Y/N) N Date Received:

Extraction: (SepF/Cont/Sonc) Date Extracted: 07/16/99

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 07/31/99

Injection Volume: 1.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: Sulfur Cleanup: (Y/N) N

CONCENTRATION UNITS:

| CAS NO. | COMPOUND | (ug/L or ug/Kg) UG/L | Q |
|---|---|---|---|
| 91-20-3 | NAPHTHALENE | 18 | U |
| 208-96-8 | ACENAPHTHYLENE | 23 | U |
| 83-32-9 | ACENAPHTHENE | 18 | U |
| 86-73-7 | FLUORENE | 2.1 | U |
| 85-01-8 | PHENANTHRENE | 6.4 | U |
| 120-12-7 | ANTHRACENE | 6.6 | U |
| 206-44-0 | FLUORANTHENE | 2.1 | U |
| 129-00-0 | PYRENE | 2.7 | U |
| 56-55-3 | BENZO[a]ANTHRACENE | 0.13 | U |
| 218-01-9 | CHRYSENE | 1.5 | U |
| 205-99-2 | BENZO[b]FLUORANTHENE | 0.18 | U |
| 207-08-9 | BENZO[k]FLUORANTHENE | 0.17 | U |
| 50-32-8 | BENZO[a]PYRENE | 0.23 | U |
| 53-70-3 | DIBENZO[a,h]ANTHRACENE | 0.30 | U |
| 191-24-2 | BENZO[g,h,i]PERYLENE | 0.76 | U |
| 193-39-5 | INDENO[1,2,3-cd]PYRENE | 0.43 | U |

1D
PESTICIDE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

NL907161

643 462

Lab Name: STL BALTIMORE Contract: HYDROGE

Lab Code: STLB Case No.: 990908 SAS No.: SDG No.: 9907170

Matrix: (soil/water) WATER Lab Sample ID: NL907161

Sample wt/vol: 1000 (g/ml) ML Lab File ID: LA1R884F.D

% Moisture: decanted:(Y/N) N Date Received:

Extraction: (SepF/Cont/Sonc) Date Extracted: 07/16/99

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 07/31/99

Injection Volume: 1.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: Sulfur Cleanup: (Y/N) N

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/L

| CAS NO. | COMPOUND | | Q |
|---|---|---|---|
| 91-20-3 | NAPHTHALENE | 11 | J |
| 208-96-8 | ACENAPHTHYLENE | 25 | ~~J~~ |
| 83-32-9 | ACENAPHTHENE | 13 | J |
| 86-73-7 | FLUORENE | 2.6 | |
| 85-01-8 | PHENANTHRENE | 1.5 | J |
| 120-12-7 | ANTHRACENE | 1.2 | J |
| 206-44-0 | FLUORANTHENE | 3.1 | - |
| 129-00-0 | PYRENE | 1.6 | J |
| 56-55-3 | BENZO[a]ANTHRACENE | 1.7 | |
| 218-01-9 | CHRYSENE | 1.8 | |
| 205-99-2 | BENZO[b]FLUORANTHENE | 3.5 | |
| 207-08-9 | BENZO[k]FLUORANTHENE | 1.8 | |
| 50-32-8 | BENZO[a]PYRENE | 1.4 | |
| 53-70-3 | DIBENZO[a,h]ANTHRACENE | 3.4 | |
| 191-24-2 | BENZO[g,h,i]PERYLENE | 3.3 | |
| 193-39-5 | INDENO[1,2,3-cd]PYRENE | 1.6 | |

gmA 080199

643 463

1D

# PESTICIDE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

ND907161

Lab Name: STL BALTIMORE Contract: HYDROGE

Lab Code: STLB Case No.: 990908 SAS No.: SDG No.: 9907170

Matrix: (soil/water) WATER Lab Sample ID: ND907161

Sample wt/vol: 1000 (g/ml) ML Lab File ID: LA1R885F.D

% Moisture: decanted:(Y/N) N Date Received:

Extraction: (SepF/Cont/Sonc) Date Extracted: 07/16/99

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 07/31/99

Injection Volume: 1.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: Sulfur Cleanup: (Y/N) N

CONCENTRATION UNITS:

| CAS NO. | COMPOUND | (ug/L or ug/Kg) UG/L | Q |
|---|---|---|---|
| 91-20-3 | NAPHTHALENE | 13 | J |
| 208-96-8 | ACENAPHTHYLENE | 29 | ~~U~~ |
| 83-32-9 | ACENAPHTHENE | 15 | J |
| 86-73-7 | FLUORENE | 3.0 | |
| 85-01-8 | PHENANTHRENE | 1.6 | J |
| 120-12-7 | ANTHRACENE | 1.3 | J |
| 206-44-0 | FLUORANTHENE | 3.4 | |
| 129-00-0 | PYRENE | 1.8 | J |
| 56-55-3 | BENZO[a]ANTHRACENE | 1.7 | |
| 218-01-9 | CHRYSENE | 1.8 | |
| 205-99-2 | BENZO[b]FLUORANTHENE | 3.5 | |
| 207-08-9 | BENZO[k]FLUORANTHENE | 1.8 | |
| 50-32-8 | BENZO[a]PYRENE | 1.2 | |
| 53-70-3 | DIBENZO[a,h]ANTHRACENE | 3.3 | |
| 191-24-2 | BENZO[g,h,i]PERYLENE | 3.3 | |
| 193-39-5 | INDENO[1,2,3-cd]PYRENE | 1.7 | |

AAA 080199

643 464

Project: Hydrogeologic
Report # 990908
Method: 300 0
Analyst. IH
Date Analyzed. 7/15/99

Client ID: WHGLTA011WG09 DL
EA #: 9907055X25
Data File: LC3H365

| Compound | Concentration (mg/L) | Flag |
|---|---|---|
| Chloride | 180 | D |
| Nitrate | 25 | U |
| Sulfate | 86 | D |

Client ID: WHGLTA011WG09 DL
EA #: 9907055X25
Data File: LC3H366

| Compound | Concentration (mg/L) | Flag | % RPD |
|---|---|---|---|
| Chloride | 180 | D | 0.0 |
| Nitrate | 25 | U | 0.0 |
| Sulfate | 85 | D | 1.2 |

643 465

Project: Hydrogeologic
Report #. 990908
Method: 300.0
Analyst: IH
Date Analyzed: 7/16/99

Client ID: SD13-04WG09
EA #: F
Data File: LC3H406

| Compound | Concentration (mg/L) | Flag |
|---|---|---|
| Chloride | 44 | E |
| Nitrate | 0.061 | J |
| Sulfate | 0.065 | J |

Client ID: SD13-04WG09
EA #: F
Data File. LC3H407

| Compound | Concentration (mg/L) | Flag | % RPD |
|---|---|---|---|
| Chloride | 44 | E | 0.0 |
| Nitrate | 0.06 | J | 4.8 |
| Sulfate | 0.14 | J | 73.2 |

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EB071499

613 466

Lab Name: Severn Trent Labs Contract: 990908

Lab Code: STL-BALT Case No.: _____ SAS No.: _____ SDG No.: _____

Matrix: (soil/water) WATER Lab Sample ID: 9907171

Sample wt/vol: 1 (g/ml) ML Lab File ID: LC3H374.D

Level: (low/med) LOW Date Received: 07/15/99

% Moisture: _____ decanted:(Y/N) N Date Extracted: _____

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 07/15/99

Injection Volume: 1.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: _____

| CAS NO. | COMPOUND | CONCENTRATION UNITS: (ug/L or ug/Kg) ~~UG~~ mg/L | Q |
|---|---|---|---|
| | CHLORIDE | 1.0 | U |
| | NITRATE | 1.0 | U |
| | SULFATE | 1.0 | U |

1B

643 467

# SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

HGLTA009WG09

Lab Name: Severn Trent Labs Contract: 990908

Lab Code: STL-BALT Case No.: _____ SAS No.: _____ SDG No.: _____

Matrix: (soil/water) WATER Lab Sample ID: 9907172

Sample wt/vol: 1 (g/ml) ML Lab File ID: LC3H375.D

Level: (low/med) LOW Date Received: 07/15/99

% Moisture: _____ decanted:(Y/N) N Date Extracted: _____

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 07/15/99

Injection Volume: 1.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: _____

CONCENTRATION UNITS:

| CAS NO. | COMPOUND | (ug/L or ug/Kg) ~~UG~~ MG/L | Q |
|---|---|---|---|
| | CHLORIDE | 31 | E |
| | NITRATE | 1.0 | U |
| | SULFATE | 17 | |

FORM I SV-1 3/90

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

WHGLTA009WG09

643 468

Lab Name: Severn Trent Labs Contract: 990908

Lab Code: STL-BALT Case No.: _____ SAS No.: _____ SDG No.: _____

Matrix: (soil/water) WATER Lab Sample ID: 9907172X2

Sample wt/vol: 1 (g/ml) ML Lab File ID: LC3H394.D

Level: (low/med) LOW Date Received: 07/15/99

% Moisture: _____ decanted:(Y/N) N Date Extracted: _____

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 07/16/99

Injection Volume: 1.0 (uL) Dilution Factor: 2.0

GPC Cleanup: (Y/N) N pH: _____

| CAS NO. | COMPOUND | CONCENTRATION UNITS: (ug/L or ug/Kg) ~~UG~~ mg/L | Q |
|---|---|---|---|
| | CHLORIDE | 33 | D |
| | NITRATE | 2.0 | U |
| | SULFATE | 16 | D |

FORM I SV-1 3/90

643 469

1B

# SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO

HGLTA010WG01

Lab Name: Severn Trent Labs Contract: 990908

Lab Code: STL-BALT Case No.: _____ SAS No.: _____ SDG No.: _____

Matrix: (soil/water) WATER Lab Sample ID: 9907173

Sample wt/vol: 1 (g/ml) ML Lab File ID: LC3H376.D

Level: (low/med) LOW Date Received: 07/15/99

% Moisture: _____ decanted:(Y/N) N Date Extracted: _____

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 07/15/99

Injection Volume: 1.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: _____

| CAS NO. | COMPOUND | CONCENTRATION UNITS: (ug/L or ug/Kg) ~~UG~~ mg/L | Q |
|---|---|---|---|
| | CHLORIDE | 27 | E |
| | NITRATE | 0.092 | J |
| | SULFATE | 63 | E |

1B
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

WHGLTA010WG09

643 470

Lab Name: Severn Trent Labs Contract: 990908

Lab Code: STL-BALT Case No.: SAS No.: SDG No.:

Matrix: (soil/water) WATER Lab Sample ID: 9907173X5

Sample wt/vol: 1 (g/ml) ML Lab File ID: LC3H395.D

Level: (low/med) LOW Date Received: 07/15/99

% Moisture: decanted:(Y/N) N Date Extracted:

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 07/16/99

Injection Volume: 1.0 (uL) Dilution Factor: 5.0

GPC Cleanup: (Y/N) N pH:

| CAS NO. | COMPOUND | CONCENTRATION UNITS: (ug/L or ug/Kg) ~~UG~~/L mg | Q |
|---|---|---|---|
| | CHLORIDE | 25 | D |
| | NITRATE | 5.0 | U |
| | SULFATE | 51 | D |

FORM I SV-1

643 471

# SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

SD13-07WG09

Lab Name: Severn Trent Labs Contract: 990908

Lab Code: STL-BALT Case No.: _____ SAS No.: _____ SDG No.: _____

Matrix: (soil/water) WATER Lab Sample ID: 9907175

Sample wt/vol: 1 (g/ml) ML Lab File ID: LC3H377.D

Level: (low/med) LOW Date Received: 07/15/99

% Moisture: _____ decanted:(Y/N) N Date Extracted: _____

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 07/15/99

Injection Volume: 1.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: _____

| CAS NO. | COMPOUND | CONCENTRATION UNITS: (ug/L or ug/Kg) ~~UG~~ mg/L | Q |
|---|---|---|---|
| | CHLORIDE | 32 | E |
| | NITRATE | 0.12 | J |
| | SULFATE | 0.78 | J |

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

ZB907151

643 472

Lab Name: Severn Trent Labs Contract: 990908

Lab Code: STL-BALT Case No.: _____ SAS No.: _____ SDG No.: _____

Matrix: (soil/water) WATER Lab Sample ID: ZB907151

Sample wt/vol: 1 (g/ml) ML Lab File ID: LC3H360.D

Level: (low/med) LOW Date Received: 07/15/99

% Moisture: _____ decanted:(Y/N) N Date Extracted: _____

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 07/15/99

Injection Volume: 1.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: _____

| CAS NO. | COMPOUND | CONCENTRATION UNITS: (ug/L or ug/Kg) ~~UG~~ mg/L | Q |
|---|---|---|---|
| | CHLORIDE | 1.0 | U |
| | NITRATE | 1.0 | U |
| | SULFATE | 1.0 | U |



060095

643 473

# SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

HHGLTA011WG09 DL

Lab Name: Severn Trent Labs Contract: 990908

Lab Code: STL-BALT Case No.: _____ SAS No.: _____ SDG No.: _____

Matrix: (soil/water) WATER Lab Sample ID: 9907055X25

Sample wt/vol: 1 (g/ml) ML Lab File ID: LC3H365.D

Level: (low/med) LOW Date Received: 07/15/99

% Moisture: _____ decanted:(Y/N) N Date Extracted: _____

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 07/15/99

Injection Volume: 1.0 (uL) Dilution Factor: 25.0

GPC Cleanup: (Y/N) N pH: _____

CONCENTRATION UNITS:
(ug/L or ug/Kg) ~~UG~~ MG/L

| CAS NO. | COMPOUND | | Q |
|---|---|---|---|
| | CHLORIDE | 180 | D |
| | NITRATE | 25 | U |
| | SULFATE | 86 | D |

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

WH LTA011WG09 DL DUP

643 471

Lab Name: Severn Trent Labs Contract: 990908

Lab Code: STL-BALT Case No.: _____ SAS No.: _____ SDG No.: _____

Matrix: (soil/water) WATER Lab Sample ID: 9907055X25 DUP

Sample wt/vol: 1 (g/ml) ML Lab File ID: LC3H366.D

Level: (low/med) LOW Date Received: 07/15/99

% Moisture: _____ decanted:(Y/N) N Date Extracted: _____

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 07/15/99

Injection Volume: 1.0 (uL) Dilution Factor: 25.0

GPC Cleanup: (Y/N) N pH: _____

| CAS NO. | COMPOUND | CONCENTRATION UNITS: (ug/L or ug/Kg) ~~UG~~ mg/L | Q |
|---|---|---|---|
| | CHLORIDE | 180 | D |
| | NITRATE | 25 | U |
| | SULFATE | 85 | D |

AH 080299

643 475

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

LTA011WG09 DL

Lab Name: Severn Trent Labs Contract: 990908

Lab Code: STL-BALT Case No.: SAS No.: SDG No.:

Matrix: (soil/water) WATER Lab Sample ID: 9907055X25 MS

Sample wt/vol: 1 (g/ml) ML Lab File ID: LC3H367.D

Level: (low/med) LOW Date Received: 07/15/99

% Moisture: decanted:(Y/N) N Date Extracted:

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 07/15/99

Injection Volume: 1.0 (uL) Dilution Factor: 25.0

GPC Cleanup: (Y/N) N pH:

| CAS NO. | COMPOUND | CONCENTRATION UNITS: (ug/L or ug/Kg) ~~UG~~ mg/L | Q |
|---|---|---|---|
| | CHLORIDE | 340 | D |
| | NITRATE | 110 | D |
| | SULFATE | 210 | D |

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

WH LTA011WG09 DL (MSD)

Lab Name: Severn Trent Labs Contract: 990908

Lab Code: STL-BALT Case No.: _____ SAS No.: _____ SDG No.: _____

643 476

Matrix: (soil/water) WATER Lab Sample ID: 9907055X25 MSD

Sample wt/vol: 1 (g/ml) ML Lab File ID: LC3H368.D

Level: (low/med) LOW Date Received: 07/15/99

% Moisture: _____ decanted:(Y/N) N Date Extracted: _____

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 07/15/99

Injection Volume: 1.0 (uL) Dilution Factor: 25.0

GPC Cleanup: (Y/N) N pH: _____

| CAS NO. | COMPOUND | CONCENTRATION UNITS: (ug/L or ug/Kg) ~~UG~~ mg/L | Q |
|---|---|---|---|
| | CHLORIDE | 340 | D |
| | NITRATE | 110 | D |
| | SULFATE | 210 | D |

H080299

1B

643 477 SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

ZL907161

Lab Name: Severn Trent Labs Contract: 990908

Lab Code: STL-BALT Case No.: _____ SAS No.: _____ SDG No.: _____

Matrix: (soil/water) WATER Lab Sample ID: ZL907161

Sample wt/vol: 1 (g/ml) ML Lab File ID: LC3H392.D

Level: (low/med) LOW Date Received: 07/15/99

% Moisture: _____ decanted:(Y/N) N Date Extracted: _____

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 07/16/99

Injection Volume: 1.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: _____

| CAS NO. | COMPOUND | CONCENTRATION UNITS: (ug/L or ug/Kg) ~~UG~~ mg/L | Q |
|---|---|---|---|
| | CHLORIDE | 4.6 | |
| | NITRATE | 4.8 | |
| | SULFATE | 4.5 | |

SAMPLE ANALYSIS RESULTS

ab Name: EA Laboratories
AS Case No.: 990908
PA Sample No.: EB071499
mr' trix: WATER
ds: %

Contract: HYDROGEOLO
SDG No.: 9907171
Lab Sample ID No.: 9907171
Date Received: 07/15/99

643 478

| ab D | Parameter | Sample Conc. | Concentration Units | Analyzed Date |
|---|---|---|---|---|
| 907171 | ALKALINITY | 2.0 | mg/L | 07/28/99 |
| | TOC AVERAGE | <1.0 | mg/L | 07/29/99 |
| | TOC REPLICATE 1 | <1.0 | mg/L | 07/29/99 |
| | TOC REPLICATE 2 | <1.0 | mg/L | 07/29/99 |

080003

SAMPLE ANALYSIS RESULTS

643 479

ab Name: EA Laboratories
AS Case No.: 990908
PA Sample No.: WHGLTA009WG0
ample matrix: WATER
otal Solids: %

Contract: HYDROGEOLO
SDG No.: 9907171
Lab Sample ID No.: 9907172
Date Received: 07/15/99

| ab ) | Parameter | Sample Conc. | Concentration Units | Analyzed Date |
|---|---|---|---|---|
| 907172 | ALKALINITY | 321 | mg/L | 07/28/99 |
| | TOC AVERAGE | 1.6 | mg/L | 07/29/99 |
| | TOC REPLICATE 1 | 1.5 | mg/L | 07/29/99 |
| | TOC REPLICATE 2 | 1.6 | mg/L | 07/29/99 |

SAMPLE ANALYSIS RESULTS

643 480

Lab Name: EA Laboratories
SAS Case No.: 990908
EPA Sample No.: WHGCTA010WG0
Sample Matrix: WATER
Solids: %

Contract: HYDROGEOLO
SDG No.: 9907171
Lab Sample ID No.: 9907173
Date Received: 07/15/99

| Lab ID | Parameter | Sample Conc. | Concentration Units | Analyzed Date |
|---|---|---|---|---|
| 9907173 | ALKALINITY | 490 | mg/L | 07/28/99 |
| | TOC AVERAGE | 1.8 | mg/L | 07/29/99 |
| | TOC REPLICATE 1 | 1.6 | mg/L | 07/29/99 |
| | TOC REPLICATE 2 | 2.0 | mg/L | 07/29/99 |

643 481

SAMPLE ANALYSIS RESULTS

ab Name: EA Laboratories
AS Case No.: 990908
PA Sample No.: SD13-07WG09
mple matrix: WATER
otal Solids: %

Contract: HYDROGEOLO
SDG No.: 9907171
Lab Sample ID No.: 9907175
Date Received: 07/15/99

| ab D | Parameter | Sample Conc. | Concentration Units | Analyzed Date |
|---|---|---|---|---|
| 907175 | ALKALINITY | 503 | mg/L | 07/28/99 |
| | TOC AVERAGE | 7.3 | mg/L | 08/01/99 |
| | TOC REPLICATE 1 | 7.3 | mg/L | 08/01/99 |
| | TOC REPLICATE 2 | 7.4 | mg/L | 08/01/99 |

643 482

Committed To *Your* Success

**Severn Trent Laboratories**
11 East Olive Road
Pensacola FL 32514

Tel· (850) 474-1001
Fax: (850) 478-2671

SIGNATURE PAGE

Reviewed by: _____
STL Project Manager

Client: STL/MARYLAND
SPARKS, MARYLAND

Project Name AFC001-26HAA
Project Number: 990908
Project Location: NAS, FORT WORTH, TX
Accession Number: 907297

Project Manager: MARY ASPER
Sampled By: N. HADE

THIS IS A REVISED REPORT: December 20, 1999

SEVERN TRENT LABORATORIES 11 East Olive Road Pensacola, Florida 32514 (850) 474-1001



"FINAL REPORT FORMAT - SINGLE"

Accession: 907297
Client: STL/MARYLAND
Project Number: 990908
Project Name: AFC001-26HAA
Project Location: NAS, FORT WORTH, TX
Test: GENERIC GROUP GC/SEMI-VOLATILE
Analysis Method: RSK 175
Extraction Method: N/A
Matrix: WATER
QC Level: N

Lab Id: 001
Client Sample Id: TB071499
Sample Date/Time: 14-JUL-99 0735
Received Date: 16-JUL-99

Batch: GEW263
Blank: A
Dry Weight %: N/A
Extraction Date: N/A
Analysis Date: 22-JUL-99

| Parameter: | Units: | Results: | Rpt Lmts: | Q: |
|---|---|---|---|---|
| METHANE | UG/L | ND | 1 | |
| ETHANE | UG/L | 1.5806 | 1 | |
| ETHENE | UG/L | 1.0141 | 1 | |
| ANALYST | INITIALS | AHT | | |

Comments:
Preparation Time: 09:00
Analysis Time: 11:15

SEVERN TRENT LABORATORIES 11 East Olive Road Pensacola, Florida 32514 (850) 474-1001



"FINAL REPORT FORMAT - SINGLE"

Accession: 907297
Client: STL/MARYLAND
Project Number: 990908
Project Name: AFC001-26HAA
Project Location: NAS, FORT WORTH, TX
Test: GENERIC GROUP GC/SEMI-VOLATILE
Analysis Method: RSK 175
Extraction Method: N/A
Matrix: WATER
QC Level: N

---

Lab Id: 002
Client Sample Id: EB071499

Sample Date/Time: 14-JUL-99 1500
Received Date: 16-JUL-99

Batch: GEW263
Blank: A

Dry Weight %: N/A

Extraction Date: N/A
Analysis Date: 22-JUL-99

| Parameter: | Units: | Results: | Rpt Lmts: | Q: |
|---|---|---|---|---|
| METHANE | UG/L | 3.9076 | 1 | |
| ETHANE | UG/L | ND | 1 | |
| ETHENE | UG/L | ND | 1 | |
| ANALYST | INITIALS | AHT | | |

Comments:
Preparation Time: 09:00
Analysis Time: 11:55

SEVERN TRENT LABORATORIES 11 East Olive Road Pensacola, Florida 32514 (850) 474-1001



"FINAL REPORT FORMAT - SINGLE"

Accession: 907297
Client: STL/MARYLAND
Project Number: 990908
Project Name: AFC001-26HAA
Project Location: NAS, FORT WORTH, TX
Test: GENERIC GROUP GC/SEMI-VOLATILE
Analysis Method: RSK 175
Extraction Method: N/A
Matrix: WATER
QC Level: N

Lab Id: 003
Client Sample Id: WHGLTA009WG09
Sample Date/Time: 14-JUL-99 1008
Received Date: 16-JUL-99

Batch: GEW263
Blank: A
Dry Weight %: N/A
Extraction Date: N/A
Analysis Date: 22-JUL-99

| Parameter: | Units: | Results. | Rpt Lmts: | Q: |
|---|---|---|---|---|
| METHANE | UG/L | 963.3606 | 1 | |
| ETHANE | UG/L | ND | 1 | |
| ETHENE | UG/L | ND | 1 | |
| ANALYST | INITIALS | AHT | | |

Comments:
Preparation Time: 09:00
Analysis Time: 13:15

SEVERN TRENT LABORATORIES 11 East Olive Road Pensacola, Florida 32514 (850) 474-1001



"FINAL REPORT FORMAT - SINGLE"

Accession. 907297
Client· STL/MARYLAND
Project Number: 990908
Project Name AFC001-26HAA
Project Location: NAS, FORT WORTH, TX
Test GENERIC GROUP GC/SEMI-VOLATILE
Analysis Method: RSK 175
Extraction Method: N/A
Matrix: WATER
QC Level: N

---

Lab Id: 004 Sample Date/Time: 14-JUL-99 1205
Client Sample Id: WHGLTA010WG09 Received Date: 16-JUL-99

Batch: GEW263 Extraction Date: N/A
Blank: A Dry Weight %: N/A Analysis Date: 22-JUL-99

| Parameter: | Units: | Results: | Rpt Lmts: | Q: |
|---|---|---|---|---|
| METHANE | UG/L | 2308.5741 | 1 | |
| ETHANE | UG/L | ND | 1 | |
| ETHENE | UG/L | ND | 1 | |
| ANALYST | INITIALS | AHT | | |

Comments·
Preparation Time: 09:00
Analysis Time: 12:05

Received 8/16/99

643 487

Committed To *Your* Success

Severn Trent Laboratories
19 Loveton Circle
Sparks, MD 21152

Tel (410) 771-4920
Fax. (410) 771-4407
www stl-inc com

August 12, 1999

Ms. Lynn Morgan
HydroGeoLogic, Inc.
11 55 Herndon Parkway, Suite 900
Herndon, VA 20170

Re:HydroGeoLogic, Inc. NAS Ft. Worth (70001.01) DO#26, AFC00126HAA

Dear Ms. Morgan:

Enclosed is our report on the analysis of nine water samples collected for the HydroGeoLogic, Inc. NAS Ft. Worth project on 15 July 1999. The invoice is included.

Please contact me if you have any questions or require further information and refer to report 990916. Unless other arrangements are made, we reserve the right to dispose of your samples sixty (60) days from the date of this letter. We will retain the raw data for seven years from this date.

Sincerely,

Mary E. Asper
Laboratory Project Manager

enclosure

643 488

Committed To Your Success

# LABORATORY DATA REPORT

Prepared for:

HydroGeoLogic, Inc.
NAS Ft. Worth

Prepared by:

Severn Trent Laboratories
19 Loveton Circle
Sparks, MD 21152

Report 990916

August 1999

# Severn Trent Laboratories
# ANALYTICAL NARRATIVE

Client: HydroGeoLogic, Inc.
Site: NAS Ft. Worth
Project number: 70001.01

ST Laboratories Report: 990916
Laboratory Project Manager: Mary E. Asper
Report Date: 12 August 1999

---

This report contains the results of the analysis of nine water samples collected on 15 July 1999 in support of the referenced project.

## *SAMPLE RECEIPT*

The samples arrived intact by Federal Express at Severn Trent Laboratories on 16 July 1999. Upon receipt, the samples were inspected and compared with the chain-of-custody record. The samples were then logged into the laboratory computer system with assigned laboratory accession numbers and released for analysis.

| Client Sample Designation | ST Lab Number |
|---|---|
| TBO71599 | 9907237 |
| WHGLTA012WG09 | 9907238 |
| WHGLTA014WG09 | 9907239 |
| WHGLTA005WG09 | 9907240 |
| WHGLTA007WG09 | 9907241 |
| SD13-02WG09 | 9907242 |
| SD13-04WG09 | 9907243 |
| WCHMHTA013WG09 | 9907244 |
| EB071599 | 9907245 |

Following this narrative section are a table of analytical methods used (Table 1), glossaries of data qualifiers (Tables 2 and 3), codes associated with manual integration of chromatographic peaks (Table 4), and the chain of custody record. Analytical results and quality control information are summarized in the appended data package which has been formatted to be consistent with the deliverable requirements of this project.

## *QUALITY CONTROL*

The following sections are ordered as the data appears in this report. They contain observations made during sample analysis, summarize the results of quality control measurements, and address the impact on data usability based upon project Data Quality Objectives. For each fractional analysis the narrative includes:

- Sample chronology: This section summarizes the sample history by fraction including the sample preparation method and date, analytical method, and analysis date. Anything unusual about the samples, digestates, or extracts is identified. Holding time compliance is evaluated in this section.

643 490-

Severn Trent Laboratories
ANALYTICAL NARRATIVE

Client: HydroGeoLogic, Inc.
Site: NAS Ft. Worth
Project number: 70001.01

ST Laboratories Report: 990916
Laboratory Project Manager: Mary E. Asper
Report Date: 12 August 1999

---

- Laboratory method performance: All quality control criteria for method performance must be met for all target analytes for data to be reported. These criteria generally apply to instrument tune, calibration, method blanks, and Laboratory Control Samples (LCS) In some instances where method criteria fail, useable data can be obtained and are reported with client approval. The narrative will then include a thorough discussion of the impact on data quality

- Sample performance: Quality control field samples are analyzed to determine any measurement bias due to the sample matrix based on evaluation of matrix spikes (MS), matrix spike duplicates (MSD), and laboratory duplicates (D). If acceptance criteria are not met, matrix interferences are confirmed either by reanalysis or by inspection of the LCS results to verify that laboratory method performance is in control. Data are reported with appropriate qualifiers or discussion.

VOLATILES by GC/MS - WATER (ST9907237 - ST9907245)

Sample Chronology: Nine water samples and associated quality control were analyzed on 27 July 1999 for project specified list of analytes by USEPA SW-846, Methods 5030B/8260B using a 25 mL purging volume. All holding times were met.

Laboratory Method Performance: All laboratory method performance criteria were met for the reported samples with the following exceptions;

- the daily calibration standard had the percent difference for iodomethane (-116 4 %) above the QC limit of 50%. However, since the high percent difference was the result in an increase in analyte response and no iodomethane was detected in any of the samples, there should be no impact on data usability.

Sample Performance: All quality control criteria were met for the reported sample with the following exceptions;

- sample WHGLTA012WG09 had one or more surrogate recoveries outside of QC limits. This sample was reanalyzed with similar surrogate recoveries indicating a probable matrix influence.

- the batch MSD, performed on sample WHGLTA005WG09, had the recoveries for many analytes below their lower QC limits, while all recoveries in the MS were within QC limits. These low recoveries may have been the result of a spiking error.

- sample WHGLTA012WG09 had one or more internal standard areas below the lower QC limit of -50 % of the daily calibration standard. The sample was reanalyzed with all internal standard areas within QC limits.

Severn Trent Laboratories
ANALYTICAL NARRATIVE

Client: HydroGeoLogic, Inc.
Site: NAS Ft. Worth
Project number: 70001.01

ST Laboratories Report: 990916
Laboratory Project Manager. Mary E. Asper
Report Date: 12 August 1999

---

## EXTRACTABLE TPH by GC - WATER (STL9907275-STL9907277)

Sample Chronology: The samples and associated quality control were extracted on 19 July 1999 by TNRCC Method 1005. The extracts were analyzed on 19-20 July 1999 for the method list of analytes by the same method. All holding times were met.

The batch MS/MSD was performed on sample SPOT35-9WG09 from another STL/Hydrogeologic report. All data associated with these QC samples are included in this report.

Laboratory Method Performance: All laboratory method performance criteria were met for the reported samples.

Sample Performance: All quality control criteria were met for the reported samples.

## METALS - WATER (ST9907240-ST9907244)

Sample Chronology: Five samples were prepared (SW846 methods 3010/3020/7470M*) on 23-29 July 1999 and analyzed for TAL metals by SW846 methods 6010/7841/7470M on 25-29 July 1999.

*modification includes the use of an autoclave in place of a waterbath for digestion.

Laboratory Method Performance: All laboratory method performance criteria were met for the reported samples.

Sample Performance: All quality control criteria were met for the reported samples with the following exceptions:

The recoveries of mercury (83.2%, MS only) and selenium (84.0%, 83.3%) were outside of the control limits (75-125%), indicating a potential for bias to the sample data.

## ANIONS by IC- WATER (STL9907238- STL9907243, STL9907245)

Sample Chronology: The samples and associated quality control were analyzed on 16 and 28 July 1999 by USEPA Method 9056 for the chloride, nitrate, and sulfate anions. All holding times were met.

Sample WHGLTA012WG09 was reanalyzed at a twenty-five times (25X) dilution, samples WHGLTA014WG09 and WHGLTA005WG09 were reanalyzed at ten times (10X) dilutions, sample SD13-04WG09 was reanalyzed at a five times (5X) dilution, and sample WHGLTA007WG09 was reanalyzed at a two times (2X) dilution in order to bring the concentration of target analytes within calibration range.

643 492

**Severn Trent Laboratories**
**ANALYTICAL NARRATIVE**

Client: **HydroGeoLogic, Inc.**
Site: **NAS Ft. Worth**
Project number: **70001.01**

ST Laboratories Report: **990916**
Laboratory Project Manager: **Mary E. Asper**
Report Date: **12 August 1999**

---

The batch MS/MSD analyzed 28 July 1999 was performed on another Hydrogeologic sample, SPOT35-9WG09 DL. All data associated with these QC samples are included in this report.

Laboratory Method Performance: All laboratory method performance criteria were met for the reported samples.

Sample Performance: All sample performance criteria were met for the reported samples with the following exceptions:

The batch MS/MSD, performed on sample SD13-04WG09, had chloride (80%/ 80%), nitrate (82%/ 82%), and sulfate (76%/ 76%) below the client specified limits of 91%, 90%, and 88%, respectively. The MS/MSD, performed on sample SPOT35-9WG09 DL, had chloride (60%/ 60%), nitrate (81%/ 81%), and sulfate (70%/ 70%) recoveries below the client specified limits 91%, 90%, and 88%, respectively. The LCSs were within limits indicating acceptable method performance.

The relative percent difference between the sample and sample duplicate, performed on sample SD13-04WG09, was outside the client specified limit of 20% at 73%.

**CERTIFICATION OF RESULTS**

The Laboratory certifies that this report meets the project requirements for analytical data as stated in the Analytical Task Order (ATO) and the chain-of-custody. In addition, the Laboratory certifies that the data as reported meet the Data Quality Objectives for precision, accuracy, and completeness specified for this project or as stated in Severn Trent Laboratories Quality Assurance program for other than the conditions detailed above. It is recommended by the Laboratory that this analytical report should only be reproduced in its entirety. Severn Trent Laboratories is not responsible for any assumptions of data quality if partial packages are used to interpret data. Release of the data contained in this report has been authorized by the appropriate Laboratory Manager as verified by the following signature.

Mary E. Asper August 12, 1999
Mary E. Asper, Laboratory Project Manager

2. CHAIN-OF-CUSTODY

SIL 9907216

Committed To Your Success

**Chicago Laboratory** D7/29/Vom 16
2417 Bond Street
University Park, IL 60466
Phone 708-534-5200
Fax 708-534-5211

**Report To:**
Contact: Lynn Morgan
Company: Hydro GeoLogic Inc
Address: 1155 Herndon Pkwy Ste 900 Herndon, VA 20170
Phone: 703-478-5196
Fax: 703-471-4180
E Mail:

**Bill To:** Same
Contact:
Company:
Address:
Phone:
Fax:
PO#: Quote:

*Shaded Areas For Internal Use Only* of

**Lab Lot #**

Package Sealed: Yes No
Samples Sealed: Yes No
Received on Ice: Yes No
Samples Intact: Yes No
Temperature °C of Cooler: 5°
Within Hold Time: Yes No
Preserv. indicated: Yes No NA
pH Check ok: Yes No NA
Res. $Cl_2$ Check ok: Yes No NA
Sample Labels and COC Agree: Yes No COC not present

Sampler Name: Nicole Hide
Signature:
Project Name: July Quarterly
Project Number: AEC 001 26 HAA
Project Location: NAS Ft. Worth
Date Required: Hard Copy ___/___/___ Fax ___/___/___
Lab PM: Mary Asper

| Laboratory ID | MS-MSD | Client Sample ID | Sampling Date | Sampling Time | Matrix | Comp/Grab | Alkalinity 310.1 Anions 300.0 | Ethane Ethene Methane | CAP VOCs 8260 | TOC 9060 | Metals + Mercury | TPH TX 1005 | PAHs 8270 | BTEX/MTBE 8260 | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Refrg # | | | | | | | | | | | | | | | | | |
| #/Cont. | | | | | | | 1 | 2 | 2 | 1 | 1 | 2 | 4 | 2 | | | |
| Volume | | | | | | | 1L | 40ml | 40ml | 250ml | 1L | 40ml | 1L | 40ml | | | |
| Preserv | | | | | | | 6 | 1 | 1 | 2 | 3 | 1 | 6 | 1 | | | |
| 9907237 | | TB071599 | 7-15-99 | 715 | W | G | | 2 | 2 | | | | | | | | |
| 9907238 | | WHGLTM012W609 | | 1245 | W | G | 1 | 3 | | 1 | | 3 | 1 | 3 | | | |
| 9907239 | | WHGLTM014W609 | | 942 | W | G | 1 | 3 | | 1 | | 3 | 1 | 3 | | | |
| 9907240 | | WHGLTA005W609 | | 710 | W | G | 1 | 3 | 3 | 1 | 1 | | | | | | |
| 9907241 | | WHGLTA007W609 | | 1030 | W | G | 1 | 3 | 3 | 1 | 1 | | | | | | |
| 9907242 | | SD 13 02 W609 | | 1312 | W | G | 1 | 3 | | 1 | 1 | | | 3 | | | |
| 9907243 | | SD 13 04 W609 | | 1420 | W | G | 1 | 3 | 3 | 1 | 1 | | | | | | |
| 9907244 | | WCIIMHTA013W609 | | 1457 | W | G | | | 3 | | 1 | | | | | | |
| 9907245 | | EB071599 | | 1545 | W | G | 1 | 3 | | 1 | | 3 | 1 | 3 | | | |

**Additional Analyses / Remarks**

SIL EXT. PS-145
Full Data Package plus Summary Package includes IR AIS 30
EDD's due 8/13/99
MEA
CC0005524
H63409
SC 7B 3 pest 58 VOAs

| Relinquished By | Company | Date | Time | Received By | Company | Date | Time |
|---|---|---|---|---|---|---|---|
| Nicole Hide | HGL | 7-15-99 | 1630 | [illegible] | | 7/16/99 | 1000 |

**Matrix Key**
WW = Wastewater, W = Water, S = Soil, SL = Sludge, MS = Miscellaneous, OL = Oil, A = Air, SE = Sediment, SO = Solid, DS = Drum Solid, DL = Drum Liquid, L = Leachate, WI = Wipe, O = ____

**Container Key**
1 Plastic, 2 VOA Vial, 3 Sterile Plastic, 4 Amber Glass, 5 Widemouth Glass, 6 Other ____

**Preservative Key**
1 HCl, Cool to 4°, 2 H2SO4, Cool to 4°, 3 HNO3, Cool to 4°, 4 NaOH, Cool to 4°, 5 NaOH/Zn Acetate Cool to 4°, 6 Cool to 4°, 7 None

COMMENTS

Date Received 7/16/99
Courier: Fed Ex Hand Delivered
Bill of Lading 5085189115 5685189104

613 491

Discrepancy Facsimile and Chains

Report: 990916

643 495

PLEASE DELIVER TO:
Company/Department:
Number:
SENT BY:
Number of Pages(including cover page): 1 of

Project: HydroGeologic
Received: 16-JUL-99 10:00
COC: COC0005524
Samples: 9907237-9907245

recvd

A. **PRELIMINARY EXAMINATION PHASE:** Date cooler was opened: 7/16/99

by(print) John Shafik (sign) [signature]

| | | | | |
|---|---|---|---|---|
| 1. | Did cooler come with a shipping slip, airbill, ect? | YES | NO | N/A |
| | If Yes, circle courier: Federal Express UPS Handcarried Other: | | | |
| | Enter Airbill Number here: 5085189115 / 5085189104 | | | |
| 2. | Were custody seals present on outside of cooler? | YES | NO | N/A |
| | How many and where: 1 / outside, seal date: 7-15-99, seal name: [illegible] | | | |
| 3. | Were custody seals unbroken and intact at the time of arrival? | YES | NO | N/A |
| 4. | Were the samples screened for radioactivity using the Geiger counter upon receipt? | YES | NO | N/A |
| 5. | Were the Chains-of-Custody sealed in a plastic bag and taped inside of the lid? | YES | NO | N/A |
| 6 | Were the Chains-of-Custody filled out properly(ink, signed, etc.)? | YES | NO | N/A |
| 7. | Were the Chains-of-Custody relinquished by sampler? | YES | NO | N/A |
| 8. | Did you sign the Chains-of-Custody papers in the appropriate places? | YES | NO | N/A |
| 9. | Was project identifiable from Chains-of-Custody? | YES | NO | N/A |
| 10. | If required, was enough ice used? Type of ice: Wet Blue Dry | YES | NO | N/A |
| 11. | Was cooler temperature below 6C? | YES | NO | N/A |
| | Enter Cooler Temperature: 5°C | | | |
| 12. | Have designated person initial here to acknowledge receipt of cooler: JFS (date) 7/16/99 | | | |

B **LOG-IN PHASE:** Date samples were logged in: 7/16/99

by(print) John Shafik (sign) [signature]

| | | | | |
|---|---|---|---|---|
| 13. | Describe type of packing in cooler: Bubble Wrap / Packing Dust / Ice / Ziplock - Trash Bags | | | |
| 14. | Were all bottles sealed in separate plastic bags? | YES | NO | N/A |
| 15. | Did all bottles arrive unbroken and were labels in good condition? | YES | NO | N/A |
| 16. | Were all bottles labels complete(I.D., date, time, signature, preservative, etc.)? | YES | NO | N/A |
| 17. | Were correct containers used for the analysis indicated on the Chains-of-Custody? | YES | NO | N/A |
| 18. | Were correct preservatives added to the samples? | YES | NO | N/A |
| 19. | Was a sufficient amount of sample sent for the analysis indicated on the Chain-of-Custody? | YES | NO | N/A |
| 20. | Were bubbles absent in Volatiles samples? | YES | NO | N/A |
| 22. | Were any samples subcontracted to an outside laboratory? | YES | NO | N/A |
| | If YES, enter LSOA#: Subcontracting Laboratory Name: | | | |
| | EA Accession Numbers of subcontracted samples: | | | |
| 23. | Were any Non-Conformance records initiated by SMO for this project? | YES | NO | N/A |
| | If YES, enter Non-Conformance Number: LPM notified: | YES | NO | N/A |
| | Reason for Non-Conformance: | | | |

***If any "NO" answers are bold a Non-Conformance Record is required from SMO.**

***USE OTHER SIDE OF THIS FORM TO NOTE DETAILS CONCERNING CHECK-IN PROBLEMS***

Special Notes.

Please respond within 24 hours of receipt of this facsimile if any changes are required to the Chain-of-Custody Failure to notify Severn Trent Laboratories within 24 hours of receipt of this facsimile of any required changes could result in additional premiums and may not guarantee samples analyzed within holding time if changes to the analysis are required.

**Confidentiality Notice**

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*For Project Specific Inquires, Contact your Laboratory Project Manager at (410) 771-4920*

Effective 05 MAY 1999

643 496

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO
TB071599

Lab Name: ST LABORATORIES Contract: 990916

Lab Code: ST LABS Case No.: _____ SAS No. _____ SDG No. _____

Matrix: (soil/water) WATER Lab Sample ID. #9907237

Sample wt/vol: 25.0 (g/mL) ML Lab File ID: VH8C1574.D

Level: (low/med) _____ Date Received: 7/16/99

% Moisture: not dec. 0 Date Analyzed: 7/27/99

GC Column: RTX 502.2 ID: 0.53 (mm) Dilution Factor: 1 0

Soil Extract Volume: _____ (uL) Soil Aliquot Volume: _____ (uL)

Concentration Units: (ug/L or ug/Kg) ug/L

| CAS No. | Compound | | Q |
|---|---|---|---|
| 75-71-8 | Dichlorodifluoromethane | 1 | U |
| 74-87-3 | Chloromethane | 1 | U |
| 75-01-4 | Vinyl Chloride | 1 | U |
| 74-83-9 | Bromomethane | 1 | U |
| 75-00-3 | Chloroethane | 1 | U |
| 75-69-4 | Trichlorofluoromethane | 1 | U |
| 75-35-4 | 1,1-Dichloroethene | 1 | U |
| 75-09-2 | Methylene Chloride | 1 | U |
| 156-60-5 | trans-1,2-Dichloroethene | 1 | U |
| 75-34-3 | 1,1-Dichloroethane | 1 | U |
| 594-20-7 | 2,2-Dichloropropane | 4 | U |
| 156-59-2 | cis-1,2-Dichloroethene | 1 | U |
| 67-66-3 | Chloroform | 1 | U |
| 74-97-5 | Bromochloromethane | 1 | U |
| 71-55-6 | 1,1,1-Trichloroethane | 1 | U |
| 563-58-6 | 1,1-Dichloropropene | 1 | U |
| 56-23-5 | Carbon Tetrachloride | 2 | U |
| 107-06-2 | 1,2-Dichloroethane | 1 | U |
| 71-43-2 | Benzene | 1 | U |
| 79-01-6 | Trichloroethene | 1 | U |
| 78-87-5 | 1,2-Dichloropropane | 1 | U |
| 75-27-4 | Bromodichloromethane | 1 | U |
| 74-95-3 | Dibromomethane | 2 | U |
| 108-88-3 | Toluene | 1 | U |
| 79-00-5 | 1,1,2-Trichloroethane | 1 | U |
| 106-93-4 | 1,2-Dibromoethane (EDB) | 1 | U |
| 142-28-9 | 1,3-Dichloropropane | 1 | U |
| 127-18-4 | Tetrachloroethene | 1 | U |
| 124-48-1 | Chlorodibromomethane | 1 | U |
| 108-90-7 | Chlorobenzene | 1 | U |
| 630-20-6 | 1,1,1,2-Tetrachloroethane | 1 | U |
| 100-41-4 | Ethylbenzene | 1 | U |
| 106-42-3 | m&p Xylenes | 1 | U |

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO
TB071599

Lab Name: ST LABORATORIES Contract: 990916

Lab Code: ST LABS Case No. _____ SAS No.: _____ SDG No.: 643 497

Matrix: (soil/water) WATER Lab Sample ID. #9907237

Sample wt/vol. 25.0 (g/mL) ML Lab File ID: VH8C1574.D

Level: (low/med) _____ Date Received: 7/16/99

% Moisture: not dec. 0 Date Analyzed: 7/27/99

GC Column: RTX 502.2 ID: 0.53 (mm) Dilution Factor: 1.0

Soil Extract Volume: _____ (uL) Soil Aliquot Volume: _____ (uL)

| CAS No. | Compound | Concentration Units: (ug/L or ug/Kg) ug/L | Q |
|---|---|---|---|
| 95-47-6 | o-Xylene | 1 | U |
| 100-42-5 | Styrene | 1 | U |
| 75-25-2 | Bromoform | 1 | U |
| 98-82-8 | Isopropylbenzene | 1 | U |
| 79-34-5 | 1,1,2,2-Tetrachloroethane | 1 | U |
| 96-18-4 | 1,2,3-Trichloropropane | 3 | U |
| 103-65-1 | n-Propylbenzene | 1 | U |
| 108-86-1 | Bromobenzene | 1 | U |
| 108-67-8 | 1,3,5-Trimethylbenzene | 1 | U |
| 95-49-8 | 2-Chlorotoluene | 1 | U |
| 106-43-4 | 4-Chlorotoluene | 1 | U |
| 98-06-6 | tert-Butylbenzene | 1 | U |
| 95-63-6 | 1,2,4-Trimethylbenzene | 1 | U |
| 135-98-8 | sec-Butylbenzene | 1 | U |
| 99-87-6 | p-Isopropyltoluene | 1 | U |
| 541-73-1 | 1,3-Dichlorobenzene | 1 | U |
| 106-46-7 | 1,4-Dichlorobenzene | 1 | U |
| 104-51-8 | n-Butylbenzene | 1 | U |
| 95-50-1 | 1,2-Dichlorobenzene | 1 | U |
| 96-12-8 | 1,2-Dibromo-3-chloropropane | 3 | U |
| 120-82-1 | 1,2,4-Trichlorobenzene | 1 | U |
| 87-68-3 | Hexachlorobutadiene | 1 | U |
| 91-20-3 | Naphthalene | 2 | U |
| 00544-10-5 | 1-Chlorohexane | 1 | U |
| 10061-01-5 | cis-1,3-Dichloropropene | 1 | U |
| 10061-02-6 | trans-1,3-Dichloropropene | 1 | U |
| 75-05-8 | Acetonitrile | 1 | J |
| 67-64-1 | Acetone | 2 | JB |
| 107-02-8 | Acrolein | 100 | U |
| 107-13-1 | Acrylonitrile | 0.5 | J |
| 107-05-1 | Allyl Chloride | 10 | U |
| 78-93-3 | 2-Butanone | 20 | U |
| 75-15-0 | Carbon Disulfide | 5 | U |

643 498

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.
TB071599

Lab Name: ST LABORATORIES Contract: 990916

Lab Code: ST LABS Case No.: _____ SAS No.: _____ SDG No.: _____

Matrix: (soil/water) WATER Lab Sample ID: #9907237

Sample wt/vol: 25.0 (g/mL) ML Lab File ID VH8C1574.D

Level: (low/med) _____ Date Received: 7/16/99

% Moisture: not dec. 0 Date Analyzed: 7/27/99

GC Column: RTX 502.2 ID: 0.53 (mm) Dilution Factor: 1.0

Soil Extract Volume: _____ (uL) Soil Aliquot Volume: _____ (uL)

Concentration Units: (ug/L or ug/Kg) ug/L

| CAS No. | Compound | | Q |
|---|---|---|---|
| 126-99-8 | Chloroprene | 10 | U |
| 110-57-6 | trans-1,4-Dichloro-2-butene | 25 | U |
| 97-63-2 | Ethyl methacrylate | 5 | U |
| 591-78-6 | 2-Hexanone | 20 | U |
| 78-83-1 | Isobuytl Alcohol | 200 | U |
| 126-98-7 | Methacrylonitrile | 100 | U |
| 74-88-4 | Idomethane | 5 | U |
| 80-62-6 | Methyl methacrylate | 5 | U |
| 108-10-1 | 4-Methyl-2-Pentanone | 20 | U |
| 107-12-0 | Propionitrile | 100 | U |
| 108-05-4 | Vinyl acetate | [illegible] | U |
| 87-61-6 | 1,2,3-Trichlorobenzene | 2 | U |

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO
WHGLTA012WG09

Lab Name: ST LABORATORIES Contract: 990916

Lab Code: ST LABS Case No.: SAS No.: SDG No: 643 499

Matrix: (soil/water) WATER Lab Sample ID: #9907238

Sample wt/vol: 25.0 (g/mL) ML Lab File ID: VH8C1575.D

Level: (low/med) Date Received: 7/16/99

% Moisture: not dec. 0 Date Analyzed: 7/27/99

GC Column: RTX 502.2 ID: 0.53 (mm) Dilution Factor: 1.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

Concentration Units: (ug/L or ug/Kg) ug/L

| CAS No. | Compound | | Q |
|---|---|---|---|
| 71-43-2 | Benzene | 5 | |
| 108-88-3 | Toluene | 1 | U |
| 100-41-4 | Ethylbenzene | 1 | U |
| 0 | m&p Xylenes | 1 | U |
| 95-47-6 | o-Xylene | 1 | U |
| 1634-04-4 | Methyl t-butyl ether | 1 | U |

643 500

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO
WHGLTA012WG09RE

Lab Name: ST LABORATORIES Contract: 990916

Lab Code: ST LABS Case No : SAS No.: SDG No.:

Matrix: (soil/water) WATER Lab Sample ID: #9907238RE

Sample wt/vol: 25.0 (g/mL) ML Lab File ID. VH8C1587 D

Level: (low/med) Date Received. 7/16/99

% Moisture: not dec. 0 Date Analyzed: 7/27/99

GC Column: RTX 502.2 ID: 0.53 (mm) Dilution Factor: 1.0

Soil Extract Volume: (uL) Soil Aliquot Volume. (uL)

| CAS No. | Compound | Concentration Units: (ug/L or ug/Kg) ug/L | Q |
|---|---|---|---|
| 71-43-2 | Benzene | 6 | |
| 108-88-3 | Toluene | 1 | U |
| 100-41-4 | Ethylbenzene | 1 | U |
| 0 | m&p Xylenes | 1 | U |
| 95-47-6 | o-Xylene | 1 | U |
| 1634-04-4 | Methyl t-butyl ether | 1 | U |

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO
WHGLTA014WG09

Lab Name: ST LABORATORIES Contract: 990916

Lab Code: ST LABS Case No.. SAS No · SDG No.. 643 501

Matrix: (soil/water) WATER Lab Sample ID: #9907239

Sample wt/vol: 25.0 (g/mL) ML Lab File ID: VH8C1576 D

Level: (low/med) Date Received: 7/16/99

% Moisture: not dec. 0 Date Analyzed: 7/27/99

GC Column· RTX 502.2 ID: 0.53 (mm) Dilution Factor· 1.0

Soil Extract Volume: (uL) Soil Aliquot Volume. (uL)

Concentration Units: (ug/L or ug/Kg) ug/L

| CAS No. | Compound | | Q |
|---|---|---|---|
| 71-43-2 | Benzene | 1 | |
| 108-88-3 | Toluene | 1 | U |
| 100-41-4 | Ethylbenzene | 1 | U |
| 0 | m&p Xylenes | 1 | U |
| 95-47-6 | o-Xylene | 1 | U |
| 1634-04-4 | Methyl t-butyl ether | 1 | U |

643 502

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.
WHGLTA005WG09

Lab Name: ST LABORATORIES Contract: 990916

Lab Code: ST LABS Case No.: _____ SAS No.: _____ SDG No.: _____

Matrix: (soil/water) WATER Lab Sample ID: #9907240

Sample wt/vol: 25 0 (g/mL) ML Lab File ID: VH8C1577.D

Level: (low/med) _____ Date Received: 7/16/99

% Moisture: not dec. 0 Date Analyzed: 7/27/99

GC Column: RTX 502.2 ID: 0.53 (mm) Dilution Factor: 1.0

Soil Extract Volume: _____ (uL) Soil Aliquot Volume: _____ (uL)

Concentration Units: (ug/L or ug/Kg) ug/L

| CAS No. | Compound | | Q |
|---|---|---|---|
| 75-71-8 | Dichlorodifluoromethane | 1 | U |
| 74-87-3 | Chloromethane | 1 | U |
| 75-01-4 | Vinyl Chloride | 1 | U |
| 74-83-9 | Bromomethane | 1 | U |
| 75-00-3 | Chloroethane | 1 | U |
| 75-69-4 | Trichlorofluoromethane | 1 | U |
| 75-35-4 | 1,1-Dichloroethene | 1 | U |
| 75-09-2 | Methylene Chloride | 1 | U |
| 156-60-5 | trans-1,2-Dichloroethene | 1 | U |
| 75-34-3 | 1,1-Dichloroethane | 1 | U |
| 594-20-7 | 2,2-Dichloropropane | 4 | U |
| 156-59-2 | cis-1,2-Dichloroethene | 1 | U |
| 67-66-3 | Chloroform | 1 | U |
| 74-97-5 | Bromochloromethane | 1 | U |
| 71-55-6 | 1,1,1-Trichloroethane | 1 | U |
| 563-58-6 | 1,1-Dichloropropene | 1 | U |
| 56-23-5 | Carbon Tetrachloride | 2 | U |
| 107-06-2 | 1,2-Dichloroethane | 1 | U |
| 71-43-2 | Benzene | 1 | U |
| 79-01-6 | Trichloroethene | 1 | U |
| 78-87-5 | 1,2-Dichloropropane | 1 | U |
| 75-27-4 | Bromodichloromethane | 1 | U |
| 74-95-3 | Dibromomethane | 2 | U |
| 108-88-3 | Toluene | 1 | U |
| 79-00-5 | 1,1,2-Trichloroethane | 1 | U |
| 106-93-4 | 1,2-Dibromoethane (EDB) | 1 | U |
| 142-28-9 | 1,3-Dichloropropane | 1 | U |
| 127-18-4 | Tetrachloroethene | 1 | U |
| 124-48-1 | Chlorodibromomethane | 1 | U |
| 108-90-7 | Chlorobenzene | 1 | U |
| 630-20-6 | 1,1,1,2-Tetrachloroethane | 1 | U |
| 100-41-4 | Ethylbenzene | 1 | U |
| 106-42-3 | m&p Xylenes | 1 | U |

VOLATILE ORGANICS ANALYSIS DATA SHEET

EB071599

Lab Name: ST LABORATORIES Contract: 990916

Lab Code: ST LABS Case No.: SAS No SDG No.

Matrix: (soil/water) WATER Lab Sample ID: #9907245 643 503

Sample wt/vol 25.0 (g/mL) ML Lab File ID: VH8C1582.D

Level: (low/med) Date Received: 7/16/99

% Moisture: not dec. 0 Date Analyzed: 7/27/99

GC Column: RTX 502.2 ID: 0.53 (mm) Dilution Factor: 1.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

Concentration Units: (ug/L or ug/Kg) ug/L

| CAS No. | Compound | | Q |
|---|---|---|---|
| 71-43-2 | Benzene | 1 | U |
| 108-88-3 | Toluene | 1 | U |
| 100-41-4 | Ethylbenzene | 1 | U |
| 0 | m&p Xylenes | 1 | U |
| 95-47-6 | o-Xylene | 1 | U |
| 1634-04-4 | Methyl t-butyl ether | 1 | U |

1B

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

643 501

HGLTA012WG07

Lab Name: Severn Trent Labs Contract: 990916

Lab Code: STL-BALT Case No.: _____ SAS No.: _____ SDG No : _____

Matrix: (soil/water) WATER Lab Sample ID: 9907238

Sample wt/vol: 1 (g/ml) ML Lab File ID: LC3H399.D

Level: (low/med) LOW Date Received: 07/16/99

% Moisture: _____ decanted:(Y/N) N Date Extracted: _____

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 07/16/99

Injection Volume: 1.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: _____

CONCENTRATION UNITS:

| CAS NO. | COMPOUND | (ug/L or ug/Kg) ~~UG~~/L | Q |
|---|---|---|---|
| | CHLORIDE | 170 | E |
| | NITRATE | 0.13 | J |
| | SULFATE | 0.091 | J |

060011

643 505 -

1B

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO

WHGLTA012WG09 DL

Lab Name: Severn Trent Labs Contract: 990916

Lab Code: STL-BALT Case No.: _____ SAS No.: _____ SDG No.: _____

Matrix: (soil/water) WATER Lab Sample ID. 9907238X25

Sample wt/vol: 1 (g/ml) ML Lab File ID: LC3H543.D

Level: (low/med) LOW Date Received: 07/16/99

% Moisture: _____ decanted:(Y/N) N Date Extracted: _____

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 07/28/99

Injection Volume: 10 (uL) Dilution Factor: 25.0

GPC Cleanup: (Y/N) N pH: _____

CONCENTRATION UNITS:

| CAS NO. | COMPOUND | (ug/L or ug/Kg) ~~UG~~ mg/L | Q |
|---|---|---|---|
| | CHLORIDE | 120 | D |
| | NITRATE | 25 | U |
| | SULFATE | 25 | U |

-AU 080577

060014

1B

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

HGLTA014WG07

643 506

Lab Name: Severn Trent Labs Contract: 990916

Lab Code: STL-BALT Case No.: _____ SAS No.: _____ SDG No.: _____

Matrix: (soil/water) WATER Lab Sample ID: 9907239

Sample wt/vol: 1 (g/ml) ML Lab File ID: LC3H400.D

Level: (low/med) LOW Date Received: 07/16/99

% Moisture: _____ decanted:(Y/N) N Date Extracted: _____

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 07/16/99

Injection Volume: 1.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: _____

| CAS NO. | COMPOUND | CONCENTRATION UNITS: (ug/L or ug/Kg) ~~UG~~ mg/L | Q |
|---|---|---|---|
| | CHLORIDE | 74 | E |
| | NITRATE | 0.095 | J |
| | SULFATE | 31 | E |

AN 020599

060017

643 507-

1B

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

HGLTA005WG01

Lab Name: Severn Trent Labs Contract: 990916

Lab Code: STL-BALT Case No.: _____ SAS No.: _____ SDG No : _____

Matrix: (soil/water) WATER Lab Sample ID: 9907240

Sample wt/vol: 1 (g/ml) ML Lab File ID: LC3H401.D

Level: (low/med) LOW Date Received: 07/16/99

% Moisture: _____ decanted:(Y/N) N Date Extracted: _____

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 07/16/99

Injection Volume: 1.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: _____

CONCENTRATION UNITS:

| CAS NO. | COMPOUND | (ug/L or ug/Kg) ~~UG~~ mg/L | Q |
|---|---|---|---|
| | CHLORIDE | 32 | E |
| | NITRATE | 7.5 | |
| | SULFATE | 82 | E |

H 03579

060023

FORM I SV-1

3/90

1B

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

EB071599

643 508

ab Name: Severn Trent Labs Contract: 990916

Lab Code: STL-BALT Case No : SAS No.: SDG No.:

Matrix: (soil/water) WATER Lab Sample ID: 9907245

Sample wt/vol: 1 (g/ml) ML Lab File ID: LC3H410.D

Level: (low/med) LOW Date Received: 07/16/99

% Moisture: decanted:(Y/N) N Date Extracted:

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 07/16/99

Injection Volume: 1.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH:

CONCENTRATION UNITS:

| CAS NO. | COMPOUND | (ug/L or ug/Kg) ~~UG~~ mg/L | Q |
|---|---|---|---|
| | CHLORIDE | 1.0 | U |
| | NITRATE | 1.0 | U |
| | SULFATE | 1.0 | U |

060044

FORM I
SAMPLE ANALYSIS RESULTS

643 509

.ab N EA Laboratories
3' No.: 990916
: le No.: WHGLTA012WG9
Sample matrix: WATER
Total Solids: %

Contract: HYDROGEO
SDG No.: 9907238
Lab Sample ID No.: 9907238
Date Received: 07/16/99

| .ab :D | Parameter | Sample Conc. | Concentration Units | Analyzed Date |
|---|---|---|---|---|
| 9907238 | ALKALINITY | 315 | mg/L | 07/29/99 |
| | TOC AVERAGE | 2.7 | mg/L | 08/05/99 |
| | TOC REPLICATE 1 | 2.6 | mg/L | 08/05/99 |
| | TOC REPLICATE 2 | 2.7 | mg/L | 08/05/99 |

080003

FORM I

643 510

SAMPLE ANALYSIS RESULTS

Lab Name: EA Laboratories
SAS Case No.: 990916
EPA Sample No.: WHGLTA014WG9
Sample matrix: WATER
Total Solids: %

Contract: HYDROGEO
SDG No.: 9907238
Lab Sample ID No.: 9907239
Date Received: 07/16/99

| Lab ID | Parameter | Sample Conc. | Concentration Units | Analyzed Date |
|---|---|---|---|---|
| 9907239 | ALKALINITY | 436 | mg/L | 07/29/99 |
| | TOC AVERAGE | 1.8 | mg/L | 08/06/99 |
| | TOC REPLICATE 1 | 1.7 | mg/L | 08/06/99 |
| | TOC REPLICATE 2 | 1.8 | mg/L | 08/06/99 |

FORM I
SAMPLE ANALYSIS RESULTS

643 511

EA Laboratories
No.: 990916
EPA Sample No.: EB071599
Sample matrix: WATER
Total Solids: %

Contract: HYDROGEO
SDG No.: 9907238
Lab Sample ID No.: 9907245
Date Received: 07/16/99

| Lab ID | Parameter | Sample Conc. | Concentration Units | Analyzed Date |
|---|---|---|---|---|
| 9907245 | ALKALINITY | 4.1 | mg/L | 07/29/99 |
| | TOC AVERAGE | <1.0 | mg/L | 08/10/99 |
| | TOC REPLICATE 1 | <1.0 | mg/L | 08/10/99 |
| | TOC REPLICATE 2 | <1.0 | mg/L | 08/10/99 |

080009

643 512

Committed To *Your* Success

**Severn Trent Laboratories**
11 East Olive Road
Pensacola FL 32514

Tel· (850) 474-1001
Fax (850) 478-2671

SIGNATURE PAGE

Reviewed by: _____
STL Project Manager

| | |
|---|---|
| Client: | STL/MARYLAND<br>SPARKS, MARYLAND |
| Project Name. | AFC001-26HAA |
| Project Number: | 990916 |
| Project Location: | NAS, FORT WORTH, TX |
| Accession Number: | 907348 |
| Project Manager: | MARY ASPER |
| Sampled By: | NICOLE HADE |

THIS IS A REVISED REPORT: December 19, 1999

643 513

SEVERN TRENT LABORATORIES 11 East Olive Road Pensacola, Florida 32514 (850) 474-1001



"FINAL REPORT FORMAT - SINGLE"

Accession: 907348
Client: STL/MARYLAND
Project Number: 990916
Project Name: AFC001-26HAA
Project Location: NAS, FORT WORTH, TX
Test: GENERIC GROUP GC/SEMI-VOLATILE
Analysis Method: RSK 175
Extraction Method: N/A
Matrix: WATER
QC Level: N

Lab Id: 001
Client Sample Id: TB071599
Sample Date/Time: 15-JUL-99 0715
Received Date: 20-JUL-99

Batch: GEW264
Blank: A
Dry Weight %: N/A
Extraction Date. N/A
Analysis Date. 23-JUL-99

| Parameter: | Units: | Results: | Rpt Lmts: | Q: |
|---|---|---|---|---|
| METHANE | UG/L | ND | 1 | |
| ETHANE | UG/L | ND | 1 | |
| ETHENE | UG/L | ND | 1 | |
| ANALYST | INITIALS | AHT | | |

Comments:
Preparation Time: 08.30
Analysis Time: 11.32

SEVERN TRENT LABORATORIES 11 East Olive Road Pensacola, Florida 32514 (850) 474-1001



"FINAL REPORT FORMAT - SINGLE"

Accession: 907348
Client. STL/MARYLAND
Project Number: 990916
Project Name: AFC001-26HAA
Project Location: NAS, FORT WORTH, TX
Test: GENERIC GROUP GC/SEMI-VOLATILE
Analysis Method: RSK 175
Extraction Method: N/A
Matrix: WATER
QC Level: N

---

Lab Id: 002
Client Sample Id: WHGLTA012WG09
Sample Date/Time: 15-JUL-99 1245
Received Date: 20-JUL-99

Batch: GEW264
Blank: A
Dry Weight %: N/A
Extraction Date: N/A
Analysis Date: 23-JUL-99

| Parameter: | Units: | Results: | Rpt Lmts: | Q: |
|---|---|---|---|---|
| METHANE | UG/L | 14529.3843 | 1 | |
| ETHANE | UG/L | ND | 1 | |
| ETHENE | UG/L | ND | 1 | |
| ANALYST | INITIALS | AHT | | |

Comments:
Preparation Time: 08.30
Analysis Time: 11:50

643 515

SEVERN TRENT LABORATORIES 11 East Olive Road Pensacola, Florida 32514 (850) 474-1001



"FINAL REPORT FORMAT - SINGLE"

Accession: 907348
Client: STL/MARYLAND
Project Number: 990916
Project Name: AFC001-26HAA
Project Location: NAS, FORT WORTH, TX
Test: GENERIC GROUP GC/SEMI-VOLATILE
Analysis Method: RSK 175
Extraction Method: N/A
Matrix: WATER
QC Level: N

Lab Id: 003
Client Sample Id: WHGLTA014WG09
Sample Date/Time. 15-JUL-99 0942
Received Date: 20-JUL-99

Batch: GEW264
Blank: A
Dry Weight %: N/A
Extraction Date: N/A
Analysis Date: 23-JUL-99

| Parameter: | Units: | Results: | Rpt Lmts· | Q: |
|---|---|---|---|---|
| METHANE | UG/L | 1116.1386 | 1 | |
| ETHANE | UG/L | ND | 1 | |
| ETHENE | UG/L | ND | 1 | |
| ANALYST | INITIALS | AHT | | |

Comments:
Preparation Time: 08:30
Analysis Time: 11:57

SEVERN TRENT LABORATORIES 11 East Olive Road Pensacola, Florida 32514 (850) 474-1001



"FINAL REPORT FORMAT - SINGLE"

Accession: 907348
Client: STL/MARYLAND
Project Number: 990916
Project Name: AFC001-26HAA
Project Location: NAS, FORT WORTH, TX
Test: GENERIC GROUP GC/SEMI-VOLATILE
Analysis Method: RSK 175
Extraction Method: N/A
Matrix: WATER
QC Level: N

Lab Id: 008
Client Sample Id: EB071599
Sample Date/Time. 15-JUL-99 1545
Received Date: 20-JUL-99

Batch: GEW264
Blank: A
Dry Weight %: N/A
Extraction Date: N/A
Analysis Date: 23-JUL-99

| Parameter: | Units: | Results: | Rpt Lmts: | Q: |
|---|---|---|---|---|
| METHANE | UG/L | 31.8072 | 1 | |
| ETHANE | UG/L | ND | 1 | |
| ETHENE | UG/L | ND | 1 | |
| ANALYST | INITIALS | AHT | | |

Comments:
Preparation Time: 08:30
Analysis Time 12.47

Received 8/24/99

643 517

Committed To *Your* Success

Severn Trent Laboratories
19 Loveton Circle
Sparks, MD 21152

Tel. (410) 771-4920
Fax: (410) 771-4407
www.stl-inc.com

August 23, 1999

Ms. Lynn Morgan
HydroGeoLogic, Inc.
11 55 Herndon Parkway, Suite 900
Herndon, VA 20170

Re:HydroGeoLogic, Inc. NAS Ft. Worth (70001.01) DO#26, AFC00126HAA

Dear Ms. Morgan:

Enclosed is our report on the analysis of five water samples collected for the HydroGeoLogic, Inc. NAS Ft. Worth project on 21 July 1999. The invoice is included.

Please contact me if you have any questions or require further information and refer to report 990944. Unless other arrangements are made, we reserve the right to dispose of your samples sixty (60) days from the date of this letter. We will retain the raw data for seven years from this date.

Sincerely,

Mary E. Asper
Laboratory Project Manager

enclosure

643 518

Committed To Your Success

# LABORATORY DATA REPORT

Prepared for:

HydroGeoLogic, Inc.
NAS Ft. Worth

Prepared by:

Severn Trent Laboratories
19 Loveton Circle
Sparks, MD 21152

Report 990944

August 1999

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# 1. NARRATIVE

010000

**Severn Trent Laboratories**
**ANALYTICAL NARRATIVE**

Client: **HydroGeoLogic, Inc.**
Site: **NAS Ft. Worth**
Project number: **70001.01**

ST Laboratories Report: **990944**
Laboratory Project Manager: **Mary E. Asper**
Report Date: **23 August 1999**

---

This report contains the results of the analysis of five water samples collected on 21 July 1999 in support of the referenced project.

*SAMPLE RECEIPT*

The samples and one trip blank arrived intact by Federal Express at Severn Trent Laboratories on 22 July 1999. Upon receipt, the samples and blank were inspected and compared with the chain-of-custody record. The samples and blank were then logged into the laboratory computer system with assigned laboratory accession numbers and released for analysis.

| Client Sample Designation | ST Lab Number |
|---|---|
| TB072199 | 9907409 |
| WHGLTA701WG09 | 9907410 |
| EBO72199 | 9907411 |
| SPOT35-5WG09 | 9907412 |
| WITCTA024WG09 | 9907413 |
| ST14-W11WG09 | 9907414 |

Following this narrative section are a table of analytical methods used (Table 1), glossaries of data qualifiers (Tables 2 and 3), codes associated with manual integration of chromatographic peaks (Table 4), and the chain of custody record. Analytical results and quality control information are summarized in the appended data package which has been formatted to be consistent with the deliverable requirements of this project.

*QUALITY CONTROL*

The following sections are ordered as the data appears in this report. They contain observations made during sample analysis, summarize the results of quality control measurements, and address the impact on data usability based upon project Data Quality Objectives. For each fractional analysis the narrative includes:

- Sample chronology: This section summarizes the sample history by fraction including the sample preparation method and date, analytical method, and analysis date. Anything unusual about the samples, digestates, or extracts is identified. Holding time compliance is evaluated in this section.

- Laboratory method performance All quality control criteria for method performance must be met for all target analytes for data to be reported. These criteria generally apply to instrument tune,

**Severn Trent Laboratories**
**ANALYTICAL NARRATIVE**

Client: **HydroGeoLogic, Inc.**
Site. **NAS Ft. Worth**
Project number: **70001.01**

ST Laboratories Report: **990944**
Laboratory Project Manager: **Mary E. Asper**
Report Date: **23 August 1999**

---

calibration, method blanks, and Laboratory Control Samples (LCS). In some instances where method criteria fail, useable data can be obtained and are reported with client approval. The narrative will then include a thorough discussion of the impact on data quality.

- Sample performance: Quality control field samples are analyzed to determine any measurement bias due to the sample matrix based on evaluation of matrix spikes (MS), matrix spike duplicates (MSD), and laboratory duplicates (D). If acceptance criteria are not met, matrix interferences are confirmed either by reanalysis or by inspection of the LCS results to verify that laboratory method performance is in control. Data are reported with appropriate qualifiers or discussion.

**VOLATILES by GC/MS - WATER (ST9907409 - ST9907414)**

Sample Chronology: Six samples and associated quality control were analyzed on 27 - 30 July 1999 for the project specified list of analytes by USEPA SW-846, Methods 5030B/8260B using a 25 ml purge volume. All holding times were met.

The batch MS/MSD, analyzed on 29 - 30 July 1999, was performed on another client's sample. All data associated with these QC analyses have been included in this report to fulfill reporting requirements. However, recoveries were not evaluated since they do not apply to the samples associated with this report. The batch MS/MSD, analyzed on 28 - 29 July 1999, was performed on another HydroGeologic sample (ST14-W16WG09). All data associated with these QC analyses have been included in this report.

Sample WHGLTA701WG09 required a 20X dilution to bring the concentrations of target analytes within instrument calibration range. Sample SPOT35-5WG09 required a 5X dilution.

Laboratory Method Performance: All laboratory method performance criteria were met for the reported samples with the following exceptions;

- the daily calibration standard, VC3A3172, had the percent differences (%Ds) for trans-1,2-dichloroethene (27.6%) and 1,1-dichloroethane (27.5%) slightly above the QC limit of 25%. These high %Ds were the result of an increase in analyte response. However, since all recoveries for these analytes in the LCS/MS/MSD (analyzed with this daily standard) were within specified QC limits, the high %Ds should not be indicative of a significant bias.

- the control analyte 1-chlorohexane was not included in the LCS, performed on 27 July 1999.

Sample Performance: All quality control criteria were met for the reported samples with the

**Severn Trent Laboratories**
**ANALYTICAL NARRATIVE**

Client. **HydroGeoLogic, Inc.**
Site: **NAS Ft. Worth**
Project number. **70001.01**

ST Laboratories Report: **990944**
Laboratory Project Manager: **Mary E. Asper**
Report Date: **23 August 1999**

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following exceptions;

- the batch MS/MSD, performed on sample ST14-W11WG09, had the recoveries of dichlorodifluoromethane (170%/180%), vinyl chloride (140%/150%) and 1-chlorohexane (140%/150%) above the upper QC limits of 125%, 134% and 125%, respectively. The individual MS had the recovery of 1,4-dichlorobenzene (73%) slightly below the lower QC limit of 75%. The individual MSD had the recoveries of chloromethane (130%), trichlorofluoromethane (130%) and 1,1-dichloropropene (130%) above the upper QC limit of 125%.

- the batch MS/MSD, performed on sample ST14-W16WG09, had the recoveries of 1,1-dichloroethane (130%/130%), cis-1,2-dichloroethene (130%/130%), styrene (70%/70%), 1,1-dichloropropene (140%/140%), 1-chlorohexane (150%/160%), isopropylbenzene (280%/280%), n-propylbenzene (230%/230%), naphthalene (260%/280%), sec-butylbenzene (130%/130%) and tert-butylbenzene (170%/170%) outside their respective QC limits. The individual MS had the recoveries of dichlorodifluoromethane (140%) and 1,2,4-trimethylbenzene (72%) outside their respective QC limits

**EXTRACTABLE TPH by GC - WATER (STL9907412)**

Sample Chronology: The samples and associated quality control were extracted on 27 July 1999 by TNRCC Method 1005. The extracts were analyzed on 28 July 1999 for the method list of analytes by the same method. All holding times were met.

Laboratory Method Performance: All laboratory method performance criteria were met for the reported sample.

Sample Performance: All quality control criteria were met for the reported sample with the following exception:

The MSD had recoveries for the control analyte ranges C6-C10 and C6-C28 slightly above the upper acceptance limit of 130% at 132% and 131%, respectively. This is indicative of a slight positive bias, however, the sample was not detected for any of the target compounds and the LCS and MS recoveries were within the specified limits indicating acceptable method performance.

**PAHs by HPLC- WATER (STL9907409-STL9907414)**

Sample Chronology: The samples and associated quality control were extracted on 23 July 1999 by USEPA SW-846, Method 3520. The sample extracts and associated QC extracts were analyzed 10 and 11 August 1999 for the project specified list of analytes by USEPA SW-846, Method 8310. All holding times were met.

643 528

**Severn Trent Laboratories**
**ANALYTICAL NARRATIVE**

Client: **HydroGeoLogic, Inc.**
Site: **NAS Ft. Worth**
Project number: **70001.01**

ST Laboratories Report: **990944**
Laboratory Project Manager: **Mary E. Asper**
Report Date: **23 August 1999**

---

A Laboratory Control Sample duplicate (LCS duplicate, ND907231) was performed in lieu of a Matrix Spike/Matrix Spike Duplicate due to insufficient sample volume.

Laboratory Method Performance: All Laboratory method performance criteria were met for the reported samples with the following exception:

The NL907231 and ND907231 recoveries for benzo(a)pyrene (LCS 34%, LCS duplicate 44%) and anthracene (LCS duplicate 48%) were outside the lower QC limits of 52% and 54%, respectively.

Sample Performance: All sample performance criteria were met for the reported samples.

**METALS - WATER (ST9907414)**

Sample Chronology: One sample was prepared (SW846 methods 3010/3020/7470M*) on 27-29 July 1999 and analyzed for TAL metals by SW846 methods 6010/7841/7470M on 29 July 1999 - 4 August 1999.

*modification includes the use of an autoclave in place of a waterbath for digestion.

Laboratory Method Performance: All laboratory method performance criteria were met for the reported sample.

Sample Performance: All quality control criteria were met for the reported sample with the following exceptions:

The recoveries of potassium (124.1.8%, 127.1%) and sodium (128.5%, MS only) were outside of the control limits (80-120%), indicating a potential for bias to the sample data.

**ANIONS by IC- WATER (STL9907410- STL9907412)**

Sample Chronology: The samples and associated quality control were analyzed on 23 July and 05 August 1999 by USEPA Method 9056 for the chloride, nitrate, and sulfate anions. All holding times were met except for sample SPOT35-5WG09 was analyzed 5 minutes past holding time for the nitrate anion.
Sample SPOT35-5WG09 was reanalyzed at a ten times (10X) dilution and sample WHGLTA701WG09 was reanalyzed at a five times (5X) dilution in order to bring the concentration of target analytes within calibration range.

The batch MS/MSD analyzed 05 August 1999 was performed on another client's sample. All data associated with these QC samples are included in this report.

**Severn Trent Laboratories**
**ANALYTICAL NARRATIVE**

Client: **HydroGeoLogic, Inc.**
Site: **NAS Ft. Worth**
Project number: **70001.01**

ST Laboratories Report: **990944**
Laboratory Project Manager: **Mary E. Asper**
Report Date: **23 August 1999**

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Laboratory Method Performance: All laboratory method performance criteria were met for the reported samples.

Sample Performance: All sample performance criteria were met for the reported samples.

**GENERAL CHEMISTRY -Water ( STL9907410-STL9907412)**

Sample Chronology: Three water samples were analyzed according to the following USEPA methods.

| Parameter | Method# | Prep Date | Analysis Date |
|---|---|---|---|
| Alkalinity | 310 1 | NA | 07/30/99 |
| Total Organic Carbon | 9060 | NA | 08/12/99 |

All holding times were met for the reported samples.

Laboratory Method Performance: All laboratory method performance criteria were met for the reported samples.

Sample Performance: All quality control criteria were met for the reported samples with the following exceptions:

- The batch matrix spike and matrix spike duplicate for TOC analysis were performed on another sample from another report. All data from these analyses are included in this report as Reference QC.

- The batch matrix spike and matrix spike duplicate for alkalinity, performed on sample SPOT35-5WG09, had recoveries of 74%/78% respectively, below the laboratory lower control limit of 98%. This was due to the high native concentration within the sample, which exceeded the spike added by a factor of 3.

- The laboratory is experiencing a matrix interference for TOC analysis, most probably caused by Sodium in the samples, that causes the continuing calibration verification standards to recover progressively lower over the range of the analysis run. The frequent cleansing of the system with the analysis of blanks does not correct the problem. Upon discussions with the Project Manager, Ken Rapuano, it was decided that since the TOC is considered a screening parameter, the laboratory acceptance limits could be widened to allow the analysis to proceed without seriously affecting the results Therefore, the CCV acceptance range has been widened from 90-110% to 85-115%, and the Laboratory Control Sample acceptance range has been widened from 96-104% to 90-110%.

**Severn Trent Laboratories**
**ANALYTICAL NARRATIVE**

Client: **HydroGeoLogic, Inc.**
Site: **NAS Ft. Worth**
Project number: **70001.01**

ST Laboratories Report: **990944**
Laboratory Project Manager: **Mary E. Asper**
Report Date: **23 August 1999**

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## CERTIFICATION OF RESULTS

The Laboratory certifies that this report meets the project requirements for analytical data as stated in the Analytical Task Order (ATO) and the chain-of-custody. In addition, the Laboratory certifies that the data as reported meet the Data Quality Objectives for precision, accuracy, and completeness specified for this project or as stated in Severn Trent Laboratories Quality Assurance program for other than the conditions detailed above. It is recommended by the Laboratory that this analytical report should only be reproduced in its entirety. Severn Trent Laboratories is not responsible for any assumptions of data quality if partial packages are used to interpret data. Release of the data contained in this report has been authorized by the appropriate Laboratory Manager as verified by the following signature

Mary E. Asper August 23, 1999
Mary E. Asper, Laboratory Project Manager

2. CHAIN-OF-CUSTODY

643 532

990944

F9/24/00A 21

STL
Committed To Your Success

**Chicago Laboratory**
2417 Bond Street
University Park, IL 60466
Phone 708-534-5200
Fax 708-534-5211

**Report To:**
Contact: Lynn Morgan
Company: HydroGeologic
Address: 1155 Herndon Pkwy Ste 900, Herndon, VA 20170
Phone: (703) 478-5186
Fax: (703) 471-4170
E-Mail:

**To:**
Contact: SAME
Company:
Address:
Phone:
Fax:
PO#: Quote:

Shaded Areas For Internal U ___ of

**Lab Lot #**

| | |
|---|---|
| Package Sealed (Yes) No | Samples Sealed (Yes) No |
| Received on Ice (Yes) No | Samples Intact (Yes) No |
| Temperature °C of Cooler: 3°C | |
| Within Hold Time (Yes) No | Preserv. Indicated (Yes) No NA |
| pH Check ok (Yes) No NA | Res. $Cl_2$ Check ok Yes No (NA) |
| Sample Labels and COC Agree (Yes) No COC not present | |

Sampler Name: Nicole Hade
Signature:
Project Name: July Quarterly
Project Number: AFC-001-26HAA
Project Location: NAS Ft. Worth Jrb, TX
Date Required: Hard Copy ___/___/___ Fax ___/___/___
Lab PM: MARY ASPER

| Laboratory ID | MS-MSD | Client Sample ID | Sampling Date | Sampling Time | Matrix | Comp/Grab | Alkalinity 310.1 | Anions 300.0 (SO4, NO3) | TOC in Dip. 9060 | Methane RSK175 Ethane, Ethene | VOCs 8260 CAPP LIST | TPH TX 1005 | PAHs 8310 | Total metals + Mercury (TAL-6010B/7470) | VOCs 01 CAPP LIST 8260 | Methane Ethane, Ethene RSK175 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Refrg # | | | | | | | | | | | | | | | | |
| #/Cont. | | | | | | | 1 | 1 | 2 | 2 | 2 | 4 | 1 | 2 | 2 | |
| Volume | | | | | | | 1L | 250ml | 40ml | 40ml | 30ml | 1L | 1L | 40ml | 40ml | |
| Preserv | | | | | | | 6 | 2 | 1 | 1 | 1 | 6 | 3 | 6 | 6 | |
| 990709 | | TB072199 | 7-21-99 | 705 | W | G | | | 2 | 2 | | | | | | |
| 990710 | | WHGLTA701WG09 | | 1030 | W | G | 1 | 1 | 3 | 3 | | | | | | |
| 990711 | | EB072199 | | 1145 | W | G | 1 | 1 | 3 | 3 | | | | | | |
| 990712 | | SPOT35-5WG09 | | 901 | W | G | 1 | 1 | 3 | 3 | 3 | 1 | | 3 | 3 | |
| 990713 | | WITCTA024WG09 | | 1116 | W | G | | | | 3 | | | | 3 | | |
| 990714 | | STL4-WIIWG09 | | 1224 | W | G | | | | 3 | | | 1 | 3 | | |

Additional Analyses / Remarks:
STL-PS-145
Level 4D plus Summary PKG & IRPIMS 3.0
HC ① EDDs due 8/19/99

Analyze samples using pres. VOAs. Unpres. sent as precautionary for bubbles.

IC L16387
3 AIL 3B / amber 46 oz

C0000055552

| RELINQUISHED BY | COMPANY | DATE | TIME | RECEIVED BY | COMPANY | DATE | TIME |
|---|---|---|---|---|---|---|---|
| Nicole Hade | HydroGeologic | 7-21-99 | 1630 | [signature] | STL-Balto. | 7-23-99 | 0900 |
| RELINQUISHED BY | COMPANY | DATE | TIME | RECEIVED BY | COMPANY | DATE | TIME |

**Matrix Key**
WW = Wastewater, W = Water, S = Soil, SL = Sludge, MS = Miscellaneous, OL = Oil, SE = Sediment, SO = Solid, DS = Drum Solid, DL = Drum Liquid, L = Leachate, WI = Wipe

**Container Key**
1 Plastic, 2 VOA Vial, 3 Sterile Plastic, 4 Amber Glass, 5 Widemouth Glass, 6 Other

**Preservative Key**
1 HCl, Cool to 4°, 2 H2SO4, Cool to 4°, 3 HNO3, Cool to 4°, 4 NaOH, Cool to 4°, 5 NaOH/Zn Acetate, Cool to 4°, 6 Cool to 4°, 7 None

COMMENTS:
① Extra volume unpreserved
TPH = TX1005

Date Received ___/___/___
Courier: Fed-X
Hand Delivered ☐
5085189012/9023
Bill of Lading

1B

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

SPOT35-5WG09

643 533

Lab Name. Severn Trent Labs Contract: 990944

Lab Code: STL-BALT Case No.: _____ SAS No.: _____ SDG No.: _____

Matrix: (soil/water) WATER Lab Sample ID: 9907412

Sample wt/vol: 1 (g/ml) ML Lab File ID: LC3H533.D

Level: (low/med) LOW Date Received: 07/22/99

% Moisture: _____ decanted:(Y/N) N Date Extracted: _____

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 07/23/99

Injection Volume: 1.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: _____

| CAS NO. | COMPOUND | CONCENTRATION UNITS: (ug/L or ug/Kg) ~~UG~~ mg/L | Q |
|---|---|---|---|
| | CHLORIDE | 110 | E |
| | NITRATE | 0.28 | J |
| | SULFATE | 0.14 | J |

050020

643 534

1B

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

POT35-5WG09 DL

Lab Name: Severn Trent Labs Contract: 990944

Lab Code: STL-BALT Case No.: _____ SAS No.: _____ SDG No.: _____

Matrix: (soil/water) WATER Lab Sample ID: 9907412X10

Sample wt/vol: 1 (g/ml) ML Lab File ID: LC3H675.D

Level: (low/med) LOW Date Received: 07/22/99

% Moisture: _____ decanted:(Y/N) N Date Extracted: _____

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 08/05/99

Injection Volume: 1.0 (uL) Dilution Factor: 10.0

GPC Cleanup: (Y/N) N pH: _____

CONCENTRATION UNITS:

| CAS NO. | COMPOUND | (ug/L or ug/Kg) ~~UG~~ mg/L | Q |
|---|---|---|---|
| | CHLORIDE | 93 | D |
| | NITRATE | 10 | U |
| | SULFATE | 10 | U |

050023

4B

SEMIVOLATILE METHOD BLANK SUMMARY

EPA SAMPLE NO

TB907271

643 535

Lab Name: STL-Baltimore Contract: HYDROGE

Code: Case No.: 990944 SAS No.: SDG No.:

Lab File ID: SW4A011F.D Lab Sample ID: TB907271

Instrument ID: SW3 Date Extracted: 07/27/99

Matrix: (soil/water) WATER Date Analyzed: 07/28/99

Level: (low/med) LOW Time Analyzed: 18:51

THIS METHOD BLANK APPLIES TO THE FOLLOWING SAMPLES, MS AND MSD:

| | EPA SAMPLE NO | LAB SAMPLE ID | LAB FILE ID | DATE ANALYZED |
|---|---|---|---|---|
| 01 | TL907271 | TL907271 | SW4A012F.D | 07/28/99 |
| 02 | SPOT35-5WG09 | 9907412 | SW4A013F.D | 07/28/99 |
| 03 | SPOT35-5WG09M | 9907412MS | SW4A014F.D | 07/28/99 |
| 04 | SPOT35-5WG09M | 9907412MSD | SW4A015F.D | 07/28/99 |

COMMENTS:

643 536

1B

# SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

SPOT35-5WG09

Lab Name: STL-Baltimore Contract: HYDROGE

Lab Code. Case No.: 990944 SAS No.: SDG No.:

Matrix: (soil/water) WATER Lab Sample ID: 9907412

Sample wt/vol. 30 (g/ml) ML Lab File ID: SW4A013F.D

Level: (low/med) LOW Date Received: 07/22/99

% Moisture. decanted:(Y/N) N Date Extracted: 07/27/99

Concentrated Extract Volume: 3000 (uL) Date Analyzed: 07/28/99

Injection Volume: 1.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH:

| CAS NO | COMPOUND | CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L | Q |
|---|---|---|---|
| | C6-C10 | 2500 | U |
| | C10-C28 | 2500 | U |
| | C6-C28 | 5000 | U |

0·0007

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

TB072199

643 537

Lab Name: STL BALTIMORE Contract: 990944

Lab Code: ST LABS Case No.: SAS No.: SDG No.:

Matrix: (soil/water) WATER Lab Sample ID: 9907409

Sample wt/vol: 25.0 (g/ml) ML Lab File ID: VC3A3140.D

Level: (low/med) LOW Date Received: 7/22/99

% Moisture: not dec. Date Analyzed: 7/28/99

GC Column: DB-624 ID: 0.25 (mm) Dilution Factor: 1.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

CONCENTRATION UNITS:

| CAS NO. | COMPOUND | (ug/L or ug/Kg) UG/L | Q |
|---|---|---|---|
| 75-71-8 | Dichlorodifluoromethane | 1 | U |
| 74-87-3 | Chloromethane | 1 | U |
| 75-01-4 | Vinyl Chloride | 1 | U |
| 74-83-9 | Bromomethane | 1 | U |
| 75-00-3 | Chloroethane | 1 | U |
| 75-69-4 | Trichlorofluoromethane | 1 | U |
| 75-35-4 | 1,1-Dichloroethene | 1 | U |
| 75-09-2 | Methylene Chloride | 0.9 | J |
| 156-60-5 | trans-1,2-Dichloroethene | 1 | U |
| 75-34-3 | 1,1-Dichloroethane | 1 | U |
| 156-59-2 | cis-1,2-Dichloroethene | 1 | U |
| 67-66-3 | Chloroform | 1 | U |
| 71-55-6 | 1,1,1-Trichloroethane | 1 | U |
| 56-23-5 | Carbon Tetrachloride | 2 | U |
| 107-06-2 | 1,2-Dichloroethane | 1 | U |
| 71-43-2 | Benzene | 1 | U |
| 67-64-1 | Acetone | 20 | U |
| 79-01-6 | Trichloroethene | 1 | U |
| 75-15-0 | Carbon Disulfide | 5 | U |
| 78-93-3 | 2-Butanone | 20 | U |
| 78-87-5 | 1,2-Dichloropropane | 1 | U |
| 108-10-1 | 4-Methyl-2-Pentanone | 20 | U |
| 75-27-4 | Bromodichloromethane | 1 | U |
| 591-78-6 | 2-Hexanone | 20 | U |
| 1330-20-7 | m&p Xylenes | 1 | U |
| 74-95-3 | Dibromomethane | 2 | U |
| 107-02-8 | Acrolein | 100 | U |
| 75-05-8 | Acetonitrile | 100 | U |
| 107-05-1 | Allyl Chloride | 10 | U |
| 10061-01-5 | cis-1,3-Dichloropropene | 1 | U |
| 107-13-1 | Acrylonitrile | 100 | U |
| 108-05-4 | Vinyl Acetate | 10 | U |
| 126-99-8 | Chloroprene | 10 | U |
| 108-88-3 | Toluene | 1 | U |
| 107-12-0 | Propionitrile | 100 | U |
| 10061-02-6 | trans-1,3-Dichloropropene | 1 | U |
| 126-98-7 | Methacrylonitrile | 100 | U |
| 79-00-5 | 1,1,2-Trichloroethane | 1 | U |
| 78-83-1 | Isobutyl Alcohol | 200 | U |

FORM I VOA

1A

643 538 VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

TB072199

Lab Name: STL BALTIMORE Contract: 990944

Lab Code: ST LABS Case No.. SAS No.: SDG No.:

Matrix: (soil/water) WATER Lab Sample ID: 9907409

Sample wt/vol: 25.0 (g/ml) ML Lab File ID: VC3A3140.D

Level: (low/med) LOW Date Received: 7/22/99

% Moisture: not dec. Date Analyzed: 7/28/99

GC Column: DB-624 ID: 0.25 (mm) Dilution Factor: 1.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

CONCENTRATION UNITS:

| CAS NO. | COMPOUND | (ug/L or ug/Kg) UG/L | Q |
|---|---|---|---|
| 80-62-6 | Methyl Methacrylate | 5 | U |
| 97-63-2 | Ethyl Methacrylate | 5 | U |
| 110-57-6 | trans-1,4-Dichloro-2-butene | 25 | U |
| 127-18-4 | Tetrachloroethene | 1 | U |
| 563-58-6 | 1,1-Dichloropropene | 1 | U |
| 106-93-4 | 1,2-Dibromoethane (EDB) | 1 | U |
| 87-61-6 | 1,2,3-Trichlorobenzene | 2 | U |
| 124-48-1 | Chlorodibromomethane | 1 | U |
| 120-82-1 | 1,2,4-Trichlorobenzene | 1 | U |
| 108-90-7 | Chlorobenzene | 1 | U |
| 95-63-6 | 1,2,4-Trimethylbenzene | 1 | U |
| 630-20-6 | 1,1,1,2-Tetrachloroethane | 1 | U |
| 108-67-8 | 1,3,5-Trimethylbenzene | 1 | U |
| 95-50-1 | 1,2-Dichlorobenzene | 1 | U |
| 100-41-4 | Ethylbenzene | 1 | U |
| 541-73-1 | 1,3-Dichlorobenzene | 1 | U |
| 142-28-9 | 1,3-Dichloropropane | 1 | U |
| 106-46-7 | 1,4-Dichlorobenzene | 1 | U |
| 544-10-5 | 1-Chlorohexane | 1 | U |
| 100-42-5 | Styrene | 1 | U |
| 594-20-7 | 2,2-Dichloropropane | 4 | U |
| 95-49-8 | 2-Chlorotoluene | 1 | U |
| 106-43-4 | 4-Chlorotoluene | 1 | U |
| 75-25-2 | Bromoform | 1 | U |
| 108-86-1 | Bromobenzene | 1 | U |
| 79-34-5 | 1,1,2,2-Tetrachloroethane | 1 | U |
| 74-97-5 | Bromochloromethane | 1 | U |
| 87-68-3 | Hexachlorobutadiene | 1 | U |
| 96-18-4 | 1,2,3-Trichloropropane | 3 | U |
| 98-82-8 | Isopropylbenzene | 1 | U |
| 104-51-8 | n-Butylbenzene | 1 | U |
| 103-65-1 | n-Propylbenzene | 1 | U |
| 91-20-3 | Naphthalene | 2 | U |
| 95-47-6 | o-Xylene | 1 | U |
| 99-87-6 | p-Isopropyltoluene | 1 | U |
| 135-98-8 | sec-Butylbenzene | 1 | U |
| 98-06-6 | tert-Butylbenzene | 1 | U |
| 74-88-4 | Iodomethane | 5 | U |
| 96-12-8 | 1,2-Dibromo-3-chloropropane | 3 | U |

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

EB072199

643 539

Lab Name: STL BALTIMORE Contract: 990944

Lab Code: ST LABS Case No.: SAS No.: SDG No.:

Matrix: (soil/water) WATER Lab Sample ID: 9907411

Sample wt/vol: 25.0 (g/ml) ML Lab File ID: VC3A3176.D

Level: (low/med) LOW Date Received: 7/22/99

% Moisture. not dec. Date Analyzed: 7/28/99

GC Column. DB-624 ID: 0.25 (mm) Dilution Factor: 1.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

CONCENTRATION UNITS:

| CAS NO. | COMPOUND | (ug/L or ug/Kg) UG/L | Q |
|---|---|---|---|
| 75-71-8 | Dichlorodifluoromethane | 1 | U |
| 74-87-3 | Chloromethane | 1 | U |
| 75-01-4 | Vinyl Chloride | 1 | U |
| 74-83-9 | Bromomethane | 1 | U |
| 75-00-3 | Chloroethane | 1 | U |
| 75-69-4 | Trichlorofluoromethane | 1 | U |
| 75-35-4 | 1,1-Dichloroethene | 1 | U |
| 75-09-2 | Methylene Chloride | 1 | U |
| 156-60-5 | trans-1,2-Dichloroethene | 1 | U |
| 75-34-3 | 1,1-Dichloroethane | 1 | U |
| 156-59-2 | cis-1,2-Dichloroethene | 1 | U |
| 67-66-3 | Chloroform | 1 | U |
| 71-55-6 | 1,1,1-Trichloroethane | 1 | U |
| 56-23-5 | Carbon Tetrachloride | 2 | U |
| 107-06-2 | 1,2-Dichloroethane | 1 | U |
| 71-43-2 | Benzene | 1 | U |
| 67-64-1 | Acetone | 20 | U |
| 79-01-6 | Trichloroethene | 1 | U |
| 75-15-0 | Carbon Disulfide | 5 | U |
| 78-93-3 | 2-Butanone | 20 | U |
| 78-87-5 | 1,2-Dichloropropane | 1 | U |
| 108-10-1 | 4-Methyl-2-Pentanone | 20 | U |
| 75-27-4 | Bromodichloromethane | 1 | U |
| 591-78-6 | 2-Hexanone | 20 | U |
| 1330-20-7 | m&p Xylenes | 1 | U |
| 74-95-3 | Dibromomethane | 2 | U |
| 107-02-8 | Acrolein | 100 | U |
| 75-05-8 | Acetonitrile | 100 | U |
| 107-05-1 | Allyl Chloride | 10 | U |
| 10061-01-5 | cis-1,3-Dichloropropene | 1 | U |
| 107-13-1 | Acrylonitrile | 100 | U |
| 108-05-4 | Vinyl Acetate | 10 | U |
| 126-99-8 | Chloroprene | 10 | U |
| 108-88-3 | Toluene | 1 | U |
| 107-12-0 | Propionitrile | 100 | U |
| 10061-02-6 | trans-1,3-Dichloropropene | 1 | U |
| 126-98-7 | Methacrylonitrile | 100 | U |
| 79-00-5 | 1,1,2-Trichloroethane | 1 | U |
| 78-83-1 | Isobutyl Alcohol | 200 | U |

FORM I VOA

643 540 VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO

EB072199

Lab Name STL BALTIMORE Contract 990944

Lab Code: ST LABS Case No.. SAS No.. SDG No.:

Matrix: (soil/water) WATER Lab Sample ID: 9907411

Sample wt/vol: 25 0 (g/ml) ML Lab File ID: VC3A3176.D

Level: (low/med) LOW Date Received: 7/22/99

% Moisture: not dec. Date Analyzed: 7/28/99

GC Column: DB-624 ID: 0.25 (mm) Dilution Factor: 1.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

CONCENTRATION UNITS:

| CAS NO. | COMPOUND | (ug/L or ug/Kg) UG/L | Q |
|---|---|---|---|
| 80-62-6 | Methyl Methacrylate | 5 | U |
| 97-63-2 | Ethyl Methacrylate | 5 | U |
| 110-57-6 | trans-1,4-Dichloro-2-butene | 25 | U |
| 127-18-4 | Tetrachloroethene | 1 | U |
| 563-58-6 | 1,1-Dichloropropene | 1 | U |
| 106-93-4 | 1,2-Dibromoethane (EDB) | 1 | U |
| 87-61-6 | 1,2,3-Trichlorobenzene | 2 | U |
| 124-48-1 | Chlorodibromomethane | 1 | U |
| 120-82-1 | 1,2,4-Trichlorobenzene | 1 | U |
| 108-90-7 | Chlorobenzene | 1 | U |
| 95-63-6 | 1,2,4-Trimethylbenzene | 1 | U |
| 630-20-6 | 1,1,1,2-Tetrachloroethane | 1 | U |
| 108-67-8 | 1,3,5-Trimethylbenzene | 1 | U |
| 95-50-1 | 1,2-Dichlorobenzene | 1 | U |
| 100-41-4 | Ethylbenzene | 1 | U |
| 541-73-1 | 1,3-Dichlorobenzene | 1 | U |
| 142-28-9 | 1,3-Dichloropropane | 1 | U |
| 106-46-7 | 1,4-Dichlorobenzene | 1 | U |
| 544-10-5 | 1-Chlorohexane | 1 | U |
| 100-42-5 | Styrene | 1 | U |
| 594-20-7 | 2,2-Dichloropropane | 4 | U |
| 95-49-8 | 2-Chlorotoluene | 1 | U |
| 106-43-4 | 4-Chlorotoluene | 1 | U |
| 75-25-2 | Bromoform | 1 | U |
| 108-86-1 | Bromobenzene | 1 | U |
| 79-34-5 | 1,1,2,2-Tetrachloroethane | 1 | U |
| 74-97-5 | Bromochloromethane | 1 | U |
| 87-68-3 | Hexachlorobutadiene | 1 | U |
| 96-18-4 | 1,2,3-Trichloropropane | 3 | U |
| 98-82-8 | Isopropylbenzene | 1 | U |
| 104-51-8 | n-Butylbenzene | 1 | U |
| 103-65-1 | n-Propylbenzene | 1 | U |
| 91-20-3 | Naphthalene | 2 | U |
| 95-47-6 | o-Xylene | 1 | U |
| 99-87-6 | p-Isopropyltoluene | 1 | U |
| 135-98-8 | sec-Butylbenzene | 1 | U |
| 98-06-6 | tert-Butylbenzene | 1 | U |
| 74-88-4 | Iodomethane | 5 | U |
| 96-12-8 | 1,2-Dibromo-3-chloropropane | 3 | U |

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO

SPOT35-5WG09DL

643 541

Lab Name: STL BALTIMORE Contract: 990944

Lab Code ST LABS Case No.: SAS No.: SDG No.:

Matrix: (soil/water) WATER Lab Sample ID: 9907412DL

Sample wt/vol: 25.0 (g/ml) ML Lab File ID: VC3A3181.D

Level: (low/med) LOW Date Received: 7/22/99

% Moisture: not dec. Date Analyzed: 7/29/99

GC Column: DB-624 ID: 0.25 (mm) Dilution Factor: 5.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

CONCENTRATION UNITS:

| CAS NO. | COMPOUND (ug/L or ug/Kg) | UG/L | Q |
|---|---|---|---|
| 75-71-8 | Dichlorodifluoromethane | 5 | U |
| 74-87-3 | Chloromethane | 6 | U |
| 75-01-4 | Vinyl Chloride | 6 | U |
| 74-83-9 | Bromomethane | 6 | U |
| 75-00-3 | Chloroethane | 5 | U |
| 75-69-4 | Trichlorofluoromethane | 5 | U |
| 75-35-4 | 1,1-Dichloroethene | 6 | U |
| 75-09-2 | Methylene Chloride | 5 | U |
| 156-60-5 | trans-1,2-Dichloroethene | 5 | U |
| 75-34-3 | 1,1-Dichloroethane | 5 | U |
| 156-59-2 | cis-1,2-Dichloroethene | 6 | U |
| 67-66-3 | Chloroform | 5 | U |
| 71-55-6 | 1,1,1-Trichloroethane | 5 | U |
| 56-23-5 | Carbon Tetrachloride | 10 | U |
| 107-06-2 | 1,2-Dichloroethane | 5 | U |
| 71-43-2 | Benzene | 5 | U |
| 67-64-1 | Acetone | 100 | U |
| 79-01-6 | Trichloroethene | 5 | U |
| 75-15-0 | Carbon Disulfide | 25 | U |
| 78-93-3 | 2-Butanone | 100 | U |
| 78-87-5 | 1,2-Dichloropropane | 5 | U |
| 108-10-1 | 4-Methyl-2-Pentanone | 100 | U |
| 75-27-4 | Bromodichloromethane | 5 | U |
| 591-78-6 | 2-Hexanone | 100 | U |
| 1330-20-7 | m&p Xylenes | 6 | U |
| 74-95-3 | Dibromomethane | 12 | U |
| 107-02-8 | Acrolein | 500 | U |
| 75-05-8 | Acetonitrile | 500 | U |
| 107-05-1 | Allyl Chloride | 50 | U |
| 10061-01-5 | cis-1,3-Dichloropropene | 5 | U |
| 107-13-1 | Acrylonitrile | 500 | U |
| 108-05-4 | Vinyl Acetate | 50 | U |
| 126-99-8 | Chloroprene | 50 | U |
| 108-88-3 | Toluene | 6 | U |
| 107-12-0 | Propionitrile | 500 | U |
| 10061-02-6 | trans-1,3-Dichloropropene | 5 | U |
| 126-98-7 | Methacrylonitrile | 500 | U |
| 79-00-5 | 1,1,2-Trichloroethane | 5 | U |
| 78-83-1 | Isobutyl Alcohol | 1000 | U |

FORM I VOA

1A

643 542 VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

SPOT35-5WG09DL

Lab Name: STL BALTIMORE Contract: 990944

Lab Code: ST LABS Case No.: SAS No.: SDG No.:

Matrix: (soil/water) WATER Lab Sample ID. 9907412DL

Sample wt/vol: 25.0 (g/ml) ML Lab File ID: VC3A3181.D

Level: (low/med) LOW Date Received: 7/22/99

% Moisture: not dec. Date Analyzed: 7/29/99

GC Column: DB-624 ID: 0.25 (mm) Dilution Factor: 5.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

CONCENTRATION UNITS:

| CAS NO. | COMPOUND | (ug/L or ug/Kg) UG/L | Q |
|---|---|---|---|
| 80-62-6 | Methyl Methacrylate | 25 | U |
| 97-63-2 | Ethyl Methacrylate | 25 | U |
| 110-57-6 | trans-1,4-Dichloro-2-butene | 120 | U |
| 127-18-4 | Tetrachloroethene | 7 | U |
| 563-58-6 | 1,1-Dichloropropene | 5 | U |
| 106-93-4 | 1,2-Dibromoethane (EDB) | 5 | U |
| 87-61-6 | 1,2,3-Trichlorobenzene | 10 | U |
| 124-48-1 | Chlorodibromomethane | 5 | U |
| 120-82-1 | 1,2,4-Trichlorobenzene | 5 | U |
| 108-90-7 | Chlorobenzene | 5 | U |
| 95-63-6 | 1,2,4-Trimethylbenzene | 6 | U |
| 630-20-6 | 1,1,1,2-Tetrachloroethane | 5 | U |
| 108-67-8 | 1,3,5-Trimethylbenzene | 5 | U |
| 95-50-1 | 1,2-Dichlorobenzene | 5 | U |
| 100-41-4 | Ethylbenzene | 5 | U |
| 541-73-1 | 1,3-Dichlorobenzene | 6 | U |
| 142-28-9 | 1,3-Dichloropropane | 5 | U |
| 106-46-7 | 1,4-Dichlorobenzene | 5 | U |
| 544-10-5 | 1-Chlorohexane | 5 | U |
| 100-42-5 | Styrene | 5 | U |
| 594-20-7 | 2,2-Dichloropropane | 18 | U |
| 95-49-8 | 2-Chlorotoluene | 5 | U |
| 106-43-4 | 4-Chlorotoluene | 5 | U |
| 75-25-2 | Bromoform | 6 | U |
| 108-86-1 | Bromobenzene | 5 | U |
| 79-34-5 | 1,1,2,2-Tetrachloroethane | 5 | U |
| 74-97-5 | Bromochloromethane | 5 | U |
| 87-68-3 | Hexachlorobutadiene | 6 | U |
| 96-18-4 | 1,2,3-Trichloropropane | 16 | U |
| 98-82-8 | Isopropylbenzene | 33 | D |
| 104-51-8 | n-Butylbenzene | 6 | U |
| 103-65-1 | n-Propylbenzene | 34 | D |
| 91-20-3 | Naphthalene | 61 | D |
| 95-47-6 | o-Xylene | 6 | U |
| 99-87-6 | p-Isopropyltoluene | 6 | U |
| 135-98-8 | sec-Butylbenzene | 8 | D |
| 98-06-6 | tert-Butylbenzene | 7 | U |
| 74-88-4 | Iodomethane | 25 | U |
| 96-12-8 | 1,2-Dibromo-3-chloropropane | 13 | U |

FORM I VOA

1D
PESTICIDE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

SPOT35-5WG09

643 543

Lab Name: STL BALTIMORE Contract: HYDROGE

Lab Code: STLB Case No.: 990944 SAS No.: SDG No.: 9907409

Matrix: (soil/water) WATER Lab Sample ID: 9907412

Sample wt/vol: 1000 (g/ml) ML Lab File ID: LA1S253F.D

% Moisture: decanted:(Y/N) N Date Received: 07/22/99

Extraction: (SepF/Cont/Sonc) Date Extracted: 07/23/99

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 08/11/99

Injection Volume: 1.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: Sulfur Cleanup: (Y/N) N

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/L

| CAS NO. | COMPOUND | | Q |
|---|---|---|---|
| 91-20-3 | NAPHTHALENE | 16 | J |
| 208-96-8 | ACENAPHTHYLENE | 23 | U |
| 83-32-9 | ACENAPHTHENE | 18 | U |
| 86-73-7 | FLUORENE | 0.24 | J |
| 85-01-8 | PHENANTHRENE | 0.30 | J |
| 120-12-7 | ANTHRACENE | 6.6 | U |
| 206-44-0 | FLUORANTHENE | 2.1 | U |
| 129-00-0 | PYRENE | 2.7 | U |
| 56-55-3 | BENZO[a]ANTHRACENE | 0.13 | U |
| 218-01-9 | CHRYSENE | 1.5 | U |
| 205-99-2 | BENZO[b]FLUORANTHENE | 0.18 | U |
| 207-08-9 | BENZO[k]FLUORANTHENE | 0.17 | U |
| 50-32-8 | BENZO[a]PYRENE | 0.23 | U |
| 53-70-3 | DIBENZO[a,h]ANTHRACENE | 0.30 | U |
| 191-24-2 | BENZO[g,h,i]PERYLENE | 0.76 | U |
| 193-39-5 | INDENO[1,2,3-cd]PYRENE | 0.43 | U |

070007

643 544

Committed To *Your* Success

**Severn Trent Laboratories**
11 East Olive Road
Pensacola FL 32514

Tel (850) 474-1001
Fax (850) 478-2671

SIGNATURE PAGE

Reviewed by: _____
STL Project Manager

| | |
|---|---|
| Client: | STL/MARYLAND<br>SPARKS, MARYLAND |
| Project Name: | AFC001-26HAA |
| Project Number: | 990944 |
| Project Location. | NAS, FORT WORTH, TX |
| Accession Number: | 907481 |
| Project Manager: | MARY ASPER |
| Sampled By. | NICOLE HADE |

THIS IS A REVISED REPORT December 19, 1999

SEVERN TRENT LABORATORIES 11 East Olive Road Pensacola, Florida 32514 (850) 474-1001



"FINAL REPORT FORMAT - SINGLE"

Accession: 907481
Client: STL/MARYLAND
Project Number: 990944
Project Name: AFC001-26HAA
Project Location: NAS, FORT WORTH, TX
Test: GENERIC GROUP GC/SEMI-VOLATILE
Analysis Method: RSK 175
Extraction Method: NWTPH-Dx, revised 23-Feb-99.
Matrix: WATER
QC Level: N

Lab Id: 001
Client Sample Id: TB072199
Sample Date/Time: 21-JUL-99 0705
Received Date: 24-JUL-99

Batch: GEW272
Blank: A
Dry Weight %: N/A
Extraction Date: N/A
Analysis Date: 28-JUL-99

| Parameter: | Units: | Results: | Rpt Lmts | Q: |
|---|---|---|---|---|
| METHANE | UG/L | ND | 1 | |
| ETHANE | UG/L | ND | 1 | |
| ETHENE | UG/L | ND | 1 | |
| ANALYST | INITIALS | AHT | | |

Comments:
Preparation Time: 09:30
Analysis Time: 10:39

SEVERN TRENT LABORATORIES 11 East Olive Road Pensacola, Florida 32514 (850) 474-1001



"FINAL REPORT FORMAT - SINGLE"

Accession: 907481
Client: STL/MARYLAND
Project Number: 990944
Project Name: AFC001-26HAA
Project Location: NAS, FORT WORTH, TX
Test: GENERIC GROUP GC/SEMI-VOLATILE
Analysis Method: RSK 175
Extraction Method: NWTPH-Dx, revised 23-Feb-99.
Matrix: WATER
QC Level: N

Lab Id: 003
Client Sample Id: EB072199
Sample Date/Time: 21-JUL-99 1145
Received Date: 24-JUL-99

Batch: GEW272
Blank: A
Dry Weight %. N/A
Extraction Date. N/A
Analysis Date: 28-JUL-99

| Parameter: | Units· | Results: | Rpt Lmts· | Q. |
|---|---|---|---|---|
| METHANE | UG/L | 5.3594 | 1 | |
| ETHANE | UG/L | ND | 1 | |
| ETHENE | UG/L | ND | 1 | |
| ANALYST | INITIALS | AHT | | |

Comments:
Preparation Time: 09:30
Analysis Time· 11.58

SEVERN TRENT LABORATORIES 11 East Olive Road Pensacola, Florida 32514 (850) 474-1001



"FINAL REPORT FORMAT - SINGLE"

Accession: 907481
Client: STL/MARYLAND
Project Number: 990944
Project Name: AFC001-26HAA
Project Location: NAS, FORT WORTH, TX
Test: GENERIC GROUP GC/SEMI-VOLATILE
Analysis Method: RSK 175
Extraction Method: NWTPH-Dx, revised 23-Feb-99.
Matrix: WATER
QC Level: N

Lab Id: 004
Client Sample Id. SPOT35-5WG09
Sample Date/Time: 21-JUL-99 0901
Received Date: 24-JUL-99

Batch: GEW272
Blank: A
Dry Weight %: N/A
Extraction Date: N/A
Analysis Date: 28-JUL-99

| Parameter: | Units· | Results: | Rpt Lmts: | Q. |
|---|---|---|---|---|
| METHANE | UG/L | 5332.8998 | 1 | |
| ETHANE | UG/L | 2.0566 | 1 | |
| ETHENE | UG/L | ND | 1 | |
| ANALYST | INITIALS | AHT | | |

Comments:
Preparation Time: 09:30
Analysis Time: 12:06

Received

643 548

Committed To *Your* Success

Severn Trent Laboratories
19 Loveton Circle
Sparks, MD 21152

Tel (410) 771-4920
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www.stl-inc.com

August 16, 1999

Ms. Lynn Morgan
HydroGeoLogic, Inc.
11 55 Herndon Parkway, Suite 900
Herndon, VA 20170

Re:HydroGeoLogic, Inc. NAS Ft. Worth (70001.01) DO#26, AFC00126HAA

Dear Ms. Morgan:

Enclosed is our report on the analysis of four water samples collected for the HydroGeoLogic, Inc. NAS Ft. Worth project on 26 July 1999. The invoice is included.

Please contact me if you have any questions or require further information and refer to report 990970. Unless other arrangements are made, we reserve the right to dispose of your samples sixty (60) days from the date of this letter. We will retain the raw data for seven years from this date.

Sincerely,

Mary E. Asper
Laboratory Project Manager

enclosure

643 549

Committed To Your Success

# LABORATORY DATA REPORT

Prepared for:

HydroGeoLogic, Inc.
NAS Ft. Worth

Prepared by:

Severn Trent Laboratories
19 Loveton Circle
Sparks, MD 21152

Report 990970

August 1999

643 550

# 1. NARRATIVE

C16000

**Severn Trent Laboratories**
**ANALYTICAL NARRATIVE**

Client: **HydroGeoLogic, Inc.**
Site: **NAS Ft. Worth**
Project number: **70001.01**

ST Laboratories Report: **990970**
Laboratory Project Manager: **Mary E. Asper**
Report Date: **16 August 1999**

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This report contains the results of the analysis of four water samples collected on 26 July 1999 in support of the referenced project.

## *SAMPLE RECEIPT*

The samples and one trip blank arrived intact by Federal Express at Severn Trent Laboratories on 27 July 1999. Upon receipt, the samples and blank were inspected and compared with the chain-of-custody record. The samples and blank were then logged into the laboratory computer system with assigned laboratory accession numbers and released for analysis.

| Client Sample Designation | ST Lab Number |
|---|---|
| EB072699 | 9907628 |
| TB072699 | 9907629 |
| WCHMHTA009WG09 | 9907630 |
| WHGLTA011WG09 | 9907631 |
| DUP08 | 9907632 |
| MATERIAL BLANK | 9907633 |

Following this narrative section are a glossary of data qualifiers (Table 1), codes associated with manual integration of chromatographic peaks (Table 2), and the chain of custody record. Analytical results and quality control information are summarized in the appended data package which has been formatted to be consistent with the deliverable requirements of this project.

## *QUALITY CONTROL*

The following sections are ordered as the data appears in this report. They contain observations made during sample analysis, summarize the results of quality control measurements, and address the impact on data usability based upon project Data Quality Objectives. For each fractional analysis the narrative includes:

- Sample chronology: This section summarizes the sample history by fraction including the sample preparation method and date, analytical method, and analysis date. Anything unusual about the samples, digestates, or extracts is identified. Holding time compliance is evaluated in this section.

- Laboratory method performance: All quality control criteria for method performance must be met for all target analytes for data to be reported. These criteria generally apply to instrument tune, calibration, method blanks, and Laboratory Control Samples (LCS). In some instances where

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method criteria fail, useable data can be obtained and are reported with client approval. The narrative will then include a thorough discussion of the impact on data quality.

- Sample performance: Quality control field samples are analyzed to determine any measurement bias due to the sample matrix based on evaluation of matrix spikes (MS), matrix spike duplicates (MSD), and laboratory duplicates (D). If acceptance criteria are not met, matrix interferences are confirmed either by reanalysis or by inspection of the LCS results to verify that laboratory method performance is in control. Data are reported with appropriate qualifiers or discussion.

**VOLATILES by GC/MS - WATER (ST9907628 - ST9907633)**

Sample Chronology: Six samples and associated quality control were analyzed on 02 - 05 August 1999 for the project specified list of analytes by USEPA SW-846, Methods 5030B/8260B using a 25 ml purge volume. All holding times were met.

The batch MS/MSD, analyzed on 05 August 1999, was performed on another client's sample. All data associated with these QC analyses have been included in this report to fulfill reporting requirements. However, recoveries were not evaluated since they do not apply to the samples associated with this report.

Samples WCHMHTA009WG09 and DUP08 required a 20X dilution to bring the concentrations of target analytes within instrument calibration range.

Laboratory Method Performance: All laboratory method performance criteria were met for the reported samples with the following exceptions;

- the daily calibration standard, VC3A3172, had the percent difference (%D) for 1,1,2,2-tetrachloroethane (31.0%) above the QC limit of 25%. This high %D was the result of a decrease in analyte response and may be indicative of a negative bias for this target analyte. This standard also had the percent difference (%D) for p-isopropyltoluene (29.6%) above the QC limit of 25%. This high %D was the result of an increase in analyte response and may be indicative of a positive bias for this target analyte. However, this target analyte was not detected in any of the samples.

Sample Performance: All quality control criteria were met for the reported samples with the following exceptions,

**Severn Trent Laboratories**
**ANALYTICAL NARRATIVE**

Client: **HydroGeoLogic, Inc.**
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Project number: **70001.01**

ST Laboratories Report: **990970**
Laboratory Project Manager: **Mary E. Asper**
Report Date: **16 August 1999**

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- the batch MS/MSD, performed on sample WHGLTA011WG09, had the recoveries of dichlorodifluoromethane (170%/160%), trichlorofluoromethane (160%/150%), methylene chloride (64%/64%) and carbon tetrachloride (130%/130%) outside of their respective QC limits.

**CERTIFICATION OF RESULTS**

The Laboratory certifies that this report meets the project requirements for analytical data as stated in the Analytical Task Order (ATO) and the chain-of-custody. In addition, the Laboratory certifies that the data as reported meet the Data Quality Objectives for precision, accuracy, and completeness specified for this project or as stated in Severn Trent Laboratories Quality Assurance program for other than the conditions detailed above. It is recommended by the Laboratory that this analytical report should only be reproduced in its entirety. Severn Trent Laboratories is not responsible for any assumptions of data quality if partial packages are used to interpret data. Release of the data contained in this report has been authorized by the appropriate Laboratory Manager as verified by the following signature.

Mary E. Asper August 16, 1999
Mary E. Asper, Laboratory Project Manager

2. CHAIN-OF-CUSTODY

STL 643 555

Committed To Your Success

**Chicago Laboratory**
2417 Bond Street
University Park, IL 60466
Phone 708-534-5200
Fax 708-534-5211

990970

**Report To:**
Contact Lynn Morgan
Company HydroGeologic Inc
Address 11150 Herndon Pkwy Ste 100 Herndon VA 20170
Phone 703-478-5156
Fax 703-471-4156
E-Mail

**Bill To:**
Contact
Company
Address
Phone
Fax
PO# Quote

*Shaded Areas For Internal Use Only* of

**Lab Lot #**

| | |
|---|---|
| Package Sealed (Yes) No | Samples Sealed (Yes) No |
| Received on Ice (Yes) No | Samples Intact (Yes) No |
| Temperature °C of Cooler 3° | |
| Within Hold Time (Yes) No | Preserv. Indicated (Yes) No NA |
| pH Check ok Yes No (NA) | Res. $Cl_2$ Check ok Yes No (NA) |
| Sample Labels and COC Agree (Yes) No COC not present | |

Sampler Name: S Nelson
Signature:
Project Name: July Quarterly
Project Number: AFC001 26 MAA
Project Location: Ft Worth
Date Required Hard Copy ___/___/___ Fax ___/___/___
Lab PM: Mary Aspor

| Laboratory ID | MS-MSD | Client Sample ID | Sampling Date | Sampling Time | Matrix | Comp/Grab | VOCs 8260 (Appl) | VOCs 8260 (Appl) | | Additional Analyses / Remarks |
|---|---|---|---|---|---|---|---|---|---|---|
| Refrg # | | | | | | | | | | |
| # Cont | | | | | | | 3/2 | 3/2 | | |
| Volume | | | | | | | 40ml | 40ml | | |
| Preserv | | | | | | | 1 | 7 | | |
| 9907628 | | EBC 72699 | 7-26-99 | 1450 | W | G | 3 | | | Level 4D plus TRPMS |
| 9907629 | | TBC 72699 | | 1455 | | | 2 | | | 3.0 EDD's |
| 9907630 | | WCMMHDA0026609 | | 1122 | | | 3 | 3 | | FAL-PS-145 |
| 9907631 | ✓ | WMGLTA011W609175 | | 918 | | | 3 | 3 | | |
| 9907631 | ✓ | WHGLTA011W6-09175D | | 918 | | | 3 | 3 | | Due 8/24/99 |
| 9907631 | | WHGLTA011W6509 | | 918 | | | 3 | 3 | | |
| 9907632 | | DUP08 | | 1420 | | | 3 | 3 | | |
| 9907633 | | Material Blank | | 1745 | | | 23 | 23 | AAC 7/27/99 | |
| | | | | | | | | | | COC#0015578 |
| | | | | | | | | | | |
| | | | | | | | | | | 38 VOAs -1611 |
| | | | | | | | | | | |

| RELINQUISHED BY | COMPANY | DATE | TIME | RECEIVED BY | COMPANY | DATE | TIME |
|---|---|---|---|---|---|---|---|
| [signature] | HGL | 7-26-99 | 1800 | [signature] | STL | 7/27/99 | 10:00 |
| RELINQUISHED BY | COMPANY | DATE | TIME | RECEIVED BY | COMPANY | DATE | TIME |

**Matrix Key**
WW = Wastewater
W = Water
S = Soil
SL = Sludge
MS = Miscellaneous
OL = Oil
A = Air
SE = Sediment
SO = Solid
DS = Drum Solid
DL = Drum Liquid
L = Leachate
WI = Wipe
O = ____

**Container Key**
1 Plastic
2 VOA Vial
3 Sterile Plastic
4 Amber Glass
5 Widemouth Glass
6 Other ____

**Preservative Key**
1 HCl, Cool to 4°
2 H2SO4, Cool to 4°
3 HNO3, Cool to 4°
4 NaOH, Cool to 4°
5 NaOH/Zn Acetate, Cool to 4°
6 Cool to 4°
7 None

COMMENTS.
End of Sample Event for AFC001 26 MAA

Date Received 7/27/99
Courier (FEDEX) Hand Delivered ☐
Bill of Lading 508-186-651

STL Chicago Chain of Custody CHI 22-09-231/A 5/99

643 556

SEVERN TRENT LABORATORIES COOLER R

Discrepancy Facsimile and Chains-of-Cu

Report: 990970

.SE DELIVER TO:

-pany/Department:

Number:

SENT BY:

Number of Pages(including cover page): 1 of

Project: HydroGeologic
Received: 27-JUL-99 10:00
COC: COC0005578
Samples: 9907628-9907633

A. **PRELIMINARY EXAMINATION PHASE:** Date cooler was opened: 7/27/99

by(print) John Shafik (sign) John Shafik

1. Did cooler come with a shipping slip, airbill, ect? YES NO N/A
   If Yes, circle courier: Federal Express UPS Handcarried Other:
   Enter Airbill Number here: 5085188651
2. Were custody seals present on outside of cooler? YES NO N/A
   How many and where: 1 / outside, seal date: -, seal name: ESF
3. Were custody seals unbroken and intact at the time of arrival? YES NO N/A
4. Were the samples screened for radioactivity using the Geiger counter upon receipt? YES NO N/A
5. Were the Chains-of-Custody sealed in a plastic bag and taped inside of the lid? YES NO N/A
6. Were the Chains-of-Custody filled out properly(ink, signed, etc.)? YES NO N/A
7. Were the Chains-of-Custody relinquished by sampler? YES NO N/A
8. Did you sign the Chains-of-Custody papers in the appropnate places? YES NO N/A
9. Was project identifiable from Chains-of-Custody? YES NO N/A
10. If required, was enough ice used? Type of ice: Wet Blue Dry YES NO N/A
11. Was cooler temperature below 6C? YES NO N/A
    Enter Cooler Temperature: 2°C
12. Have designated person initial here to acknowledge receipt of cooler: JPS (date) 7/27/99

B. **LOG-IN PHASE:** Date samples were logged in: 7/27/99

by(print) JPS John Shafik (sign) John Shafik

13. Describe type of packing in cooler: plastic bags / bubble wrap / Ice / Trash Bags
14. Were all bottles sealed in separate plastic bags? YES NO N/A
15. Did all bottles arrive unbroken and were labels in good condition? YES NO N/A
16. Were all bottles labels complete(I.D., date, time, signature, preservative, etc.)? YES NO N/A
17. Were correct containers used for the analysis indicated on the Chains-of-Custody? YES NO N/A
18. Were correct preservatives added to the samples? YES NO N/A
19. Was a sufficient amount of sample sent for the analysis indicated on the Chain-of-Custody? YES NO N/A
20. Were bubbles absent in Volatiles samples? YES NO N/A
22. Were any samples subcontracted to an outside laboratory? YES NO N/A
    If YES, enter LSOA#: Subcontracting Laboratory Name:
    EA Accession Numbers of subcontracted samples:
23. Were any Non-Conformance records initiated by SMO for this project? YES NO N/A
    If YES, enter Non-Conformance Number: 41349 LPM notified. YES NO N/A
    Reason for Non-Conformance: bubbles present in VOA vials

***If any "NO" answers are bold a Non-Conformance Record is required from SMO.**

***USE OTHER SIDE OF THIS FORM TO NOTE DETAILS CONCERNING CHECK-IN PROBLEMS***

Special Notes:

Please respond within 24 hours of receipt of this facsimile if any changes are required to the Chain-of-Custody Failure to notify Severn Trent Laboratories within 24 hours of receipt of this facsimile of any required changes could result in additional premiums and may not guarantee samples analyzed within holding time if changes to the analysis are required.


**Confidentiality Notice**

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**THE SEVERN TRENT LABORATORIES DIFFERENCE - COMMITTED TO YOUR SUCCESS.**

*For Project Specific Inquires, Contact your Laboratory Project Manager at (410) 771-4920*

Effective 05 MAY 1999

643 557

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

EB072699

Lab Name. STL BALTIMORE Contract: 990970

Lab Code ST LABS Case No.: _____ SAS No : _____ SDG No _____

Matrix: (soil/water) WATER Lab Sample ID: 9907628

Sample wt/vol. 25 0 (g/ml) ML Lab File ID: VC3A3151.D

Level. (low/med) LOW Date Received: 7/27/99

% Moisture: not dec. _____ Date Analyzed: 8/2/99

GC Column. DB-624 ID: 0.25 (mm) Dilution Factor: 1 0

Soil Extract Volume· _____ (uL) Soil Aliquot Volume. _____ (uL)

CONCENTRATION UNITS:

| CAS NO. | COMPOUND (ug/L or ug/Kg) | UG/L | Q |
|---|---|---|---|
| 75-71-8 | Dichlorodifluoromethane | 1 | U |
| 74-87-3 | Chloromethane | 1 | U |
| 75-01-4 | Vinyl Chloride | 1 | U |
| 74-83-9 | Bromomethane | 1 | U |
| 75-00-3 | Chloroethane | 1 | U |
| 75-69-4 | Trichlorofluoromethane | 1 | U |
| 75-35-4 | 1,1-Dichloroethene | 1 | U |
| 75-09-2 | Methylene Chloride | 1 | U |
| 156-60-5 | trans-1,2-Dichloroethene | 1 | U |
| 75-34-3 | 1,1-Dichloroethane | 1 | U |
| 156-59-2 | cis-1,2-Dichloroethene | 1 | U |
| 67-66-3 | Chloroform | 1 | U |
| 71-55-6 | 1,1,1-Trichloroethane | 1 | U |
| 56-23-5 | Carbon Tetrachloride | 2 | U |
| 107-06-2 | 1,2-Dichloroethane | 1 | U |
| 71-43-2 | Benzene | 1 | U |
| 67-64-1 | Acetone | 20 | U |
| 79-01-6 | Trichloroethene | 1 | U |
| 75-15-0 | Carbon Disulfide | 5 | U |
| 78-93-3 | 2-Butanone | 20 | U |
| 78-87-5 | 1,2-Dichloropropane | 1 | U |
| 108-10-1 | 4-Methyl-2-Pentanone | 20 | U |
| 75-27-4 | Bromodichloromethane | 1 | U |
| 591-78-6 | 2-Hexanone | 20 | U |
| 1330-20-7 | m&p Xylenes | 1 | U |
| 74-95-3 | Dibromomethane | 2 | U |
| 107-02-8 | Acrolein | 100 | U |
| 75-05-8 | Acetonitrile | 100 | U |
| 107-05-1 | Allyl Chloride | 10 | U |
| 10061-01-5 | cis-1,3-Dichloropropene | 1 | U |
| 107-13-1 | Acrylonitrile | 100 | U |
| 108-05-4 | Vinyl Acetate | 10 | U |
| 126-99-8 | Chloroprene | 10 | U |
| 108-88-3 | Toluene | 1 | U |
| 107-12-0 | Propionitrile | 100 | U |
| 10061-02-6 | trans-1,3-Dichloropropene | 1 | U |
| 126-98-7 | Methacrylonitrile | 100 | U |
| 79-00-5 | 1,1,2-Trichloroethane | 1 | U |
| 78-83-1 | Isobutyl Alcohol | 200 | U |

030025

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

EB072699

Lab Name. STL BALTIMORE Contract 990970

Lab Code: ST LABS Case No.. SAS No . SDG No :

Matrix: (soil/water) WATER Lab Sample ID: 9907628

Sample wt/vol 25 0 (g/ml) ML Lab File ID: VC3A3151 D

Level. (low/med) LOW Date Received: 7/27/99

% Moisture. not dec. Date Analyzed: 8/2/99

GC Column: DB-624 ID: 0 25 (mm) Dilution Factor: 1.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

CONCENTRATION UNITS:

| CAS NO. | COMPOUND (ug/L or ug/Kg) | UG/L | Q |
|---|---|---|---|
| 80-62-6 | Methyl Methacrylate | 5 | U |
| 97-63-2 | Ethyl Methacrylate | 5 | U |
| 110-57-6 | trans-1,4-Dichloro-2-butene | 25 | U |
| 127-18-4 | Tetrachloroethene | 1 | U |
| 563-58-6 | 1,1-Dichloropropene | 1 | U |
| 106-93-4 | 1,2-Dibromoethane (EDB) | 1 | U |
| 87-61-6 | 1,2,3-Trichlorobenzene | 2 | U |
| 124-48-1 | Chlorodibromomethane | 1 | U |
| 120-82-1 | 1,2,4-Trichlorobenzene | 1 | U |
| 108-90-7 | Chlorobenzene | 1 | U |
| 95-63-6 | 1,2,4-Trimethylbenzene | 1 | U |
| 630-20-6 | 1,1,1,2-Tetrachloroethane | 1 | U |
| 108-67-8 | 1,3,5-Trimethylbenzene | 1 | U |
| 95-50-1 | 1,2-Dichlorobenzene | 1 | U |
| 100-41-4 | Ethylbenzene | 1 | U |
| 541-73-1 | 1,3-Dichlorobenzene | 1 | U |
| 142-28-9 | 1,3-Dichloropropane | 1 | U |
| 106-46-7 | 1,4-Dichlorobenzene | 1 | U |
| 544-10-5 | 1-Chlorohexane | 1 | U |
| 100-42-5 | Styrene | 1 | U |
| 594-20-7 | 2,2-Dichloropropane | 4 | U |
| 95-49-8 | 2-Chlorotoluene | 1 | U |
| 106-43-4 | 4-Chlorotoluene | 1 | U |
| 75-25-2 | Bromoform | 1 | U |
| 108-86-1 | Bromobenzene | 1 | U |
| 79-34-5 | 1,1,2,2-Tetrachloroethane | 1 | U |
| 74-97-5 | Bromochloromethane | 1 | U |
| 87-68-3 | Hexachlorobutadiene | 1 | U |
| 96-18-4 | 1,2,3-Trichloropropane | 3 | U |
| 98-82-8 | Isopropylbenzene | 1 | U |
| 104-51-8 | n-Butylbenzene | 1 | U |
| 103-65-1 | n-Propylbenzene | 1 | U |
| 91-20-3 | Naphthalene | 2 | U |
| 95-47-6 | o-Xylene | 1 | U |
| 99-87-6 | p-Isopropyltoluene | 1 | U |
| 135-98-8 | sec-Butylbenzene | 1 | U |
| 98-06-6 | tert-Butylbenzene | 1 | U |
| 74-88-4 | Iodomethane | 5 | U |
| 96-12-8 | 1,2-Dibromo-3-chloropropane | 3 | U |

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO

643 559

EB072699

Lab Name STL BALTIMORE Contract. 990970

Lab Code: ST LABS Case No : SAS No : SDG No..

Matrix: (soil/water) WATER Lab Sample ID 9907628

Sample wt/vol: 25.0 (g/ml) ML Lab File ID: VC3A3151.D

Level (low/med) LOW Date Received: 7/27/99

% Moisture. not dec. Date Analyzed: 8/2/99

GC Column: DB-624 ID: 0.25 (mm) Dilution Factor: 1.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

CONCENTRATION UNITS:

| CAS NO. | COMPOUND (ug/L or ug/Kg) | UG/L | Q |
|---|---|---|---|
| 80-62-6 | Methyl Methacrylate | 5 | U |
| 97-63-2 | Ethyl Methacrylate | 5 | U |
| 110-57-6 | trans-1,4-Dichloro-2-butene | 25 | U |
| 127-18-4 | Tetrachloroethene | 1 | U |
| 563-58-6 | 1,1-Dichloropropene | 1 | U |
| 106-93-4 | 1,2-Dibromoethane (EDB) | 1 | U |
| 87-61-6 | 1,2,3-Trichlorobenzene | 2 | U |
| 124-48-1 | Chlorodibromomethane | 1 | U |
| 120-82-1 | 1,2,4-Trichlorobenzene | 1 | U |
| 108-90-7 | Chlorobenzene | 1 | U |
| 95-63-6 | 1,2,4-Trimethylbenzene | 1 | U |
| 630-20-6 | 1,1,1,2-Tetrachloroethane | 1 | U |
| 108-67-8 | 1,3,5-Trimethylbenzene | 1 | U |
| 95-50-1 | 1,2-Dichlorobenzene | 1 | U |
| 100-41-4 | Ethylbenzene | 1 | U |
| 541-73-1 | 1,3-Dichlorobenzene | 1 | U |
| 142-28-9 | 1,3-Dichloropropane | 1 | U |
| 106-46-7 | 1,4-Dichlorobenzene | 1 | U |
| 544-10-5 | 1-Chlorohexane | 1 | U |
| 100-42-5 | Styrene | 1 | U |
| 594-20-7 | 2,2-Dichloropropane | 4 | U |
| 95-49-8 | 2-Chlorotoluene | 1 | U |
| 106-43-4 | 4-Chlorotoluene | 1 | U |
| 75-25-2 | Bromoform | 1 | U |
| 108-86-1 | Bromobenzene | 1 | U |
| 79-34-5 | 1,1,2,2-Tetrachloroethane | 1 | U |
| 74-97-5 | Bromochloromethane | 1 | U |
| 87-68-3 | Hexachlorobutadiene | 1 | U |
| 96-18-4 | 1,2,3-Trichloropropane | 3 | U |
| 98-82-8 | Isopropylbenzene | 1 | U |
| 104-51-8 | n-Butylbenzene | 1 | U |
| 103-65-1 | n-Propylbenzene | 1 | U |
| 91-20-3 | Naphthalene | 2 | U |
| 95-47-6 | o-Xylene | 1 | U |
| 99-87-6 | p-Isopropyltoluene | 1 | U |
| 135-98-8 | sec-Butylbenzene | 1 | U |
| 98-06-6 | tert-Butylbenzene | 1 | U |
| 74-88-4 | Iodomethane | 5 | U |
| 96-12-8 | 1,2-Dibromo-3-chloropropane | 3 | U |

030026

FORM I VOA

643 560

1A

EPA SAMPLE NO

VOLATILE ORGANICS ANALYSIS DATA SHEET

TB072699

Lab Name: STL BALTIMORE Contract: 990970

Lab Code: ST LABS Case No. SAS No. SDG No.

Matrix: (soil/water) WATER Lab Sample ID. 9907629

Sample wt/vol: 25.0 (g/ml) ML Lab File ID. VC3A3152.D

Level: (low/med) LOW Date Received: 7/27/99

% Moisture: not dec. Date Analyzed: 8/2/99

GC Column: DB-624 ID 0.25 (mm) Dilution Factor: 1 0

Soil Extract Volume: (uL) Soil Aliquot Volume (uL)

CONCENTRATION UNITS.

| CAS NO. | COMPOUND | (ug/L or ug/Kg) UG/L | Q |
|---|---|---|---|
| 75-71-8 | Dichlorodifluoromethane | 1 | U |
| 74-87-3 | Chloromethane | 1 | U |
| 75-01-4 | Vinyl Chloride | 1 | U |
| 74-83-9 | Bromomethane | 1 | U |
| 75-00-3 | Chloroethane | 1 | U |
| 75-69-4 | Trichlorofluoromethane | 1 | U |
| 75-35-4 | 1,1-Dichloroethene | 1 | U |
| 75-09-2 | Methylene Chloride | 1 | U |
| 156-60-5 | trans-1,2-Dichloroethene | 1 | U |
| 75-34-3 | 1,1-Dichloroethane | 1 | U |
| 156-59-2 | cis-1,2-Dichloroethene | 1 | U |
| 67-66-3 | Chloroform | 1 | U |
| 71-55-6 | 1,1,1-Trichloroethane | 1 | U |
| 56-23-5 | Carbon Tetrachloride | 2 | U |
| 107-06-2 | 1,2-Dichloroethane | 1 | U |
| 71-43-2 | Benzene | 1 | U |
| 67-64-1 | Acetone | 20 | U |
| 79-01-6 | Trichloroethene | 1 | U |
| 75-15-0 | Carbon Disulfide | 5 | U |
| 78-93-3 | 2-Butanone | 20 | U |
| 78-87-5 | 1,2-Dichloropropane | 1 | U |
| 108-10-1 | 4-Methyl-2-Pentanone | 20 | U |
| 75-27-4 | Bromodichloromethane | 1 | U |
| 591-78-6 | 2-Hexanone | 20 | U |
| 1330-20-7 | m&p Xylenes | 1 | U |
| 74-95-3 | Dibromomethane | 2 | U |
| 107-02-8 | Acrolein | 100 | U |
| 75-05-8 | Acetonitrile | 100 | U |
| 107-05-1 | Allyl Chloride | 10 | U |
| 10061-01-5 | cis-1,3-Dichloropropene | 1 | U |
| 107-13-1 | Acrylonitrile | 100 | U |
| 108-05-4 | Vinyl Acetate | 10 | U |
| 126-99-8 | Chloroprene | 10 | U |
| 108-88-3 | Toluene | 1 | U |
| 107-12-0 | Propionitrile | 100 | U |
| 10061-02-6 | trans-1,3-Dichloropropene | 1 | U |
| 126-98-7 | Methacrylonitrile | 100 | U |
| 79-00-5 | 1,1,2-Trichloroethane | 1 | U |
| 78-83-1 | Isobutyl Alcohol | 200 | U |

~~030023~~

030023

FORM I VOA

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO. 643 561

TB072699

Lab Name: STL BALTIMORE Contract: 990970

Lab Code: ST LABS Case No: SAS No: SDG No:

Matrix: (soil/water) WATER Lab Sample ID: 9907629

Sample wt/vol: 25 0 (g/ml) ML Lab File ID: VC3A3152 D

Level: (low/med) LOW Date Received: 7/27/99

% Moisture not dec. Date Analyzed: 8/2/99

GC Column: DB-624 ID. 0 25 (mm) Dilution Factor: 1.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

CONCENTRATION UNITS:

| CAS NO. | COMPOUND (ug/L or ug/Kg) UG/L | | Q |
|---|---|---|---|
| 80-62-6 | Methyl Methacrylate | 5 | U |
| 97-63-2 | Ethyl Methacrylate | 5 | U |
| 110-57-6 | trans-1,4-Dichloro-2-butene | 25 | U |
| 127-18-4 | Tetrachloroethene | 1 | U |
| 563-58-6 | 1,1-Dichloropropene | 1 | U |
| 106-93-4 | 1,2-Dibromoethane (EDB) | 1 | U |
| 87-61-6 | 1,2,3-Trichlorobenzene | 2 | U |
| 124-48-1 | Chlorodibromomethane | 1 | U |
| 120-82-1 | 1,2,4-Trichlorobenzene | 1 | U |
| 108-90-7 | Chlorobenzene | 1 | U |
| 95-63-6 | 1,2,4-Trimethylbenzene | 1 | U |
| 630-20-6 | 1,1,1,2-Tetrachloroethane | 1 | U |
| 108-67-8 | 1,3,5-Trimethylbenzene | 1 | U |
| 95-50-1 | 1,2-Dichlorobenzene | 1 | U |
| 100-41-4 | Ethylbenzene | 1 | U |
| 541-73-1 | 1,3-Dichlorobenzene | 1 | U |
| 142-28-9 | 1,3-Dichloropropane | 1 | U |
| 106-46-7 | 1,4-Dichlorobenzene | 1 | U |
| 544-10-5 | 1-Chlorohexane | 1 | U |
| 100-42-5 | Styrene | 1 | U |
| 594-20-7 | 2,2-Dichloropropane | 4 | U |
| 95-49-8 | 2-Chlorotoluene | 1 | U |
| 106-43-4 | 4-Chlorotoluene | 1 | U |
| 75-25-2 | Bromoform | 1 | U |
| 108-86-1 | Bromobenzene | 1 | U |
| 79-34-5 | 1,1,2,2-Tetrachloroethane | 1 | U |
| 74-97-5 | Bromochloromethane | 1 | U |
| 87-68-3 | Hexachlorobutadiene | 1 | U |
| 96-18-4 | 1,2,3-Trichloropropane | 3 | U |
| 98-82-8 | Isopropylbenzene | 1 | U |
| 104-51-8 | n-Butylbenzene | 1 | U |
| 103-65-1 | n-Propylbenzene | 1 | U |
| 91-20-3 | Naphthalene | 2 | U |
| 95-47-6 | o-Xylene | 1 | U |
| 99-87-6 | p-Isopropyltoluene | 1 | U |
| 135-98-8 | sec-Butylbenzene | 1 | U |
| 98-06-6 | tert-Butylbenzene | 1 | U |
| 74-88-4 | Iodomethane | 5 | U |
| 96-12-8 | 1,2-Dibromo-3-chloropropane | 3 | U |

030030

643 562

1A

EPA SAMPLE NO

VOLATILE ORGANICS ANALYSIS DATA SHEET

WCHMHTA009WG09

Lab Name: STL BALTIMORE Contract: 990970

Lab Code: ST LABS Case No : SAS No.: SDG No.:

Matrix: (soil/water) WATER Lab Sample ID 9907630

Sample wt/vol 25 0 (g/ml) ML Lab File ID: VC3A3153.D

Level: (low/med) LOW Date Received. 7/27/99

% Moisture: not dec. Date Analyzed: 8/3/99

GC Column: DB-624 ID. 0.25 (mm) Dilution Factor: 1.0

Soil Extract Volume: (uL) Soil Aliquot Volume (uL)

CONCENTRATION UNITS:

| CAS NO. | COMPOUND | (ug/L or ug/Kg) UG/L | Q |
|---|---|---|---|
| 75-71-8 | Dichlorodifluoromethane | 1 | U |
| 74-87-3 | Chloromethane | 1 | U |
| 75-01-4 | Vinyl Chloride | 1 | U |
| 74-83-9 | Bromomethane | 1 | U |
| 75-00-3 | Chloroethane | 1 | U |
| 75-69-4 | Trichlorofluoromethane | 1 | U |
| 75-35-4 | 1,1-Dichloroethene | 1 | U |
| 75-09-2 | Methylene Chloride | 1 | U |
| 156-60-5 | trans-1,2-Dichloroethene | 1 | U |
| 75-34-3 | 1,1-Dichloroethane | 1 | U |
| 156-59-2 | cis-1,2-Dichloroethene | 6 | |
| 67-66-3 | Chloroform | 1 | U |
| 71-55-6 | 1,1,1-Trichloroethane | 1 | U |
| 56-23-5 | Carbon Tetrachloride | 2 | U |
| 107-06-2 | 1,2-Dichloroethane | 1 | U |
| 71-43-2 | Benzene | 1 | U |
| 67-64-1 | Acetone | 20 | U |
| 79-01-6 | Trichloroethene | 280 | E |
| 75-15-0 | Carbon Disulfide | 5 | U |
| 78-93-3 | 2-Butanone | 20 | U |
| 78-87-5 | 1,2-Dichloropropane | 1 | U |
| 108-10-1 | 4-Methyl-2-Pentanone | 20 | U |
| 75-27-4 | Bromodichloromethane | 1 | U |
| 591-78-6 | 2-Hexanone | 20 | U |
| 1330-20-7 | m&p Xylenes | 1 | U |
| 74-95-3 | Dibromomethane | 2 | U |
| 107-02-8 | Acrolein | 100 | U |
| 75-05-8 | Acetonitrile | 100 | U |
| 107-05-1 | Allyl Chloride | 10 | U |
| 10061-01-5 | cis-1,3-Dichloropropene | 1 | U |
| 107-13-1 | Acrylonitrile | 100 | U |
| 108-05-4 | Vinyl Acetate | 10 | U |
| 126-99-8 | Chloroprene | 10 | U |
| 108-88-3 | Toluene | 1 | U |
| 107-12-0 | Propionitrile | 100 | U |
| 10061-02-6 | trans-1,3-Dichloropropene | 1 | U |
| 126-98-7 | Methacrylonitrile | 100 | U |
| 79-00-5 | 1,1,2-Trichloroethane | 1 | U |
| 78-83-1 | Isobutyl Alcohol | 200 | U |

030033

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO 643 563

WCHMHTA009WG09

Lab Name. STL BALTIMORE Contract: 990970

Lab Code ST LABS Case No.. SAS No . SDG No.

Matrix (soil/water) WATER Lab Sample ID 9907630

Sample wt/vol: 25.0 (g/ml) ML Lab File ID. VC3A3153.D

Level: (low/med) LOW Date Received. 7/27/99

% Moisture. not dec. Date Analyzed. 8/3/99

GC Column: DB-624 ID. 0.25 (mm) Dilution Factor 1.0

Soil Extract Volume: (uL) Soil Aliquot Volume (uL)

CONCENTRATION UNITS:

| CAS NO. | COMPOUND | (ug/L or ug/Kg) UG/L | Q |
|---|---|---|---|
| 80-62-6 | Methyl Methacrylate | 5 | U |
| 97-63-2 | Ethyl Methacrylate | 5 | U |
| 110-57-6 | trans-1,4-Dichloro-2-butene | 25 | U |
| 127-18-4 | Tetrachloroethene | 2 | |
| 563-58-6 | 1,1-Dichloropropene | 1 | U |
| 106-93-4 | 1,2-Dibromoethane (EDB) | 1 | U |
| 87-61-6 | 1,2,3-Trichlorobenzene | 2 | U |
| 124-48-1 | Chlorodibromomethane | 1 | U |
| 120-82-1 | 1,2,4-Trichlorobenzene | 1 | U |
| 108-90-7 | Chlorobenzene | 1 | U |
| 95-63-6 | 1,2,4-Trimethylbenzene | 1 | U |
| 630-20-6 | 1,1,1,2-Tetrachloroethane | 1 | U |
| 108-67-8 | 1,3,5-Trimethylbenzene | 1 | U |
| 95-50-1 | 1,2-Dichlorobenzene | 1 | U |
| 100-41-4 | Ethylbenzene | 1 | U |
| 541-73-1 | 1,3-Dichlorobenzene | 1 | U |
| 142-28-9 | 1,3-Dichloropropane | 1 | U |
| 106-46-7 | 1,4-Dichlorobenzene | 1 | U |
| 544-10-5 | 1-Chlorohexane | 1 | U |
| 100-42-5 | Styrene | 1 | U |
| 594-20-7 | 2,2-Dichloropropane | 4 | U |
| 95-49-8 | 2-Chlorotoluene | 1 | U |
| 106-43-4 | 4-Chlorotoluene | 1 | U |
| 75-25-2 | Bromoform | 1 | U |
| 108-86-1 | Bromobenzene | 1 | U |
| 79-34-5 | 1,1,2,2-Tetrachloroethane | 1 | U |
| 74-97-5 | Bromochloromethane | 1 | U |
| 87-68-3 | Hexachlorobutadiene | 1 | U |
| 96-18-4 | 1,2,3-Trichloropropane | 3 | U |
| 98-82-8 | Isopropylbenzene | 1 | U |
| 104-51-8 | n-Butylbenzene | 1 | U |
| 103-65-1 | n-Propylbenzene | 1 | U |
| 91-20-3 | Naphthalene | 2 | U |
| 95-47-6 | o-Xylene | 1 | U |
| 99-87-6 | p-Isopropyltoluene | 1 | U |
| 135-98-8 | sec-Butylbenzene | 1 | U |
| 98-06-6 | tert-Butylbenzene | 1 | U |
| 74-88-4 | Iodomethane | 5 | U |
| 96-12-8 | 1,2-Dibromo-3-chloropropane | 3 | U |

030034

FORM I VOA

643 561

1A

EPA SAMPLE NO.

VOLATILE ORGANICS ANALYSIS DATA SHEET

WCHMHTA009WG09DL

Lab Name. STL BALTIMORE Contract: 990970

Lab Code. ST LABS Case No.: SAS No.: SDG No..

Matrix: (soil/water) WATER Lab Sample ID. 9907630DL

Sample wt/vol 25.0 (g/ml) ML Lab File ID: VC3A3176.D

Level: (low/med) LOW Date Received 7/27/99

% Moisture: not dec Date Analyzed: 8/4/99

GC Column: DB-624 ID: 0.25 (mm) Dilution Factor: 20.0

Soil Extract Volume: (uL) Soil Aliquot Volume. (uL)

CONCENTRATION UNITS:

| CAS NO. | COMPOUND | (ug/L or ug/Kg) UG/L | Q |
|---|---|---|---|
| 75-71-8 | Dichlorodifluoromethane | 20 | U |
| 74-87-3 | Chloromethane | 26 | U |
| 75-01-4 | Vinyl Chloride | 22 | U |
| 74-83-9 | Bromomethane | 22 | U |
| 75-00-3 | Chloroethane | 20 | U |
| 75-69-4 | Trichlorofluoromethane | 20 | U |
| 75-35-4 | 1,1-Dichloroethene | 24 | U |
| 75-09-2 | Methylene Chloride | 20 | U |
| 156-60-5 | trans-1,2-Dichloroethene | 20 | U |
| 75-34-3 | 1,1-Dichloroethane | 20 | U |
| 156-59-2 | cis-1,2-Dichloroethene | 24 | U |
| 67-66-3 | Chloroform | 20 | U |
| 71-55-6 | 1,1,1-Trichloroethane | 20 | U |
| 56-23-5 | Carbon Tetrachloride | 42 | U |
| 107-06-2 | 1,2-Dichloroethane | 20 | U |
| 71-43-2 | Benzene | 20 | U |
| 67-64-1 | Acetone | 400 | U |
| 79-01-6 | Trichloroethene | 330 | D |
| 75-15-0 | Carbon Disulfide | 100 | U |
| 78-93-3 | 2-Butanone | 400 | U |
| 78-87-5 | 1,2-Dichloropropane | 20 | U |
| 108-10-1 | 4-Methyl-2-Pentanone | 400 | U |
| 75-27-4 | Bromodichloromethane | 20 | U |
| 591-78-6 | 2-Hexanone | 400 | U |
| 1330-20-7 | m&p Xylenes | 26 | U |
| 74-95-3 | Dibromomethane | 48 | U |
| 107-02-8 | Acrolein | 2000 | U |
| 75-05-8 | Acetonitrile | 2000 | U |
| 107-05-1 | Allyl Chloride | 200 | U |
| 10061-01-5 | cis-1,3-Dichloropropene | 20 | U |
| 107-13-1 | Acrylonitrile | 2000 | U |
| 108-05-4 | Vinyl Acetate | 200 | U |
| 126-99-8 | Chloroprene | 200 | U |
| 108-88-3 | Toluene | 22 | U |
| 107-12-0 | Propionitrile | 2000 | U |
| 10061-02-6 | trans-1,3-Dichloropropene | 20 | U |
| 126-98-7 | Methacrylonitrile | 2000 | U |
| 79-00-5 | 1,1,2-Trichloroethane | 20 | U |
| 78-83-1 | Isobutyl Alcohol | 4000 | U |

030039

FORM I VOA

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO

WCHMHTA009WG09DL

Lab Name: STL BALTIMORE Contract: 990970

Lab Code: ST LABS Case No.. SAS No. SDG No.:

Matrix: (soil/water) WATER Lab Sample ID. 9907630DL

Sample wt/vol: 25 0 (g/ml) ML Lab File ID: VC3A3176 D

Level: (low/med) LOW Date Received. 7/27/99

% Moisture: not dec Date Analyzed: 8/4/99

GC Column DB-624 ID: 0 25 (mm) Dilution Factor: 20.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

CONCENTRATION UNITS:

| CAS NO | COMPOUND (ug/L or ug/Kg) | UG/L | Q |
|---|---|---|---|
| 80-62-6 | Methyl Methacrylate | 100 | U |
| 97-63-2 | Ethyl Methacrylate | 100 | U |
| 110-57-6 | trans-1,4-Dichloro-2-butene | 500 | U |
| 127-18-4 | Tetrachloroethene | 28 | U |
| 563-58-6 | 1,1-Dichloropropene | 20 | U |
| 106-93-4 | 1,2-Dibromoethane (EDB) | 20 | U |
| 87-61-6 | 1,2,3-Trichlorobenzene | 40 | U |
| 124-48-1 | Chlorodibromomethane | 20 | U |
| 120-82-1 | 1,2,4-Trichlorobenzene | 20 | U |
| 108-90-7 | Chlorobenzene | 20 | U |
| 95-63-6 | 1,2,4-Trimethylbenzene | 26 | U |
| 630-20-6 | 1,1,1,2-Tetrachloroethane | 20 | U |
| 108-67-8 | 1,3,5-Trimethylbenzene | 20 | U |
| 95-50-1 | 1,2-Dichlorobenzene | 20 | U |
| 100-41-4 | Ethylbenzene | 20 | U |
| 541-73-1 | 1,3-Dichlorobenzene | 24 | U |
| 142-28-9 | 1,3-Dichloropropane | 20 | U |
| 106-46-7 | 1,4-Dichlorobenzene | 20 | U |
| 544-10-5 | 1-Chlorohexane | 20 | U |
| 100-42-5 | Styrene | 20 | U |
| 594-20-7 | 2,2-Dichloropropane | 70 | U |
| 95-49-8 | 2-Chlorotoluene | 20 | U |
| 106-43-4 | 4-Chlorotoluene | 20 | U |
| 75-25-2 | Bromoform | 24 | U |
| 108-86-1 | Bromobenzene | 20 | U |
| 79-34-5 | 1,1,2,2-Tetrachloroethane | 20 | U |
| 74-97-5 | Bromochloromethane | 20 | U |
| 87-68-3 | Hexachlorobutadiene | 22 | U |
| 96-18-4 | 1,2,3-Trichloropropane | 64 | U |
| 98-82-8 | Isopropylbenzene | 20 | U |
| 104-51-8 | n-Butylbenzene | 22 | U |
| 103-65-1 | n-Propylbenzene | 20 | U |
| 91-20-3 | Naphthalene | 40 | U |
| 95-47-6 | o-Xylene | 22 | U |
| 99-87-6 | p-Isopropyltoluene | 24 | U |
| 135-98-8 | sec-Butylbenzene | 26 | U |
| 98-06-6 | tert-Butylbenzene | 28 | U |
| 74-88-4 | Iodomethane | 100 | U |
| 96-12-8 | 1,2-Dibromo-3-chloropropane | 52 | U |

643 566

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO

WHGLTA011WG09

Lab Name: STL BALTIMORE Contract: 990970

Lab Code: ST LABS Case No.: SAS No.: SDG No.:

Matrix: (soil/water) WATER Lab Sample ID: 9907631

Sample wt/vol: 25.0 (g/ml) ML Lab File ID: VC3A3154.D

Level: (low/med) LOW Date Received: 7/27/99

% Moisture: not dec. Date Analyzed: 8/3/99

GC Column: DB-624 ID: 0.25 (mm) Dilution Factor: 1.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

CONCENTRATION UNITS.

| CAS NO. | COMPOUND | (ug/L or ug/Kg) UG/L | Q |
|---|---|---|---|
| 75-71-8 | Dichlorodifluoromethane | 1 | U |
| 74-87-3 | Chloromethane | 1 | U |
| 75-01-4 | Vinyl Chloride | 1 | U |
| 74-83-9 | Bromomethane | 1 | U |
| 75-00-3 | Chloroethane | 1 | U |
| 75-69-4 | Trichlorofluoromethane | 1 | U |
| 75-35-4 | 1,1-Dichloroethene | 1 | U |
| 75-09-2 | Methylene Chloride | 1 | U |
| 156-60-5 | trans-1,2-Dichloroethene | 1 | U |
| 75-34-3 | 1,1-Dichloroethane | 1 | U |
| 156-59-2 | cis-1,2-Dichloroethene | 1 | U |
| 67-66-3 | Chloroform | 1 | U |
| 71-55-6 | 1,1,1-Trichloroethane | 1 | U |
| 56-23-5 | Carbon Tetrachloride | 2 | U |
| 107-06-2 | 1,2-Dichloroethane | 1 | U |
| 71-43-2 | Benzene | 1 | U |
| 67-64-1 | Acetone | 20 | U |
| 79-01-6 | Trichloroethene | 7 | |
| 75-15-0 | Carbon Disulfide | 5 | U |
| 78-93-3 | 2-Butanone | 20 | U |
| 78-87-5 | 1,2-Dichloropropane | 1 | U |
| 108-10-1 | 4-Methyl-2-Pentanone | 20 | U |
| 75-27-4 | Bromodichloromethane | 1 | U |
| 591-78-6 | 2-Hexanone | 20 | U |
| 1330-20-7 | m&p Xylenes | 1 | U |
| 74-95-3 | Dibromomethane | 2 | U |
| 107-02-8 | Acrolein | 100 | U |
| 75-05-8 | Acetonitrile | 100 | U |
| 107-05-1 | Allyl Chloride | 10 | U |
| 10061-01-5 | cis-1,3-Dichloropropene | 1 | U |
| 107-13-1 | Acrylonitrile | 100 | U |
| 108-05-4 | Vinyl Acetate | 10 | U |
| 126-99-8 | Chloroprene | 10 | U |
| 108-88-3 | Toluene | 1 | U |
| 107-12-0 | Propionitrile | 100 | U |
| 10061-02-6 | trans-1,3-Dichloropropene | 1 | U |
| 126-98-7 | Methacrylonitrile | 100 | U |
| 79-00-5 | 1,1,2-Trichloroethane | 1 | U |
| 78-83-1 | Isobutyl Alcohol | 200 | U |

030044

FORM I VOA

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

WHGLTA011WG09

Lab Name: STL BALTIMORE Contract: 990970

Lab Code: ST LABS Case No SAS No.. SDG No..

Matrix: (soil/water) WATER Lab Sample ID: 9907631

Sample wt/vol: 25 0 (g/ml) ML Lab File ID: VC3A3154.D

Level: (low/med) LOW Date Received: 7/27/99

% Moisture, not dec. Date Analyzed 8/3/99

GC Column: DB-624 ID: 0.25 (mm) Dilution Factor: 1 0

Soil Extract Volume: (uL) Soil Aliquot Volume (uL)

CONCENTRATION UNITS:

| CAS NO | COMPOUND | (ug/L or ug/Kg) UG/L | Q |
|---|---|---|---|
| 80-62-6 | Methyl Methacrylate | 5 | U |
| 97-63-2 | Ethyl Methacrylate | 5 | U |
| 110-57-6 | trans-1,4-Dichloro-2-butene | 25 | U |
| 127-18-4 | Tetrachloroethene | 1 | U |
| 563-58-6 | 1,1-Dichloropropene | 1 | U |
| 106-93-4 | 1,2-Dibromoethane (EDB) | 1 | U |
| 87-61-6 | 1,2,3-Trichlorobenzene | 2 | U |
| 124-48-1 | Chlorodibromomethane | 1 | U |
| 120-82-1 | 1,2,4-Trichlorobenzene | 1 | U |
| 108-90-7 | Chlorobenzene | 1 | U |
| 95-63-6 | 1,2,4-Trimethylbenzene | 1 | U |
| 630-20-6 | 1,1,1,2-Tetrachloroethane | 1 | U |
| 108-67-8 | 1,3,5-Trimethylbenzene | 1 | U |
| 95-50-1 | 1,2-Dichlorobenzene | 1 | U |
| 100-41-4 | Ethylbenzene | 1 | U |
| 541-73-1 | 1,3-Dichlorobenzene | 1 | U |
| 142-28-9 | 1,3-Dichloropropane | 1 | U |
| 106-46-7 | 1,4-Dichlorobenzene | 1 | U |
| 544-10-5 | 1-Chlorohexane | 1 | U |
| 100-42-5 | Styrene | 1 | U |
| 594-20-7 | 2,2-Dichloropropane | 4 | U |
| 95-49-8 | 2-Chlorotoluene | 1 | U |
| 106-43-4 | 4-Chlorotoluene | 1 | U |
| 75-25-2 | Bromoform | 1 | U |
| 108-86-1 | Bromobenzene | 1 | U |
| 79-34-5 | 1,1,2,2-Tetrachloroethane | 1 | U |
| 74-97-5 | Bromochloromethane | 1 | U |
| 87-68-3 | Hexachlorobutadiene | 1 | U |
| 96-18-4 | 1,2,3-Trichloropropane | 3 | U |
| 98-82-8 | Isopropylbenzene | 1 | U |
| 104-51-8 | n-Butylbenzene | 1 | U |
| 103-65-1 | n-Propylbenzene | 1 | U |
| 91-20-3 | Naphthalene | 2 | U |
| 95-47-6 | o-Xylene | 1 | U |
| 99-87-6 | p-Isopropyltoluene | 1 | U |
| 135-98-8 | sec-Butylbenzene | 1 | U |
| 98-06-6 | tert-Butylbenzene | 1 | U |
| 74-88-4 | Iodomethane | 5 | U |
| 96-12-8 | 1,2-Dibromo-3-chloropropane | 3 | U |

030045

643 568

1A

EPA SAMPLE NO.

VOLATILE ORGANICS ANALYSIS DATA SHEET

**DUP08**

Lab Name: STL BALTIMORE Contract: 990970

Lab Code: ST LABS Case No.: _____ SAS No.: _____ SDG No.: _____

Matrix: (soil/water) WATER Lab Sample ID: 9907632

Sample wt/vol: 25.0 (g/ml) ML Lab File ID: VC3A3155.D

Level. (low/med) LOW Date Received: 7/27/99

% Moisture. not dec. _____ Date Analyzed: 8/3/99

GC Column: DB-624 ID: 0.25 (mm) Dilution Factor: 1.0

Soil Extract Volume: _____ (uL) Soil Aliquot Volume: _____ (uL)

CONCENTRATION UNITS:

| CAS NO. | COMPOUND (ug/L or ug/Kg) | UG/L | Q |
|---|---|---|---|
| 75-71-8 | Dichlorodifluoromethane | 1 | U |
| 74-87-3 | Chloromethane | 1 | U |
| 75-01-4 | Vinyl Chloride | 1 | U |
| 74-83-9 | Bromomethane | 1 | U |
| 75-00-3 | Chloroethane | 1 | U |
| 75-69-4 | Trichlorofluoromethane | 1 | U |
| 75-35-4 | 1,1-Dichloroethene | 1 | U |
| 75-09-2 | Methylene Chloride | 1 | U |
| 156-60-5 | trans-1,2-Dichloroethene | 1 | U |
| 75-34-3 | 1,1-Dichloroethane | 1 | U |
| 156-59-2 | cis-1,2-Dichloroethene | 5 | |
| 67-66-3 | Chloroform | 1 | U |
| 71-55-6 | 1,1,1-Trichloroethane | 1 | U |
| 56-23-5 | Carbon Tetrachloride | 2 | U |
| 107-06-2 | 1,2-Dichloroethane | 1 | U |
| 71-43-2 | Benzene | 1 | U |
| 67-64-1 | Acetone | 20 | U |
| 79-01-6 | Trichloroethene | 280 | E |
| 75-15-0 | Carbon Disulfide | 5 | U |
| 78-93-3 | 2-Butanone | 20 | U |
| 78-87-5 | 1,2-Dichloropropane | 1 | U |
| 108-10-1 | 4-Methyl-2-Pentanone | 20 | U |
| 75-27-4 | Bromodichloromethane | 1 | U |
| 591-78-6 | 2-Hexanone | 20 | U |
| 1330-20-7 | m&p Xylenes | 1 | U |
| 74-95-3 | Dibromomethane | 2 | U |
| 107-02-8 | Acrolein | 100 | U |
| 75-05-8 | Acetonitrile | 100 | U |
| 107-05-1 | Allyl Chloride | 10 | U |
| 10061-01-5 | cis-1,3-Dichloropropene | 1 | U |
| 107-13-1 | Acrylonitrile | 100 | U |
| 108-05-4 | Vinyl Acetate | 10 | U |
| 126-99-8 | Chloroprene | 10 | U |
| 108-88-3 | Toluene | 1 | U |
| 107-12-0 | Propionitrile | 100 | U |
| 10061-02-6 | trans-1,3-Dichloropropene | 1 | U |
| 126-98-7 | Methacrylonitrile | 100 | U |
| 79-00-5 | 1,1,2-Trichloroethane | 1 | U |
| 78-83-1 | Isobutyl Alcohol | 200 | U |

030049

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO. 643 569

DUP08

Lab Name STL BALTIMORE Contract: 990970

ab Code: ST LABS Case No.: SAS No.: SDG No.:

Matrix: (soil/water) WATER Lab Sample ID: 9907632

Sample wt/vol: 25.0 (g/ml) ML Lab File ID: VC3A3155.D

Level: (low/med) LOW Date Received: 7/27/99

% Moisture: not dec. Date Analyzed: 8/3/99

GC Column DB-624 ID: 0 25 (mm) Dilution Factor: 1.0

Soil Extract Volume: (uL) Soil Aliquot Volume. (uL)

CONCENTRATION UNITS:

| CAS NO. | COMPOUND | (ug/L or ug/Kg) UG/L | Q |
|---|---|---|---|
| 80-62-6 | Methyl Methacrylate | 5 | U |
| 97-63-2 | Ethyl Methacrylate | 5 | U |
| 110-57-6 | trans-1,4-Dichloro-2-butene | 25 | U |
| 127-18-4 | Tetrachloroethene | 2 | |
| 563-58-6 | 1,1-Dichloropropene | 1 | U |
| 106-93-4 | 1,2-Dibromoethane (EDB) | 1 | U |
| 87-61-6 | 1,2,3-Trichlorobenzene | 2 | U |
| 124-48-1 | Chlorodibromomethane | 1 | U |
| 120-82-1 | 1,2,4-Trichlorobenzene | 1 | U |
| 108-90-7 | Chlorobenzene | 1 | U |
| 95-63-6 | 1,2,4-Trimethylbenzene | 1 | U |
| 630-20-6 | 1,1,1,2-Tetrachloroethane | 1 | U |
| 108-67-8 | 1,3,5-Trimethylbenzene | 1 | U |
| 95-50-1 | 1,2-Dichlorobenzene | 1 | U |
| 100-41-4 | Ethylbenzene | 1 | U |
| 541-73-1 | 1,3-Dichlorobenzene | 1 | U |
| 142-28-9 | 1,3-Dichloropropane | 1 | U |
| 106-46-7 | 1,4-Dichlorobenzene | 1 | U |
| 544-10-5 | 1-Chlorohexane | 1 | U |
| 100-42-5 | Styrene | 1 | U |
| 594-20-7 | 2,2-Dichloropropane | 4 | U |
| 95-49-8 | 2-Chlorotoluene | 1 | U |
| 106-43-4 | 4-Chlorotoluene | 1 | U |
| 75-25-2 | Bromoform | 1 | U |
| 108-86-1 | Bromobenzene | 1 | U |
| 79-34-5 | 1,1,2,2-Tetrachloroethane | 1 | U |
| 74-97-5 | Bromochloromethane | 1 | U |
| 87-68-3 | Hexachlorobutadiene | 1 | U |
| 96-18-4 | 1,2,3-Trichloropropane | 3 | U |
| 98-82-8 | Isopropylbenzene | 1 | U |
| 104-51-8 | n-Butylbenzene | 1 | U |
| 103-65-1 | n-Propylbenzene | 1 | U |
| 91-20-3 | Naphthalene | 2 | U |
| 95-47-6 | o-Xylene | 1 | U |
| 99-87-6 | p-Isopropyltoluene | 1 | U |
| 135-98-8 | sec-Butylbenzene | 1 | U |
| 98-06-6 | tert-Butylbenzene | 1 | U |
| 74-88-4 | Iodomethane | 5 | U |
| 96-12-8 | 1,2-Dibromo-3-chloropropane | 3 | U |

020050

643 570

1A

EPA SAMPLE NO

VOLATILE ORGANICS ANALYSIS DATA SHEET

**DUP08DL**

Lab Name: STL BALTIMORE Contract: 990970

Lab Code: ST LABS Case No : SAS No : SDG No.:

Matrix: (soil/water) WATER Lab Sample ID: 9907632DL

Sample wt/vol: 25.0 (g/ml) ML Lab File ID: VC3A3177.D

Level: (low/med) LOW Date Received: 7/27/99

% Moisture: not dec. Date Analyzed: 8/5/99

GC Column: DB-624 ID: 0.25 (mm) Dilution Factor. 20.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

CONCENTRATION UNITS:

| CAS NO. | COMPOUND (ug/L or ug/Kg) | UG/L | Q |
|---|---|---|---|
| 75-71-8 | Dichlorodifluoromethane | 20 | U |
| 74-87-3 | Chloromethane | 26 | U |
| 75-01-4 | Vinyl Chloride | 22 | U |
| 74-83-9 | Bromomethane | 22 | U |
| 75-00-3 | Chloroethane | 20 | U |
| 75-69-4 | Trichlorofluoromethane | 20 | U |
| 75-35-4 | 1,1-Dichloroethene | 24 | U |
| 75-09-2 | Methylene Chloride | 20 | U |
| 156-60-5 | trans-1,2-Dichloroethene | 20 | U |
| 75-34-3 | 1,1-Dichloroethane | 20 | U |
| 156-59-2 | cis-1,2-Dichloroethene | 24 | U |
| 67-66-3 | Chloroform | 20 | U |
| 71-55-6 | 1,1,1-Trichloroethane | 20 | U |
| 56-23-5 | Carbon Tetrachloride | 42 | U |
| 107-06-2 | 1,2-Dichloroethane | 20 | U |
| 71-43-2 | Benzene | 20 | U |
| 67-64-1 | Acetone | 400 | U |
| 79-01-6 | Trichloroethene | 330 | D |
| 75-15-0 | Carbon Disulfide | 100 | U |
| 78-93-3 | 2-Butanone | 400 | U |
| 78-87-5 | 1,2-Dichloropropane | 20 | U |
| 108-10-1 | 4-Methyl-2-Pentanone | 400 | U |
| 75-27-4 | Bromodichloromethane | 20 | U |
| 591-78-6 | 2-Hexanone | 400 | U |
| 1330-20-7 | m&p Xylenes | 26 | U |
| 74-95-3 | Dibromomethane | 48 | U |
| 107-02-8 | Acrolein | 2000 | U |
| 75-05-8 | Acetonitrile | 2000 | U |
| 107-05-1 | Allyl Chloride | 200 | U |
| 10061-01-5 | cis-1,3-Dichloropropene | 20 | U |
| 107-13-1 | Acrylonitrile | 2000 | U |
| 108-05-4 | Vinyl Acetate | 200 | U |
| 126-99-8 | Chloroprene | 200 | U |
| 108-88-3 | Toluene | 22 | U |
| 107-12-0 | Propionitrile | 2000 | U |
| 10061-02-6 | trans-1,3-Dichloropropene | 20 | U |
| 126-98-7 | Methacrylonitrile | 2000 | U |
| 79-00-5 | 1,1,2-Trichloroethane | 20 | U |
| 78-83-1 | Isobutyl Alcohol | 4000 | U |

030055

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO 643 571

DUP08DL

Lab Name STL BALTIMORE Contract: 990970

Lab Code ST LABS Case No.: _____ SAS No.: _____ SDG No.: _____

Matrix. (soil/water) WATER Lab Sample ID: 9907632DL

Sample wt/vol: 25.0 (g/ml) ML Lab File ID: VC3A3177.D

Level: (low/med) LOW Date Received: 7/27/99

% Moisture: not dec. _____ Date Analyzed: 8/5/99

GC Column: DB-624 ID: 0.25 (mm) Dilution Factor: 20.0

Soil Extract Volume: _____ (uL) Soil Aliquot Volume: _____ (uL)

CONCENTRATION UNITS:

| CAS NO. | COMPOUND (ug/L or ug/Kg) | UG/L | Q |
|---|---|---|---|
| 80-62-6 | Methyl Methacrylate | 100 | U |
| 97-63-2 | Ethyl Methacrylate | 100 | U |
| 110-57-6 | trans-1,4-Dichloro-2-butene | 500 | U |
| 127-18-4 | Tetrachloroethene | 28 | U |
| 563-58-6 | 1,1-Dichloropropene | 20 | U |
| 106-93-4 | 1,2-Dibromoethane (EDB) | 20 | U |
| 87-61-6 | 1,2,3-Trichlorobenzene | 40 | U |
| 124-48-1 | Chlorodibromomethane | 20 | U |
| 120-82-1 | 1,2,4-Trichlorobenzene | 20 | U |
| 108-90-7 | Chlorobenzene | 20 | U |
| 95-63-6 | 1,2,4-Trimethylbenzene | 26 | U |
| 630-20-6 | 1,1,1,2-Tetrachloroethane | 20 | U |
| 108-67-8 | 1,3,5-Trimethylbenzene | 20 | U |
| 95-50-1 | 1,2-Dichlorobenzene | 20 | U |
| 100-41-4 | Ethylbenzene | 20 | U |
| 541-73-1 | 1,3-Dichlorobenzene | 24 | U |
| 142-28-9 | 1,3-Dichloropropane | 20 | U |
| 106-46-7 | 1,4-Dichlorobenzene | 20 | U |
| 544-10-5 | 1-Chlorohexane | 20 | U |
| 100-42-5 | Styrene | 20 | U |
| 594-20-7 | 2,2-Dichloropropane | 70 | U |
| 95-49-8 | 2-Chlorotoluene | 20 | U |
| 106-43-4 | 4-Chlorotoluene | 20 | U |
| 75-25-2 | Bromoform | 24 | U |
| 108-86-1 | Bromobenzene | 20 | U |
| 79-34-5 | 1,1,2,2-Tetrachloroethane | 20 | U |
| 74-97-5 | Bromochloromethane | 20 | U |
| 87-68-3 | Hexachlorobutadiene | 22 | U |
| 96-18-4 | 1,2,3-Trichloropropane | 64 | U |
| 98-82-8 | Isopropylbenzene | 20 | U |
| 104-51-8 | n-Butylbenzene | 22 | U |
| 103-65-1 | n-Propylbenzene | 20 | U |
| 91-20-3 | Naphthalene | 40 | U |
| 95-47-6 | o-Xylene | 22 | U |
| 99-87-6 | p-Isopropyltoluene | 24 | U |
| 135-98-8 | sec-Butylbenzene | 26 | U |
| 98-06-6 | tert-Butylbenzene | 28 | U |
| 74-88-4 | Iodomethane | 100 | U |
| 96-12-8 | 1,2-Dibromo-3-chloropropane | 52 | U |

030056

643 572

1A

EPA SAMPLE NO.

VOLATILE ORGANICS ANALYSIS DATA SHEET

**MATERIAL BLANK**

Lab Name: STL BALTIMORE Contract: 990970

Lab Code: ST LABS Case No.: _____ SAS No.: _____ SDG No.: _____

Matrix: (soil/water) WATER Lab Sample ID: 9907633

Sample wt/vol: 25.0 (g/ml) ML Lab File ID: VC3A3156.D

Level: (low/med) LOW Date Received: 7/27/99

% Moisture: not dec. _____ Date Analyzed: 8/3/99

GC Column: DB-624 ID: 0.25 (mm) Dilution Factor: 1.0

Soil Extract Volume: _____ (uL) Soil Aliquot Volume: _____ (uL)

CONCENTRATION UNITS:

| CAS NO. | COMPOUND (ug/L or ug/Kg) | UG/L | Q |
|---|---|---|---|
| 75-71-8 | Dichlorodifluoromethane | 1 | U |
| 74-87-3 | Chloromethane | 1 | U |
| 75-01-4 | Vinyl Chloride | 1 | U |
| 74-83-9 | Bromomethane | 1 | U |
| 75-00-3 | Chloroethane | 1 | U |
| 75-69-4 | Trichlorofluoromethane | 1 | U |
| 75-35-4 | 1,1-Dichloroethene | 1 | U |
| 75-09-2 | Methylene Chloride | 1 | U |
| 156-60-5 | trans-1,2-Dichloroethene | 1 | U |
| 75-34-3 | 1,1-Dichloroethane | 1 | U |
| 156-59-2 | cis-1,2-Dichloroethene | 1 | U |
| 67-66-3 | Chloroform | 1 | U |
| 71-55-6 | 1,1,1-Trichloroethane | 1 | U |
| 56-23-5 | Carbon Tetrachloride | 2 | U |
| 107-06-2 | 1,2-Dichloroethane | 1 | U |
| 71-43-2 | Benzene | 1 | U |
| 67-64-1 | Acetone | 20 | U |
| 79-01-6 | Trichloroethene | 1 | U |
| 75-15-0 | Carbon Disulfide | 5 | U |
| 78-93-3 | 2-Butanone | 20 | U |
| 78-87-5 | 1,2-Dichloropropane | 1 | U |
| 108-10-1 | 4-Methyl-2-Pentanone | 20 | U |
| 75-27-4 | Bromodichloromethane | 1 | U |
| 591-78-6 | 2-Hexanone | 20 | U |
| 1330-20-7 | m&p Xylenes | 1 | U |
| 74-95-3 | Dibromomethane | 2 | U |
| 107-02-8 | Acrolein | 100 | U |
| 75-05-8 | Acetonitrile | 100 | U |
| 107-05-1 | Allyl Chloride | 10 | U |
| 10061-01-5 | cis-1,3-Dichloropropene | 1 | U |
| 107-13-1 | Acrylonitrile | 100 | U |
| 108-05-4 | Vinyl Acetate | 10 | U |
| 126-99-8 | Chloroprene | 10 | U |
| 108-88-3 | Toluene | 1 | U |
| 107-12-0 | Propionitrile | 100 | U |
| 10061-02-6 | trans-1,3-Dichloropropene | 1 | U |
| 126-98-7 | Methacrylonitrile | 100 | U |
| 79-00-5 | 1,1,2-Trichloroethane | 1 | U |
| 78-83-1 | Isobutyl Alcohol | 200 | U |

030060

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO. 643 573

**MATERIAL BLANK**

Lab Name: STL BALTIMORE Contract 990970

Lab Code: ST LABS Case No.: SAS No.: SDG No.:

Matrix: (soil/water) WATER Lab Sample ID: 9907633

Sample wt/vol: 25.0 (g/ml) ML Lab File ID: VC3A3156.D

Level: (low/med) LOW Date Received: 7/27/99

% Moisture: not dec. Date Analyzed: 8/3/99

GC Column: DB-624 ID: 0.25 (mm) Dilution Factor: 1.0

Soil Extract Volume (uL) Soil Aliquot Volume: (uL)

CONCENTRATION UNITS:

| CAS NO. | COMPOUND (ug/L or ug/Kg) | UG/L | Q |
|---|---|---|---|
| 80-62-6 | Methyl Methacrylate | 5 | U |
| 97-63-2 | Ethyl Methacrylate | 5 | U |
| 110-57-6 | trans-1,4-Dichloro-2-butene | 25 | U |
| 127-18-4 | Tetrachloroethene | 1 | U |
| 563-58-6 | 1,1-Dichloropropene | 1 | U |
| 106-93-4 | 1,2-Dibromoethane (EDB) | 1 | U |
| 87-61-6 | 1,2,3-Trichlorobenzene | 2 | U |
| 124-48-1 | Chlorodibromomethane | 1 | U |
| 120-82-1 | 1,2,4-Trichlorobenzene | 1 | U |
| 108-90-7 | Chlorobenzene | 1 | U |
| 95-63-6 | 1,2,4-Trimethylbenzene | 1 | U |
| 630-20-6 | 1,1,1,2-Tetrachloroethane | 1 | U |
| 108-67-8 | 1,3,5-Trimethylbenzene | 1 | U |
| 95-50-1 | 1,2-Dichlorobenzene | 1 | U |
| 100-41-4 | Ethylbenzene | 1 | U |
| 541-73-1 | 1,3-Dichlorobenzene | 1 | U |
| 142-28-9 | 1,3-Dichloropropane | 1 | U |
| 106-46-7 | 1,4-Dichlorobenzene | 1 | U |
| 544-10-5 | 1-Chlorohexane | 1 | U |
| 100-42-5 | Styrene | 1 | U |
| 594-20-7 | 2,2-Dichloropropane | 4 | U |
| 95-49-8 | 2-Chlorotoluene | 1 | U |
| 106-43-4 | 4-Chlorotoluene | 1 | U |
| 75-25-2 | Bromoform | 1 | U |
| 108-86-1 | Bromobenzene | 1 | U |
| 79-34-5 | 1,1,2,2-Tetrachloroethane | 1 | U |
| 74-97-5 | Bromochloromethane | 1 | U |
| 87-68-3 | Hexachlorobutadiene | 1 | U |
| 96-18-4 | 1,2,3-Trichloropropane | 3 | U |
| 98-82-8 | Isopropylbenzene | 1 | U |
| 104-51-8 | n-Butylbenzene | 1 | U |
| 103-65-1 | n-Propylbenzene | 1 | U |
| 91-20-3 | Naphthalene | 2 | U |
| 95-47-6 | o-Xylene | 1 | U |
| 99-87-6 | p-Isopropyltoluene | 1 | U |
| 135-98-8 | sec-Butylbenzene | 1 | U |
| 98-06-6 | tert-Butylbenzene | 1 | U |
| 74-88-4 | Iodomethane | 5 | U |
| 96-12-8 | 1,2-Dibromo-3-chloropropane | 3 | U |

030061

643 571

1A

EPA SAMPLE NO

VOLATILE ORGANICS ANALYSIS DATA SHEET

**VBLK01**

Lab Name: STL BALTIMORE Contract: 990970

Lab Code: ST LABS Case No.: _____ SAS No.: _____ SDG No.: _____

Matrix: (soil/water) WATER Lab Sample ID: VB908025

Sample wt/vol: 25.0 (g/ml) ML Lab File ID: VC3A3148.D

Level: (low/med) LOW Date Received: 7/27/99

% Moisture: not dec _____ Date Analyzed: 8/2/99

GC Column: DB-624 ID: 0.25 (mm) Dilution Factor: 1.0

Soil Extract Volume: _____ (uL) Soil Aliquot Volume: _____ (uL)

CONCENTRATION UNITS:

| CAS NO. | COMPOUND (ug/L or ug/Kg) | UG/L | Q |
|---|---|---|---|
| 75-71-8 | Dichlorodifluoromethane | 1 | U |
| 74-87-3 | Chloromethane | 1 | U |
| 75-01-4 | Vinyl Chloride | 1 | U |
| 74-83-9 | Bromomethane | 1 | U |
| 75-00-3 | Chloroethane | 1 | U |
| 75-69-4 | Trichlorofluoromethane | 1 | U |
| 75-35-4 | 1,1-Dichloroethene | 1 | U |
| 75-09-2 | Methylene Chloride | 1 | U |
| 156-60-5 | trans-1,2-Dichloroethene | 1 | U |
| 75-34-3 | 1,1-Dichloroethane | 1 | U |
| 156-59-2 | cis-1,2-Dichloroethene | 1 | U |
| 67-66-3 | Chloroform | 1 | U |
| 71-55-6 | 1,1,1-Trichloroethane | 1 | U |
| 56-23-5 | Carbon Tetrachloride | 2 | U |
| 107-06-2 | 1,2-Dichloroethane | 1 | U |
| 71-43-2 | Benzene | 1 | U |
| 67-64-1 | Acetone | 20 | U |
| 79-01-6 | Trichloroethene | 1 | U |
| 75-15-0 | Carbon Disulfide | 5 | U |
| 78-93-3 | 2-Butanone | 20 | U |
| 78-87-5 | 1,2-Dichloropropane | 1 | U |
| 108-10-1 | 4-Methyl-2-Pentanone | 20 | U |
| 75-27-4 | Bromodichloromethane | 1 | U |
| 591-78-6 | 2-Hexanone | 20 | U |
| 1330-20-7 | m&p Xylenes | 1 | U |
| 74-95-3 | Dibromomethane | 2 | U |
| 107-02-8 | Acrolein | 100 | U |
| 75-05-8 | Acetonitrile | 100 | U |
| 107-05-1 | Allyl Chloride | 10 | U |
| 10061-01-5 | cis-1,3-Dichloropropene | 1 | U |
| 107-13-1 | Acrylonitrile | 100 | U |
| 108-05-4 | Vinyl Acetate | 10 | U |
| 126-99-8 | Chloroprene | 10 | U |
| 108-88-3 | Toluene | 1 | U |
| 107-12-0 | Propionitrile | 100 | U |
| 10061-02-6 | trans-1,3-Dichloropropene | 1 | U |
| 126-98-7 | Methacrylonitrile | 100 | U |
| 79-00-5 | 1,1,2-Trichloroethane | 1 | U |
| 78-83-1 | Isobutyl Alcohol | 200 | U |

030162

643 575

# TAB

Appendix E October 1999

643 576 received 11/1/99
EDD w/ D026HBA
9910G263

Committed To *Your* Success

**Severn Trent Laboratories**
2417 Bond Street
University Park, IL 60466

Tel (708) 534-5200
Fax: (708) 534-5211
www stl-inc com

October 29, 1999

Ms. Lynn Morgan
HydroGeoLogic, Inc.
1155 Herndon Parkway, Suite 900
Herndon, VA 20170

RE: AFC001-26HBA
Analytical Report & EDD
Lot 9910G248

Dear Ms. Morgan:

The enclosed analytical report is for the project and lot number listed above. If you have any questions, please contact me at 708-534-5200.

Sincerely,
Severn Trent Laboratories

Bosco Ramirez
Project Manager

sj

Enclosures: Summary Report, & EDD

CLP Report & 1 Summary Report/Nancy Weaver EDS

Approved By:

Michael J. Healy
General Manager

The results presented in this report relate only to the analytical testing and conditions of sample at receipt. This report pertains to only those samples actually tested. All 1090 pages of this report are integral parts of the analytical data. Therefore, this report should be reproduced only in its entirety.

643 577

Severn Trent Laboratories Chicago
INORGANIC ANALYTICAL DATA PACKAGE FOR
AFC001-26HBA

LOT # ·9910G248

| CLIENT ID /ANALYSIS | SAMPLE # | MTX | PREP # | COLLECTN | DATE REC | EXT/PREP | ANALYSIS |
|---|---|---|---|---|---|---|---|
| TB100499 | | | | | | | |
| SUB-OUT TEST FOR SUB | 001 | W | | 10/04/99 | 10/06/99 | | |
| LF05-5GWG10 | | | | | | | |
| ALKALINITY | 002 | W | 99GAK131 | 10/04/99 | 10/06/99 | 10/13/99 | 10/13/99 |
| CHLORIDE BY IC | 002 | W | 99GD4012 | 10/04/99 | 10/06/99 | 10/07/99 | 10/07/99 |
| NITRATE BY IC | 002 | W | 99GD4011 | 10/04/99 | 10/06/99 | 10/06/99 | 10/06/99 |
| SULFATE BY IC | 002 | W | 99GD4011 | 10/04/99 | 10/06/99 | 10/06/99 | 10/06/99 |
| TOTAL ORGANIC CARBON | 002 | W | 99GTC230 | 10/04/99 | 10/06/99 | 10/21/99 | 10/21/99 |
| TOTAL ORGANIC CARBON | 002 | W | 99GTC230 | 10/04/99 | 10/06/99 | 10/21/99 | 10/21/99 |
| SUB-OUT TEST FOR SUB | 002 | W | | 10/04/99 | 10/06/99 | | |
| LF04-02WG10 | | | | | | | |
| ALKALINITY | 003 | W | 99GAK131 | 10/04/99 | 10/06/99 | 10/13/99 | 10/13/99 |
| CHLORIDE BY IC | 003 | W | 99GD4011 | 10/04/99 | 10/06/99 | 10/06/99 | 10/06/99 |
| NITRATE BY IC | 003 | W | 99GD4011 | 10/04/99 | 10/06/99 | 10/06/99 | 10/06/99 |
| SULFATE BY IC | 003 | W | 99GD4011 | 10/04/99 | 10/06/99 | 10/06/99 | 10/06/99 |
| TOTAL ORGANIC CARBON | 003 | W | 99GTC230 | 10/04/99 | 10/06/99 | 10/21/99 | 10/21/99 |
| TOTAL ORGANIC CARBON | 003 | W | 99GTC230 | 10/04/99 | 10/06/99 | 10/21/99 | 10/21/99 |
| SUB-OUT TEST FOR SUB | 003 | W | | 10/04/99 | 10/06/99 | | |
| DUP01WG10 | | | | | | | |
| ALKALINITY | 004 | W | 99GAK131 | 10/04/99 | 10/06/99 | 10/13/99 | 10/13/99 |
| CHLORIDE BY IC | 004 | W | 99GD4011 | 10/04/99 | 10/06/99 | 10/06/99 | 10/06/99 |
| NITRATE BY IC | 004 | W | 99GD4011 | 10/04/99 | 10/06/99 | 10/06/99 | 10/06/99 |
| SULFATE BY IC | 004 | W | 99GD4011 | 10/04/99 | 10/06/99 | 10/06/99 | 10/06/99 |
| TOTAL ORGANIC CARBON | 004 | W | 99GTC230 | 10/04/99 | 10/06/99 | 10/21/99 | 10/21/99 |
| TOTAL ORGANIC CARBON | 004 | W | 99GTC230 | 10/04/99 | 10/06/99 | 10/21/99 | 10/21/99 |
| SUB-OUT TEST FOR SUB | 004 | W | | 10/04/99 | 10/06/99 | | |
| TB100599 | | | | | | | |
| SUB-OUT TEST FOR SUB | 005 | W | | 10/05/99 | 10/06/99 | | |

NY CERTIFICATION # 11006

To: AFC001-26HBA
c/o HydroGeoLogic, Inc.
1155 Herndon Parkway, Ste. 900
Herndon, VA 20170

Attn: Mr. Ken Rapuano

Date: Tuesday October 26th, 1999

RE: WCHMHTHA008WG10
Project # 60025-001-001-0001
Lab ID: 9910G248-009
Sample Date: 10/05/99
Date Received: 10/06/99

## Inorganic Data Report

| Parameters | Result | Units | Reporting Limit |
|---|---|---|---|
| Alkalinity | 464 | mg/L | 10.0 |
| Chloride by IC | 373 | mg/L | 10.0 |
| Nitrate-N by IC | 2.3 | mg/L | 0.10 |
| Sulfate by IC | 40.2 | mg/L | 2.0 |
| Total Organic Carbon | 3.3 | mg/L | 1.0 |
| TOC Test 2 | 3.1 | mg/L | 1.0 |

To: AFC001-26HBA
c/o HydroGeoLogic, Inc.
1155 Herndon Parkway, Ste. 900
Herndon, VA 20170

Attn: Mr. Ken Rapuano

Date: Tuesday October 26th, 1999

RE: EB100599
Project # 60025-001-001-0001
Lab ID: 9910G248-010
Sample Date: 10/05/99
Date Received: 10/06/99

## Inorganic Data Report

| Parameters | Result | | Units | Reporting Limit |
|---|---|---|---|---|
| Alkalinity | 10.0 | u | mg/L | 10.0 |
| Chloride by IC | 0.20 | u | mg/L | 0.20 |
| Nitrate-N by IC | 0.10 | u | mg/L | 0.10 |
| Sulfate by IC | 0.20 | u | mg/L | 0.20 |
| Total Organic Carbon | 1.0 | u | mg/L | 1.0 |
| TOC Test 2 | 1.0 | u | mg/L | 1.0 |

To: AFC001-26HBA
c/o HydroGeoLogic, Inc.
1155 Herndon Parkway, Ste. 900
Herndon, VA 20170

Attn: Mr. Ken Rapuano

Date: Tuesday October 26th, 1999

RE: DUP04WG10
Project # 60025-001-001-0001
Lab ID: 9910G248-011
Sample Date: 10/05/99
Date Received: 10/06/99

## Inorganic Data Report

| Parameters | Result | Units | Reporting Limit |
|---|---|---|---|
| Alkalinity | 455 | mg/L | 10.0 |
| Chloride by IC | 381 | mg/L | 10.0 |
| Nitrate-N by IC | 2.3 | mg/L | 0.10 |
| Sulfate by IC | 35.3 | mg/L | 2.0 |
| Total Organic Carbon | 3.3 | mg/L | 1.0 |
| TOC Test 2 | 3.3 | mg/L | 1.0 |

To: AFC001-26HBA
c/o HydroGeoLogic, Inc.
1155 Herndon Parkway, Ste. 900
Herndon, VA 20170

Attn: Mr. Ken Rapuano

Date: Tuesday October 26th, 1999

RE: WHGLTA011WG10
Project # 60025-001-001-0001
Lab ID: 9910G248-012
Sample Date: 10/05/99
Date Received: 10/06/99

## Inorganic Data Report

| Parameters | Result | Units | Reporting Limit |
|---|---|---|---|
| Alkalinity | 452 | mg/L | 10.0 |
| Chloride by IC | 225 | mg/L | 10.0 |
| Nitrate-N by IC | 2.5 | mg/L | 0.10 |
| Sulfate by IC | 118 | mg/L | 10.0 |
| Total Organic Carbon | 2.8 | mg/L | 1.0 |
| TOC Test 2 | 2.7 | mg/L | 1.0 |

643 582

To: AFC001-26HBA
c/o HydroGeoLogic, Inc.
1155 Herndon Parkway, Ste. 900
Herndon, VA 20170

Attn: Mr. Ken Rapuano

Date: Tuesday October 26th, 1999

RE: ITMW-01TWG10
Project # 60025-001-001-0001
Lab ID: 9910G248-013
Sample Date: 10/05/99
Date Received: 10/06/99

## Inorganic Data Report

| Parameters | Result | Units | Reporting Limit |
|---|---|---|---|
| Alkalinity | 374 | mg/L | 10.0 |
| Chloride by IC | 62.3 | mg/L | 4.0 |
| Nitrate-N by IC | 1.6 | mg/L | 0.10 |
| Sulfate by IC | 111 | mg/L | 4.0 |
| Total Organic Carbon | 1.2 | mg/L | 1 0 |
| TOC Test 2 | 1.2 | mg/L | 1 0 |

To: AFC001-26HBA
c/o HydroGeoLogic, Inc.
1155 Herndon Parkway, Ste. 900
Herndon, VA 20170

Attn: Mr. Ken Rapuano

Date: Tuesday October 26th, 1999

Project # 60025-001-001-0001
Lab Batch: 9910G248

## Inorganic Method Blank Data Report

| Sample | Lab ID | Parameter | Result | | Units | Reporting Limit |
|---|---|---|---|---|---|---|
| Blank 1 | 99GAK131-MB1 | Alkalinity | 10.0 | u | mg/L | 10.0 |
| Blank 1 | 99GD4012-MB1 | Chloride by IC | 0.20 | u | mg/L | 0.20 |
| | | Nitrate-N by IC | 0.10 | u | mg/L | 0 10 |
| | | Sulfate by IC | 0.20 | u | mg/L | 0.20 |
| Blank 1 | 99GD4011-MB1 | Chloride by IC | 0.20 | u | mg/L | 0 20 |
| | | Nitrite-N by IC | 0.10 | u | mg/L | 0.10 |
| | | Sulfate by IC | 0.20 | u | mg/L | 0.20 |
| Blank 1 | 99GTC230-MB1 | Total Organic Carbon | 1.0 | u | mg/L | 1.0 |
| Blank 1 | 99GAK132-MB1 | Alkalinity | 10.0 | u | mg/L | 10.0 |
| Blank 1 | 99GAK134-MB1 | Alkalinity | 10.0 | u | mg/L | 10 0 |
| Blank 1 | 99GD4015-MB1 | Chloride by IC | 0.20 | u | mg/L | 0 20 |
| | | Sulfate by IC | 0.20 | u | mg/L | 0.20 |

643 584

To: AFC001-26HBA
c/o HydroGeoLogic, Inc.
1155 Herndon Parkway, Ste. 900
Herndon, VA 20170

Attn: Mr. Ken Rapuano

Date: Tuesday October 26th, 1999

Project # 60025-001-001-0001
Lab Batch: 9910G248

## Inorganic Accuracy Data Report

| Sample | Site ID | Parameter | Spiked Sample | Initial Result | Spiked Amount | % Recov |
|---|---|---|---|---|---|---|
| -012 | WHGLTA011WG10 | Alkalinity | 554 | 452 | 100 | NA |
| | | Alkalinity MSD | 551 | 452 | 100 | NA |
| | | Chloride by IC | 520 | 225 | 300 | 98.6 |
| | | Chloride by IC MSD | 521 | 225 | 300 | 98 8 |
| | | Nitrate-N by IC | 21 | 2.5 | 20 | [illegible] |
| | | Nitrate-N by IC MSD | 21 | 2.5 | 20 | [illegible]8 |
| | | Sulfate by IC | 369 | 118 | 250 | 100 |
| | | Sulfate by IC MSD | 368 | 118 | 250 | 99.8 |
| | | TOC | 11.9 | 2.8 | 10 0 | 91 6 |
| | | TOC MSD | 12.0 | 2.8 | 10.0 | 92.5 |

To. AFC001-26HBA
c/o HydroGeoLogic, Inc.
1155 Herndon Parkway, Ste. 900
Herndon, VA 20170

Attn: Mr. Ken Rapuano

Date: Tuesday October 26th, 1999

Project # 60025-001-001-0001
Lab Batch: 9910G248

## Inorganic Duplicate Spike Report

| Sample | Site ID | Parameter | Spike #1 % Recov | Spike #2 % Recov | RPD |
|---|---|---|---|---|---|
| -012 | WHGLTA011WG10 | Alkalinity | NA | NA | NC |
| | | Chloride by IC | 98.6 | 98.8 | 0.10 |
| | | Nitrate-N by IC | 94.3 | 93.8 | 0.50 |
| | | Sulfate by IC | 100 | 99.8 | 0.40 |
| | | TOC | 91.6 | 92.5 | 1.0 |

643 586

To: AFC001-26HBA
c/o HydroGeoLogic, Inc.
1155 Herndon Parkway, Ste. 900
Herndon, VA 20170

Attn: Mr. Ken Rapuano

Date: Tuesday October 26th, 1999

Project # 60025-001-001-0001
Lab Batch: 9910G248

## Inorganic Laboratory Control Standards Report

| Lab ID | Parameter | Spiked Amount | Units | Spike #1 % Recov. | Spike #2 % Recov. | RPD |
|---|---|---|---|---|---|---|
| 99GAK131-LCS | Alkalinity | 100 | mg/L | 102 | 102 | 0.50 |
| 99GD4012-LCS | Chloride by IC | 3.0 | mg/L | 95.4 | NA | NA |
| | Nitrate-N by IC | 2.0 | mg/L | 97.1 | NA | NA |
| | Sulfate by IC | 5.0 | mg/L | 98.6 | NA | NA |
| 99GD4011-LCS | Chloride by IC | 3.0 | mg/L | 96.2 | NA | NA |
| | Nitrite-N by IC | 2.0 | mg/L | 100 | NA | NA |
| | Sulfate by IC | 5.0 | mg/L | 102 | NA | NA |
| 99GTC230-LCS | TOC | 5.0 | mg/L | 99.5 | NA | NA |
| 99GAK132-LCS | Alkalinity | 100 | mg/L | 102 | NA | NA |
| 99GAK134-LCS | Alkalinity | 100 | mg/L | 102 | NA | NA |
| 99GD4015-LCS | Chloride by IC | 3.0 | mg/L | 98 6 | NA | NA |
| | Sulfate by IC | 5.0 | mg/L | 101 | NA | NA |

# Severn Trent Laboratories Chicago
# Wet Chemistry Case Narrative

Client: **HydroGeoLogic, NAS Ft. Worth AFC001-26HBA**
RFW Lot: **9910G248** Date Rec'd: 10/06/99

1. This narrative covers the analysis of the samples in the above RFW Lot by the following methods.

   Alkalinity - EPA Method 310.1
   Anions by Ion Chromatography - SW 846 9056
   - Chloride
   - Nitrate as N
   - Sulfate as $SO_4$

   TOC - EPA Method 415.1

2. The EPA holding times were met, except for the nitrate analysis on samples 9910G248-002, -003, and -004, which were received the second day after collection. They were put on the IC as soon as possible on the day received, but since the instrument's autosampler was already loaded, these samples were injected past the 48-hour holding time. They were analyzed within 2X of the holding time, though. Refer to the Laboratory Chronicle Page for dates of sampling, receipt, and analysis.

3. The initial and continuing calibration verification standards and blanks were in control.

4. All method blanks were below the detection limits.

5. All LCS recoveries were within control limits. Please see the LCS Summary Pages of this report for additional details.

6. Matrix QC was requested and done on sample WHGLTA011WG10. All spike recoveries were within acceptance limits.

Diane L. Harper
Wet Chemistry Section Manager

10-25-99
Date

**Severn Trent Laboratories - Chicago**
**GC/MS Case Narrative**

AFC001- 26HBA
STL# 9910G248
VOA DATA

1 All volatile analyses were performed within the requested holding times.

2 All Method Blank target compounds were below reporting limits

3 The QC limits specified in the QAPP were used for QC evaluation. There are not any QC limits specified in the QAPP for Vinyl acetate At the client's instructions, the spike limits of 0-0% were used and the flagging of Vinyl acetate has no QC significance There were several spike recoveries above the QC limits in the LCS (Laboratory Control Sample) samples Since the recoveries were above the QC limits and these compounds were not detected in the associated samples corrective action was not required The spike recoveries were below the QC limits for Naphthalene in the LCS samples 99GVF323-MB1 BS and 99GVF324-MB1 BS Further corrective action was not performed Naphthalene was not detected and the reporting limits is considered elevated in the associated samples All of the other spike recoveries were within the QAPP specified QC limits in the LCS samples

4 Matrix Spike/Matrix Spike Duplicate analyses were performed on the sample 9910G248-012 The QC limits specified in the QAPP were used for QC evaluation There are not any QC limits specified in the QAPP for Vinyl acetate At the client's instructions, the spike limits of 0-0% were used and the flagging of Vinyl acetate has no QC significance The spike recoveries were above the QC limits for two other compounds in the sample 9910G248-012 MS and below the QC limits for Styrene in both of the samples 99910G248-012 MS/MSD Since the LCS samples had acceptable spike recoveries for Styrene, corrective action was not required. All of the other spike recoveries were within the QAPP specified QC limits in the samples 9910G248-012 MS/MSD

5 All of the volatile samples had all surrogate recoveries within the QAPP specified QC limits

6 The water samples were prepared using Method 5030B All samples were analyzed following SW846 Method 8260B and 8000B All calibration criteria are met per method or SOP (for minimum R values for certain compounds) The low point in the initial calibrations verifies the base reporting limits The target compounds were quantitated using the initial calibration

7 All of the volatile samples had internal standard areas and retention times within the acceptance limits as compared to the corresponding continuing calibration standard

8 The water samples were initially analyzed without dilution using a 25 mL purge volume Secondary dilutions for target compounds were performed on the samples 9910G248-002

(1/100), 003 (1/100), 004 (1/100), 006 (1/50) and 008 (1/25) The results and reporting limits were adjusted to account for the dilutions performed

Gregory L. Goodwin
GC/MS Section Manager

10/26/99
Date

STL Chicago
METHOD 8260 VOLATILES

RFW Batch Number 9910G248 Client: AFC001-26HBA Work Order: 60025-001-001-0 Report Date: 10/25/99 16:39 Page: 1a

| | Cust ID: | TB100499 | LF05-5GWG10 | LF05-5GWG10 | LF04-02WG10 | LF04-02WG10 | DUP01WG10 |
|---|---|---|---|---|---|---|---|
| Sample Information | RFW#: | 001 | 002 | 002 DL | 003 | 003 DL | 004 |
| | Matrix: | WATER | WATER | WATER | WATER | WATER | WATER |
| | D.F.: | 1 | 1 | 100 | 1 | 100 | 1 |
| | Units: | UG/L | UG/L | UG/L | UG/L | UG/L | UG/L |
| Surrogate Recovery | 1,2-Dichloroethane-d4 | 97 % | 96 % | 91 % | 96 % | 98 % | 102 % |
| | Toluene-d8 | 108 % | 108 % | 89 % | 110 % | 111 % | 111 % |
| | 4-Bromofluorobenzene | 112 % | 111 % | 88 % | 113 % | 116 % | 115 % |
| | Dibromofluoromethane | 101 % | 97 % | 87 % | 98 % | 100 % | 103 % |
| | | fl | fl | fl | fl | fl | fl |
| Dichlorodifluoromethane | | 0.5 U | 0.5 U | NA | 0.5 U | NA | 0.5 U |
| Chloromethane | | 0.5 U | 0.5 U | NA | 0.5 U | NA | 0.5 U |
| Vinyl chloride | | 0.5 U | 18 | NA | 4 | NA | 4 |
| Bromomethane | | 0.5 U | 0.5 U | NA | 0.5 U | NA | 0.5 U |
| Chloroethane | | 0.5 U | 0.5 U | NA | 0.5 U | NA | 0.5 U |
| Trichlorofluoromethane | | 0.5 U | 0.5 U | NA | 0.5 U | NA | 0.5 U |
| 1,1-Dichloroethene | | 0.5 U | 3 | NA | 2 | NA | 2 |
| Methylene Chloride | | 0.5 U | 0.5 U | NA | 0.5 U | NA | 0.5 U |
| trans-1,2-Dichloroethene | | 0.5 U | 32 | NA | 23 | NA | 23 |
| 1,1-Dichloroethane | | 0.4 U | 0.4 | NA | 0.4 | NA | 0.4 |
| Vinyl acetate | | 2 U | 2 U | NA | 2 U | NA | 2 U |
| cis-1,2-Dichloroethene | | 0.5 U | E | 250 | E | 270 | E |
| 2,2-Dichloropropane | | 0.5 U | 0.5 U | NA | 0.5 U | NA | 0.5 U |
| Bromochloromethane | | 0.4 U | 0 4 U | NA | 0.4 U | NA | 0.4 U |
| Chloroform | | 0.3 U | 0.3 | NA | 0.8 | NA | 0.8 |
| 1,1,1-Trichloroethane | | 0.5 U | 0.5 U | NA | 0.5 U | NA | 0.5 U |
| 1,1-Dichloropropene | | 0.5 U | 0.5 U | NA | 0.5 U | NA | 0.5 U |
| Carbon Tetrachloride | | 0.5 U | 0.5 U | NA | 0.5 U | NA | 0.5 U |
| Benzene | | 0.4 U | 0.4 U | NA | 0.4 U | NA | 0.4 U |
| 1,2-Dichloroethane | | 0.5 U | 0.5 U | NA | 0.5 U | NA | 0.5 U |
| Trichloroethene | | 0.5 U | E | 1200 | E | 2800 | E |
| 1,2-Dichloropropane | | 0.4 U | 0.4 U | NA | 0.4 U | NA | 0.4 U |
| Dibromomethane | | 0.5 U | 0.5 U | NA | 0.5 U | NA | 0.5 U |
| Bromodichloromethane | | 0.5 U | 0.5 U | NA | 0.5 U | NA | 0.5 U |
| cis-1,3-Dichloropropene | | 0.5 U | 0.5 U | NA | 0.5 U | NA | 0.5 U |

*= Outside of EPA CLP QC limits.

RFW Batch Number 9910G248 Client: AFC001-26HBA Work Order: 60025-001-001-0 Page: 1b

| Cust ID: | TB100499 | LF05-5GWG10 | LF05-5GWG10 | LF04-02WG10 | LF04-02WG10 | DUP01WG10 |
|---|---|---|---|---|---|---|
| RFW#: | 001 | 002 | 002 DL | 003 | 003 DL | 004 |
| Toluene | 0.5 U | 0.5 U | NA | 0.5 U | NA | 0.5 U |
| trans-1,3-Dichloropropene | 0.5 U | 0.5 U | NA | 0.5 U | NA | 0.5 U |
| 1,1,2-Trichloroethane | 0.5 U | 0.5 U | NA | 0.5 U | NA | 0.5 U |
| 1,3-Dichloropropane | 0.4 U | 0.4 U | NA | 0.4 U | NA | 0.4 U |
| Tetrachloroethene | 0.5 U | 0.5 U | NA | 9 | NA | 8 |
| Dibromochloromethane | 0.5 U | 0.5 U | NA | 0.5 U | NA | 0.5 U |
| 1,2-Dibromoethane | 0.5 U | 0.5 U | NA | 0.5 U | NA | 0.5 U |
| 1-Chlorohexane | 0.5 U | 0.5 U | NA | 0.5 U | NA | 0.5 U |
| Chlorobenzene | 0.4 U | 0.4 | NA | 0.4 U | NA | 0.4 U |
| 1,1,1,2-Tetrachloroethane | 0.5 U | 0.5 U | NA | 0.5 U | NA | 0.5 U |
| Ethylbenzene | 0.5 U | 0.5 U | NA | 0.5 U | NA | 0.5 U |
| m/p-Xylene | 0.5 U | 0.5 U | NA | 0.5 U | NA | 0.5 U |
| o-Xylene | 0.5 U | 0.5 U | NA | 0.5 U | NA | 0.5 U |
| Styrene | 0.4 U | 0.4 U | NA | 0.4 U | NA | 0.4 U |
| Bromoform | 0.5 U | 0.5 U | NA | 0.5 U | NA | 0.5 U |
| Isopropylbenzene | 0.5 U | 0.5 U | NA | 0.5 U | NA | 0.5 U |
| 1,1,2,2-Tetrachloroethane | 0.5 U | 0.5 U | NA | 0.5 U | NA | 0.5 U |
| Bromobenzene | 0.3 U | 0.3 U | NA | 0.3 U | NA | 0.3 U |
| 1,2,3-Trichloropropane | 0.5 U | 0.5 U | NA | 0.5 U | NA | 0.5 U |
| n-Propylbenzene | 0.4 U | 0.4 U | NA | 0.4 U | NA | 0.4 U |
| 2-Chlorotoluene | 0.4 U | 0.4 U | NA | 0.4 U | NA | 0.4 U |
| 1,3,5-Trimethylbenzene | 0.5 U | 0.5 U | NA | 0.5 U | NA | 0.5 U |
| 4-Chlorotoluene | 0.5 U | 0.5 U | NA | 0.5 U | NA | 0.5 U |
| tert-Butylbenzene | 0.5 U | 0.5 U | NA | 0.5 U | NA | 0.5 U |
| 1,2,4-Trimethylbenzene | 0.5 U | 0.5 U | NA | 0.5 U | NA | 0.5 U |
| sec-Butylbenzene | 0.5 U | 0.5 U | NA | 0.5 U | NA | 0.5 U |
| 1,3-Dichlorobenzene | 0.5 U | 0.5 U | NA | 0.5 U | NA | 0.5 U |
| p-Isopropyltoluene | 0.5 U | 0.5 U | NA | 0.5 U | NA | 0.5 U |
| 1,4-Dichlorobenzene | 0.3 U | 1 | NA | 0.3 U | NA | 0.4 |
| n-Butylbenzene | 0.5 U | 0.5 U | NA | 0.5 U | NA | 0.5 U |
| 1,2-Dichlorobenzene | 0.3 U | 0.3 U | NA | 0.3 U | NA | 0.3 U |
| 1,2-Dibromo-3-chloropropane | 0.5 U | 0.5 U | NA | 0.5 U | NA | 0.5 U |
| 1,2,4-Trichlorobenzene | 0.4 U | 0.4 U | NA | 0.4 U | NA | 0.4 U |
| Hexachlorobutadiene | 0.5 U | 0.5 U | NA | 0.5 U | NA | 0.5 U |
| Naphthalene | 0.5 U | 0.5 U | NA | 0.5 U | NA | 0.5 U |
| 1,2,3-Trichlorobenzene | 0.5 U | 0.5 U | NA | 0.5 U | NA | 0.5 U |

*= Outside of EPA CLP QC limits.

STL Chicago
METHOD 8260 VOLATILES

RFW Batch Number: 9910G248 Client: AFC001-26HBA Work Order: 60025-001-001-0 Report Date: 10/25/99 16:39 Page: 2a



| | Cust ID: | DUP01WG10 | | TB100599 | | WHGLTA601WG1 0 | | WHGLTA601WG1 0 | | WHGLTA003WG1 0 | | LF05-19WG10 | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Sample Information | RFW#: | 004 DL | | 005 | | 006 | | 006 DL | | 007 | | 008 | |
| | Matrix: | WATER | | WATER | | WATER | | WATER | | WATER | | WATER | |
| | D.F.: | 100 | | 1 | | 1 | | 50 | | 1 | | 1 | |
| | Units: | UG/L | | UG/L | | UG/L | | UG/L | | UG/L | | UG/L | |
| Surrogate Recovery | 1.2-Dichloroethane-d4 | 82 | % | 102 | % | 103 | % | 81 | % | 80 | % | 97 | % |
| | Toluene-d8 | 89 | % | 108 | % | 107 | % | 88 | % | 89 | % | 110 | % |
| | 4-Bromofluorobenzene | 93 | % | 113 | % | 113 | % | 93 | % | 93 | % | 110 | % |
| | Dibromofluoromethane | 83 | % | 103 | % | 102 | % | 82 | % | 82 | % | 97 | % |
| | | | fl | | fl | | fl | | fl | | fl | | fl |
| Dichlorodifluoromethane | | NA | | 0.5 | U | 0.5 | U | NA | | 0.5 | U | 0.5 | U |
| Chloromethane | | NA | | 0.5 | U | 0.5 | U | NA | | 0.5 | U | 0.5 | U |
| Vinyl chloride | | NA | | 0.5 | U | 0.5 | U | NA | | 0.5 | U | 0.5 | U |
| Bromomethane | | NA | | 0.5 | U | 0.5 | U | NA | | 0.5 | U | 0.5 | U |
| Chloroethane | | NA | | 0.5 | U | 0.5 | U | NA | | 0.5 | U | 0.5 | U |
| Trichlorofluoromethane | | NA | | 0.5 | U | 0.5 | U | NA | | 0.5 | U | 0.5 | U |
| 1,1-Dichloroethene | | NA | | 0.5 | U | 0.5 | U | NA | | 0.5 | U | 0.5 | U |
| Methylene Chloride | | NA | | 0.5 | U | 0.5 | U | NA | | 0.5 | U | 0.5 | U |
| trans-1,2-Dichloroethene | | NA | | 0.5 | U | 4 | | NA | | 0.5 | U | 1 | |
| 1,1-Dichloroethane | | NA | | 0.4 | U | 0.4 | U | NA | | 0.8 | | 2 | |
| Vinyl acetate | | NA | | 2 | U | 2 | U | NA | | 2 | U | 2 | U |
| cis-1,2-Dichloroethene | | 270 | | 0.5 | U | 39 | | NA | | 9 | | | E |
| 2,2-Dichloropropane | | NA | | 0.5 | U | 0.5 | U | NA | | 0.5 | U | 0.5 | U |
| Bromochloromethane | | NA | | 0.4 | U | 0.4 | U | NA | | 0.4 | U | 0.4 | U |
| Chloroform | | NA | | 0.3 | U | 0.3 | U | NA | | 0.3 | U | 0.3 | U |
| 1,1,1-Trichloroethane | | NA | | 0.5 | U | 0.5 | U | NA | | 0.5 | U | 0.5 | U |
| 1,1-Dichloropropene | | NA | | 0.5 | U | 0.5 | U | NA | | 0.5 | U | 0.5 | U |
| Carbon Tetrachloride | | NA | | 0.5 | U | 0.5 | U | NA | | 0.5 | U | 0.5 | U |
| Benzene | | NA | | 0.4 | U | 0.4 | U | NA | | 0.4 | U | 0.4 | U |
| 1,2-Dichloroethane | | NA | | 0.5 | U | 0.5 | U | NA | | 0.5 | U | 0.5 | U |
| Trichloroethene | | 2600 | | 0.5 | U | | E | 180 | | 24 | | | E |
| 1,2-Dichloropropane | | NA | | 0.4 | U | 0.4 | U | NA | | 0.4 | U | 0.4 | U |
| Dibromomethane | | NA | | 0.5 | U | 0.5 | U | NA | | 0.5 | U | 0.5 | U |
| Bromodichloromethane | | NA | | 0.5 | U | 0.5 | U | NA | | 0.5 | U | 0.5 | U |
| cis-1,3-Dichloropropene | | NA | | 0.5 | U | 0.5 | U | NA | | 0.5 | U | 0.5 | U |

*= Outside of EPA CLP QC limits.

RFW Batch Number 9910G248 Client: AFC001-26HBA Work Order: 60025-001-001-0 Page: 2b

| Cust ID: | DUP01WG10 | TB100599 | WHGLTA601WG1 0 | WHGLTA601WG1 0 | WHGLTA003WG1 0 | LF05-19WG10 |
|---|---|---|---|---|---|---|
| RFW#: | 004 DL | 005 | 006 | 006 DL | 007 | 008 |
| Toluene | NA | 0.5 U | 0.5 U | NA | 0.5 U | 0.5 U |
| trans-1,3-Dichloropropene | NA | 0.5 U | 0.5 U | NA | 0.5 U | 0.5 U |
| 1,1,2-Trichloroethane | NA | 0.5 U | 0.5 U | NA | 0.5 U | 0.5 U |
| 1,3-Dichloropropane | NA | 0 4 U | 0.4 U | NA | 0.4 U | 0.4 U |
| Tetrachloroethene | NA | 0.5 U | 0.5 U | NA | 0.5 U | 0.5 U |
| Dibromochloromethane | NA | 0.5 U | 0.5 U | NA | 0.5 U | 0.5 U |
| 1,2-Dibromoethane | NA | 0 5 U | 0.5 U | NA | 0.5 U | 0.5 U |
| 1-Chlorohexane | NA | 0.5 U | 0.5 U | NA | 0.5 U | 0.5 U |
| Chlorobenzene | NA | 0.4 U | 0.4 U | NA | 0.4 U | 0.4 U |
| 1,1,1,2-Tetrachloroethane | NA | 0.5 U | 0.5 U | NA | 0.5 U | 0.5 U |
| Ethylbenzene | NA | 0.5 U | 0.5 U | NA | 0.5 U | 0.5 U |
| m/p-Xylene | NA | 0.5 U | 0.5 U | NA | 0 5 U | 0.5 U |
| o-Xylene | NA | 0.5 U | 0 5 U | NA | 0.5 U | 0.5 U |
| Styrene | NA | 0.4 U | 0 4 U | NA | 0.4 U | 0.4 U |
| Bromoform | NA | 0.5 U | 0.5 U | NA | 0.5 U | 0.5 U |
| Isopropylbenzene | NA | 0.5 U | 0 5 U | NA | 0.5 U | 0.5 U |
| 1,1,2,2-Tetrachloroethane | NA | 0.5 U | 0.5 U | NA | 0.5 U | 0.5 U |
| Bromobenzene | NA | 0.3 U | 0.3 U | NA | 0.3 U | 0.3 U |
| 1,2,3-Trichloropropane | NA | 0.5 U | 0.5 U | NA | 0.5 U | 0.5 U |
| n-Propylbenzene | NA | 0 4 U | 0.4 U | NA | 0.4 U | 0.4 U |
| 2-Chlorotoluene | NA | 0.4 U | 0.4 U | NA | 0.4 U | 0.4 U |
| 1,3,5-Trimethylbenzene | NA | 0.5 U | 0.5 U | NA | 0.5 U | 0.5 U |
| 4-Chlorotoluene | NA | 0.5 U | 0.5 U | NA | 0.5 U | 0.5 U |
| tert-Butylbenzene | NA | 0.5 U | 0.5 U | NA | 0.5 U | 0.5 U |
| 1,2,4-Trimethylbenzene | NA | 0.5 U | 0.5 U | NA | 0.5 U | 0.5 U |
| sec-Butylbenzene | NA | 0.5 U | 0.5 U | NA | 0.5 U | 0.5 U |
| 1,3-Dichlorobenzene | NA | 0.5 U | 0.5 U | NA | 0.5 U | 0.5 U |
| p-Isopropyltoluene | NA | 0.5 U | 0.5 U | NA | 0.5 U | 0.5 U |
| 1,4-Dichlorobenzene | NA | 0.3 U | 0.3 U | NA | 0.3 U | 0.3 U |
| n-Butylbenzene | NA | 0.5 U | 0.5 U | NA | 0.5 U | 0.5 U |
| 1,2-Dichlorobenzene | NA | 0.3 U | 0.3 U | NA | 0.3 U | 0.3 U |
| 1,2-Dibromo-3-chloropropane | NA | 0.5 U | 0.5 U | NA | 0.5 U | 0.5 U |
| 1,2,4-Trichlorobenzene | NA | 0.4 U | 0.4 U | NA | 0.4 U | 0.4 U |
| Hexachlorobutadiene | NA | 0.5 U | 0.5 U | NA | 0.5 U | 0.5 U |
| Naphthalene | NA | 0.5 U | 0 5 U | NA | 0.5 U | 0.5 U |
| 1,2,3-Trichlorobenzene | NA | 0.5 U | 0.5 U | NA | 0.5 U | 0.5 U |

*= Outside of EPA CLP QC limits.

STL Chicago
METHOD 8260 VOLATILES

RFW Batch Number: 9910G248 Client AFC001-26HBA Work Order: 60025-001-001-0 Report Date: 10/25/99 16.39 Page: 3a

| | Cust ID: | LF05-19WG10 | EB100599 | WHGLTA011WG10 | WHGLTA011WG10 | WHGLTA011WG10 | ITMW-01TWG10 |
|---|---|---|---|---|---|---|---|
| Sample Information | RFW#: | 008 DL | 010 | 012 | 012 MS | 012 MSD | 013 |
| | Matrix: | WATER | WATER | WATER | WATER | WATER | WATER |
| | D.F.: | 25 | 1 | 1 | 1 | 1 | 1 |
| | Units: | UG/L | UG/L | UG/L | UG/L | UG/L | UG/L |
| Surrogate Recovery | 1,2-Dichloroethane-d4 | 100 % | 104 % | 93 % | 100 % | 100 % | 80 % |
| | Toluene-d8 | 107 % | 106 % | 100 % | 103 % | 104 % | 86 % |
| | 4-Bromofluorobenzene | 109 % | 112 % | 107 % | 107 % | 109 % | 92 % |
| | Dibromofluoromethane | 98 % | 103 % | 93 % | 95 % | 95 % | 81 % |
| Dichlorodifluoromethane | | NA | 0.5 U | 0.5 U | 69 % | 67 % | 0.5 U |
| Chloromethane | | NA | 0.5 U | 1 | 67 % | 64 % | 0.5 U |
| Vinyl chloride | | NA | 0.5 U | 0.5 U | 90 % | 85 % | 0.5 U |
| Bromomethane | | NA | 0.5 U | 0.5 U | 102 % | 98 % | 0.5 U |
| Chloroethane | | NA | 0.5 U | 0.5 U | 91 % | 90 % | 0.5 U |
| Trichlorofluoromethane | | NA | 0.5 U | 0.5 U | 130 * % | 124 % | 0.5 U |
| 1,1-Dichloroethene | | NA | 0.5 U | 0.5 U | 100 % | 100 % | 0.5 U |
| Methylene Chloride | | NA | 0.5 U | 0.5 U | 88 % | 88 % | 0.5 U |
| trans-1,2-Dichloroethene | | NA | 0.5 U | 0.5 U | 96 % | 97 % | 0.5 U |
| 1,1-Dichloroethane | | NA | 0.4 U | 0.4 U | 93 % | 92 % | 0.4 U |
| Vinyl acetate | | NA | 2 U | 2 U | 69 * % | 73 * % | 2 U |
| cis-1,2-Dichloroethene | | 57 | 0.5 U | 0.5 U | 100 % | 100 % | 3 |
| 2,2-Dichloropropane | | NA | 0.5 U | 0.5 U | 116 % | 113 % | 0.5 U |
| Bromochloromethane | | NA | 0.4 U | 0.4 U | 100 % | 94 % | 0.4 U |
| Chloroform | | NA | 0.3 U | 0.3 U | 97 % | 98 % | 0.3 U |
| 1,1,1-Trichloroethane | | NA | 0.5 U | 0.5 U | 101 % | 101 % | 0.5 U |
| 1,1-Dichloropropene | | NA | 0.5 U | 0.5 U | 109 % | 109 % | 0.5 U |
| Carbon Tetrachloride | | NA | 0.5 U | 0.5 U | 107 % | 105 % | 0.5 U |
| Benzene | | NA | 0.4 U | 0.4 U | 96 % | 97 % | 0.4 U |
| 1,2-Dichloroethane | | NA | 0.5 U | 0.5 U | 95 % | 92 % | 0.5 U |
| Trichloroethene | | 140 | 0.5 U | 6 | 110 % | 104 % | 8 |
| 1,2-Dichloropropane | | NA | 0.4 U | 0.4 U | 96 % | 97 % | 0.4 U |
| Dibromomethane | | NA | 0.5 U | 0.5 U | 97 % | 94 % | 0.5 U |
| Bromodichloromethane | | NA | 0.5 U | 0.5 U | 99 % | 95 % | 0.5 U |
| cis-1,3-Dichloropropene | | NA | 0.5 U | 0.5 U | 96 % | 94 % | 0.5 U |

*= Outside of EPA CLP QC limits.

| Cust ID: | LF05-19WG10 | EB100599 | WHGLTA011WG1 0 | WHGLTA011WG1 0 | WHGLTA011WG1 0 | ITMW-01TWG10 |
|---|---|---|---|---|---|---|
| RFW#: | 008 DL | 010 | 012 | 012 MS | 012 MSD | 013 |
| Toluene | NA | 0.5 U | 0.5 U | 98 % | 98 % | 0.5 U |
| trans-1,3-Dichloropropene | NA | 0.5 U | 0.5 U | 91 % | 88 % | 0.5 U |
| 1,1,2-Trichloroethane | NA | 0.5 U | 0.5 U | 94 % | 92 % | 0.5 U |
| 1,3-Dichloropropane | NA | 0.4 U | 0.4 U | 94 % | 93 % | 0.4 U |
| Tetrachloroethene | NA | 0.5 U | 0.5 U | 104 % | 105 % | 0.5 U |
| Dibromochloromethane | NA | 0.5 U | 0.5 U | 98 % | 96 % | 0.5 U |
| 1,2-Dibromoethane | NA | 0.5 U | 0.5 U | 96 % | 93 % | 0.5 U |
| 1-Chlorohexane | NA | 0.5 U | 0.5 U | 128 * % | 122 % | 0.5 U |
| Chlorobenzene | NA | 0.4 U | 0.4 U | 100 % | 101 % | 0.4 U |
| 1,1,1,2-Tetrachloroethane | NA | 0.5 U | 0.5 U | 98 % | 96 % | 0.5 U |
| Ethylbenzene | NA | 0.5 U | 0.5 U | 99 % | 99 % | 0.5 U |
| m/p-Xylene | NA | 0.5 U | 0.5 U | 103 % | 103 % | 0.5 U |
| o-Xylene | NA | 0.5 U | 0.5 U | 101 % | 101 % | 0.5 U |
| Styrene | NA | 0.4 U | 0.4 U | 54 * % | 64 * % | 0.4 U |
| Bromoform | NA | 0.5 U | 0.5 U | 94 % | 92 % | 0.5 U |
| Isopropylbenzene | NA | 0.5 U | 0.5 U | 102 % | 104 % | 0.5 U |
| 1,1,2,2-Tetrachloroethane | NA | 0.5 U | 0.5 U | 97 % | 97 % | 0.5 U |
| Bromobenzene | NA | 0.3 U | 0.3 U | 101 % | 98 % | 0.3 U |
| 1,2,3-Trichloropropane | NA | 0.5 U | 0.5 U | 92 % | 94 % | 0.5 U |
| n-Propylbenzene | NA | 0.4 U | 0.4 U | 107 % | 108 % | 0.4 U |
| 2-Chlorotoluene | NA | 0.4 U | 0.4 U | 102 % | 103 % | 0.4 U |
| 1,3,5-Trimethylbenzene | NA | 0.5 U | 0.5 U | 99 % | 100 % | 0.5 U |
| 4-Chlorotoluene | NA | 0.5 U | 0.5 U | 103 % | 103 % | 0.5 U |
| tert-Butylbenzene | NA | 0.5 U | 0.5 U | 105 % | 106 % | 0.5 U |
| 1,2,4-Trimethylbenzene | NA | 0.5 U | 0.5 U | 97 % | 101 % | 0.5 U |
| sec-Butylbenzene | NA | 0.5 U | 0.5 U | 106 % | 107 % | 0.5 U |
| 1,3-Dichlorobenzene | NA | 0.5 U | 0.5 U | 99 % | 100 % | 0.5 U |
| p-Isopropyltoluene | NA | 0.5 U | 0.5 U | 101 % | 103 % | 0.5 U |
| 1,4-Dichlorobenzene | NA | 0.3 U | 0.3 U | 99 % | 97 % | 0.3 U |
| n-Butylbenzene | NA | 0.5 U | 0.5 U | 106 % | 106 % | 0.5 U |
| 1,2-Dichlorobenzene | NA | 0.3 U | 0.3 U | 99 % | 97 % | 0.3 U |
| 1,2-Dibromo-3-chloropropane | NA | 0.5 U | 0.5 U | 88 % | 84 % | 0.5 U |
| 1,2,4-Trichlorobenzene | NA | 0.4 U | 0.4 U | 96 % | 93 % | 0.4 U |
| Hexachlorobutadiene | NA | 0.5 U | 0.5 U | 98 % | 94 % | 0.5 U |
| Naphthalene | NA | 0.5 U | 0.5 U | 78 % | 79 % | 0.5 U |
| 1,2,3-Trichlorobenzene | NA | 0.5 U | 0.5 U | 88 % | 86 % | 0.5 U |

*= Outside of EPA CLP QC limits.

643 595

STL Chicago
METHOD 8260 VOLATILES

RFW Batch Number: 9910G248 Client: AFC001-26HBA Work Order: 60025-001-001-0

Report Date: 10/25/99 16:39
Page: 4a

| | Cust ID: | VBLKYX | | VBLKYX BS | | VBLKZB | | VBLKZB BS | | VBLKST | | VBLKST BS | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Sample Information | RFW#: | 99GVF324-MB1 | | 99GVF324-MB1 | | 99GVF323-MB1 | | 99GVF323-MB1 | | 99GVF326-MB1 | | 99GVF326-MB1 | |
| | Matrix: | WATER | | WATER | | WATER | | WATER | | WATER | | WATER | |
| | D.F.: | 1 | | 1 | | 1 | | 1 | | 1 | | 1 | |
| | Units: | UG/L | | UG/L | | UG/L | | UG/L | | UG/L | | UG/L | |
| Surrogate Recovery | 1,2-Dichloroethane-d4 | 80 | % | 98 | % | 106 | % | 96 | % | 93 | % | 104 | % |
| | Toluene-d8 | 82 | % | 104 | % | 112 | % | 108 | % | 98 | % | 104 | % |
| | 4-Bromofluorobenzene | 88 | % | 106 | % | 115 | % | 107 | % | 102 | % | 109 | % |
| | Dibromofluoromethane | 82 | % | 97 | % | 105 | % | 97 | % | 94 | % | 96 | % |
| | | | fl | | fl | | fl | | fl | | fl | | fl |
| Dichlorodifluoromethane | | 0.5 | U | 81 | % | 0.5 | U | 94 | % | 0.5 | U | 73 | % |
| Chloromethane | | 0.5 | U | 89 | % | 0.5 | U | 99 | % | 0.5 | U | 84 | % |
| Vinyl chloride | | 0.5 | U | 95 | % | 0.5 | U | 108 | % | 0.5 | U | 91 | % |
| Bromomethane | | 0.5 | U | 110 | % | 0.5 | U | 118 | % | 0.5 | U | 105 | % |
| Chloroethane | | 0.5 | U | 99 | % | 0.5 | U | 113 | % | 0.5 | U | 99 | % |
| Trichlorofluoromethane | | 0.5 | U | 128 * | % | 0.5 | U | 148 * | % | 0.5 | U | 144 * | % |
| 1,1-Dichloroethene | | 0.5 | U | 111 | % | 0.5 | U | 125 | % | 0.5 | U | 118 | % |
| Methylene Chloride | | 0.5 | U | 99 | % | 0.5 | U | 102 | % | 0.5 | U | 106 | % |
| trans-1,2-Dichloroethene | | 0.5 | U | 107 | % | 0.5 | U | 118 | % | 0.5 | U | 116 | % |
| 1,1-Dichloroethane | | 0.4 | U | 104 | % | 0.4 | U | 109 | % | 0.4 | U | 109 | % |
| Vinyl acetate | | 2 | U | 102 * | % | 2 | U | 100 * | % | 2 | U | 113 * | % |
| cis-1,2-Dichloroethene | | 0.5 | U | 103 | % | 0.5 | U | 111 | % | 0.5 | U | 108 | % |
| 2,2-Dichloropropane | | 0.5 | U | 116 | % | 0.5 | U | 142 * | % | 0.5 | U | 127 | % |
| Bromochloromethane | | 0.4 | U | 81 | % | 0.4 | U | 80 | % | 0.4 | U | 88 | % |
| Chloroform | | 0.3 | U | 110 | % | 0.3 | U | 112 | % | 0.3 | U | 111 | % |
| 1,1,1-Trichloroethane | | 0.5 | U | 111 | % | 0.5 | U | 121 | % | 0.5 | U | 115 | % |
| 1,1-Dichloropropene | | 0.5 | U | 118 | % | 0.5 | U | 132 * | % | 0.5 | U | 124 | % |
| Carbon Tetrachloride | | 0.5 | U | 114 | % | 0.5 | U | 125 | % | 0.5 | U | 120 | % |
| Benzene | | 0.4 | U | 106 | % | 0.4 | U | 111 | % | 0.4 | U | 111 | % |
| 1,2-Dichloroethane | | 0.5 | U | 103 | % | 0.5 | U | 101 | % | 0.5 | U | 111 | % |
| Trichloroethene | | 0.5 | U | 111 | % | 0.5 | U | 119 | % | 0.5 | U | 119 | % |
| 1,2-Dichloropropane | | 0.4 | U | 109 | % | 0.4 | U | 108 | % | 0.4 | U | 117 | % |
| Dibromomethane | | 0.5 | U | 105 | % | 0.5 | U | 99 | % | 0.5 | U | 114 | % |
| Bromodichloromethane | | 0.5 | U | 108 | % | 0.5 | U | 104 | % | 0.5 | U | 116 | % |
| cis-1,3-Dichloropropene | | 0.5 | U | 104 | % | 0.5 | U | 101 | % | 0.5 | U | 114 | % |

*= Outside of EPA CLP QC limits.

| Cust ID: | VBLKYX | | VBLKYX BS | | VBLKZB | | VBLKZB BS | | VBLKST | | VBLKST BS | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| RFW# | 99GVF324-MB1 | | 99GVF324-MB1 | | 99GVF323-MB1 | | 99GVF323-MB1 | | 99GVF326-MB1 | | 99GVF326-MB1 | |
| Toluene | 0.5 | U | 108 | % | 0.5 | U | 112 | % | 0.5 | U | 116 | % |
| trans-1,3-Dichloropropene | 0.5 | U | 100 | % | 0.5 | U | 93 | % | 0.5 | U | 108 | % |
| 1,1,2-Trichloroethane | 0.5 | U | 106 | % | 0.5 | U | 99 | % | 0.5 | U | 112 | % |
| 1,3-Dichloropropane | 0.4 | U | 101 | % | 0.4 | U | 99 | % | 0.4 | U | 111 | % |
| Tetrachloroethene | 0.5 | U | 108 | % | 0.5 | U | 123 | % | 0.5 | U | 119 | % |
| Dibromochloromethane | 0.5 | U | 106 | % | 0.5 | U | 103 | % | 0.5 | U | 117 | % |
| 1,2-Dibromoethane | 0.5 | U | 105 | % | 0.5 | U | 96 | % | 0.5 | U | 115 | % |
| 1-Chlorohexane | 0.5 | U | 107 | % | 0.5 | U | 115 | % | 0.5 | U | 111 | % |
| Chlorobenzene | 0.4 | U | 107 | % | 0.4 | U | 114 | % | 0.4 | U | 116 | % |
| 1,1,1,2-Tetrachloroethane | 0.5 | U | 106 | % | 0.5 | U | 106 | % | 0.5 | U | 114 | % |
| Ethylbenzene | 0.5 | U | 107 | % | 0.5 | U | 116 | % | 0.5 | U | 113 | % |
| m/p-Xylene | 0.5 | U | 111 | % | 0.5 | U | 120 | % | 0.5 | U | 117 | % |
| o-Xylene | 0.5 | U | 108 | % | 0.5 | U | 115 | % | 0.5 | U | 115 | % |
| Styrene | 0.4 | U | 106 | % | 0.4 | U | 109 | % | 0.4 | U | 115 | % |
| Bromoform | 0.5 | U | 105 | % | 0.5 | U | 98 | % | 0.5 | U | 112 | % |
| Isopropylbenzene | 0.5 | U | 106 | % | 0.5 | U | 125 | % | 0.5 | U | 116 | % |
| 1,1,2,2-Tetrachloroethane | 0.5 | U | 100 | % | 0.5 | U | 96 | % | 0.5 | U | 111 | % |
| Bromobenzene | 0.3 | U | 100 | % | 0.3 | U | 106 | % | 0.3 | U | 114 | % |
| 1,2,3-Trichloropropane | 0.5 | U | 104 | % | 0.5 | U | 100 | % | 0.5 | U | 106 | % |
| n-Propylbenzene | 0.4 | U | 107 | % | 0.4 | U | 128 * | % | 0.4 | U | 120 | % |
| 2-Chlorotoluene | 0.4 | U | 105 | % | 0.4 | U | 120 | % | 0.4 | U | 117 | % |
| 1,3,5-Trimethylbenzene | 0.5 | U | 104 | % | 0.5 | U | 119 * | % | 0.5 | U | 111 | % |
| 4-Chlorotoluene | 0.5 | U | 106 | % | 0.5 | U | 120 | % | 0.5 | U | 116 | % |
| tert-Butylbenzene | 0.5 | U | 104 | % | 0.5 | U | 127 * | % | 0.5 | U | 115 | % |
| 1,2,4-Trimethylbenzene | 0.5 | U | 106 | % | 0.5 | U | 119 | % | 0.5 | U | 115 | % |
| sec-Butylbenzene | 0.5 | U | 106 | % | 0.5 | U | 129 * | % | 0.5 | U | 118 | % |
| 1,3-Dichlorobenzene | 0.5 | U | 102 | % | 0.5 | U | 111 | % | 0.5 | U | 114 | % |
| p-Isopropyltoluene | 0.5 | U | 101 | % | 0.5 | U | 122 | % | 0.5 | U | 112 | % |
| 1,4-Dichlorobenzene | 0.3 | U | 97 | % | 0.3 | U | 104 | % | 0.3 | U | 110 | % |
| n-Butylbenzene | 0.5 | U | 102 | % | 0.5 | U | 127 * | % | 0.5 | U | 119 | % |
| 1,2-Dichlorobenzene | 0.3 | U | 101 | % | 0.3 | U | 104 | % | 0.3 | U | 114 | % |
| 1,2-Dibromo-3-chloropropane | 0.5 | U | 91 | % | 0.5 | U | 82 | % | 0.5 | U | 102 | % |
| 1,2,4-Trichlorobenzene | 0.4 | U | 92 | % | 0.4 | U | 99 | % | 0.4 | U | 110 | % |
| Hexachlorobutadiene | 0.5 | U | 89 | % | 0.5 | U | 128 * | % | 0.5 | U | 115 | % |
| Naphthalene | 0.5 | U | 68 * | % | 0.5 | U | 64 * | % | 0.5 | U | 91 | % |
| 1,2,3-Trichlorobenzene | 0.5 | U | 82 | % | 0.5 | U | 88 | % | 0.5 | U | 102 | % |

*= Outside of EPA CLP QC limits.

643 597

Severn Trent Laboratories Chicago
HPAH ANALYTICAL DATA PACKAGE FOR
AFC001-26HBA

LOT # :9910G248

| CLIENT ID | SAMPLE # | MTX | PREP # | COLLECTN | DATE REC | EXT/PREP | ANALYSIS |
|---|---|---|---|---|---|---|---|
| WCHMHTHA008WG10 | 009 | W | 99GP0951 | 10/05/99 | 10/06/99 | 10/08/99 | 10/14/99 |
| WCHMHTHA008WG10 | 009 01 | W | 99GP0951 | 10/05/99 | 10/06/99 | 10/08/99 | 10/15/99 |
| WCHMHTHA008WG10 | 009 C1 | W | 99GP0951 | 10/05/99 | 10/06/99 | 10/08/99 | 10/14/99 |
| WCHMHTHA008WG10 | 009 C2 | W | 99GP0951 | 10/05/99 | 10/06/99 | 10/08/99 | 10/15/99 |
| EB100599 | 010 | W | 99GP0951 | 10/05/99 | 10/06/99 | 10/08/99 | 10/14/99 |
| DUP04WG10 | 011 | W | 99GP0951 | 10/05/99 | 10/06/99 | 10/08/99 | 10/14/99 |
| DUP04WG10 | 011 01 | W | 99GP0951 | 10/05/99 | 10/06/99 | 10/08/99 | 10/15/99 |
| DUP04WG10 | 011 C1 | W | 99GP0951 | 10/05/99 | 10/06/99 | 10/08/99 | 10/14/99 |
| DUP04WG10 | 011 C2 | W | 99GP0951 | 10/05/99 | 10/06/99 | 10/08/99 | 10/15/99 |
| WHGLTA011WG10 | 012 | W | 99GP0951 | 10/05/99 | 10/06/99 | 10/08/99 | 10/14/99 |
| WHGLTA011WG10 | 012 MS | W | 99GP0951 | 10/05/99 | 10/06/99 | 10/08/99 | 10/14/99 |
| WHGLTA011WG10 | 012 MSD | W | 99GP0951 | 10/05/99 | 10/06/99 | 10/08/99 | 10/15/99 |
| LAB QC: | | | | | | | |
| BLK | MB1 | W | 99GP0951 | N/A | N/A | 10/08/99 | 10/14/99 |
| BLK | MB1 C1 | W | 99GP0951 | N/A | N/A | 10/08/99 | 10/14/99 |
| BLK | MB1 BS | W | 99GP0951 | N/A | N/A | 10/08/99 | 10/14/99 |
| [illegible] | MB1 BS C1 | W | 99GP0951 | N/A | N/A | 10/08/99 | 10/14/99 |



NY CERTIFICATION # 11006

STL Chicago
PAHs BY HPLC

Report Date: 10/28/99 15:37
Page: 1

RFW Batch Number: 9910G248 Client: AFC001-26HBA Work Order: 60025-001-001-0

| Sample Information | | | | | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Cust ID: | WCHMHTHA008W G10 | | WCHMHTHA008W G10 | | WCHMHTHA008W G10 | | WCHMHTHA008W G10 | | EB100599 | | DUP04WG10 | |
| RFW#: | 009 | | 009 DL | | 009 | | 009 DL | | 010 | | 011 | |
| Matrix: | WATER | | WATER | | WATER | | WATER | | WATER | | WATER | |
| D.F.: | 1.0 | | 5.0 | | 1.0 | | 5.0 | | 1.0 | | 1.0 | |
| Units: | ug/L | | ug/L | | ug/L CONFIRM | | ug/L CONFIRM | | ug/L | | ug/L | |
| Surrogate: Decafluorobiphenyl | 74 | % | 80 | % | 72 | % | NA | % | 69 | % | 72 | % |
| Surrogate: Benzo(e)pyrene | 65 | % | 68 | % | 67 | % | 91 | % | 93 | % | 59 | % |
| Naphthalene | | fl E | 27 | fl J | | fl E | 27 | fl J | 18 | fl U | | fl E |
| Acenaphthene | 17 | U | NA | | NA | | NA | | 18 | U | 17 | U |
| Acenaphthylene | 22 | U | NA | | NA | | NA | | 23 | U | 22 | U |
| Fluorene | 2.0 | U | NA | | NA | | NA | | 2.1 | U | 2.0 | U |
| Phenanthrene | 6.0 | U | NA | | NA | | NA | | 6.5 | U | 6.0 | U |
| Anthracene | 6.2 | U | NA | | NA | | NA | | 6.7 | U | 6.2 | U |
| Fluoranthene | 2.0 | U | NA | | NA | | NA | | 2.1 | U | 2.0 | U |
| Pyrene | 2.5 | U | NA | | NA | | NA | | 2.8 | U | 2.5 | U |
| Benzo(a)anthracene | 0.12 | U | NA | | NA | | NA | | 0.13 | U | 0.12 | U |
| Chrysene | 1.4 | U | NA | | NA | | NA | | 1.5 | U | 1.4 | U |
| Benzo(b)fluoranthene | 0.17 | U | NA | | NA | | NA | | 0.18 | U | 0.17 | U |
| Benzo(k)fluoranthene | 0.16 | U | NA | | NA | | NA | | 0.17 | U | 0.16 | U |
| Benzo(a)pyrene | 0.22 | U | NA | | NA | | NA | | 0.23 | U | 0.22 | U |
| Dibenzo(a,h)anthracene | 0.28 | U | NA | | NA | | NA | | 0.31 | U | 0.28 | U |
| Benzo(g,h,i)perylene | 0.72 | U | NA | | NA | | NA | | 0.78 | U | 0.72 | U |
| Indeno(1,2,3-cd)pyrene | 0.40 | U | NA | | NA | | NA | | 0.44 | U | 0.40 | U |

U= Analyzed, not detected. J= Present below detection limit. B= Present in blank. NR= Not requested. NS= Not spiked.
%= Percent recovery. D= Diluted out. I= Interference. NA= Not Applicable. *= Outside of EPA CLP QC

643 599

STL Chicago
PAHs BY HPLC

Report Date: 10/28/99 15:37
Page: 2

RFW Batch Number: 9910G248 Client: AFC001-26HBA Work Order: 60025-001-001-0

| Sample Information | | | | | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Cust ID: | DUP04WG10 | | DUP04WG10 | | DUP04WG10 | | WHGLTA011WG10 | | WHGLTA011WG10 | | WHGLTA011WG10 | |
| | RFW#: | 011 DL | | 011 | | 011 DL | | 012 | | 012 MS | | 012 MSD | |
| | Matrix: | WATER | | WATER | | WATER | | WATER | | WATER | | WATER | |
| | D.F.: | 5.0 | | 1.0 | | 5.0 | | 1.0 | | 1.0 | | 1.0 | |
| | Units: | ug/L | | ug/L CONFIRM | | ug/L CONFIRM | | ug/L | | ug/L | | ug/L | |
| Surrogate | Decafluorobiphenyl | 77 | % | 73 | % | NA | % | 66 | % | 62 | % | 68 | % |
| | Benzo(e)pyrene | 62 | % | 61 | % | 74 | % | 94 | % | 96 | % | 100 | % |
| | | | fl | | fl | | fl | | fl | | fl | | fl |
| Naphthalene | | 28 | J | | E | 28 | J | 17 | U | 74 | % | 86 | % |
| Acenaphthene | | NA | | NA | | NA | | 17 | U | 99 | % | 108 | % |
| Acenaphthylene | | NA | | NA | | NA | | 22 | U | 90 | % | 100 | % |
| Fluorene | | NA | | NA | | NA | | 2.0 | U | 91 | % | 104 | % |
| Phenanthrene | | NA | | NA | | NA | | 6.2 | U | 95 | % | 109 | % |
| Anthracene | | NA | | NA | | NA | | 6.3 | U | 99 | % | 104 | % |
| Fluoranthene | | NA | | NA | | NA | | 2.0 | U | 99 | % | 109 | % |
| Pyrene | | NA | | NA | | NA | | 2.6 | U | 121 | % | 102 | % |
| Benzo(a)anthracene | | NA | | NA | | NA | | 0.12 | U | 105 | % | 102 | % |
| Chrysene | | NA | | NA | | NA | | 1.4 | U | 108 | % | 74 | % |
| Benzo(b)fluoranthene | | NA | | NA | | NA | | 0.17 | U | 94 | % | 97 | % |
| Benzo(k)fluoranthene | | NA | | NA | | NA | | 0.16 | U | 106 | % | 105 | % |
| Benzo(a)pyrene | | NA | | NA | | NA | | 0.22 | U | 105 | % | 96 | % |
| Dibenzo(a,h)anthracene | | NA | | NA | | NA | | 0.29 | U | 87 | % | 99 | % |
| Benzo(g,h,i)perylene | | NA | | NA | | NA | | 0.73 | U | 92 | % | 93 | % |
| Indeno(1,2,3-cd)pyrene | | NA | | NA | | NA | | 0.41 | U | 105 | % | 100 | % |

U= Analyzed, not detected. J= Present below detection limit. B= Present in blank. NR= Not requested. NS= Not spiked.
%= Percent recovery. D= Diluted out. I= Interference. NA= Not Applicable. *= Outside of EPA CLP QC

STL Chicago
PAHs BY HPLC

RFW Batch Number: 9910G248 Client: AFC001-26HBA Work Order: 60025-001-001-0 Report Date: 10/28/99 15:37 Page: 3

| Sample Information | Cust ID: | BLK | BLK | BLK BS | BLK BS |
|---|---|---|---|---|---|
| | RFW#: | 99GP0951-MB1 | 99GP0951-MB1 | 99GP0951-MB1 | 99GP0951-MB1 |
| | Matrix: | WATER | WATER | WATER | WATER |
| | D.F.: | 1.0 | 1.0 | 1.0 | 1.0 |
| | Units: | ug/L | ug/L CONFIRM | ug/L | ug/L CONFIRM |
| Surrogate | Decafluorobiphenyl | 56 % | 56 % | 63 % | 65 % |
| | Benzo(e)pyrene | 99 % | 100 % | 99 % | 94 % |
| Naphthalene | | 1B U | 1B U | B1 % | 67 % |
| Acenaphthene | | 18 U | 18 U | 104 % | 103 % |
| Acenaphthylene | | 23 U | 23 U | 93 % | 95 % |
| Fluorene | | 2.1 U | 2.1 U | 96 % | 106 % |
| Phenanthrene | | 6.4 U | 6.4 U | 100 % | 104 % |
| Anthracene | | 6.6 U | 6.6 U | 99 % | 102 % |
| Fluoranthene | | 2.1 U | 2.1 U | 100 % | 97 % |
| Pyrene | | 2.7 U | 2.7 U | 119 % | 119 % |
| Benzo(a)anthracene | | 0.13 U | 0.13 U | 108 % | 109 % |
| Chrysene | | 1.5 U | 1.5 U | 112 % | 114 % |
| Benzo(b)fluoranthene | | 0.18 U | 0.1B U | 100 % | 102 % |
| Benzo(k)fluoranthene | | 0.17 U | 0.17 U | 106 % | 106 % |
| Benzo(a)pyrene | | 0.23 U | 0.23 U | 101 % | 98 % |
| Dibenzo(a,h)anthracene | | 0.30 U | 0.30 U | 59 % | 61 % |
| Benzo(g,h,i)perylene | | 0.76 U | 0.76 U | 7B % | 76 % |
| Indeno(1,2,3-cd)pyrene | | 0.43 U | 0.43 U | 106 % | 112 % |

U= Analyzed, not detected. J= Present below detection limit. B= Present in blank. NR= Not requested. NS= Not spiked.
%= Percent recovery. D= Diluted out. I= Interference. NA= Not Applicable. *= Outside of EPA CLP QC

643 601

Severn Trent Laboratories Chicago
PAH Case Narrative

AFC001-26HBA
RFW# 9910G248-009\012
PAHs

1. Severn Trent Laboratories Chicago used the following HPLC system for analysis of polynuclear aromatic hydrocarbons:

| ID# | INSTRUMENT | COLUMN TYPE | DETECTOR |
|---|---|---|---|
| 25 | SpectraPhysics | C-18 PAH | UV - 254nm |
| 25 | SpectraPhysics | C-18 PAH | UV - 260nm |
| 26 | SpectraPhysics | C-18 PAH | Fluorescence |

2 These samples were extracted based on SW846 method 3510. The extracts were analyzed for PAHs (i.e. PNAs) based on SW846 method 8310 protocols.

3. All required holding times were met for the extraction and analysis.

4. The method blank was below the reporting limit for all target compounds.

5. The surrogate compounds used for this analysis were Decafluorobiphenyl and Benzo(e)pyrene. All surrogate recoveries were within control limits. However, the confirmation analysis of some samples on the Fluorescence detector had the Decafluorobiphenyl reported as NA because it does not fluoresce. All surrogate recoveries are summarized on Form 2E.

6. All blank spike recoveries were within control limits and are summarized on Forms 3E.

7. A matrix spike and a matrix spike duplicate were performed on sample 9910G248-012 (WHGLTA011WG10). All recoveries for the matrix spike and matrix spike duplicate were in control; however, the RPD for Chrysene exceeded 30%. All recoveries and RPDs are summarized on Form 3E.

8. All initial and continuing standard calibrations were within control limits with the following exceptions:

SSV run 10/14/99 at 03:41 Benzo(b)fluoranthene biased low at 20.5% difference on the UV detector and biased low at 18.0% difference on the Fluorescence detector.

CCV run 10/14/99 at 04:22 had Chrysene biased low at 18.0% difference on the Fluorescence detector.

SSV run 10/26/99 at 16:47 had Benzo(b)fluoranthene biased low at 20.9% difference on the UV detector and biased low at 17.5% difference Fluorescence detector. Pyrene was biased high at 15.7% difference on the Fluorescence detector.

Some CCVs displayed a slight shift in retention times. The retention time shifts were taken into account during the data review.

9. All positive hits were confirmed using a second detector or using a second wavelength.

Linda S Mackley

Linda S. Mackley
Organics Section Manager

10-29-99
Date

Severn Trent Laboratories Chicago
8021 ANALYTICAL DATA PACKAGE FOR
AFC001-26HBA

LOT # :9910G248

| CLIENT ID | SAMPLE # | | MTX | PREP # | COLLECTN | DATE REC | EXT/PREP | ANALYSIS |
|---|---|---|---|---|---|---|---|---|
| WCHMHTHA008WG10 | 009 | | W | 99GVD310 | 10/05/99 | 10/06/99 | N/A | 10/14/99 |
| WCHMHTHA008WG10 | 009 | C1 | W | 99GVD312 | 10/05/99 | 10/06/99 | N/A | 10/14/99 |
| DUP04WG10 | 011 | | W | 99GVD310 | 10/05/99 | 10/06/99 | N/A | 10/14/99 |
| DUP04WG10 | 011 | C1 | W | 99GVD312 | 10/05/99 | 10/06/99 | N/A | 10/14/99 |
| LAB QC: | | | | | | | | |
| BLK | MB1 | | W | 99GVD310 | N/A | N/A | N/A | 10/13/99 |
| BLK | MB1 | BS | W | 99GVD310 | N/A | N/A | N/A | 10/13/99 |
| BLK | MB1 | | W | 99GVD312 | N/A | N/A | N/A | 10/13/99 |
| BLK | MB1 | BS | W | 99GVD312 | N/A | N/A | N/A | 10/13/99 |



NY CERTIFICATION # 11006

STL Chicago
HALOGENATED AND AROMATIC VOLATILES BY GC

Report Date: 10/28/99 20:17
Page: 1

RFW Batch Number: 9910G248 Client: AFC001-26HBA Work Order: 60025-001-001-0

| Sample Information | Cust ID: | WCHMHTHA008W G10 | WCHMHTHA008W G10 | DUP04WG10 | DUP04WG10 | BLK | BLK BS |
|---|---|---|---|---|---|---|---|
| | RFW#: | 009 | 009 | 011 | 011 | 99GVD310-MB1 | 99GVD310-MB1 |
| | Matrix: | WATER | WATER | WATER | WATER | WATER | WATER |
| | D.F.: | 2.0 | 2.0 | 2.0 | 2.0 | 1.0 | 1.0 |
| | Units: | ug/L | ug/L CONFIRM | ug/L | ug/L CONFIRM | ug/L | ug/L |
| Surrogate | a,a,a-Trifluorotoluene | 110 % | 96 % | 112 % | 98 % | 102 % | 99 % |
| | 4-Bromofluorobenzene | 94 % | 119 % | 96 % | 121 % | 90 % | 98 % |
| Benzene | | 81 | 84 | 82 | 85 | 1.0 U | 98 % |
| Toluene | | 2.0 U | NA | 2.0 U | NA | 1.0 U | 88 % |
| Ethylbenzene | | 68 | 67 | 69 | 68 | 1.0 U | 93 % |
| Xylene (total) | | 2.0 U | NA | 2.0 U | NA | 1.0 U | 94 % |
| Methyl-tert-butyl ether | | 2.0 U | NA | 2.0 U | NA | 1.0 U | 89 % |

| Sample Information | Cust ID: | BLK | BLK BS |
|---|---|---|---|
| | RFW#: | 99GVD312-MB1 | 99GVD312-MB1 |
| | Matrix: | WATER | WATER |
| | D.F.: | 1.0 | 1.0 |
| | Units: | ug/L | ug/L |
| Surrogate | a,a,a-Trifluorotoluene | 96 % | 92 % |
| | 4-Bromofluorobenzene | 88 % | 92 % |
| Benzene | | 1.0 U | 94 % |
| Toluene | | 1.0 U | 83 % |
| Ethylbenzene | | 1.0 U | 90 % |
| Xylene (total) | | 1.0 U | 89 % |
| Methyl-tert-butyl ether | | 1.0 U | 82 % |

U= Analyzed, not detected. J= Present below detection limit. B= Present in blank. NR= Not requested. NS= Not spiked.
%= Percent recovery. D= Diluted out. I= Interference. NA= Not Applicable. *= Outside of EPA CLP QC

Severn Trent Laboratories Chicago
Volatile Case Narrative

AFC001-26HBA
RFW# 9910G248-009 and 011
Method 8020

1. These samples were analyzed for Benzene, Toluene, Ethylbenzene, Xylene (total) and Methyl-tert-butyl ether based on SW846 methods 5030 and 8020. An HP 5890 gas chromatograph equipped with dual photoionization detectors and interfaced with a Tekmar LSC 2000/2016 ALS was used for the analysis of these samples.

2. All required holding times were met for the analysis.

3. The method blanks were below the reporting limit for all target compounds.

4. The surrogate compounds used for this analysis were 4-Bromofluorobenzene and a,a,a-Trifluorotoluene. All surrogate recoveries were within control limits and are summarized on Form 2.

5. All blank spike recoveries were within control limits and are summarized on Forms 3.

6. A matrix spike and a matrix spike duplicate were not designated on this SDG.

7. All initial and continuing standard calibrations associated with these samples were in control limits on both columns.

8. All positive hits were confirmed on a second column.

Linda S. Mackley
Linda S. Mackley
Organics Section Manager

10-29-99
Date

643 607

Committed To *Your* Success

**Severn Trent Laboratories**
11 East Olive Road
Pensacola FL 32514

Tel (850) 474-1001
Fax. (850) 478-2671

SIGNATURE PAGE

Reviewed by: _____
STL Project Manager

| | |
|---|---|
| Client: | STL/CHICAGO<br>UNIVERSITY PARK, IL |
| Project Name: | AFC001-26HBA |
| Project Number: | 9910G248 |
| Project Location: | NAS FORT WORTH, TX |
| Accession Number: | 910305 |
| Project Manager: | BOSCO RAMIREZ |
| Sampled By: | N/S |

THIS IS A REVISED REPORT: December 19, 1999

643 608

Committed To Your Success

*SEVERN TRENT LABORATORIES, INC. - PENSACOLA, FLORIDA*
*STATE CERTIFICATIONS*

*Alabama Department of Environmental Management, Laboratory ID No. 40150 (Drinking Water by Reciprocity with FL)*

*Arizona Department of Health Services, Lab ID No. AZ0589 (Hazardous Waste & Wastewater)*

*Arkansas Department of Pollution Control and Ecology, (No Laboratory ID No. assigned by state) (Environmental)*

*State of California, Department of Health Services, Laboratory ID No. 2338 (Hazardous Waste and Wastewater)*

*State of Connecticut, Department of Health Services, Connecticut Lab Approval No. PH-0697 (Drinking Water, Hazardous Waste and Wastewater)*

*Delaware Health & Social Services, Division of Public Health, Laboratory ID No. FL094 (Drinking Water by Reciprocity with FL)*

*Florida DOH Laboratory ID No. 81142 (Drinking Water), Laboratory ID No. E81010 (Hazardous Waste and Wastewater)*

*Florida, Radioactive Materials License No. G0733-1*

*Foreign Soil Permit, Permit No. S-37599*

*Kansas Department of Health & Environment, Laboratory ID No. E10253 (Wastewater and Hazardous Waste)*

*Commonwealth of Kentucky, Natural Resources and Environmental Protection Cabinet, Laboratory ID No. 90043 (Drinking Water)*

*State of Louisiana, DHH, Office of Public Health Division of Laboratories, Laboratory ID No. 98-25 (Drinking Water)*

*State of Maryland, DH&MH Laboratory ID No. 233 (Drinking Water by Reciprocity with Florida)*

*Commonwealth of Massachusetts, DEP, Laboratory ID No. M-FL094 (Hazardous Waste and Wastewater)*

*State of Michigan, Bureau of E&OccH, Laboratory ID No.9912 (Drinking Water by Reciprocity with Florida)*

*New Hampshire DES, Laboratory ID No. 250598-A (Wastewater)*

*State of New Jersey, Department of Environmental Protection & Energy, Laboratory ID No. 49006 (Wastewate and Hazardous Waster)*

*New York State, Department of Health, Laboratory ID No. 11503 (Wastewater and Solids/Hazardous Waste)*

*North Carolina Department of Environment, Health, & Natural Resources, Laboratory ID No. 314 (Hazardous Waste and Wastewater)*

*North Dakota DH&Consol Labs, Laboratory ID No. R-108 (Hazardous Waste and Wastewater by Reciprocity with Florida)*

*State of Oklahoma, Oklahoma Department of Environmental Quality, Laboratory ID No. 9810 (Hazardous Waste and Wastewater)*

*Commonwealth of Pennsylvania, Department of Environmental Resources, Laboratory ID No. 68-467 (Drinking Water)*

*South Carolina DH&EC, Laboratory ID No. 96026 (Wastewater by Reciprocity with FL and Solids/Hazardous Waste by Reciprocity with CA)*

*Tennessee Department of Health & Environment, Laboratory ID No. 02907 (Drinking Water)*

*Tennessee Division of Underground Storage Tanks Approved Laboratory*

*Virginia Department of General Services, Laboratory ID No. 00008 (Drinking Water by Reciprocity with FL)*

*State of Washington, Department of Ecology, Laboratory ID No. C282 (Hazardous Waste and Wastewater)*

*West Virginia Division of Environmental Protection, Office of Water Resources, Laboratory ID No. 136 (Hazardous Waste and Wastew Reciprocity with FL)*

*American Industrial Hygiene Association (AIHA) Accredited Laboratory, Laboratory ID No. 100704*

SEVERN TRENT LABORATORIES 11 East Olive Road Pensacola, Florida 32514 (850) 474-1001



"FINAL REPORT FORMAT - SINGLE"

Accession: 910305
Client: STL/CHICAGO
Project Number: 9910G248
Project Name: AFC001-26HBA
Project Location: NAS FORT WORTH, TX
Test: DISSOLVED METHANE
Analysis Method: RSK 175
Extraction Method: N/A
Matrix: WATER
QC Level: N

Lab Id: 004
Client Sample Id: TB100599
Sample Date/Time: 05-OCT-99 0800
Received Date: 08-OCT-99

Batch: GEW323
Blank: A
Dry Weight %: N/A
Extraction Date: N/A
Analysis Date: 14-OCT-99

| Parameter: | Units: | Results: | Rpt Lmts: | Q: |
|---|---|---|---|---|
| METHANE | UG/L | 0.0700 | 1 | |
| ETHANE | UG/L | ND | 1 | |
| ETHENE | UG/L | ND | 1 | |
| ANALYST | INITIALS | AHT | | |

Comments:
Preparation Time: 13:00
Analysis Time: 15:22

SEVERN TRENT LABORATORIES 11 East Olive Road Pensacola, Florida 32514 (850) 474-1001



"FINAL REPORT FORMAT - SINGLE"

Accession: 910305
Client: STL/CHICAGO
Project Number: 9910G248
Project Name: AFC001-26HBA
Project Location: NAS FORT WORTH, TX
Test: DISSOLVED METHANE
Analysis Method: RSK 175
Extraction Method: N/A
Matrix: WATER
QC Level: N

Lab Id: 008
Client Sample Id: WCHMHTA008WG10
Sample Date/Time: 05-OCT-99 1510
Received Date: 08-OCT-99

Batch: GEW323
Blank: A
Dry Weight %: N/A
Extraction Date: N/A
Analysis Date: 14-OCT-99

| Parameter: | Units: | Results: | Rpt Lmts: | Q: |
|---|---|---|---|---|
| METHANE | UG/L | 3192.0700 | 1 | |
| ETHANE | UG/L | 0.0300 | 1 | |
| ETHENE | UG/L | 0.0600 | 1 | |
| ANALYST | INITIALS | AHT | | |

Comments:
Preparation Time: 13:00
Analysis Time: 15:49

643 611

SEVERN TRENT LABORATORIES 11 East Olive Road Pensacola, Florida 32514 (850) 474-1001



"FINAL REPORT FORMAT - SINGLE"

Accession: 910305
Client: STL/CHICAGO
Project Number: 9910G248
Project Name: AFC001-26HBA
Project Location: NAS FORT WORTH, TX
Test: DISSOLVED METHANE
Analysis Method: RSK 175
Extraction Method: N/A
Matrix: WATER
QC Level: N

Lab Id: 009
Client Sample Id: EB100599
Sample Date/Time: 05-OCT-99 1700
Received Date: 08-OCT-99

Batch: GEW323
Blank: A
Dry Weight %: N/A
Extraction Date: N/A
Analysis Date: 14-OCT-99

| Parameter: | Units: | Results: | Rpt Lmts: | Q: |
|---|---|---|---|---|
| METHANE | UG/L | 0.1200 | 1 | |
| ETHANE | UG/L | ND | 1 | |
| ETHENE | UG/L | ND | 1 | |
| ANALYST | INITIALS | AHT | | |

Comments:
Preparation Time: 13:00
Analysis Time: 15:56

SEVERN TRENT LABORATORIES 11 East Olive Road Pensacola, Florida 32514 (850) 474-1001



"FINAL REPORT FORMAT - SINGLE"

Accession: 910305
Client: STL/CHICAGO
Project Number: 9910G248
Project Name: AFC001-26HBA
Project Location: NAS FORT WORTH, TX
Test: DISSOLVED METHANE
Analysis Method: RSK 175
Extraction Method: N/A
Matrix: WATER
QC Level: N

Lab Id: 010
Client Sample Id: DUP04WG10
Sample Date/Time: 05-OCT-99 1200
Received Date: 08-OCT-99

Batch: GEW323
Blank: A
Dry Weight %: N/A
Extraction Date: N/A
Analysis Date: 14-OCT-99

| Parameter: | Units: | Results: | Rpt Lmts: | Q: |
|---|---|---|---|---|
| METHANE | UG/L | 3449.1300 | 1 | |
| ETHANE | UG/L | 0.0200 | 1 | |
| ETHENE | UG/L | 0.0500 | 1 | |
| ANALYST | INITIALS | AHT | | |

Comments:
Preparation Time: 13:00
Analysis Time: 16:03

643 613

SEVERN TRENT LABORATORIES 11 East Olive Road Pensacola, Florida 32514 (850) 474-1001



"FINAL REPORT FORMAT - SINGLE"

Accession: 910305
Client: STL/CHICAGO
Project Number: 9910G248
Project Name: AFC001-26HBA
Project Location: NAS FORT WORTH, TX
Test: DISSOLVED METHANE
Analysis Method: RSK 175
Extraction Method: N/A
Matrix: WATER
QC Level: N

Lab Id: 011
Client Sample Id: WHGLTA011WG10
Sample Date/Time: 05-OCT-99 1250
Received Date: 08-OCT-99

Batch: GEW323
Blank: A
Dry Weight %: N/A
Extraction Date: N/A
Analysis Date: 14-OCT-99

| Parameter: | Units: | Results: | Rpt Lmts: | Q: |
|---|---|---|---|---|
| METHANE | UG/L | 0.2600 | 1 | |
| ETHANE | UG/L | ND | 1 | |
| ETHENE | UG/L | ND | 1 | |
| ANALYST | INITIALS | AHT | | |

Comments:
Preparation Time: 13:00
Analysis Time: 16:09

SEVERN TRENT LABORATORIES 11 East Olive Road Pensacola, Florida 32514 (850) 474-1001

# Analysis Report

Analysis: TNRCC TEXAS METHOD 1005 - TOTAL PETROLEUM HYDROCARBONS

| | |
|---|---|
| Accession: | 910305 |
| Client: | STL/CHICAGO |
| Project Number: | 9910G248 |
| Project Name: | AFC001-26HBA |
| Project Location: | NAS FORT WORTH, TX |
| Department: | SEMI-VOLATILE FUELS |

643 615

SEVERN TRENT LABORATORIES 11 East Olive Road Pensacola, Florida 32514 (850) 474-1001



"FINAL REPORT FORMAT - SINGLE"

Accession: 910305
Client: STL/CHICAGO
Project Number: 9910G248
Project Name: AFC001-26HBA
Project Location: NAS FORT WORTH, TX
Test: TNRCC TEXAS METHOD 1005 - TOTAL PETROLEUM HYDROCARBONS
Analysis Method: TNRCC Method 1005 (Rev. 4/98)
Extraction Method: TNRCC Method 1005 (Rev. 4/98)
Matrix: WATER
QC Level: IIMS

Lab Id: 008 Sample Date/Time: 05-OCT-99 1510
Client Sample Id: WCHMHTA008WG10 Received Date: 08-OCT-99

Batch: GEW327 Extraction Date: 18-OCT-99
Blank: A Dry Weight %: N/A Analysis Date: 19-OCT-99

| Parameter: | Units: | Results: | Rpt Lmts: | Q: |
|---|---|---|---|---|
| C6-C10 | MG/L | 6.4290 | 5 | |
| >C10-C28 | MG/L | 6.5030 | 5 | |
| C6-C28 | MG/L | 12.9320 | 5 | |
| ORTHO TER PHENYL | %REC/SURR | 120 | 50-150 | |
| ANALYST | INITIALS | HAH | | |

Comments:
Extraction Time: 14:30
Analysis Time: 11:04

SEVERN TRENT LABORATORIES 11 East Olive Road Pensacola, Florida 32514 (850) 474-1001



"FINAL REPORT FORMAT - SINGLE"

Accession: 910305
Client: STL/CHICAGO
Project Number: 9910G248
Project Name: AFC001-26HBA
Project Location: NAS FORT WORTH, TX
Test: TNRCC TEXAS METHOD 1005 - TOTAL PETROLEUM HYDROCARBONS
Analysis Method: TNRCC Method 1005 (Rev. 4/98)
Extraction Method: TNRCC Method 1005 (Rev. 4/98)
Matrix: WATER
QC Level: IIMS

---

Lab Id: 009
Client Sample Id: EB100599

Sample Date/Time: 05-OCT-99 1700
Received Date: 08-OCT-99

Batch: GEW327
Blank: A Dry Weight %: N/A

Extraction Date: 18-OCT-99
Analysis Date: 19-OCT-99

| Parameter: | Units: | Results: | Rpt Lmts: | Q: |
|---|---|---|---|---|
| C6-C10 | MG/L | 5.4670 | 5 | |
| >C10-C28 | MG/L | 6.2270 | 5 | |
| C6-C28 | MG/L | 11.6940 | 5 | |
| ORTHO TER PHENYL | %REC/SURR | 104 | 50-150 | |
| ANALYST | INITIALS | HAH | | |

Comments:
Extraction Time: 14:30
Analysis Time: 18:28

643 617

SEVERN TRENT LABORATORIES 11 East Olive Road Pensacola, Florida 32514 (850) 474-1001



"FINAL REPORT FORMAT - SINGLE"

Accession: 910305
Client: STL/CHICAGO
Project Number: 9910G248
Project Name: AFC001-26HBA
Project Location: NAS FORT WORTH, TX
Test: TNRCC TEXAS METHOD 1005 - TOTAL PETROLEUM HYDROCARBONS
Analysis Method: TNRCC Method 1005 (Rev. 4/98)
Extraction Method: TNRCC Method 1005 (Rev. 4/98)
Matrix: WATER
QC Level: IIMS

Lab Id: 010 Sample Date/Time: 05-OCT-99 1200
Client Sample Id: DUP04WG10 Received Date: 08-OCT-99

Batch: GEW327 Extraction Date: 18-OCT-99
Blank: A Dry Weight %: N/A Analysis Date: 19-OCT-99

| Parameter: | Units: | Results: | Rpt Lmts: | Q: |
|---|---|---|---|---|
| C6-C10 | MG/L | 5.2210 | 5 | |
| >C10-C28 | MG/L | 4.9170 | 5 | |
| C6-C28 | MG/L | 10.1380 | 5 | |
| ORTHO TER PHENYL | %REC/SURR | 102 | 50-150 | |
| ANALYST | INITIALS | HAH | | |

Comments:
Extraction Time: 14:30
Analysis Time: 19:41

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"FINAL REPORT FORMAT - SINGLE"

Accession: 910305
Client: STL/CHICAGO
Project Number: 9910G248
Project Name: AFC001-26HBA
Project Location: NAS FORT WORTH, TX
Test: TNRCC TEXAS METHOD 1005 - TOTAL PETROLEUM HYDROCARBONS
Analysis Method: TNRCC Method 1005 (Rev. 4/98)
Extraction Method: TNRCC Method 1005 (Rev. 4/98)
Matrix: WATER
QC Level: IIMS

---

Lab Id: 011 Sample Date/Time: 05-OCT-99 1250
Client Sample Id: WHGLTA011WG10 Received Date: 08-OCT-99

Batch: GEW327 Extraction Date: 18-OCT-99
Blank: A Dry Weight %: N/A Analysis Date: 19-OCT-99

| Parameter: | Units: | Results: | Rpt Lmts: | Q: |
|---|---|---|---|---|
| C6-C10 | MG/L | 3.3720 | 5 | |
| >C10-C28 | MG/L | 1.9470 | 5 | |
| C6-C28 | MG/L | 5.3190 | 5 | |
| ORTHO TER PHENYL | %REC/SURR | 90 | 50-150 | |
| ANALYST | INITIALS | HAH | | |

Comments:
Extraction Time: 14:30
Analysis Time: 20:45

643 619

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"Method Report Summary"

Accession Number: 910305
Client: STL/CHICAGO
Project Number: 9910G248
Project Name: AFC001-26HBA
Project Location: NAS FORT WORTH, TX
Test: TNRCC TEXAS METHOD 1005 - TOTAL PETROLEUM HYDROCARBONS

| Client Sample Id: | Parameter: | Unit: | Result: |
|---|---|---|---|
| WCHMHTA008WG10 | C6-C10 | MG/L | 6.4290 |
| | >C10-C28 | MG/L | 6.5030 |
| | C6-C28 | MG/L | 12.9320 |
| EB100599 | C6-C10 | MG/L | 5.4670 |
| | >C10-C28 | MG/L | 6.2270 |
| | C6-C28 | MG/L | 11.6940 |
| DUP04WG10 | C6-C10 | MG/L | 5.2210 |
| | >C10-C28 | MG/L | 4.9170 |
| | C6-C28 | MG/L | 10.1380 |
| WHGLTA011WG10 | C6-C10 | MG/L | 3.3720 |
| | >C10-C28 | MG/L | 1.9470 |
| | C6-C28 | MG/L | 5.3190 |

643 620

Severn Trent Laboratories, Inc
Pensacola, FL 32514
Tel: (850) 474-1001
Fax: (850) 478-2671

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# Data Qualifiers for Final Report

STL-Pensacola Inorganic/Organic and AFCEE Projects (under QAPP)

| | | |
|---|---|---|
| J4 | (For positive results) | Temperature limits exceeded (<2°C or > 6°C) |
| J5 | (TICs) | The reported value is quantitated as a TIC, therefore, it is estimated |
| J6 | (For positive results) | LCS or Surrogate %R is > upper control limit (UCL) or < lower control limit (LCL) |
| J7 | (For positive results) | The reported value is > the laboratory MDL and < lowest calibration standards; therefore, the quantitation is an estimation. |
| J (AFCEE description) | The analyte was positively identified, the quantitation is an estimation | |
| R1 | (For nondetects) | Temperature limits exceeded (<2°C or > 6°C) |
| R2 | Improper preservation, no preservative present in sample upon receipt | |
| R3 | Improper preservation, incorrect preservative present in sample upon receipt | |
| R4 | Holding time exceeded | |
| R10 | Holding time exceeded, non-reportable for NDPES compliance monitoring | |
| R5 | Collection requirements not met, improper container used for sample | |
| R6 | LCS or surrogate %R is < LCL and analyte is not detected or surrogate %R is < 10% for detects/nondetects | |
| R7 | Internal standard area outside -50% to +100% of initial calibration midpoint standard. | |
| R8 | Initial calibration or any calibration verification exceeds acceptance criteria. | |
| R9 | Improper preservation, sample not filtered in the field. | |
| R (AFCEE description) | The data are unusable due to deficiencies in the ability to analyze the sample and meet QC criteria | |
| F | < laboratory or AFCEE RL and > laboratory MDL | |
| F (AFCEE description) | The analyte was positively identified but the associated numerical value is below the AFCEE or lab RL | |
| U2 | < Laboratory MDL (value for result will be the MDL, never below the MDL) | |
| U (AFCEE description) | The analyte was analyzed for but not detected. The associated numerical value is at or below the MDL | |
| B (AFCEE description) | The analyte was found in the associated blank, as well as in the sample | |
| B1 | Analyte was detected in the associated method blank. | |
| @ | Adjusted reporting limit due to sample matrix (dilution prior to digestion and/or analysis) | |
| + | Elevated reporting limit due to dilution into calibration range | |
| * (Metals & Wet Chem) | Elevated reporting limit due to matrix interference (dilution prior to digestion and/or analysis) | |
| ** (Organics) | Compounds flagged are not within the five point initial calibration curve. They are searched for qualitatively or as TICs. | |
| | Elevated reporting limit due to insufficient sample size | |
| | Diluted out | |
| M | A matrix effect was present (sample was analyzed twice to confirm or chromatogram had interfering peaks) | |
| S | Incorrect sample amount was submitted to the laboratory for analysis | |
| T | Second-column confirmation exceeded the SW-846 criteria of 40% RPD for this compound. | |
| TIC | Samples are searched for qualitatively as Tentatively Identified Compounds. | |
| E | Compound concentration exceeds the upper calibration range of the instrument. | |
| W | Post-digestion spike for Furnace AA is out of control limits (85-115%), while sample absorbance is less than 50% spike absorbance. | |

ND = Not Detected at or above the STL-Pensacola reporting limit (RL)
IDL = Laboratory Instrument Detection Limit
RL = Reporting Limit (AFCEE RLs are listed in the AFCEE QAPP)
N/S = Not Submitted
N/A = Not Applicable
MDL = Laboratory Method Detection Limit

Any time a sample arrives at the laboratory improperly preserved (at improper pH or temperature) or after holding time has expired or prepared or analyzed after holding time, client must be notified in writing (i.e. case narrative)

Florida Projects Inorganic/Organic

| | |
|---|---|
| Y1 | Improper preservation, no preservative present in sample upon receipt |
| Y2 | Improper preservation, incorrect preservative present in sample upon receipt |
| Y3 | Improper preservation, sample temperature exceeded EPA temperature limits of 2-6°C upon receipt |
| Y (FL description) | The analysis was from an unpreserved or improperly preserved sample. Data may not be accurate |
| Q | Sample held beyond the accepted holding time |
| I | The reported value is < Laboratory RL and > laboratory MDL |
| U1 | The reported value is < Laboratory MDL (value for sample result is reported as the MDL) |
| U (FL description) | Indicates the compound was analyzed for but not detected |
| T | The reported value is < Laboratory MDL (value shall not be used for statistical analysis) |
| V | The analyte was detected in both the sample and the associated method blank |
| J1 | Surrogate recovery outside acceptance limits. Not enough sample available to reextract and/or reanalyze. |
| J2 | The sample matrix interfered with the ability to make any accurate determinations |
| J3 | The reported value failed to meet the established quality control criteria for either precision or accuracy |
| J (FL description) | Estimated value; not accurate |

CLP and CLP-like Projects: Refer to referenced CLP Statement of Work (SOW) for explanation of data qualifiers.

643 621

SEVERN TRENT LABORATORIES 11 East Olive Road Pensacola, Florida 32514 (850) 474-1001

# Quality Control Report

Analysis: DISSOLVED METHANE

| | |
|---|---|
| Accession: | 910305 |
| Client: | STL/CHICAGO |
| Project Number: | 9910G248 |
| Project Name: | AFC001-2GHBA |
| Project Location: | N/S |
| Department: | SEMI-VOLATILE FUELS |

BLANK ANALYSIS

DATE: 14-OCT-99

METHOD: RSK 175

BATCH: GEW323

| COMPOUND | UNITS | REPORTING LIMIT | RESULT |
|---|---|---|---|
| METHANE | UG/L | 1 | ND |
| ETHENE | UG/L | 1 | ND |
| ETHANE | UG/L | 1 | ND |

643 623

CONTINUING CALIBRATION

DATE: 14-OCT-99

METHOD: RSK 175

BATCH: GEW323

| COMPOUND | AMT (IC) | AMT (CC) | %D | QC LIMITS |
|---|---|---|---|---|
| METHANE | 25.0 | 26.1 | 2 | 20 |
| ETHENE | 25.0 | 26.7 | 3 | 20 |
| ETHANE | 25.0 | 26.3 | 3 | 20 |

SOURCE FOR CONTROL LIMIT IS INTERNAL LABORATORY QUALITY ASSURANCE PROGRAM AND RSK 175.

DUPLICATE SAMPLE ANALYSIS

DATE: 14-OCT-99

METHOD: RSK 175

LAB SAMPLE #: 910305-1

BATCH: GEW323

| COMPOUND | SAMPLE RESULT | DUPLICATE RESULT | %RPD | QC LIMITS |
|---|---|---|---|---|
| METHANE | 277.0900 | 278.7900 | 0 | 50 |
| ETHANE | 0.2600 | 0.2200 | 17 | 50 |
| ETHENE | 0.2400 | 0.2000 | 18 | 50 |

ALL RESULTS REPORTED IN UG/L.

ND = NOT DETECTED
NC = NOT CALCULABLE

SOURCE FOR CONTROL LIMIT IS INTERNAL LABORATORY QUALITY ASSURANCE PROGRAM AND RSK 175.

643 625

CHECK STANDARD (POST-RUN)

DATE: 14-OCT-99

METHOD: RSK 175

BATCH: GEW323

| COMPOUND | AMT(CC) | AMT (PS) | %D | QC LIMITS |
|---|---|---|---|---|
| METHANE | 25.0 | 26.9 | 4 | 20 |
| ETHENE | 25.0 | 26.6 | 3 | 20 |
| ETHANE | 25.0 | 26.3 | 3 | 20 |

SOURCE FOR CONTROL LIMIT IS INTERNAL LABORATORY QUALITY ASSURANCE PROGRAM AND RSK 175.

SEVERN TRENT LABORATORIES 11 East Olive Road Pensacola, Florida 32514 (850) 474-1001

# Quality Control Report

Analysis: TNRCC TEXAS METHOD 1005 - TOTAL PETROLEUM HYDROCARBONS

| | |
|---|---|
| Accession: | 910305 |
| Client: | STL/CHICAGO |
| Project Number: | 9910G248 |
| Project Name: | AFC001-26HBA |
| Project Location: | NAS FORT WORTH, TX |
| Department: | SEMI-VOLATILE FUELS |

643 627

SEVERN TRENT LABORATORIES 11 East Olive Road Pensacola, Florida 32514 (850) 474-1001



"QC Report"

Title: Water Blank
Batch: GEW327
Analysis Method: TNRCC Method 1005 (Rev. 4/98)
Extraction Method: TNRCC Method 1005 (Rev. 4/98)

Blank Id: A Date Analyzed: 19-OCT-99 Date Extracted: 18-OCT-99

| Parameters: | Units: | Results: | Reporting Limits: |
|---|---|---|---|
| C6-C10 | MG/L | 3.5180 | 5 |
| >C10-C28 | MG/L | 0.4450 | 5 |
| C6-C28 | MG/L | 3.9630 | 5 |
| ORTHO TER PHENYL | %REC/SURR | 84 | 50-150 |
| ANALYST | INITIALS | HAH | |

Comments:

SEVERN TRENT LABORATORIES 11 East Olive Road Pensacola, Florida 32514 (850) 474-1001



"QC Report"

Title: Water LCS
Batch: GEW327
Analysis Method: TNRCC Method 1005 (Rev. 4/98)
Extraction Method: TNRCC Method 1005 (Rev. 4/98)

RS Date Analyzed: 19-OCT-99 RS Date Extracted: 18-OCT-99

| Parameters: | Spike Added | Sample Conc | RS Conc | RS %Rec | Rec Lmts |
|---|---|---|---|---|---|
| C6-C10 | 10.0 | <5 | 10.0 | 100 | 70-130 |
| >C10-C28 | 10.0 | <5 | 7.4 | 74 | 70-130 |
| C6-C28 | 20.0 | <5 | 17.4 | 87 | 70-130 |
| Surrogates: | | | | | |
| ORTHO TER PHENYL (OTP) | | | | 85 | 50-150 |

Comments:

Notes:
N/S = NOT SUBMITTED N/A = NOT APPLICABLE D = DILUTED OUT
MG/KG = PARTS PER MILLION. < = LESS THAN REPORTING LIMIT.
* = VALUES OUTSIDE OF QUALITY CONTROL LIMITS.
SOURCES FOR CONTROL LIMITS ARE INTERNAL LABORATORY QUALITY ASSURANCE PROGRAM AND REFERENCED METHOD.

643 629

SEVERN TRENT LABORATORIES 11 East Olive Road Pensacola, Florida 32514 (850) 474-1001



"QC Report"

Title: Water Matrix Spike/Matrix Spike Duplicate
Batch: GEW327
Analysis Method: TNRCC Method 1005 (Rev. 4/98)
Extraction Method: TNRCC Method 1005 (Rev. 4/98)

Dry Weight %: N/A
Sample Spiked: 910305-11

MS Date Analyzed: 19-OCT-99
MSD Date Analyzed: 19-OCT-99

MS Date Extracted: 18-OCT-99
MSD Date Extracted: 18-OCT-99

| Parameters: | Spike Added | Sample Conc | MS Conc | MS %Rec | MSD Conc | MSD %Rec | RPD | RPD Lmts | Rec Lmts |
|---|---|---|---|---|---|---|---|---|---|
| C6-C10 | 10.0 | <5 | 8.4 | 84 | 10.3 | 103 | 20 | 30 | 70-130 |
| >C10-C28 | 10.0 | <5 | 7.7 | 77 | 8.5 | 85 | 10 | 30 | 70-130 |
| C6-C28 | 20.0 | <5 | 16.1 | 81 | 18.8 | 94 | 15 | 30 | 70-130 |
| Surrogates: | | | | | | | | | |
| ORTHO TER PHENYL (OTP) | | | | 79 | | 99 | | | 50-150 |

Comments:

Notes:
N/S = NOT SUBMITTED N/A = NOT APPLICABLE D = DILUTED OUT
MG/KG = PARTS PER MILLION. < = LESS THAN REPORTING LIMIT.
* = VALUES OUTSIDE OF QUALITY CONTROL LIMITS.
SOURCES FOR CONTROL LIMITS ARE INTERNAL LABORATORY QUALITY ASSURANCE PROGRAM AND REFERENCED METHOD.

SEVERN TRENT LABORATORIES 11 East Olive Road Pensacola, Florida 32514 (850) 474-1001



"QC Report"

Title: Water Matrix Spike/Matrix Spike Duplicate
Batch: GEW327
Analysis Method: TNRCC Method 1005 (Rev. 4/98)
Extraction Method: TNRCC Method 1005 (Rev. 4/98)

Dry Weight %: N/A
Sample Spiked: 910337-1

MS Date Analyzed: 20-OCT-99
MSD Date Analyzed: 20-OCT-99

MS Date Extracted: 18-OCT-99
MSD Date Extracted: 18-OCT-99

| Parameters: | Spike Added | Sample Conc | MS Conc | MS %Rec | MSD Conc | MSD %Rec | RPD | RPD Lmts | Rec Lmts |
|---|---|---|---|---|---|---|---|---|---|
| C6-C10 | 10.0 | 6.0 | 8.0 | 20* | 9.1 | 31* | 43* | 30 | 70-130 |
| >C10-C28 | 10.0 | 7.0 | 5.0 | -20* | 7.0 | 0* | 200* | 30 | 70-130 |
| C6-C28 | 20.0 | 13.0 | 13.0 | 0* | 16.1 | 16* | 200* | 30 | 70-130 |
| Surrogates: | | | | | | | | | |
| ORTHO TER PHENYL (OTP) | | | | 93 | | 98 | | | 50-150 |

Comments:
MATRIX SPIKE/MATRIX SPIKE DUPLICATE HAD RECOVERY(S) AND/OR RPD(S) OUTSIDE ACCEPTANCE LIMITS DUE TO MATRIX INTERFERENCE. REFER TO LCS DATA.

Notes:
N/S = NOT SUBMITTED N/A = NOT APPLICABLE D = DILUTED OUT
MG/KG = PARTS PER MILLION. < = LESS THAN REPORTING LIMIT.
* = VALUES OUTSIDE OF QUALITY CONTROL LIMITS.
SOURCES FOR CONTROL LIMITS ARE INTERNAL LABORATORY QUALITY ASSURANCE PROGRAM AND REFERENCED METHOD.

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Common Notation for Organic Reporting

/S = NOT SUBMITTED
/A = NOT APPLICABLE
G = MICROGRAMS
G/L = PARTS PER BILLION
G/KG = PARTS PER BILLION
G/M3 = MILLIGRAM PER CUBIC METER
PMV = PART PER MILLION BY VOLUME
G/KG = PARTS PER MILLION
G/L = PARTS PER MILLION
= LESS THAN
D = NOT DETECTED AT OR ABOVE THE STL-PENSACOLA REPORTING LIMIT (RL).
= EXCEED THE CALIBRATION CURVE; THEREFORE, RESULTS ARE ESTIMATED.

OURCES FOR CONTROL LIMITS ARE INTERNAL LABORATORY QUALITY ASSURANCE PROGRAM
ND REFERENCED METHOD.

RGANIC SOILS ARE REPORTED ON A DRYWEIGHT BASIS.

PT LMTS = REPORTING LIMITS BASED ON METHOD DETECTION LIMIT STUDIES.

PD = RELATIVE PERCENT DIFFERENCE (OR DEVIATION)

TL/GC/FID
STL GAS CHROMATOGRAPHIC METHOD EMPLOYING DIRECT INJECTION ON COLUMN WITH FLAME IONIZATION DETECTOR (FID).

TL/GC/FIX
STL GAS CHROMATOGRAPHIC METHOD FOR ANALYSIS OF FIXED GASES EMPLOYING DIRECT INJECTION ON COLUMN WITH THERMAL CONDUCTIVITY DETECTOR (TCD) AND FLAME IONIZATION DETECTOR (FID).

TL/GC/FPD
STL GAS CHROMATOGRAPHIC METHOD EMPLOYING DIRECT INJECTION ON COLUMN WITH FLAME PHOTOMETRIC DETECTOR (FPD) IN SULFUR-SPECIFIC MODE.

TL/GC/PID
STL GAS CHROMATOGRAPHIC METHOD EMPLOYING DIRECT INJECTION ON COLUMN WITH PHOTOIONIZATION DETECTOR (PID).

TL/GC/TCD
STL GAS CHROMATOGRAPHIC METHOD EMPLOYING DIRECT INJECTION ON COLUMN WITH THERMAL CONDUCTIVITY DETECTOR (TCD).

W-846 METHOD 9020
PARTICULATE MATTER IS REMOVED BY ALLOWING PARTICULATES TO SETTLE IN THE SAMPLE CONTAINER AND DECANTING THE SUPERNATANT LIQUID. EXCESSIVE PARTICULATES ARE REMOVED BY FILTRATION OF THE SUPERNATANT LIQUID.

SK 175
SAMPLE PREPARATION AND CALCULATIONS FOR DISSOLVED GAS ANALYSIS IN WATER SAMPLES USING A GC HEADSPACE EQUILIBRATION TECHNIQUE, RSK SOP-175, ROBERT S. KERR ENVIRONMENTAL RESEARCH LABORATORY, USEPA, AUGUST 11, 1994.

TL-PN USES THE MOST CURRENT PROMULGATED METHODS CONTAINED IN THE REFERENCE
ANUALS.

| | |
|---|---|
| W = STEVE WILHITE | MG = MARY GUTIERREZ |
| P = ROB PEREZ | KA = KIM AYERS |
| W = RITA WINGO | SB = STEPHANIE BUBIEN |
| EM = WARREN MILBRANDT | BT = BECKY TREMMEL |
| LD = PAULA DOUGHTY | HAH = HOLLIE HOFFMAN |
| HT = AUBURN H. THOMPSON, JR. | LFB = LISA BRASCH |

Received 11/1/99

643 632

Committed To *Your* Success

**Severn Trent Laboratories**
2417 Bond Street
University Park, IL 60466

Tel (708) 534-5200
Fax (708) 534-5211
www stl-inc com

October 29, 1999

Ms. Lynn Morgan
HydroGeoLogic, Inc.
1155 Herndon Parkway, Suite 900
Herndon, VA 20170

RE: AFC001-26HBA
Analytical Report & EDD
Lot 9910G263

Dear Ms. Morgan:

The enclosed analytical report is for the project and lot number listed above. If you have any questions, please contact me at 708-534-5200.

Sincerely,
Severn Trent Laboratories

Bosco Ramirez
Project Manager

sj

Enclosures: Summary Report, & EDD

CLP Report & 1 Summary Report/Nancy Weaver EDS

Approved By:

for Michael J. Healy
General Manager

The results presented in this report relate only to the analytical testing and conditions of sample at receipt. This report pertains to only those samples actually tested. All 670 pages of this report are integral parts of the analytical data. Therefore, this report should be reproduced only in its entirety.

Severn Trent Laboratories Chicago
INORGANIC ANALYTICAL DATA PACKAGE FOR
AFC001-26HBA

LOT # :9910G263

| CLIENT ID /ANALYSIS | SAMPLE # | MTX | PREP # | COLLECTN | DATE REC | EXT/PREP | ANALYSIS |
|---|---|---|---|---|---|---|---|
| TB100699 | | | | | | | |
| SUB-OUT TEST FOR SUB | 001 | W | | 10/06/99 | 10/07/99 | | |
| EB100699 | | | | | | | |
| ALKALINITY | 002 | W | 99GAK132 | 10/06/99 | 10/07/99 | 10/13/99 | 10/13/99 |
| CHLORIDE BY IC | 002 | W | 99GD4012 | 10/06/99 | 10/07/99 | 10/07/99 | 10/07/99 |
| NITRATE BY IC | 002 | W | 99GD4012 | 10/06/99 | 10/07/99 | 10/07/99 | 10/07/99 |
| SULFATE BY IC | 002 | W | 99GD4012 | 10/06/99 | 10/07/99 | 10/07/99 | 10/07/99 |
| TOTAL ORGANIC CARBON | 002 | W | 99GTC228 | 10/06/99 | 10/07/99 | 10/20/99 | 10/20/99 |
| TOTAL ORGANIC CARBON | 002 | W | 99GTC228 | 10/06/99 | 10/07/99 | 10/20/99 | 10/20/99 |
| PETROLEUM HYDROCARBO | 002 | W | | 10/06/99 | 10/07/99 | | |
| SUB-OUT TEST FOR SUB | 002 | W | | 10/06/99 | 10/07/99 | | |
| WHGLTA010WG10 | | | | | | | |
| ALKALINITY | 003 | W | 99GAK132 | 10/06/99 | 10/07/99 | 10/13/99 | 10/13/99 |
| CHLORIDE BY IC | 003 | W | 99GD4012 | 10/06/99 | 10/07/99 | 10/07/99 | 10/07/99 |
| NITRATE BY IC | 003 | W | 99GD4012 | 10/06/99 | 10/07/99 | 10/07/99 | 10/07/99 |
| SULFATE BY IC | 003 | W | 99GD4012 | 10/06/99 | 10/07/99 | 10/07/99 | 10/07/99 |
| TOTAL ORGANIC CARBON | 003 | W | 99GTC228 | 10/06/99 | 10/07/99 | 10/20/99 | 10/20/99 |
| TOTAL ORGANIC CARBON | 003 | W | 99GTC228 | 10/06/99 | 10/07/99 | 10/20/99 | 10/20/99 |
| PETROLEUM HYDROCARBO | 003 | W | | 10/06/99 | 10/07/99 | | |
| SUB-OUT TEST FOR SUB | 003 | W | | 10/06/99 | 10/07/99 | | |
| LF04-4CWG10 | | | | | | | |
| ALKALINITY | 004 | W | 99GAK132 | 10/06/99 | 10/07/99 | 10/13/99 | 10/13/99 |
| CHLORIOE BY IC | 004 | W | 99GD4012 | 10/06/99 | 10/07/99 | 10/07/99 | 10/07/99 |
| NITRATE BY IC | 004 | W | 99GD4012 | 10/06/99 | 10/07/99 | 10/07/99 | 10/07/99 |
| SULFATE BY IC | 004 | W | 99GD4012 | 10/06/99 | 10/07/99 | 10/07/99 | 10/07/99 |
| TOTAL ORGANIC CARBON | 004 | W | 99GTC228 | 10/06/99 | 10/07/99 | 10/21/99 | 10/21/99 |
| TOTAL ORGANIC CARBON | 004 | W | 99GTC228 | 10/06/99 | 10/07/99 | 10/21/99 | 10/21/99 |
| SUB-OUT TEST FOR SUB | 004 | W | | 10/06/99 | 10/07/99 | | |
| WITCTA044WG10 | | | | | | | |
| ALKALINITY | 006 | W | 99GAK132 | 10/06/99 | 10/07/99 | 10/13/99 | 10/13/99 |

To AFC001-26HBA
c/o HydroGeoLogic, Inc.
1155 Herndon Parkway, Ste. 900
Herndon, VA 20170

Attn: Ms. Lynn Morgan

Date: Tuesday October 26th, 1999

RE: EB100699
Project # 60025-001-001-0001
Lab ID: 9910G263-002
Sample Date: 10/06/99
Date Received: 10/07/99

## Inorganic Data Report

| Parameters | Result | | Units | Reporting Limit |
|---|---|---|---|---|
| Alkalinity | 10.0 | u | mg/L | 10.0 |
| Chloride by IC | 0.20 | u | mg/L | 0.20 |
| Nitrate-N by IC | 0.10 | u | mg/L | 0.10 |
| Sulfate by IC | 0.20 | u | mg/L | 0.20 |
| Total Organic Carbon | 11.3 | | mg/L | 1.0 |
| TOC Test 2 | 11.2 | | mg/L | 1.0 |

To: AFC001-26HBA
c/o HydroGeoLogic, Inc.
1155 Herndon Parkway, Ste. 900
Herndon, VA 20170

Attn: Ms. Lynn Morgan

Date: Tuesday October 26th, 1999

RE: WHGLTA010WG10
Project # 60025-001-001-0001
Lab ID: 9910G263-003
Sample Date: 10/06/99
Date Received: 10/07/99

## Inorganic Data Report

| Parameters | Result | | Units | Reporting Limit |
|---|---|---|---|---|
| Alkalinity | 442 | | mg/L | 10.0 |
| Chloride by IC | 24.5 | | mg/L | 2.0 |
| Nitrate-N by IC | 0.10 | u | mg/L | 0.10 |
| Sulfate by IC | 56.9 | | mg/L | 2.0 |
| Total Organic Carbon | 1 3 | | mg/L | 1.0 |
| TOC Test 2 | 1.5 | | mg/L | 1.0 |

To: AFC001-26HBA
c/o HydroGeoLogic, Inc.
1155 Herndon Parkway, Ste. 900
Herndon, VA 20170

Attn: Ms. Lynn Morgan

Date: Tuesday October 26th, 1999

RE: WHGLTA009WG10
Project # 60025-001-001-0001
Lab ID: 9910G263-007
Sample Date: 10/06/99
Date Received: 10/07/99

## Inorganic Data Report

| Parameters | Result | | Units | Reporting Limit |
|---|---|---|---|---|
| Alkalinity | 419 | | mg/L | 10.0 |
| Chloride by IC | 28.7 | | mg/L | 2.0 |
| Nitrate-N by IC | 0.10 | u | mg/L | 0.10 |
| Sulfate by IC | 17.7 | | mg/L | 2.0 |
| Total Organic Carbon | 1.2 | | mg/L | 1.0 |
| TOC Test 2 | 1.2 | | mg/L | 1.0 |

To. AFC001-26HBA
c/o HydroGeoLogic, Inc.
1155 Herndon Parkway, Ste. 900
Herndon, VA 20170

Attn: Ms. Lynn Morgan

Date: Tuesday October 26th, 1999

RE: DUP06
Project # 60025-001-001-0001
Lab ID: 9910G263-009
Sample Date. 10/06/99
Date Received: 10/07/99

## Inorganic Data Report

| Parameters | Result | Units | Reporting Limit |
|---|---|---|---|
| Alkalinity | 433 | mg/L | 10.0 |
| Chloride by IC | 33.5 | mg/L | 2.0 |
| Nitrate-N by IC | 0.46 | mg/L | 0.10 |
| Sulfate by IC | 41.7 | mg/L | 2.0 |
| Total Organic Carbon | 5.5 | mg/L | 1.0 |
| TOC Test 2 | 5.5 | mg/L | 1.0 |

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To: AFC001-26HBA
c/o HydroGeoLogic, Inc.
1155 Herndon Parkway, Ste. 900
Herndon, VA 20170

Attn: Ms. Lynn Morgan

Date: Tuesday October 26th, 1999

Project # 60025-001-001-0001
Lab Batch: 9910G263

## Inorganic Method Blank Data Report

| Sample | Lab ID | Parameter | Result | | Units | Reporting Limit |
|---|---|---|---|---|---|---|
| Blank 1 | 99GAK132-MB1 | Alkalinity | 10.0 | u | mg/L | 10.0 |
| Blank 1 | 99GD4012-MB1 | Chloride by IC | 0.20 | u | mg/L | 0.20 |
| | | Nitrate-N by IC | 0.10 | u | mg/L | 0.10 |
| | | Sulfate by IC | 0.20 | u | mg/L | 0.20 |
| Blank 1 | 99GTC228-MB1 | Total Organic Carbon | 1 0 | u | mg/L | 1 0 |
| Blank 1 | 99GAK133-MB1 | Alkalinity | 10.0 | u | mg/L | 10.0 |

To: AFC001-26HBA
c/o HydroGeoLogic, Inc.
1155 Herndon Parkway, Ste. 900
Herndon, VA 20170

Attn: Ms. Lynn Morgan

Date: Tuesday October 26th, 1999

Project # 60025-001-001-0001
Lab Batch: 9910G263

## Inorganic Laboratory Control Standards Report

| Lab ID | Parameter | Spiked Amount | Units | Spike #1 % Recov. | Spike #2 % Recov. | RPD |
|---|---|---|---|---|---|---|
| 99GAK132-LCS | Alkalinity | 100 | mg/L | 102 | NA | NA |
| 99GD4012-LCS | Chloride by IC | 3.0 | mg/L | 95.4 | NA | NA |
| | Nitrate-N by IC | 2.0 | mg/L | 97.1 | NA | NA |
| | Sulfate by IC | 5.0 | mg/L | 98.6 | NA | NA |
| 99GTC228-LCS | TOC | 5.0 | mg/L | 99.1 | NA | NA |
| 99GAK133-LCS | Alkalinity | 100 | mg/L | 100 | NA | NA |

643 640

# Severn Trent Laboratories Chicago
# Wet Chemistry Case Narrative

Client: **HydroGeoLogic, NAS Ft. Worth AFC001-26HBA**
RFW Lot: **9910G263** Date Rec'd: 10/07/99

1. This narrative covers the analysis of the samples in the above RFW Lot by the following methods.

   Alkalinity - EPA Method 310.1
   Anions by Ion Chromatography - SW 846 9056
   - Chloride
   - Nitrate as N
   - Sulfate as $SO_4$

   TOC - EPA Method 415.1
   The sample labeled EB100699 was less than the reporting limit for all the other tests, and was assumed to be an equipment blank. It was a hit for TOC at 11 mg/L. The bottle labeling was confirmed.

2. The EPA holding times were met. Refer to the Laboratory Chronicle Page for dates of sampling, receipt, and analysis.

3. The initial and continuing calibration verification standards and blanks were in control.

4. All method blanks were below the detection limits.

5. All LCS recoveries were within control limits. The alkalinity analyst did 2 LCSs in each set, and the second was deleted. Please see the LCS Summary Pages of this report for additional details.

6. No matrix QC was requested or done on these sample.

Diane L. Harper
Wet Chemistry Section Manager

10-25-99
Date

Severn Trent Laboratories Chicago
8260 ANALYTICAL DATA PACKAGE FOR
AFC001-26HBA

LOT # :9910G263

| CLIENT ID | SAMPLE # | | MTX | PREP # | COLLECTN | DATE REC | EXT/PREP | ANALYSIS |
|---|---|---|---|---|---|---|---|---|
| TB100699 | 001 | | W | 99GVT289 | 10/06/99 | 10/07/99 | N/A | 10/14/99 |
| EB100699 | 002 | | W | 99GVT289 | 10/06/99 | 10/07/99 | N/A | 10/14/99 |
| LF04-4CWG10 | 004 | | W | 99GVT289 | 10/06/99 | 10/07/99 | N/A | 10/14/99 |
| WJETA535WG10 | 005 | | W | 99GVT289 | 10/06/99 | 10/07/99 | N/A | 10/14/99 |
| WITCTA044WG10 | 006 | | W | 99GVT289 | 10/06/99 | 10/07/99 | N/A | 10/14/99 |
| WHGLTA009WG10 | 007 | | W | 99GVT289 | 10/06/99 | 10/07/99 | N/A | 10/14/99 |
| WHGLTA009WG10 | 007 | D1 | W | 99GVT290 | 10/06/99 | 10/07/99 | N/A | 10/15/99 |
| WP07-10CWG10 | 008 | | W | 99GVT289 | 10/06/99 | 10/07/99 | N/A | 10/14/99 |
| WP07-10CWG10 | 008 | D1 | W | 99GVT290 | 10/06/99 | 10/07/99 | N/A | 10/15/99 |
| DUP06 | 009 | | W | 99GVT289 | 10/06/99 | 10/07/99 | N/A | 10/14/99 |
| DUP06 | 009 | D1 | W | 99GVT290 | 10/06/99 | 10/07/99 | N/A | 10/15/99 |
| LAB QC: | | | | | | | | |
| VBLKWA | MB1 | | W | 99GVT289 | N/A | N/A | N/A | 10/14/99 |
| VBLKWA | MB1 | BS | W | 99GVT289 | N/A | N/A | N/A | 10/14/99 |
| VBLKWI | MB1 | | W | 99GVT290 | N/A | N/A | N/A | 10/15/99 |
| VBLKWI | MB1 | BS | W | 99GVT290 | N/A | N/A | N/A | 10/15/99 |

NY CERTIFICATION # 11006

STL Chicago
METHOD 8260 VOLATILES

RFW Batch Number: 9910G263 Client: AFC001-26HBA Work Order: 60025-001-001-0

Report Date: 10/25/99 15:13
Page: 1a

| | Cust ID: | TB100699 | EB100699 | LF04-4CWG10 | WJETA535WG10 | WITCTA044WG10 | WHGLTA009WG10 |
|---|---|---|---|---|---|---|---|
| Sample Information | RFW#: | 001 | 002 | 004 | 005 | 006 | 007 |
| | Matrix: | WATER | WATER | WATER | WATER | WATER | WATER |
| | D.F.: | 1 | 1 | 1 | 1 | 1 | 1 |
| | Units: | UG/L | UG/L | UG/L | UG/L | UG/L | UG/L |
| Surrogate Recovery | 1,2-Dichloroethane-d4 | 101 % | 98 % | 99 % | 100 % | 101 % | 114 % |
| | Toluene-d8 | 106 % | 108 % | 107 % | 107 % | 106 % | 120 % |
| | 4-Bromofluorobenzene | 100 % | 100 % | 99 % | 99 % | 99 % | 107 % |
| | Dibromofluoromethane | 118 % | 112 % | 111 % | 113 % | 116 % | 120 % |
| | | fl | fl | fl | fl | fl | fl |
| Dichlorodifluoromethane | | 0.5 U | 0.5 U | 0.5 U | 0.5 U | 0.5 U | 0.5 U |
| Chloromethane | | 0.5 U | 0.5 U | 0.5 U | 0.5 U | 0.5 U | 0.5 U |
| Vinyl chloride | | 0.5 U | 0.5 U | 1 | 0.5 U | 0.5 U | 0.5 U |
| Bromomethane | | 0.5 U | 0.5 U | 0.5 U | 0.5 U | 0.5 U | 0.5 U |
| Chloroethane | | 0.5 U | 0.5 U | 0.5 U | 0.5 U | 0.5 U | 0.5 U |
| Trichlorofluoromethane | | 0.5 U | 0.5 U | 0.5 U | 0.5 U | 0.5 U | 0.5 U |
| 1,1-Dichloroethene | | 0.5 U | 0.5 U | 0.5 U | 0.5 U | 0.5 U | 0.7 |
| Methylene Chloride | | 0.5 U | 0.5 U | 0.5 U | 0.5 U | 0.5 U | 0.5 U |
| trans-1,2-Dichloroethene | | 0.5 U | 0.5 U | 1 | 0.5 U | 0.5 U | 0.5 U |
| 1,1-Dichloroethane | | 0.4 U | 0.4 U | 0.4 U | 0.4 U | 0.4 U | 0.4 U |
| Vinyl acetate | | 2 U | 2 U | 2 U | 2 U | 2 U | 2 U |
| cis-1,2-Dichloroethene | | 0.5 U | 0.5 U | 6 | 0.5 U | 0.5 U | E |
| 2,2-Dichloropropane | | 0.5 U | 0.5 U | 0.5 U | 0.5 U | 0.5 U | 0.5 U |
| Bromochloromethane | | 0.4 U | 0.4 U | 0.4 U | 0.4 U | 0.4 U | 0.4 U |
| Chloroform | | 0.3 U | 0.3 U | 0.3 U | 0.3 U | 0.3 U | 0.3 U |
| 1,1,1-Trichloroethane | | 0.5 U | 0.5 U | 0.5 U | 0.5 U | 0.5 U | 0.5 U |
| 1,1-Dichloropropene | | 0.5 U | 0.5 U | 0.5 U | 0.5 U | 0.5 U | 0.5 U |
| Carbon Tetrachloride | | 0.5 U | 0.5 U | 0.5 U | 0.5 U | 0.5 U | 0.5 U |
| Benzene | | 0.4 U | 0.4 U | 0.4 U | 0.4 U | 0.4 U | 0.4 U |
| 1,2-Dichloroethane | | 0.5 U | 0.5 U | 0.5 U | 0.5 U | 0.5 U | 0.5 U |
| Trichloroethene | | 0.5 U | 0.5 U | 10 | 0.5 U | 0.5 U | E |
| 1,2-Dichloropropane | | 0.4 U | 0.4 U | 0.4 U | 0.4 U | 0.4 U | 0.4 U |
| Dibromomethane | | 0.5 U | 0.5 U | 0.5 U | 0.5 U | 0.5 U | 0.5 U |
| Bromodichloromethane | | 0.5 U | 0.5 U | 0.5 U | 0.5 U | 0.5 U | 0.5 U |
| cis-1,3-Dichloropropene | | 0.5 U | 0.5 U | 0.5 U | 0.5 U | 0.5 U | 0.5 U |

*= Outside of EPA CLP QC limits.

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| Cust ID: | TB100699 | | EB100699 | | LF04-4CWG10 | | WJETA535WG10 | | WITCTA044WG1 0 | | WHGLTA009WG1 0 | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| RFW#: | 001 | | 002 | | 004 | | 005 | | 006 | | 007 | |
| Toluene | 0.5 | U | 0.5 | U | 0.5 | U | 0.5 | U | 0.5 | U | 0.5 | U |
| trans-1,3-Dichloropropene | 0.5 | U | 0.5 | U | 0.5 | U | 0.5 | U | 0.5 | U | 0.5 | U |
| 1,1,2-Trichloroethane | 0.5 | U | 0.5 | U | 0.5 | U | 0.5 | U | 0.5 | U | 0.5 | U |
| 1,3-Dichloropropane | 0.4 | U | 0.4 | U | 0.4 | U | 0.4 | U | 0.4 | U | 0.4 | U |
| Tetrachloroethene | 0.5 | U | 0.5 | U | 0.5 | U | 0.5 | U | 0.5 | U | 0.5 | U |
| Dibromochloromethane | 0.5 | U | 0.5 | U | 0.5 | U | 0.5 | U | 0.5 | U | 0.5 | U |
| 1,2-Dibromoethane | 0.5 | U | 0.5 | U | 0.5 | U | 0.5 | U | 0.5 | U | 0.5 | U |
| 1-Chlorohexane | 0.5 | U | 0.5 | U | 0.5 | U | 0.5 | U | 0.5 | U | 0.5 | U |
| Chlorobenzene | 0.4 | U | 0.4 | U | 2 | | 0.4 | U | 0.4 | U | 0.4 | U |
| 1,1,1,2-Tetrachloroethane | 0.5 | U | 0.5 | U | 0.5 | U | 0.5 | U | 0.5 | U | 0.5 | U |
| Ethylbenzene | 0.5 | U | 0.5 | U | 0.5 | U | 0.5 | U | 0.5 | U | 0.5 | U |
| m/p-Xylene | 0.5 | U | 0.5 | U | 0.5 | U | 0.5 | U | 0.5 | U | 0.5 | U |
| o-Xylene | 0.5 | U | 0.5 | U | 0.5 | U | 0.5 | U | 0.5 | U | 0.5 | U |
| Styrene | 0.4 | U | 0.4 | U | 0.4 | U | 0.4 | U | 0.4 | U | 0.4 | U |
| Bromoform | 0.5 | U | 0.5 | U | 0.5 | U | 0.5 | U | 0.5 | U | 0.5 | U |
| Isopropylbenzene | 0.5 | U | 0.5 | U | 0.5 | U | 0.5 | U | 0.5 | U | 1 | |
| 1,1,2,2-Tetrachloroethane | 0.5 | U | 0.5 | U | 0.5 | U | 0.5 | U | 0.5 | U | 0.5 | U |
| Bromobenzene | 0.3 | U | 0.3 | U | 0.3 | U | 0.3 | U | 0.3 | U | 0.3 | U |
| 1,2,3-Trichloropropane | 0.5 | U | 0.5 | U | 0.5 | U | 0.5 | U | 0.5 | U | 0.5 | U |
| n-Propylbenzene | 0.4 | U | 0.4 | U | 0.4 | U | 0.4 | U | 0.4 | U | 0.4 | |
| 2-Chlorotoluene | 0.4 | U | 0.4 | U | 0.4 | U | 0.4 | U | 0.4 | U | 0.4 | U |
| 1,3,5-Trimethylbenzene | 0.5 | U | 0.5 | U | 0.5 | U | 0.5 | U | 0.5 | U | 0.5 | U |
| 4-Chlorotoluene | 0.5 | U | 0.5 | U | 0.5 | U | 0.5 | U | 0.5 | U | 0.5 | U |
| tert-Butylbenzene | 0.5 | U | 0.5 | U | 0.5 | U | 0.5 | U | 0.5 | U | 1 | |
| 1,2,4-Trimethylbenzene | 0.5 | U | 0.5 | U | 0.5 | U | 0.5 | U | 0.5 | U | 0.5 | U |
| sec-Butylbenzene | 0.5 | U | 0.5 | U | 0.5 | U | 0.5 | U | 0.5 | U | 3 | |
| 1,3-Dichlorobenzene | 0.5 | U | 0.5 | U | 0.5 | U | 0.5 | U | 0.5 | U | 0.5 | U |
| p-Isopropyltoluene | 0.5 | U | 0.5 | U | 0.5 | U | 0.5 | U | 0.5 | U | 0.5 | U |
| 1,4-Dichlorobenzene | 0.3 | U | 0.3 | U | 4 | | 0.3 | U | 0.3 | U | 0.3 | U |
| n-Butylbenzene | 0.5 | U | 0.5 | U | 0.5 | U | 0.5 | U | 0.5 | U | 0.5 | U |
| 1,2-Dichlorobenzene | 0.3 | U | 0.3 | U | 0.4 | | 0.3 | U | 0.3 | U | 0.3 | U |
| 1,2-Dibromo-3-chloropropane | 0.5 | U | 0.5 | U | 0.5 | U | 0.5 | U | 0.5 | U | 0.5 | U |
| 1,2,4-Trichlorobenzene | 0.4 | U | 0.4 | U | 0.4 | U | 0.4 | U | 0.4 | U | 0.4 | U |
| Hexachlorobutadiene | 0.5 | U | 0.5 | U | 0.5 | U | 0.5 | U | 0.5 | U | 0.5 | U |
| Naphthalene | 0.5 | U | 0.5 | U | 0.5 | U | 0.5 | U | 0.5 | U | 0.5 | U |
| 1,2,3-Trichlorobenzene | 0.5 | U | 0.5 | U | 0.5 | U | 0.5 | U | 0.5 | U | 0.5 | U |

*= Outside of EPA CLP QC limits.

643 643

10

STL Chicago
METHOD 8260 VOLATILES

RFW Batch Number: 9910G263 Client: AFC001-26HBA Work Order: 60025-001-001-0 Report Date: 10/25/99 15:13 Page: 2a

| | Cust ID: | WHGLTA009WG10 | WP07-10CWG10 | WP07-10CWG10 | DUP06 | DUP06 | VBLKWA |
|---|---|---|---|---|---|---|---|
| Sample Information | RFW#: | 007 DL | 008 | 008 DL | 009 | 009 DL | 99GVT289-MB1 |
| | Matrix: | WATER | WATER | WATER | WATER | WATER | WATER |
| | D.F.: | 25 | 1 | 100 | 1 | 100 | 1 |
| | Units: | UG/L | UG/L | UG/L | UG/L | UG/L | UG/L |
| Surrogate Recovery | 1,2-Dichloroethane-d4 | 101 % | 96 % | 102 % | 99 % | 102 % | 96 % |
| | Toluene-d8 | 102 % | 103 % | 104 % | 106 % | 105 % | 105 % |
| | 4-Bromofluorobenzene | 102 % | 97 % | 99 % | 101 % | 101 % | 99 % |
| | Dibromofluoromethane | 116 % | 110 % | 116 % | 115 % | 118 % | 111 % |
| Dichlorodifluoromethane | | NA | 0.5 U | NA | 0.5 U | NA | 0.5 U |
| Chloromethane | | NA | 0.5 U | NA | 0.5 U | NA | 0.5 U |
| Vinyl chloride | | NA | 17 | NA | 17 | NA | 0.5 U |
| Bromomethane | | NA | 0.5 U | NA | 0.5 U | NA | 0.5 U |
| Chloroethane | | NA | 0.5 U | NA | 0.5 U | NA | 0.5 U |
| Trichlorofluoromethane | | NA | 0.5 U | NA | 0.5 U | NA | 0.5 U |
| 1,1-Dichloroethene | | NA | 2 | NA | 2 | NA | 0.5 U |
| Methylene Chloride | | NA | 0.5 U | NA | 0.5 U | NA | 0.5 U |
| trans-1,2-Dichloroethene | | NA | 27 | NA | 28 | NA | 0.5 U |
| 1,1-Dichloroethane | | NA | 0.4 | NA | 0.4 U | NA | 0.4 U |
| Vinyl acetate | | NA | 2 U | NA | 2 U | NA | 2 U |
| cis-1,2-Dichloroethene | | 120 | E | 250 | E | 260 | 0.5 U |
| 2,2-Dichloropropane | | NA | 0.5 U | NA | 0.5 U | NA | 0.5 U |
| Bromochloromethane | | NA | 0.4 U | NA | 0.4 U | NA | 0.4 U |
| Chloroform | | NA | 0.3 U | NA | 0.3 U | NA | 0.3 U |
| 1,1,1-Trichloroethane | | NA | 0.5 U | NA | 0.5 U | NA | 0.5 U |
| 1,1-Dichloropropene | | NA | 0.5 U | NA | 0.5 U | NA | 0.5 U |
| Carbon Tetrachloride | | NA | 0.5 U | NA | 0.5 U | NA | 0.5 U |
| Benzene | | NA | 0.4 U | NA | 0.4 U | NA | 0.4 U |
| 1,2-Dichloroethane | | NA | 0.5 U | NA | 0.5 U | NA | 0.5 U |
| Trichloroethene | | 180 | E | 1100 | E | 1200 | 0.5 U |
| 1,2-Dichloropropane | | NA | 0.4 U | NA | 0.4 U | NA | 0.4 U |
| Dibromomethane | | NA | 0.5 U | NA | 0.5 U | NA | 0.5 U |
| Bromodichloromethane | | NA | 0.5 U | NA | 0.5 U | NA | 0.5 U |
| cis-1,3-Dichloropropene | | NA | 0.5 U | NA | 0.5 U | NA | 0.5 U |

*= Outside of EPA CLP QC limits.

643 644

11

RFW Batch Number: 9910G263 Client: AFC001-26HBA Work Order: 60025-001-001-0 Page: 2b

| Cust ID: | WHGLTA009WG10 | WP07-10CWG10 | WP07-10CWG10 | DUP06 | DUP06 | VBLKWA |
|---|---|---|---|---|---|---|
| RFW#: | 007 DL | 008 | 008 DL | 009 | 009 DL | 99GVT289-MB1 |
| Toluene | NA | 0.5 U | NA | 0.5 U | NA | 0.5 U |
| trans-1,3-Dichloropropene | NA | 0.5 U | NA | 0.5 U | NA | 0.5 U |
| 1,1,2-Trichloroethane | NA | 0.5 U | NA | 0.5 U | NA | 0.5 U |
| 1,3-Dichloropropane | NA | 0.4 U | NA | 0.4 U | NA | 0.4 U |
| Tetrachloroethene | NA | 0.5 U | NA | 0.5 U | NA | 0.5 U |
| Dibromochloromethane | NA | 0.5 U | NA | 0.5 U | NA | 0.5 U |
| 1,2-Dibromoethane | NA | 0.5 U | NA | 0.5 U | NA | 0.5 U |
| 1-Chlorohexane | NA | 0.5 U | NA | 0.5 U | NA | 0.5 U |
| Chlorobenzene | NA | 0.4 U | NA | 0.4 U | NA | 0.4 U |
| 1,1,1,2-Tetrachloroethane | NA | 0.5 U | NA | 0.5 U | NA | 0.5 U |
| Ethylbenzene | NA | 0.5 U | NA | 0.5 U | NA | 0.5 U |
| m/p-Xylene | NA | 0.5 U | NA | 0.5 U | NA | 0.5 U |
| o-Xylene | NA | 0.5 U | NA | 0.5 U | NA | 0.5 U |
| Styrene | NA | 0.4 U | NA | 0.4 U | NA | 0.4 U |
| Bromoform | NA | 0.5 U | NA | 0.5 U | NA | 0.5 U |
| Isopropylbenzene | NA | 0.5 U | NA | 0.5 U | NA | 0.5 U |
| 1,1,2,2-Tetrachloroethane | NA | 0.5 U | NA | 0.5 U | NA | 0.5 U |
| Bromobenzene | NA | 0.3 U | NA | 0.3 U | NA | 0.3 U |
| 1,2,3-Trichloropropane | NA | 0.5 U | NA | 0.5 U | NA | 0.5 U |
| n-Propylbenzene | NA | 0.4 U | NA | 0.4 U | NA | 0.4 U |
| 2-Chlorotoluene | NA | 0.4 U | NA | 0.4 U | NA | 0.4 U |
| 1,3,5-Trimethylbenzene | NA | 0.5 U | NA | 0.5 U | NA | 0.5 U |
| 4-Chlorotoluene | NA | 0.5 U | NA | 0.5 U | NA | 0.5 U |
| tert-Butylbenzene | NA | 0.5 U | NA | 0.5 U | NA | 0.5 U |
| 1,2,4-Trimethylbenzene | NA | 0.5 U | NA | 0.5 U | NA | 0.5 U |
| sec-Butylbenzene | NA | 0.5 U | NA | 0.5 U | NA | 0.5 U |
| 1,3-Dichlorobenzene | NA | 0.5 U | NA | 0.5 U | NA | 0.5 U |
| p-Isopropyltoluene | NA | 0.5 U | NA | 0.5 U | NA | 0.5 U |
| 1,4-Dichlorobenzene | NA | 3 | NA | 3 | NA | 0.3 U |
| n-Butylbenzene | NA | 0.5 U | NA | 0.5 U | NA | 0.5 U |
| 1,2-Dichlorobenzene | NA | 0.3 U | NA | 0.3 U | NA | 0.3 U |
| 1,2-Dibromo-3-chloropropane | NA | 0.5 U | NA | 0.5 U | NA | 0.5 U |
| 1,2,4-Trichlorobenzene | NA | 0.4 U | NA | 0.4 U | NA | 0.4 U |
| Hexachlorobutadiene | NA | 0.5 U | NA | 0.5 U | NA | 0.5 U |
| Naphthalene | NA | 0.5 U | NA | 0.5 U | NA | 0.5 U |
| 1,2,3-Trichlorobenzene | NA | 0.5 U | NA | 0.5 U | NA | 0.5 U |

*= Outside of EPA CLP QC limits.

643 645

STL Chicago
METHOD 8260 VOLATILES

RFW Batch Number: 9910G263 Client: AFC001-26HBA Work Order: 60025-001-001-0 Report Date: 10/25/99 15:13 Page: 3a

| | Cust ID: | VBLKWA BS | | VBLKWI | | VBLKWI BS | |
|---|---|---|---|---|---|---|---|
| Sample Information | RFW#: | 99GVT289-MB1 | | 99GVT290-MB1 | | 99GVT290-MB1 | |
| | Matrix: | WATER | | WATER | | WATER | |
| | D.F.: | 1 | | 1 | | 1 | |
| | Units: | UG/L | | UG/L | | UG/L | |
| Surrogate Recovery | 1,2-Dichloroethane-d4 | 105 | % | 94 | % | 102 | % |
| | Toluene-d8 | 108 | % | 99 | % | 105 | % |
| | 4-Bromofluorobenzene | 104 | % | 95 | % | 102 | % |
| | Dibromofluoromethane | 121 | % | 112 | % | 120 | % |
| Dichlorodifluoromethane | | 106 | % | 0.5 | U | 86 | % |
| Chloromethane | | 101 | % | 0.5 | U | 100 | % |
| Vinyl chloride | | 108 | % | 0.5 | U | 104 | % |
| Bromomethane | | 117 | % | 0.5 | U | 116 | % |
| Chloroethane | | 112 | % | 0.5 | U | 111 | % |
| Trichlorofluoromethane | | 118 | % | 0.5 | U | 104 | % |
| 1,1-Dichloroethene | | 80 | % | 0.5 | U | 116 | % |
| Methylene Chloride | | 91 | % | 0.5 | U | 117 | % |
| trans-1,2-Dichloroethene | | 93 | % | 0.5 | U | 118 | % |
| 1,1-Dichloroethane | | 96 | % | 0.4 | U | 116 | % |
| Vinyl acetate | | 103 * | % | 2 | U | 129 * | % |
| cis-1,2-Dichloroethene | | 97 | % | 0.5 | U | 114 | % |
| 2,2-Dichloropropane | | 25 * | % | 0.5 | U | 26 * | % |
| Bromochloromethane | | 88 | % | 0.4 | U | 84 | % |
| Chloroform | | 100 | % | 0.3 | U | 111 | % |
| 1,1,1-Trichloroethane | | 97 | % | 0.5 | U | 110 | % |
| 1,1-Dichloropropene | | 102 | % | 0.5 | U | 119 | % |
| Carbon Tetrachloride | | 88 | % | 0.5 | U | 98 | % |
| Benzene | | 86 | % | 0.4 | U | 99 | % |
| 1,2-Dichloroethane | | 96 | % | 0.5 | U | 107 | % |
| Trichloroethene | | 90 | % | 0.5 | U | 100 | % |
| 1,2-Dichloropropane | | 93 | % | 0.4 | U | 103 | % |
| Dibromomethane | | 93 | % | 0.5 | U | 103 | % |
| Bromodichloromethane | | 99 | % | 0.5 | U | 107 | % |
| cis-1,3-Dichloropropene | | 91 | % | 0.5 | U | 99 | % |

*= Outside of EPA CLP QC limits.

643 646

643 647

RFW Batch Number: 9910G263 Client: AFC001-26HBA Work Order: 60025-001-001-0 Page: 3b

| Cust ID: | VBLKWA BS | | VBLKWI | | VBLKWI BS | |
|---|---|---|---|---|---|---|
| RFW#: | 99GVT2B9-MB1 | | 99GVT290-MB1 | | 99GVT290-MB1 | |
| Toluene | 92 | % | 0.5 | U | 101 | % |
| trans-1,3-Dichloropropene | 85 | % | 0.5 | U | 92 | % |
| 1,1,2-Trichloroethane | 111 | % | 0.5 | U | 122 | % |
| 1,3-Dichloropropane | 92 | % | 0.4 | U | 99 | % |
| Tetrachloroethene | 84 | % | 0.5 | U | 89 | % |
| Dibromochloromethane | 94 | % | 0.5 | U | 99 | % |
| 1,2-Dibromoethane | 97 | % | 0.5 | U | 105 | % |
| 1-Chlorohexane | 110 | % | 0.5 | U | 108 | % |
| Chlorobenzene | 98 | % | 0.4 | U | 104 | % |
| 1,1,1,2-Tetrachloroethane | 94 | % | 0.5 | U | 98 | % |
| Ethylbenzene | 95 | % | 0.5 | U | 99 | % |
| m/p-Xylene | 97 | % | 0.5 | U | 101 | % |
| o-Xylene | 98 | % | 0 5 | U | 101 | % |
| Styrene | 97 | % | 0.4 | U | 101 | % |
| Bromoform | 86 | % | 0.5 | U | 91 | % |
| Isopropylbenzene | 102 | % | 0.5 | U | 103 | % |
| 1,1,2,2-Tetrachloroethane | 104 | % | 0.5 | U | 109 | % |
| Bromobenzene | 94 | % | 0.3 | U | 98 | % |
| 1,2,3-Trichloropropane | 98 | % | 0.5 | U | 105 | % |
| n-Propylbenzene | 104 | % | 0.4 | U | 104 | % |
| 2-Chlorotoluene | 104 | % | 0.4 | U | 106 | % |
| 1,3,5-Trimethylbenzene | 102 | % | 0.5 | U | 104 | % |
| 4-Chlorotoluene | 105 | % | 0.5 | U | 108 | % |
| tert-Butylbenzene | 102 | % | 0.5 | U | 104 | % |
| 1,2,4-Trimethylbenzene | 105 | % | 0.5 | U | 108 | % |
| sec-Butylbenzene | 106 | % | 0.5 | U | 106 | % |
| 1,3-Dichlorobenzene | 102 | % | 0.5 | U | 105 | % |
| p-Isopropyltoluene | 103 | % | 0.5 | U | 103 | % |
| 1,4-Dichlorobenzene | 101 | % | 0.3 | U | 107 | % |
| n-Butylbenzene | 108 | % | 0.5 | U | 106 | % |
| 1,2-Dichlorobenzene | 101 | % | 0.3 | U | 105 | % |
| 1,2-Dibromo-3-chloropropane | 100 | % | 0.5 | U | 102 | % |
| 1,2,4-Trichlorobenzene | 96 | % | 0.4 | U | 100 | % |
| Hexachlorobutadiene | 88 | % | 0.5 | U | 85 | % |
| Naphthalene | 97 | % | 0.5 | U | 104 | % |
| 1,2,3-Trichlorobenzene | 95 | % | 0.5 | U | 100 | % |

*= Outside of EPA CLP QC limits.

**Severn Trent Laboratories - Chicago**
**GC/MS Case Narrative**

AFC001- 26HBA
STL# 9910G263
VOA DATA

1 All volatile analyses were performed within the requested holding times.

2 All Method Blank target compounds were below reporting limits

3. The QC limits specified in the QAPP were used for QC evaluation There are not any QC limits specified in the QAPP for Vinyl acetate At the client's instructions, the spike limits of 0-0% were used and the flagging of Vinyl acetate has no QC significance. The spike recoveries were below the QC limits for 2,2-Dichloropropane in the LCS samples 99GVT289-MB1 BS and 99GVT290-MB1 BS. Further corrective action was not performed. 2,2-Dichloropropane was not detected and the reporting limits is considered elevated in the associated samples All of the other spike recoveries were within the QAPP specified QC limits in the LCS samples

4. Matrix Spike/Matrix Spike Duplicate analyses were not performed in this sample set

5 All of the volatile samples had all surrogate recoveries within the QAPP specified QC limits.

6 The water samples were prepared using Method 5030B. All samples were analyzed following SW846 Method 8260B and 8000B. All calibration criteria are met per method or SOP (for minimum R values for certain compounds) The low point in the initial calibrations verifies the base reporting limits The target compounds were quantitated using the initial calibration

7. All of the volatile samples had internal standard areas and retention times within the acceptance limits as compared to the corresponding continuing calibration standard.

8. The water samples were initially analyzed without dilution using a 25 mL purge volume. Secondary dilutions for target compounds were performed on the samples 9910G263-007 (1/25), 008 (1/100) and 009 (1/100) The results and reporting limits were adjusted to account for the dilutions performed

Gregory L. Goodwin
GC/MS Section Manager

10/26/99
Date

Severn Trent Laboratories Chicago
8021 ANALYTICAL DATA PACKAGE FOR
AFC001-26HBA

LOT # :9910G263

| CLIENT ID | SAMPLE # | MTX | PREP # | COLLECTN | DATE REC | EXT/PREP | ANALYSIS |
|---|---|---|---|---|---|---|---|
| WHGLTA010WG10 | 003 | W | 99GVD311 | 10/06/99 | 10/07/99 | N/A | 10/19/99 |
| WHGLTA010WG10 | 003 C1 | W | 99GVD313 | 10/06/99 | 10/07/99 | N/A | 10/19/99 |
| WHGLTA010WG10 | 003 MS | W | 99GVD311 | 10/06/99 | 10/07/99 | N/A | 10/19/99 |
| WHGLTA010WG10 | 003 MS C1 | W | 99GVD313 | 10/06/99 | 10/07/99 | N/A | 10/19/99 |
| WHGLTA010WG10 | 003 MSD | W | 99GVD311 | 10/06/99 | 10/07/99 | N/A | 10/19/99 |
| WHGLTA010WG10 | 003 MSD C1 | W | 99GVD313 | 10/06/99 | 10/07/99 | N/A | 10/19/99 |
| LAB QC: | | | | | | | |
| BLK | MB1 | W | 99GVD311 | N/A | N/A | N/A | 10/19/99 |
| BLK | MB1 BS | W | 99GVD311 | N/A | N/A | N/A | 10/19/99 |
| BLK | MB1 | W | 99GVD313 | N/A | N/A | N/A | 10/19/99 |
| BLK | MB1 BS | W | 99GVD313 | N/A | N/A | N/A | 10/19/99 |



NY CERTIFICATION # 11006

STL Chicago
HALOGENATED AND AROMATIC VOLATILES BY GC

Report Date: 10/28/99 18:31
Page: 1

RFW Batch Number: 9910G263 Client: AFC001-26HBA Work Order: 60025-001-001-0

| Sample Information | | | | | | |
|---|---|---|---|---|---|---|
| Cust ID: | WHGLTA010WG1 0 | WHGLTA010WG1 0 | WHGLTA010WG1 0 | WHGLTA010WG1 0 | WHGLTA010WG1 0 | WHGLTA010WG1 0 |
| RFW#: | 003 | 003 | 003 MS | 003 MS | 003 MSD | 003 MSD |
| Matrix: | WATER | WATER | WATER | WATER | WATER | WATER |
| D.F.: | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 |
| Units: | ug/L | ug/L CONFIRM | ug/L | ug/L CONFIRM | ug/L | ug/L CONFIRM |
| Surrogate a,a,a-Trifluorotoluene | 108 % | 100 % | 110 % | 101 % | 106 % | 97 % |
| Surrogate 4-Bromofluorobenzene | 93 % | 86 % | 106 % | 97 % | 103 % | 93 % |
| Benzene | 1.3 | 1.4 | 114 % | 109 % | 114 % | 109 % |
| Toluene | 1.0 U | NA | 106 % | 95 % | 107 % | 95 % |
| Ethylbenzene | 1.0 U | NA | 113 % | 104 % | 113 % | 103 % |
| Xylene (total) | 1.0 U | NA | 113 % | 101 % | 113 % | 100 % |
| Methyl-tert-butyl ether | 1.0 U | NA | 108 % | 100 % | 110 % | 102 % |

| Sample Information | | | | |
|---|---|---|---|---|
| Cust ID: | BLK | BLK BS | BLK | BLK BS |
| RFW#: | 99GVD311-MB1 | 99GVD311-MB1 | 99GVD313-MB1 | 99GVD313-MB1 |
| Matrix: | WATER | WATER | WATER | WATER |
| D.F.: | 1.0 | 1.0 | 1.0 | 1.0 |
| Units: | ug/L | ug/L | ug/L | ug/L |
| Surrogate a,a,a-Trifluorotoluene | 109 % | 106 % | 101 % | 98 % |
| Surrogate 4-Bromofluorobenzene | 94 % | 103 % | 86 % | 93 % |
| Benzene | 1.0 U | 112 % | 1.0 U | 106 % |
| Toluene | 1.0 U | 101 % | 1.0 U | 92 % |
| Ethylbenzene | 1.0 U | 109 % | 1.0 U | 102 % |
| Xylene (total) | 1.0 U | 108 % | 1.0 U | 98 % |
| Methyl-tert-butyl ether | 1.0 U | 105 % | 1.0 U | 95 % |

U= Analyzed, not detected. J= Present below detection limit. B= Present in blank. NR= Not requested. NS= Not spiked.
%= Percent recovery. D= Diluted out. I= Interference. NA= Not Applicable. *= Outside of EPA CLP QC

Severn Trent Laboratories Chicago
Volatile Case Narrative

AFC001-26HBA
RFW# 9910G263-003
Method 8020

1. This sample was analyzed for Benzene, Toluene, Ethylbenzene, Xylene (total) and Methyl-tert-butyl ether based on SW846 methods 5030 and 8020. An HP 5890 gas chromatograph equipped with dual photoionization detectors and interfaced with a Tekmar LSC 2000/2016 ALS was used for the analysis of these samples.

2. All required holding times were met for the analysis.

3. The method blanks were below the reporting limit for all target compounds.

4. The surrogate compounds used for this analysis were 4-Bromofluorobenzene and a,a,a-Trifluorotoluene. All surrogate recoveries were within control limits and are summarized on Form 2.

5. All blank spike recoveries were within control limits and are summarized on Forms 3.

6. A matrix spike and a matrix spike duplicate were performed on this sample. All matrix spike and matrix spike duplicate recoveries and the RPDs were within control limits and are summarized on Form 3.

7. All initial and continuing standard calibrations associated with this sample were in control limits on both columns.

8. All positive hits were confirmed on a second column.

Linda S Mackley
Linda S. Mackley
Organics Section Manager

10-29-99
Date

Severn Trent Laboratories Chicago
HPAH ANALYTICAL DATA PACKAGE FOR
AFC001-26HBA

LOT # :9910G263

| CLIENT ID | SAMPLE # | MTX | PREP # | COLLECTN | DATE REC | EXT/PREP | ANALYSIS |
|---|---|---|---|---|---|---|---|
| EB100699 | 002 | W | 99GP0951 | 10/06/99 | 10/07/99 | 10/08/99 | 10/14/99 |
| WHGLTA010WG10 | 003 | W | 99GP0951 | 10/06/99 | 10/07/99 | 10/08/99 | 10/14/99 |
| WHGLTA009WG10 | 007 | W | 99GP0951 | 10/06/99 | 10/07/99 | 10/08/99 | 10/14/99 |
| WHGLTA009WG10 | 007 C1 | W | 99GP0951 | 10/06/99 | 10/07/99 | 10/08/99 | 10/14/99 |
| LAB QC: | | | | | | | |
| BLK | MB1 | W | 99GP0951 | N/A | N/A | 10/08/99 | 10/14/99 |
| BLK | MB1 C1 | W | 99GP0951 | N/A | N/A | 10/08/99 | 10/14/99 |
| BLK | MB1 BS | W | 99GP0951 | N/A | N/A | 10/08/99 | 10/14/99 |
| BLK | MB1 BS C1 | W | 99GP0951 | N/A | N/A | 10/08/99 | 10/14/99 |

NY CERTIFICATION # 11006

STL Chicago
PAHs BY HPLC

RFW Batch Number: 9910G263 Client: AFC001-26H8A Work Order: 60025-001-001-0 Report Date: 10/28/99 16:14 Page: 1

| | Cust ID: | EB100699 | | WHGLTA010WG1 0 | | WHGLTA009WG1 0 | | WHGLTA009WG1 0 | | BLK | | BLK | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Sample Information | RFW#: | 002 | | 003 | | 007 | | 007 | | 99GP0951-MB1 | | 99GP0951-MB1 | |
| | Matrix: | WATER | | WATER | | WATER | | WATER | | WATER | | WATER | |
| | D.F.: | 1.0 | | 1.0 | | 1.0 | | 1.0 | | 1.0 | | 1.0 | |
| | Units: | ug/L | | ug/L | | ug/L | | ug/L CONFIRM | | ug/L | | ug/L CONFIRM | |
| Surrogate | Decafluorobiphenyl | 72 | % | 71 | % | 74 | % | 72 | % | 56 | % | 56 | % |
| | Benzo(e)pyrene | 98 | % | 97 | % | 93 | % | 92 | % | 99 | % | 100 | % |
| | | | fl | | fl | | fl | | fl | | fl | | fl |
| Naphthalene | | 17 | U | 18 | U | 17 | U | NA | | 18 | U | 18 | U |
| Acenaphthene | | 17 | U | 18 | U | 17 | U | NA | | 18 | U | 18 | U |
| Acenaphthylene | | 22 | U | 24 | U | 22 | U | NA | | 23 | U | 23 | U |
| Fluorene | | 2.0 | U | 2.2 | U | 2.0 | U | NA | | 2.1 | U | 2.1 | U |
| Phenanthrene | | 6.1 | U | 6.6 | U | 6.2 | U | NA | | 6.4 | U | 6.4 | U |
| Anthracene | | 6.3 | U | 6.8 | U | 0.029 | J | 0.024 | J | 6.6 | U | 6.6 | U |
| Fluoranthene | | 2.0 | U | 2.2 | U | 0.15 | J | 0.092 | J | 2.1 | U | 2.1 | U |
| Pyrene | | 2.6 | U | 2.8 | U | 2.6 | U | NA | | 2.7 | U | 2.7 | U |
| Benzo(a)anthracene | | 0.12 | U | 0.13 | U | 0.13 | U | NA | | 0.13 | U | 0.13 | U |
| Chrysene | | 1.4 | U | 1.5 | U | 1.4 | U | NA | | 1.5 | U | 1.5 | U |
| Benzo(b)fluoranthene | | 0.17 | U | 0.18 | U | 0.17 | U | NA | | 0.18 | U | 0.18 | U |
| Benzo(k)fluoranthene | | 0.16 | U | 0.18 | U | 0.16 | U | NA | | 0.17 | U | 0.17 | U |
| Benzo(a)pyrene | | 0.22 | U | 0.24 | U | 0.22 | U | NA | | 0.23 | U | 0.23 | U |
| Dibenzo(a,h)anthracene | | 0.28 | U | 0.31 | U | 0.29 | U | NA | | 0.30 | U | 0.30 | U |
| Benzo(g,h,i)perylene | | 0.72 | U | 0.78 | U | 0.74 | U | NA | | 0.76 | U | 0.76 | U |
| Indeno(1,2,3-cd)pyrene | | 0.41 | U | 0.44 | U | 0.42 | U | NA | | 0.43 | U | 0.43 | U |

U= Analyzed, not detected. J= Present below detection limit. B= Present in blank. NR= Not requested. NS= Not spiked.
%= Percent recovery. D= Diluted out. I= Interference. NA= Not Applicable. *= Outside of EPA CLP QC

STL Chicago
PAHs BY HPLC

Report Date: 10/28/99 16:14

RFW Batch Number: 9910G263 Client: AFC001-26HBA Work Order: 60025-001-001-0 Page: 2

| Sample Information | | | |
|---|---|---|---|
| | Cust ID: | BLK BS | BLK BS |
| | RFW#: | 99GP0951-MB1 | 99GP0951-MB1 |
| | Matrix: | WATER | WATER |
| | D.F.: | 1.0 | 1.0 |
| | Units: | ug/L | ug/L |
| | | | CONFIRM |
| Surrogate | Decafluorobiphenyl | 63 % | 65 % |
| | Benzo(e)pyrene | 99 % | 94 % |
| Naphthalene | | 81 % | 67 % |
| Acenaphthene | | 104 % | 103 % |
| Acenaphthylene | | 93 % | 95 % |
| Fluorene | | 96 % | 106 % |
| Phenanthrene | | 100 % | 104 % |
| Anthracene | | 99 % | 102 % |
| Fluoranthene | | 100 % | 97 % |
| Pyrene | | 119 % | 119 % |
| Benzo(a)anthracene | | 108 % | 109 % |
| Chrysene | | 112 % | 114 % |
| Benzo(b)fluoranthene | | 100 % | 102 % |
| Benzo(k)fluoranthene | | 106 % | 106 % |
| Benzo(a)pyrene | | 101 % | 98 % |
| Dibenzo(a,h)anthracene | | 59 % | 61 % |
| Benzo(g,h,i)perylene | | 78 % | 76 % |
| Indeno(1,2,3-cd)pyrene | | 106 % | 112 % |

U= Analyzed, not detected. J= Present below detection limit. B= Present in blank. NR= Not requested. NS= Not spiked.
%= Percent recovery. D= Diluted out. I= Interference. NA= Not Applicable. *= Outside of EPA CLP QC

Severn Trent Laboratories Chicago
PAH Case Narrative

AFC001-26HBA
RFW# 9910G263-002, 003 and 007
PAHs

1. Severn Trent Laboratories Chicago used the following HPLC system for analysis of polynuclear aromatic hydrocarbons:

| ID# | INSTRUMENT | COLUMN TYPE | DETECTOR |
|---|---|---|---|
| 25 | SpectraPhysics | C-18 PAH | UV - 254nm |
| 25 | SpectraPhysics | C-18 PAH | UV - 260nm |
| 26 | SpectraPhysics | C-18 PAH | Fluorescence |

2. These samples were extracted based on SW846 method 3510. The extracts were analyzed for PAHs (i.e. PNAs) based on SW846 method 8310 protocols.

3. All required holding times were met for the extraction and analysis.

4. The method blank was below the reporting limit for all target compounds.

5. The surrogate compounds used for this analysis were Decafluorobiphenyl and Benzo(e)pyrene. All surrogate recoveries were within control limits and are summarized on Form 2E.

6. All blank spike recoveries were within control limits and are summarized on Forms 3E.

7. A matrix spike and a matrix spike duplicate were not performed on this SDG.

8. All initial and continuing standard calibrations were within control limits with the following exceptions:

   SSV run 10/14/99 at 03:41 Benzo(b)fluoranthene biased low at 20.5% difference on the UV detector and biased low at 18.0% difference on the Fluorescence detector.

   CCV run 10/14/99 at 04:22 had Chrysene biased low at 18.0% difference on the Fluorescence detector.

   SSV run 10/26/99 at 16:47 had Benzo(b)fluoranthene biased low at 20.9% difference on the UV detector and biased low at 17.5% difference Fluorescence detector. Pyrene was biased high at 15.7% difference on the Fluorescence detector.

Some CCVs displayed a slight shift in retention times. The retention time shifts were taken into account during the data review.

9. All positive hits were confirmed using a second detector or using a second wavelength.

Linda S Mackley
Linda S. Mackley
Organics Section Manager

10-29-99
Date

Committed To *Your* Success

**Severn Trent Laboratories**
11 East Olive Road
Pensacola FL 32514

Tel (850) 474-1001
Fax (850) 478-2671

SIGNATURE PAGE

Reviewed by: _____
STL Project Manager

| | |
|---|---|
| Client: | STL/CHICAGO<br>UNIVERSITY PARK, IL |
| Project Name: | AFC001-26HBA |
| Project Number: | 9910G263 |
| Project Location: | NAS FT. WORTH, TX |
| Accession Number: | 910337 |
| Project Manager: | BOSCO RAMIREZ |
| Sampled By: | NICOLE HADE |

THIS IS A REVISED REPORT: December 19, 1999

643 658

Committed To Your Success

*SEVERN TRENT LABORATORIES, INC. - PENSACOLA, FLORIDA*
*STATE CERTIFICATIONS*

*Alabama Department of Environmental Management, Laboratory ID No. 40150 (Drinking Water by Reciprocity with FL)*

*Arizona Department of Health Services, Lab ID No. AZ0589 (Hazardous Waste & Wastewater)*

*Arkansas Department of Pollution Control and Ecology, (No Laboratory ID No. assigned by state) (Environmental)*

*State of California, Department of Health Services, Laboratory ID No. 2338 (Hazardous Waste and Wastewater)*

*State of Connecticut, Department of Health Services, Connecticut Lab Approval No. PH-0697 (Drinking Water, Hazardous Waste and Wastewater)*

*Delaware Health & Social Services, Division of Public Health, Laboratory ID No. FL094 (Drinking Water by Reciprocity with FL)*

*Florida DOH Laboratory ID No. 81142 (Drinking Water), Laboratory ID No. E81010 (Hazardous Waste and Wastewater)*

*Florida, Radioactive Materials License No. G0733-1*

*Foreign Soil Permit, Permit No. S-37599*

*Kansas Department of Health & Environment, Laboratory ID No. E10253 (Wastewater and Hazardous Waste)*

*Commonwealth of Kentucky, Natural Resources and Environmental Protection Cabinet, Laboratory ID No. 90043 (Drinking Water)*

*State of Louisiana, DHH, Office of Public Health Division of Laboratories, Laboratory ID No. 98-25 (Drinking Water)*

*State of Maryland, DH&MH Laboratory ID No. 233 (Drinking Water by Reciprocity with Florida)*

*Commonwealth of Massachusetts, DEP, Laboratory ID No. M-FL094 (Hazardous Waste and Wastewater)*

*State of Michigan, Bureau of E&OccH, Laboratory ID No.9912 (Drinking Water by Reciprocity with Florida)*

*New Hampshire DES, Laboratory ID No. 250598-A (Wastewater)*

*State of New Jersey, Department of Environmental Protection & Energy, Laboratory ID No. 49006 (Wastewate and Hazardous Waster)*

*New York State, Department of Health, Laboratory ID No. 11503 (Wastewater and Solids/Hazardous Waste)*

*North Carolina Department of Environment, Health, & Natural Resources, Laboratory ID No. 314 (Hazardous Waste and Wastewater)*

*North Dakota DH&Consol Labs, Laboratory ID No. R-108 (Hazardous Waste and Wastewater by Reciprocity with Florida)*

*State of Oklahoma, Oklahoma Department of Environmental Quality, Laboratory ID No. 9810 (Hazardous Waste and Wastewater)*

*Commonwealth of Pennsylvania, Department of Environmental Resources, Laboratory ID No. 68-467 (Drinking Water)*

*South Carolina DH&EC, Laboratory ID No. 96026 (Wastewater by Reciprocity with FL and Solids/Hazardous Waste by Reciprocity with CA)*

*Tennessee Department of Health & Environment, Laboratory ID No. 02907 (Drinking Water)*

*Tennessee Division of Underground Storage Tanks Approved Laboratory*

*Virginia Department of General Services, Laboratory ID No. 00008 (Drinking Water by Reciprocity with FL)*

*State of Washington, Department of Ecology, Laboratory ID No. C282 (Hazardous Waste and Wastewater)*

*West Virginia Division of Environmental Protection, Office of Water Resources, Laboratory ID No. 136 (Hazardous Waste and Wastewate. Reciprocity with FL)*

*American Industrial Hygiene Association (AIHA) Accredited Laboratory, Laboratory ID No. 100704*

SEVERN TRENT LABORATORIES 11 East Olive Road Pensacola, Florida 32514 (850) 474-1001

# Analysis Report

Analysis: DISSOLVED METHANE

| | |
|---|---|
| Accession: | 910337 |
| Client: | STL/CHICAGO |
| Project Number: | 9910G263 |
| Project Name: | AFC001-26HBA |
| Project Location: | NAS FT. WORTH, TX |
| Department: | SEMI-VOLATILE FUELS |

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SEVERN TRENT LABORATORIES 11 East Olive Road Pensacola, Florida 32514 (850) 474-1001



"FINAL REPORT FORMAT - SINGLE"

Accession: 910337
Client: STL/CHICAGO
Project Number: 9910G263
Project Name: AFC001-26HBA
Project Location: NAS FT. WORTH, TX
Test: DISSOLVED METHANE
Analysis Method: RSK 175
Extraction Method: N/A
Matrix: WATER
QC Level: N

Lab Id: 001
Client Sample Id: WHGLTA010WG10
Sample Date/Time: 06-OCT-99 1120
Received Date: 08-OCT-99

Batch: GEW325
Blank: A
Dry Weight %: N/A
Extraction Date: N/A
Analysis Date: 18-OCT-99

| Parameter: | Units: | Results: | Rpt Lmts: | Q: |
|---|---|---|---|---|
| METHANE | UG/L | 2311.73 | 1 | |
| ETHANE | UG/L | 0.2200 | 1 | |
| ETHENE | UG/L | 0.1300 | 1 | |
| ANALYST | INITIALS | AHT | | |

Comments:

SEVERN TRENT LABORATORIES 11 East Olive Road Pensacola, Florida 32514 (850) 474-1001



"FINAL REPORT FORMAT - SINGLE"

Accession: 910337
Client: STL/CHICAGO
Project Number: 9910G263
Project Name: AFC001-26HBA
Project Location: NAS FT. WORTH, TX
Test: DISSOLVED METHANE
Analysis Method: RSK 175
Extraction Method: N/A
Matrix: WATER
QC Level: N

Lab Id: 004
Client Sample Id: WHGLTA009WG10
Sample Date/Time: 06-OCT-99 1440
Received Date: 08-OCT-99

Batch: GEW325
Blank: A
Dry Weight %: N/A
Extraction Date: N/A
Analysis Date: 18-OCT-99

| Parameter: | Units: | Results: | Rpt Lmts: | Q: |
|---|---|---|---|---|
| METHANE | UG/L | 870.0100 | 1 | |
| ETHANE | UG/L | 0.0500 | 1 | |
| ETHENE | UG/L | 0.0900 | 1 | |
| ANALYST | INITIALS | AHT | | |

Comments:

643 662

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"FINAL REPORT FORMAT - SINGLE"

Accession: 910337
Client: STL/CHICAGO
Project Number: 9910G263
Project Name: AFC001-26HBA
Project Location: NAS FT. WORTH, TX
Test: DISSOLVED METHANE
Analysis Method: RSK 175
Extraction Method: N/A
Matrix: WATER
QC Level: N

Lab Id: 005
Client Sample Id: WP07-10CWG10
Sample Date/Time: 06-OCT-99 1550
Received Date: 08-OCT-99

Batch: GEW325
Blank: A
Dry Weight %: N/A
Extraction Date: N/A
Analysis Date: 18-OCT-99

| Parameter: | Units: | Results: | Rpt Lmts: | Q: |
|---|---|---|---|---|
| METHANE | UG/L | 724.7200 | 1 | |
| ETHANE | UG/L | 0.2500 | 1 | |
| ETHENE | UG/L | 0.3000 | 1 | |
| ANALYST | INITIALS | AHT | | |

Comments:

SEVERN TRENT LABORATORIES 11 East Olive Road Pensacola, Florida 32514 (850) 474-1001



"FINAL REPORT FORMAT - SINGLE"

Accession: 910337
Client: STL/CHICAGO
Project Number: 9910G263
Project Name: AFC001-26HBA
Project Location: NAS FT. WORTH, TX
Test: DISSOLVED METHANE
Analysis Method: RSK 175
Extraction Method: N/A
Matrix: WATER
QC Level: N

Lab Id: 006
Client Sample Id: DUP06
Sample Date/Time: 06-OCT-99 1555
Received Date: 08-OCT-99

Batch: GEW325
Blank: A
Dry Weight %: N/A
Extraction Date: N/A
Analysis Date: 18-OCT-99

| Parameter: | Units: | Results: | Rpt Lmts: | Q: |
|---|---|---|---|---|
| METHANE | UG/L | 667.5300 | 1 | |
| ETHANE | UG/L | 0.2300 | 1 | |
| ETHENE | UG/L | 0.3000 | 1 | |
| ANALYST | INITIALS | AHT | | |

Comments:

643 664

SEVERN TRENT LABORATORIES 11 East Olive Road Pensacola, Florida 32514 (850) 474-1001



"FINAL REPORT FORMAT - SINGLE"

Accession: 910337
Client: STL/CHICAGO
Project Number: 9910G263
Project Name: AFC001-26HBA
Project Location: NAS FT. WORTH, TX
Test: DISSOLVED METHANE
Analysis Method: RSK 175
Extraction Method: N/A
Matrix: WATER
QC Level: N

Lab Id: 007
Client Sample Id: EB100699
Sample Date/Time: 06-OCT-99 1215
Received Date: 08-OCT-99

Batch: GEW325
Blank: A
Dry Weight %: N/A
Extraction Date: N/A
Analysis Date: 18-OCT-99

| Parameter: | Units: | Results: | Rpt Lmts: | Q: |
|---|---|---|---|---|
| METHANE | UG/L | 0.1800 | 1 | |
| ETHANE | UG/L | ND | 1 | |
| ETHENE | UG/L | ND | 1 | |
| ANALYST | INITIALS | AHT | | |

Comments:

SEVERN TRENT LABORATORIES 11 East Olive Road Pensacola, Florida 32514 (850) 474-1001



"FINAL REPORT FORMAT - SINGLE"

Accession: 910337
Client: STL/CHICAGO
Project Number: 9910G263
Project Name: AFC001-26HBA
Project Location: NAS FT. WORTH, TX
Test: DISSOLVED METHANE
Analysis Method: RSK 175
Extraction Method: N/A
Matrix: WATER
QC Level: N

Lab Id: 008
Client Sample Id: TB100699
Sample Date/Time: 06-OCT-99 0710
Received Date: 08-OCT-99

Batch: GEW325
Blank: A
Dry Weight %: N/A
Extraction Date: N/A
Analysis Date: 18-OCT-99

| Parameter: | Units: | Results: | Rpt Lmts: | Q: |
|---|---|---|---|---|
| METHANE | UG/L | 0.1200 | 1 | |
| ETHANE | UG/L | 0.0200 | 1 | |
| ETHENE | UG/L | ND | 1 | |
| ANALYST | INITIALS | AHT | | |

Comments:

SEVERN TRENT LABORATORIES 11 East Olive Road Pensacola, Florida 32514 (850) 474-1001



"Method Report Summary"

Accession Number: 910337
Client: STL/CHICAGO
Project Number: 9910G263
Project Name: AFC001-26HBA
Project Location: NAS FT. WORTH, TX
Test: DISSOLVED METHANE

| Client Sample Id: | Parameter: | Unit: | Result: |
|---|---|---|---|
| WHGLTA010WG10 | METHANE | UG/L | 2311.73 |
| | ETHANE | UG/L | 0.2200 |
| | ETHENE | UG/L | 0.1300 |
| LF040CWG10 | METHANE | UG/L | 280.4900 |
| | ETHANE | UG/L | 0.5300 |
| | ETHENE | UG/L | 0.1000 |
| WITCTA044WG10 | METHANE | UG/L | 0.1300 |
| WHGLTA009WG10 | METHANE | UG/L | 870.0100 |
| | ETHANE | UG/L | 0.0500 |
| | ETHENE | UG/L | 0.0900 |
| WP07-10CWG10 | METHANE | UG/L | 724.7200 |
| | ETHANE | UG/L | 0.2500 |
| | ETHENE | UG/L | 0.3000 |
| DUP06 | METHANE | UG/L | 667.5300 |
| | ETHANE | UG/L | 0.2300 |
| | ETHENE | UG/L | 0.3000 |
| EB100699 | METHANE | UG/L | 0.1800 |
| TB100699 | METHANE | UG/L | 0.1200 |
| | ETHANE | UG/L | 0.0200 |

SEVERN TRENT LABORATORIES 11 East Olive Road Pensacola, Florida 32514 (850) 474-1001



Common Notation for Organic Reporting

N/S = NOT SUBMITTED
N/A = NOT APPLICABLE
UG = MICROGRAMS
UG/L = PARTS PER BILLION
UG/KG = PARTS PER BILLION
MG/M3 = MILLIGRAM PER CUBIC METER
PPMV = PART PER MILLION BY VOLUME
MG/KG = PARTS PER MILLION
MG/L = PARTS PER MILLION
< = LESS THAN
ND = NOT DETECTED AT OR ABOVE THE STL-PENSACOLA REPORTING LIMIT (RL).
E = EXCEED THE CALIBRATION CURVE; THEREFORE, RESULTS ARE ESTIMATED.

SOURCES FOR CONTROL LIMITS ARE INTERNAL LABORATORY QUALITY ASSURANCE PROGRAM AND REFERENCED METHOD.

ORGANIC SOILS ARE REPORTED ON A DRYWEIGHT BASIS.

RPT LMTS = REPORTING LIMITS BASED ON METHOD DETECTION LIMIT STUDIES.

RPD = RELATIVE PERCENT DIFFERENCE (OR DEVIATION)

STL/GC/FID
STL GAS CHROMATOGRAPHIC METHOD EMPLOYING DIRECT INJECTION ON COLUMN WITH FLAME IONIZATION DETECTOR (FID).

STL/GC/FIX
STL GAS CHROMATOGRAPHIC METHOD FOR ANALYSIS OF FIXED GASES EMPLOYING DIRECT INJECTION ON COLUMN WITH THERMAL CONDUCTIVITY DETECTOR (TCD) AND FLAME IONIZATION DETECTOR (FID).

C/FPD
STL GAS CHROMATOGRAPHIC METHOD EMPLOYING DIRECT INJECTION ON COLUMN WITH FLAME PHOTOMETRIC DETECTOR (FPD) IN SULFUR-SPECIFIC MODE.

STL/GC/PID
STL GAS CHROMATOGRAPHIC METHOD EMPLOYING DIRECT INJECTION ON COLUMN WITH PHOTOIONIZATION DETECTOR (PID).

STL/GC/TCD
STL GAS CHROMATOGRAPHIC METHOD EMPLOYING DIRECT INJECTION ON COLUMN WITH THERMAL CONDUCTIVITY DETECTOR (TCD).

SW-846 METHOD 9020
PARTICULATE MATTER IS REMOVED BY ALLOWING PARTICULATES TO SETTLE IN THE SAMPLE CONTAINER AND DECANTING THE SUPERNATANT LIQUID. EXCESSIVE PARTICULATES ARE REMOVED BY FILTRATION OF THE SUPERNATANT LIQUID.

RSK 175
SAMPLE PREPARATION AND CALCULATIONS FOR DISSOLVED GAS ANALYSIS IN WATER SAMPLES USING A GC HEADSPACE EQUILIBRATION TECHNIQUE, RSK SOP-175, ROBERT S. KERR ENVIRONMENTAL RESEARCH LABORATORY, USEPA, AUGUST 11, 1994.

STL-PN USES THE MOST CURRENT PROMULGATED METHODS CONTAINED IN THE REFERENCE MANUALS.

SW = STEVE WILHITE
RP = ROB PEREZ
RW = RITA WINGO
WEM = WARREN MILBRANDT
PLD = PAULA DOUGHTY
AHT = AUBURN H. THOMPSON, JR.
MG = MARY GUTIERREZ
KA = KIM AYERS
SB = STEPHANIE BUBIEN
BT = BECKY TREMMEL
HAH = HOLLIE HOFFMAN
LFB = LISA BRASCH

643 668

SEVERN TRENT LABORATORIES 11 East Olive Road Pensacola, Florida 32514 (850) 474-1001

# Analysis Report

Analysis: TNRCC TEXAS METHOD 1005 - TOTAL PETROLEUM HYDROCARBONS

| | |
|---|---|
| Accession: | 910337 |
| Client: | STL/CHICAGO |
| Project Number: | 9910G263 |
| Project Name: | AFC001-26HBA |
| Project Location: | NAS FT. WORTH, TX |
| Department: | SEMI-VOLATILE FUELS |

SEVERN TRENT LABORATORIES 11 East Olive Road Pensacola, Florida 32514 (850) 474-1001



"FINAL REPORT FORMAT - SINGLE"

Accession: 910337
Client: STL/CHICAGO
Project Number: 9910G263
Project Name: AFC001-26HBA
Project Location: NAS FT. WORTH, TX
Test: TNRCC TEXAS METHOD 1005 - TOTAL PETROLEUM HYDROCARBONS
Analysis Method: TNRCC Method 1005 (Rev. 4/98)
Extraction Method: TNRCC Method 1005 (Rev. 4/98)
Matrix: WATER
QC Level: IIMS

Lab Id: 001
Client Sample Id: WHGLTA010WG10
Sample Date/Time: 06-OCT-99 1120
Received Date: 08-OCT-99

Batch: GEW327
Blank: A
Dry Weight %: N/A
Extraction Date: 18-OCT-99
Analysis Date: 20-OCT-99

| Parameter: | Units: | Results: | Rpt Lmts: | Q: |
|---|---|---|---|---|
| C6-C10 | MG/L | 5.7360 | 5 | |
| >C10-C28 | MG/L | 6.8680 | 5 | |
| C6-C28 | MG/L | 12.6040 | 5 | |
| ORTHO TER PHENYL | %REC/SURR | 120 | 50-150 | |
| ANALYST | INITIALS | HAH | | |

Comments:
Extraction Time: 14:30
Analysis Time: 04:31

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SEVERN TRENT LABORATORIES 11 East Olive Road Pensacola, Florida 32514 (850) 474-1001



"FINAL REPORT FORMAT - SINGLE"

Accession: 910337
Client: STL/CHICAGO
Project Number: 9910G263
Project Name: AFC001-26HBA
Project Location: NAS FT. WORTH, TX
Test: TNRCC TEXAS METHOD 1005 - TOTAL PETROLEUM HYDROCARBONS
Analysis Method: TNRCC Method 1005 (Rev. 4/98)
Extraction Method: TNRCC Method 1005 (Rev. 4/98)
Matrix: WATER
QC Level: IIMS

Lab Id: 004 Sample Date/Time: 06-OCT-99 1440
Client Sample Id: WHGLTA009WG10 Received Date: 08-OCT-99

Batch: GEW327 Extraction Date: 18-OCT-99
Blank: A Dry Weight %: N/A Analysis Date: 20-OCT-99

| Parameter: | Units: | Results: | Rpt Lmts: | Q: |
|---|---|---|---|---|
| C6-C10 | MG/L | 4.8760 | 5 | |
| >C10-C28 | MG/L | 5.0160 | 5 | |
| C6-C28 | MG/L | 9.8920 | 5 | |
| ORTHO TER PHENYL | %REC/SURR | 102 | 50-150 | |
| ANALYST | INITIALS | HAH | | |

Comments:
Extraction Time: 14:30
Analysis Time: 05:37

SEVERN TRENT LABORATORIES 11 East Olive Road Pensacola, Florida 32514 (850) 474-1001



"FINAL REPORT FORMAT - SINGLE"

Accession: 910337
Client: STL/CHICAGO
Project Number: 9910G263
Project Name: AFC001-26HBA
Project Location: NAS FT. WORTH, TX
Test: TNRCC TEXAS METHOD 1005 - TOTAL PETROLEUM HYDROCARBONS
Analysis Method: TNRCC Method 1005 (Rev. 4/98)
Extraction Method: TNRCC Method 1005 (Rev. 4/98)
Matrix: WATER
QC Level: IIMS

Lab Id: 007
Client Sample Id: EB100699
Sample Date/Time: 06-OCT-99 1215
Received Date: 08-OCT-99

Batch: GEW327
Blank: A
Dry Weight %: N/A
Extraction Date: 18-OCT-99
Analysis Date: 20-OCT-99

| Parameter: | Units: | Results: | Rpt Lmts: | Q: |
|---|---|---|---|---|
| C6-C10 | MG/L | 82.8900 | 5 | |
| >C10-C28 | MG/L | 101.8350 | 5 | |
| C6-C28 | MG/L | 184.7250 | 5 | |
| ORTHO TER PHENYL | %REC/SURR | 126 | 50-150 | |
| ANALYST | INITIALS | HAH | | |

Comments:
Extraction Time: 14:30
Analysis Time: 06:46

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SEVERN TRENT LABORATORIES 11 East Olive Road Pensacola, Florida 32514 (850) 474-1001



"Method Report Summary"

Accession Number: 910337
Client: STL/CHICAGO
Project Number: 9910G263
Project Name: AFC001-26HBA
Project Location: NAS FT. WORTH, TX
Test: TNRCC TEXAS METHOD 1005 - TOTAL PETROLEUM HYDROCARBONS

| Client Sample Id: | Parameter: | Unit: | Result: |
|---|---|---|---|
| WHGLTA010WG10 | C6-C10 | MG/L | 5.7360 |
| | >C10-C28 | MG/L | 6.8680 |
| | C6-C28 | MG/L | 12.6040 |
| WHGLTA009WG10 | C6-C10 | MG/L | 4.8760 |
| | >C10-C28 | MG/L | 5.0160 |
| | C6-C28 | MG/L | 9.8920 |
| EB100699 | C6-C10 | MG/L | 82.8900 |
| | >C10-C28 | MG/L | 101.8350 |
| | C6-C28 | MG/L | 184.7250 |

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Severn Trent Laboratories, Inc
Pensacola, FL 32514
Tel. (850) 474-1001
Fax. (850) 478-2671

limited to Your Success

# Data Qualifiers for Final Report

STL-Pensacola Inorganic/Organic and AFCEE Projects (under QAPP)

| | | |
|---|---|---|
| J4 | (For positive results) | Temperature limits exceeded (<2°C or > 6°C) |
| J5 | (TICs) | The reported value is quantitated as a TIC: therefore, it is estimated |
| J6 | (For positive results) | LCS or Surrogate %R is > upper control limit (UCL) or < lower control limit (LCL) |
| J7 | (For positive results) | The reported value is > the laboratory MDL and < lowest calibration standards: therefore, the quantitation is an estimation. |
| J (AFCEE description) | The analyte was positively identified, the quantitation is an estimation | |
| R1 | (For nondetects) | Temperature limits exceeded (<2°C or > 6°C) |
| R2 | Improper preservation, no preservative present in sample upon receipt | |
| R3 | Improper preservation, incorrect preservative present in sample upon receipt | |
| R4 | Holding time exceeded | |
| R10 | Holding time exceeded, non-reportable for NDPES compliance monitoring | |
| R5 | Collection requirements not met, improper container used for sample | |
| R6 | LCS or surrogate %R is < LCL and analyte is not detected or surrogate %R is < 10% for detects/nondetects | |
| R7 | Internal standard area outside –50% to +100% of initial calibration midpoint standard. | |
| R8 | Initial calibration or any calibration verification exceeds acceptance criteria. | |
| R9 | Improper preservation, sample not filtered in the field. | |
| R (AFCEE description) | The data are unusable due to deficiencies in the ability to analyze the sample and meet QC criteria | |
| F | < laboratory or AFCEE RL and > laboratory MDL | |
| F (AFCEE description) | The analyte was positively identified but the associated numerical value is below the AFCEE or lab RL | |
| U2 | ≤ Laboratory MDL (value for result will be the MDL, never below the MDL) | |
| U (AFCEE description) | The analyte was analyzed for but not detected. The associated numerical value is at or below the MDL | |
| B (AFCEE description) | The analyte was found in the associated blank, as well as in the sample | |
| B1 | Analyte was detected in the associated method blank. | |
| @ | Adjusted reporting limit due to sample matrix (dilution prior to digestion and/or analysis) | |
| + | Elevated reporting limit due to dilution into calibration range | |
| * (Metals & Wet Chem) | Elevated reporting limit due to matrix interference (dilution prior to digestion and/or analysis) | |
| ** (Organics) | Compounds flagged are not within the five point initial calibration curve. They are searched for qualitatively or as TICs. | |
| | Elevated reporting limit due to insufficient sample size | |
| | Diluted out | |
| M | A matrix effect was present (sample was analyzed twice to confirm or chromatogram had interfering peaks) | |
| S | Incorrect sample amount was submitted to the laboratory for analysis | |
| T | Second-column confirmation exceeded the SW-846 criteria of 40% RPD for this compound. | |
| TIC | Samples are searched for qualitatively as Tentatively Identified Compounds. | |
| E | Compound concentration exceeds the upper calibration range of the instrument. | |
| W | Post-digestion spike for Furnace AA is out of control limits (85-115%), while sample absorbance is less than 50% spike absorbance. | |

ND = Not Detected at or above the STL-Pensacola reporting limit (RL)
IDL = Laboratory Instrument Detection Limit
RL = Reporting Limit (AFCEE RLs are listed in the AFCEE QAPP)
N/S = Not Submitted
N/A = Not Applicable
MDL = Laboratory Method Detection Limit

Any time a sample arrives at the laboratory improperly preserved (at improper pH or temperature) or after holding time has expired or prepared or analyzed after holding time, client must be notified in writing (i.e. case narrative)

Florida Projects Inorganic/Organic

| | |
|---|---|
| Y1 | Improper preservation, no preservative present in sample upon receipt |
| Y2 | Improper preservation, incorrect preservative present in sample upon receipt |
| Y3 | Improper preservation, sample temperature exceeded EPA temperature limits of 2-6°C upon receipt |
| Y (FL description) | The analysis was from an unpreserved or improperly preserved sample. Data may not be accurate |
| Q | Sample held beyond the accepted holding time |
| I | The reported value is < Laboratory RL and > laboratory MDL |
| U1 | The reported value is ≤ Laboratory MDL (value for sample result is reported as the MDL) |
| U (FL description) | Indicates the compound was analyzed for but not detected |
| T | The reported value is < Laboratory MDL (value shall not be used for statistical analysis) |
| V | The analyte was detected in both the sample and the associated method blank |
| J1 | Surrogate recovery outside acceptance limits. Not enough sample available to reextract and/or reanalyze. |
| J2 | The sample matrix interfered with the ability to make any accurate determinations |
| J3 | The reported value failed to meet the established quality control criteria for either precision or accuracy |
| J (FL description) | Estimated value; not accurate |

CLP and CLP-like Projects: Refer to referenced CLP Statement of Work (SOW) for explanation of data qualifiers.

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SEVERN TRENT LABORATORIES 11 East Olive Road Pensacola, Florida 32514 (850) 474-1001

# Quality Control Report

Analysis: DISSOLVED METHANE

| | |
|---|---|
| Accession: | 910337 |
| Client: | STL/CHICAGO |
| Project Number: | 9910G263 |
| Project Name: | AFC001-26HBA |
| Project Location: | N/S |
| Department: | SEMI-VOLATILE FUELS |

BLANK ANALYSIS

DATE: 18-OCT-99

METHOD: RSK 175

BATCH: GEW325

| COMPOUND | UNITS | REPORTING LIMIT | RESULT |
|---|---|---|---|
| METHANE | UG/L | 1 | ND |
| ETHENE | UG/L | 1 | ND |
| ETHANE | UG/L | 1 | ND |

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CONTINUING CALIBRATION

DATE: 18-OCT-99

METHOD: RSK 175

BATCH: GEW325

| COMPOUND | AMT (IC) | AMT (CC) | %D | QC LIMITS |
|---|---|---|---|---|
| METHANE | 25.0 | 29.2 | 8 | 20 |
| ETHENE | 25.0 | 29.2 | 8 | 20 |
| ETHANE | 25.0 | 29.4 | 8 | 20 |

SOURCE FOR CONTROL LIMIT IS INTERNAL LABORATORY QUALITY ASSURANCE PROGRAM AND RSK 175.

DUPLICATE SAMPLE ANALYSIS

DATE: 18-OCT-99

METHOD: RSK 175

LAB SAMPLE #: 910337-1

BATCH: GEW325

| COMPOUND | SAMPLE RESULT | DUPLICATE RESULT | %RPD | QC LIMITS |
|---|---|---|---|---|
| METHANE | 2311.7300 | 2243.8700 | 3 | 50 |
| ETHANE | 0.2200 | 0.1000 | NC | 50 |
| ETHENE | 0.1300 | 0.0300 | NC | 50 |

ALL RESULTS REPORTED IN UG/L.

ND = NOT DETECTED
NC = NOT CALCULABLE

SOURCE FOR CONTROL LIMIT IS INTERNAL LABORATORY QUALITY ASSURANCE PROGRAM AND RSK 175.

CHECK STANDARD (POST-RUN)

DATE: 18-OCT-99

METHOD: RSK 175

BATCH: GEW325

| COMPOUND | AMT(CC) | AMT (PS) | %D | QC LIMITS |
|---|---|---|---|---|
| METHANE | 25.0 | 26.3 | 3 | 20 |
| ETHENE | 25.0 | 26.1 | 2 | 20 |
| ETHANE | 25.0 | 26.3 | 3 | 20 |

SOURCE FOR CONTROL LIMIT IS INTERNAL LABORATORY QUALITY ASSURANCE PROGRAM AND RSK 175.

SEVERN TRENT LABORATORIES 11 East Olive Road Pensacola, Florida 32514 (850) 474-1001

# Quality Control Report

Analysis: TNRCC TEXAS METHOD 1005 - TOTAL PETROLEUM HYDROCARBONS

| | |
|---|---|
| Accession: | 910337 |
| Client: | STL/CHICAGO |
| Project Number: | 9910G263 |
| Project Name: | AFC001-26HBA |
| Project Location: | NAS FT. WORTH, TX |
| Department: | SEMI-VOLATILE FUELS |

643 680

SEVERN TRENT LABORATORIES 11 East Olive Road Pensacola, Florida 32514 (850) 474-1001


Date 19-Dec-99

"QC Report"

Title: Water Blank
Batch: GEW327
Analysis Method: TNRCC Method 1005 (Rev. 4/98)
Extraction Method: TNRCC Method 1005 (Rev. 4/98)

Blank Id: A Date Analyzed: 19-OCT-99 Date Extracted: 18-OCT-99

| Parameters: | Units: | Results: | Reporting Limits: |
|---|---|---|---|
| C6-C10 | MG/L | 3.5180 | 5 |
| >C10-C28 | MG/L | 0.4450 | 5 |
| C6-C28 | MG/L | 3.9630 | 5 |
| ORTHO TER PHENYL | %REC/SURR | 84 | 50-150 |
| ANALYST | INITIALS | HAH | |

Comments:

SEVERN TRENT LABORATORIES 11 East Olive Road Pensacola, Florida 32514 (850) 474-1001



"QC Report"

Title: Water LCS
Batch: GEW327
Analysis Method: TNRCC Method 1005 (Rev. 4/98)
Extraction Method: TNRCC Method 1005 (Rev. 4/98)

RS Date Analyzed: 19-OCT-99 RS Date Extracted: 18-OCT-99

| Parameters: | Spike Added | Sample Conc | RS Conc | RS %Rec | Rec Lmts |
|---|---|---|---|---|---|
| C6-C10 | 10.0 | <5 | 10.0 | 100 | 70-130 |
| >C10-C28 | 10.0 | <5 | 7.4 | 74 | 70-130 |
| C6-C28 | 20.0 | <5 | 17.4 | 87 | 70-130 |
| Surrogates: | | | | | |
| ORTHO TER PHENYL (OTP) | | | | 85 | 50-150 |

Comments:

Notes:
N/S = NOT SUBMITTED N/A = NOT APPLICABLE D = DILUTED OUT
MG/KG = PARTS PER MILLION. < = LESS THAN REPORTING LIMIT.
* = VALUES OUTSIDE OF QUALITY CONTROL LIMITS.
SOURCES FOR CONTROL LIMITS ARE INTERNAL LABORATORY QUALITY ASSURANCE PROGRAM AND REFERENCED METHOD.

643 682

SEVERN TRENT LABORATORIES 11 East Olive Road Pensacola, Florida 32514 (850) 474-1001



"QC Report"

Title: Water Matrix Spike/Matrix Spike Duplicate
Batch: GEW327
Analysis Method: TNRCC Method 1005 (Rev. 4/98)
Extraction Method: TNRCC Method 1005 (Rev. 4/98)

Dry Weight %: N/A
Sample Spiked: 910305-11

MS Date Analyzed: 19-OCT-99
MSD Date Analyzed: 19-OCT-99

MS Date Extracted: 18-OCT-99
MSD Date Extracted: 18-OCT-99

| Parameters: | Spike Added | Sample Conc | MS Conc | MS %Rec | MSD Conc | MSD %Rec | RPD | RPD Lmts | Rec Lmts |
|---|---|---|---|---|---|---|---|---|---|
| C6-C10 | 10.0 | <5 | 8.4 | 84 | 10.3 | 103 | 20 | 30 | 70-130 |
| >C10-C28 | 10.0 | <5 | 7.7 | 77 | 8.5 | 85 | 10 | 30 | 70-130 |
| C6-C28 | 20.0 | <5 | 16.1 | 81 | 18.8 | 94 | 15 | 30 | 70-130 |
| Surrogates: | | | | | | | | | |
| ORTHO TER PHENYL (OTP) | | | | 79 | | 99 | | | 50-150 |

Comments:

Notes:
N/S = NOT SUBMITTED N/A = NOT APPLICABLE D = DILUTED OUT
MG/KG = PARTS PER MILLION. < = LESS THAN REPORTING LIMIT.
* = VALUES OUTSIDE OF QUALITY CONTROL LIMITS.
SOURCES FOR CONTROL LIMITS ARE INTERNAL LABORATORY QUALITY ASSURANCE PROGRAM AND REFERENCED METHOD.

SEVERN TRENT LABORATORIES 11 East Olive Road Pensacola, Florida 32514 (850) 474-1001



"QC Report"

Title: Water Matrix Spike/Matrix Spike Duplicate
Batch: GEW327
Analysis Method: TNRCC Method 1005 (Rev. 4/98)
Extraction Method: TNRCC Method 1005 (Rev. 4/98)

Dry Weight %: N/A
Sample Spiked: 910337-1

MS Date Analyzed: 20-OCT-99
MSD Date Analyzed: 20-OCT-99

MS Date Extracted: 18-OCT-99
MSD Date Extracted: 18-OCT-99

| Parameters: | Spike Added | Sample Conc | MS Conc | MS %Rec | MSD Conc | MSD %Rec | RPD | RPD Lmts | Rec Lmts |
|---|---|---|---|---|---|---|---|---|---|
| C6-C10 | 10.0 | 6.0 | 8.0 | 20* | 9.1 | 31* | 43* | 30 | 70-130 |
| >C10-C28 | 10.0 | 7.0 | 5.0 | -20* | 7.0 | 0* | 200* | 30 | 70-130 |
| C6-C28 | 20.0 | 13.0 | 13.0 | 0* | 16.1 | 16* | 200* | 30 | 70-130 |
| Surrogates: | | | | | | | | | |
| ORTHO TER PHENYL (OTP) | | | | 93 | | 98 | | | 50-150 |

Comments:
MATRIX SPIKE/MATRIX SPIKE DUPLICATE HAD RECOVERY(S) AND/OR RPD(S) OUTSIDE ACCEPTANCE LIMITS DUE TO MATRIX INTERFERENCE. REFER TO LCS DATA.

Notes:
N/S = NOT SUBMITTED N/A = NOT APPLICABLE D = DILUTED OUT
MG/KG = PARTS PER MILLION. < = LESS THAN REPORTING LIMIT.
* = VALUES OUTSIDE OF QUALITY CONTROL LIMITS.
SOURCES FOR CONTROL LIMITS ARE INTERNAL LABORATORY QUALITY ASSURANCE PROGRAM AND REFERENCED METHOD.

SEVERN TRENT LABORATORIES 11 East Olive Road Pensacola, Florida 32514 (850) 474-1001



Common Notation for Organic Reporting

I/S = NOT SUBMITTED
I/A = NOT APPLICABLE
JG = MICROGRAMS
JG/L = PARTS PER BILLION
JG/KG = PARTS PER BILLION
MG/M3 = MILLIGRAM PER CUBIC METER
PPMV = PART PER MILLION BY VOLUME
MG/KG = PARTS PER MILLION
MG/L = PARTS PER MILLION
< = LESS THAN
ND = NOT DETECTED AT OR ABOVE THE STL-PENSACOLA REPORTING LIMIT (RL).
E = EXCEED THE CALIBRATION CURVE; THEREFORE, RESULTS ARE ESTIMATED.

SOURCES FOR CONTROL LIMITS ARE INTERNAL LABORATORY QUALITY ASSURANCE PROGRAM AND REFERENCED METHOD.

ORGANIC SOILS ARE REPORTED ON A DRYWEIGHT BASIS.

RPT LMTS = REPORTING LIMITS BASED ON METHOD DETECTION LIMIT STUDIES.

RPD = RELATIVE PERCENT DIFFERENCE (OR DEVIATION)

STL/GC/FID
STL GAS CHROMATOGRAPHIC METHOD EMPLOYING DIRECT INJECTION ON COLUMN WITH FLAME IONIZATION DETECTOR (FID).

STL/GC/FIX
STL GAS CHROMATOGRAPHIC METHOD FOR ANALYSIS OF FIXED GASES EMPLOYING DIRECT INJECTION ON COLUMN WITH THERMAL CONDUCTIVITY DETECTOR (TCD) AND FLAME IONIZATION DETECTOR (FID).

STL/GC/FPD
STL GAS CHROMATOGRAPHIC METHOD EMPLOYING DIRECT INJECTION ON COLUMN WITH FLAME PHOTOMETRIC DETECTOR (FPD) IN SULFUR-SPECIFIC MODE.

STL/GC/PID
STL GAS CHROMATOGRAPHIC METHOD EMPLOYING DIRECT INJECTION ON COLUMN WITH PHOTOIONIZATION DETECTOR (PID).

STL/GC/TCD
STL GAS CHROMATOGRAPHIC METHOD EMPLOYING DIRECT INJECTION ON COLUMN WITH THERMAL CONDUCTIVITY DETECTOR (TCD).

SW-846 METHOD 9020
PARTICULATE MATTER IS REMOVED BY ALLOWING PARTICULATES TO SETTLE IN THE SAMPLE CONTAINER AND DECANTING THE SUPERNATANT LIQUID. EXCESSIVE PARTICULATES ARE REMOVED BY FILTRATION OF THE SUPERNATANT LIQUID.

RSK 175
SAMPLE PREPARATION AND CALCULATIONS FOR DISSOLVED GAS ANALYSIS IN WATER SAMPLES USING A GC HEADSPACE EQUILIBRATION TECHNIQUE, RSK SOP-175, ROBERT S. KERR ENVIRONMENTAL RESEARCH LABORATORY, USEPA, AUGUST 11, 1994.

STL-PN USES THE MOST CURRENT PROMULGATED METHODS CONTAINED IN THE REFERENCE MANUALS.

SW = STEVE WILHITE
RP = ROB PEREZ
RW = RITA WINGO
WEM = WARREN MILBRANDT
PLD = PAULA DOUGHTY
AHT = AUBURN H. THOMPSON, JR.
MG = MARY GUTIERREZ
KA = KIM AYERS
SB = STEPHANIE BUBIEN
BT = BECKY TREMMEL
HAH = HOLLIE HOFFMAN
LFB = LISA BRASCH

643 685

NOV 1 1 '99

Committed To *Your* Success

November 10, 1999

**Severn Trent Laboratories**
2417 Bond Street
University Park, IL 60466

Tel. (708) 534-5200
Fax. (708) 534-5211
www stl-inc.com

Ms. Lynn Morgan
HydroGeoLogic, Inc.
1155 Herndon Parkway, Suite 900
Herndon, VA 20170

RE: AFC001-26HBA
Analytical Report & EDD
Lot 9910G283

Dear Ms. Morgan:

The enclosed analytical report is for the project and lot number listed above. If you have any questions, please contact me at 708-534-5200.

Sincerely,
Severn Trent Laboratories

Bosco Ramirez
Project Manager

sj

Enclosures: Summary Report, & EDD

CLP Report & 1 Summary Report/Nancy Weaver EDS

Approved By:

Michael J. Healy
General Manager

The results presented in this report relate only to the analytical testing and conditions of sample at receipt. This report pertains to only those samples actually tested. All 1209 pages of this report are integral parts of the analytical data. Therefore, this report should be reproduced only in its entirety.

Severn Trent Laboratories Chicago
INORGANIC ANALYTICAL DATA PACKAGE FOR
AFC001-26HBA

LOT # :9910G283

| CLIENT ID /ANALYSIS | SAMPLE # | MTX | PREP # | COLLECTN | DATE REC | EXT/PREP | ANALYSIS |
|---|---|---|---|---|---|---|---|
| TB100799 | | | | | | | |
| SUB-OUT TEST FOR SUB | 001 | W | | 10/07/99 | 10/08/99 | | |
| EB100799 | | | | | | | |
| ALKALINITY | 002 | W | 99GAK133 | 10/07/99 | 10/08/99 | 10/14/99 | 10/14/99 |
| CHLORIDE BY IC | 002 | W | 99GD4013 | 10/07/99 | 10/08/99 | 10/08/99 | 10/08/99 |
| NITRATE BY IC | 002 | W | 99GD4013 | 10/07/99 | 10/08/99 | 10/08/99 | 10/08/99 |
| SULFATE BY IC | 002 | W | 99GD4013 | 10/07/99 | 10/08/99 | 10/08/99 | 10/08/99 |
| TOTAL ORGANIC CARBON | 002 | W | 99GTC230 | 10/07/99 | 10/08/99 | 10/22/99 | 10/22/99 |
| TOTAL ORGANIC CARBON | 002 | W | 99GTC230 | 10/07/99 | 10/08/99 | 10/22/99 | 10/22/99 |
| PETROLEUM HYDROCARBO | 002 | W | | 10/07/99 | 10/08/99 | | |
| SUB-OUT TEST FOR SUB | 002 | W | | 10/07/99 | 10/08/99 | | |
| WITCTA017WG10 | | | | | | | |
| ALKALINITY | 004 | W | 99GAK135 | 10/07/99 | 10/08/99 | 10/19/99 | 10/19/99 |
| CHLORIDE BY IC | 004 | W | 99GD4015 | 10/07/99 | 10/08/99 | 10/11/99 | 10/11/99 |
| NITRATE BY IC | 004 | W | 99GD4013 | 10/07/99 | 10/08/99 | 10/08/99 | 10/08/99 |
| SULFATE BY IC | 004 | W | 99GD4013 | 10/07/99 | 10/08/99 | 10/08/99 | 10/08/99 |
| TOTAL ORGANIC CARBON | 004 | W | 99GTC230 | 10/07/99 | 10/08/99 | 10/22/99 | 10/22/99 |
| TOTAL ORGANIC CARBON | 004 | W | 99GTC230 | 10/07/99 | 10/08/99 | 10/22/99 | 10/22/99 |
| SUB-OUT TEST FOR SUB | 004 | W | | 10/07/99 | 10/08/99 | | |
| GMI-22-04MWG10 | | | | | | | |
| ALKALINITY | 005 | W | 99GAK135 | 10/07/99 | 10/08/99 | 10/19/99 | 10/19/99 |
| CHLORIDE BY IC | 005 | W | 99GD4015 | 10/07/99 | 10/08/99 | 10/11/99 | 10/11/99 |
| NITRATE BY IC | 005 | W | 99GD4013 | 10/07/99 | 10/08/99 | 10/08/99 | 10/08/99 |
| SULFATE BY IC | 005 | W | 99GD4013 | 10/07/99 | 10/08/99 | 10/08/99 | 10/08/99 |
| TOTAL ORGANIC CARBON | 005 | W | 99GTC230 | 10/07/99 | 10/08/99 | 10/22/99 | 10/22/99 |
| TOTAL ORGANIC CARBON | 005 | W | 99GTC230 | 10/07/99 | 10/08/99 | 10/22/99 | 10/22/99 |
| SUB-OUT TEST FOR SUB | 005 | W | | 10/07/99 | 10/08/99 | | |
| LSA1628-3WG10 | | | | | | | |
| ALKALINITY | 006 | W | 99GAK135 | 10/07/99 | 10/08/99 | 10/19/99 | 10/19/99 |
| CHLORIDE BY IC | 006 | W | 99GD4015 | 10/07/99 | 10/08/99 | 10/11/99 | 10/11/99 |

643 687

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**Severn Trent Laboratories Chicago**
**Internal Sample Custody Transfer Record**

Sample Lot#: 9910G-283 Client AFC001-26HBA

| Sample No. | Analysis | Relinquished by: | Received by: | Date | Time | Comments |
|---|---|---|---|---|---|---|
| 13-10 | 8260 | [illegible] | [illegible] | 10-8-99 | 1900 | |
| 11-19 | 8260/8021 | [illegible] | [illegible] | 10-9-99 | 1330 | |
| 12,13,16-19 | IC | [illegible] | [illegible] | 10/9/99 | 12:00 | |
| 12,13,16-19 | IC | [illegible] | [illegible] | 10/9/99 | 14:40 | |
| 4 | Hg | [illegible] | [illegible] | 10/11/99 | 9:45 | |
| 16,17 | IC | [illegible] | [illegible] | 10/11/99 | 12:50 | |
| 4 | Hg | [illegible] | [illegible] | 10/11/99 | 14:00 | |
| 2,8,9,10,12,18,19 | GORG | [illegible] | [illegible] | 10/12/99 | 1615 | |
| 16,17 | IC | [illegible] | [illegible] | 10/13/99 | 8:45 | |
| 9,10,12,5,6,8 | IC | [illegible] | [illegible] | 10/13/99 | 8:45 | |
| 4 | Metals | [illegible] | Rosa Gannon | 10/14/99 | 8:20 | |
| 4-6 8-10 12,2 16-19 | ALKL | [illegible] | [illegible] | 10/14/99 | 0810 | ANALYST ALSO SAMPLE CUSTODIAN |
| 4 | Metals | Rosa Gannon | [illegible] | 10/14/99 | 11:45 | |
| 12 16-19 2 4-10 | ALKL | [illegible] | [illegible] | 10/14/99 | 1520 | |
| 4-10,12,13,16 19 | ALKL | [illegible] | [illegible] | 10/19/99 | 9:15 | |
| 2,4,5,6,8,9,10,12,13,16 17,18,19 | TOC | [illegible] | [illegible] | 10/21/99 | 9:50 | |
| 2,4,5,6,8,9,10,12,13,16 17,18,19 | TOC | [illegible] | [illegible] | 10/21/99 | 13:00 | |
| 2,8,9,10,12,18,19 | Oil | [illegible] | [illegible] | 10/22/99 | 1045 | |
| 4,10,12,13,16 19 | ALKL | [illegible] | [illegible] | 10/22/99 | 11:00 | |
| | | | | | | |
| | | | | | | |

CHI-22-11-001/C-1/99

643 688

To: AFC001-26HBA
c/o HydroGeoLogic, Inc.
1155 Herndon Parkway, Ste. 900
Herndon, VA 20170

Attn: Ms. Lynn Morgan

Date: Thursday October 28th, 1999

RE: EB100799
Project # 00000-000-000-0000
Lab ID: 9910G283-002
Sample Date: 10/07/99
Date Received: 10/08/99

## Inorganic Data Report

| Parameters | Result | | Units | Reporting Limit |
|---|---|---|---|---|
| Alkalinity | 10.0 | u | mg/L | 10.0 |
| Chloride by IC | 0.28 | | mg/L | 0.20 |
| Nitrate-N by IC | 0.10 | u | mg/L | 0.10 |
| Sulfate by IC | 0.22 | | mg/L | 0.20 |
| Total Organic Carbon | 4.2 | | mg/L | 1.0 |
| TOC Test 2 | 4.2 | | mg/L | 1.0 |

To: AFC001-26HBA
c/o HydroGeoLogic, Inc.
1155 Herndon Parkway, Ste. 900
Herndon, VA 20170

Attn: Ms. Lynn Morgan

Date: Thursday October 28th, 1999

RE: WHGLTA012WG10
Project # 00000-000-000-0000
Lab ID: 9910G283-008
Sample Date: 10/07/99
Date Received: 10/08/99

## Inorganic Data Report

| Parameters | Result | | Units | Reporting Limit |
|---|---|---|---|---|
| Alkalinity | 290 | | mg/L | 10.0 |
| Chloride by IC | 145 | | mg/L | 10.0 |
| Nitrate-N by IC | 0.10 | u | mg/L | 0.10 |
| Sulfate by IC | 0.20 | u | mg/L | 0.20 |
| Total Organic Carbon | 4 9 | | mg/L | 1.0 |
| TOC Test 2 | 4.9 | | mg/L | 1.0 |

To: AFC001-26HBA
c/o HydroGeoLogic, Inc.
1155 Herndon Parkway, Ste. 900
Herndon, VA 20170

Attn: Ms. Lynn Morgan

Date: Thursday October 28th, 1999

RE: SPOT35-9WG10
Project # 00000-000-000-0000
Lab ID: 9910G283-012
Sample Date: 10/08/99
Date Received: 10/09/99

## Inorganic Data Report

| Parameters | Result | Units | Reporting Limit |
|---|---|---|---|
| Alkalinity | 341 | mg/L | 10.0 |
| Chloride by IC | 32.2 | mg/L | 2.0 |
| Nitrate-N by IC | 1.1 | mg/L | 0.10 |
| Sulfate by IC | 45.4 | mg/L | 2.0 |
| Total Organic Carbon | 3 1 | mg/L | 1.0 |
| TOC Test 2 | 3 0 | mg/L | 1.0 |

To: AFC001-26HBA
c/o HydroGeoLogic, Inc.
1155 Herndon Parkway, Ste. 900
Herndon, VA 20170

Attn. Ms. Lynn Morgan

Date: Thursday October 28th, 1999

RE: WCHMHTA009WG10
Project # 00000-000-000-0000
Lab ID: 9910G283-009
Sample Date: 10/07/99
Date Received: 10/08/99

## Inorganic Data Report

| Parameters | Result | Units | Reporting Limit |
|---|---|---|---|
| Alkalinity | 284 | mg/L | 10.0 |
| Chloride by IC | 80.5 | mg/L | 4.0 |
| Nitrate-N by IC | 8.3 | mg/L | 1.0 |
| Sulfate by IC | 42.2 | mg/L | 2.0 |
| Total Organic Carbon | 2 3 | mg/L | 1.0 |
| TOC Test 2 | 2.1 | mg/L | 1.0 |

643 692

To: AFC001-26HBA
c/o HydroGeoLogic, Inc.
1155 Herndon Parkway, Ste. 900
Herndon, VA 20170

Attn: Ms. Lynn Morgan

Date. Thursday October 28th, 1999

RE: WHGLTA014WG10
Project # 00000-000-000-0000
Lab ID: 9910G283-010
Sample Date: 10/07/99
Date Received: 10/08/99

## Inorganic Data Report

| Parameters | Result | | Units | Reporting Limit |
|---|---|---|---|---|
| Alkalinity | 448 | | mg/L | 10.0 |
| Chloride by IC | 119 | | mg/L | 10.0 |
| Nitrate-N by IC | 0 10 | u | mg/L | 0.10 |
| Sulfate by IC | 45 5 | | mg/L | 2.0 |
| Total Organic Carbon | 2.7 | | mg/L | 1.0 |
| TOC Test 2 | 2.7 | | mg/L | 1.0 |

To: AFC001-26HBA
c/o HydroGeoLogic, Inc.
1155 Herndon Parkway, Ste. 900
Herndon, VA 20170

Attn: Ms. Lynn Morgan

Date: Thursday October 28th, 1999

RE: EB100899
Project # 00000-000-000-0000
Lab ID: 9910G283-018
Sample Date: 10/08/99
Date Received: 10/09/99

## Inorganic Data Report

| Parameters | Result | | Units | Reporting Limit |
|---|---|---|---|---|
| Alkalinity | 10.0 | u | mg/L | 10.0 |
| Chloride by IC | 0.20 | u | mg/L | 0.20 |
| Nitrate-N by IC | 0.10 | u | mg/L | 0 10 |
| Sulfate by IC | 0.20 | u | mg/L | 0.20 |
| Total Organic Carbon | 1 1 | | mg/L | 1.0 |
| TOC Test 2 | 1.1 | | mg/L | 1.0 |

643 694

To: AFC001-26HBA
c/o HydroGeoLogic, Inc.
1155 Herndon Parkway, Ste. 900
Herndon, VA 20170

Attn: Ms. Lynn Morgan

Date: Thursday October 28th, 1999

RE: SPOT35-8WG10
Project # 00000-000-000-0000
Lab ID: 9910G283-019
Sample Date: 10/08/99
Date Received: 10/09/99

## Inorganic Data Report

| Parameters | Result | | Units | Reporting Limit |
|---|---|---|---|---|
| Alkalinity | 520 | | mg/L | 10.0 |
| Chloride by IC | 59.1 | | mg/L | 2.0 |
| Nitrate-N by IC | 0 10 | u | mg/L | 0.10 |
| Sulfate by IC | 37.1 | | mg/L | 2.0 |
| Total Organic Carbon | 3.1 | | mg/L | 1.0 |
| TOC Test 2 | 3.2 | | mg/L | 1.0 |

To: AFC001-26HBA
c/o HydroGeoLogic, Inc.
1155 Herndon Parkway, Ste. 900
Herndon, VA 20170

Attn: Ms. Lynn Morgan

Date: Thursday October 28th, 1999

Project # 00000-000-000-0000
Lab Batch: 9910G283

## Inorganic Method Blank Data Report

| Sample | Lab ID | Parameter | Result | | Units | Reporting Limit |
|---|---|---|---|---|---|---|
| Blank 1 | 99GAK133-MB1 | Alkalinity | 10.0 | u | mg/L | 10.0 |
| Blank 1 | 99GD4013-MB1 | Chloride by IC | 0.20 | u | mg/L | 0 20 |
| | | Nitrite-N by IC | 0.10 | u | mg/L | 0 10 |
| | | Nitrate-N by IC | 0.10 | u | mg/L | 0.10 |
| | | Sulfate by IC | 0.20 | u | mg/L | 0 20 |
| Blank 1 | 99GTC230-MB1 | Total Organic Carbon | 1.0 | u | mg/L | 1.0 |
| Blank 1 | 99GAK135-MB1 | Alkalinity | 10.0 | u | mg/L | 10.0 |
| Blank 1 | 99GD4015-MB1 | Chloride by IC | 0 20 | u | mg/L | 0.20 |
| | | Sulfate by IC | 0.20 | u | mg/L | 0 20 |
| Blank 1 | 99GTC231-MB1 | Total Organic Carbon | 1.0 | u | mg/L | 1.0 |
| Blank 1 | 99GD4014-MB1 | Chloride by IC | 0 20 | u | mg/L | 0.20 |
| | | Nitrite-N by IC | 0.10 | u | mg/L | 0.10 |
| | | Nitrate-N by IC | 0 10 | u | mg/L | 0 10 |
| | | Sulfate by IC | 0.20 | u | mg/L | 0.20 |
| Blank 1 | 99GAK136-MB1 | Alkalinity | 10.0 | u | mg/L | 10.0 |

643 696

To: AFC001-26HBA
c/o HydroGeoLogic, Inc.
1155 Herndon Parkway, Ste. 900
Herndon, VA 20170

Attn: Ms. Lynn Morgan

Date: Thursday October 28th, 1999

Project # 00000-000-000-0000
Lab Batch: 9910G283

## Inorganic Laboratory Control Standards Report

| Lab ID | Parameter | Spiked Amount | Units | Spike #1 % Recov. | Spike #2 % Recov. | RPD |
|---|---|---|---|---|---|---|
| 99GAK133-LCS | Alkalinity | 100 | mg/L | 100 | NA | NA |
| 99GD4013-LCS | Chloride by IC | 3.0 | mg/L | 108 | NA | NA |
| | Nitrite-N by IC | 2.0 | mg/L | 101 | NA | NA |
| | Nitrate-N by IC | 2.0 | mg/L | 98.6 | NA | NA |
| | Sulfate by IC | 5.0 | mg/L | 102 | NA | NA |
| 99GTC230-LCS | TOC | 5 0 | mg/L | 99.5 | NA | NA |
| 99GAK135-LCS | Alkalinity | 100 | mg/L | 103 | NA | NA |
| 99GD4015-LCS | Chloride by IC | 3.0 | mg/L | 98 6 | NA | NA |
| | Sulfate by IC | 5.0 | mg/L | 101 | NA | NA |
| 99GTC231-LCS | TOC | 5.0 | mg/L | 103 | NA | NA |
| 99GD4014-LCS | Chloride by IC | 3.0 | mg/L | 96.8 | NA | NA |
| | Nitrite-N by IC | 2.0 | mg/L | 96.8 | NA | NA |
| | Nitrate-N by IC | 2.0 | mg/L | 98.9 | NA | NA |
| | Sulfate by IC | 5.0 | mg/L | 100 | NA | NA |
| 99GAK136-LCS | Alkalinity | 100 | mg/L | 109 | NA | NA |

# Severn Trent Laboratories Chicago
## Wet Chemistry Case Narrative

Client: **HydroGeoLogic, NAS Ft. Worth AFC001-26HBA**
RFW Lot: **9910G283** Date Rec'd: 10/08/99

1. This narrative covers the analysis of the samples in the above RFW Lot by the following methods.

   Alkalinity - EPA Method 310.1
   Anions by Ion Chromatography - SW 846 9056
   - Chloride
   - Nitrate as N
   - Sulfate as $SO_4$

   TOC - EPA Method 415.1

2. The EPA holding times were met. Refer to the Laboratory Chronicle Page for dates of sampling, receipt, and analysis.

3. The initial and continuing calibration verification standards and blanks were in control. Several of the chromatograms were manually integrated due to the water dip. In all cases the uncorrected and corrected chromatograms are both included in the raw data.

4. All method blanks were below the detection limits.

5. All LCS recoveries were within control limits. Please see the LCS Summary Pages of this report for additional details.

6. No matrix QC was requested or reported for these samples. The alkalinity analyst did extra matrix and non-matrix QC, but these unrequested QC items were deleted.

Diane L. Harper
Wet Chemistry Section Manager

10-28-99
Date

Severn Trent Laboratories Chicago
8021 ANALYTICAL DATA PACKAGE FOR
AFC001-26HBA

LOT # :9910G283

| CLIENT ID | SAMPLE # | | MTX | PREP # | COLLECTN | DATE REC | EXT/PREP | ANALYSIS |
|---|---|---|---|---|---|---|---|---|
| EB100799 | 002 | | W | 99GVD310 | 10/07/99 | 10/08/99 | N/A | 10/14/99 |
| WHGLTA012WG10 | 008 | | W | 99GVD310 | 10/07/99 | 10/08/99 | N/A | 10/14/99 |
| WHGLTA012WG10 | 008 | C1 | W | 99GVD312 | 10/07/99 | 10/08/99 | N/A | 10/14/99 |
| WCHMHTA009WG10 | 009 | | W | 99GVD310 | 10/07/99 | 10/08/99 | N/A | 10/14/99 |
| WHGLTA014WG10 | 010 | | W | 99GVD310 | 10/07/99 | 10/08/99 | N/A | 10/14/99 |
| WHGLTA014WG10 | 010 | C1 | W | 99GVD312 | 10/07/99 | 10/08/99 | N/A | 10/14/99 |
| SPOT35-9WG10 | 012 | | W | 99GVD310 | 10/08/99 | 10/09/99 | N/A | 10/14/99 |
| ST14-29WG10 | 013 | | W | 99GVD310 | 10/08/99 | 10/09/99 | N/A | 10/14/99 |
| ST14-29WG10 | 013 | C1 | W | 99GVD312 | 10/08/99 | 10/09/99 | N/A | 10/14/99 |
| EB100899 | 018 | | W | 99GVD310 | 10/08/99 | 10/09/99 | N/A | 10/14/99 |
| SPOT35-8WG10 | 019 | | W | 99GVD310 | 10/08/99 | 10/09/99 | N/A | 10/14/99 |
| LAB QC: | | | | | | | | |
| BLK | MB1 | | W | 99GVD310 | N/A | N/A | N/A | 10/13/99 |
| BLK | MB1 | BS | W | 99GVD310 | N/A | N/A | N/A | 10/13/99 |
| BLK | MB1 | | W | 99GVD312 | N/A | N/A | N/A | 10/13/99 |
| BLK | MB1 | BS | W | 99GVD312 | N/A | N/A | N/A | 10/13/99 |



NY CERTIFICATION # 11006

STL Chicago
HALOGENATED AND AROMATIC VOLATILES BY GC

RFW Batch Number: 9910G283 Client: AFC001-26HBA Work Order: 00000-000-000-0 Report Date: 10/29/99 20:51 Page: 1

| | Cust ID: | EB100799 | WHGLTA012WG1 0 | WHGLTA012WG1 0 | WCHMHTA009WG 10 | WHGLTA014WG1 0 | WHGLTA014WG1 0 |
|---|---|---|---|---|---|---|---|
| Sample Information | RFW#: | 002 | 008 | 008 | 009 | 010 | 010 |
| | Matrix: | WATER | WATER | WATER | WATER | WATER | WATER |
| | D.F.: | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 |
| | Units: | ug/L | ug/L | ug/L CONFIRM | ug/L | ug/L | ug/L CONFIRM |
| Surrogate | a,a,a-Trifluorotoluene | 92 % | I % | 94 % | 104 % | 94 % | 83 % |
| | 4-Bromofluorobenzene | 78 % | 103 % | I % | 87 % | 82 % | 76 % |
| | | fl | fl | fl | fl | fl | fl |
| Benzene | | 1.0 U | 5.9 | 6.9 | 1.0 U | 1.1 J | 1.4 J |
| Toluene | | 1.0 U | 1.0 U | NA | 1.0 U | 1.0 U | NA |
| Ethylbenzene | | 1.0 U | 1.0 U | NA | 1.0 U | 1.0 U | NA |
| Xylene (total) | | 1.0 U | 1.0 U | NA | 1.0 U | 1.0 U | NA |
| Methyl-tert-butyl ether | | 1.0 U | 36 J | 1.8 J | 1.0 U | 1.0 U | NA |

| | Cust ID: | SPOT35-9WG10 | ST14-29WG10 | ST14-29WG10 | EB100899 | SPOT35-8WG10 | BLK |
|---|---|---|---|---|---|---|---|
| Sample Information | RFW#: | 012 | 013 | 013 | 018 | 019 | 99GVD310-MB1 |
| | Matrix: | WATER | WATER | WATER | WATER | WATER | WATER |
| | D.F.: | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 |
| | Units: | ug/L | ug/L | ug/L CONFIRM | ug/L | ug/L | ug/L |
| Surrogate | a,a,a-Trifluorotoluene | 93 % | I % | 90 % | 92 % | 94 % | 102 % |
| | 4-Bromofluorobenzene | 81 % | 102 % | I % | 77 % | 85 % | 90 % |
| | | fl | fl | fl | fl | fl | fl |
| Benzene | | 1.0 U | 1.0 U | NA | 1.0 U | 1.0 U | 1.0 U |
| Toluene | | 1.0 U | 19 J | 0.66 JJ | 1.0 U | 1.0 U | 1.0 U |
| Ethylbenzene | | 1.0 U | 1.0 U | NA | 1.0 U | 1.0 U | 1.0 U |
| Xylene (total) | | 1.0 U | 16 J | 2.3 J | 1.0 U | 1.0 U | 1.0 U |
| Methyl-tert-butyl ether | | 1.0 U | 1.0 U | NA | 1.0 U | 1.0 U | 1.0 U |

U= Analyzed, not detected. J= Present below detection limit. B= Present in blank. NR= Not requested. NS= Not spiked.
%= Percent recovery. D= Diluted out. I= Interference. NA= Not Applicable. *= Outside of EPA CLP QC

643 699

LSM 11-6-99

STL Chicago
HALOGENATED AND AROMATIC VOLATILES BY GC

Report Date: 10/29/99 20:31
Page: 2

RFW Batch Number: 9910G283 Client: AFC001-26HBA Work Order: 00000-000-000-0

| | Cust ID: | BLK BS | BLK | BLK BS |
|---|---|---|---|---|
| Sample Information | RFW#: | 99GVD310-MB1 | 99GVD312-MB1 | 99GVD312-MB1 |
| | Matrix: | WATER | WATER | WATER |
| | D.F.: | 1.0 | 1.0 | 1.0 |
| | Units: | ug/L | ug/L | ug/L |
| Surrogate | a,a,a-Trifluorotoluene | 99 % | 96 % | 92 % |
| | 4-Bromofluorobenzene | 98 % | 88 % | 92 % |
| Benzene | | 98 % | 1.0 U | 94 % |
| Toluene | | 88 % | 1.0 U | 83 % |
| Ethylbenzene | | 93 % | 1.0 U | 90 % |
| Xylene (total) | | 94 % | 1.0 U | 89 % |
| Methyl-tert-butyl ether | | 89 % | 1.0 U | 82 % |

U= Analyzed, not detected. J= Present below detection limit. B= Present in blank. NR= Not requested. NS= Not spiked.
%= Percent recovery. D= Diluted out. I= Interference. NA= Not Applicable. *= Outside of EPA CLP QC

Severn Trent Laboratories Chicago
Volatile Case Narrative

AFC001-26HBA
RFW# 9910G283-002, 008\010, 012, 013, 018 and 019
Method 8020

1. These samples were analyzed for Benzene, Toluene, Ethylbenzene, Xylene (total) and Methyl-tert-butyl ether based on SW846 methods 5030 and 8020. An HP 5890 gas chromatograph equipped with dual photoionization detectors and interfaced with a Tekmar LSC 2000/2016 ALS was used for the analysis of these samples.

2. All required holding times were met for the analysis.

3. The method blanks were below the reporting limit for all target compounds.

4. The surrogate compounds used for this analysis were 4-Bromofluorobenzene and a,a,a-Trifluorotoluene. The a,a,a-Trifluorotoluene associated with sample 9910G283-008 (WHGLTA012WG10) and 9910G283-013 (ST14-29WG10) was interfered with on the primary column and the 4-Bromofluorobenzene was interfered with on the confirmation column. All other surrogate recoveries were within control limits and are summarized on Form 2.

5. All blank spike recoveries were within control limits and are summarized on Forms 3.

6. A matrix spike and a matrix spike duplicate were not designated on this SDG.

7. All initial and continuing standard calibrations associated with these sample were in control, with the following exceptions:

   The CCV run 10/14/99 at 05:09 had Benzene biased high at 19.0% difference, Ethylbenzene biased high at 116.2% difference and Xylene biased high at 16.5% difference on the primary column (DB-624). Benzene was biased high at 16.4% difference on the confirmation column (DB-VRX).

   The CCV run 10/15/99 at 00:06 had MTBE biased low at 18.8% difference and Toluene biased low at 16.9% difference on the confirmation column (DB-VRX).

8. All positive hits were confirmed on a second column.

Linda S. Mackley
Organics Section Manager

11-6-99
Date

Severn Trent Laboratories Chicago
HPAH ANALYTICAL DATA PACKAGE FOR
AFC001-26HBA

LOT # :9910G283

| CLIENT ID | SAMPLE # | MTX | PREP # | COLLECTN | DATE REC | EXT/PREP | ANALYSIS |
|---|---|---|---|---|---|---|---|
| EB100799 | 002 | W | 99GP0962 | 10/07/99 | 10/08/99 | 10/12/99 | 10/15/99 |
| WHGLTA012WG10 | 008 | W | 99GP0962 | 10/07/99 | 10/08/99 | 10/12/99 | 10/15/99 |
| WHGLTA012WG10 | 008 C1 | W | 99GP0962 | 10/07/99 | 10/08/99 | 10/12/99 | 10/15/99 |
| WCHMHTA009WG10 | 009 | W | 99GP0962 | 10/07/99 | 10/08/99 | 10/12/99 | 10/15/99 |
| WHGLTA014WG10 | 010 | W | 99GP0962 | 10/07/99 | 10/08/99 | 10/12/99 | 10/15/99 |
| SPOT35-9WG10 | 012 | W | 99GP0962 | 10/08/99 | 10/09/99 | 10/12/99 | 10/15/99 |
| EB100899 | 018 | W | 99GP0962 | 10/08/99 | 10/09/99 | 10/12/99 | 10/15/99 |
| SPOT35-8WG10 | 019 | W | 99GP0962 | 10/08/99 | 10/09/99 | 10/12/99 | 10/15/99 |

LAB QC:

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| BLK | MB1 | W | 99GP0962 | N/A | N/A | 10/12/99 | 10/15/99 |
| BLK | MB1 C1 | W | 99GP0962 | N/A | N/A | 10/12/99 | 10/15/99 |
| BLK | MB1 BS | W | 99GP0962 | N/A | N/A | 10/12/99 | 10/15/99 |
| BLK | MB1 BS C1 | W | 99GP0962 | N/A | N/A | 10/12/99 | 10/15/99 |
| BLK | MB1 BSD | W | 99GP0962 | N/A | N/A | 10/12/99 | 10/15/99 |
| BLK | MB1 BSD C1 | W | 99GP0962 | N/A | N/A | 10/12/99 | 10/15/99 |

STL Chicago
PAHs BY HPLC

RFW Batch Number: 9910G283 Client: AFC001-26HBA Work Order: 00000-000-000-0

Report Date: 11/04/99 16:25
Page: 1

| Sample Information | | | | | | |
|---|---|---|---|---|---|---|
| Cust ID: | EB100799 | WHGLTA012WG1 0 | WHGLTA012WG1 0 | WCHMHTA009WG 10 | WHGLTA014WG1 0 | SPOT35-9WG10 |
| RFW#: | 002 | 008 | 008 | 009 | 010 | 012 |
| Matrix: | WATER | WATER | WATER | WATER | WATER | WATER |
| D.F.: | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 |
| Units: | ug/L | ug/L | ug/L CONFIRM | ug/L | ug/L | ug/L |
| Surrogate: Decafluorobiphenyl | 56 % | 76 % | 74 % | 57 % | 54 % | 38 % |
| Surrogate: Benzo(e)pyrene | 88 % | 69 % | 70 % | 95 % | 92 % | 91 % |
| | fl | fl | fl | fl | fl | fl |
| Naphthalene | 17 U | 9.8 J | 5.0 J | 18 U | 18 U | 18 U |
| Acenaphthene | 1.3 J | 18 U | NA | 18 U | 18 U | 18 U |
| Acenaphthylene | 22 U | 23 U | NA | 23 U | 23 U | 23 U |
| Fluorene | 0.16 J | 0.81 J | 1.1 J | 2.1 U | 2.1 U | 2.1 U |
| Phenanthrene | 6.1 U | 6.5 U | NA | 6.5 U | 6.5 U | 6.5 U |
| Anthracene | 6.3 U | 6.7 U | NA | 6.7 U | 6.7 U | 6.7 U |
| Fluoranthene | 2.0 U | 2.1 U | NA | 2.1 U | 2.1 U | 2.1 U |
| Pyrene | 2.6 U | 2.7 U | NA | 2.7 U | 2.8 U | 2.7 U |
| Benzo(a)anthracene | 0.12 U | 0.13 U | NA | 0.13 U | 0.13 U | 0.13 U |
| Chrysene | 1.4 U | 1.5 U | NA | 1.5 U | 1.5 U | 1.5 U |
| Benzo(b)fluoranthene | 0.17 U | 0.18 U | NA | 0.18 U | 0.18 U | 0.18 U |
| Benzo(k)fluoranthene | 0.16 U | 0.17 U | NA | 0.17 U | 0.17 U | 0.17 U |
| Benzo(a)pyrene | 0.22 U | 0.23 U | NA | 0.23 U | 0.23 U | 0.23 U |
| Dibenzo(a,h)anthracene | 0.28 U | 0.30 U | NA | 0.30 U | 0.31 U | 0.30 U |
| Benzo(g,h,i)perylene | 0.72 U | 0.77 U | NA | 0.77 U | 0.78 U | 0.77 U |
| Indeno(1,2,3-cd)pyrene | 0.41 U | 0.43 U | NA | 0.43 U | 0.44 U | 0.43 U |

U= Analyzed, not detected. J= Present below detection limit. B= Present in blank. NR= Not requested. NS= Not spiked.
%= Percent recovery. D= Diluted out. I= Interference. NA= Not Applicable. *= Outside of EPA CLP QC

643 704

STL Chicago
PAHs BY HPLC

RFW Batch Number: 9910G283 Client: AFC001-26HBA Work Order: 00000-000-000-0 Report Date: 11/04/99 16:25 Page: 2

| Cust ID: | EB100899 | | SPOT35-8WG10 | | BLK | | BLK | | BLK BS | | BLK BS | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Sample Information RFW#: | 018 | | 019 | | 99GP0962-MB1 | | 99GP0962-MB1 | | 99GP0962-MB1 | | 99GP0962-MB1 | |
| Matrix: | WATER | | WATER | | WATER | | WATER | | WATER | | WATER | |
| D.F.: | 1.0 | | 1.0 | | 1.0 | | 1.0 | | 1.0 | | 1.0 | |
| Units: | ug/L | | ug/L | | ug/L | | ug/L CONFIRM | | ug/L | | ug/L CONFIRM | |
| Surrogate Decafluorobiphenyl | 42 | % | 43 | % | 22 | % | 20 | % | 40 | % | 39 | % |
| Surrogate Benzo(e)pyrene | 92 | % | 95 | % | 93 | % | 94 | % | 94 | % | 94 | % |
| ========== | | fl | | fl | | fl | | fl | | fl | | fl |
| Naphthalene | 18 | U | 18 | U | 18 | U | 18 | U | 62 | % | 60 | % |
| Acenaphthene | 18 | U | 18 | U | 18 | U | 18 | U | 83 | % | 74 | % |
| Acenaphthylene | 23 | U | 24 | U | 23 | U | 23 | U | 68 | % | 64 | % |
| Fluorene | 0.19 | J | 2.2 | U | 2.1 | U | 2.1 | U | 72 | % | 73 | % |
| Phenanthrene | 6.5 | U | 6.6 | U | 6.4 | U | 6.4 | U | 75 | % | 76 | % |
| Anthracene | 6.7 | U | 6.8 | U | 6.6 | U | 6.6 | U | 82 | % | 89 | % |
| Fluoranthene | 2.1 | U | 2.2 | U | 2.1 | U | 2.1 | U | 88 | % | 104 | % |
| Pyrene | 2.8 | U | 2.8 | U | 2.7 | U | 2.7 | U | 121 | % | 112 | % |
| Benzo(a)anthracene | 0.13 | U | 0.13 | U | 0.13 | U | 0.13 | U | 109 | % | 110 | % |
| Chrysene | 1.5 | U | 1.5 | U | 1.5 | U | 1.5 | U | 111 | % | 121 | % |
| Benzo(b)fluoranthene | 0.18 | U | 0.18 | U | 0.18 | U | 0.18 | U | 96 | % | 103 | % |
| Benzo(k)fluoranthene | 0.17 | U | 0.18 | U | 0.17 | U | 0.17 | U | 108 | % | 106 | % |
| Benzo(a)pyrene | 0.23 | U | 0.24 | U | 0.23 | U | 0.23 | U | 102 | % | 100 | % |
| Dibenzo(a,h)anthracene | 0.31 | U | 0.31 | U | 0.30 | U | 0.30 | U | 76 | % | 69 | % |
| Benzo(g,h,i)perylene | 0.78 | U | 0.78 | U | 0.76 | U | 0.76 | U | 86 | % | 84 | % |
| Indeno(1,2,3-cd)pyrene | 0.44 | U | 0.44 | U | 0.43 | U | 0.43 | U | 108 | % | 109 | % |

U= Analyzed, not detected. J= Present below detection limit. B= Present in blank. NR= Not requested. NS= Not spiked.
%= Percent recovery. D= Diluted out. I= Interference. NA= Not Applicable. *= Outside of EPA CLP QC

Severn Trent Laboratories Chicago
PAH Case Narrative

AFC001-26HBA
RFW# 9910G283-002, 008\010, 012, 018 and 019
PAHs

1. Severn Trent Laboratories Chicago used the following HPLC system for analysis of polynuclear aromatic hydrocarbons:

| ID# | INSTRUMENT | COLUMN TYPE | DETECTOR |
|---|---|---|---|
| 25 | SpectraPhysics | C-18 PAH | UV - 254nm |
| 25 | SpectraPhysics | C-18 PAH | UV - 260nm |
| 26 | SpectraPhysics | C-18 PAH | Fluorescence |

2. These samples were extracted based on SW846 method 3510. The extracts were analyzed for PAHs (i e. PNAs) based on SW846 method 8310 protocols.

3 All required holding times were met for the extraction and analysis.

4. The method blank was below the reporting limit for all target compounds.

5. The surrogate compounds used for this analysis were Decafluorobiphenyl and Benzo(e)pyrene. All surrogate recoveries were within control limits and are summarized on Form 2E.

6. All blank spike recoveries were within control limits and are summarized on Forms 3E.

7. A matrix spike and a matrix spike duplicate were not performed on this SDG.

8. All initial and continuing standard calibrations were within control limits with the following exceptions:

SSV run 10/14/99 at 03:41 Benzo(b)fluoranthene biased low at 20.5% difference on the UV detector and biased low at 18.0% difference on the Fluorescence detector.

CCV run 10/14/99 at 04.22 had Chrysene biased low at 18.0% difference on the Fluorescence detector.

SSV run 10/26/99 at 16:47 had Benzo(b)fluoranthene biased low at 20.9% difference on the UV detector and biased low at 17.5% difference Fluorescence detector. Pyrene was biased high at 15.7% difference on the Fluorescence detector.

CCV run 10/15/99 at 21.01 had Fluoranthene biased high at 21.0% difference on the Fluorescence detector.

Some CCVs displayed a slight shift in retention times. The retention time shifts were taken into account during the data review.

9. All positive hits were confirmed using a second detector or using a second wavelength.

Linda S Mackley

Linda S. Mackley
Organics Section Manager

11-6-99
Date

Committed To Your Success

Severn Trent Laboratories
11 East Olive Road
Pensacola FL 32514

Tel (850) 474-1001
Fax (850) 478-2671

SIGNATURE PAGE

Reviewed by: _____
STL Project Manager

| | |
|---|---|
| Client: | STL/CHICAGO<br>UNIVERSITY PARK, IL |
| Project Name: | AFC001-26HBGA |
| Project Number: | 9910G283 |
| Project Location: | N/S |
| Accession Number: | 910362 |
| Project Manager: | BOSCO RAMIREZ |
| Sampled By: | N/S |

THIS IS A REVISED REPORT: December 19, 1999

643 708

Committed to Your Success

SEVERN TRENT LABORATORIES, INC. - PENSACOLA, FLORIDA
STATE CERTIFICATIONS

*Alabama Department of Environmental Management, Laboratory ID No 40150 (Drinking Water by Reciprocity with FL)*

*Arizona Department of Health Services, Lab ID No AZ0589 (Hazardous Waste & Wastewater)*

*Arkansas Department of Pollution Control and Ecology, (No Laboratory ID No. assigned by state) (Environmental)*

*State of California, Department of Health Services, Laboratory ID No. 2338 (Hazardous Waste and Wastewater)*

*State of Connecticut, Department of Health Services, Connecticut Lab Approval No PH-0697 (Drinking Water, Hazardous Waste and Wastewater)*

*Delaware Health & Social Services, Division of Public Health, Laboratory ID No. FL094 (Drinking Water by Reciprocity with FL)*

*Florida DOH Laboratory ID No. 81142 (Drinking Water), Laboratory ID No. E81010 (Hazardous Waste and Wastewater)*

*Florida, Radioactive Materials License No. G0733-1*

*Foreign Soil Permit, Permit No. S-37599*

*Kansas Department of Health & Environment, Laboratory ID No E10253 (Wastewater and Hazardous Waste)*

*Commonwealth of Kentucky, Natural Resources and Environmental Protection Cabinet, Laboratory ID No. 90043 (Drinking Water)*

*State of Louisiana, DHH, Office of Public Health Division of Laboratories, Laboratory ID No. 98-25 (Drinking Water)*

*State of Maryland, DH&MH Laboratory ID No. 233 (Drinking Water by Reciprocity with Florida)*

*Commonwealth of Massachusetts, DEP, Laboratory ID No. M-FL094 (Hazardous Waste and Wastewater)*

*State of Michigan, Bureau of E&OccH, Laboratory ID No.9912 (Drinking Water by Reciprocity with Florida)*

*New Hampshire DES, Laboratory ID No. 250598-A (Wastewater)*

*State of New Jersey, Department of Environmental Protection & Energy, Laboratory ID No 49006 (Wastewate and Hazardous Waster)*

*New York State, Department of Health, Laboratory ID No. 11503 (Wastewater and Solids/Hazardous Waste)*

*North Carolina Department of Environment, Health, & Natural Resources, Laboratory ID No. 314 (Hazardous Waste and Wastewater)*

*North Dakota DH&Consal Labs, Laboratory ID No. R-108 (Hazardous Waste and Wastewater by Reciprocity with Florida)*

*State of Oklahoma, Oklahoma Department of Environmental Quality, Laboratory ID No. 9810 (Hazardous Waste and Wastewater)*

*Commonwealth of Pennsylvania, Department of Environmental Resources, Laboratory ID No. 68-467 (Drinking Water)*

*South Carolina DH&EC, Laboratory ID No. 96026 (Wastewater by Reciprocity with FL and Solids/Hazardous Waste by Reciprocity with CA)*

*Tennessee Department of Health & Environment, Laboratory ID No. 02907 (Drinking Water)*

*Tennessee Division of Underground Storage Tanks Approved Laboratory*

*Virginia Department of General Services, Laboratory ID No. 00008 (Drinking Water by Reciprocity with FL)*

*State of Washington, Department of Ecology, Laboratory ID No. C282 (Hazardous Waste and Wastewater)*

*West Virginia Division of Environmental Protection, Office of Water Resources, Laboratory ID No. 136 (Hazardous Waste and Wastewater by Reciprocity with FL)*

*American Industrial Hygiene Association (AIHA) Accredited Laboratory, Laboratory ID No. 100704*

SEVERN TRENT LABORATORIES 11 East Olive Road Pensacola, Florida 32514 (850) 474-1001

# Analysis Report

Analysis: DISSOLVED METHANE

| | |
|---|---|
| Accession: | 910362 |
| Client: | STL/CHICAGO |
| Project Number: | 9910G283 |
| Project Name: | AFC001-26HBGA |
| Project Location: | N/S |
| Department: | SEMI-VOLATILE FUELS |

643 710

SEVERN TRENT LABORATORIES 11 East Olive Road Pensacola, Florida 32514 (850) 474-1001



"FINAL REPORT FORMAT - SINGLE"

Accession: 910362
Client: STL/CHICAGO
Project Number: 9910G283
Project Name: AFC001-26HBGA
Project Location: N/S
Test: DISSOLVED METHANE
Analysis Method: RSK 175
Extraction Method: N/A
Matrix: WATER
QC Level: N

Lab Id: 001
Client Sample Id: TB100799

Sample Date/Time: 07-OCT-99 N/S
Received Date: 12-OCT-99

Batch: GEW326
Blank: A Dry Weight %: N/A

Extraction Date: N/A
Analysis Date: 18-OCT-99

| Parameter: | Units: | Results: | Rpt Lmts: | Q: |
|---|---|---|---|---|
| METHANE | UG/L | 0.2200 | 1 | |
| ETHANE | UG/L | 0.0100 | 1 | |
| ETHENE | UG/L | ND | 1 | |
| ANALYST | INITIALS | AHT | | |

Comments:
Preparation Time: 08:00
Analysis Time: 13:06

SEVERN TRENT LABORATORIES 11 East Olive Road Pensacola, Florida 32514 (850) 474-1001



"FINAL REPORT FORMAT - SINGLE"

Accession: 910362
Client: STL/CHICAGO
Project Number: 9910G283
Project Name: AFC001-26HBGA
Project Location: N/S
Test: DISSOLVED METHANE
Analysis Method: RSK 175
Extraction Method: N/A
Matrix: WATER
QC Level: N

Lab Id: 002
Client Sample Id: EB100799

Sample Date/Time: 07-OCT-99 N/S
Received Date: 12-OCT-99

Batch: GEW326
Blank: A Dry Weight %: N/A

Extraction Date: N/A
Analysis Date: 18-OCT-99

| Parameter: | Units: | Results: | Rpt Lmts | Q: |
|---|---|---|---|---|
| METHANE | UG/L | 0.1500 | 1 | |
| ETHANE | UG/L | ND | 1 | |
| ETHENE | UG/L | ND | 1 | |
| ANALYST | INITIALS | AHT | | |

Comments:
Preparation Time. 08:00
Analysis Time: 13:20

SEVERN TRENT LABORATORIES 11 East Olive Road Pensacola, Florida 32514 (850) 474-1001



"FINAL REPORT FORMAT - SINGLE"

Accession: 910362
Client: STL/CHICAGO
Project Number: 9910G283
Project Name: AFC001-26HBGA
Project Location: N/S
Test: DISSOLVED METHANE
Analysis Method: RSK 175
Extraction Method: N/A
Matrix: WATER
QC Level. N

Lab Id: 006
Client Sample Id: WHGLTA012WG10

Sample Date/Time: 07-OCT-99 N/S
Received Date: 12-OCT-99

Batch: GEW326
Blank: A Dry Weight %: N/A

Extraction Date: N/A
Analysis Date: 18-OCT-99

| Parameter: | Units· | Results: | Rpt Lmts: | Q |
|---|---|---|---|---|
| METHANE | UG/L | 12945.8800 | 1 | |
| ETHANE | UG/L | 0.5000 | 1 | |
| ETHENE | UG/L | 0.0500 | 1 | |
| ANALYST | INITIALS | AHT | | |

Comments:
Preparation Time: 08:00
Analysis Time: 13:52

SEVERN TRENT LABORATORIES 11 East Olive Road Pensacola, Florida 32514 (850) 474-1001



"FINAL REPORT FORMAT - SINGLE"

Accession: 910362
Client: STL/CHICAGO
Project Number: 9910G283
Project Name: AFC001-26HBGA
Project Location: N/S
Test: DISSOLVED METHANE
Analysis Method: RSK 175
Extraction Method: N/A
Matrix: WATER
QC Level: N

Lab Id: 007
Client Sample Id: WCHMHTA009WG10

Sample Date/Time: 07-OCT-99 N/S
Received Date: 12-OCT-99

Batch: GEW326
Blank: A Dry Weight %: N/A

Extraction Date: N/A
Analysis Date: 18-OCT-99

| Parameter: | Units: | Results: | Rpt Lmts: | Q: |
|---|---|---|---|---|
| METHANE | UG/L | 3.9400 | 1 | |
| ETHANE | UG/L | 0.0100 | 1 | |
| ETHENE | UG/L | 0.0100 | 1 | |
| ANALYST | INITIALS | AHT | | |

Comments:
Preparation Time: 08:00
Analysis Time: 13:59

SEVERN TRENT LABORATORIES 11 East Olive Road Pensacola, Florida 32514 (850) 474-1001



"FINAL REPORT FORMAT - SINGLE"

Accession: 910362
Client: STL/CHICAGO
Project Number: 9910G283
Project Name: AFC001-26HBGA
Project Location: N/S
Test: DISSOLVED METHANE
Analysis Method: RSK 175
Extraction Method: N/A
Matrix: WATER
QC Level: N

Lab Id: 008
Client Sample Id: WHGLTA014WG10

Sample Date/Time: 07-OCT-99 N/S
Received Date: 12-OCT-99

Batch: GEW326
Blank: A Dry Weight %. N/A

Extraction Date: N/A
Analysis Date: 18-OCT-99

| Parameter. | Units: | Results: | Rpt Lmts: | Q: |
|---|---|---|---|---|
| METHANE | UG/L | 1468.0 | 1 | |
| ETHANE | UG/L | 0.1000 | 1 | |
| ETHENE | UG/L | 0.2600 | 1 | |
| ANALYST | INITIALS | AHT | | |

Comments:
Preparation Time: 08.00
Analysis Time 14.06

SEVERN TRENT LABORATORIES 11 East Olive Road Pensacola, Florida 32514 (850) 474-1001



"FINAL REPORT FORMAT - SINGLE"

Accession: 910362
Client: STL/CHICAGO
Project Number: 9910G283
Project Name: AFC001-26HBGA
Project Location: N/S
Test: DISSOLVED METHANE
Analysis Method: RSK 175
Extraction Method: N/A
Matrix: WATER
QC Level: N

Lab Id: 009
Client Sample Id: TB100899
Sample Date/Time: 08-OCT-99 N/S
Received Date: 12-OCT-99

Batch: GEW326
Blank: A
Dry Weight %: N/A
Extraction Date: N/A
Analysis Date: 18-OCT-99

| Parameter: | Units: | Results: | Rpt Lmts: | Q |
|---|---|---|---|---|
| METHANE | UG/L | 0 1300 | 1 | |
| ETHANE | UG/L | ND | 1 | |
| ETHENE | UG/L | ND | 1 | |
| ANALYST | INITIALS | AHT | | |

Comments:
Preparation Time: 08:00
Analysis Time: 14:13

SEVERN TRENT LABORATORIES 11 East Olive Road Pensacola, Florida 32514 (850) 474-1001



"FINAL REPORT FORMAT - SINGLE"

Accession: 910362
Client: STL/CHICAGO
Project Number: 9910G283
Project Name: AFC001-26HBGA
Project Location N/S
Test: DISSOLVED METHANE
Analysis Method: RSK 175
Extraction Method: N/A
Matrix: WATER
QC Level: N

---

Lab Id: 010
Client Sample Id: SPOT35-9WG10

Sample Date/Time: 08-OCT-99 N/S
Received Date: 12-OCT-99

Batch: GEW326
Blank: A Dry Weight %. N/A

Extraction Date. N/A
Analysis Date: 18-OCT-99

| Parameter: | Units: | Results: | Rpt Lmts. | Q: |
|---|---|---|---|---|
| METHANE | UG/L | 329 5800 | 1 | |
| ETHANE | UG/L | 0.0600 | 1 | |
| ETHENE | UG/L | 0.1200 | 1 | |
| ANALYST | INITIALS | AHT | | |

Comments:
Preparation Time: 08:00
Analysis Time: 14:20

SEVERN TRENT LABORATORIES 11 East Olive Road Pensacola, Florida 32514 (850) 474-1001



"FINAL REPORT FORMAT - SINGLE"

Accession. 910362
Client. STL/CHICAGO
Project Number 9910G283
Project Name: AFC001-26HBGA
Project Location: N/S
Test. DISSOLVED METHANE
Analysis Method: RSK 175
Extraction Method: N/A
Matrix WATER
QC Level. N

Lab Id: 014
Client Sample Id: EB100899
Sample Date/Time: 08-OCT-99 N/S
Received Date: 12-OCT-99

Batch: GEW326
Blank. A
Dry Weight %: N/A
Extraction Date: N/A
Analysis Date: 18-OCT-99

| Parameter: | Units: | Results: | Rpt Lmts: | Q: |
|---|---|---|---|---|
| METHANE | UG/L | 0.3200 | 1 | |
| ETHANE | UG/L | 0.0100 | 1 | |
| ETHENE | UG/L | ND | 1 | |
| ANALYST | INITIALS | AHT | | |

Comments:
Preparation Time: 08:00
Analysis Time: 14:51

643 718

SEVERN TRENT LABORATORIES 11 East Olive Road Pensacola, Florida 32514 (850) 474-1001



"FINAL REPORT FORMAT - SINGLE"

Accession: 910362
Client: STL/CHICAGO
Project Number: 9910G283
Project Name: AFC001-26HBGA
Project Location: N/S
Test: DISSOLVED METHANE
Analysis Method: RSK 175
Extraction Method: N/A
Matrix. WATER
QC Level. N

Lab Id: 015
Client Sample Id: SPOT35-8WG10
Sample Date/Time: 08-OCT-99 N/S
Received Date: 12-OCT-99

Batch: GEW326
Blank: A
Dry Weight %: N/A
Extraction Date: N/A
Analysis Date: 18-OCT-99

| Parameter: | Units. | Results· | Rpt Lmts: | Q: |
|---|---|---|---|---|
| METHANE | UG/L | 363.54 | 1 | |
| ETHANE | UG/L | 0.0500 | 1 | |
| ETHENE | UG/L | 0.0700 | 1 | |
| ANALYST | INITIALS | AHT | | |

Comments:
Preparation Time: 08:00
Analysis Time: 14:59

SEVERN TRENT LABORATORIES 11 East Olive Road Pensacola, Florida 32514 (850) 474-1001

# Analysis Report

Analysis: TNRCC TEXAS METHOD 1005 - TOTAL PETROLEUM HYDROCARBONS

| | |
|---|---|
| Accession: | 910362 |
| Client: | STL/CHICAGO |
| Project Number: | 9910G283 |
| Project Name: | AFC001-26HBGA |
| Project Location: | N/S |
| Department: | SEMI-VOLATILE FUELS |

643 720

SEVERN TRENT LABORATORIES 11 East Olive Road Pensacola, Florida 32514 (850) 474-1001



"FINAL REPORT FORMAT - SINGLE"

Accession: 910362
Client: STL/CHICAGO
Project Number: 9910G283
Project Name: AFC001-26HBGA
Project Location: N/S
Test: TNRCC TEXAS METHOD 1005 - TOTAL PETROLEUM HYDROCARBONS
Analysis Method: TNRCC Method 1005 (Rev. 4/98)
Extraction Method: TNRCC Method 1005 (Rev. 4/98)
Matrix: WATER
QC Level: IIMS

Lab Id: 002
Client Sample Id: EB100799
Sample Date/Time: 07-OCT-99 N/S
Received Date: 12-OCT-99

Batch: GEW327
Blank: A
Dry Weight %: N/A
Extraction Date: 18-OCT-99
Analysis Date: 20-OCT-99

| Parameter: | Units: | Results: | Rpt Lmts: | Q: |
|---|---|---|---|---|
| C6-C10 | MG/L | 3.7410 | 5 | |
| >C10-C28 | MG/L | 2.7980 | 5 | |
| C6-C28 | MG/L | 6.5390 | 5 | |
| ORTHO TER PHENYL | %REC/SURR | 98 | 50-150 | |
| ANALYST | INITIALS | HAH | | |

Comments:
Extraction Time: 14:30
Analysis Time: 12:45

SEVERN TRENT LABORATORIES 11 East Olive Road Pensacola, Florida 32514 (850) 474-1001



"FINAL REPORT FORMAT - SINGLE"

Accession: 910362
Client: STL/CHICAGO
Project Number: 9910G283
Project Name: AFC001-26HBGA
Project Location: N/S
Test: TNRCC TEXAS METHOD 1005 - TOTAL PETROLEUM HYDROCARBONS
Analysis Method: TNRCC Method 1005 (Rev 4/98)
Extraction Method. TNRCC Method 1005 (Rev. 4/98)
Matrix WATER
QC Level: IIMS

Lab Id: 006 Sample Date/Time. 07-OCT-99 N/S
Client Sample Id: WHGLTA012WG10 Received Date. 12-OCT-99

Batch. GEW327 Extraction Date: 18-OCT-99
Blank· A Dry Weight %: N/A Analysis Date: 20-OCT-99

| Parameter: | Units: | Results: | Rpt Lmts: | Q: |
|---|---|---|---|---|
| C6-C10 | MG/L | 5.4260 | 5 | |
| >C10-C28 | MG/L | 5.2550 | 5 | |
| C6-C28 | MG/L | 10 6810 | 5 | |
| ORTHO TER PHENYL | %REC/SURR | 102 | 50-150 | |
| ANALYST | INITIALS | HAH | | |

Comments:
Extraction Time: 14:30
Analysis Time: 13 55

643.722

SEVERN TRENT LABORATORIES 11 East Olive Road Pensacola, Florida 32514 (850) 474-1001



"FINAL REPORT FORMAT - SINGLE"

Accession: 910362
Client: STL/CHICAGO
Project Number: 9910G283
Project Name: AFC001-26HBGA
Project Location: N/S
Test: TNRCC TEXAS METHOD 1005 - TOTAL PETROLEUM HYDROCARBONS
Analysis Method: TNRCC Method 1005 (Rev 4/98)
Extraction Method: TNRCC Method 1005 (Rev. 4/98)
Matrix: WATER
QC Level: IIMS

Lab Id: 007
Client Sample Id: WCHMHTA009WG10
Sample Date/Time: 07-OCT-99 N/S
Received Date: 12-OCT-99

Batch: GEW327
Blank: A
Dry Weight %: N/A
Extraction Date: 18-OCT-99
Analysis Date: 20-OCT-99

| Parameter: | Units: | Results: | Rpt Lmts: | Q: |
|---|---|---|---|---|
| C6-C10 | MG/L | 3.4290 | 5 | |
| >C10-C28 | MG/L | 2.1550 | 5 | |
| C6-C28 | MG/L | 5.5840 | 5 | |
| ORTHO TER PHENYL | %REC/SURR | 94 | 50-150 | |
| ANALYST | INITIALS | HAH | | |

Comments:
Extraction Time: 14.30
Analysis Time: 15:01

SEVERN TRENT LABORATORIES 11 East Olive Road Pensacola, Florida 32514 (850) 474-1001



"FINAL REPORT FORMAT - SINGLE"

Accession: 910362
Client: STL/CHICAGO
Project Number: 9910G283
Project Name. AFC001-26HBGA
Project Location: N/S
Test: TNRCC TEXAS METHOD 1005 - TOTAL PETROLEUM HYDROCARBONS
Analysis Method: TNRCC Method 1005 (Rev. 4/98)
Extraction Method: TNRCC Method 1005 (Rev. 4/98)
Matrix: WATER
QC Level: IIMS

Lab Id: 008 Sample Date/Time: 07-OCT-99 N/S
Client Sample Id: WHGLTA014WG10 Received Date: 12-OCT-99

Batch: GBW327 Extraction Date: 18-OCT-99
Blank: A Dry Weight %: N/A Analysis Date: 20-OCT-99

| Parameter: | Units: | Results: | Rpt Lmts: | Q: |
|---|---|---|---|---|
| C6-C10 | MG/L | 4.9420 | 5 | |
| >C10-C28 | MG/L | 5.1250 | 5 | |
| C6-C28 | MG/L | 10.0670 | 5 | |
| ORTHO TER PHENYL | %REC/SURR | 101 | 50-150 | |
| ANALYST | INITIALS | HAH | | |

Comments:
Extraction Time: 14:30
Analysis Time: 16.08

SEVERN TRENT LABORATORIES 11 East Olive Road Pensacola, Florida 32514 (850) 474-1001



"FINAL REPORT FORMAT - SINGLE"

Accession: 910362
Client: STL/CHICAGO
Project Number: 9910G283
Project Name: AFC001-26HBGA
Project Location: N/S
Test: TNRCC TEXAS METHOD 1005 - TOTAL PETROLEUM HYDROCARBONS
Analysis Method: TNRCC Method 1005 (Rev. 4/98)
Extraction Method: TNRCC Method 1005 (Rev. 4/98)
Matrix: WATER
QC Level: IIMS

Lab Id: 010
Client Sample Id: SPOT35-9WG10

Sample Date/Time: 08-OCT-99 N/S
Received Date: 12-OCT-99

Batch: GEW327
Blank: A

Dry Weight %: N/A

Extraction Date: 18-OCT-99
Analysis Date: 20-OCT-99

| Parameter: | Units: | Results: | Rpt Lmts: | Q: |
|---|---|---|---|---|
| C6-C10 | MG/L | 5.0790 | 5 | |
| >C10-C28 | MG/L | 5.7230 | 5 | |
| C6-C28 | MG/L | 10.8020 | 5 | |
| ORTHO TER PHENYL | %REC/SURR | 105 | 50-150 | |
| ANALYST | INITIALS | HAH | | |

Comments:
Extraction Time: 14:30
Analysis Time: 17:16

SEVERN TRENT LABORATORIES 11 East Olive Road Pensacola, Florida 32514 (850) 474-1001



"FINAL REPORT FORMAT - SINGLE"

Accession: 910362
Client: STL/CHICAGO
Project Number: 9910G283
Project Name: AFC001-26HBGA
Project Location: N/S
Test: TNRCC TEXAS METHOD 1005 - TOTAL PETROLEUM HYDROCARBONS
Analysis Method: TNRCC Method 1005 (Rev. 4/98)
Extraction Method: TNRCC Method 1005 (Rev. 4/98)
Matrix: WATER
QC Level: IIMS

Lab Id: 014
Client Sample Id: EB100899
Sample Date/Time: 08-OCT-99 N/S
Received Date: 12-OCT-99

Batch: GEW327
Blank: A
Dry Weight %: N/A
Extraction Date: 18-OCT-99
Analysis Date: 20-OCT-99

| Parameter: | Units: | Results: | Rpt Lmts: | Q: |
|---|---|---|---|---|
| C6-C10 | MG/L | 4.1610 | 5 | |
| >C10-C28 | MG/L | 3.2150 | 5 | |
| C6-C28 | MG/L | 7.3760 | 5 | |
| ORTHO TER PHENYL | %REC/SURR | 106 | 50-150 | |
| ANALYST | INITIALS | HAH | | |

Comments:
Extraction Time: 14.30
Analysis Time: 18:20

643 726

SEVERN TRENT LABORATORIES 11 East Olive Road Pensacola, Florida 32514 (850) 474-1001



"FINAL REPORT FORMAT - SINGLE"

Accession. 910362
Client STL/CHICAGO
Project Number: 9910G283
Project Name: AFC001-26HBGA
Project Location: N/S
Test: TNRCC TEXAS METHOD 1005 - TOTAL PETROLEUM HYDROCARBONS
Analysis Method: TNRCC Method 1005 (Rev. 4/98)
Extraction Method: TNRCC Method 1005 (Rev. 4/98)
Matrix. WATER
QC Level: IIMS

Lab Id: 015 Sample Date/Time: 08-OCT-99 N/S
Client Sample Id: SPOT35-8WG10 Received Date: 12-OCT-99

Batch. GEW327 Extraction Date: 18-OCT-99
Blank. A Dry Weight %. N/A Analysis Date: 20-OCT-99

| Parameter. | Units: | Results: | Rpt Lmts: | Q: |
|---|---|---|---|---|
| C6-C10 | MG/L | 3.9460 | 5 | |
| >C10-C28 | MG/L | 1.1330 | 5 | |
| C6-C28 | MG/L | 5.0790 | 5 | |
| ORTHO TER PHENYL | %REC/SURR | 95 | 50-150 | |
| ANALYST | INITIALS | HAH | | |

Comments:
Extraction Time: 14:30
Analysis Time: 19:24

SEVERN TRENT LABORATORIES 11 East Olive Road Pensacola, Florida 32514 (850) 474-1001

# Quality Control Report

Analysis: DISSOLVED METHANE

| | |
|---|---|
| Accession: | 910362 |
| Client: | STL/CHICAGO |
| Project Number: | 9910G283 |
| Project Name: | AFC001-26HBGA |
| Project Location: | N/S |
| Department: | SEMI-VOLATILE FUELS |

643 728

BLANK ANALYSIS

DATE: 18-OCT-99

METHOD: RSK 175

BATCH: GEW326

| COMPOUND | UNITS | REPORTING LIMIT | RESULT |
|---|---|---|---|
| METHANE | UG/L | 1 | ND |
| ETHANE | UG/L | 1 | ND |
| ETHENE | UG/L | 1 | ND |

CONTINUING CALIBRATION

DATE: 18-OCT-99

METHOD: RSK 175

BATCH: GEW326

| COMPOUND | AMT (IC) | AMT (CC) | %D | QC LIMITS |
|---|---|---|---|---|
| METHANE | 25.0 | 26.6 | 3 | 20 |
| ETHANE | 25.0 | 26 4 | 3 | 20 |
| ETHENE | 25.0 | 26.5 | 3 | 20 |

SOURCE FOR CONTROL LIMIT IS INTERNAL LABORATORY QUALITY ASSURANCE PROGRAM AND RSK 175.

643 730

DUPLICATE SAMPLE ANALYSIS

DATE: 18-OCT-99

METHOD: RSK 175

LAB SAMPLE #: 910362-1

BATCH: GEW326

| COMPOUND | SAMPLE RESULT | DUPLICATE RESULT | %RPD | QC LIMITS |
|---|---|---|---|---|
| METHANE | 0.2200 | 0.1400 | NC | 50 |
| ETHANE | 0.0100 | ND | NC | 50 |
| ETHENE | ND | ND | N/A | 50 |

ALL RESULTS REPORTED IN UG/L.

ND = NOT DETECTED
NC = NOT CALCULABLE

SOURCE FOR CONTROL LIMIT IS INTERNAL LABORATORY QUALITY ASSURANCE PROGRAM AND RSK 175.

CHECK STANDARD (POST-RUN)

DATE. 18-OCT-99

METHOD: RSK 175

BATCH: GEW326

| COMPOUND | AMT(CC) | AMT (PS) | %D | QC LIMITS |
|---|---|---|---|---|
| METHANE | 25.0 | 26.5 | 3 | 20 |
| ETHANE | 25.0 | 25.7 | 2 | 20 |
| ETHENE | 25.0 | 25.9 | 2 | 20 |

SOURCE FOR CONTROL LIMIT IS INTERNAL LABORATORY QUALITY ASSURANCE PROGRAM AND RSK 175

SEVERN TRENT LABORATORIES 11 East Olive Road Pensacola, Florida 32514 (850) 474-1001

# Quality Control Report

Analysis: TNRCC TEXAS METHOD 1005 - TOTAL PETROLEUM HYDROCARBONS

| | |
|---|---|
| Accession: | 910362 |
| Client: | STL/CHICAGO |
| Project Number. | 9910G283 |
| Project Name: | AFC001-26HBGA |
| Project Location: | N/S |
| Department: | SEMI-VOLATILE FUELS |

SEVERN TRENT LABORATORIES 11 East Olive Road Pensacola, Florida 32514 (850) 474-1001



"QC Report"

Title: Water Blank
Batch: GEW327
Analysis Method: TNRCC Method 1005 (Rev. 4/98)
Extraction Method: TNRCC Method 1005 (Rev 4/98)

Blank Id: A Date Analyzed: 19-OCT-99 Date Extracted: 18-OCT-99

| Parameters: | Units: | Results: | Reporting Limits: |
|---|---|---|---|
| C6-C10 | MG/L | 3.5180 | 5 |
| >C10-C28 | MG/L | 0.4450 | 5 |
| C6-C28 | MG/L | 3.9630 | 5 |
| ORTHO TER PHENYL | %REC/SURR | 84 | 50-150 |
| ANALYST | INITIALS | HAH | |

Comments.

643·734

SEVERN TRENT LABORATORIES 11 East Olive Road Pensacola, Florida 32514 (850) 474-1001



"QC Report"

Title: Water LCS
Batch: GEW327
Analysis Method: TNRCC Method 1005 (Rev. 4/98)
Extraction Method: TNRCC Method 1005 (Rev. 4/98)

RS Date Analyzed. 19-OCT-99 RS Date Extracted: 18-OCT-99

| Parameters: | Spike Added | Sample Conc | RS Conc | RS %Rec | Rec Lmts |
|---|---|---|---|---|---|
| C6-C10 | 10.0 | <5 | 10.0 | 100 | 70-130 |
| >C10-C28 | 10.0 | <5 | 7.4 | 74 | 70-130 |
| C6-C28 | 20.0 | <5 | 17.4 | 87 | 70-130 |
| Surrogates: | | | | | |
| ORTHO TER PHENYL (OTP) | | | | 85 | 50-150 |

Comments.

Notes:
N/S = NOT SUBMITTED N/A = NOT APPLICABLE D = DILUTED OUT
MG/KG = PARTS PER MILLION. < = LESS THAN REPORTING LIMIT.
* = VALUES OUTSIDE OF QUALITY CONTROL LIMITS.
SOURCES FOR CONTROL LIMITS ARE INTERNAL LABORATORY QUALITY ASSURANCE PROGRAM AND REFERENCED METHOD.

EVERN TRENT LABORATORIES 11 East Olive Road Pensacola, Florida 32514 (850) 474-1001



"QC Report"

le: Water Matrix Spike/Matrix Spike Duplicate
on: GEW327
lysis Method: TNRCC Method 1005 (Rev. 4/98)
raction Method: TNRCC Method 1005 (Rev. 4/98)

Weight %: N/A
ple Spiked: 910305-11

MS Date Analyzed: 19-OCT-99
MSD Date Analyzed: 19-OCT-99
MS Date Extracted: 18-OCT-99
MSD Date Extracted: 18-OCT-99

| ameters: | Spike Added | Sample Conc | MS Conc | MS %Rec | MSD Conc | MSD %Rec | RPD | RPD Lmts | Rec Lmts |
|---|---|---|---|---|---|---|---|---|---|
| -C10 | 10.0 | <5 | 8.4 | 84 | 10.3 | 103 | 20 | 30 | 70-130 |
| 10-C28 | 10.0 | <5 | 7.7 | 77 | 8.5 | 85 | 10 | 30 | 70-130 |
| -C28 | 20.0 | <5 | 16.1 | 81 | 18.8 | 94 | 15 | 30 | 70-130 |
| rogates: | | | | | | | | | |
| THO TER PHENYL (OTP) | | | | 79 | | 99 | | | 50-150 |

mments:

es:
N/S = NOT SUBMITTED N/A = NOT APPLICABLE D = DILUTED OUT
MG/KG = PARTS PER MILLION. < = LESS THAN REPORTING LIMIT.
* = VALUES OUTSIDE OF QUALITY CONTROL LIMITS.
SOURCES FOR CONTROL LIMITS ARE INTERNAL LABORATORY QUALITY ASSURANCE PROGRAM AND REFERENCED METHOD.

643 736

SEVERN TRENT LABORATORIES 11 East Olive Road Pensacola, Florida 32514 (850) 474-1001



"QC Report"

:le: Water Matrix Spike/Matrix Spike Duplicate
:ch: GEW327
alysis Method: TNRCC Method 1005 (Rev. 4/98)
:traction Method: TNRCC Method 1005 (Rev. 4/98)

/ Weight %: N/A
mple Spiked: 910337-1

MS Date Analyzed: 20-OCT-99
MSD Date Analyzed: 20-OCT-99

MS Date Extracted: 18-OCT-99
MSD Date Extracted: 18-OCT-99

| rameters: | Spike Added | Sample Conc | MS Conc | MS %Rec | MSD Conc | MSD %Rec | RPD | RPD Lmts | Rec Lmts |
|---|---|---|---|---|---|---|---|---|---|
| -C10 | 10.0 | 6.0 | 8.0 | 20* | 9.1 | 31* | 43* | 30 | 70-130 |
| 10-C28 | 10.0 | 7.0 | 5.0 | -20* | 7.0 | 0* | 200* | 30 | 70-130 |
| -C28 | 20.0 | 13.0 | 13.0 | 0* | 16.1 | 16* | 200* | 30 | 70-130 |
| rrogates: | | | | | | | | | |
| THO TER PHENYL (OTP) | | | | 93 | | 98 | | | 50-150 |

mments:
MATRIX SPIKE/MATRIX SPIKE DUPLICATE HAD RECOVERY(S) AND/OR RPD(S) OUTSIDE ACCEPTANCE LIMITS DUE TO MATRIX INTERFERENCE. REFER TO LCS DATA.

:es:
N/S = NOT SUBMITTED N/A = NOT APPLICABLE D = DILUTED OUT
MG/KG = PARTS PER MILLION. < = LESS THAN REPORTING LIMIT.
* = VALUES OUTSIDE OF QUALITY CONTROL LIMITS.
SOURCES FOR CONTROL LIMITS ARE INTERNAL LABORATORY QUALITY ASSURANCE PROGRAM AND REFERENCED METHOD.

643 737

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Committed To *Your* Success

Severn Trent Laboratories
2417 Bond Street
University Park, IL 60466

Tel (708) 534-5200
Fax (708) 534-5211
www.stl-inc.com

November 23, 1999

Ms. Lynn Morgan
HydroGeoLogic, Inc.
1155 Herndon Parkway, Suite 900
Herndon, VA 20170

RE: AFC001-26HBA
Analytical Report & EDD
Lot 9910G387

Dear Ms Morgan

The enclosed analytical report is for the project and lot number listed above. The analyses for Method TX1005 and RSK 175 are being completed at STL-Pensacola. If you have any questions, please contact me at 708-534-5200.

Sincerely,
Severn Trent Laboratories

Bosco Ramirez
Project Manager

SJ

Enclosures. 1 Summary Report & EDD

CLP Report & 1 Summary Report/Nancy Weaver EDS

Approved By:

Michael J. Healy
General Manager

The results presented in this report relate only to the analytical testing and conditions of sample at receipt. This report pertains to only those samples actually tested. All 1-486 pages of this report are integral parts of the analytical data. Therefore, this report should be reproduced only in its entirety

Severn Trent Laboratories Chicago
INORGANIC ANALYTICAL DATA PACKAGE FOR
AFC001-26HBA

LOT # .9910G387

| CLIENT ID /ANALYSIS | SAMPLE # | MTX | PREP # | COLLECTN | DATE REC | EXT/PREP | ANALYSIS |
|---|---|---|---|---|---|---|---|
| TB101499 | | | | | | | |
| SUB-OUT TEST FOR SUB | 001 | W | | 10/14/99 | 10/15/99 | | |
| WP07-10BWG10 | | | | | | | |
| ALKALINITY | 002 | W | 99GAK139 | 10/14/99 | 10/15/99 | 10/28/99 | 10/28/99 |
| CHLORIDE BY IC | 002 | W | 99GD4020 | 10/14/99 | 10/15/99 | 10/15/99 | 10/15/99 |
| NITRATE BY IC | 002 | W | 99GD4020 | 10/14/99 | 10/15/99 | 10/15/99 | 10/15/99 |
| SULFATE BY IC | 002 | W | 99GD4020 | 10/14/99 | 10/15/99 | 10/15/99 | 10/15/99 |
| TOTAL ORGANIC CARBON | 002 | W | 99GTC232 | 10/14/99 | 10/15/99 | 10/21/99 | 10/21/99 |
| TOTAL ORGANIC CARBON | 002 | W | 99GTC232 | 10/14/99 | 10/15/99 | 10/21/99 | 10/21/99 |
| SUB-OUT TEST FOR SUB | 002 | W | | 10/14/99 | 10/15/99 | | |
| USGS07TWG10 | | | | | | | |
| ALKALINITY | 003 | W | 99GAK139 | 10/14/99 | 10/15/99 | 10/28/99 | 10/28/99 |
| ALKALINITY | 003 MS | W | 99GAK139 | 10/14/99 | 10/15/99 | 10/28/99 | 10/28/99 |
| ALKALINITY | 003 MSD | W | 99GAK139 | 10/14/99 | 10/15/99 | 10/28/99 | 10/28/99 |
| CHLORIDE BY IC | 003 | W | 99GD4020 | 10/14/99 | 10/15/99 | 10/15/99 | 10/15/99 |
| CHLORIDE BY IC | 003 MS | W | 99GD4020 | 10/14/99 | 10/15/99 | 10/16/99 | 10/16/99 |
| CHLORIDE BY IC | 003 MSD | W | 99GD4020 | 10/14/99 | 10/15/99 | 10/16/99 | 10/16/99 |
| NITRATE BY IC | 003 | W | 99GD4020 | 10/14/99 | 10/15/99 | 10/15/99 | 10/15/99 |
| NITRATE BY IC | 003 MS | W | 99GD4020 | 10/14/99 | 10/15/99 | 10/16/99 | 10/16/99 |
| NITRATE BY IC | 003 MSD | W | 99GD4020 | 10/14/99 | 10/15/99 | 10/16/99 | 10/16/99 |
| SULFATE BY IC | 003 | W | 99GD4020 | 10/14/99 | 10/15/99 | 10/15/99 | 10/15/99 |
| SULFATE BY IC | 003 MS | W | 99GD4020 | 10/14/99 | 10/15/99 | 10/16/99 | 10/16/99 |
| SULFATE BY IC | 003 MSD | W | 99GD4020 | 10/14/99 | 10/15/99 | 10/16/99 | 10/16/99 |
| TOTAL ORGANIC CARBON | 003 | W | 99GTC232 | 10/14/99 | 10/15/99 | 10/21/99 | 10/21/99 |
| TOTAL ORGANIC CARBON | 003 MS | W | 99GTC232 | 10/14/99 | 10/15/99 | 10/21/99 | 10/21/99 |
| TOTAL ORGANIC CARBON | 003 MSD | W | 99GTC232 | 10/14/99 | 10/15/99 | 10/21/99 | 10/21/99 |
| TOTAL ORGANIC CARBON | 003 | W | 99GTC232 | 10/14/99 | 10/15/99 | 10/21/99 | 10/21/99 |
| SUB-OUT TEST FOR SUB | 003 | W | | 10/14/99 | 10/15/99 | | |
| TB101599 | | | | | | | |
| SUB-OUT TEST FOR SUB | 004 | W | | 10/15/99 | 10/16/99 | | |

To: AFC001-26HBA
c/o HydroGeoLogic, Inc.
1155 Herndon Parkway, Ste. 900
Herndon, VA 20170

Attn: Ms. Lynn Morgan

Date. Friday November 5th, 1999

RE: SPOT35-5WG10
Project # 00000-000-000-0000
Lab ID: 9910G387-014
Sample Date: 10/18/99
Date Received: 10/19/99

## Inorganic Data Report

| Parameters | Result | | Units | Reporting Limit |
|---|---|---|---|---|
| Alkalinity | 443 | | mg/L | 10 0 |
| Chloride by IC | 103 | | mg/L | 4 0 |
| Nitrate-N by IC | 0.10 | u | mg/L | 0.10 |
| Sulfate by IC | 0.20 | u | mg/L | 0.20 |
| Total Organic Carbon | 5.0 | | mg/L | 1.0 |
| TOC Test 2 | 7.1 | | mg/L | 1.0 |

To: AFC001-26HBA
c/o HydroGeoLogic, Inc.
1155 Herndon Parkway, Ste. 900
Herndon, VA 20170

Attn: Ms. Lynn Morgan

Date: Friday November 5th, 1999

Project # 00000-000-000-0000
Lab Batch: 9910G387

## Inorganic Method Blank Data Report

| Sample | Lab ID | Parameter | Result | | Units | Reporting Limit |
|---|---|---|---|---|---|---|
| Blank 1 | 99GAK139-MB1 | Alkalinity | 10.0 | u | mg/L | 10.0 |
| Blank 1 | 99GD4020-MB1 | Chloride by IC | 0 20 | u | mg/L | 0 20 |
| | | Nitrate-N by IC | 0.10 | u | mg/L | 0 10 |
| | | Sulfate by IC | 0.20 | u | mg/L | 0.20 |
| Blank 1 | 99GTC232-MB1 | Total Organic Carbon | 1 0 | u | mg/L | 1.0 |
| Blank 1 | 99GD4021-MB1 | Chloride by IC | 0.20 | u | mg/L | 0 20 |
| | | Nitrate-N by IC | 0.10 | u | mg/L | 0.10 |
| | | Sulfate by IC | 0.20 | u | mg/L | 0.20 |
| Blank 1 | 99GTC233-MB1 | Total Organic Carbon | 1 0 | u | mg/L | 1 0 |
| Blank 1 | 99GAK140-MB1 | Alkalinity | 10 0 | u | mg/L | 10 0 |
| Blank 1 | 99GD4023-MB1 | Chloride by IC | 0.20 | u | mg/L | 0.20 |
| | | Nitrate-N by IC | 0.10 | u | mg/L | 0.10 |
| | | Sulfate by IC | 0.20 | u | mg/L | 0 20 |
| Blank 1 | 99GD4029-MB1 | Nitrate-N by IC | 0 10 | u | mg/L | 0 10 |
| | | Sulfate by IC | 0 20 | u | mg/L | 0 20 |

To: AFC001-26HBA
c/o HydroGeoLogic, Inc.
1155 Herndon Parkway, Ste. 900
Herndon, VA 20170

Attn: Ms. Lynn Morgan

Date: Friday November 5th, 1999

Project # 00000-000-000-0000
Lab Batch: 9910G387

## Inorganic Laboratory Control Standards Report

| Lab ID | Parameter | Spiked Amount | Units | Spike #1 % Recov | Spike #2 % Recov. | RPD |
|---|---|---|---|---|---|---|
| 99GAK139-LCS | Alkalinity | 100 | mg/L | 104 | NA | NA |
| 99GD4020-LCS | Chloride by IC | 3.0 | mg/L | 99.8 | NA | NA |
| | Nitrate-N by IC | 2.0 | mg/L | 102 | NA | NA |
| | Sulfate by IC | 5.0 | mg/L | 100 | NA | NA |
| 99GTC232-LCS | TOC | 5.0 | mg/L | 99.2 | NA | NA |
| 99GD4021-LCS | Chloride by IC | 3.0 | mg/L | 96 4 | NA | NA |
| | Nitrate-N by IC | 2 0 | mg/L | 99.4 | NA | NA |
| | Sulfate by IC | 5 0 | mg/L | 94 2 | NA | NA |
| 99GTC233-LCS | TOC | 5.0 | mg/L | 100 | NA | NA |
| 99GAK140-LCS | Alkalinity | 100 | mg/L | 106 | NA | NA |
| 99GD4023-LCS | Chloride by IC | 3.0 | mg/L | 97.7 | NA | NA |
| | Nitrate-N by IC | 2 0 | mg/L | 99.6 | NA | NA |
| | Sulfate by IC | 5.0 | mg/L | 102 | NA | NA |
| 99GD4029-LCS | Nitrate-N by IC | 2.0 | mg/L | 100 | NA | NA |
| | Sulfate by IC | 5 0 | mg/L | 103 | NA | NA |

# Severn Trent Laboratories Chicago
# Wet Chemistry Case Narrative

Client: **HydroGeoLogic, NAS Ft. Worth AFC001-26HBA**
RFW Lot: **9910G387** Date Rec'd: 10/08/99

1. This narrative covers the analysis of the samples in the above RFW Lot by the following methods.

   Alkalinity - EPA Method 310.1
   Anions by Ion Chromatography - SW 846 9056
   - Chloride
   - Nitrate as N
   - Sulfate as $SO_4$

   TOC - EPA Method 415.1

2. The EPA holding times were met. Refer to the Laboratory Chronicle Page for dates of sampling, receipt, and analysis.

3. The initial and continuing calibration verification standards and blanks were in control.

4. All method blanks were below the detection limits.

5. All LCS recoveries were within control limits. Please see the LCS Summary Pages of this report for additional details.

6. Matrix spikes were requested and done on sample USGS07TWG10 and all recoveries were within acceptance limits.

Diane L. Harper
Wet Chemistry Section Manager

11/4/99
Date

Severn Trent Laboratories Chicago
8260 ANALYTICAL DATA PACKAGE FOR
AFC001-26HBA

LOT # :9910G387

| CLIENT ID | SAMPLE # | MTX | PREP # | COLLECTN | DATE REC | EXT/PREP | ANALYSIS |
|---|---|---|---|---|---|---|---|
| TB101499 | 001 | W | 99GVF335 | 10/14/99 | 10/15/99 | N/A | 10/22/99 |
| WP07-10BWG10 | 002 | W | 99GVF335 | 10/14/99 | 10/15/99 | N/A | 10/22/99 |
| WP07-10BWG10 | 002 D1 | W | 99GVF336 | 10/14/99 | 10/15/99 | N/A | 10/25/99 |
| WP07-10BWG10 | 002 D2 | W | 99GVF336 | 10/14/99 | 10/15/99 | N/A | 10/25/99 |
| USGS07TWG10 | 003 | W | 99GVF337 | 10/14/99 | 10/15/99 | N/A | 10/25/99 |
| USGS07TWG10 | 003 MS | W | 99GVF335 | 10/14/99 | 10/15/99 | N/A | 10/22/99 |
| USGS07TWG10 | 003 MSD | W | 99GVF335 | 10/14/99 | 10/15/99 | N/A | 10/22/99 |
| TB101599 | 004 | W | 99GVF337 | 10/15/99 | 10/16/99 | N/A | 10/25/99 |
| HM-123WG10 | 005 | W | 99GVF337 | 10/15/99 | 10/16/99 | N/A | 10/26/99 |
| HM-123WG10 | 005 D1 | W | 99GVF338 | 10/15/99 | 10/16/99 | N/A | 10/26/99 |
| EB101599 | 006 | W | 99GVF338 | 10/15/99 | 10/16/99 | N/A | 10/26/99 |
| MW-53WG10 | 007 | W | 99GVF337 | 10/15/99 | 10/16/99 | N/A | 10/26/99 |
| MW-53WG10 | 007 D1 | W | 99GVF338 | 10/15/99 | 10/16/99 | N/A | 10/27/99 |
| WHGLTA701WG10 | 008 | W | 99GVF337 | 10/15/99 | 10/16/99 | N/A | 10/26/99 |
| WHGLTA701WG10 | 008 D1 | W | 99GVF339 | 10/15/99 | 10/16/99 | N/A | 10/27/99 |
| LF05-01WG10 | 009 | W | 99GVF339 | 10/15/99 | 10/16/99 | N/A | 10/27/99 |
| LF05-01WG10 | 009 D1 | W | 99GVF338 | 10/15/99 | 10/16/99 | N/A | 10/27/99 |
| UP03WG10 | 010 | W | 99GVF337 | 10/15/99 | 10/16/99 | N/A | 10/26/99 |
| UP03WG10 | 010 D1 | W | 99GVF339 | 10/15/99 | 10/16/99 | N/A | 10/27/99 |
| TB101899 | 011 | W | 99GVF339 | 10/18/99 | 10/19/99 | N/A | 10/28/99 |
| WHGLTA005WG10 | 012 | W | 99GVF339 | 10/18/99 | 10/19/99 | N/A | 10/28/99 |
| WHGLTA007WG10 | 013 | W | 99GVF337 | 10/18/99 | 10/19/99 | N/A | 10/26/99 |
| SPOT35-5WG10 | 014 | W | 99GVF337 | 10/18/99 | 10/19/99 | N/A | 10/26/99 |
| SPOT35-5WG10 | 014 D1 | W | 99GVF339 | 10/18/99 | 10/19/99 | N/A | 10/28/99 |
| HM-125WG10 | 015 | W | 99GVF339 | 10/18/99 | 10/19/99 | N/A | 10/28/99 |
| HM-125WG10 | 015 D1 | W | 99GVF340 | 10/18/99 | 10/19/99 | N/A | 10/28/99 |
| W-153WG10 | 016 | W | 99GVF339 | 10/18/99 | 10/19/99 | N/A | 10/28/99 |
| W-153WG10 | 016 D1 | W | 99GVF341 | 10/18/99 | 10/19/99 | N/A | 10/29/99 |
| ST14-W11WG10 | 017 | W | 99GVF340 | 10/18/99 | 10/19/99 | N/A | 10/28/99 |
| HM-116WG10 | 018 | W | 99GVF340 | 10/18/99 | 10/19/99 | N/A | 10/28/99 |
| HM-116WG10 | 018 D1 | W | 99GVF341 | 10/18/99 | 10/19/99 | N/A | 10/29/99 |
| HM-116WG10 | 018 D2 | W | 99GVF341 | 10/18/99 | 10/19/99 | N/A | 10/29/99 |
| WHGLTA004WG10 | 019 | W | 99GVF340 | 10/18/99 | 10/19/99 | N/A | 10/28/99 |
| WHGLTA004WG10 | 019 D1 | W | 99GVF341 | 10/18/99 | 10/19/99 | N/A | 10/29/99 |

LAB QC:

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| VBLKZV | MB1 | W | 99GVF335 | N/A | N/A | N/A | 10/22/99 |
| VBLKZV | MB1 BS | W | 99GVF335 | N/A | N/A | N/A | 10/22/99 |
| VBLKZX | MB1 | W | 99GVF336 | N/A | N/A | N/A | 10/25/99 |

NY CERTIFICATION # 11006

STL Chicago
METHOD 8260 VOLATILES

Report Date 11/11/99 16:10
Page: 4a

RFW Batch Number: 9910G387 Client AFC001-26HBA Work Order 00000-000-000-0

| | Cust ID: | DUP03WG10 | TB101899 | WHGLTA005WG10 | WHGLTA007WG10 | SPOT35-5WG10 | SPOT35-5WG10 |
|---|---|---|---|---|---|---|---|
| Sample Information | RFW#: | 010 DL | 011 | 012 | 013 | 014 | 014 DL |
| | Matrix: | WATER | WATER | WATER | WATER | WATER | WATER |
| | D.F.: | 100 | 1 | 1 | 1 | 1 | 5 |
| | Units: | UG/L | UG/L | UG/L | UG/L | UG/L | UG/L |
| Surrogate Recovery | 1,2-Dichloroethane-d4 | 92 % | 93 % | 94 % | 115 % | 127 % | 97 % |
| | Toluene-d8 | 102 % | 100 % | 100 % | 112 % | 140 * % | 105 % |
| | 4-Bromofluorobenzene | 106 % | 106 % | 106 % | 114 % | 111 % | 103 % |
| | Dibromofluoromethane | 89 % | 95 % | 94 % | 109 % | 107 % | 92 % |
| Dichlorodifluoromethane | | NA | 0.5 U | 0.5 U | 0.5 U | 0.5 U | NA |
| Chloromethane | | NA | 0.5 U | 0.5 U | 0.5 U | 0.5 U | NA |
| Vinyl chloride | | NA | 0.5 U | 0.5 U | 0.5 U | 0.5 U | NA |
| Bromomethane | | NA | 0.5 U | 0.5 U | 0.5 U | 0.5 U | NA |
| Chloroethane | | NA | 0.5 U | 0.5 U | 0.5 U | 0.5 U | NA |
| Trichlorofluoromethane | | NA | 0.5 U | 0.5 U | 0.5 U | 0.5 U | NA |
| 1,1-Dichloroethene | | NA | 0.5 U | 0.5 U | 0.5 U | 0.5 U | NA |
| Methylene Chloride | | NA | 0.5 U | 0.5 U | 0.5 U | 0.5 U | NA |
| trans-1,2-Dichloroethene | | NA | 0.5 U | 0.5 U | 0.5 U | 0.5 U | NA |
| 1,1-Dichloroethane | | NA | 0.4 U | 0.4 U | 0.4 U | 0.4 U | NA |
| Vinyl acetate | | NA | 2 U | 2 U | 2 U | 2 U | NA |
| cis-1,2-Dichloroethene | | 470 | 0.5 U | 0.5 U | 0.5 U | 0.5 U | NA |
| 2,2-Dichloropropane | | NA | 0.5 U | 0.5 U | 0.5 U | 0.5 U | NA |
| Bromochloromethane | | NA | 0.4 U | 0.4 U | 0.4 U | 0.4 U | NA |
| Chloroform | | NA | 0.3 U | 0.3 U | 0.3 U | 0.3 U | NA |
| 1,1,1-Trichloroethane | | NA | 0.5 U | 0.5 U | 0.5 U | 0.5 U | NA |
| 1,1-Dichloropropene | | NA | 0.5 U | 0.5 U | 0.5 U | 0.5 U | NA |
| Carbon Tetrachloride | | NA | 0.5 U | 0.5 U | 0.5 U | 0.5 U | NA |
| Benzene | | NA | 0.4 U | 0.4 U | 0.4 U | 0.4 U | NA |
| 1,2-Dichloroethane | | NA | 0.5 U | 0.5 U | 0.5 U | 0.5 U | NA |
| Trichloroethene | | 2800 | 0.5 U | 0.5 U | 1 | 0.5 U | NA |
| 1,2-Dichloropropane | | NA | 0.4 U | 0.4 U | 0.4 U | 0.4 U | NA |
| Dibromomethane | | NA | 0.5 U | 0.5 U | 0.5 U | 0.5 U | NA |
| Bromodichloromethane | | NA | 0.5 U | 0.5 U | 0.5 U | 0.5 U | NA |
| cis-1,3-Dichloropropene | | NA | 0.5 U | 0.5 U | 0.5 U | 0.5 U | NA |

*= Outside of EPA CLP QC limits.

| Cust ID: | DUP03WG10 | TB101899 | WHGLTA005WG1 | WHGLTA007WG1 | SPOT35-5WG10 | SPOT35-5WG10 |
|---|---|---|---|---|---|---|
| | | | 0 | 0 | | |
| RFW#: | 010 DL | 011 | 012 | 013 | 014 | 014 DL |
| Toluene | NA | 0.5 U | 0.5 U | 0.5 U | 0.5 U | NA |
| trans-1,3-Dichloropropene | NA | 0.5 U | 0.5 U | 0.5 U | 0.5 U | NA |
| 1,1,2-Trichloroethane | NA | 0.5 U | 0.5 U | 0.5 U | 0.5 U | NA |
| 1,3-Dichloropropane | NA | 0.4 U | 0.4 U | 0.4 U | 0.4 U | NA |
| Tetrachloroethene | NA | 0.5 U | 0.5 U | 0.5 U | 0.5 U | NA |
| Dibromochloromethane | NA | 0.5 U | 0.5 U | 0.5 U | 0.5 U | NA |
| 1,2-Dibromoethane | NA | 0.5 U | 0.5 U | 0.5 U | 0.5 U | NA |
| 1-Chlorohexane | NA | 0.5 U | 0.5 U | 0.5 U | 0.5 U | NA |
| Chlorobenzene | NA | 0.4 U | 0.4 U | 0.4 U | 0.4 U | NA |
| 1,1,1,2-Tetrachloroethane | NA | 0.5 U | 0.5 U | 0.5 U | 0.5 U | NA |
| Ethylbenzene | NA | 0.5 U | 0.5 U | 0.5 U | 0.5 U | NA |
| m/p-Xylene | NA | 0.5 U | 0.5 U | 0.5 U | 0.5 U | NA |
| o-Xylene | NA | 0.5 U | 0.5 U | 0.5 U | 0.5 U | NA |
| Styrene | NA | 0.4 U | 0.4 U | 0.4 U | 0.4 U | NA |
| Bromoform | NA | 0.5 U | 0.5 U | 0.5 U | 0.5 U | NA |
| Isopropylbenzene | NA | 0.5 U | 0.5 U | 3 | 29 | NA |
| 1,1,2,2-Tetrachloroethane | NA | 0.5 U | 0.5 U | 0.5 U | 0.5 U | NA |
| Bromobenzene | NA | 0.3 U | 0.3 U | 0.3 U | 0.3 U | NA |
| 1,2,3-Trichloropropane | NA | 0.5 U | 0.5 U | 0.5 U | 0.5 U | NA |
| n-Propylbenzene | NA | 0.4 U | 0.4 U | 1 | 36 | NA |
| 2-Chlorotoluene | NA | 0.4 U | 0.4 U | 0.4 U | 0.4 U | NA |
| 1,3,5-Trimethylbenzene | NA | 0.5 U | 0.5 U | 0.5 U | 0.5 U | NA |
| 4-Chlorotoluene | NA | 0.5 U | 0.5 U | 0.5 U | 0.5 U | NA |
| tert-Butylbenzene | NA | 0.5 U | 0.5 U | 2 | 2 | NA |
| 1,2,4-Trimethylbenzene | NA | 0.5 U | 0.5 U | 0.5 U | 0.5 U | NA |
| sec-Butylbenzene | NA | 0.5 U | 0.5 U | 0.5 U | 8 | NA |
| 1,3-Dichlorobenzene | NA | 0.5 U | 0.5 U | 0.5 U | 0.5 U | NA |
| p-Isopropyltoluene | NA | 0.5 U | 0.5 U | 0.5 U | 0.5 U | NA |
| 1,4-Dichlorobenzene | NA | 0.3 U | 0.3 U | 0.3 U | 0.3 U | NA |
| n-Butylbenzene | NA | 0.5 U | 0.5 U | 0.5 U | 2 | NA |
| 1,2-Dichlorobenzene | NA | 0.3 U | 0.3 U | 0.3 U | 0.3 U | NA |
| 1,2-Dibromo-3-chloropropane | NA | 0.5 U | 0.5 U | 0.5 U | 0.5 U | NA |
| 1,2,4-Trichlorobenzene | NA | 0.4 U | 0.4 U | 0.4 U | 0.4 U | NA |
| Hexachlorobutadiene | NA | 0.5 U | 0.5 U | 0.5 U | 0.5 U | NA |
| Naphthalene | NA | 0.5 U | 0.5 U | 0.5 U | E | 40 |
| 1,2,3-Trichlorobenzene | NA | 0.5 U | 0.5 U | 0.5 U | 0.5 U | NA |

*= Outside of EPA CLP QC limits.

RFW Batch Number: 9910G387 Client: AFC001-26HBA Work Order 00000-000-000-0 Page: 5b

| Cust ID: | HM-125WG10 | HM-125WG10 | W-153WG10 | W-153WG10 | ST14-W11WG10 | HM-116WG10 |
|---|---|---|---|---|---|---|
| RFW#: | 015 | 015 DL | 016 | 016 DL | 017 | 018 |
| Toluene | 0.5 U | NA | 0.5 U | NA | 0.5 U | 0.5 U |
| trans-1,3-Dichloropropene | 0.5 U | NA | 0.5 U | NA | 0.5 U | 0.5 U |
| 1,1,2-Trichloroethane | 0.5 U | NA | 0.5 U | NA | 0.5 U | 0.5 U |
| 1,3-Dichloropropane | 0.4 U | NA | 0.4 U | NA | 0.4 U | 0.4 U |
| Tetrachloroethene | 0.5 U | NA | 2 | NA | 0.5 U | 9 |
| Dibromochloromethane | 0.5 U | NA | 0.5 U | NA | 0.5 U | 0.5 U |
| 1,2-Dibromoethane | 0.5 U | NA | 0.5 U | NA | 0.5 U | 0.5 U |
| 1-Chlorohexane | 0.5 U | NA | 0.5 U | NA | 0.5 U | 0.5 U |
| Chlorobenzene | 0.4 U | NA | 0.4 U | NA | 0.4 U | 0.4 U |
| 1,1,1,2-Tetrachloroethane | 0.5 U | NA | 0.5 U | NA | 0.5 U | 0.5 U |
| Ethylbenzene | 0.5 U | NA | 0.5 U | NA | 0.5 U | 0.5 U |
| m/p-Xylene | 0.5 U | NA | 0.5 U | NA | 0.5 U | 0.5 U |
| o-Xylene | 0.5 U | NA | 0.5 U | NA | 0.5 U | 0.5 U |
| Styrene | 0.4 U | NA | 0.4 U | NA | 0.4 U | 0.4 U |
| Bromoform | 0.5 U | NA | 0.5 U | NA | 0.5 U | 0.5 U |
| Isopropylbenzene | 0.5 U | NA | 0.5 U | NA | 0.5 U | 0.5 U |
| 1,1,2,2-Tetrachloroethane | 0.5 U | NA | 0.5 U | NA | 0.5 U | 0.5 U |
| Bromobenzene | 0.3 U | NA | 0.3 U | NA | 0.3 U | 0.3 U |
| 1,2,3-Trichloropropane | 0.5 U | NA | 0.5 U | NA | 0.5 U | 0.5 U |
| n-Propylbenzene | 0.4 U | NA | 0.4 U | NA | 0.4 U | 0.4 U |
| 2-Chlorotoluene | 0.4 U | NA | 0.4 U | NA | 0.4 U | 0.4 U |
| 1,3,5-Trimethylbenzene | 0.5 U | NA | 0.5 U | NA | 0.5 U | 0.5 U |
| 4-Chlorotoluene | 0.5 U | NA | 0.5 U | NA | 0.5 U | 0.5 U |
| tert-Butylbenzene | 0.5 U | NA | 0.5 U | NA | 0.5 U | 0.5 U |
| 1,2,4-Trimethylbenzene | 0.5 U | NA | 0.5 U | NA | 0.5 U | 0.5 U |
| sec-Butylbenzene | 0.5 U | NA | 0.5 U | NA | 0.5 U | 0.5 U |
| 1,3-Dichlorobenzene | 0.5 U | NA | 0.5 U | NA | 0.5 U | 0.5 U |
| p-Isopropyltoluene | 0.5 U | NA | 0.5 U | NA | 0.5 U | 0.5 U |
| 1,4-Dichlorobenzene | 0.3 U | NA | 0.3 U | NA | 0.3 U | 0.3 U |
| n-Butylbenzene | 0.5 U | NA | 0.5 U | NA | 0.5 U | 0.5 U |
| 1,2-Dichlorobenzene | 0.3 U | NA | 0.3 U | NA | 0.3 U | 0.3 U |
| 1,2-Dibromo-3-chloropropane | 0.5 U | NA | 0.5 U | NA | 0.5 U | 0.5 U |
| 1,2,4-Trichlorobenzene | 0.4 U | NA | 0.4 U | NA | 0.4 U | 0.4 U |
| Hexachlorobutadiene | 0.5 U | NA | 0.5 U | NA | 0.5 U | 0.5 U |
| Naphthalene | 0.5 U | NA | 0.5 U | NA | 0.5 U | 0.5 U |
| 1,2,3-Trichlorobenzene | 0.5 U | NA | 0.5 U | NA | 0.5 U | 0.5 U |

*= Outside of EPA CLP QC limits

STL Chicago
METHOD 8260 VOLATILES

RFW Batch Number 9910G387 Client AFC001-26HBA Work Order 00000-000-000-0 Report Date 11/11/99 16.10 Page 6a

| Sample Information | | | | | | |
|---|---|---|---|---|---|---|
| Cust ID: | HM-116WG10 | HM-116WG10 | WHGLTA004WG1 0 | WHGLTA004WG1 0 | VBLKZV | VBLKZV BS |
| RFW#: | 018 DL | 018 DL | 019 | 019 DL | 99GVF335-MB1 | 99GVF335-MB1 |
| Matrix: | WATER | WATER | WATER | WATER | WATER | WATER |
| D.F.: | 10 | 100 | 1 | 100 | 1 | 1 |
| Units: | UG/L | UG/L | UG/L | UG/L | UG/L | UG/L |
| **Surrogate Recovery** | | | | | | |
| 1,2-Dichloroethane-d4 | 98 % | 78 % | 112 % | 98 % | 92 % | 104 % |
| Toluene-d8 | 104 % | 80 % | 112 % | 100 % | 104 % | 107 % |
| 4-Bromofluorobenzene | 104 % | 82 % | 107 % | 103 % | 106 % | 108 % |
| Dibromofluoromethane | 91 % | 77 % | 98 % | 95 % | 91 % | 94 % |
| Dichlorodifluoromethane | NA | NA | 0.5 U | NA | 0.5 U | 95 % |
| Chloromethane | NA | NA | 0.5 U | NA | 0 5 U | 94 % |
| Vinyl chloride | NA | NA | 0.5 U | NA | 0.5 U | 104 % |
| Bromomethane | NA | NA | 0.5 U | NA | 0 5 U | 116 % |
| Chloroethane | NA | NA | 0.5 U | NA | 0 5 U | 99 % |
| Trichlorofluoromethane | NA | NA | 0 5 U | NA | 0 5 U | 142 * % |
| 1,1-Dichloroethene | NA | NA | 2 | NA | 0 5 U | 92 % |
| Methylene Chloride | NA | NA | 0 5 U | NA | 0 5 U | 100 % |
| trans-1,2-Dichloroethene | NA | NA | 7 | NA | 0 5 U | 94 % |
| 1,1-Dichloroethane | NA | NA | 0 4 U | NA | 0.4 U | 93 % |
| Vinyl acetate | NA | NA | 2 U | NA | 2 U | 93 * % |
| cis-1,2-Dichloroethene | 48 | NA | E | 100 | 0.5 U | 92 % |
| 2,2-Dichloropropane | NA | NA | 0.5 U | NA | 0.5 U | 113 % |
| Bromochloromethane | NA | NA | 0.4 U | NA | 0.4 U | 87 % |
| Chloroform | NA | NA | 0.3 U | NA | 0.3 U | 102 % |
| 1,1,1-Trichloroethane | NA | NA | 0.5 U | NA | 0.5 U | 105 % |
| 1,1-Dichloropropene | NA | NA | 0.5 U | NA | 0.5 U | 110 % |
| Carbon Tetrachloride | NA | NA | 0.5 U | NA | 0.5 U | 110 % |
| Benzene | NA | NA | 0.4 U | NA | 0.4 U | 98 % |
| 1,2-Dichloroethane | NA | NA | 0 5 U | NA | 0 5 U | 106 % |
| Trichloroethene | E | 490 | E | 870 | 0 5 U | 109 % |
| 1,2-Dichloropropane | NA | NA | 0.4 U | NA | 0 4 U | 104 % |
| Dibromomethane | NA | NA | 0 5 U | NA | 0 5 U | 106 % |
| Bromodichloromethane | NA | NA | 0 5 U | NA | 0 5 U | 108 % |
| cis-1,3-Dichloropropene | NA | NA | 0 5 U | NA | 0 5 U | 104 % |

*= Outside of EPA CLP QC limits.

643 747

643 748

RFW Batch Number 9910G387 Client AFC001-26HBA Work Order: 00000-000-000-0 Page: (b)

| Cust ID. | HM-116WG10 | HM-116WG10 | WHGLTA004WG1 0 | WHGLTA004WG1 0 | VBLKZV | VBLKZV BS |
|---|---|---|---|---|---|---|
| RFW#: | 018 DL | 018 DL | 019 | 019 DL | 99GVF335-MB1 | 99GVF335-MB1 |
| Toluene | NA | NA | 0 5 U | NA | 0 5 U | 109 % |
| trans-1,3-Dichloropropene | NA | NA | 0.5 U | NA | 0 5 U | 102 % |
| 1,1,2-Trichloroethane | NA | NA | 0 5 U | NA | 0.5 U | 108 % |
| 1,3-Dichloropropane | NA | NA | 0 4 U | NA | 0.4 U | 104 % |
| Tetrachloroethene | NA | NA | 0.5 U | NA | 0.5 U | 110 % |
| Dibromochloromethane | NA | NA | 0 5 U | NA | 0 5 U | 104 % |
| 1,2-Dibromoethane | NA | NA | 0.5 U | NA | 0 5 U | 107 % |
| 1-Chlorohexane | NA | NA | 0 5 U | NA | 0.5 U | 124 % |
| Chlorobenzene | NA | NA | 0.4 U | NA | 0 4 U | 107 % |
| 1,1,1,2-Tetrachloroethane | NA | NA | 0 5 U | NA | 0 5 U | 105 % |
| Ethylbenzene | NA | NA | 0 5 U | NA | 0 5 U | 106 % |
| m/p-Xylene | NA | NA | 0 5 U | NA | 0 5 U | 110 % |
| o-Xylene | NA | NA | 0 5 U | NA | 0 5 U | 108 % |
| Styrene | NA | NA | 0.4 U | NA | 0 4 U | 107 % |
| Bromoform | NA | NA | 0 5 U | NA | 0 5 U | 104 % |
| Isopropylbenzene | NA | NA | 0.5 U | NA | 0 5 U | 107 % |
| 1,1,2,2-Tetrachloroethane | NA | NA | 0.5 U | NA | 0 5 U | 101 % |
| Bromobenzene | NA | NA | 0 3 U | NA | 0 3 U | 102 % |
| 1,2,3-Trichloropropane | NA | NA | 0 5 U | NA | 0 5 U | 101 % |
| n-Propylbenzene | NA | NA | 0 4 U | NA | 0 4 U | 108 % |
| 2-Chlorotoluene | NA | NA | 0 4 U | NA | 0 4 U | 104 % |
| 1,3,5-Trimethylbenzene | NA | NA | 0 5 U | NA | 0 5 U | 105 % |
| 4-Chlorotoluene | NA | NA | 0.5 U | NA | 0 5 U | 105 % |
| tert-Butylbenzene | NA | NA | 0 5 U | NA | 0 5 U | 106 % |
| 1,2,4-Trimethylbenzene | NA | NA | 0 5 U | NA | 0 5 U | 106 % |
| sec-Butylbenzene | NA | NA | 0 5 U | NA | 0 5 U | 109 % |
| 1,3-Dichlorobenzene | NA | NA | 0.5 U | NA | 0 5 U | 102 % |
| p-Isopropyltoluene | NA | NA | 0 5 U | NA | 0 5 U | 105 % |
| 1,4-Dichlorobenzene | NA | NA | 0 3 U | NA | 0 3 U | 99 % |
| n-Butylbenzene | NA | NA | 0.5 U | NA | 0.5 U | 109 % |
| 1,2-Dichlorobenzene | NA | NA | 0 3 U | NA | 0.3 U | 100 % |
| 1,2-Dibromo-3-chloropropane | NA | NA | 0 5 U | NA | 0 5 U | 95 % |
| 1,2,4-Trichlorobenzene | NA | NA | 0 4 U | NA | 0 4 U | 99 % |
| Hexachlorobutadiene | NA | NA | 0 5 U | NA | 0 5 U | 108 % |
| Naphthalene | NA | NA | 0 5 U | NA | 0.5 U | 85 % |
| 1,2,3-Trichlorobenzene | NA | NA | 0 5 U | NA | 0 5 U | 94 % |

*= Outside of EPA CLP QC limits.

STL Chicago
METHOD 8260 VOLATILES

RFW Batch Number. 9910G387 Client: AFC001-26HBA Work Order: 00000-000-000-0

Report Date: 11/11/99 16:10
Page: 7a

| Sample Information | Cust ID: | VBLKZX | VBLKZX BS | VBLKZZ | VBLKZZ BS | VBLKEM | VBLKEM BS |
|---|---|---|---|---|---|---|---|
| | RFW#: | 99GVF336-MB1 | 99GVF336-MB1 | 99GVF337-MB1 | 99GVF337-MB1 | 99GVF338-MB1 | 99GVF338-MB1 |
| | Matrix: | WATER | WATER | WATER | WATER | WATER | WATER |
| | D.F.: | 1 | 1 | 1 | 1 | 1 | 1 |
| | Units | UG/L | UG/L | UG/L | UG/L | UG/L | UG/L |
| Surrogate Recovery | 1,2-Dichloroethane-d4 | 93 % | 105 % | 112 % | 108 % | 102 % | 103 % |
| | Toluene-d8 | 106 % | 112 % | 115 % | 104 % | 110 % | 101 % |
| | 4-Bromofluorobenzene | 106 % | 109 % | 116 % | 108 % | 106 % | 104 % |
| | Dibromofluoromethane | 92 % | 97 % | 122 % | 105 % | 103 % | 100 % |
| | | fl | fl | fl | fl | fl | fl |
| Dichlorodifluoromethane | | 0.5 U | 91 % | 0 5 U | 86 % | 0.5 U | 80 % |
| Chloromethane | | 0.5 U | 101 % | 0 5 U | 101 % | 0 5 U | 102 % |
| Vinyl chloride | | 0.5 U | 112 % | 0.5 U | 108 % | 0.5 U | 110 % |
| Bromomethane | | 0 5 U | 122 % | 0.5 U | 127 * % | 0 5 U | 127 * % |
| Chloroethane | | 0.5 U | 108 % | 0.5 U | 107 % | 0 5 U | 118 % |
| Trichlorofluoromethane | | 0 5 U | 146 * % | 0 5 U | 141 * % | 0.5 U | 142 * % |
| 1,1-Dichloroethene | | 0.5 U | 86 % | 0 5 U | 78 % | 0 5 U | 104 % |
| Methylene Chloride | | 0.5 U | 87 % | 0.5 U | 88 % | 0.5 U | 101 % |
| trans-1,2-Dichloroethene | | 0.5 U | 93 % | 0 5 U | 86 % | 0 5 U | 104 % |
| 1,1-Dichloroethane | | 0.4 U | 91 % | 0 4 U | 89 % | 0 4 U | 102 % |
| Vinyl acetate | | 2 U | 90 * % | 2 U | 100 * % | 2 U | 111 * % |
| cis-1,2-Dichloroethene | | 0 5 U | 91 % | 0 5 U | 91 % | 0.5 U | 102 % |
| 2,2-Dichloropropane | | 0.5 U | 108 % | 0.5 U | 98 % | 0.5 U | 113 % |
| Bromochloromethane | | 0.4 U | 79 % | 0 4 U | 84 % | 0.4 U | 83 % |
| Chloroform | | 0 3 U | 98 % | 0.3 U | 104 % | 0 3 U | 109 % |
| 1,1,1-Trichloroethane | | 0.5 U | 100 % | 0 5 U | 99 % | 0.5 U | 103 % |
| 1,1-Dichloropropene | | 0.5 U | 104 % | 0 5 U | 101 % | 0.5 U | 113 % |
| Carbon Tetrachloride | | 0.5 U | 104 % | 0.5 U | 94 % | 0 5 U | 103 % |
| Benzene | | 0.4 U | 95 % | 0 4 U | 90 % | 0 4 U | 103 % |
| 1,2-Dichloroethane | | 0 5 U | 98 % | 0.5 U | 101 % | 0 5 U | 105 % |
| Trichloroethene | | 0 5 U | 106 % | 0 5 U | 97 % | 0 5 U | 106 % |
| 1,2-Dichloropropane | | 0.4 U | 102 % | 0.4 U | 102 % | 0 4 U | 109 % |
| Dibromomethane | | 0 5 U | 99 % | 0 5 U | 104 % | 0 5 U | 107 % |
| Bromodichloromethane | | 0.5 U | 104 % | 0 5 U | 106 % | 0.5 U | 108 % |
| cis-1,3-Dichloropropene | | 0 5 U | 100 % | 0 5 U | 100 % | 0 5 U | 105 % |

*= Outside of EPA CLP QC limits.

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RFW Batch Number 9910G387 Client AFC001-26HBA Work Order 00000-000-000-0 Page 7b

643 750

| Cust ID: | VBLKZX | | VBLKZX BS | | VBLKZZ | | VBLKZZ BS | | VBLKEM | | VBLKEM BS | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| RFW#: | 99GVF336-MB1 | | 99GVF336-MB1 | | 99GVF337-MB1 | | 99GVF337-MB1 | | 99GVF338-MB1 | | 99GVF338-MB1 | |
| Toluene | 0.5 | U | 104 | % | 0.5 | U | 98 | % | 0.5 | U | 104 | % |
| trans-1,3-Dichloropropene | 0.5 | U | 96 | % | 0.5 | U | 101 | % | 0.5 | U | 102 | % |
| 1,1,2-Trichloroethane | 0.5 | U | 101 | % | 0.5 | U | 115 | % | 0.5 | U | 110 | % |
| 1,3-Dichloropropane | 0.4 | U | 102 | % | 0.4 | U | 102 | % | 0.4 | U | 106 | % |
| Tetrachloroethene | 0.5 | U | 110 | % | 0.5 | U | 96 | % | 0.5 | U | 103 | % |
| Dibromochloromethane | 0.5 | U | 102 | % | 0.5 | U | 106 | % | 0.5 | U | 105 | % |
| 1,2-Dibromoethane | 0.5 | U | 98 | % | 0.5 | U | 106 | % | 0.5 | U | 106 | % |
| 1-Chlorohexane | 0.5 | U | 114 | % | 0.5 | U | 100 | % | 0.5 | U | 109 | % |
| Chlorobenzene | 0.4 | U | 107 | % | 0.4 | U | 101 | % | 0.4 | U | 106 | % |
| 1,1,1,2-Tetrachloroethane | 0.5 | U | 106 | % | 0.5 | U | 103 | % | 0.5 | U | 105 | % |
| Ethylbenzene | 0.5 | U | 108 | % | 0.5 | U | 97 | % | 0.5 | U | 103 | % |
| m/p-Xylene | 0.5 | U | 109 | % | 0.5 | U | 99 | % | 0.5 | U | 105 | % |
| o-Xylene | 0.5 | U | 106 | % | 0.5 | U | 100 | % | 0.5 | U | 104 | % |
| Styrene | 0.4 | U | 106 | % | 0.4 | U | 102 | % | 0.4 | U | 106 | % |
| Bromoform | 0.5 | U | 102 | % | 0.5 | U | 108 | % | 0.5 | U | 105 | % |
| Isopropylbenzene | 0.5 | U | 109 | % | 0.5 | U | 96 | % | 0.5 | U | 98 | % |
| 1,1,2,2-Tetrachloroethane | 0.5 | U | 97 | % | 0.5 | U | 104 | % | 0.5 | U | 103 | % |
| Bromobenzene | 0.3 | U | 102 | % | 0.3 | U | 100 | % | 0.3 | U | 98 | % |
| 1,2,3-Trichloropropane | 0.5 | U | 103 | % | 0.5 | U | 110 | % | 0.5 | U | 102 | % |
| n-Propylbenzene | 0.4 | U | 110 | % | 0.4 | U | 97 | % | 0.4 | U | 100 | % |
| 2-Chlorotoluene | 0.4 | U | 106 | % | 0.4 | U | 106 | % | 0.4 | U | 101 | % |
| 1,3,5-Trimethylbenzene | 0.5 | U | 107 | % | 0.5 | U | 97 | % | 0.5 | U | 99 | % |
| 4-Chlorotoluene | 0.5 | U | 106 | % | 0.5 | U | 100 | % | 0.5 | U | 103 | % |
| tert-Butylbenzene | 0.5 | U | 107 | % | 0.5 | U | 95 | % | 0.5 | U | 97 | % |
| 1,2,4-Trimethylbenzene | 0.5 | U | 109 | % | 0.5 | U | 101 | % | 0.5 | U | 102 | % |
| sec-Butylbenzene | 0.5 | U | 110 | % | 0.5 | U | 96 | % | 0.5 | U | 98 | % |
| 1,3-Dichlorobenzene | 0.5 | U | 103 | % | 0.5 | U | 98 | % | 0.5 | U | 98 | % |
| p-Isopropyltoluene | 0.5 | U | 104 | % | 0.5 | U | 94 | % | 0.5 | U | 95 | % |
| 1,4-Dichlorobenzene | 0.3 | U | 98 | % | 0.3 | U | 97 | % | 0.3 | U | 95 | % |
| n-Butylbenzene | 0.5 | U | 106 | % | 0.5 | U | 94 | % | 0.5 | U | 98 | % |
| 1,2-Dichlorobenzene | 0.3 | U | 101 | % | 0.3 | U | 99 | % | 0.3 | U | 98 | % |
| 1,2-Dibromo-3-chloropropane | 0.5 | U | 88 | % | 0.5 | U | 98 | % | 0.5 | U | 89 | % |
| 1,2,4-Trichlorobenzene | 0.4 | U | 97 | % | 0.4 | U | 101 | % | 0.4 | U | 99 | % |
| Hexachlorobutadiene | 0.5 | U | 98 | % | 0.5 | U | 89 | % | 0.5 | U | 93 | % |
| Naphthalene | 0.5 | U | 80 | % | 0.5 | U | 92 | % | 0.5 | U | 87 | % |
| 1,2,3-Trichlorobenzene | 0.5 | U | 87 | % | 0.5 | U | 94 | % | 0.5 | U | 92 | % |

*= Outside of EPA CLP QC limits.

STL Chicago
METHOD 8260 VOLATILES

Report Date: 11/11/99 16:10
Page: 8a

RFW Batch Number: 9910G387 Client: AFC001-26HBA Work Order 00000-000-000-0

| Sample Information | Cust ID: | VBLKTH | VBLKTH BS | VBLKFS | VBLKFS BS | VBLKKW | VBLKKW BS |
|---|---|---|---|---|---|---|---|
| | RFW#: | 99GVF339-MB1 | 99GVF339-MB1 | 99GVF340-MB1 | 99GVF340-MB1 | 99GVF341-MB1 | 99GVF341-MB1 |
| | Matrix: | WATER | WATER | WATER | WATER | WATER | WATER |
| | D.F.: | 1 | 1 | 1 | 1 | 1 | 1 |
| | Units: | UG/L | UG/L | UG/L | UG/L | UG/L | UG/L |
| Surrogate Recovery | 1,2-Dichloroethane-d4 | 103 % | 100 % | 97 % | 110 % | 84 % | 107 % |
| | Toluene-d8 | 104 % | 102 % | 109 % | 113 % | 95 % | 111 % |
| | 4-Bromofluorobenzene | 102 % | 104 % | 104 % | 112 % | 91 % | 113 % |
| | Dibromofluoromethane | 103 % | 96 % | 99 % | 105 % | 81 % | 96 % |
| | | fl | fl | fl | fl | fl | fl |
| Dichlorodifluoromethane | | 0.5 U | 69 % | 0.5 U | 55 % | 0.5 U | 61 % |
| Chloromethane | | 0.5 U | 84 % | 0.5 U | 85 % | 0.5 U | 77 % |
| Vinyl chloride | | 0.5 U | 90 % | 0.5 U | 96 % | 0.5 U | 87 % |
| Bromomethane | | 0.5 U | 108 % | 0.5 U | 114 % | 0.5 U | 104 % |
| Chloroethane | | 0.5 U | 91 % | 0.5 U | 101 % | 0.5 U | 86 % |
| Trichlorofluoromethane | | 0.5 U | 124 % | 0.5 U | 131 * % | 0.5 U | 129 * % |
| 1,1-Dichloroethene | | 0.5 U | 106 % | 0.5 U | 109 % | 0.5 U | 100 % |
| Methylene Chloride | | 0.5 U | 101 % | 0.5 U | 104 % | 0.5 U | 90 % |
| trans-1,2-Dichloroethene | | 0.5 U | 105 % | 0.5 U | 110 % | 0.5 U | 97 % |
| 1,1-Dichloroethane | | 0.4 U | 102 % | 0.4 U | 106 % | 0.4 U | 93 % |
| Vinyl acetate | | 2 U | 98 * % | 2 U | 111 * % | 2 U | 89 * % |
| cis-1,2-Dichloroethene | | 0.5 U | 100 % | 0.5 U | 105 % | 0.5 U | 92 % |
| 2,2-Dichloropropane | | 0.5 U | 115 % | 0.5 U | 120 % | 0.5 U | 118 % |
| Bromochloromethane | | 0.4 U | 93 % | 0.4 U | 102 % | 0.4 U | 90 % |
| Chloroform | | 0.3 U | 111 % | 0.3 U | 114 % | 0.3 U | 102 % |
| 1,1,1-Trichloroethane | | 0.5 U | 112 % | 0.5 U | 116 % | 0.5 U | 106 % |
| 1,1-Dichloropropene | | 0.5 U | 116 % | 0.5 U | 122 % | 0.5 U | 108 % |
| Carbon Tetrachloride | | 0.5 U | 113 % | 0.5 U | 115 % | 0.5 U | 112 % |
| Benzene | | 0.4 U | 104 % | 0.4 U | 108 % | 0.4 U | 99 % |
| 1,2-Dichloroethane | | 0.5 U | 109 % | 0.5 U | 112 % | 0.5 U | 106 % |
| Trichloroethene | | 0.5 U | 115 % | 0.5 U | 117 % | 0.5 U | 112 % |
| 1,2-Dichloropropane | | 0.4 U | 108 % | 0.4 U | 115 % | 0.4 U | 104 % |
| Dibromomethane | | 0.5 U | 109 % | 0.5 U | 114 % | 0.5 U | 108 % |
| Bromodichloromethane | | 0.5 U | 113 % | 0.5 U | 116 % | 0.5 U | 111 % |
| cis-1,3-Dichloropropene | | 0.5 U | 106 % | 0.5 U | 112 % | 0.5 U | 105 % |

*= Outside of EPA CLP QC limits

643 751

RFW Batch Number: 9910G387 Client AFC001-26HBA Work Order: 00000-000-000-0 Page 8b

| Cust ID: | VBLKTH | | VBLKTH BS | | VBLKFS | | VBLKFS BS | | VBLKKW | | VBLKKW BS | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| RFW#: | 99GVF339-MB1 | | 99GVF339-MB1 | | 99GVF340-MB1 | | 99GVF340-MB1 | | 99GVF341-MB1 | | 99GVF341-MB1 | |
| Toluene | 0 5 | U | 110 | % | 0 5 | U | 116 | % | 0.5 | U | 110 | % |
| trans-1,3-Dichloropropene | 0.5 | U | 103 | % | 0 5 | U | 109 | % | 0.5 | U | 102 | % |
| 1,1,2-Trichloroethane | 0.5 | U | 111 | % | 0.5 | U | 122 | % | 0.5 | U | 106 | % |
| 1,3-Dichloropropane | 0.4 | U | 108 | % | 0 4 | U | 112 | % | 0 4 | U | 105 | % |
| Tetrachloroethene | 0 5 | U | 113 | % | 0.5 | U | 114 | % | 0 5 | U | 112 | % |
| Dibromochloromethane | 0 5 | U | 110 | % | 0.5 | U | 114 | % | 0.5 | U | 108 | % |
| 1,2-Dibromoethane | 0 5 | U | 110 | % | 0 5 | U | 116 | % | 0 5 | U | 110 | % |
| 1-Chlorohexane | 0.5 | U | 112 | % | 0 5 | U | 122 | % | 0 5 | U | 111 | % |
| Chlorobenzene | 0.4 | U | 113 | % | 0.4 | U | 116 | % | 0.4 | U | 110 | % |
| 1,1,1,2-Tetrachloroethane | 0 5 | U | 113 | % | 0.5 | U | 114 | % | 0 5 | U | 110 | % |
| Ethylbenzene | 0.5 | U | 112 | % | 0 5 | U | 112 | % | 0 5 | U | 110 | % |
| m/p-Xylene | 0 5 | U | 114 | % | 0.5 | U | 115 | % | 0 5 | U | 112 | % |
| o-Xylene | 0.5 | U | 114 | % | 0 5 | U | 115 | % | 0 5 | U | 110 | % |
| Styrene | 0.4 | U | 112 | % | 0.4 | U | 113 | % | 0 4 | U | 109 | % |
| Bromoform | 0 5 | U | 110 | % | 0 5 | U | 113 | % | 0 5 | U | 107 | % |
| Isopropylbenzene | 0.5 | U | 112 | % | 0 5 | U | 112 | % | 0 5 | U | 108 | % |
| 1,1,2,2-Tetrachloroethane | 0.5 | U | 105 | % | 0.5 | U | 108 | % | 0.5 | U | 102 | % |
| Bromobenzene | 0.3 | U | 107 | % | 0.3 | U | 110 | % | 0.3 | U | 103 | % |
| 1,2,3-Trichloropropane | 0.5 | U | 106 | % | 0 5 | U | 110 | % | 0 5 | U | 101 | % |
| n-Propylbenzene | 0.4 | U | 112 | % | 0.4 | U | 113 | % | 0 4 | U | 109 | % |
| 2-Chlorotoluene | 0 4 | U | 110 | % | 0.4 | U | 110 | % | 0 4 | U | 105 | % |
| 1,3,5-Trimethylbenzene | 0.5 | U | 110 | % | 0.5 | U | 110 | % | 0 5 | U | 108 | % |
| 4-Chlorotoluene | 0.5 | U | 109 | % | 0.5 | U | 112 | % | 0 5 | U | 104 | % |
| tert-Butylbenzene | 0.5 | U | 108 | % | 0.5 | U | 109 | % | 0.5 | U | 111 | % |
| 1,2,4-Trimethylbenzene | 0.5 | U | 114 | % | 0.5 | U | 113 | % | 0 5 | U | 110 | % |
| sec-Butylbenzene | 0 5 | U | 112 | % | 0.5 | U | 111 | % | 0 5 | U | 113 | % |
| 1,3-Dichlorobenzene | 0.5 | U | 108 | % | 0.5 | U | 111 | % | 0 5 | U | 104 | % |
| p-Isopropyltoluene | 0 5 | U | 108 | % | 0.5 | U | 108 | % | 0 5 | U | 108 | % |
| 1,4-Dichlorobenzene | 0.3 | U | 102 | % | 0.3 | U | 110 | % | 0 3 | U | 99 | % |
| n-Butylbenzene | 0 5 | U | 109 | % | 0.5 | U | 110 | % | 0 5 | U | 112 | % |
| 1,2-Dichlorobenzene | 0 3 | U | 106 | % | 0.3 | U | 108 | % | 0 3 | U | 103 | % |
| 1,2-Dibromo-3-chloropropane | 0 5 | U | 102 | % | 0.5 | U | 105 | % | 0 5 | U | 97 | % |
| 1,2,4-Trichlorobenzene | 0 4 | U | 103 | % | 0.4 | U | 106 | % | 0 4 | U | 107 | % |
| Hexachlorobutadiene | 0 5 | U | 97 | % | 0.5 | U | 104 | % | 0.5 | U | 113 | % |
| Naphthalene | 0.5 | U | 88 | % | 0.5 | U | 92 | % | 0 5 | U | 96 | % |
| 1,2,3-Trichlorobenzene | 0 5 | U | 92 | % | 0.5 | U | 99 | % | 0 5 | U | 103 | % |

*= Outside of EPA CLP QC limits.

**Severn Trent Laboratories - Chicago**
**GC/MS Case Narrative**

AFC001-26HBA
STL# 9910G387
VOA DATA:

1. All volatile analyses were performed within the requested holding times.

2. All Method Blank target compounds were below reporting limits

3. The QC limits specified in the QAPP were used for QC evaluation. There are not any QC limits specified in the QAPP for Vinyl acetate. At the client's instructions, the spike limits of 0-0% were used and the flagging of Vinyl acetate has no QC significance. The spike recoveries were above the QC limits for Trichlorofluoromethane in several of the LCS samples and for Bromomethane in the LCS samples99GVF337-MB1 BS and 99GVF338-MB1 BS. Since the spike recoveries were above the QC limits and these compounds were not detected in the associated samples, corrective action was not required. All of the other spike recoveries were within the QAPP specified QC limits in the LCS samples.

4. Matrix Spike/Matrix Spike Duplicate analyses was performed on the sample 9910G387-003. The QC limits specified in the QAPP were used for QC evaluation. There are not any QC limits specified in the QAPP for Vinyl acetate. At the client's instructions, the spike limits of 0-0% were used and the flagging of Vinyl acetate has no QC significance. The spike recoveries were above the QC limits for Trichlorofluoromethane in both of the samples 9910G387-003 MS/MSD and for 1-Chlorohexane in the sample 9910G387-003 MSD. Since the spike recoveries were above the QC limits and these compounds were not detected in the samples, corrective action was not required. All of the other spike recoveries and RPD values were within the QC limits in the samples 9910G387-003 MS/MSD.

5. The sample 9910G387-014 had one surrogate recovery above the QC limits. The secondary dilution sample 9910G387-014 DL had all surrogate recoveries within the QC limits and is considered the corrective action for the original sample. All of the other volatile samples had all surrogate recoveries within the QAPP specified QC limits.

6. The water samples were prepared using Method 5030B. All samples were analyzed following SW846 Method 8260B and 8000B. All calibration criteria are met per method or SOP (for minimum R values for certain compounds). The low point in the initial calibrations verifies the base reporting limits. The target compounds were quantitated using the initial calibration.

7. All of the volatile samples had internal standard areas and retention times within the acceptance limits as compared to the corresponding continuing calibration standard.

8. The water samples were initially analyzed without dilution using a 25 mL purge volume. Secondary dilutions to accurately quantitate target compounds were performed on several of the samples. The results and reporting limits were adjusted to account for the dilutions performed.

Gregory L. Goodwin
GC/MS Section Manager

11/12/99
Date

643 755

Severn Trent Laboratories Chicago
HPAH ANALYTICAL DATA PACKAGE FOR
AFC001-26HBA

LOT # :9910G387

| CLIENT ID | SAMPLE # | MTX | PREP # | COLLECTN | DATE REC | EXT/PREP | ANALYSIS |
|---|---|---|---|---|---|---|---|
| SPOT35-5WG10 | 014 | W | 99GP1001 | 10/18/99 | 10/19/99 | 10/20/99 | 10/22/99 |
| SPOT35-5WG10 | 014 01 | W | 99GP1001 | 10/18/99 | 10/19/99 | 10/20/99 | 10/25/99 |
| SPOT35-5WG10 | 014 C1 | W | 99GP1001 | 10/18/99 | 10/19/99 | 10/20/99 | 10/22/99 |
| SPOT35-5WG10 | 014 C2 | W | 99GP1001 | 10/18/99 | 10/19/99 | 10/20/99 | 10/25/99 |
| LAB QC: | | | | | | | |
| BLK | MB1 | W | 99GP1001 | N/A | N/A | 10/20/99 | 10/22/99 |
| BLK | MB1 C1 | W | 99GP1001 | N/A | N/A | 10/20/99 | 10/22/99 |
| BLK | MB1 BS | W | 99GP1001 | N/A | N/A | 10/20/99 | 10/22/99 |
| BLK | MB1 BS C1 | W | 99GP1001 | N/A | N/A | 10/20/99 | 10/22/99 |

NY CERTIFICATION # 11006

STL Chicago
PAHs BY HPLC

RFW Batch Number: 9910G387 Client: AFC001-26HBA Work Order: 00000-000-000-0 Report Date: 11/12/99 16:25 Page: 1

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| | Cust ID: | SPOT35-5WG10 | SPOT35-5WG10 | SPOT35-5WG10 | SPOT35-5WG10 | BLK | BLK |
| Sample Information | RFW#: | 014 | 014 DL | 014 | 014 DL | 99GP1001-MB1 | 99GP1001-MB1 |
| | Matrix: | WATER | WATER | WATER | WATER | WATER | WATER |
| | D.F.: | 1.0 | 5.0 | 1.0 | 5.0 | 1.0 | 1.0 |
| | Units: | ug/L | ug/L | ug/L CONFIRM | ug/L CONFIRM | ug/L | ug/L CONFIRM |
| Surrogate | Decafluorobiphenyl | 92 % | 100 % | NA % | NA % | 91 % | 93 % |
| | Benzo(e)pyrene | 67 % | 78 % | 67 % | 101 % | 97 % | 101 % |
| | | fl | fl | fl | fl | fl | fl |
| Naphthalene | | E | 46 | E | 42 | 18 U | 18 U |
| Acenaphthene | | 18 U | NA | NA | NA | 18 U | 18 U |
| Acenaphthylene | | 23 U | NA | NA | NA | 23 U | 23 U |
| Fluorene | | 2.1 U | NA | NA | NA | 2.1 U | 2.1 U |
| Phenanthrene | | 6.3 U | NA | NA | NA | 6.4 U | 6.4 U |
| Anthracene | | 6.5 U | NA | NA | NA | 6.6 U | 6.6 U |
| Fluoranthene | | 2.1 U | NA | NA | NA | 2.1 U | 2.1 U |
| Pyrene | | 2.7 U | NA | NA | NA | 2.7 U | 2.7 U |
| Benzo(a)anthracene | | 0.13 U | NA | NA | NA | 0.13 U | 0.13 U |
| Chrysene | | 1.5 U | NA | NA | NA | 1.5 U | 1.5 U |
| Benzo(b)fluoranthene | | 0.18 U | NA | NA | NA | 0.18 U | 0.18 U |
| Benzo(k)fluoranthene | | 0.17 U | NA | NA | NA | 0.17 U | 0.17 U |
| Benzo(a)pyrene | | 0.23 U | NA | NA | NA | 0.23 U | 0.23 U |
| Dibenzo(a,h)anthracene | | 0.30 U | NA | NA | NA | 0.30 U | 0.30 U |
| Benzo(g,h,i)perylene | | 0.75 U | NA | NA | NA | 0.76 U | 0.76 U |
| Indeno(1,2,3-cd)pyrene | | 0.42 U | NA | NA | NA | 0.43 U | 0.43 U |

U= Analyzed, not detected. J= Present below detection limit B= Present in blank. NR= Not requested NS= Not spiked.
%= Percent recovery. D= Diluted out. I= Interference. NA= Not Applicable *= Outside of EPA CLP QC

STL Chicago
PAHs BY HPLC

RFW Batch Number: 9910G387 Client: AFC001-26HBA Work Order: 00000-000-000-0 Report Date: 11/12/99 16:

Page: 2

11

| | | | |
|---|---|---|---|
| | Cust ID: | BLK BS | BLK BS |
| Sample Information | RFW#: | 99GP1001-MB1 | 99GP1001-MB1 |
| | Matrix: | WATER | WATER |
| | D.F.: | 1.0 | 1.0 |
| | Units: | ug/L | ug/L |
| | | | CONFIRM |
| Surrogate | Decafluorobiphenyl | 80 % | 81 % |
| | Benzo(e)pyrene | 91 % | 91 % |
| Naphthalene | | 88 % | 82 % |
| Acenaphthene | | 102 % | 95 % |
| Acenaphthylene | | 93 % | 92 % |
| Fluorene | | 92 % | 96 % |
| Phenanthrene | | 91 % | 94 % |
| Anthracene | | 92 % | 94 % |
| Fluoranthene | | 94 % | 87 % |
| Pyrene | | 130 * % | 136 * % |
| Benzo(a)anthracene | | 102 % | 122 % |
| Chrysene | | 106 % | 114 % |
| Benzo(b)fluoranthene | | 85 % | 86 % |
| Benzo(k)fluoranthene | | 112 % | 88 % |
| Benzo(a)pyrene | | 81 % | 85 % |
| Dibenzo(a,h)anthracene | | 76 % | 80 % |
| Benzo(g,h,i)perylene | | 76 % | 82 % |
| Indeno(1,2,3-cd)pyrene | | 86 % | 88 % |

U= Analyzed, not detected. J= Present below detection limit. B= Present in blank. NR= Not requested. NS= Not spiked
%= Percent recovery. D= Diluted out. I= Interference. NA= Not Applicable *= Outside of EPA CLP QC

643 757

Severn Trent Laboratories Chicago
PAH Case Narrative

AFC001-26HBA
RFW# 9910G387-014
PAHs

1. Severn Trent Laboratories Chicago used the following HPLC system for analysis of polynuclear aromatic hydrocarbons:

| ID# | INSTRUMENT | COLUMN TYPE | DETECTOR |
|---|---|---|---|
| 25 | SpectraPhysics | C-18 PAH | UV - 254nm |
| 25 | SpectraPhysics | C-18 PAH | UV - 260nm |
| 26 | SpectraPhysics | C-18 PAH | Fluorescence |

2. This sample was extracted based on SW846 method 3520. The extracts were analyzed for PAHs (i.e. PNAs) based on SW846 method 8310 protocols.

3. All required holding times were met for the extraction and analysis.

4. The method blank was below the reporting limit for all target compounds.

5. The surrogate compounds used for this analysis were Decafluorobiphenyl and Benzo(e)pyrene. All surrogate recoveries were within control limits. However, the confirmation analysis on the Fluorescence detector had the Decafluorobiphenyl reported as NA because it does not fluoresce. All surrogate recoveries are summarized on Form 2E.

6. All blank spike recoveries were within control limits, with the exception of Pyrene, which was biased high on both detectors. The blank spike recoveries are summarized on Forms 3E

7. A matrix spike and a matrix spike duplicate were not designated on this sample.

8 All initial and continuing standard calibrations were within control limits with the following exceptions:

SSV run 10/14/99 at 03:41 had Benzo(b)fluoranthene biased low at 20.5% difference on the UV detector and biased low at 18.0% difference on the Fluorescence detector.

SSV run 10/26/99 at 16:47 had Benzo(b)fluoranthene biased low at 20.9% difference on the UV detector.

A slight shift in some retention times was observed throughout the analytical sequence. The retention time shifts were taken into account during the data review.

9. All positive hits were confirmed using a second detector or using a second wavelength.

Linda S Mackley
Linda S. Mackley
Organics Section Manager

11-12-99
Date

Committed To *Your* Success

**Severn Trent Laboratories**
11 East Olive Road
Pensacola FL 32514

**Tel: (850) 474-1001**
**Fax: (850) 478-2671**

SIGNATURE PAGE

Reviewed by: _____
STL Project Manager

| | |
|---|---|
| Client: | STL/CHICAGO<br>UNIVERSITY PARK, IL |
| Project Name: | AFC001-26HBA |
| Project Number: | 9910G387 |
| Project Location: | NAS, FORT WORTH, TX |
| Accession Number: | 910670 |
| Project Manager: | BOSCO RAMIREZ |
| Sampled By: | CATHERINE WILLIAMS |

THIS IS A REVISED REPORT: December 19, 1999

643 761

Committed To Your Success

*SEVERN TRENT LABORATORIES, INC. - PENSACOLA, FLORIDA*
*STATE CERTIFICATIONS*

*Alabama Department of Environmental Management, Laboratory ID No. 40150 (Drinking Water by Reciprocity with FL)*

*Arizona Department of Health Services, Lab ID No. AZ0589 (Hazardous Waste & Wastewater)*

*Arkansas Department of Pollution Control and Ecology, (No Laboratory ID No. assigned by state) (Environmental)*

*State of California, Department of Health Services, Laboratory ID No. 2338 (Hazardous Waste and Wastewater)*

*State of Connecticut, Department of Health Services, Connecticut Lab Approval No. PH-0697 (Drinking Water, Hazardous Waste and Wastewater)*

*Delaware Health & Social Services, Division of Public Health, Laboratory ID No. FL094 (Drinking Water by Reciprocity with FL)*

*Florida DOH Laboratory ID No. 81142 (Drinking Water), Laboratory ID No. E81010 (Hazardous Waste and Wastewater)*

*Florida, Radioactive Materials License No. G0733-1*

*Foreign Soil Permit, Permit No. S-37599*

*Kansas Department of Health & Environment, Laboratory ID No. E10253 (Wastewater and Hazardous Waste)*

*Commonwealth of Kentucky, Natural Resources and Environmental Protection Cabinet, Laboratory ID No. 90043 (Drinking Water)*

*State of Louisiana, DHH, Office of Public Health Division of Laboratories, Laboratory ID No. 98-25 (Drinking Water)*

*State of Maryland, DH&MH Laboratory ID No. 233 (Drinking Water by Reciprocity with Florida)*

*Commonwealth of Massachusetts, DEP, Laboratory ID No. M-FL094 (Hazardous Waste and Wastewater)*

*State of Michigan, Bureau of E&OccH, Laboratory ID No.9912 (Drinking Water by Reciprocity with Florida)*

*New Hampshire DES, Laboratory ID No. 250598-A (Wastewater)*

*State of New Jersey, Department of Environmental Protection & Energy, Laboratory ID No 49006 (Wastewate and Hazardous Waster)*

*New York State, Department of Health, Laboratory ID No. 11503 (Wastewater and Solids/Hazardous Waste)*

*North Carolina Department of Environment, Health, & Natural Resources, Laboratory ID No. 314 (Hazardous Waste and Wastewater)*

*North Dakota DH&Consol Labs, Laboratory ID No. R-108 (Hazardous Waste and Wastewater by Reciprocity with Florida)*

*State of Oklahoma, Oklahoma Department of Environmental Quality, Laboratory ID No. 9810 (Hazardous Waste and Wastewater)*

*Commonwealth of Pennsylvania, Department of Environmental Resources, Laboratory ID No. 68-467 (Drinking Water)*

*South Carolina DH&EC, Laboratory ID No. 96026 (Wastewater by Reciprocity with FL and Solids/Hazardous Waste by Reciprocity with CA)*

*Tennessee Department of Health & Environment, Laboratory ID No. 02907 (Drinking Water)*

*Tennessee Division of Underground Storage Tanks Approved Laboratory*

*Virginia Department of General Services, Laboratory ID No. 00008 (Drinking Water by Reciprocity with FL)*

*State of Washington, Department of Ecology, Laboratory ID No. C282 (Hazardous Waste and Wastewater)*

*West Virginia Division of Environmental Protection, Office of Water Resources, Laboratory ID No. 136 (Hazardous Waste and Wastew Reciprocity with FL)*

*American Industrial Hygiene Association (AIHA) Accredited Laboratory, Laboratory ID No. 100704*

SEVERN TRENT LABORATORIES 11 East Olive Road Pensacola, Florida 32514 (850) 474-1001



"FINAL REPORT FORMAT - SINGLE"

Accession: 910670
Client: STL/CHICAGO
Project Number: 9910G387
Project Name: AFC001-26HBA
Project Location: NAS, FORT WORTH, TX
Test: DISSOLVED METHANE
Analysis Method: RSK 175
Extraction Method: N/A
Matrix: WATER
QC Level: N

Lab Id: 011
Client Sample Id: SPOT35-5WG10

Sample Date/Time: 18-OCT-99 0940
Received Date: 21-OCT-99

Batch: GEW338
Blank: A

Dry Weight %: N/A

Extraction Date: N/A
Analysis Date: 27-OCT-99

| Parameter: | Units: | Results: | Rpt Lmts: | Q· |
|---|---|---|---|---|
| METHANE | UG/L | 6110.0800 | 1 | |
| ETHANE | UG/L | 2.1100 | 1 | |
| ETHENE | UG/L | 0.0400 | 1 | |
| ANALYST | INITIALS | AHT | | |

Comments:
Preparation Time: 12:30
Analysis Time: 14:41

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"FINAL REPORT FORMAT - SINGLE"

Accession: 910670
Client: STL/CHICAGO
Project Number: 9910G387
Project Name: AFC001-26HBA
Project Location: NAS, FORT WORTH, TX
Test: DISSOLVED METHANE
Analysis Method: RSK 175
Extraction Method: N/A
Matrix: WATER
QC Level: N

Lab Id: 018
Client Sample Id: TB101899
Sample Date/Time: 18-OCT-99 0740
Received Date: 21-OCT-99

Batch: GEW338
Blank: A
Dry Weight %: N/A
Extraction Date: N/A
Analysis Date: 27-OCT-99

| Parameter: | Units: | Results. | Rpt Lmts: | Q: |
|---|---|---|---|---|
| METHANE | UG/L | 0.4300 | 1 | |
| ETHANE | UG/L | 0.0100 | 1 | |
| ETHENE | UG/L | ND | 1 | |
| ANALYST | INITIALS | AHT | | |

Comments:
Preparation Time: 12:30
Analysis Time: 15:35

SEVERN TRENT LABORATORIES 11 East Olive Road Pensacola, Florida 32514 (850) 474-1001



"Method Report Summary"

Accession Number: 910670
Client: STL/CHICAGO
Project Number: 9910G387
Project Name: AFC001-26HBA
Project Location: NAS, FORT WORTH, TX
Test: DISSOLVED METHANE

| Client Sample Id: | Parameter: | Unit: | Result: |
|---|---|---|---|
| WP07-10BWG10 | METHANE | UG/L | 205.500 |
| | ETHANE | UG/L | 0.1200 |
| | ETHENE | UG/L | 0.1600 |
| USGS07TWG10 | METHANE | UG/L | 0.7000 |
| | ETHANE | UG/L | 0.0500 |
| HM-123WG10 | METHANE | UG/L | 162.6200 |
| | ETHANE | UG/L | 0.5300 |
| | ETHENE | UG/L | 0.0700 |
| EB101599 | METHANE | UG/L | 0.3500 |
| MW-53WG10 | METHANE | UG/L | 0.4300 |
| WHGLTA701WG10 | METHANE | UG/L | 724.5100 |
| | ETHANE | UG/L | 0.2900 |
| | ETHENE | UG/L | 0.3600 |
| LF05-01WG10 | METHANE | UG/L | 2724.7800 |
| | ETHANE | UG/L | 79.9100 |
| | ETHENE | UG/L | 14.5700 |
| DUP03WG10 | METHANE | UG/L | 161.7000 |
| | ETHANE | UG/L | 0.5800 |
| | ETHENE | UG/L | 0.1500 |
| WHGLTA005WG10 | METHANE | UG/L | 0.4000 |
| WHGLTA007WG10 | METHANE | UG/L | 769.3700 |
| | ETHANE | UG/L | 0.4900 |
| SPOT35-5WG10 | METHANE | UG/L | 6110.0800 |
| | ETHANE | UG/L | 2.1100 |
| | ETHENE | UG/L | 0.0400 |
| HM-125WG10 | METHANE | UG/L | 0.6000 |
| W-153WG10 | METHANE | UG/L | 0.5000 |
| | ETHANE | UG/L | 0.0600 |
| | ETHENE | UG/L | 0.0300 |
| HM-116WG10 | METHANE | UG/L | 0.4700 |
| | ETHANE | UG/L | 0.0300 |
| | ETHENE | UG/L | 0.0400 |
| WHGLTA004WG10 | METHANE | UG/L | 0.4700 |
| | ETHANE | UG/L | 0.0300 |
| TB101499 | METHANE | UG/L | 0.4100 |
| | ETHANE | UG/L | 0.0100 |
| TB101599 | METHANE | UG/L | 0.5500 |
| | ETHANE | UG/L | 0.0100 |
| TB101899 | METHANE | UG/L | 0.4300 |
| | ETHANE | UG/L | 0.0100 |

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"FINAL REPORT FORMAT - SINGLE"

Accession: 910670
Client: STL/CHICAGO
Project Number: 9910G387
Project Name: AFC001-26HBA
Project Location: NAS, FORT WORTH, TX
Test: TNRCC TEXAS METHOD 1005 - TOTAL PETROLEUM HYDROCARBONS
Analysis Method: TNRCC Method 1005 (Rev. 4/98)
Extraction Method: TNRCC Method 1005 (Rev. 4/98)
Matrix: WATER
QC Level: IIMS

Lab Id: 011
Client Sample Id: SPOT35-5WG10

Sample Date/Time: 18-OCT-99 0940
Received Date: 21-OCT-99

Batch: GEW333
Blank: A

Dry Weight %: N/A

Extraction Date: 22-OCT-99
Analysis Date: 25-OCT-99

| Parameter. | Units: | Results: | Rpt Lmts: | Q: |
|---|---|---|---|---|
| C6-C10 | MG/L | 3.6910 | 5 | |
| >C10-C28 | MG/L | 1.7190 | 5 | |
| C6-C28 | MG/L | 5.4100 | 5 | |
| ORTHO TER PHENYL | %REC/SURR | 93 | 50-150 | |
| ANALYST | INITIALS | HAH | | |

Comments:
Extraction Time: 08:00
Analysis Time: 21:17

643 766

SEVERN TRENT LABORATORIES 11 East Olive Road Pensacola, Florida 32514 (850) 474-1001



"Method Report Summary"

Accession Number: 910670
Client: STL/CHICAGO
Project Number: 9910G387
Project Name: AFC001-26HBA
Project Location: NAS, FORT WORTH, TX
Test: TNRCC TEXAS METHOD 1005 - TOTAL PETROLEUM HYDROCARBONS

| Client Sample Id: | Parameter: | Unit: | Result: |
|---|---|---|---|
| SPOT35-5WG10 | C6-C10 | MG/L | 3.6910 |
| | >C10-C28 | MG/L | 1.7190 |
| | C6-C28 | MG/L | 5.4100 |

Severn Trent Laboratories, Inc.
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# Data Qualifiers for Final Report

STL-Pensacola Inorganic/Organic and AFCEE Projects (under QAPP)

| | | |
|---|---|---|
| J4 | (For positive results) | Temperature limits exceeded (<2°C or > 6°C) |
| J5 | (TICs) | The reported value is quantitated as a TIC, therefore, it is estimated |
| J6 | (For positive results) | LCS or Surrogate %R is > upper control limit (UCL) or < lower control limit (LCL) |
| J7 | (For positive results) | The reported value is > the laboratory MDL and < lowest calibration standards; therefore, the quantitation is an estimation. |
| J (AFCEE description) | The analyte was positively identified, the quantitation is an estimation | |
| R1 | (For nondetects) | Temperature limits exceeded (<2°C or > 6°C) |
| R2 | Improper preservation, no preservative present in sample upon receipt | |
| R3 | Improper preservation, incorrect preservative present in sample upon receipt | |
| R4 | Holding time exceeded | |
| R10 | Holding time exceeded, non-reportable for NDPES compliance monitoring | |
| R5 | Collection requirements not met, improper container used for sample | |
| R6 | LCS or surrogate %R is < LCL and analyte is not detected or surrogate %R is < 10% for detects/nondetects | |
| R7 | Internal standard area outside -50% to +100% of initial calibration midpoint standard. | |
| R8 | Initial calibration or any calibration verification exceeds acceptance criteria. | |
| R9 | Improper preservation, sample not filtered in the field. | |
| R (AFCEE description) | The data are unusable due to deficiencies in the ability to analyze the sample and meet QC criteria | |
| F | < laboratory or AFCEE RL and > laboratory MDL | |
| F (AFCEE description) | The analyte was positively identified but the associated numerical value is below the AFCEE or lab RL | |
| U2 | ≤ Laboratory MDL (value for result will be the MDL, never below the MDL) | |
| U (AFCEE description) | The analyte was analyzed for but not detected. The associated numerical value is at or below the MDL | |
| B (AFCEE description) | The analyte was found in the associated blank, as well as in the sample | |
| B1 | Analyte was detected in the associated method blank. | |
| @ | Adjusted reporting limit due to sample matrix (dilution prior to digestion and/or analysis) | |
| + | Elevated reporting limit due to dilution into calibration range | |
| * (Metals & Wet Chem) | Elevated reporting limit due to matrix interference (dilution prior to digestion and/or analysis) | |
| ** (Organics) | Compounds flagged are not within the five point initial calibration curve. They are searched for qualitatively or as TICs. | |
| [illegible] | Elevated reporting limit due to insufficient sample size | |
| [illegible] | Diluted out | |
| M | A matrix effect was present (sample was analyzed twice to confirm or chromatogram had interfering peaks) | |
| S | Incorrect sample amount was submitted to the laboratory for analysis | |
| T | Second-column confirmation exceeded the SW-846 criteria of 40% RPD for this compound. | |
| TIC | Samples are searched for qualitatively as Tentatively Identified Compounds. | |
| E | Compound concentration exceeds the upper calibration range of the instrument. | |
| W | Post-digestion spike for Furnace AA is out of control limits (85-115%), while sample absorbance is less than 50% spike absorbance. | |

ND = Not Detected at or above the STL-Pensacola reporting limit (RL)
IDL = Laboratory Instrument Detection Limit
RL = Reporting Limit (AFCEE RLs are listed in the AFCEE QAPP)
N/S = Not Submitted
N/A = Not Applicable
MDL = Laboratory Method Detection Limit

Any time a sample arrives at the laboratory improperly preserved (at improper pH or temperature) or after holding time has expired or prepared or analyzed after holding time, client must be notified in writing (i.e. case narrative)

Florida Projects Inorganic/Organic

| | |
|---|---|
| Y1 | Improper preservation, no preservative present in sample upon receipt |
| Y2 | Improper preservation, incorrect preservative present in sample upon receipt |
| Y3 | Improper preservation, sample temperature exceeded EPA temperature limits of 2-6°C upon receipt |
| Y (FL description) | The analysis was from an unpreserved or improperly preserved sample. Data may not be accurate |
| Q | Sample held beyond the accepted holding time |
| I | The reported value is < Laboratory RL and > laboratory MDL |
| U1 | The reported value is ≤ Laboratory MDL (value for sample result is reported as the MDL) |
| U (FL description) | Indicates the compound was analyzed for but not detected |
| T | The reported value is < Laboratory MDL (value shall not be used for statistical analysis) |
| V | The analyte was detected in both the sample and the associated method blank |
| J1 | Surrogate recovery outside acceptance limits. Not enough sample available to reextract and/or reanalyze. |
| J2 | The sample matrix interfered with the ability to make any accurate determinations |
| J3 | The reported value failed to meet the established quality control criteria for either precision or accuracy |
| J (FL description) | Estimated value; not accurate |

CLP and CLP-like Projects: Refer to referenced CLP Statement of Work (SOW) for explanation of data qualifiers.

643 768

SEVERN TRENT LABORATORIES 11 East Olive Road Pensacola, Florida 32514 (850) 474-1001

# Quality Control Report

Analysis: DISSOLVED METHANE

| | |
|---|---|
| Accession: | 910670 |
| Client: | STL/CHICAGO |
| Project Number: | 9910G387 |
| Project Name: | AFC001-26HBA |
| Project Location: | N/S |
| Department: | SEMI-VOLATILE FUELS |

BLANK ANALYSIS

DATE: 27-OCT-99

METHOD: RSK 175

BATCH: GEW338

| COMPOUND | UNITS | REPORTING LIMIT | RESULT |
|---|---|---|---|
| METHANE | UG/L | 1 | ND |
| ETHANE | UG/L | 1 | ND |
| ETHENE | UG/L | 1 | ND |

643 770

CONTINUING CALIBRATION

DATE: 27-OCT-99

METHOD: RSK 175

BATCH: GEW338

| COMPOUND | AMT (IC) | AMT (CC) | %D | QC LIMITS |
|---|---|---|---|---|
| METHANE | 25.0 | 27.5 | 5 | 20 |
| ETHANE | 25.0 | 27.6 | 5 | 20 |
| ETHENE | 25.0 | 27.8 | 5 | 20 |

SOURCE FOR CONTROL LIMIT IS INTERNAL LABORATORY QUALITY ASSURANCE PROGRAM AND RSK 175.

UNITS = UG/L

DUPLICATE SAMPLE ANALYSIS

DATE: 27-OCT-99

METHOD: RSK 175

LAB SAMPLE #: 910670-1

BATCH: GEW338

| COMPOUND | SAMPLE RESULT | DUPLICATE RESULT | %RPD | QC LIMITS |
|---|---|---|---|---|
| METHANE | 205.5000 | 206.3800 | 0 | 50 |
| ETHANE | 0.1200 | 0.1300 | 8 | 50 |
| ETHENE | 0.1600 | 0.1700 | 6 | 50 |

ALL RESULTS REPORTED IN UG/L.

ND = NOT DETECTED
NC = NOT CALCULABLE
N/A = NOT APPLICABLE
SOURCE FOR CONTROL LIMIT IS INTERNAL LABORATORY QUALITY ASSURANCE PROGRAM AND RSK 175.

UNITS = UG/L

643 772

CHECK STANDARD (POST-RUN)

DATE: 27-OCT-99

METHOD: RSK 175

BATCH: GEW338

| COMPOUND | AMT(CC) | AMT (PS) | %D | QC LIMITS |
|---|---|---|---|---|
| METHANE | 25.0 | 27.2 | 4 | 20 |
| ETHANE | 25.0 | 27.4 | 5 | 20 |
| ETHENE | 25.0 | 27.6 | 5 | 20 |

SOURCE FOR CONTROL LIMIT IS INTERNAL LABORATORY QUALITY ASSURANCE PROGRAM AND RSK 175.

UNITS = UG/L
PS = POST-RUN STANDARD
CC = CONTINUING CALIBRATION STANDARD

SEVERN TRENT LABORATORIES 11 East Olive Road Pensacola, Florida 32514 (850) 474-1001

# Quality Control Report

Analysis: TNRCC TEXAS METHOD 1005 - TOTAL PETROLEUM HYDROCARBONS

| | |
|---|---|
| Accession: | 910670 |
| Client: | STL/CHICAGO |
| Project Number: | 9910G387 |
| Project Name: | AFC001-26HBA |
| Project Location: | NAS, FORT WORTH, TX |
| Department: | SEMI-VOLATILE FUELS |

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"QC Report"

Title: Water Blank
Batch: GEW333
Analysis Method: TNRCC Method 1005 (Rev. 4/98)
Extraction Method: TNRCC Method 1005 (Rev. 4/98)

Blank Id: A Date Analyzed: 23-OCT-99 Date Extracted: 22-OCT-99

| Parameters: | Units: | Results: | Reporting Limits: |
|---|---|---|---|
| C6-C10 | MG/L | 3.8400 | 5 |
| >C10-C28 | MG/L | 1.4590 | 5 |
| C6-C28 | MG/L | 5.2990 | 5 |
| ORTHO TER PHENYL | %REC/SURR | 93 | 50-150 |
| ANALYST | INITIALS | HAH | |

Comments:

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"QC Report"

Title: Water LCS
Batch: GEW333
Analysis Method: TNRCC Method 1005 (Rev. 4/98)
Extraction Method: TNRCC Method 1005 (Rev. 4/98)

RS Date Analyzed: 23-OCT-99 RS Date Extracted: 22-OCT-99

| Parameters: | Spike Added | Sample Conc | RS Conc | RS %Rec | Rec Lmts |
|---|---|---|---|---|---|
| C6-C10 | 10.0 | <5 | 9.0 | 90 | 70-130 |
| >C10-C28 | 10.0 | <5 | 8.8 | 88 | 70-130 |
| C6-C28 | 20.0 | <5 | 17.8 | 89 | 70-130 |
| Surrogates: | | | | | |
| ORTHO TER PHENYL (OTP) | | | | 97 | 50-150 |

Comments:

Notes:
N/S = NOT SUBMITTED N/A = NOT APPLICABLE D = DILUTED OUT
MG/KG = PARTS PER MILLION. < = LESS THAN REPORTING LIMIT.
* = VALUES OUTSIDE OF QUALITY CONTROL LIMITS.
SOURCES FOR CONTROL LIMITS ARE INTERNAL LABORATORY QUALITY ASSURANCE PROGRAM AND REFERENCED METHOD.

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"QC Report"

Title: Water Matrix Spike/Matrix Spike Duplicate
Batch: GEW333
Analysis Method: TNRCC Method 1005 (Rev. 4/98)
Extraction Method: TNRCC Method 1005 (Rev. 4/98)

Dry Weight %: N/A
Sample Spiked: 910466-2

MS Date Analyzed: 25-OCT-99
MSD Date Analyzed: 25-OCT-99

MS Date Extracted: 22-OCT-99
MSD Date Extracted: 22-OCT-99

| Parameters: | Spike Added | Sample Conc | MS Conc | MS %Rec | MSD Conc | MSD %Rec | RPD | RPD Lmts | Rec Lmts |
|---|---|---|---|---|---|---|---|---|---|
| C6-C10 | 10.0 | 6.0 | 9.0 | 30* | 6.0 | 0* | 200* | 30 | 70-130 |
| >C10-C28 | 10.0 | 8.0 | 9.0 | 10* | 9.0 | 10* | 0 | 30 | 70-130 |
| C6-C28 | 20.0 | 14.0 | 18.0 | 20* | 15.0 | 5* | 120* | 30 | 70-130 |
| Surrogates: | | | | | | | | | |
| ORTHO TER PHENYL (OTP) | | | | 102 | | 99 | | | 50-150 |

Comments:
MATRIX SPIKE/MATRIX SPIKE DUPLICATE HAD RECOVERY(S) AND/OR RPD(S) OUTSIDE ACCEPTANCE LIMITS DUE TO MATRIX INTERFERENCE. REFER TO LCS DATA.

Notes:
N/S = NOT SUBMITTED N/A = NOT APPLICABLE D = DILUTED OUT
MG/KG = PARTS PER MILLION. < = LESS THAN REPORTING LIMIT.
* = VALUES OUTSIDE OF QUALITY CONTROL LIMITS.
SOURCES FOR CONTROL LIMITS ARE INTERNAL LABORATORY QUALITY ASSURANCE PROGRAM AND REFERENCED METHOD.

SEVERN TRENT LABORATORIES 11 East Olive Road Pensacola, Florida 32514 (850) 474-1001



"QC Report"

Title: Water Matrix Spike/Matrix Spike Duplicate
Batch: GEW333
Analysis Method: TNRCC Method 1005 (Rev. 4/98)
Extraction Method: TNRCC Method 1005 (Rev. 4/98)

Dry Weight %: N/A
Sample Spiked: 910663-1

MS Date Analyzed: 25-OCT-99
MSD Date Analyzed: 25-OCT-99

MS Date Extracted: 22-OCT-99
MSD Date Extracted: 22-OCT-99

| Parameters: | Spike Added | Sample Conc | MS Conc | MS %Rec | MSD Conc | MSD %Rec | RPD | RPD Lmts | Rec Lmts |
|---|---|---|---|---|---|---|---|---|---|
| C6-C10 | 10.0 | <5 | 8.0 | 80 | 8.0 | 80 | 0 | 30 | 70-130 |
| >C10-C28 | 10.0 | <5 | 7.0 | 70 | 8.0 | 80 | 13 | 30 | 70-130 |
| C6-C28 | 20.0 | <5 | 15.0 | 75 | 16.0 | 80 | 6 | 30 | 70-130 |
| Surrogates: | | | | | | | | | |
| ORTHO TER PHENYL (OTP) | | | | 88 | | 92 | | | 50-150 |

Comments:

Notes:
N/S = NOT SUBMITTED N/A = NOT APPLICABLE D = DILUTED OUT
MG/KG = PARTS PER MILLION. < = LESS THAN REPORTING LIMIT.
* = VALUES OUTSIDE OF QUALITY CONTROL LIMITS.
SOURCES FOR CONTROL LIMITS ARE INTERNAL LABORATORY QUALITY ASSURANCE PROGRAM AND REFERENCED METHOD.

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Common Notation for Organic Reporting

N/S = NOT SUBMITTED
N/A = NOT APPLICABLE
UG = MICROGRAMS
UG/L = PARTS PER BILLION
UG/KG = PARTS PER BILLION
MG/M3 = MILLIGRAM PER CUBIC METER
PPMV = PART PER MILLION BY VOLUME
MG/KG = PARTS PER MILLION
MG/L = PARTS PER MILLION
< = LESS THAN
ND = NOT DETECTED AT OR ABOVE THE STL-PENSACOLA REPORTING LIMIT (RL).
E = EXCEED THE CALIBRATION CURVE; THEREFORE, RESULTS ARE ESTIMATED.

SOURCES FOR CONTROL LIMITS ARE INTERNAL LABORATORY QUALITY ASSURANCE PROGRAM AND REFERENCED METHOD.

ORGANIC SOILS ARE REPORTED ON A DRYWEIGHT BASIS.

RPT LMTS = REPORTING LIMITS BASED ON METHOD DETECTION LIMIT STUDIES.

RPD = RELATIVE PERCENT DIFFERENCE (OR DEVIATION)

STL/GC/FID
STL GAS CHROMATOGRAPHIC METHOD EMPLOYING DIRECT INJECTION ON COLUMN WITH FLAME IONIZATION DETECTOR (FID).

STL/GC/FIX
STL GAS CHROMATOGRAPHIC METHOD FOR ANALYSIS OF FIXED GASES EMPLOYING DIRECT INJECTION ON COLUMN WITH THERMAL CONDUCTIVITY DETECTOR (TCD) AND FLAME IONIZATION DETECTOR (FID).

STL/GC/FPD
STL GAS CHROMATOGRAPHIC METHOD EMPLOYING DIRECT INJECTION ON COLUMN WITH FLAME PHOTOMETRIC DETECTOR (FPD) IN SULFUR-SPECIFIC MODE.

STL/GC/PID
STL GAS CHROMATOGRAPHIC METHOD EMPLOYING DIRECT INJECTION ON COLUMN WITH PHOTOIONIZATION DETECTOR (PID).

STL/GC/TCD
STL GAS CHROMATOGRAPHIC METHOD EMPLOYING DIRECT INJECTION ON COLUMN WITH THERMAL CONDUCTIVITY DETECTOR (TCD).

SW-846 METHOD 9020
PARTICULATE MATTER IS REMOVED BY ALLOWING PARTICULATES TO SETTLE IN THE SAMPLE CONTAINER AND DECANTING THE SUPERNATANT LIQUID. EXCESSIVE PARTICULATES ARE REMOVED BY FILTRATION OF THE SUPERNATANT LIQUID.

RSK 175
SAMPLE PREPARATION AND CALCULATIONS FOR DISSOLVED GAS ANALYSIS IN WATER SAMPLES USING A GC HEADSPACE EQUILIBRATION TECHNIQUE, RSK SOP-175, ROBERT S. KERR ENVIRONMENTAL RESEARCH LABORATORY, USEPA, AUGUST 11, 1994.

STL-PN USES THE MOST CURRENT PROMULGATED METHODS CONTAINED IN THE REFERENCE MANUALS.

SW = STEVE WILHITE
RP = ROB PEREZ
RW = RITA WINGO
WEM = WARREN MILBRANDT
PLD = PAULA DOUGHTY
AHT = AUBURN H. THOMPSON, JR.
MG = MARY GUTIERREZ
KA = KIM AYERS
SB = STEPHANIE BUBIEN
BT = BECKY TREMMEL
HAH = HOLLIE HOFFMAN
LFB = LISA BRASCH

# FINAL PAGE

## ADMINISTRATIVE RECORD

FINAL PAGE