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Report. HW. 932063. 2005-07-29. GW\_ Sampling. pdf \_\_\_\_\_.pdf

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Project Site numbers will be proceeded by the following:

Municipal Brownfields - B Superfund - HW Spills - SP

ERP - E VCP - V BCP - C



#### P. O. BOX 248, 1186 LOWER RIVER ROAD, NW, CHARLESTON, TN 37310-0248

(423) 336-4000 FAX: (423) 336-4166

July 29, 2005

2005 GW File RECEIVED

9320

AUG 0 1 2005 NySoec Reg 9 \_\_\_\_Rel\_\_\_UNREL

Mr. Michael J. Hinton, P.E. Environmental Engineer New York State Department of Environmental Conservation 270 Michigan Avenue Buffalo, NY 14203-2999

Subject: Charles Gibson Site (Pine and Tuscarora Site) Niagara Falls, New York NYSDEC Registry No. 9-32-063 Semi-Annual Ground Water Sampling Report April 2005

Dear Mr. Hinton:

In accordance with the approved sampling plan for the above referenced Site, enclosed are three copies of the Semi-Annual Ground Water Report, April 2005. The analytical data summary for ground water is listed in Table 1. Analytical results for the annual leachate sampling at Manhole B are listed in Table 2. The Data Usability Summary Report is presented in Appendix A. The field logs for this sampling event are also attached in Appendix B. The Site Inspection Forms and the Ground Water Elevation Forms are included in Appendices C and D respectively. The analytical data has been validated and found to be acceptable.

You-will-recall that Olin requested discontinuing the hexachlorobenzene (HCB)-monitoring the ingroundwater: NYSDEC-indicated it would reconsider the request after the 2005 leachate data became known. HCB was not detected in the April 2005 leachate sample. Olin requests NYSDEC to reconsider eliminating hexachlorobenzene (HCB) testing in the monitoring program based on results from the leachate HCB data collected in April 2005 and past monitoring. Data indicates HCB has never been detected in the leachate or in any of the monitoring wells at the site.

If you have any questions, please call me at 423/ 336-4381.

Sincerely. **OLIN CORPORATION** M. Miller. maine

Éorraine M. Miller Principal Environmental Specialist

cc: B. H. Brayley (e-mail) C.M. Richards (e-mail) T. E. Tirabassi (e-mail) M. E. Walker (e-mail)

dm:sites/P&T Gibson//site monitoring/semiannual gw sampling /April 2005

# Gibson Site #932063

alpha - BHC



- MW-1R - MW-2 - MW-A3 - MW-4 - MW-5



# Gibson Site #932063

gamma - BHC



# Gibson Site #932063

delta -BHC



Charles Gibson Site (PINE AND TUSCARORA) Niagara Falls, NY NYSDEC Registry No. 9-32-063

Semi-Annual Groundwater Sampling

April 5, 2005

### TABLE 1

#### CHARLES GIBSON SITE NIAGARA FALLS, NEW YORK

### ANALYTICAL RESULTS SUMMARY SEMI-ANNUAL GROUND WATER SAMPLING

### April 5, 2005

|                   | MW-1R | MW-1R<br>(dup) | MW-2  | MW-4  | MW-5  | MW-A3 |
|-------------------|-------|----------------|-------|-------|-------|-------|
| PARAMETER         |       |                |       |       |       |       |
| alpha-BHC         | .040J | .049U          | .050U | .047U | .047U | .047U |
| beta-BHC          | .050U | .049U          | .050U | .047U | .047U | .047U |
| delta-BHC         | .036J | .049U          | .050U | .047U | .047U | .047U |
| gamma-BHC         | .050U | .049U          | .050U | .047U | .047U | .047U |
| Hexachlorobenzene | NR    | NR             | NR    | NR    | NR    | NR    |
|                   |       |                |       |       |       |       |

Notes:

U

Concentration in ug/l

Undetected at associated value

NR Not required

Field blank (MW8) was non-detect for all parameters of interest. Data has been validated and judged acceptable as qualified.

Next sampling for hexachlorobenzene is scheduled for October 2006.

### TABLE 2

### CHARLES GIBSON SITE NIAGARA FALLS, NEW YORK

#### ANALYTICAL RESULTS SUMMARY ANNUAL LEACHATE SAMPLING

### April 5, 2005

|                   | MANHOLE B |
|-------------------|-----------|
| PARAMETER         |           |
| alpha-BHC         | .046J     |
| beta-BHC          | .076      |
| delta-BHC         | .28       |
| gamma-BHC         | .047U     |
| Hexachlorobenzene | 9U        |

#### Notes:

Concentration in ug/l

Field blank was non-detect for all parameters of interest.

Data has been validated and judged acceptable as qualified.

Next hexachlorobenzene (HCB) sampling scheduled for October 2010



DATA USABILITY SUMMARY REPORT SEMI-ANNUAL GROUND WATER SAMPLING AND ANNUAL LEACHATE SAMPLING OF MANHOLE B

**APRIL 2005** 

CHARLES GIBSON SITE (PINE AND TUSCARORA SITE) NIAGARA FALLS, NEW YORK NYSDEC Registry No. 9-32-063

.

dm:sites/P&T Gibson//site monitoring/semiannual gw sampling /April 2005

### DATA USABILITY SUMMARY REPORT SEMI-ANNUAL WELL SAMPLING APRIL 2005

### CHARLES GIBSON SITE NIAGARA FALLS, NEW YORK

### PREPARED BY: SEVENSON ENVIRONMENTAL SERVICES, INC. 2749 LOCKPORT ROAD NIAGARA FALLS, NEW YORK 14305

Report Submitted: July 28, 2005

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- APPENDIX B SUMMARY ANALYTICAL REPORT

### **1.0 INTRODUCTION**

The following details an assessment and validation of analytical results reported by Severn Trent Laboratories, Inc. (STL) of Buffalo, New York, for groundwater samples collected in April 2005 for the Semi-Annual Well Sampling at the Charles Gibson Site in Niagara Falls, New York. The semi-annual well sampling included the collection of groundwater samples from five monitoring wells (MW-1R, MW-2, MW-4, MW-5, and MW-A3), a field duplicate of MW-1R (designated as MW-7), and a field blank. The semi-annual sampling also included the collection a leachate sample from "Manhole B". All samples were collected in accordance with the "Operation and Maintenance Manual" for the site, dated June 2000.

All samples were submitted for the analysis of the pesticides alpha-BHC, beta-BHC, delta-BHC, and gamma-BHC, using US Environmental Protection Agency (USEPA) SW-846 Methods 3510 and 8081A. In addition, the leachate sample was submitted for the analysis of hexachlorobenzene using USEPA SW-846 Methods 3510 and 8270C. Analyses are referenced from "Test Methods for Evaluating Solid Wastes, Physical/Chemical Methods," SW-846 Third Edition, 1986 and subsequent revisions. The analytical data are presented in Tables 1 and 2 for the groundwater samples and Manhole B leachate sample, respectively. A copy of the chain of custody form is included in Appendix A and the summary report from the laboratory is included in Appendix B. Data evaluation was based on information obtained from the finished data sheets, chain-of-custody forms, blank data, field duplicate data, and recovery data for matrix, blank, and surrogate spikes.

The Quality Assurance/Quality Control (QA/QC) criteria by which these data have been assessed are outlined in the analytical methods and in "National Functional Guidelines for Organic Data Review," USEPA, October 1999.

### 2.0 SAMPLE HOLDING TIMES

Based on the criteria outlined in the methods of analysis, the following holding time requirements were used:

| Parameter         | Matrix | Collection to<br>Extraction (days) | Extraction to<br>Analysis (days) |
|-------------------|--------|------------------------------------|----------------------------------|
| BHCs              | Water  | 7                                  | 40                               |
| Hexachlorobenzene | Water  | 7                                  | 40                               |



Based on sample chain-of-custody forms and laboratory analysis reports, samples were collected on April 5, 2005 extracted on April 5, 2005 and analyzed on April 14, 2005 for hexachlorobenzene. The sample extraction and analysis was performed within the holding times specified in the "National Functional Guidelines for Organic Data Review" (USEPA, 1999). The extraction was performed one day past the five-day holding time specified in the New York State Department of Environmental Conservation (NYSDEC) Analytical Services Protocol (ASP). No qualifiers were assigned to the hexachlorobenzene results during data validation.

Based on sample chain-of-custody forms and laboratory analysis reports, samples were collected on April 5, 2005 extracted on April 7 and 11, 2005 and analyzed on April 13 and 14, 2005 for pesticides. Sample extractions and analyses were performed within the specified holding times.

As indicated on the Non-Conformance Summary included with the laboratory analytical data report, the laboratory received two sample coolers, each at temperatures of 4°C, in good condition. Samples were hand delivered to the laboratory on the same day that the samples were collected.

### 3.0 SURROGATE SPIKE RECOVERIES

All field samples, blanks, and laboratory QC samples (e.g., matrix spike, matrix spike duplicate) analyzed for BHCs and hexachlorobenzene are spiked with surrogate compounds prior to extraction. The primary function of the surrogate spiking activity is to determine the efficiency of recovery of analytes in the samples preparation and analysis and thus the degree to which the sample matrix plays a role in the analysis. This matrix interference is measured as a percent recovery, which is then used to gauge the total accuracy of the analytical method for that sample.

All samples submitted for BHC analyses were spiked with the surrogate compounds decachlorobiphenyl (DCB) and tetrachloro-m-xylene (TCX). All samples submitted for hexachlorobenzene analyses were spiked with the surrogate compounds 2,4,6-tribromophenol, 2-fluorobiphenyl, 2-fluorophenol, nitrobenzene-d5, phenol-d5, and terphenyl-d14. All surrogate recoveries were within the laboratory control limits, demonstrating acceptable analytical efficiency.

### 4.0 LABORATORY BLANK ANALYSES

The purpose of assessing the results of laboratory blank analyses is to determine the existence and magnitude of sample contamination resulting from laboratory sample preparation and analysis activities. A method blank is a sample of non-contaminated deionized water that is subjected to all of the sample preparation (i.e., extraction) and analytical methodology applied to the samples.

Laboratory blanks were extracted and analyzed at a frequency of one per analytical batch. All BHC and hexachlorobenzene results in the method blank were non-detect, indicating that contamination from laboratory activities was not a factor for this sampling round.

### 5.0 MATRIX SPIKE/MATRIX SPIKE DUPLICATE ANALYSES (MS/MSD)

To assess the effects of sample matrices on analytical efficiency, samples are spiked in duplicate with known concentrations of the target compounds into a prepared portion of a sample just prior to analysis. The matrix spike recovery provides information on matrix effects encountered during analysis and indicates whether the selected analytical method is appropriate for the recovery of the contaminants of concern for the matrix. The MS/MSD recoveries are used to evaluate analytical accuracy, while the relative percent difference (RPD) values between the MS and MSD are used to evaluate analytical precision.

The MS and MSD analyses for pesticides were performed using groundwater samples collected from monitoring well MW-2 for this sampling event. A limited list of pesticides was added to the MS and MSD samples, including gamma-BHC. Gamma-BHC recoveries and the associated RPD are within the laboratory control limits, demonstrating acceptable laboratory accuracy and precision.

MS and MSD analyses were not performed for hexachlorobenzene since this compound is not included in the spiking mixture utilized by the laboratory.

### 6.0 BLANK SPIKE ANALYSES

Blank spikes are analyzed as samples to assess the analytical accuracy of the methods employed in the absence of matrix interference. The blank spike contains known concentrations of the analytes of concern

and is carried through the entire preparation and analysis process. The actual analyte concentration and percent recovery is reported with the laboratory QC data. Blank spikes are analyzed at a minimum frequency of one per analytical batch.

All BHC and hexachlorobenzene recoveries reported by the laboratory for the blank spike analyses were within the laboratory control limits, demonstrating acceptable analytical accuracy.

### 7.0 FIELD QA/QC

### 7.1 Field Blanks

The purpose of field blank analysis is to determine the existence and magnitude of contamination resulting from sample bottles, field sampling activities, sample transport, and/or storage. One field blank was collected by pouring distilled water into the same type of samples bottle utilized for the field samples and kept with the field samples throughout the sampling event, shipment, and storage in the laboratory.

The field blank collected during this sampling event was submitted to the laboratory identified as "Field Blank-040505". All results were non-detect, indicating that contamination from sampling and storage activities was not a factor for this event.

### 7.2 Field Duplicates

Field duplicate samples are collected in a manner that is identical to the original sample - the original field samples and its duplicate are collected at the same time, by the sample personnel, using the same procedures and sampling equipment, and is placed in the same type of containers. Field duplicates are used as a relative measure of the combined precision of the sample collection and analytical process. One field duplicate sample was collected during this sampling event and submitted as a "blind" sample to the laboratory. The field duplicate collected for this sampling event consisted of the following:

Sample ID MW-1R Field Duplicate ID MW-7 Results from the analysis of the primary sample were compared to the results from the duplicate sample analysis and agreement expressed in terms of relative percent difference (RPD). The sample results for the MW-1R/MW-7 duplicate pair (Table 1) indicate that all parameters were not detected in sample MW-7, while alpha-BHC and delta-BHC were reported with "J" qualifiers in sample MW-1R (i.e., the results were less than the sample quantitation limit but greater than zero). The duplicate sample results demonstrate acceptable reproducibility, indicating good sampling and analytical precision.

### 7.3 Rinse Blanks

No rinse blanks were collected for this sampling event, as dedicated equipment was used for monitoring well sample collection.

### 8.0 CONCLUSIONS

The analytical data package from Severn Trent was complete with all required QC information. The method blanks were free from contamination. All analyses were performed using specified methods within proper holding times, with the exception noted in Section 2.0. The relative percent differences, and surrogate, blank spike, and matrix spike/matrix spike duplicate recoveries were within laboratory control limits for all parameters and analyses. Based on this assessment and validation of the laboratory report, the data produced by STL are acceptable without qualification.

**TABLES** 

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#### TABLE 1 ANALYTICAL RESULTS SUMMARY - SEMI-ANNUAL WELL SAMPLING CHARLES GIBSON SITE NIAGARA FALLS, NEW YORK APRIL 2005

| Sample ID           | MW-A3-04 | 0505 | MW-1R-040505 |       | MW-7-040     | 505*  | MW-2-040    | )505 | MW-4-040 | )505 | MW-5-040505 |    |
|---------------------|----------|------|--------------|-------|--------------|-------|-------------|------|----------|------|-------------|----|
| Sample Date         | 04/05/0  | )5   | 04/05/0      | )5    | 04/05/05     |       | 04/05/05    |      | 04/05/05 |      | 04/05/0     | )5 |
|                     |          | В    | HC Isomers   | in Wa | ater via Met | hod 8 | 081A (ug/L) |      |          |      |             |    |
| alpha-BHC           | <0.047   | U    | 0.040        | J     | <0.049       | U     | <0.050      | U    | <0.047   | U    | <0.047      | U  |
| beta-BHC            | <0.047   | U    | <0.050       | U     | <0.049       | υ     | <0.050      | υ    | <0.047   | U    | <0.047      | U  |
| delta-BHC           | <0.047   | U    | 0.036        | J     | <0.049       | C     | <0.050      | U    | <0.047   | U    | <0.047      | U  |
| gamma-BHC (lindane) | <0.047   | U    | <0.050       | Ų     | <0.049       | U     | <0.050      | U    | <0.047   | U    | <0.047      | U  |

Notes:

\* MW-7 is a field duplicate of MW-1R

U Compound was analyzed for but not detected

J Estimated value - result is less than the sample quantitation limit but greater than zero

"Field Blank-040505" was a collected as a field blank - results were non-detect for all parameters

### TABLE 2 ANALYTICAL RESULTS SUMMARY - "MANHOLE B" SAMPLING CHARLES GIBSON SITE NIAGARA FALLS, NEW YORK APRIL 2005

| Sample ID                      | MHB-040505         |  |  |  |  |  |
|--------------------------------|--------------------|--|--|--|--|--|
| Sample Date                    | 04/05/05           |  |  |  |  |  |
| BHC Isomers in Water via Met   | hod 8081A (ug/L)   |  |  |  |  |  |
| alpha-BHC                      | 0.046 J            |  |  |  |  |  |
| beta-BHC                       | 0.076              |  |  |  |  |  |
| delta-BHC                      | 0.28               |  |  |  |  |  |
| gamma-BHC (lindane)            | <0.047 U           |  |  |  |  |  |
| Hexachlorobenzene in Water via | Method 8270 (ug/L) |  |  |  |  |  |
| Hexachlorobenzene              | <9 U               |  |  |  |  |  |

Notes:

U Compound was analyzed for but not detected

J Estimated value - result is less than the sample quantitation limit but greater than zero "Field Blank-040505" was a collected as a field blank - results were non-detect for all parameters

# **APPENDIX** A

# **CHAIN OF CUSTODY FORM**

### Chain of Custody Record



Severn Trent Laboratories, Inc.

| S1(24) (0901)   |                         |                 |                 |             |           |              |               |              |                    |                |                    |      |         |   |                |                 |                   |                   |                     |                     |                 |                       |                     |
|---|-------------------------|-----------------|-----------------|-------------|-----------|--------------|---------------|--------------|--------------------|----------------|--------------------|------|---------|---|----------------|-----------------|-------------------|-------------------|---------------------|---------------------|-----------------|-----------------------|---------------------|
| OLIN CORP   |                         | Project         | i Mana<br>Airle | M           | lan       |              |               |              |                    |                |                    |      |         |   | 1              | Date<br>Y       | .5                | .0                | 5                   | Chain (             | Custor          |                       |                     |
| Address Lawre River RD Obox 249   | ζ                       | Teleph          | ione N          | umber<br>33 | Area      | Code<br>-{00 | e)/Fax<br>D   | Numt<br>4    | )<br>123           | 32             | 6 -                | 416  | 6       |   | 1              | ab Nu           | mber              |                   |                     | Page                |                 | of                    |                     |
| City' State Zip   Charlessin DN 3   | <sup>Code</sup><br>7310 | Site Co<br>Mike | ontact          | LKey        | <u> </u>  |              | Lab C<br>Blue |              | t<br>Lahe          | ×_             |                    |      |         | / | Analy<br>ore s | sis (Al<br>pace | tach li<br>is nee | st if<br>ded)     |                     |                     |                 | ·                     |                     |
| Charles Gibson Site Niachar Calls, Y<br>Contract/Purchase Order/Quote Nd.                   | <u>ч</u>                |                 |                 | Ma          | trix      |              | · •           | Co           | ontain             | ers (          | s -                |      | ~       |   |                |                 |                   |                   |                     |                     | Speci<br>Condii | al Instru<br>lions of | ictions/<br>Receipt |
| Sample I.D. No. and Description<br>(Containers for each sample may be combined on one line) | Date                    | Time            | Łi.             | Aqueous     | Soil      |              | Unpres.       |              |                    | HORN           | S<br>ZnAc/<br>NaOH | -12  | HC      |   |                |                 |                   |                   |                     |                     |                 | •                     |                     |
| MW-1 R-040505   | 4.5.65                  | 1150            |                 | K           |           |              | Ā             |              |                    |                |                    | X    |         | - |                |                 |                   |                   |                     | 2                   | 14              | MBR                   | <u></u>             |
| MW.2-040505   |                         | 1105            |                 |             |           |              | Π             |              |                    |                |                    | 6    |         |   |                |                 |                   |                   |                     | 6.                  | Lt A            | iber (M:              | +MSD)               |
| MW-43-040505  |                         | 1355            |                 |             |           |              |               |              |                    |                |                    | Ý    |         |   |                |                 |                   |                   |                     | 2                   | · 11+A          | mber                  |                     |
| MW- 9-040505  |                         | 1305            |                 |             |           |              |               |              |                    |                |                    | Ý    |         |   |                |                 |                   |                   |                     | ス                   | (it A           | nbsk                  |                     |
| MW-5-040505   |                         | 1250            |                 |             |           |              |               |              |                    |                |                    | X    |         |   |                |                 |                   |                   |                     | 2.                  | 14,             | more                  |                     |
| MW-7-040505   |                         | 1630            |                 |             |           |              |               |              | <u> </u>           |                |                    | X    |         |   |                |                 |                   |                   |                     | 2                   | -14             | Ampe                  | <u> </u>            |
| MHB-040505  |                         | 000             |                 |             |           |              |               |              |                    |                |                    | X    | X       |   |                |                 |                   |                   |                     | 4                   | · 14            | Amber                 |                     |
| Field BANK-040505   | <b>₩</b>                | 0940            |                 |             |           |              | 1             |              |                    |                |                    | X    |         | _ |                |                 |                   |                   |                     | 4                   | · /4            | Ange                  |                     |
|   |                         |                 |                 |             |           |              | -             | -            |                    |                |                    |      |         | + |                |                 | ┼╴                |                   |                     |                     |                 |                       |                     |
|   |                         |                 |                 |             |           |              |               |              |                    |                |                    |      |         | Ţ |                |                 |                   |                   |                     |                     |                 |                       |                     |
| Possible Hazard Identification  | L                       | <u></u>         |                 | mple L      | Dispos    | al           |               |              |                    | <u>L</u> .     |                    |      |         |   |                |                 |                   |                   |                     |                     |                 |                       |                     |
| Non-Hazard Flammable Skin Irritant  | Poison B                | 🗟 Unknown       |                 | Retu        | n To (    | Client       | X             | Disp<br>C Re | oosal l<br>equirer | 9y La<br>nents | ь [<br>Spec        | Arch | ive For |   | <u></u>        | Month           | s lon             | lee ma<br>ger tha | y be as:<br>n 1 mor | sessed if s<br>hth) | amples i        | are retaine           | d<br>               |
| 24 Hours 48 Hours 7 Days 14 De  | ays 🔲 21 Days           | ; 🕅 Ol          | ъс              | anda        | <u>id</u> |              | _             |              |                    |                |                    |      |         |   |                |                 |                   |                   |                     | •                   |                 |                       | ı                   |
| 1. Haingwisted By   | -                       |                 | <u> 5.0</u>     | 5           |           | 10           | 1             | . Rec        | eived              | Ву             | k                  | m    |         | 4 | $\Sigma$       | <u>Sel</u>      | fy                |                   |                     | Date                | ing             | IS Time               | 548                 |
|   |                         | Dalè            |                 | '           | îme       |              | 2             | . Rec        | eived .            | By             | 1                  |      |         |   | •              |                 |                   |                   |                     | Date                | _               | Time                  |                     |
| 3. Relinguished By  |                         | Date            |                 |             | Time      | •            | 3             | . Rec        | eived              |                | l                  |      |         | • |                |                 |                   |                   |                     | Date                |                 | Time                  |                     |
| Comments  |                         |                 |                 | 4           | -         |              | 1             |              |                    |                |                    |      | X       | K | 10             | ٢               |                   |                   |                     |                     |                 | <b>I</b>              |                     |

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# **APPENDIX B**

# SUMMARY ANALYTICAL REPORT

# FILE COPY



STL Buffalo 10 Hazelwood Drive, Suite 106 Amherst, NY 14228

IND

ENV

Tel: 716 691 2600 Fax: 716 691 7991 www.stl-inc.com

CHARLES GIBSON JITE ENV. MUNIFORING 2005

ANALYTICAL REPORT

Job#: A05-3100

STL Project#: NY3A9025 Site Name: <u>OLIN CORPORATION</u> Task: Charles Gibson Site

> Ms. Lorraine Miller Olin Corporation 1186 Lower River Road Charleston, TN 37310

CC: Mr. Michael Walker

STL Buffalo

Brian D Fischer Project Manager

Martha Fuller

Analyst

Donna Besco Analyst

4/25/05

aders in Environi

## STL Buffalo Current Certifications

| STATE          | Program                     | Cert # / Lab ID      |
|----------------|-----------------------------|----------------------|
| Arkansas       | SDWA, CWA, RCRA, SOIL       | 03-054-D/88-0686     |
| California     | NELAP SDWA, CWA, RCRA       | 01169CA              |
| Connecticut    | SDWA, CWA, RCRA, SOIL       | PH-0568              |
| Florida        | NELAP RCRA                  | E87672               |
| Georgia        | SDWA                        | 956                  |
| Illinois       | NELAP SDWA, CWA, RCRA       | 200003               |
| lowa           | SW/CS                       | 374                  |
| Kansas         | NELAP SDWA, CWA, RCRA       | . E-10187            |
| Kentucky       | SDWA                        | 90029                |
| Kentucky UST   | UST                         | . 30                 |
| Louisiana      | NELAP CWA, RCRA             | 2031                 |
| Maine          | SDWA, CWA                   | NY044                |
| Maryland       | SDWA                        | 294                  |
| Massachusetts  | SDWA, CWA                   | M-NY044              |
| Michigan       | SDWA                        | 9937                 |
| Minnesota      | CWA, RCRA                   | 036 <b>-999-33</b> 7 |
| New Hampshire  | NELAP SDWA, CWA             | 233701               |
| New Jersey     | SDWA, CWA, RCRA, CLP        | NY455                |
| New York       | NELAP, AIR, SDWA, CWA, RCRA | 10026                |
| North Carolina | CWA                         | 411                  |
| North Dakota   | SDWA, CWA, RCRA             | R-176                |
| Oklahoma       | CWA, RCRA                   | 9421                 |
| Pennsylvania   | Env. Lab Reg.               | 68-281               |
| South Carolina | RCRA                        | 91013                |
| USDA           | FOREIGN SOIL PERMIT         | S-41579              |
| Virginia       | SDWA                        | 278                  |
| Washington     | CWA                         | C254                 |
| West Virginia  | CWA                         | 252                  |
| Wisconsin      | CWA                         | 998310390            |
|                |                             |                      |
|                |                             |                      |
| · ·            |                             |                      |

• •

# SAMPLE DATA SUMMARY PACKAGE

### 4/278

### SAMPLE SUMMARY

|               |                      |        | SAMPI      | ED    | RECEIVI    | Ð     |
|---------------|----------------------|--------|------------|-------|------------|-------|
| LAB SAMPLE ID | CLIENT SAMPLE ID     | MATRIX | DATE       | TIME  | DATE       | TIME  |
| A5310008      | FIELD BLANK-040505   | WATER  | 04/05/2005 | 09:40 | 04/05/2005 | 16:40 |
| A5310001      | MHB-040505           | LEACH  | 04/05/2005 | 10:00 | 04/05/2005 | 16:40 |
| A5310002      | MW-1R-040505         | GW     | 04/05/2005 | 11:50 | 04/05/2005 | 16:40 |
| A5310003      | MW-2-040505          | GW     | 04/05/2005 | 11:05 | 04/05/2005 | 16:40 |
| A5310003MS    | MW-2-040505          | GW     | 04/05/2005 | 11:05 | 04/05/2005 | 16:40 |
| A5310003SD    | MW-2-040505          | GW     | 04/05/2005 | 11:05 | 04/05/2005 | 16:40 |
| A5310004      | MW-4-040505          | GW     | 04/05/2005 | 13:05 | 04/05/2005 | 16:40 |
| A5310005      | MW-5-040505          | ĢW     | 04/05/2005 | 12:50 | 04/05/2005 | 16:40 |
| A5310006      | MW-7-040505 (ついや MUI | "∳∰W   | 04/05/2005 | 16:30 | 04/05/2005 | 16:40 |
| A5310007      | MWA-3-040505         | ´G₩    | 04/05/2005 | 13:55 | 04/05/2005 | 16:40 |
|               |                      |        |            |       |            |       |

### METHODS SUMMARY

### Job#: <u>A05-3100</u>

### SIL Project#: <u>NY3A9025</u> Site Name: <u>Olin Corporation - Charles Gibson site</u>

|  | ANALYTICAL |
|--|------------|
| PARAMETER                              | METHOD     |
| ASP 2000/8270 - HEXACHLOROBENZENE ONLY | ASP00 8270 |
| ASP 2000- METHOD 8081 BHC'S            | ASP00 8081 |

ASP00

"Analytical Services Protocol", New York State Department of Conservation, June 2000.

#### NON-CONFORMANCE SUMMARY

#### Job#: <u>A05-3100</u>

#### STL Project#: <u>NY3A9025</u> Site Name: <u>Olin Corporation - Charles Gibson site</u>

#### <u>General Comments</u>

The enclosed data have been reported utilizing data qualifiers (Q) as defined on the Data Comment Page.

Soil, sediment and sludge sample results are reported on "dry weight" basis unless otherwise noted in this data package.

According to 40CFR Part 136.3, pH, Chlorine Residual, Dissolved Oxygen, Sulfite, and Temperature analyses are to be performed immediately after aqueous sample collection. When these parameters are not indicated as field (e.g. pH-Field), they were not analyzed immediately, but as soon as possible after laboratory receipt.

Sample dilutions were performed as indicated on the attached Dilution Log. The rationale for dilution is specified by the 3-digit code and definition.

Sample Receipt Comments

A05-3100

Sample Cooler(s) were received at the following temperature(s); 2@4.0 °C All samples were received in good condition.

#### GC/MS Semivolatile Data

Samples MHB-040505 and FIELD BLANK-040505, 8270 waters, were extracted outside of the ASP 2000 required holding time.

The requested target analyte list does not include any spiking compounds routinely analyzed. Spike recovery data has not been included in the report.

GC Extractable Data

No deviations from protocol were encountered during the analytical procedures.

#### \*\*\*\*\*\*

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

"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 and in the computer-readable data submitted on floppy diskette has been authorized by the Laboratory Manager or his designee, as verified by the following signature."

Brian J. Fischer

Project Manager

4-26-05

Date

SAMPLE IDENTIFICATION AND ANALYTICAL REQUEST SUMMARY

### AB NAME: SEVERN TRENT LABORATORIES, INC.

| CUSTOMER<br>SAMPLE ID | LABORATORY<br>SAMPLE ID | ANALYTICAL REQUIREMENTS |              |           |             |        |              |                  |  |  |  |  |
|-----------------------|-------------------------|-------------------------|--------------|-----------|-------------|--------|--------------|------------------|--|--|--|--|
|                       |                         | VOA<br>GC/MS            | BNA<br>GC/MS | VOA<br>GC | PEST<br>PCB | METALS | TCLP<br>HERB | WATER<br>QUALITY |  |  |  |  |
| MHB-040505            | A5310001                | -                       | ASP00        | -         | ASP00       | -      | -            | -                |  |  |  |  |
| MW-1R-040505          | A5310002                | -                       | -            | -         | ASP00       | -      | -            | -                |  |  |  |  |
| MW-2-040505           | A5310003                | -                       | -            | -         | ASP00       | -      | -            | -                |  |  |  |  |
| MW-4-040505           | A5310004                | -                       | -            | -         | ASP00       | -      | -            | -                |  |  |  |  |
| MW-5-040505           | A5310005                | -                       | ' <u>-</u>   | -         | ASP00       | -      | -            | -                |  |  |  |  |
| MW-7-040505           | A5310006                | -                       | -            | -         | ASP00       | _      | -            | -                |  |  |  |  |
| MWA-3-040505          | A5310007                | -                       | -            | -         | ASP00       | -      |              | -                |  |  |  |  |

# SAMPLE PREPARATION AND ANALYSIS SUMMARY B\N-A ANALYSIS

LAB NAME: SEVERN TRENT LABORATORIES, INC.

| SAMPLE<br>IDENTIFICATION | MATRIX | DATE<br>COLLECTED | DATE<br>RECEIVED<br>AT LAB | DATE<br>EXTRACTED | DATE<br>ANALYZED |
|--------------------------|--------|-------------------|----------------------------|-------------------|------------------|
| MHB-040505               | LEACH  | 04/05/2005        | 04/05/2005                 | 04/11/2005        | 04/14/2005       |

### SAMPLE PREPARATION AND ANALYSIS SUMMARY PESTICIDE/PCB ANALYSIS

### LAB NAME: SEVERN TRENT LABORATORIES, INC.

| SAMPLE<br>IDENTIFICATION | MATRIX | DATE<br>COLLECTED | DATE<br>RECEIVED<br>AT LAB | DATE<br>EXTRACTED | DATE<br>ANALYZED |
|--------------------------|--------|-------------------|----------------------------|-------------------|------------------|
| MHB-040505               | LEACH  | 04/05/2005        | 04/05/2005                 | 04/11/2005        | 04/14/2005       |
| MW-1R-040505             | GW     | 04/05/2005        | 04/05/2005                 | 04/07/2005        | 04/13/2005       |
| MW-2-040505              | GW     | 04/05/2005        | 04/05/2005                 | 04/07/2005        | 04/13/2005       |
| MW-4-040505              | GW     | 04/05/2005        | 04/05/2005                 | 04/07/2005        | 04/13/2005       |
| MW-5-040505              | GW     | 04/05/2005        | 04/05/2005                 | 04/07/2005        | 04/13/2005       |
| MW-7-040505              | GW     | 04/05/2005        | 04/05/2005                 | 04/07/2005        | 04/13/2005       |
| MWA-3-040505             | GW     | 04/05/2005        | 04/05/2005                 | 04/07/2005        | 04/13/2005       |

### SAMPLE PREPARATION AND ANALYSIS SUMMARY ORGANIC ANALYSIS

LAB NAME: SEVERN TRENT LABORATORIES, INC.

| SAMPLE<br>IDENTIFICATION | MATRIX | ANALYTICAL<br>PROTOCOL | EXTRACTION<br>METHOD | AUXILIARY<br>CLEAN UP | DIL/CONC<br>FACTOR |
|--------------------------|--------|------------------------|----------------------|-----------------------|--------------------|
| MHB-040505               | LEACH  | ASP00                  | SEPF                 | AS REQUIRED           | AS REQUIRED        |
| MW-1R-040505             | GW     | ASP00                  | SEPF                 | AS REQUIRED           | AS REQUIRED        |
| MW-2-040505              | GW     | ASP00                  | SEPF                 | AS REQUIRED           | AS REQUIRED        |
| MW-4-040505              | GW     | ASP00                  | SEPF                 | AS REQUIRED           | AS REQUIRED        |
| MW-5-040505              | GW     | ASP00                  | SEPF                 | AS REQUIRED           | AS REQUIRED        |
| MW-7-040505              | GW     | ASP00                  | SEPF                 | AS REQUIRED           | AS REQUIRED        |
| MWA-3-040505             | GW     | ASP00                  | SEPF                 | AS REQUIRED           | AS REQUIRED        |

### DATA COMMENT PAGE

#### ORGANIC DATA QUALIFIERS

ND or U Indicates compound was analyzed for, but not detected at or above the reporting limit.

J Indicates an estimated value. This flag is used either when estimating a concentration for tentatively identified compounds where a 1:1 response is assumed, or when the data indicates the presence of a compound that meets the identification criteria but the result is less than the sample quantitation limit but greater than zero. 12/278

- C This flag applies to pesticide results where the identification has been confirmed by GC/MS.
- B This flag is used when the analyte is found in the associated blank, as well as in the sample.
- E This flag identifies compounds whose concentrations exceed the calibration range of the instrument for that specific analysis.
- D This flag identifies all compounds identified in an analysis at the secondary oflution factor.
- N Indicates presumptive evidence of a compound. This flag is used only for tentatively identified compounds, where the identification is based on the Mass Spectral library search. It is applied to all TIC results.
- P This flag is used for a pesticide/Aroclor target analyte when there is greater than 25% difference for detected concentrations between the two GC columns. The lower of the two values is reported on the data page and flagged with a "P".
- A This flag indicates that a TIC is a suspected aldol-condensation product.
- Indicates coelution.
- Indicates analysis is not within the quality control limits.

#### INORGANIC DATA QUALIFIERS

ND or U Indicates element was analyzed for, but not detected at or above the reporting limit.

- J or B Indicates a value greater than or equal to the instrument detection limit, but less than the quantitation limit.
- N Indicates spike sample recovery is not within the guality control limits.
- K Indicates the post digestion spike recovery is not within the quality control limits.
- S Indicates value determined by the Method of Standard Addition.
- M Indicates duplicate injection results exceeded quality control limits.
- W Post digestion spike for Furnace AA analysis is out of quality control limits (85-115%) while sample absorbance is less than 50% of spike absorbance.
- E Indicates a value estimated or not reported due to the presence of interferences.
- H Indicates analytical holding time exceedance. The value obtained should be considered an estimate.
- Indicates analysis is not within the quality control limits.
- + Indicates the correlation coefficient for the Method of Standard Addition is less than 0.995.
Client No.

### OLIN CORPORATION OLIN CORPORATION - CHARLES GIBSON SITE ASP 2000/8270 - HEXACHLOROBENZENE ONLY ANALYSIS DATA SHEET

|   |  | FIELD BLANK-040505    |
|---|--|-----------------------|
| Lab Name:   STL Buffalo   Contract:           |  | ۲                     |
| Lab Code: <u>RECNY</u> Case No.: SAS No.:     | SDG No.:   |                       |
| Matrix: (soil/water) <u>WATER</u>             | Lab Sample ID:                                   | <u>A5310008</u>       |
| Sample wt/vol: <u>1060.0</u> (g/mL) <u>ML</u> | Lab File ID:                                     | V08878.RR             |
| Level: (low/med) <u>LOW</u>                   | Date Samp/Recv:                                  | 04/05/2005 04/05/2005 |
| % Moisture: decanted: (Y/N) $\underline{N}$   | Date Extracted:                                  | <u>04/11/2005</u>     |
| Concentrated Extract Volume: 1000(uL)         | Date Analyzed:                                   | 04/14/2005            |
| Injection Volume: 2.00 (uL)                   | Dilution Factor:                                 | 1.00                  |
| GPC Cleanup: (Y/N) <u>N</u> pH: <u>6.0</u>    |  |                       |
| CAS NO. COMPOUND                              | CONCENTRATION UNITS:<br>(ug/L or ug/Kg) <u>L</u> | <u>r/l</u> Q          |

|                            |   | 7     |
|----------------------------|---|-------|
| •                          |   | 1     |
|                            |   | 1 7 7 |
| 1118-74-1Hexachloropenzene | 9 | 10    |
|                            | - | -     |
|                            | 1 | f     |
|                            |   |       |

### OLIN CORPORATION OLIN CORPORATION - CHARLES GIBSON SITE ASP 2000/8270 - HEXACHLOROBENZENE ONLY ANALYSIS DATA SHEET

### 14/278

Client No.

|                                |                      |                                      | MHB-040            | 0505           |
|--------------------------------|----------------------|--------------------------------------|--------------------|----------------|
| ab Name: <u>STL Buffalo</u>    | Contract:            | - <u></u>                            | L                  |                |
| ab Code: <u>RECNY</u> Case No. | : SAS No.:           | SDG No.:                             | <u></u>            |                |
| Matrix: (soil/water) WATER     |                      | Lab Sample II                        | A531000            | <u>1</u>       |
| Sample wt/vol: <u>1060.0</u>   | ) (g/mL) <u>ML</u>   | Lab File ID:                         | <u>V08877.1</u>    | <u> </u>       |
| evel: (low/med) LOW            |                      | Date Samp/Rec                        | v: <u>04/05/20</u> | 005 04/05/2005 |
| Moisture: decant               | ed: (Y/N) <u>N</u>   | Date Extracte                        | d: <u>04/11/20</u> | 005            |
| Concentrated Extract Volume    | e:_ <u>1000</u> (uL) | Date Analyzed                        | l: <u>04/14/20</u> | 005            |
| Injection Volume: 2.00(u       | IL)                  | Dilution Fact                        | or: <u>1.00</u>    | 2              |
| PC Cleanup: (Y/N) N pH:        | 6.0                  |                                      |                    |                |
| CAS NO. COME                   | OUND                 | CONCENTRATION UNI<br>(ug/L or ug/Kg) | TS:<br><u>UG/L</u> | Q              |
| 118-74-1Hexa                   | achlorobenzene       |                                      | 9                  | υ              |

FORM I - GC/MS ENA

### OLIN CORPORATION OLIN CORPORATION - CHARLES GIBSON SITE ASP 2000- METHOD 8081 BHC'S ANALYSIS DATA SHEET

Client No.

| ·  | FIELD BLANK-04050                                     | 5    |
|--|---|------|
| Lab Name: <u>STL Buffalo</u> Contrac   |   | LI   |
| Lab Code: <u>RECNY</u> Case No.: SAS No.:  | SDG No.:  |      |
| Matrix: (soil/water) <u>WATER</u>  | Lab Sample ID: A5310008                               |      |
| Sample wt/vol: <u>1055.00</u> (g/mL) ML  | Lab File ID: <u>18A52131.TX0</u>                      |      |
| % Moisture: decanted: (Y/N) $\underline{N}$  | Date Samp/Recv: 04/05/2005 04/05/                     | 2005 |
| Extraction: (SepF/Cont/Sonc/Soxh): <u>SEPF</u>   | Date Extracted: <u>04/07/2005</u>                     |      |
| Concentrated Extract Volume: <u>10000</u> (uL)   | Date Analyzed: <u>04/13/2005</u>                      |      |
| Injection Volume: <u>1.00</u> (uL)   | Dilution Factor: <u>1.00</u>                          |      |
| GPC Cleanup: (Y/N) <u>N</u> pH: <u>6.00</u>  | Sulfur Cleanup: (Y/N) N                               |      |
| CAS NO. COMPOUND   | CONCENTRATION UNITS:<br>(ug/L or ug/Kg) <u>UG/L</u> Q |      |
| 319-84-6alpha-BHC<br>319-85-7beta-BHC<br>319-86-8delta-BHC<br>58-89-9gamma-BHC (Lindane) | 0.047 U<br>0.047 U<br>0.047 U<br>0.047 U<br>0.047 U   |      |

FORM

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GC EXT

Client No.

### OLIN CORPORATION OLIN CORPORATION - CHARLES GIBSON SITE ASP 2000 - METHOD 8081 BHC'S ANALYSIS DATA SHEET

|  |                          |                   | ·               |                      |
|--|--------------------------|-------------------|-----------------|----------------------|
|  |                          |                   | MHB-0405        | 05                   |
| Lab Name: <u>SIL Buffalo</u>                   | Contract:                | ·                 |                 | <b>_</b>             |
| Lab Code: <u>RECNY</u> Case No.:               | SAS No.: S               | DG No.:           |                 |                      |
| Matrix: (soil/water) <u>WATER</u>              |                          | Lab Sample ID:    | <u>A5310001</u> | _                    |
| Sample wt/vol: <u>1060.00</u> (g/mL) <u>ML</u> | . 1                      | Lab File ID:      | <u>18A52122</u> | .TX0                 |
| % Moisture: decanted: (Y/N)                    | <u>N</u>                 | Date Samp/Recv:   | 04/05/20        | <u>05 04/05/2005</u> |
| Extraction: (SepF/Cont/Sonc/Soxh): SEE         | <u>9</u> 1               | Date Extracted:   | <u>04/07/20</u> | <u>05</u>            |
| Concentrated Extract Volume: 10000(ul          | ( <b>۲</b>               | Date Analyzed:    | <u>04/13/20</u> | <u>05</u>            |
| Injection Volume: <u>1.00</u> (uL)             | I                        | Dilution Factor:  | 1.00            |                      |
| GPC Cleanup: (Y/N) <u>N</u> pH: <u>6.00</u>    | . :                      | Sulfur Cleanup:   | (Y/N) <u>N</u>  |                      |
|  | CONTENTION OF THE STREET |                   |                 |                      |
| CAS NO. COMPOUND                               | (ug/L or u               | g/Kg) <u>UG/L</u> | · Q             |                      |
| 319-84-6alpha-BHC                              |                          | 0.046             | J               |                      |
| 319-85-7beta-BHC                               |                          | 0.076             |                 |                      |
| 319-86-8delta-BHC                              |                          | 0.28              |                 |                      |
| 58-89-9gamma-BHC (Lindane)                     |                          | 0.047             | U               |                      |

### OLIN CORPORATION OLIN CORPORATION - CHARLES GIBSON SITE ASP 2000- METHOD 8081 BHC'S ANALYSIS DATA SHEET

Client No.

| Lab Name: <u>STL Buffalo</u> Contrac           | t:  |
|--|---|
| Lab Code: <u>RECNY</u> Case No.: SAS No.:      | SDG No.:  |
| Matrix: (soil/water) <u>WATER</u>              | Lab Sample ID: <u>A5310002</u>                        |
| Sample wt/vol: <u>1000.00</u> (g/mL) <u>ML</u> | Lab File ID: <u>18A52123.TX0</u>                      |
| % Moisture: decanted: (Y/N) N                  | Date Samp/Recv: <u>04/05/2005</u> <u>04/05/2005</u>   |
| Extraction: (SepF/Cont/Sonc/Soxh): <u>SEPF</u> | Date Extracted: <u>04/07/2005</u>                     |
| Concentrated Extract Volume: <u>10000</u> (uL) | Date Analyzed: 04/13/2005                             |
| Injection Volume: <u>1.00</u> (uL)             | Dilution Factor:1.00                                  |
| GPC Cleanup: (Y/N) <u>N</u> pH: <u>6.00</u>    | Sulfur Cleanup: (Y/N) N                               |
| CAS NO. COMPOUND                               | CONCENTRATION UNITS:<br>(ug/L or ug/Kg) <u>UG/L</u> Q |
| 319-84-6alpha-BHC                              | 0.040 J<br>0.050 U                                    |
| 319-85-/Deta-BHC                               | 0.036 J   |
| 58-89-9Gamma-BHC (Lindane)                     | 0.050 U   |

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FORM I - GC EXT

58-89-9-----gamma-BHC (Lindane)

### OLIN CORPORATION OLIN CORPORATION - CHARLES GIBSON SITE ASP 2000- METHOD 8081 BHC'S ANALYSIS DATA SHEET

Client No.

|  | MW-2-040505   |
|--|---|
| Lab Name: <u>STL Buffalo</u> Contrac   | t:  |
| Lab Code: <u>RECNY</u> Case No.: SAS No.:  | SDG No.:  |
| Matrix: (soil/water) <u>WATER</u>  | Lab Sample ID: A5310003                               |
| Sample wt/vol: _1000.00 (g/mL) ML  | Lab File ID: <u>18A52124.TX0</u>                      |
| % Moisture: decanted: (Y/N) $\underline{N}$  | Date Samp/Recv: 04/05/2005 04/05/2005                 |
| Extraction: (SepF/Cont/Sonc/Soxh): <u>SEPF</u>   | Date Extracted: <u>04/07/2005</u>                     |
| Concentrated Extract Volume: <u>10000</u> (uL)   | Date Analyzed: 04/13/2005                             |
| Injection Volume: <u>1.00</u> (uL)   | Dilution Factor:1.00                                  |
| GPC Cleanup: (Y/N) <u>N</u> pH: <u>6.00</u>  | Sulfur Cleanup: (Y/N) <u>N</u>                        |
| CAS NO. COMPOUND   | CONCENTRATION UNITS:<br>(ug/L or ug/Kg) <u>UG/L</u> Q |
| 319-84-6alpha-BHC<br>319-85-7beta-BHC<br>319-86-8delta-BHC<br>59-89-9delta-BHC (Lindane) | 0.050 U<br>0.050 U<br>0.050 U<br>0.050 U<br>0.050 U   |

58-89-9-----garma-BHC (Lindane)

### OLIN CORPORATION OLIN CORPORATION - CHARLES GIBSON SITE ASP 2000- METHOD 8081 EHC'S ANALYSIS DATA SHEET

Client No.

|  |                                |                           | MW-4-040505           |
|--|--------------------------------|---------------------------|-----------------------|
| Lab Name: <u>STL Buffalo</u>                   | Contract:                      |                           |                       |
| Lab Code: <u>RECNY</u> Case No.:               | SAS No.: SDG                   | No.:                      |                       |
| Matrix: (soil/water) WATER                     | Lab                            | b Sample ID:              | <u>A5310004</u>       |
| Sample wt/vol: <u>1060.00</u> (g/mL) <u>ML</u> | Iat                            | b File ID:                | <u>18A52127.TX0</u>   |
| % Moisture: decanted: (Y/N)                    | <u>N</u> Dat                   | te Samp/Recv:             | 04/05/2005 04/05/2005 |
| Extraction: (SepF/Cont/Sonc/Soxh): SEP         | <u>F</u> Dat                   | te Extracted:             | 04/07/2005            |
| Concentrated Extract Volume: 10000 (uL         | ) Dat                          | te Analyzed:              | 04/13/2005            |
| Injection Volume: <u>1.00</u> (uL)             | Dil                            | lution Factor:            | 1.00                  |
| GPC Cleanup: (Y/N) <u>N</u> pH: <u>6.00</u>    | Sul                            | lfur Cleanup:             | (Y/N) <u>N</u>        |
| CAS NO. COMPOUND                               | CONCENTRATION<br>(ug/L or ug/l | UNITS:<br>Kg) <u>UG/L</u> | Q                     |
|  |                                |                           |                       |

| 319-84-6alpha-BHC          | 0.047 | U |
|----------------------------|-------|---|
| 319-85-7beta-BHC           | 0.047 | υ |
| 319-86-8delta-BHC          | 0.047 | U |
| 58-89-9gamma-BHC (Lindane) | 0.047 | υ |
|                            |       |   |

### OLIN CORPORATION OLIN CORPORATION - CHARLES GIBSON SITE ASP 2000- METHOD 8081 BHC'S ANALYSIS DATA SHEET

Client No.

|  |   | MW-5-040505           |
|--|---|-----------------------|
| Lab Name: <u>STL Buffalo</u> Contrac           | t:  |                       |
| Lab Code: <u>RECNY</u> Case No.: SAS No.:      | SDG No.:  |                       |
| Matrix: (soil/water) <u>WATER</u>              | Lab Sample ID:                                      | <u>A5310005</u>       |
| Sample wt/vol: <u>1060.00</u> (g/mL) <u>ML</u> | Lab File ID:  | 18A52128.TX0          |
| % Moisture: decanted: (Y/N) $\underline{N}$    | Date Samp/Recv:                                     | 04/05/2005 04/05/2005 |
| Extraction: (SepF/Cont/Sonc/Soxh): <u>SEPF</u> | Date Extracted:                                     | 04/07/2005            |
| Concentrated Extract Volume: <u>10000</u> (uL) | Date Analyzed:                                      | 04/13/2005            |
| Injection Volume: <u>1.00</u> (uL)             | Dilution Factor:                                    | 1.00                  |
| GPC Cleanup: (Y/N) <u>N</u> pH: <u>6.00</u>    | Sulfur Cleanup:                                     | (Y/N) <u>N</u>        |
| CAS NO. COMPOUND                               | CONCENTRATION UNITS:<br>(ug/L or ug/Kg) <u>UG/L</u> | Q                     |
| 319-84-6alpha-BHC                              | 0.047   | U                     |
| 319-85-7beta-BHC                               | 0.047   | U                     |
| 58-89-9garma-BHC (Lindane)                     | 0.047   | UUUUUU                |

FORM I - GC EXT

58-89-9-----garma-BHC (Lindane)

OLIN CORPORATION OLIN CORPORATION - CHARLES GIBSON SITE ASP 2000- METHOD 8081 BHC'S ANALYSIS DATA SHEET 21/278 MW-IR(DUP) Client No.

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0.049

0.049

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|  | MW-7-040505   |
|--|---|
| Lab Name: <u>STL Buffalo</u> Contra            | st:   |
| Lab Code: <u>RECNY</u> Case No.: SAS No.       | : SDG No.:  |
| Matrix: (soil/water) <u>WATER</u>              | Lab Sample ID: A5310006                               |
| Sample wt/vol: <u>1020.00</u> (g/mL) <u>ML</u> | Lab File ID: <u>18A52129.TX0</u>                      |
| % Moisture: decanted: (Y/N) <u>N</u>           | Date Samp/Recv: 04/05/2005 04/05/2005                 |
| Extraction: (SepF/Cont/Sonc/Soxh): <u>SEPF</u> | Date Extracted: 04/07/2005                            |
| Concentrated Extract Volume: <u>10000</u> (uL) | Date Analyzed: <u>04/13/2005</u>                      |
| Injection Volume: <u>1.00</u> (uL)             | Dilution Factor: <u>1.00</u>                          |
| GPC Cleanup: (Y/N) <u>N</u> pH: <u>6.00</u>    | Sulfur Cleanup: (Y/N) N                               |
| CAS NO. COMPOUND                               | CONCENTRATION UNITS:<br>(ug/L or ug/Kg) <u>UG/L</u> Q |
| 319-84-6alpha-BHC<br>319-85-7beta-BHC          | 0.049 U<br>0.049 U                                    |

319-86-8----delta-BHC

58-89-9-----gamma-BHC (Lindane)

U

0.047

### OLIN CORPORATION OLIN CORPORATION - CHARLES GIBSON SITE ASP 2000- METHOD 8081 BHC'S ANALYSIS DATA SHEET

Client No.

|  |                       |                                   | MWA-3-040505          |
|--|-----------------------|-----------------------------------|-----------------------|
| Lab Name: <u>STL Buffalo</u>                   | Contract:             |                                   |                       |
| Lab Code: <u>RECNY</u> Case No.: S             | SAS No.:              | SDG No.:                          |                       |
| Matrix: (soil/water) <u>WATER</u>              |                       | Lab Sample ID:                    | <u>A5310007</u>       |
| Sample wt/vol: <u>1060.00</u> (g/mL) <u>ML</u> |                       | Lab File ID:                      | <u>18A52130.TX0</u>   |
| % Moisture: decanted: (Y/N) <u>N</u>           | N                     | Date Samp/Recv:                   | 04/05/2005 04/05/2005 |
| Extraction: (SepF/Cont/Sonc/Soxh): <u>SEP</u>  | E                     | Date Extracted:                   | 04/07/2005            |
| Concentrated Extract Volume: <u>10000</u> (uL) | )                     | Date Analyzed:                    | 04/13/2005            |
| Injection Volume: <u>1.00</u> (uL)             |                       | Dilution Factor:                  | 1.00                  |
| GPC Cleanup: (Y/N) <u>N</u> pH: <u>6.00</u>    |                       | Sulfur Cleanup:                   | (Y/N) <u>N</u>        |
| CAS NO. COMPOUND                               | CONCENTRA<br>(ug/L or | TION UNITS:<br>ug/Kg) <u>UG/L</u> | Q                     |
| 319-84-6alpha-BHC<br>319-85-7beta-BHC          |                       | 0.047                             | บ<br>บ                |
| 319-86-8delta-BHC                              |                       | 0.047                             | ש                     |

FORM I

GC EXT

58-89-9-----ganma-BHC (Lindane)



### OLIN CORPORATION OLIN CORPORATION - CHARLES GIBSON SITE ASP 2000/8270 - HEXACHLOROBENZENE ONLY WATER SURROGATE RECOVERY

Lab Name: STL Buffalo

Lab Code: RECNY

SAS No.: \_\_\_ Case No.: \_\_\_\_

Contract: \_

SDG No.:

|      | Client Sample ID   | Lab Sample ID | 2CP<br>%REC # | 2FP<br>%REC # | DCB<br>%REC # | FBP<br>%REC # | NBZ<br>%REC # | PHL<br>%REC # | TBP<br>%REC # | TPH<br>%REC # | TOT<br>OUT |
|------|--------------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|------------|
| - 1  |                    |               |               |               | 2222222       | ======        | ======        | =======       |               |               | ===        |
| 1    | FIELD BLANK-040505 | A5310008      | 68            | 35            | 65            | 79            | 81            | 22            | 86            | 94            | 0          |
| 2    | Matrix Spike Blank | A5B0493201    | 65            | 37            | 58            | 73            | 72            | 24            | 89            | 86            | 0          |
| 5  1 | MHB-040505         | A5310001      | 69            | 37            | 62            | 77            | 79            | 23            | 98            | 88            | 0          |
| 4 [  | SBLK               | A5B0493202    | 69            | 39            | 49            | 70            | 78            | 26            | 86            | 96            | 0          |

QC LIMITS

| 2CP | = | 2-Chlorophenol-d4      | ( 33-110) |
|-----|---|------------------------|-----------|
| 2FP | = | 2-Fluorophenol         | ( 21-110) |
| DCB | = | 1,2-Dichlorobenzene-d4 | ( 16-110) |
| FBP | = | 2-Fluorobiphenyt       | ( 43-116) |
| NBZ | = | Nitrobenzene-D5        | ( 35-114) |
| PHL | = | Phenol-D5              | ( 10-110) |
| TBP | = | 2,4,6-Tribromophenol   | ( 10-123) |
| TPH | = | p-Terphenyl-d14        | ( 33-141) |
|     |   |                        |           |

# Column to be used to flag recovery values \* Values outside of contract required QC limits D Surrogates diluted out

### OLIN CORPORATION OLIN CORPORATION - CHARLES GIBSON SITE ASP 2000- METHOD 8081 BHC'S WATER SURROGATE RECOVERY

| Lab Name: <u>STL Buffalo</u> |               | Contract: |          |
|------------------------------|---------------|-----------|----------|
| Lab Code: <u>RECNY</u>       | Case No.:     | SAS No.:  | SDG No.: |
| GC Column(1): <u>RTXCLPI</u> | ID: 0.00 (mm) |           |          |

|    | Client Sample ID   | Lab Sample ID     | DCBP    | TCMX    |         |        |            |         |        |          |
|----|--------------------|-------------------|---------|---------|---------|--------|------------|---------|--------|----------|
|    |                    |                   | AREL #  | WEL #   | }       |        |            |         |        | <b>1</b> |
|    |                    | ================= | ======= | ======= | ======= | ****** | <br>====== | ======= | ====== | 222      |
| 1  | FIELD BLANK-040505 | A5310008          | 100     | 82      |         |        | ·          |         |        | 0        |
| 2  | Matrix Spike Blank | A5B0467601        | 70      | 76      |         |        |            |         |        | 0        |
| 3  | Method Blank       | A5B0467602        | 81      | 76      |         |        |            |         |        | 0        |
| 4  | MHB-040505         | A5310001          | 81      | 82      |         |        |            |         |        | 0        |
| 5  | MW-1R-040505       | A5310002          | 78      | 80      |         |        |            |         |        | 0        |
| 6  | MW-2-040505        | A5310003          | 82      | 82      |         |        |            |         |        | 0        |
| 7  | MW-2-040505        | A5310003MS        | 72      | 85      |         |        |            |         |        | 0        |
| 8  | MW-2-040505        | A5310003SD        | 76      | 84      |         |        |            |         |        | 0        |
| 9  | MW-4-040505        | A5310004          | 85      | 81      |         |        |            |         |        | 0        |
| 10 | MW-5-040505        | A5310005          | 50      | 84      |         |        |            |         |        | 0        |
| 11 | MW-7-040505        | A5310006          | 56      | 83      | 1       |        |            |         |        | 0        |
| 12 | MWA-3-040505       | A5310007          | 90      | 77      |         |        |            |         |        | 0        |
|    |                    |                   |         |         |         |        |            |         |        |          |

QC LIMITS (30-150)

(30-150)

(DCBP) = Decachlorobiphenyl (TCMX) = Tetrachloro-m-xylene

# Column to be used to flag recovery values
\* Values outside of contract required QC limits

D Surrogates diluted out

### OLIN CORPORATION OLIN CORPORATION - CHARLES GIBSON SITE ASP 2000 - METHOD 8081 BHC'S WATER MATRIX SPIKE/MATRIX SPIKE DUPLICATE RECOVERY

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| Lab | Name: | <u>STL Buffa</u> | <u>lo</u> | ( | Contract: | Lab | Samp I | D: | <u> A5310003</u> |
|-----|-------|------------------|-----------|---|-----------|-----|--------|----|------------------|
| Lab | Code: | RECINY           | Case No.: |   | SAS No.:  |     | SDG No | .: |                  |

Matrix Spike - Client Sample No.: MW-2-040505

| COMPOUND            | SPIKE<br>ADDED<br>UG/L | SAMPLE<br>CONCENIRATION<br>UG/L | MS<br>CONCENIRATION<br>UG/L | MS<br>%<br>REC # | QC<br>LIMITS<br>REC. | + |
|---------------------|------------------------|---------------------------------|-----------------------------|------------------|----------------------|---|
| ganna-BHC (Lindane) | 0.462                  | 0                               | 0.448                       | 97               | 56 - 123             |   |

| COMPOUND            | SPIKE<br>ADDED<br>UG/L | MSD<br>CONCENTRATION<br>UG/L | MSD<br>%<br>REC # | %<br>RPD # | QC<br>RPD | REC.     | + |
|---------------------|------------------------|------------------------------|-------------------|------------|-----------|----------|---|
| gamma-BHC (Lindane) | 0.462                  | 0.465                        | 101               | 4          | 15        | 56 - 123 |   |

# Column to be used to flag recovery and RPD values with an asterisk

\* Values outside of QC limits

RPD: \_\_\_\_0 out of \_\_\_\_1 outside limits Spike recovery: \_\_\_0 out of \_\_\_2 outside limits

Connents:

FORM III GC EXT .

### OLIN CORPORATION OLIN CORPORATION - CHARLES GIBSON SITE ASP 2000- METHOD 8081 BHC'S WATER MATRIX SPIKE BLANK RECOVERY

Lab Name: STL Buffalo

Contract: \_\_\_\_\_ Lab Samp ID: A5B0467602

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Lab Code: <u>RECNY</u> Case No.: \_\_\_\_

SAS No.: \_\_\_\_

SDG No.: \_\_\_\_

Matrix Spike - Client Sample No.: Method Blank

| COMPOUND            | SPIKE<br>ADDED<br>UG/L | MSB<br>CONCENTRATION<br>UG/L | MSB<br>%<br>REC # | QC<br>LIMITS<br>REC. | + |
|---------------------|------------------------|------------------------------|-------------------|----------------------|---|
| garma-BHC (Lindane) | 0.500                  | 0.483                        | - <u></u><br>97   | 56 - 123             |   |

# Column to be used to flag recovery and RPD values with an asterisk

\* Values outside of QC limits

Spike recovery: <u>0</u> out of <u>1</u> outside limits

Comments: \_

• • •

### OLIN CORPORATION OLIN CORPORATION - CHARLES GIBSON SITE ASP 2000/8270 - HEXACHLOROBENZENE ONLY METHOD BLANK SUMMARY

Client No.

| ·· .                              |                | SBLK                |
|-----------------------------------|----------------|---------------------|
| Lab Name: <u>STL Buffalo</u>      | Contract:      |                     |
| Lab Code: <u>RECNY</u> Case No.:  | : SAS No.:     | SDG No.:            |
| Lab File ID: <u>V08876.R</u>      | Lab Sample ID: | A5B0493202          |
| Instrument ID: <u>HP5973</u>      | Date Extracted | : <u>04/11/2005</u> |
| Matrix: (soil/water) <u>WATER</u> | Date Analyzed: | 04/14/2005          |
| Level: (low/med) LOW              | Time Analyzed: | <u>12:34</u>        |

THIS METHOD BLANK APPLIES TO THE FOLLOWING SAMPLES, MS AND MSD:

|   | CLIENT<br>SAMPLE NO. | LAB<br>SAMPLE ID | LAB<br>FILE ID | DATE<br>ANALYZED<br>========= |
|---|----------------------|------------------|----------------|-------------------------------|
| 1 | FIELD BLANK-040505   | A5310008         | V08878.RR      | 04/14/2005                    |
| 2 | Matrix Spike Blank   | A5B0493201       | V08875.RR      | 04/14/2005                    |
| 3 | MHB-040505           | A5310001         | V08877.RR      | 04/14/2005                    |

FORM IV - GC/MS BNA

Comments:

Client No.

### OLIN CORPORATION OLIN CORPORATION - CHARLES GIBSON SITE ASP 2000/8270 - HEXACHLOROBENZENE ONLY ANALYSIS DATA SHEET

|   | SBLK   |
|---|--|
| ab Name: SIL BUILALO Contract:            |  |
| ab Code: RECNY Case No.: SAS No.:         | SDG No.:                                       |
| Atrix: (soil/water) <u>WATER</u>          | Lab Sample ID: <u>A5B0493202</u>               |
| Sample wt/vol: $1000.0$ (g/mL) <u>ML</u>  | Lab File ID: <u>V08876.RR</u>                  |
| Level: (low/med) LOW                      | Date Samp/Recv:                                |
| Moisture: decanted: (Y/N) $\underline{N}$ | Date Extracted: 04/11/2005                     |
| Concentrated Extract Volume: 1000(uL)     | Date Analyzed: <u>04/14/2005</u>               |
| Injection Volume: 2.00(uL)                | Dilution Factor:1.00                           |
| PC Cleanup: (Y/N) <u>N</u> pH: <u>5.0</u> |  |
| CAS NO. COMPOUND                          | CONCENTRATION UNITS:<br>(ug/L or ug/Kg) UG/L 0 |

| CAS NO. CUMPOUND          | g) <u>0.3/11</u> | ~   |
|---------------------------|------------------|-----|
| 118-74-1Hexachlorobenzene | 10               | ט . |

FORM I - GC/MS BNA

### OLIN CORPORATION OLIN CORPORATION - CHARLES GIBSON SITE ASP 2000- METHOD 8081 BHC'S METHOD BLANK SUMMARY

Client No.

|                                      | Method Blank                     |
|--------------------------------------|----------------------------------|
| Lab Name: <u>STL BUIIAIO</u>         | Contract:                        |
| Lab Code: <u>RECNY</u> Case No.:     | SAS No.: SDG No.:                |
| Lab Sample ID: <u>A5B0467602</u>     | Lab File ID: <u>18A52135.TX0</u> |
| Matrix: (soil/water) <u>WATER</u>    | Extraction: <u>SEPF</u>          |
| Sulfur Cleanup: (Y/N): <u>N</u>      | Date Extracted: 04/07/2005       |
| Date Analyzed (1): <u>04/13/2005</u> | Date Analyzed (2):               |
| Time Analyzed (1): <u>19:27</u>      | Time Analyzed (2):               |
| Instrument ID (1): <u>HP5890-18</u>  | Instrument ID (2):               |
| GC Column (1): <u>RTXCLPI</u> Dia:   | _(mm) GC Column (2): Dia:(mm)    |

THIS METHOD BLANK APPLIES TO THE FOLLOWING SAMPLES, MS AND MSD:

| •                                    | CLIENT  | LAB  | DATE       | DATE       |
|--------------------------------------|---|--|------------|------------|
|                                      | SAMPLE NO.  | SAMPLE ID  | ANALYZED 1 | ANALYZED 2 |
| 1<br>2<br>3<br>4<br>5<br>6<br>7<br>8 | FIELD BLANK-040505<br>Matrix Spike Blank<br>MHB-040505<br>MW-1R-040505<br>MW-2-040505<br>MW-2-040505<br>MW-2-040505<br>MW-2-040505<br>MW-4-040505 | A5310008<br>A5B0467601<br>A5310001<br>A5310002<br>A5310003<br>A5310003MS<br>A5310003SD<br>A5310004 |            |            |
| 9                                    | MW-5-040505   | A5310005   | 04/13/2005 |            |
| 10                                   | MW-7-040505   | A5310006   | 04/13/2005 |            |
| 11                                   | MWA-3-040505  | A5310007   | 04/13/2005 |            |

Comments:

\*\*

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Client No.

### OLIN CORPORATION OLIN CORPORATION - CHARLES GIBSON SITE ASP 2000 - METHOD 8081 BHC'S ANALYSIS DATA SHEET

Method Blank Lab Name: STL Buffalo Contract: Lab Code: RECNY Case No.: \_\_\_\_\_ SAS No.: \_\_\_\_\_ SDG No.: \_\_\_\_ Matrix: (soil/water) WATER Lab Sample ID: A5B0467602 Sample wt/vol: 1000.00 (g/mL) ML Lab File ID: 18A52135.TX0 % Moisture:\_\_\_\_ decanted: (Y/N) N Date Samp/Recv: Date Extracted: 04/07/2005 Extraction: (SepF/Cont/Sonc/Soxh): SEPF Date Analyzed: 04/13/2005 Concentrated Extract Volume: 10000 (uL) Injection Volume: 1.00(uL) Dilution Factor: 1.00 GPC Cleanup: (Y/N) N pH: 5.00 Sulfur Cleanup: (Y/N) N CONCENTRATION UNITS: CAS NO. COMPOUND (uq/L or ug/Kg) UG/L\_ Q 319-84-6----alpha-BHC 0.050 U 319-85-7----beta-BHC 0.050 U 319-86-8----delta-BHC 0.050 U 58-89-9-----gamma-BHC (Lindane) U 0.050

FORM I - GC EXT

# OLIN CORPORATION OLIN CORPORATION - CHARLES GIBSON SITE ASP 2000/8270 - HEXACHLOROBENZENE ONLY SEMIVOLATILE INTERNAL STANDARD AREA AND RT SUMMARY

| Lab Name: <u>STL Buffalo</u>  | •           | Contract: Labsam | oid: <u>A5c0003231</u> |
|-------------------------------|-------------|------------------|------------------------|
| Lab Code: <u>RECNY</u>        | Case No.: _ | SAS No.: S       | DG No.:                |
| Lab File ID (Standard):       | V08868.RR   | Date Analyz      | ed: <u>04/14/2005</u>  |
| Instrument ID: <u>KP5973V</u> |             | Time Analyz      | ed: <u>08:52</u>       |

|                  |  |  | IS1 (ANT)<br>AREA #                  | RT #                             | ISZ (CRY)<br>AREA #                  | RT #                             | IS3 (DCB)<br>AREA #                  | RT #                         |
|------------------|--|--|--------------------------------------|----------------------------------|--------------------------------------|----------------------------------|--------------------------------------|------------------------------|
|                  | 12 HOUR STD<br>UPPER LINIT<br>LOWER LINIT                      |  | 374181<br>748362<br>187091           | 11.06<br>11.56<br>10.56          | 565800<br>1131600<br>282900          | 15.73<br>16.23<br>15.23          | 210437<br>420874<br>105219           | 6.61<br>7.11<br>6.11         |
|                  | CLIENT SAMPLE  | Lab Sample ID                                    |                                      | =======                          |                                      |                                  | ************                         |                              |
| 1<br>2<br>3<br>4 | FIELD BLANK-040505<br>Matrix Spike Blank<br>MHB-040505<br>SBLK | A5310008<br>A5B0493201<br>A5310001<br>A5B0493202 | 380451<br>389066<br>363454<br>371347 | 11.06<br>11.06<br>11.06<br>11.06 | 564923<br>616254<br>583648<br>582121 | 15.73<br>15.73<br>15.73<br>15.73 | 204269<br>208917<br>199669<br>197810 | 6.61<br>6.61<br>6.62<br>6.62 |

. .

IS1 (ANT) = Acenaphthene-D10 IS2 (CRY) = Chrysene-D12 IS3 (DCB) = 1,4-Dichlorobenzene-D4

| (50-200) -0.50 / +0.50 min<br>(50-200) -0.50 / +0.50 min<br>(50-200) -0.50 / +0.50 min |  |
|--|--|

RT

AREA UNIT

# Column to be used to flag recovery values
\* Values outside of contract required QC limits

FORM VIII GC/MS BNA - 1

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### OLIN CORPORATION OLIN CORPORATION - CHARLES GIBSON SITE ASP 2000/8270 - HEXACHLOROBENZENE ONLY SEMIVOLATILE INTERNAL STANDARD AREA AND RT SUMMARY

| Lab Name: <u>STL Buffalo</u>  |           | Cor | ntract:    |      | Labsampid: | A5C0003231        |
|-------------------------------|-----------|-----|------------|------|------------|-------------------|
| Lab Code: <u>RECNY</u>        | Case No.: |     | SAS No.: _ |      | SDG N      | o.:               |
| Lab File ID (Standard):       | V08868.RR |     |            | Date | Analyzed:  | <u>04/14/2005</u> |
| Instrument ID: <u>HP5973V</u> |           |     |            | Time | Analyzed:  | 08:52             |

|   |                | IS4 (NPT)<br>AREA #                     | RT #    | 1S5(PHN)<br>AREA #        | RT #    | ISG (PRY)<br>AREA # | RT #    |
|---|----------------|---|---------|---------------------------|---------|---------------------|---------|
|   | 22222222222222 | ======================================= |         | ========================= | 5000000 |                     | ======= |
| 12 HOUR STD                             |                | 747410                                  | 8.47    | 609614                    | 13.09   | 621747              | 16.98   |
| UPPER LINIT                             |                | 1494820                                 | 8.97    | 1219228                   | 13.59   | 1243494             | 17.48   |
| LOWER LIMIT                             |                | 373705                                  | 7.97    | 304807                    | 12.59   | 310874              | 16.48   |
| *====================================== |                | =============                           | ======  | ===========               | ======= |                     | ======  |
| CLIENT SAMPLE                           | Lab Sample ID  |   |         |                           |         |                     |         |
| ======================================  |                | =================                       | ======= | **********                | ======= | =================   | ======= |
| FIELD BLANK-040505                      | A5310008       | 735151                                  | 8.47    | 599871                    | 13.09   | 675572              | 16.98   |
| Matrix Spike Blank                      | A5B0493201     | 754794                                  | 8.47    | 630016                    | 13.09   | 720999              | 16.98   |
| MHB-040505                              | A5310001       | 711207                                  | 8.47    | 584688                    | 13.09   | 687837              | 16.98   |
| SBLK                                    | A5B0493202     | 703262                                  | 8.47    | 594310                    | 13.09   | 683117              | 16.98   |

IS4 (NPT) = Naphthalene-D8 IS5 (PHN) = Phenanthrene-D10

IS6 (PRY) = Perylene-D12

.

| AREA UNIT<br>QC LIMITS              | RT<br>QC LIMITS   |  |
|-------------------------------------|---|--|
| ( 50-200)<br>( 50-200)<br>( 50-200) | -0.50 / +0.50 min<br>-0.50 / +0.50 min<br>-0.50 / +0.50 min |  |

# Column to be used to flag recovery values \* Values outside of contract required QC limits

FORM VIII GC/MS BNA - 2

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## Batch Quality Control Data

Date: 04/22/2005 10:28:27 Batch No: A5B04932

MS/MSD Batch QC Results

Rept: AN1392

Lab Sample ID: A5324203

A5324203MS

A5324203SD

|  |                     |        | Conce        | ntration        |              |               | %        | Recover  | e l      |          |              |                  |
|--|---------------------|--------|--------------|-----------------|--------------|---------------|----------|----------|----------|----------|--------------|------------------|
| Analyte  | Units of<br>Measure | Sample | Matrix Spike | Spike Duplicate | Spike<br>MS  | Amount<br>MSD | MS       | MSD      | Avg      | %<br>RPD | QC LI<br>RPD | MITS<br>REC.     |
| EARTH - ASPOO 8270 PAH'S - W<br>Acenaphthene<br>Pyrene | UG/L<br>UG/L        | 0<br>0 | 43.0<br>46.3 | 43.5<br>47.8    | 50.0<br>50.0 | 50.0<br>50.0  | 86<br>93 | 87<br>96 | 87<br>95 | - 1<br>3 | 31.0<br>31.0 | 46-118<br>26-127 |

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\* Indicates Result is outside QC Limits NC = Not Calculated ND = Not Detected

STL Buffalo

SAMPLE DATA PACKAGE

### SAMPLE SUMMARY

|  |  |   | SAMPI  | JED  | RECEIVE  | -D                                     |
|--|--|---|--|--|--|--|
| LAB SAMPLE ID  | CLIENT SAMPLE ID   | MATRIX  | DATE   | TIME   | DATE   | <u>TIME</u>                            |
| A5310008   | FIELD BLANK-040505   | WATER   | 04/05/2005   | 09:40  | 04/05/2005   | 16:40                                  |
| A5310001   | MHB-040505   | LEACH   | 04/05/2005   | 10:00  | 04/05/2005   | 16:40                                  |
| A5310002   | MW-1R-040505   | GW  | 04/05/2005   | 11:50  | 04/05/2005   | 16:40                                  |
| A5310003   | MW-2-040505  | GW  | 04/05/2005   | 11:05  | 04/05/2005   | 16:40                                  |
| A5310003MS   | MW-2-040505  | GW  | 04/05/2005   | 11:05  | 04/05/2005   | 16:40                                  |
| A5310003SD   | MW-2-040505  | GW  | 04/05/2005   | 11:05  | 04/05/2005   | 16:40                                  |
| A5310004   | MW-4-040505  | GW  | 04/05/2005   | 13:05  | 04/05/2005   | 16:40                                  |
| A5310005   | MW-5-040505  | GW  | 04/05/2005   | 12:50  | 04/05/2005   | 16:40                                  |
| A5310006   | MW-7-040505  | GW  | 04/05/2005   | 16:30  | 04/05/2005   | 16:40                                  |
| A5310007   | MWA-3-040505   | GW  | 04/05/2005   | 13:55  | 04/05/2005   | 16:40                                  |
| A5310002<br>A5310003<br>A5310003MS<br>A5310003SD<br>A5310004<br>A5310005<br>A5310006<br>A5310007 | MW-1R-040505<br>MW-2-040505<br>MW-2-040505<br>MW-2-040505<br>MW-4-040505<br>MW-5-040505<br>MW-7-040505<br>MWA-3-040505 | 67<br>67<br>67<br>67<br>67<br>67<br>67<br>67<br>67<br>67<br>67<br>67<br>67<br>6 | 04/05/2005<br>04/05/2005<br>04/05/2005<br>04/05/2005<br>04/05/2005<br>04/05/2005<br>04/05/2005 | 11:50<br>11:05<br>11:05<br>11:05<br>13:05<br>12:50<br>16:30<br>13:55 | 04/05/2005<br>04/05/2005<br>04/05/2005<br>04/05/2005<br>04/05/2005<br>04/05/2005<br>04/05/2005 | 16<br>16<br>16<br>16<br>16<br>16<br>16 |

### METHODS SUMMARY

### Job#: <u>A05-3100</u>

STL Project#: <u>NY3A9025</u> Site Name: <u>Olin Corporation - Charles Gibson site</u>

|  | ANALYTICAL |
|--|------------|
| PARAMETER                              | METHOD     |
| ASP 2000/8270 - HEXACHLOROBENZENE ONLY | ASP00 8270 |
| ASP 2000- METHOD 8081 BHC'S            | ASP00 8081 |

ASP00

"Analytical Services Protocol", New York State Department of Conservation, June 2000.

### NON-CONFORMANCE SUMMARY

### Job#: <u>A05-3100</u>

### STL Project#: <u>NY3A9025</u> Site Name: <u>Olin Corporation - Charles Gibson site</u>

### General Comments

The enclosed data have been reported utilizing data qualifiers (Q) as defined on the Data Comment Page.

Soil, sediment and sludge sample results are reported on "dry weight" basis unless otherwise noted in this data package.

According to 40CFR Part 136.3, pH, Chlorine Residual, Dissolved Oxygen, Sulfite, and Temperature analyses are to be performed immediately after aqueous sample collection. When these parameters are not indicated as field (e.g. pH-Field), they were not analyzed immediately, but as soon as possible after laboratory receipt.

Sample dilutions were performed as indicated on the attached Dilution Log. The rationale for dilution is specified by the 3-digit code and definition.

Sample Receipt Comments

### A05-3100

Sample Cooler(s) were received at the following temperature(s); 2@4.0 °C All samples were received in good condition.

### GC/MS Semivolatile Data

Samples MHB-040505 and FIELD BLANK-040505, 8270 waters, were extracted outside of the ASP 2000 required holding time.

The requested target analyte list does not include any spiking compounds routinely analyzed. Spike recovery data has not been included in the report.

### GC Extractable Data

No deviations from protocol were encountered during the analytical procedures.

### \*\*\*\*\*\*\*

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

"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 and in the computer-readable data submitted on floppy diskette has been authorized by the Laboratory Manager or his designee, as verified by the following signature."

Brian J. Fisc "hbr

Project Manager

4-26-65 Date

### APPENDIX B

### FIELD LOGS

### SEMI-ANNUAL GROUND WATER SAMPLING AND ANNUAL LEACHATE SAMPLING AT MANHOLE B

April 2005

### CHARLES GIBSON SITE

### (PINE AND TUSCARORA SITE)

### NIAGARA FALLS, NEW YORK

NYSDEC Registry No. 9-32-063

### CHARLES GIBSON SITE NIAGARA FALLS, NEW YORK NYSDEC REGISTRY NO. 9-32-063 GROUNDWATER SAMPLING FIELD PARAMETERS FIELD INSTRUMENTATION CALIBRATION FORM

| DATE: 4/5/2005   | SEMI-ANI   | NUAL SAMPLING EVEN   | T: Spring  | Semi-Annual Sa | mpling 2005 |
|------------------|--|--|--|----------------|-------------|
| PERSON CALIBRATI | NG METERS:   | M. Walker  |  |                |             |
| pH METER USED:   | MANUFACTURER:<br>MODEL:<br>IDENTIFICATION/CC   | Corning<br>pH -20<br>NTROL NUMBER:   | <u> </u>   |                |             |
|                  | CALIBRATION STAN   | -<br>DARDS USED:   |  |                |             |
| METER C          | STANDAF<br>STANDAF<br>STANDAF<br>ALIBRATION COMME<br>Single point Calibratic                     | RD 7.00 METER READ: _<br>RD 4.00 METER READ: _<br>RD 10.00 METER READ: _<br>NTS: New Batterie  | 9S   | 7.04           |             |
| SPECIFIC CONDUCT | IVITY METER USED:<br>MANUFACTURER:<br>MODEL:<br>IDENTIFICATION/CC<br>CALIBRATION STAN<br>STANDAF | Oakton<br>Hand Held<br>NTROL NUMBER: <u>E</u><br>DARDS USED:<br>RD 0 READ:                     | E-864  | WATER)         |             |
| METER C/         | STANDAF<br>STANDAF<br>ALIBRATION COMME   | RD447<br>RD<br>NTS: New Batterie   | READ:<br>READ:<br>es   | 451            |             |
| THERMOMETER USE  | ED: TYPE:<br>MANUFAC<br>IDENTIFIC<br>COMMENTS: (DOES<br>SPECIFIC                                 | Digital<br>CTURER: Fischer-Scie<br>CATION/CONTROL NUN<br>THERMOMETER TEMP<br>CONDUCTIVITY METE | entific<br>IBER: <u>E-864</u><br>PERATURE AGRE<br>R TEMPERATUR | EE WITH        |             |
| OTHER INSTRUMEN  | OTHER:<br>TS USED: TYPE:<br>MANUFAC<br>IDENTIFIC   |  | BER:   |                |             |
|                  | CALIBRATIONS PER   |  |  |                |             |
| OTHER CALIBRATIO | N COMMENTS:  |  |  |                |             |
|                  |  |  |  |                |             |



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| RECORDED BY: M. Walke   | er             |                                  | SAMPLE           | ID:               | MHB-0408            | 505              |           |
|---|----------------|----------------------------------|------------------|-------------------|---------------------|------------------|-----------|
| SAMPLED BY: C. Jones  |                | -                                | SAMPLING EVENT/D |                   | ATE:                | 4/5/2005         |           |
| COMPANY: Sevenso  | n              | -                                | MONITOF          | RING WELL         | : Manhole B         |                  |           |
|   |                | -<br>                            | CONDITIO         | ON:               | Good                |                  | ·         |
| GROUNDWATER PURGE DAT   | A              | PURGE DA                         | ATE: 4/5/0       | 5                 |                     |                  |           |
| DEPTH TO BOTTOM FROM TO   | OP OF RISEF    | R:                               | xxxx             | (FT.)             | NOTE: AL<br>MONITOF | L GIBSON SI      | TE<br>ARE |
| DEPTH TO WATER FROM TO  | P OF RISER:    |                                  | xxxx             | (FT.)             | 2-INCH D            | IAMETER STA      | AIN-      |
| WATER   | COLUMN:        | •                                | XXXX             | _` (FT.)          | LESS STE            | EEL. WELL DE     | EPTHS:    |
| 2" DIA. W   | VELL CONST     | ANT:                             | xxxx             | · · ·             | MW-1R               | 12.10'           |           |
| ONE WE  | LL VOLUME      | =                                | XXXX             | -<br>(GALS)       | MW-2<br>MW-A3       | 12.13'<br>11.95' |           |
| PURGE METHOD: XXXX<br>BOTTOM OF WELL/SILT BUILI<br>PURGE START TIME:<br>PURGE OBSERVATIONS: | oup:<br>XXX    | XXXX<br>STOP TIM                 | xxxx             |                   | MVV-4<br>MVV-5      | 13.75'<br>15.28' |           |
| FIELD PARAMETER MEASURE   | EMENTS:        |                                  |                  |                   |                     |                  |           |
| WELL<br>VOLUME <u>pH</u>  |                | SPECIFIC<br>CONDUCT<br>umhos/cm) | IVITY            | TEMP.<br>(C OR F) | -                   | NOTES:           |           |
| 1 7.9   | 4              | 563                              |                  | 46 F              |                     |                  |           |
| 2   |                |                                  |                  |                   |                     |                  |           |
| 3   |                |                                  |                  |                   |                     |                  |           |
| 5   |                |                                  |                  |                   |                     |                  |           |
|   |                |                                  |                  |                   |                     |                  |           |
| TOTAL VOLUME PURGED:  | GRAB SAN       | <b>IPLE</b>                      |                  |                   |                     |                  |           |
| GROUNDWATER OR SEDIMEN  | NT SAMPLIN     | G DATA:                          |                  | SAMPLE D          | DATE:               | 4/5/2005         |           |
| MEDIA: GROUNDWATER  | <u>x</u>       |                                  |                  | SAMPLE T          | IME:                | 1000             |           |
| LOCATION: Manhole '   | 'B''           |                                  |                  |                   |                     |                  |           |
| SAMPLE METHOD: Grab sam   | ple using a p  | arastaltic pu                    | Imp with de      | edicated tub      | ing                 |                  |           |
| SAMPLING OBSERVATIONS:  | Clear, No      | odor.                            |                  |                   |                     |                  |           |
| QC SAMPLES TAKEN:   | No             |                                  |                  |                   |                     |                  |           |
| OTHER OBSERVATIONS/COM  | MENTS:         | 4 - 1 liter g                    | lass jars fi     | lled              |                     |                  | · .       |
| <b>,</b> , ,  |                | · .                              | •                |                   |                     | ·. · .           |           |
|   |                |                                  | 00/05            | SC measu          | red                 | -                | <u>.</u>  |
| Note: specific conductivity formul  | ia to 25 degre | es Celcius:                      | SU(25)=          | {{1-25)(0.0       | ∠)}+1               |                  |           |

CRA 8143 (1) AppD-GwsdForm

| RECORDED BY:  | M. Walker               |                     | SAMPLE                                | D:                 | MW-1R-04      | 10505            |  |
|---|-------------------------|---------------------|---------------------------------------|--------------------|---------------|------------------|--|
| SAMPLED BY:   | C. Jones                |                     | SAMPLING                              | G EVENT/D          | ATE:          | 4/5/2005         |  |
| COMPANY:  | Sevenson                |                     | MONITORING WELL: MW-1R                |                    |               |                  |  |
|   |                         |                     | CONDITIC                              | DN:                | good          |                  |  |
| GROUNDWATER PUR   | GE DATA                 | PURGE DA            | <br>ATE: 4/5/05                       |                    |               |                  |  |
|   |                         |                     |                                       |                    | NOTE: AL      | L GIBSON SITE    |  |
| DEPTH TO BOTTOM F   | ROM TOP OF RISER        | ł:                  | 12.1                                  | (FT.)              | MONITOR       | ING WELLS ARE    |  |
| DEPTH TO WATER FF   | ROM TOP OF RISER:       |                     | 2.95                                  | _(FT.)             | 2-INCH DI     | AMETER STAIN-    |  |
| 1   | WATER COLUMN:           |                     | 9.15                                  | (FT.) <sup>′</sup> | LESS STE      | EL. WELL DEPTHS: |  |
|   | 2" DIA. WELL CONST      | ANT:                | 0.16                                  | _                  | MW-1R         | 12.10'           |  |
| · .   |                         | =                   | 1.46                                  | (GALS)             | MW-2<br>MW-A3 | 12.13'<br>11.95' |  |
|   | ow flow using Parasta   | altic pump a        | nd dedicate                           | ed tubing. A       | MW-4          | 13.75'           |  |
| BOTTOM OF WELL/SI<br>PURGE START TIME:<br>PURGE OBSERVATIO                                    | 1115<br>NS:             | NO<br>STOP TIMI     | 1135                                  |                    | 6-99191       | 13.20            |  |
| FIELD PARAMETER M   | EASUREMENTS:            |                     |                                       |                    |               |                  |  |
| WELL  |                         | SPECIFIC<br>CONDUCT | IVITY                                 | TEMP.              |               |                  |  |
| VOLUME  | bH                      | umhos/cm)           | l l l l l l l l l l l l l l l l l l l | (C OR F)           |               | NOTES:           |  |
| 1   | 8.18                    | 906                 |                                       | 7.1                |               | Clear            |  |
| 2   | 7.99                    | 934                 |                                       | 7.1                |               | Clear            |  |
| 3   | 7.96                    | 898                 |                                       | 7.3                |               | Clear            |  |
| 4   |                         |                     |                                       |                    | <u> </u>      |                  |  |
| 5   |                         |                     |                                       |                    | ·             | . <u></u>        |  |
| TOTAL VOLUME PURC   | GED: 4.38               |                     |                                       |                    |               |                  |  |
| GROUNDWATER OR S  | SEDIMENT SAMPLIN        | G DATA:             |                                       | SAMPLE D           | DATE:         | 4/5/2005         |  |
| MEDIA: GROUNDW<br>CREEK SEI   | ATER <u>X</u><br>DIMENT |                     |                                       | SAMPLE T           |               | 1150             |  |
|   |                         |                     |                                       |                    |               |                  |  |
|   |                         |                     |                                       | <u>_</u>           |               |                  |  |
| SAMPLE METHOD: Low flow using Parastaltic pump and dedicated tubing. After purging 3 volumes. |                         |                     |                                       |                    |               |                  |  |
| SAMPLING OBSERVA  | TIONS: Sample vol       | ume ran dry         | / after 3 bo                          | ttles, we wa       | ited 15 min.  | for recharge     |  |
| QC SAMPLES TAKEN <u>:</u>   | yes, blind d            | luplicate "M        | W-7"                                  |                    |               |                  |  |
| OTHER OBSERVATIONS/COMMENTS: MW-7 was used as a "blind duplicate" taken at this time          |                         |                     |                                       |                    |               |                  |  |
| and labeled 1630 for tir  | ne of sample. 4 1 liter | r amber jarş        | filled.                               |                    |               |                  |  |
| Note: specific conductivity formula to 25 degrees Celcius: SC(25)=                            |                         |                     |                                       |                    |               |                  |  |

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|   |                           | S  | AMPLING F           | FIELD FOR        | RM            |                |                   |  |
|---|---------------------------|--|---------------------|------------------|---------------|----------------|-------------------|--|
| RECORDED BY:  | M. Walker                 |  |                     | SAMPLE           | ID:           | MW-2-040505    |                   |  |
| SAMPLED <u>BY:</u>                                    | C. Jones                  |  | -                   | SAMPLIN          | IG EVENT/     | ATE: 4/5/2005  |                   |  |
| COMPANY:  | Sevenson                  |  | -                   | MONITORING WELL: |               |                | : <u>MW-2</u>     |  |
|   |                           |  |                     | CONDITI          | ON:           | good           |                   |  |
| GROUNDWATER PL  | JRGE DATA                 | N Contraction of the second seco | PURGE D             | ATE: 4/5/0       | 5             | NOTE           |                   |  |
| DEPTH TO BOTTOM                                       | I FROM TO                 | P OF RISEF   | R:                  | 12.13            | (FT.)         | MONITO         | RING WELLS ARE    |  |
| DEPTH TO WATER  | FROM TOP                  | OF RISER:  |                     | 3.51             | _(FT.)        | 2-INCH D       | IAMETER STAIN-    |  |
|   | WATER C                   | OLUMN:   |                     | 8.62             | (FT.)         | LESS ST        | EEL. WELL DEPTHS: |  |
|   | 2" DIA. W                 | ELL CONST  | ANT:                | 0.16             | _             | MW-1R          | 12.10'            |  |
|   | ONE WEL                   | L VOLUME   | =                   | 1.38             | (GALS)        | MW-2<br>MW-A3  | 12.13'<br>11.95'  |  |
| PURGE METHOD:   | Low flow L                | ising Parast   | altic pump a        | and dedicat      | ted tubing.   | <u>AI</u> MW-4 | 13.75'            |  |
| BOTTOM OF WELL/<br>PURGE START TIME<br>PURGE OBSERVAT | SILT BUILD<br>E:<br>IONS: | UP:<br>1038<br>Clear wate  | No<br>STOP TIM<br>r | I 1100           |               | MW-5           | 15.28'            |  |
| FIELD PARAMETER                                       | MEASURE                   | MENTS:   |                     |                  |               |                |                   |  |
|   |                           |  | SPECIFIC            |                  |               |                |                   |  |
| WELL  | ~U                        |  |                     |                  | TEMP.         |                | NOTES             |  |
|   | 7.63                      | -  | 1639                | 2                | 7.4           | -              | <u>NOTED.</u>     |  |
| 2   | 7.62                      |  | 1443                |                  | 7.3           |                |                   |  |
| 3   | 7.6                       |  | 1463                |                  | 7.3           |                |                   |  |
| 4   |                           |  |                     |                  |               |                |                   |  |
| 5   |                           |  |                     |                  |               |                |                   |  |
| TOTAL VOLUME PU                                       | RGED:                     | 4.2 gallons  |                     |                  |               |                |                   |  |
| GROUNDWATER OF  | R SEDIMEN                 | T SAMPLIN  | G DATA:             |                  | SAMPLE        | DATE:          | 4/5/2005          |  |
| MEDIA: GROUND   | WATER                     | <u>x</u>   |                     |                  | SAMPLE        | T <u>IME:</u>  | 1105              |  |
| CREEK S   | EDIMENT                   |  |                     |                  |               |                |                   |  |
| LOCATION:   | MW-2                      |  |                     |                  |               |                |                   |  |
| SAMPLE METHOD:  | Low flow u                | sing Parast  | altic pump a        | and dedicat      | ted tubing. A | After purging  | g 3 volumes.      |  |
| SAMPLING OBSERV                                       | ATIONS:                   | Clear, No  | odor.               |                  |               |                |                   |  |
| QC SAMPLES TAKE                                       | N <u>:</u>                | MS & MSD   | samples ta          | ken along        | with norma    | I samples ta   | aken              |  |
| OTHER OBSERVATI                                       | ONS/COM                   | IENTS:   | <u>6 - 1 liter</u>  | glass jars f     | filled.       |                |                   |  |
|   | Alia (14) - 6             |  |                     | - SC(25)-        | SC measu      |                | <u></u>           |  |
| Note: specific conduc                                 | tivity formula            | a to 25 degr   | ees Ceicius         | . 50(25)=        | {{1-25}(0.0   | UZ]}†1         | • •               |  |
| _KA 8143 (1) AppD-GwsdForm                            |                           |  |                     |                  |               |                | -                 |  |

| RECORDED BY:   | M Molkor  |                 |                       |                            |                                |                                |  |
|--|---|-----------------|-----------------------|----------------------------|--------------------------------|--------------------------------|--|
| -  |   | :               | SAMPLE                | ID:                        | MW-4-04                        | 0505                           |  |
| SAMPLED <u>BY:</u>   | C. Jones  |                 | SAMPLIN               | IG EVENT/                  | DATE:                          | 4/5/2005                       |  |
| COMPANY:   | Sevenson  |                 | MONITORING WELL: MW-4 |                            |                                |                                |  |
|  |   |                 | CONDITI               | ON:                        | good                           | ····                           |  |
| GROUNDWATER P  | URGE DATA   | PURGE DA        | TE: 4/5/0             | 5                          |                                |                                |  |
|  |   |                 |                       |                            | NOTE: AL                       | L GIBSON SITE                  |  |
| DEPTH TO BOTTON  | M FROM TOP OF RISE  | ER:             | 13.75                 | (FT.)                      | MONITOF                        | RING WELLS ARE                 |  |
| DEPTH TO WATER   | FROM TOP OF RISEF   | २:              | 6.1                   | _(FT.)                     | 2-INCH D                       | AMETER STAIN-                  |  |
|  | WATER COLUMN:   |                 | 7.65                  | (FT.)                      | LESS STE                       | EL. WELL DEPTHS                |  |
|  | 2" DIA. WELL CONS   | STANT:          | 0.16                  |                            | MW-1R                          | 12.10'                         |  |
|  | ONE WELL VOLUM  | E=              | 1.22                  | (GALS)                     | MW-2<br>MW-A3                  | 12.13'<br>11.95'               |  |
| PURGE METHOD:  | Low flow using Paras  | staltic pump an | nd dedica             | ted tubing.                | Ai MW-4                        | 13.75'                         |  |
| BOTTOM OF WELL/<br>PURGE START TIMI<br>PURGE OBSERVAT  | 'SILT BUILDUP:<br>E: 1255<br>IONS:  | No<br>STOP TIMI | 1305                  |                            | MW-5                           | 15.28'                         |  |
| FIELD PARAMETER  | MEASUREMENTS:   |                 |                       |                            |                                |                                |  |
|  |   | SPECIFIC        |                       |                            |                                |                                |  |
| WELL   | nH  |                 |                       |                            |                                | NOTES                          |  |
|  | 7.83  | 1258            |                       | <u>(COKF)</u><br>7 1       | <br>                           | ack/Grev Mater                 |  |
| i  | 7.03  | 1422            |                       | <u> </u>                   |                                |                                |  |
| Z  | 77  | 1433            |                       | 0.0                        | <u></u>                        | <u>Lt. Grey</u>                |  |
| 2  | , ,   |                 |                       |                            |                                | CJEANNO                        |  |
| 3  | 1.1   | 1704            |                       | 1.2                        |                                | olouning                       |  |
| 3<br>4<br>5  |   | 1704            |                       | 1.2                        |                                |                                |  |
| 3<br>4<br>5<br>TOTAL VOLUME PU<br>GROUNDWATER OF   | RGED: 3.6 gallon  | NG DATA:        |                       | SAMPLE                     | DATE:                          | 4/5/2005                       |  |
| 3<br>4<br>5<br>TOTAL VOLUME PU<br>GROUNDWATER OF   | RGED: 3.6 gallon R SEDIMENT SAMPLI  | NG DATA:        |                       | SAMPLE                     | D <u>ATE:</u>                  | 4/5/2005                       |  |
| 3<br>4<br>5<br>TOTAL VOLUME PU<br>GROUNDWATER OF<br>MEDIA: GROUND<br>CREEK S   | RGED: 3.6 gallon<br>R SEDIMENT SAMPLII<br>WATER <u>X</u><br>EDIMENT   | NG DATA:        |                       | SAMPLE                     | D <u>ATE:</u><br>TIME:         | 4/5/2005                       |  |
| 3<br>4<br>5<br>TOTAL VOLUME PU<br>GROUNDWATER OF<br>MEDIA: GROUND<br>CREEK SI  | RGED: 3.6 gallon R SEDIMENT SAMPLII WATER X EDIMENT   | NG DATA:        |                       | SAMPLE<br>SAMPLE           | D <u>ATE:</u><br>T <u>IME:</u> | 4/5/2005                       |  |
| 3<br>4<br>5<br>TOTAL VOLUME PU<br>GROUNDWATER OF<br>MEDIA: GROUND<br>CREEK SI<br>_OCATION:   | RGED: 3.6 gallon R SEDIMENT SAMPLII WATER X EDIMENT MW-4 near Auto Zone   | NG DATA:        |                       | SAMPLE<br>SAMPLE           | D <u>ATE:</u><br>T <u>IME:</u> | 4/5/2005                       |  |
| 3<br>4<br>5<br>TOTAL VOLUME PU<br>GROUNDWATER OF<br>MEDIA: GROUND<br>CREEK SI<br>LOCATION:<br>SAMPLE METHOD:   | RGED: 3.6 gallon R SEDIMENT SAMPLII WATER X EDIMENT MW-4 near Auto Zone Low flow using Paras  | NG DATA:        | d dedicat             | SAMPLE<br>SAMPLE           | D <u>ATE:</u><br>TIME:         | 4/5/2005<br>1305<br>3 volumes. |  |
| 3<br>4<br>5<br>TOTAL VOLUME PU<br>GROUNDWATER OF<br>MEDIA: GROUND<br>CREEK SI<br>LOCATION:<br>SAMPLE METHOD:<br>SAMPLING OBSERV                                    | RGED: 3.6 gallon R SEDIMENT SAMPLII WATER X EDIMENT MW-4 near Auto Zone Low flow using Paras  | NG DATA:        | d dedicat             | SAMPLE<br>SAMPLE           | D <u>ATE:</u><br>T <u>IME:</u> | 4/5/2005<br>1305<br>3 volumes. |  |
| 3<br>4<br>5<br>TOTAL VOLUME PU<br>GROUNDWATER OF<br>MEDIA: GROUND<br>CREEK SI<br>LOCATION:<br>SAMPLE METHOD:<br>SAMPLING OBSERV<br>QC SAMPLES TAKEI                | RGED: 3.6 gallon R SEDIMENT SAMPLII WATER X EDIMENT MW-4 near Auto Zono Low flow using Paras 'ATIONS: Clear duri N: No                | NG DATA:        | d dedicat             | SAMPLE<br>SAMPLE           | D <u>ATE:</u><br>TIME:         | 4/5/2005<br>1305<br>3 volumes. |  |
| 3<br>4<br>5<br>TOTAL VOLUME PU<br>GROUNDWATER OF<br>MEDIA: GROUND<br>CREEK S<br>LOCATION:<br>SAMPLE METHOD:<br>SAMPLE METHOD:<br>SAMPLES TAKEN<br>DC SAMPLES TAKEN | RGED: 3.6 gallon  R SEDIMENT SAMPLII  WATER X EDIMENT MW-4 near Auto Zone Low flow using Paras ATIONS: Clear duri N: No ONS/COMMENTS: | NG DATA:<br>    | d dedicat             | SAMPLE<br>SAMPLE<br>SAMPLE | DATE:<br>TIME:                 | 4/5/2005<br>1305<br>3 volumes. |  |



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| RECORDED BY:                         | M. Walker                      | SAMPLING            | SAMPLE       | ID:          | MW-5-040            | )505                            |
|--------------------------------------|--------------------------------|---------------------|--------------|--------------|---------------------|---------------------------------|
| SAMPLED BY                           | C Jones                        | —                   | SAMPLIN      | G EVENT/D    | DATE:               | 4/5/2005                        |
| COMPANY:                             | Sevenson                       | -                   | MONITOF      | RING WELL    | : MW-5              |                                 |
| <u> </u>                             |                                | -                   | CONDITIC     | ON:          | good                |                                 |
| GROUNDWATER PU                       | RGE DATA                       | PURGE DA            | TE: 4/5/05   | 5            |                     |                                 |
|                                      | FROM TOP OF RISE               | R:                  | 15.28        | (FT.)        | NOTE: AL<br>MONITOF | L GIBSON SITE<br>RING WELLS ARE |
| DEPTH TO WATER F                     |                                | · .                 | 6.71         | (FT.)        | 2-INCH D            | IAMETER STAIN-                  |
|                                      | WATER COLUMN                   | ···                 | 8 57         | _(FT.)       | LESS STE            | EL. WELL DEPTHS:                |
|                                      | 2" DIA. WELL CONS              | TANT:               | 0.16         | ( ,          | MW-1R               | 12.10'                          |
|                                      | ONE WELL VOLUME                |                     | 1.37         | -<br>(GALS)  | MW-2<br>MW-A3       | 12.13'<br>11 95'                |
| PURGE METHOD:                        | Low flow using Paras           | taltic pump a       | nd dedicat   | ed tubing. A | <u>1</u> MW-4       | 13.75'                          |
| BOTTOM OF WELL/S<br>PURGE START TIME | SILT BUILDUP:<br>: 1215        | No<br>STOP TIMI     | 1240         |              | MW-5                | 15.28'                          |
|                                      |                                |                     |              |              |                     |                                 |
| FIELD PARAMETER I                    | MEASUREMENTS:                  |                     |              |              |                     |                                 |
| WELL                                 | гН                             | SPECIFIC<br>CONDUCT | IVITY        | TEMP.        |                     | NOTES                           |
|                                      | <u>6 85</u>                    | 1885                |              | 7.3          | –<br>Lie            | ht orange color                 |
| 2                                    | 6.92                           | 1930                |              | 7.5          |                     | Clear                           |
| 3                                    | 6.89                           | 1941                |              | 7.6          |                     | Clear                           |
| 4                                    |                                |                     |              |              |                     |                                 |
| 5                                    |                                |                     |              |              |                     |                                 |
| TOTAL VOLUME PUF                     | RGED: 4.11 gallo               | ns                  |              |              |                     |                                 |
| GROUNDWATER OR                       | SEDIMENT SAMPLI                | NG DATA:            |              | SAMPLE       | DATE:               | 4/5/2005                        |
| MEDIA: GROUND\<br>CREEK SE           | NATER <u>X</u>                 | _                   |              | SAMPLE       | T <u>IME:</u>       | 1250                            |
| LOCATION:                            | MW-5                           | _                   |              |              |                     |                                 |
| SAMPLE METHOD:                       | Low flow using Paras           | taltic pump a       | nd dedicat   | ed tubing. A | After purging       | g 3 volumes.                    |
| SAMPLING OBSERV                      | ATIONS: As we san<br>the hose. | mpled, a coou       | iple of "slu | gs" of orang | ge silt came        | e through                       |
| QC SAMPLES TAKEN                     | l: No                          |                     |              |              | :                   |                                 |
| OTHER OBSERVATIO                     | ONS/COMMENTS:                  | 2, 1 liter a        | mber jars    | filled.      |                     | <u> </u>                        |
|                                      |                                |                     |              |              |                     |                                 |
|                                      |                                |                     | 0.05         | SC measu     |                     | <u> </u>                        |
| Note: specific conduct               | ivity formula to 25 deg        | rees Celcius:       | SU(25)=      | {{1-25}(0.0  | JŹ]}†I              | ۰                               |

CRA 8143 (1) AppD-GwsdForm

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| RECORDED BY: IVI. Walker   | SAWFLE                        | IU.   |                    | 10110             |
|--|-------------------------------|---|--------------------|-------------------|
|  |                               | ·· <u>··</u> ································ | 10100-7-040        |                   |
| SAMPLED BY: C. Jones   | SAMPLING EVENT/DATE: 4/5/2005 |   |                    | 4/5/2005          |
| COMPANY: Sevenson  | MONITO                        | RING WELL                                     | : <u>MW-1 Du</u> j | plicate (blind)   |
|  | CONDITI                       | ON:   | ,                  |                   |
| GROUNDWATER PURGE DATA PURGE   | DATE: 4/5/0                   | 5   | NOTE A             |                   |
|  | ~~~~                          |   |                    |                   |
| DEPTH TO BOTTOM FROM TOP OF RISER:   | XXXX                          | (ГТ.)   |                    |                   |
| DEPTH TO WATER FROM TOP OF RISER:  | XXXX                          | _(FT.)  | 2-INCH D           | IAMETER STAIN-    |
| WATER COLUMN:  | XXXX                          | (FT.)   | LESS STE           | EEL. WELL DEPTHS: |
| 2" DIA. WELL CONST <u>ANT:</u>   | XXXX                          |   | MW-1R              | 12.10'            |
| ONE WELL VOLUME=   | XXXX                          | (GALS)  | MW-2<br>MW-A3      | 12.13'<br>11.95'  |
| PURGE METHOD: XXXX<br>BOTTOM OF WELL/SILT BUILDUP: XXXX<br>PURGE START TIME: XXX STOP TIMPURGE OBSERVATIONS: | MIXXXX                        |   | MW-4<br>MW-5       | 13.75'<br>15.28'  |
| FIELD PARAMETER MEASUREMENTS:  |                               |   |                    |                   |
| SPECIFIC   | >                             |   |                    |                   |
| WELL CONDUC  | CONDUCTIVITY                  |   |                    | NOTES             |
| VOLUME pH umhos/cr   | <u>n</u> )                    |   | -                  | 110123.           |
|  |                               | <u> </u>                                      |                    | ······            |
| 2  |                               |   |                    |                   |
| 3  |                               |   |                    |                   |
| 5  |                               |   |                    | <u> </u>          |
|  |                               |   |                    |                   |
| TOTAL VOLUME PURGED:   |                               |   |                    |                   |
| GROUNDWATER OR SEDIMENT SAMPLING DATA:   |                               | SAMPLE  |                    | 4/5/2005          |
|  |                               | SAMPLE  | T <u>IME:</u>      | "1630"            |
| LOCATION: MW-1R blind duplicate  |                               |   |                    |                   |
|  |                               |   |                    |                   |
| SAMPLE METHOD: Low flow using Parastaltic pump   | and dedica                    | ted tubing. A                                 | After purging      | g 3 volumes.      |
| SAMPLING OBSERVATIONS: Clear, No odor.   |                               |   |                    | <u>.</u>          |
| QC SAMPLES TAKEN: No   | <u> </u>                      |   |                    |                   |
| OTHER OBSERVATIONS/COMMENTS: <u>4 - 1 lite</u>   | r glass jars                  | filled.                                       |                    |                   |
| Then labeled MW-7 and timed at 1630. To serve as Blir  | nd Dup for (                  |   | s                  | <u> </u>          |
| Note: specific conductivity formula to 25 degrees Celciu   | s: SC(25)=                    | {{T-25}(0.0                                   | 02)}+1             | -                 |

CRA 8143 (1) AppD-GwsdForm



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| RECORDED BY: M. Walker                           | -                        | SAMPLE           | ID:                     | MW-8-040      | 0505                       |
|--|--------------------------|------------------|-------------------------|---------------|----------------------------|
| SAMPLED BY: C. Jones                             | -                        | SAMPLING EVENT/D |                         |               | 4/5/2005                   |
| COMPANY: Sevenson                                | _ MONITORING WELL:       |                  |                         | Field Bla     | nk                         |
|  |                          | CONDITIC         | ON:                     |               | ·                          |
| GROUNDWATER PURGE DATA                           | PURGE DA                 | ATE:             |                         |               |                            |
|  | ٦.                       |                  |                         | NOTE: AL      | L GIBSON SITE              |
|  | ۲.                       |                  | (FI.)                   |               |                            |
| DEPTH TO WATER FROM TOP OF RISER:                |                          |                  | _(FT.)                  | 2-INCH D      | IAMETER STAIN-             |
| WATER COLUMN:                                    |                          |                  | (FT.)                   | LESS STE      | EEL. WELL DEPTHS:          |
| 2" DIA. WELL CONST                               | ANT:                     |                  | -                       | MW-1R         | 12.10'                     |
|  | =                        |                  | (GALS)                  | MW-2<br>MW-A3 | 12.13'<br>11.95'<br>12.75' |
| BOTTOM OF WELL/SILT BUILDUP                      |                          |                  |                         | _101VV-4<br>  | 15.28'                     |
| PURGE START TIME:<br>PURGE OBSERVATIONS:         | STOP TIM                 |                  |                         | 0-9410        |                            |
| FIELD PARAMETER MEASUREMENTS:                    |                          |                  |                         |               |                            |
|  | SPECIFIC                 |                  |                         |               |                            |
| WELL   | CONDUCT                  | IVITY            | TEMP.                   |               | NOTEO                      |
| VOLUMEPH   | umhos/cm)                |                  | (C OR F)                | -             | NOTES:                     |
| 1  |                          |                  |                         |               |                            |
| 2  |                          |                  |                         |               | <i></i>                    |
| 3  |                          | <u></u>          |                         |               |                            |
| 4  |                          |                  |                         |               |                            |
|  |                          |                  |                         |               |                            |
| TOTAL VOLUME PURGED:                             |                          |                  |                         |               |                            |
| GROUNDWATER OR SEDIMENT SAMPLIN                  | IG DATA:                 |                  | SAMPLE [                | DATE:         | 4/5/2005                   |
|  |                          |                  | SAMPLE 1                | IME           | 940                        |
| CREEK SEDIMENT                                   |                          |                  |                         |               |                            |
| LOCATION: Field Blank                            |                          |                  |                         |               |                            |
| SAMPLE METHOD:                                   |                          |                  |                         | ii            |                            |
| SAMPLING OBSERVATIONS:                           | <u></u>                  |                  |                         |               |                            |
| QC SAMPLES TAKEN:                                |                          |                  |                         |               |                            |
| OTHER OBSERVATIONS/COMMENTS:                     | 2 1 liter am             | ber jars fil     | led with lab            | supplied wa   | ater and                   |
| sealed on site.                                  |                          |                  |                         |               | <u> </u>                   |
| Note: specific conductivity formula to 25 degree | ees Celcius <sup>.</sup> | SC(25)=          | SC measu<br>{{T-25}(0.0 | rea<br>2)}+1  |                            |
| CRA \$143 (1) AnnD-GwsdForm                      |                          | ()               |                         | —/ <b>,</b>   |                            |

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#### CHARLES GIBSON SITE NIAGARA FALLS, NEW YORK NYSDEC REGISTRY NO. 9-32-063 GROUNDWATER AND SEDIMENT SAMPLING FIELD FORM

| RECORDED BY               | M. Walker                                    |                      | SAMPLE      | ID:                     | MW-A3-04      | 40505            |    |
|---------------------------|--|----------------------|-------------|-------------------------|---------------|------------------|----|
|                           |  | _                    | SAMPLIN     |                         |               | 4/5/2005         |    |
| COMPANY                   | Sevenson                                     | -                    |             |                         | · M\\/_A3     |                  |    |
|                           |  | _                    |             |                         | aood          |                  |    |
|                           |  |                      | ATE: 4/5/0  | 5                       | 9000          |                  |    |
| GROUNDWATER FC            |  | FUNCED               |             | 5                       | NOTE: AL      | L GIBSON SITE    |    |
| DEPTH TO BOTTON           | I FROM TOP OF RISE                           | R:                   | 11.95       | (FT.)                   | MONITOF       | RING WELLS ARE   |    |
| DEPTH TO WATER            | FROM TOP OF RISER                            | :                    | 4.51        | _(FT.)                  | 2-INCH D      | IAMETER STAIN-   |    |
|                           | WATER COLUMN:                                |                      | 7.44        | (FT.)                   | LESS STE      | EEL. WELL DEPTH  | S: |
|                           | 2" DIA. WELL CONS                            | T <u>ANT:</u>        | 0.16        | -                       | MW-1R         | 12.10'           |    |
|                           | ONE WELL VOLUME                              | :=                   | 1.19        | (GALS)                  | MW-2<br>MW-A3 | 12.13'<br>11.95' |    |
| PURGE METHOD:             | Low flow using Parast                        | taltic pump a        | and dedicat | ed tubing. A            | MW-4          | 13.75'           |    |
| PURGE START TIME          | SILT BUILDUP:<br>E: 1335<br>IONS: Clear wate | NO<br>STOP TIM<br>er | 1350        |                         | IVIVV-5       | 15.28            |    |
| FIELD PARAMETER           | MEASUREMENTS:                                |                      |             |                         |               |                  |    |
|                           |  | SPECIFIC             |             |                         |               |                  |    |
| WELL                      |  | CONDUCT              | ΓΙΛΙΤΑ      |                         |               | NOTES            |    |
| VOLUME                    | <u>PH</u>                                    | umnos/cm             | 2           |                         | -             | NOTES:           |    |
| 1                         | 7.24   | 409                  |             | 0.0                     |               |                  |    |
| 2                         | 7.31   | 447                  |             | 6.2                     |               | <u> </u>         |    |
| 3                         | 1.32   | 490                  |             | 0.2                     |               |                  |    |
| 5                         |  |                      |             |                         |               | ·········        |    |
| TOTAL VOLUME PUP          | RGED: 3.6 gallons                            | 5                    |             |                         |               |                  |    |
| GROUNDWATER OR            | R SEDIMENT SAMPLIN                           | IG DATA:             |             | SAMPLE [                |               | 4/5/2005         |    |
| MEDIA: GROUND<br>CREEK SI | WATER <u>X</u>                               |                      |             | SAMPLE                  | IME:          | 1355             |    |
|                           | MW-A3, Behind the N                          | liagara Mote         | el.         |                         |               |                  |    |
| SAMPLE METHOD:            | Low flow using Parast                        | altic pump a         | nd dedicate | ed tubing. A            | fter purging  | 3 volumes.       |    |
| SAMPLING OBSERV           | ATIONS: <u>Clear, No</u>                     | odor.                |             |                         |               |                  |    |
| QC SAMPLES TAKEN          | ۷:   |                      |             |                         |               |                  |    |
| OTHER OBSERVATIO          | ONS/COMMENTS:                                | 2, 1 liter a         | mber jars f | illed.                  |               |                  | ·  |
|                           |  |                      |             |                         |               | · ·              |    |
| Note: specific conduct    | ivity formula to 25 degre                    | ees Celcius:         | SC(25)=     | SC measu<br>{{T-25)(0.0 | red<br>2)}+1  | -                |    |

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### QUARTERLY SITE INSPECTION FORMS

January - June 2005

CHARLES GIBSON SITE (PINE AND TUSCARORA SITE) NIAGARA FALLS, NEW YORK NYSDEC Registry No. 9-32-063

#### CHARLES GIBSON SITE NIAGARA FALLS, NEW YORK NYSDEC REGIS<sup>\$</sup>RY NO. 9-32-063 SITE INSPECTION FORM

| JATE. <u>4/3/2003</u>   |  | -0.07   |  |  |
|---|--|---|--|--|
|   | -  |   |  |  |
| NSPECTOR: M. Walker   |  | _COMPANY:   | Sevenson   |  |
| VEATHER:  |  |   |  |  |
|   |  |   |  |  |
| REASON FOR INSPECTION (QU   | JARTERL  | Y OR OTHER <u>):</u>  | Spring Sample Event 2005, Quarterly Insp.  |  |
|   |  |   | •  |  |
| SENERAL SITE CONDITIONS:<br>(Note: For general site<br>subsidence (sinking),<br>and rodent burrows.  <br>missing signs or evide | e condition<br>ponded wa<br>For site se<br>ence of var | U=UNACCEPTAB<br>s note existence of b<br>ater, stressed vegeta<br>curity, note absence<br>ndalism. Note any oth | LE A=ACCEPTABLE<br>pare areas (number,size), cracks,<br>tion, soil discoloration or seeps,<br>of locks, gates open or damaged,<br>ner unusual occurences.) |  |
|   |  | COMM  | IENTS  |  |
| CCESS ROAD  | ?  | See be  | elow for comments  |  |
| OVER VEGETATION   | ?  |   |  |  |
| REES  | A  |   |  |  |
| ITTER   | ?  |   |  |  |
| ROSION (CAP)  | ?  |   |  |  |
| ROSION (BANK)   | ?  |   |  |  |
| ECURITY:  |  |   |  |  |
| ENCE/LOCKS  | A  |   |  |  |
| IEZOMETERS/LOCKS  | <u> </u>   | · · ·   |  |  |
| IONITORING WELLS/LOCKS  | A  | <u> </u>  | · · · · · · · · · · · · · · · · · · ·  |  |
| ANHOLES/LIDS/LOCKS  | A  |   |  |  |
| LECTRICAL PANEL   | A  |   |  |  |
| DDITIONAL COMMENTS:   | A Spring   | snow storm hit 2 day  | s before the scheduled inspection  |  |
| nd sampling event, Leaving 8" o   | f snow cov   | ering the area (inclue  | ding the cap and driveway.   |  |
| will return after the snow melts a  | ind do a m   | ore thorough inspect  | ion. Mike Hinton of the NYSDEC   |  |
| net us on site. He would also like  | to meet u  | s here when we do tl  | he follow up inspection after the  |  |
|   |  |   |  |  |
| now melts.  |  |   |  |  |
|   | ······   |   |  |  |
|   |  |   |  |  |

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### CHARLES GIBSON SITE NIAGARA FALLS, NEW YORK NYSDEC REGISTRY NO. 9-32-063 SITE INSPECTION FORM

| THIS FORM TO BE USED FOR                           | QUARTERI                    | Y AND ALL OTHER S                                | ITE INSPECTIONS                                |
|--|-----------------------------|--|--|
| DATE: 4/19/2005                                    | _TIME:                      | 900  | _  |
| NSPECTOR: M. Walke                                 | r                           | COMPANY:   | Sevenson                                       |
|  |                             |  |  |
| VEATHER.   |                             |  |  |
| REASON FOR INSPECTION (Q                           | UARTERLY                    | OR OTHER):                                       | Semi Annual Site Inspection                    |
|  |                             | <u> </u>   |  |
|  |                             |  |  |
| 3ENERAL SITE CONDITIONS:<br>(Note: For general sit | e conditions                | U=UNACCEPTABLE<br>note existence of bare         | A=ACCEPTABLE<br>e areas (number,size), cracks, |
| subsidence (sinking),                              | ponded wa                   | ter, stressed vegetation                         | n, soil discoloration or seeps,                |
| and rodent burrows.<br>missing signs or evid       | For site sec<br>ence of van | urity, note absence of<br>dalism. Note any other | unusual occurrences.)                          |
|  |                             | COMMEN   | ITS  |
| ACCESS ROAD  | A                           | Good   |  |
| COVER VEGETATION                                   | A                           | Green an   | d thick  |
| TREES  | A                           | Starting to                                      | bud  |
| LITTER   | <u>A</u>                    | None   |  |
| EROSION (CAP)                                      | <u>A</u>                    | None   |  |
| EROSION (BANK)                                     | <u>A</u>                    | None   |  |
| SECURITY:  |                             |  |  |
| FENCE/LOCKS  | Α                           | Good   |  |
| PIEZOMETERS/LOCKS                                  | <u>A</u>                    | Good   |  |
| MONITORING WELLS/LOCKS                             | Α                           | Good   |  |
| MANHOLES/LIDS/LOCKS                                | <u>A</u>                    | Good   |  |
| ELECTRICAL PANEL                                   | Α                           | Good   |  |
| ADDITIONAL COMMENTS:                               | This visit i                | s a follow up to the orig                        | ginal inspection on 4/5/05                     |
| Since then the snow has melted                     | and we car                  | get a better look at th                          | e cap and surrounding areas.                   |
| Since then, the show has mented                    |                             | <u> </u>   |  |
| Vike Hinton from the NYSDEC r                      | net me out o                | on site for the walk thro                        | ough. He was happy with the                    |
| way everything looked.                             |                             |  |  |
| <u> </u>   |                             |  |  |
|  |                             |  |  |
|  |                             |  |  |
|  |                             |  |  |
|  |                             |  |  |

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#### APPENDIX D

### QUARTERLY GROUNDWATER ELEVATION / PUMPING FORMS

January - June 2005

CHARLES GIBSON SITE (PINE AND TUSCARORA SITE) NIAGARA FALLS, NEW YORK NYSDEC Registry No. 9-32-063

### CHARLES GIBSON SITE NIAGARA FALÉS, NEW YORK NYSDEC REGISTRY NO. 9-32-063 GROUNDWATER ELEVATION FORM

| DATE: <u>4/5/20</u>  | 05   | _TIME:900   | )  |  |
|--|--|---|--|--|
| INSPECTOR:   | M. Walker  | _COMPANY:   | Sevenson   |  |
| WEATHER:   | Sunny 38 F   |   |  |  |
| PIEZOMETER   | RISER ELEVATION<br>(INSIDE CASING)   | DEPTH TO WATER<br>(FT.)   | WATER<br>ELEVATION   | COMMENTS   |
| P-1  | 572.72   | 7.01  | 565.71   |  |
| P-2  | 574.89   | 9.36  | 565.53   |  |
| P-3  | 574.16   | 6.55  | 567.61   | See Below  |
| P-4  | 576.14   | 10.8  | 565.34   |  |
| P-5  | 575.05   | 5.2   | 569.85   |  |
| P-6  | 578.28   | 10.25   | 568.03   |  |
| MANHOLE A  | 575.22   | 11.56   | 563.66   |  |
| MANHOLE B  | 577.34   | 13.61   | 563.73   |  |
| (Note: Manhole A e<br>Niagara Tuscarora<br>in Manhole B (and b<br>water distance from<br>(Note: riser elevatio | mpties into Manhole B by<br>Road sanitary sewer line<br>by extension Manhole A)<br>the manhole rim should<br>ns (re)surveyed Septemb | y gravity feed and Mant<br>by a float controlled su<br>below an elevation of 5<br>not be <u>less</u> than 12.41<br>ber, 1999 by Wendel Si | nole B is pumped a<br>imp pump which m<br>65 ft. above mear<br>ft. at Manhole B a<br>urveyors) | automatically to the Town of<br>naintains groundwater elevation<br>i sea level. Therefore, Depth t<br>nd 10.22 ft. at Manhole A. |

14/278

Client No.

#### OLIN CORPORATION OLIN CORPORATION - CHARLES GIBSON SITE ASP 2000/8270 - HEXACHLOROBENZENE ONLY ANALYSIS DATA SHEET

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|   | MHB-040505  |
|---|---|
| ab Name: <u>STL Buffalo</u> Contract:     |   |
| ab Code: <u>RECNY</u> Case No.: SAS No.:  | SDG No.:  |
| latrix: (soil/water) WATER                | Lab Sample ID: <u>A5310001</u>                        |
| Sample wt/vol: <u>1060.0</u> (g/mL) ML    | Lab File ID: <u>V08877.RR</u>                         |
| evel: (low/med) LOW                       | Date Samp/Recv: 04/05/2005 04/05/2005                 |
| ; Moisture: decanted: (Y/N) N             | Date Extracted: 04/11/2005                            |
| bncentrated Extract Volume: 1000 (uL)     | Date Analyzed: <u>04/14/2005</u>                      |
| injection Volume: 2.00(uL)                | Dilution Factor: <u>1.00</u>                          |
| PC Cleanup: (Y/N) <u>N</u> pH: <u>6.0</u> | · ·   |
| CAS NO. COMPOUND                          | CONCENTRATION UNITS:<br>(ug/L or ug/Kg) <u>UG/L</u> Q |
| 118-74-1Hexachlorobenzene                 | 9 U   |

#### OLIN CORPORATION OLIN CORPORATION - CHARLES GIBSON SITE ASP 2000/8270 - HEXACHLOROBENZENE ONLY ANALYSIS DATA SHEET

13/278

Client No.

|  |                |                  | FIELD BLANK-040505    |
|--|----------------|------------------|-----------------------|
| Lab Name: <u>STL_Buffalo</u>               | Contract:      |                  | · ·                   |
| Lab Code: <u>RECNY</u> Case No.:           | SAS No.:       | SDG No.:         |                       |
| Matrix: (soil/water) <u>WATER</u>          |                | Lab Sample ID:   | <u>A5310008</u>       |
| Sample wt/vol: <u>1060.0</u> (g/mL         | .) <u>ML</u> . | Lab File ID:     | V08878.RR             |
| Level: (low/med) <u>LOW</u>                | •              | Date Samp/Recv:  | 04/05/2005 04/05/2005 |
| % Moisture: decanted: (                    | Y/N) <u>N</u>  | Date Extracted:  | 04/11/2005            |
| Concentrated Extract Volume: 1000          | (uL)           | Date Analyzed:   | 04/14/2005            |
| Injection Volume: 2.00 (uL)                |                | Dilution Factor: | 1.00                  |
| GPC Cleanup: (Y/N) <u>N</u> pH: <u>6.0</u> |                |                  |                       |

| CAS NO.  | COMPOUND          | (ug/L or ug/Kg) <u>UG/L</u> |   |   |  |  |
|----------|-------------------|-----------------------------|---|---|--|--|
| 118-74-1 | Hexachlorobenzene |                             | 9 | υ |  |  |

## DATA COMMENT PAGE

#### **DRGANIC DATA QUALIFIERS**

ND or U Indicates compound was analyzed for, but not detected at or above the reporting limit.

- J Indicates an estimated value. This flag is used either when estimating a concentration for tentatively identified compounds where a 1:1 response is assumed, or when the data indicates the presence of a compound that meets the identification criteria but the result is less than the sample quantitation limit but greater than zero.
- C This flag applies to pesticide results where the identification has been confirmed by GC/MS.
- B This flag is used when the analyte is found in the associated blank, as well as in the sample.
- E This flag identifies compounds whose concentrations exceed the calibration range of the instrument for that specific analysis.
- D This flag identifies all compounds identified in an analysis at the secondary oilution factor.
- N Indicates presumptive evidence of a compound. This flag is used only for tentatively identified compounds, where the identification is based on the Mass Spectral library search. It is applied to all TTC results,
- P This flag is used for a pesticide/Aroclor target analyte when there is greater than 25% difference for detected concentrations between the two GC columns. The lower of the two values is reported on the data page and flagged with a "P".
- A This flag indicates that a TIC is a suspected aldol-condensation product.
- Indicates coelution.
- Indicates analysis is not within the quality control limits.

#### INORGANIC DATA QUALIFIERS

ND or U indicates element was analyzed for, but not detected at or above the reporting limit.

- J or B Indicates a value greater than or equal to the instrument detection limit, but less than the quantitation limit.
- N Indicates spike sample recovery is not within the quality control limits.
- K Indicates the post digestion spike recovery is not within the quality control limits.
- S Indicates value determined by the Method of Standard Addition.
- M Indicates duplicate injection results exceeded quality control limits.
- W Post digestion spike for Furnace AA analysis is out of quality control limits (85-115%) while sample absorbance is less than 50% of spike absorbance.
- E Indicates a value estimated or not reported due to the presence of interferences.
- H Indicates analytical holding time exceedance. The value obtained should be considered an estimate.
- Indicates analysis is not within the quality control limits.
- Indicates the correlation coefficient for the Method of Standard Addition is less than 0.995.

#### SAMPLE PREPARATION AND ANALYSIS SUMMARY ORGANIC ANALYSIS

#### LAB NAME: SEVERN TRENT LABORATORIES, INC.

| SAMPLE<br>IDENTIFICATION | MATRIX      | ANALYTICAL EXTRACTION<br>PROTOCOL METHOD<br>ASP00 SEPF |      | AUXILIARY<br>CLEAN UP | DIL/CONC<br>FACTOR |
|--------------------------|-------------|--|------|-----------------------|--------------------|
| MHB-040505               | LEACH       |  |      | AS REQUIRED           | AS REQUIRED        |
| MW-1R-040505             | GW          | ASP00  | SEPF | AS REQUIRED           | AS REQUIRED        |
| MW-2-040505              | 40505 GW AS | ASP00  | SEPF | AS REQUIRED           | AS REQUIRED        |
| MW-4-040505              | GW          | ASP00  | SEPF | AS REQUIRED           | AS REQUIRED        |
| MW-5-040505              | GW          | ASP00  | SEPF | AS REQUIRED           | AS REQUIRED        |
| MW-7-040505              | GW          | ASP00  | SEPF | AS REQUIRED           | AS REQUIRED        |
| MWA-3-040505             | GW          | ASP00  | SEPF | AS REQUIRED           | AS REQUIRED        |

#### SAMPLE PREPARATION AND ANALYSIS SUMMARY PESTICIDE/PCB ANALYSIS

#### DATE DATE SAMPLE MATRIX DATE DATE ANALYZED COLLECTED RECEIVED **EXTRACTED IDENTIFICATION** AT LAB 04/14/2005 MHB-040505 LEACH 04/05/2005 04/05/2005 04/11/2005 MW-1R-040505 GW 04/05/2005 04/05/2005 04/07/2005 .04/13/2005 04/13/2005 04/07/2005 GW 04/05/2005 04/05/2005 MW-2-040505 04/13/2005 MW-4-040505 GW 04/05/2005 04/05/2005 04/07/2005 04/13/2005 GW 04/05/2005 04/05/2005 04/07/2005 MW-5-040505 04/13/2005 MW-7-040505 GW 04/05/2005 04/05/2005 04/07/2005 04/13/2005 MWA-3-040505 GW 04/05/2005 04/05/2005 04/07/2005

AB NAME: SEVERN TRENT LABORATORIES, INC.

# SAMPLE PREPARATION AND ANALYSIS SUMMARY BW-A ANALYSIS

LAB NAME: SEVERN TRENT LABORATORIES, INC.

| SAMPLE<br>IDENTIFICATION | MATRIX | DATE<br>COLLECTED | DATE<br>RECEIVED<br>AT LAB | DATE<br>EXTRACTED | DATE<br>ANALYZED |
|--------------------------|--------|-------------------|----------------------------|-------------------|------------------|
| MHB-040505               | LEACH  | 04/05/2005        | 04/05/2005                 | 04/11/2005        | 04/14/2005       |

SAMPLE IDENTIFICATION AND ANALYTICAL REQUEST SUMMARY

#### AB NAME: SEVERN TRENT LABORATORIES, INC.

| CUSTOMER<br>SAMPLE ID | LABORATORY<br>SAMPLE ID | ANALYTICAL REQUIREMENTS |              |           |             |        |              |                  |
|-----------------------|-------------------------|-------------------------|--------------|-----------|-------------|--------|--------------|------------------|
|                       |                         | VOA<br>GC/MS            | BNA<br>GC/MS | VOA<br>GC | PEST<br>PCB | METALS | TCLP<br>HERB | WATER<br>QUALITY |
| MHB-040505            | A5310001                | -                       | ASP00        | -         | ASP00       | -      | -            | ~                |
| MW-1R-040505          | A5310002                | -                       | -            | -         | ASP00       | -      | -            | -                |
| MW-2-040505           | A5310003                | -                       | -            | -         | ASP00       | -      | -            | -                |
| MW-4-040505           | A5310004                | -                       | -            | -         | ASP00       | -      | -            | -                |
| MW-5-040505           | A5310005                | -                       | -            | -         | ASP00       | -      | -            | -                |
| MW-7-040505           | A5310006                | -                       | -            | -         | ASP00       | -      | -            | -                |
| MWA-3-040505          | A5310007                | . •                     | -            | -         | ASP00       |        |              | -                |

#### \*\*\*\*\*\*\*

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

"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 and in the computer-readable data submitted on floppy diskette has been authorized by the Laboratory Manager or his designee, as verified by the following signature."

Brian J. Fischer

Project Manager

4-26-05

Date

#### NON-CONFORMANCE SUMMARY

#### Job#: <u>A05-3100</u>

#### STL Project#: <u>NY3A9025</u> Site Name: <u>Olin Corporation - Charles Gibson site</u>

#### General Comments

The enclosed data have been reported utilizing data qualifiers (Q) as defined on the Data Comment Page.

Soil, sediment and sludge sample results are reported on "dry weight" basis unless otherwise noted in this data package.

According to 40CFR Part 136.3, pH, Chlorine Residual, Dissolved Oxygen, Sulfite, and Temperature analyses are to be performed immediately after aqueous sample collection. When these parameters are not indicated as field (e.g. pH-Field), they were not analyzed immediately, but as soon as possible after laboratory receipt.

Sample dilutions were performed as indicated on the attached Dilution Log. The rationale for dilution is specified by the 3-digit code and definition.

Sample Receipt Comments

A05-3100

Sample Cooler(s) were received at the following temperature(s); 2@4.0 °C All samples were received in good condition.

GC/MS Semivolatile Data

Samples MHB-040505 and FIELD BLANK-040505, 8270 waters, were extracted outside of the ASP 2000 required holding time.

The requested target analyte list does not include any spiking compounds routinely analyzed. Spike recovery data has not been included in the report.

#### GC Extractable Data

No deviations from protocol were encountered during the analytical procedures.

#### METHODS SUMMARY

#### Job#: <u>A05-3100</u>

STL Project#: <u>NY3A9025</u> Site Name: <u>Olin Corporation - Charles Gibson site</u>

|  | AN    | ALYTICAL |
|--|-------|----------|
| PARAMETER                              |       | METHOD   |
| ASP 2000/8270 - HEXACHLOROBENZENE ONLY | ASP00 | 8270     |

ASP 2000- METHOD 8081 EHC'S ASP00 8081

ASP00

"Analytical Services Protocol", New York State Department of Conservation, June 2000.

#### SAMPLE SUMMARY

|   |              |                       |        | SAMPI      | FD    | RECEIVE    | ED    |
|---|--------------|-----------------------|--------|------------|-------|------------|-------|
| L | AB SAMPLE ID | CLIENT SAMPLE ID      | MATRIX | DATE       | TIME  | DATE       | TIME  |
|   | A5310008     | FIELD BLANK-040505    | WATER  | 04/05/2005 | 09:40 | 04/05/2005 | 16:40 |
|   | A5310001     | MHB-040505            | LEACH  | 04/05/2005 | 10:00 | 04/05/2005 | 16:40 |
|   | A5310002     | MW-1R-040505          | GW     | 04/05/2005 | 11:50 | 04/05/2005 | 16:40 |
|   | A5310003     | MW-2-040505           | GW     | 04/05/2005 | 11:05 | 04/05/2005 | 16:40 |
|   | A5310003MS   | MW-2-040505           | GW     | 04/05/2005 | 11:05 | 04/05/2005 | 16:40 |
|   | A5310003SD   | MW-2-040505           | GW     | 04/05/2005 | 11:05 | 04/05/2005 | 16:40 |
|   | A5310004     | MW-4-040505           | GW     | 04/05/2005 | 13:05 | 04/05/2005 | 16:40 |
|   | A5310005     | MW-5-040505           | φW     | 04/05/2005 | 12:50 | 04/05/2005 | 16:40 |
|   | A5310006     | MW-7-040505 ( DUP MU) | ™¢₩    | 04/05/2005 | 16:30 | 04/05/2005 | 16:40 |
|   | A5310007     | MWA-3-040505          | ´G₩    | 04/05/2005 | 13:55 | 04/05/2005 | 16:40 |
|   |              |                       |        |            |       |            |       |

## SAMPLE DATA SUMMARY PACKAGE

\_\_\_\_\_

## STL Buffalo Current Certifications

| STATE          | Program                     | Cert # / Lab ID          |
|----------------|-----------------------------|--------------------------|
| Arkansas       | SDWA, CWA, RCRA, SOIL       | 03-054-D/88-0686         |
| California     | NELAP SDWA, CWA, RCRA       | 01169CA                  |
| Connecticut    | SDWA, CWA, RCRA, SOIL       | PH-0568                  |
| Florida        | NELAP RCRA                  | E87672                   |
| Georgia        | SDWA                        | 956                      |
| Illinois       | NELAP SDWA, CWA, RCRA       | 200003                   |
| Iowa           | SW/CS                       | 374                      |
| Kansas         | NELAP SDWA, CWA, RCRA       | E-10187                  |
| Kentucky       | SDWA                        | 90029                    |
| Kentucky UST   | UST                         | . 30                     |
| Louisiana      | NELAP CWA, RCRA             | 2031                     |
| Maine          | SDWA, CWA                   | NY044                    |
| Maryland       | SDWA                        | 294                      |
| Massachusetts  | SDWA, CWA                   | M-NY044                  |
| Michigan       | SDWA                        | 9937                     |
| Minnesota      | CWA, RCRA                   | 036-99 <del>9</del> -337 |
| New Hampshire  | NELAP SDWA, CWA             | 233701                   |
| New Jersey     | SDWA, CWA, RCRA, CLP        | NY455                    |
| New York       | NELAP, AIR, SDWA, CWA, RCRA | 10026                    |
| North Carolina | CWA                         | 411                      |
| North Dakota   | SDWA, CWA, RCRA             | R-176                    |
| Oklahoma       | CWA, RCRA                   | 9421                     |
| Pennsylvania   | Env. Lab Reg.               | 68-281                   |
| South Carolina | RCRA                        | 91013                    |
| USDA           | FOREIGN SOIL PERMIT         | S-41579                  |
| Virginia       | SDWA                        | 278                      |
| Washington     | CWA                         | C254                     |
| West Virginia  | CWA                         | 252                      |
| Wisconsin      | CWA                         | 998310390                |
|                |                             |                          |
|                |                             |                          |
|                |                             |                          |



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CHARLES GIBSON SITE ENV. MONIFORING 2005 IND

ANALYTICAL REPORT

Job#: <u>A05-3100</u>

STL Project#: NY3A9025 Site Name: <u>OLIN CORPORATION</u> Task: Charles Gibson Site

> Ms. Lorraine Miller Olin Corporation 1186 Lower River Road Charleston, TN 37310

CC: Mr. Michael Walker

STL Buffalo

Brian D Fischer Project Manager

Martha Fuller

Analyst

Donna Besco Analyst

4/25/05

## **APPENDIX B**

## SUMMARY ANALYTICAL REPORT

#### the second second second second second

## Chain of Custody Record



Severn Trent Laboratories, Inc.

| STL-4124 (0901)   |               |   |              |                      |        |            |                  |              |                  |                | _              |      |         |                         | 2.1             |                   |                   |                     |            |          |            |                |           |          |
|---|---------------|---|--------------|----------------------|--------|------------|------------------|--------------|------------------|----------------|----------------|------|---------|-------------------------|-----------------|-------------------|-------------------|---------------------|------------|----------|------------|----------------|-----------|----------|
| Client<br>CLINE Correct   |               | Project N                               | lanag        |                      |        |            |                  |              |                  |                |                |      |         |                         | ľ               | Date U            | .5                | .0                  | 5          | Chair    | 1 O 1      | dy Num         | ber       |          |
| Address   | Telephor      | Telephone Number (Area Code)/Fax Number |              |                      |        |            |                  |              |                  |                |                |      |         |                         |                 |                   |                   | <u> </u>            |            |          |            |                |           |          |
| 1/86 Lowre Riva LD Obox 249   | 42            | 423 336 4000 423 336 -4166              |              |                      |        |            |                  |              |                  |                |                |      |         |                         |                 |                   | Pag               | e                   | <u>-</u> - | of       |            |                |           |          |
| Walsson IN 2  | 7310          | Site Cont<br>M. Cr                      | laci<br>L) L | Vin                  | _      |            | ab Coi           | niact        |                  |                |                |      |         |                         | Analy<br>nore s | sis (At<br>pace i | tach li<br>is nee | ist if<br>ded)      |            |          |            | •              |           |          |
| Project Name and Location (State)   |               | Carrier/M                               | /aybil       | ll Num               | ber    |            | CALCENT.         | <u>. 1</u> , | 1.12             | ~              |                |      |         |                         |                 |                   |                   |                     |            |          |            |                |           |          |
| (HARLES GIDSON SITE NIACANA FALS, Y   | Ч             | 1                                       |              |                      |        |            |                  |              |                  |                |                |      |         |                         |                 |                   |                   |                     |            |          | Spec       | ial Ins        | tructions | /        |
|   | <b>`</b>      |   |              | Mati                 | rix    |            |                  | Cor<br>Pres  | ntaine<br>serva  | ers &<br>Nive  | s.<br>S        |      | 0       |                         |                 |                   |                   |                     |            |          | Condi      | itions         | of Receiµ | )t       |
| Sample I.D. No. and Description<br>(Containers for each sample may be combined on one line) | Date          | Time                                    | 2            | Sed.                 | Soil   |            | Unpres.<br>H2SO4 | HN03         | нсі              | NaOH           | ZnAc/<br>NaOH  | -142 | N X     |                         |                 |                   |                   |                     |            |          |            |                |           |          |
| MW1R-040505   | 4.5.65        | 150                                     | X            | 1                    |        | X          | 1                | ·            |                  |                |                | X    |         |                         | 1               | -                 |                   |                     |            | 2        | 4.14       | mo             | 54        | <u> </u> |
| MW.2-040505   |               | 105                                     |              | ·                    |        |            |                  |              |                  |                |                | Z    |         | 1                       |                 |                   |                   |                     |            | 6        |            | mber           | KS+MS     | <u>}</u> |
| MW-43-040505  | 1             | 355                                     |              |                      |        |            |                  |              |                  |                |                | 17   |         |                         |                 |                   |                   | $\uparrow \uparrow$ |            | 2        | L . 141    | Anber          |           | <b>~</b> |
| MW- 4-040505  |               | 305                                     |              |                      |        |            |                  | 1            |                  |                |                | Ţγ   |         |                         | 1               |                   |                   |                     | _          | 2        | , · [ it 1 | mbsk           |           |          |
| MW-5-040505   | 1             | 250                                     |              |                      |        |            |                  |              |                  |                |                | X    |         |                         |                 |                   |                   |                     |            | 2        | - 14       | <u> </u>       | n         |          |
| MW - 7 - 040505   |               | 630                                     |              |                      |        |            |                  |              |                  |                |                | X    |         |                         |                 |                   |                   |                     |            |          | 2-14       | + Am           | Ber_      |          |
| MHB-040505  |               | 000                                     |              |                      |        |            | $\Pi$            |              |                  |                |                | X    | X       |                         |                 |                   |                   |                     |            | 4        | -14        | Am             | KI_       |          |
| Field BLANK-040505  | V (           | 1940                                    |              | ;                    |        | ,          | Y                |              |                  |                |                | X    |         |                         |                 |                   |                   |                     |            | 4        | - 14       | AM             | Ber       |          |
| · · · · · · · · · · · · · · · · · · ·   |               |   |              |                      |        |            |                  |              |                  |                |                |      |         |                         |                 |                   |                   |                     |            |          |            |                |           |          |
| · ·   |               |   |              |                      |        |            |                  |              |                  |                |                |      |         |                         |                 |                   |                   |                     |            |          |            |                |           |          |
|   |               |   |              |                      |        |            |                  |              |                  |                |                |      |         |                         |                 | ·                 |                   |                     |            |          |            |                |           |          |
|   |               |   |              |                      |        |            |                  |              |                  |                |                |      |         |                         |                 |                   |                   |                     |            |          |            |                |           | <u> </u> |
| Possible Hazard Identification  |               |   | San          | nple D               | isposa | d I        |                  | •            | I                |                |                |      |         |                         | -               | ·t                | · (A )            | fee ma              | y be ass   | sessed i | f samples  | are reta       | ined      |          |
| U Non-Hazard U Flammable Skin Irritant  | Poison B      | Unknown                                 |              | Return               | 1 TO C | lient      |                  | Dispo<br>Req | osal B<br>juiren | ly La<br>nents | b [<br>; (Spec | Arc  | hive Fo | <u> </u>                |                 | Months            | s lon             | ger tha             | an 1 mon   | nth)     |            |                |           |          |
| 24 Hours 48 Hours 7 Days 14 Da  | iys 🗌 21 Days | 🕅 Other                                 | <u>ςł</u>    | label                | ld_    |            | - ]              | -            |                  |                |                |      | •       |                         |                 |                   |                   |                     |            |          |            |                |           |          |
| ,1. Relinquished By   |               | Date<br>U, G                            | đ            | $\left  \right ^{T}$ | 784    | D          | 1. F             | 9ece         | ived E           | Зy             | h              | an   | 7 (     | ef.                     | 2               | Sel.              | fa                |                     |            | Da       | 040        | JST.           | m={{4     |          |
| 2. Rejitigidishadu By   |               | Date                                    |              | Î                    | me     |            | 2. F             | Rece         | ived E           | 3y/            | 1              |      |         |                         | *-              |                   |                   |                     |            | Da       | le         |                | me        |          |
| 3. Relinguished By  |               | Date                                    | •——          | $\frac{1}{ \pi }$    | me     |            | 3. F             | Rece         | ived             | V              | [              |      |         |                         |                 |                   |                   |                     |            | Da       | le         | $-\frac{1}{1}$ | ime       |          |
| Comments  |               |   |              |                      |        | . <u>.</u> | <u> </u>         | <u> </u>     |                  |                |                |      | <u></u> | $\overline{\mathbf{N}}$ | 1               |                   |                   |                     |            |          | ·····      |                |           |          |
|   |               |   |              |                      |        |            |                  |              |                  |                |                |      | Æ       | VZ                      | 10              | C                 |                   |                     |            |          |            | •              |           |          |

DISTRIBUTION: WHITE - Returned to Client with Report; CANARY - Stays with the Sample; PINK - Field Copy

## **APPENDIX A**

:

## **CHAIN OF CUSTODY FORM**

#### TABLE 2 ANALYTICAL RESULTS SUMMARY - "MANHOLE B" SAMPLING CHARLES GIBSON SITE NIAGARA FALLS, NEW YORK APRIL 2005

| Sample ID   | MHB-040505      |  |  |  |  |  |  |
|---|-----------------|--|--|--|--|--|--|
| Sample Date                                       | 04/05/05        |  |  |  |  |  |  |
| BHC Isomers in Water via Meth                     | od 8081A (ug/L) |  |  |  |  |  |  |
| alpha-BHC   | 0.046 J         |  |  |  |  |  |  |
| beta-BHC  | 0.076           |  |  |  |  |  |  |
| delta-BHC   | 0.28            |  |  |  |  |  |  |
| gamma-BHC (lindane)                               | <0.047 U        |  |  |  |  |  |  |
| Hexachlorobenzene in Water via Method 8270 (ug/L) |                 |  |  |  |  |  |  |
| Hexachlorobenzene                                 | <9 U            |  |  |  |  |  |  |

Notes:

U Compound was analyzed for but not detected

J Estimated value - result is less than the sample quantitation limit but greater than zero "Field Blank-040505" was a collected as a field blank - results were non-detect for all parameters

#### TABLE 1 ANALYTICAL RESULTS SUMMARY - SEMI-ANNUAL WELL SAMPLING CHARLES GIBSON SITE NIAGARA FALLS, NEW YORK APRIL 2005

| Sample ID                                    | MW-A3-040505 |   | MW-1R-040505 | MW-7-040 | 505* | MW-2-040 | 0505 | MW-4-04( | 505 | MW-5-040505 |    |
|--|--------------|---|--------------|----------|------|----------|------|----------|-----|-------------|----|
| Sample Date                                  | 04/05/05     |   | 04/05/05     | 04/05/0  | )5   | 04/05/0  | )5   | 04/05/05 |     | 04/05/0     | )5 |
| BHC Isomers in Water via Method 8081A (ug/L) |              |   |              |          |      |          |      |          |     |             |    |
| alpha-BHC                                    | <0.047       | υ | 0.040 J      | <0.049   | U    | <0.050   | U    | <0.047   | U   | <0.047      | U  |
| beta-BHC                                     | <0.047       | U | <0.050 U     | <0.049   | U    | <0.050   | U    | <0.047   | U   | <0.047      | U  |
| delta-BHC                                    | <0.047       | U | 0.036 J.     | <0.049   | U    | <0.050   | U    | <0.047   | U   | <0.047      | U  |
| gamma-BHC (lindane)                          | <0.047       | U | <0.050 Ų     | <0.049   | U    | < 0.050  | U    | <0.047   | U   | <0.047      | U  |

Notes:

\* MW-7 is a field duplicate of MW-1R

U Compound was analyzed for but not detected

J Estimated value - result is less than the sample quantitation limit but greater than zero

"Field Blank-040505" was a collected as a field blank - results were non-detect for all parameters



Results from the analysis of the primary sample were compared to the results from the duplicate sample analysis and agreement expressed in terms of relative percent difference (RPD). The sample results for the MW-1R/MW-7 duplicate pair (Table 1) indicate that all parameters were not detected in sample MW-7, while alpha-BHC and delta-BHC were reported with "J" qualifiers in sample MW-1R (i.e., the results were less than the sample quantitation limit but greater than zero). The duplicate sample results demonstrate acceptable reproducibility, indicating good sampling and analytical precision.

#### 7.3 Rinse Blanks

No rinse blanks were collected for this sampling event, as dedicated equipment was used for monitoring well sample collection.

## 8.0 CONCLUSIONS

The analytical data package from Severn Trent was complete with all required QC information. The method blanks were free from contamination. All analyses were performed using specified methods within proper holding times, with the exception noted in Section 2.0. The relative percent differences, and surrogate, blank spike, and matrix spike/matrix spike duplicate recoveries were within laboratory control limits for all parameters and analyses. Based on this assessment and validation of the laboratory report, the data produced by STL are acceptable without qualification.



and is carried through the entire preparation and analysis process. The actual analyte concentration and percent recovery is reported with the laboratory QC data. Blank spikes are analyzed at a minimum frequency of one per analytical batch.

All BHC and hexachlorobenzene recoveries reported by the laboratory for the blank spike analyses were within the laboratory control limits, demonstrating acceptable analytical accuracy.

## 7.0 FIELD QA/QC

#### 7.1 Field Blanks

The purpose of field blank analysis is to determine the existence and magnitude of contamination resulting from sample bottles, field sampling activities, sample transport, and/or storage. One field blank was collected by pouring distilled water into the same type of samples bottle utilized for the field samples and kept with the field samples throughout the sampling event, shipment, and storage in the laboratory.

The field blank collected during this sampling event was submitted to the laboratory identified as "Field Blank-040505". All results were non-detect, indicating that contamination from sampling and storage activities was not a factor for this event.

#### 7.2 Field Duplicates

Field duplicate samples are collected in a manner that is identical to the original sample - the original field samples and its duplicate are collected at the same time, by the sample personnel, using the same procedures and sampling equipment, and is placed in the same type of containers. Field duplicates are used as a relative measure of the combined precision of the sample collection and analytical process. One field duplicate sample was collected during this sampling event and submitted as a "blind" sample to the laboratory. The field duplicate collected for this sampling event consisted of the following:

Sample ID MW-1R Field Duplicate ID MW-7

### 4.0 LABORATORY BLANK ANALYSES

The purpose of assessing the results of laboratory blank analyses is to determine the existence and magnitude of sample contamination resulting from laboratory sample preparation and analysis activities. A method blank is a sample of non-contaminated deionized water that is subjected to all of the sample preparation (i.e., extraction) and analytical methodology applied to the samples.

Laboratory blanks were extracted and analyzed at a frequency of one per analytical batch. All BHC and hexachlorobenzene results in the method blank were non-detect, indicating that contamination from laboratory activities was not a factor for this sampling round.

### 5.0 MATRIX SPIKE/MATRIX SPIKE DUPLICATE ANALYSES (MS/MSD)

To assess the effects of sample matrices on analytical efficiency, samples are spiked in duplicate with known concentrations of the target compounds into a prepared portion of a sample just prior to analysis. The matrix spike recovery provides information on matrix effects encountered during analysis and indicates whether the selected analytical method is appropriate for the recovery of the contaminants of concern for the matrix. The MS/MSD recoveries are used to evaluate analytical accuracy, while the relative percent difference (RPD) values between the MS and MSD are used to evaluate analytical precision.

The MS and MSD analyses for pesticides were performed using groundwater samples collected from monitoring well MW-2 for this sampling event. A limited list of pesticides was added to the MS and MSD samples, including gamma-BHC. Gamma-BHC recoveries and the associated RPD are within the laboratory control limits, demonstrating acceptable laboratory accuracy and precision.

MS and MSD analyses were not performed for hexachlorobenzene since this compound is not included in the spiking mixture utilized by the laboratory.

#### 6.0 BLANK SPIKE ANALYSES

Blank spikes are analyzed as samples to assess the analytical accuracy of the methods employed in the absence of matrix interference. The blank spike contains known concentrations of the analytes of concern

Based on sample chain-of-custody forms and laboratory analysis reports, samples were collected on April 5, 2005 extracted on April 5, 2005 and analyzed on April 14, 2005 for hexachlorobenzene. The sample extraction and analysis was performed within the holding times specified in the "National Functional Guidelines for Organic Data Review" (USEPA, 1999). The extraction was performed one day past the five-day holding time specified in the New York State Department of Environmental Conservation (NYSDEC) Analytical Services Protocol (ASP). No qualifiers were assigned to the hexachlorobenzene results during data validation.

Based on sample chain-of-custody forms and laboratory analysis reports, samples were collected on April 5, 2005 extracted on April 7 and 11, 2005 and analyzed on April 13 and 14, 2005 for pesticides. Sample extractions and analyses were performed within the specified holding times.

As indicated on the Non-Conformance Summary included with the laboratory analytical data report, the laboratory received two sample coolers, each at temperatures of 4°C, in good condition. Samples were hand delivered to the laboratory on the same day that the samples were collected.

### 3.0 SURROGATE SPIKE RECOVERIES

All field samples, blanks, and laboratory QC samples (e.g., matrix spike, matrix spike duplicate) analyzed for BHCs and hexachlorobenzene are spiked with surrogate compounds prior to extraction. The primary function of the surrogate spiking activity is to determine the efficiency of recovery of analytes in the samples preparation and analysis and thus the degree to which the sample matrix plays a role in the analysis. This matrix interference is measured as a percent recovery, which is then used to gauge the total accuracy of the analytical method for that sample.

All samples submitted for BHC analyses were spiked with the surrogate compounds decachlorobiphenyl (DCB) and tetrachloro-m-xylene (TCX). All samples submitted for hexachlorobenzene analyses were spiked with the surrogate compounds 2,4,6-tribromophenol, 2-fluorobiphenyl, 2-fluorophenol, nitrobenzene-d5, phenol-d5, and terphenyl-d14. All surrogate recoveries were within the laboratory control limits, demonstrating acceptable analytical efficiency.

### **1.0 INTRODUCTION**

The following details an assessment and validation of analytical results reported by Severn Trent Laboratories, Inc. (STL) of Buffalo, New York, for groundwater samples collected in April 2005 for the Semi-Annual Well Sampling at the Charles Gibson Site in Niagara Falls, New York. The semi-annual well sampling included the collection of groundwater samples from five monitoring wells (MW-1R, MW-2, MW-4, MW-5, and MW-A3), a field duplicate of MW-1R (designated as MW-7), and a field blank. The semi-annual sampling also included the collection a leachate sample from "Manhole B". All samples were collected in accordance with the "Operation and Maintenance Manual" for the site, dated June 2000.

All samples were submitted for the analysis of the pesticides alpha-BHC, beta-BHC, delta-BHC, and gamma-BHC, using US Environmental Protection Agency (USEPA) SW-846 Methods 3510 and 8081A. In addition, the leachate sample was submitted for the analysis of hexachlorobenzene using USEPA SW-846 Methods 3510 and 8270C. Analyses are referenced from "Test Methods for Evaluating Solid Wastes, Physical/Chemical Methods," SW-846 Third Edition, 1986 and subsequent revisions. The analytical data are presented in Tables 1 and 2 for the groundwater samples and Manhole B leachate sample, respectively. A copy of the chain of custody form is included in Appendix A and the summary report from the laboratory is included in Appendix B. Data evaluation was based on information obtained from the finished data sheets, chain-of-custody forms, blank data, field duplicate data, and recovery data for matrix, blank, and surrogate spikes.

The Quality Assurance/Quality Control (QA/QC) criteria by which these data have been assessed are outlined in the analytical methods and in "National Functional Guidelines for Organic Data Review," USEPA, October 1999.

### 2.0 SAMPLE HOLDING TIMES

Based on the criteria outlined in the methods of analysis, the following holding time requirements were used:

| Parameter         | Matrix | Collection to<br>Extraction (days) | Extraction to<br>Analysis (days) |
|-------------------|--------|------------------------------------|----------------------------------|
| BHCs              | Water  | 7                                  | 40                               |
| Hexachlorobenzene | Water  | 7                                  | 40                               |

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0

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## DATA USABILITY SUMMARY REPORT SEMI-ANNUAL WELL SAMPLING APRIL 2005

## CHARLES GIBSON SITE NIAGARA FALLS, NEW YORK

## PREPARED BY: SEVENSON ENVIRONMENTAL SERVICES, INC. 2749 LOCKPORT ROAD NIAGARA FALLS, NEW YORK 14305

Report Submitted: July 28, 2005

### APPENDIX A

### DATA USABILITY SUMMARY REPORT

## SEMI-ANNUAL GROUND WATER SAMPLING

AND

## ANNUAL LEACHATE SAMPLING OF MANHOLE B

APRIL 2005

CHARLES GIBSON SITE (PINE AND TUSCARORA SITE) NIAGARA FALLS, NEW YORK NYSDEC Registry No. 9-32-063

dm:sites/P&T Gibson//site monitoring/semiannual gw sampling /April 2005

#### TABLE 2

#### CHARLES GIBSON SITE NIAGARA FALLS, NEW YORK

#### ANALYTICAL RESULTS SUMMARY ANNUAL LEACHATE SAMPLING

#### April 5, 2005

|                   | MANHOLE B |
|-------------------|-----------|
| PARAMETER         |           |
| alpha-BHC         | .046J     |
| beta-BHC          | .076      |
| delta-BHC         | .28       |
| gamma-BHC         | .047U     |
| Hexachlorobenzene | 9U        |

#### Notes:

Concentration in ug/l

Field blank was non-detect for all parameters of interest. Data has been validated and judged acceptable as qualified. Next hexachlorobenzene (HCB) sampling scheduled for October 2010

#### TABLE 1

#### CHARLES GIBSON SITE NIAGARA FALLS, NEW YORK

#### ANALYTICAL RESULTS SUMMARY SEMI-ANNUAL GROUND WATER SAMPLING

#### April 5, 2005

|                   | MW-1R | MW-1R<br>(dup) | MW-2  | MW-4  | MW-5  | MW-A3 |
|-------------------|-------|----------------|-------|-------|-------|-------|
| PARAMETER         |       |                |       |       |       |       |
| alpha-BHC         | .040J | .049U          | .050U | .047U | .047U | .047U |
| beta-BHC          | .050U | .049U          | .050U | .047U | .047U | .047U |
| delta-BHC         | .036J | .049U          | .050U | .047U | .047U | .047U |
| gamma-BHC         | .050U | .049U          | .050U | .047U | .047U | .047U |
| Hexachlorobenzene | NR    | NR             | NR    | NR    | NR    | NR    |
|                   |       |                |       |       |       |       |

#### Notes:

U

Concentration in ug/I

Undetected at associated value

NR Not required

Field blank (MW8) was non-detect for all parameters of interest.

Data has been validated and judged acceptable as qualified.

Next sampling for hexachlorobenzene is scheduled for October 2006.
Charles Gibson Site (PINE AND TUSCARORA) Niagara Falls, NY NYSDEC Registry No. 9-32-063

Semi-Annual Groundwater Sampling

April 5, 2005

932063 Corres-file

P. O. BOX 248, 1186 LOWER RIVER ROAD, NW, CHARLESTON, TN 37310-0248

(423) 336-4000 FAX: (423) 336-4166

July 29, 2005

RECEIVED

Mr. Michael J. Hinton, P.E. Environmental Engineer New York State Department of Environmental Conservation 270 Michigan Avenue Buffalo, NY 14203-2999

AUG 0 1 2005 NYSDEC REG 9 REL UNREL

Subject: Charles Gibson Site (Pine and Tuscarora Site) Niagara Falls, New York NYSDEC Registry No. 9-32-063 Semi-Annual Ground Water Sampling Report April 2005

Dear Mr. Hinton:

In accordance with the approved sampling plan for the above referenced Site, enclosed are three copies of the Semi-Annual Ground Water Report, April 2005. The analytical data summary for ground water is listed in Table 1. Analytical results for the annual leachate sampling at Manhole B are listed in Table 2. The Data Usability Summary Report is presented in Appendix A. The field logs for this sampling event are also attached in Appendix B. The Site Inspection Forms and the Ground Water Elevation Forms are included in Appendices C and D respectively. The analytical data has been validated and found to be acceptable.

You will recall that Olin requested discontinuing the hexachlorobenzene (HCB) monitoring the in groundwater. NYSDEC indicated it would reconsider the request after the 2005 leachate data became known. HCB was not detected in the April 2005 leachate sample. Olin requests NYSDEC to reconsider eliminating hexachlorobenzene (HCB) testing in the monitoring program based on results from the leachate HCB data collected in April 2005 and past monitoring. Data indicates HCB has never been detected in the leachate or in any of the monitoring wells at the site.

If you have any questions, please call me at 423/ 336-4381.

Sincerely. **OLIN CORPORATION** M. Miller. maine

Eorraine M. Miller Principal Environmental Specialist

cc: B. H. Brayley (e-mail) C.M. Richards (e-mail) T. E. Tirabassi (e-mail) M. E. Walker (e-mail)

dm:sites/P&T Gibson//site monitoring/semiannual gw sampling /April 2005

#### OLIN CORPORATION OLIN CORPORATION - CHARLES GIBSON SITE ASP 2000-: METHOD 8081 BHC'S ANALYSIS DATA SHEET

Client No.

|  |  | FIELD BLANK-040505    |  |  |
|--|--|-----------------------|--|--|
| Lab Name:   SIL Buffalo   Contract:  |  |                       |  |  |
| Lab Code: <u>RECNY</u> Case No.: SAS No.:  | SDG No.:                                   |                       |  |  |
| Matrix: (soil/water) <u>WATER</u>  | Lab Sample ID:                             | <u>A5310008</u>       |  |  |
| Sample wt/vol: <u>1055.00</u> (g/mL) <u>ML</u>   | Lab File ID:                               | <u>18A52131.TX0</u>   |  |  |
| % Moisture: decanted: (Y/N) <u>N</u>   | Date Samp/Recv:                            | 04/05/2005 04/05/2005 |  |  |
| Extraction: (SepF/Cont/Sonc/Soxh): <u>SEPF</u>   | Date Extracted:                            | 04/07/2005            |  |  |
| Concentrated Extract Volume: <u>10000</u> (uL)   | Date Analyzed:                             | 04/13/2005            |  |  |
| Injection Volume: <u>1.00</u> (uL)   | Dilution Factor:                           | 1.00                  |  |  |
| GPC Cleanup: (Y/N) <u>N</u> pH: <u>6.00</u>  | Sulfur Cleanup:                            | (Y/N) <u>N</u>        |  |  |
| CAS NO. COMPOUND (ug/  | NTRATION UNITS:<br>L or ug/Kg) <u>UG/L</u> | Q                     |  |  |
| 319-84-6alpha-BHC<br>319-85-7beta-BHC<br>319-86-8delta-BHC<br>58-89-9gamma-BHC (Lindane) | 0.047<br>0.047<br>0.047<br>0.047<br>0.047  | บ<br>บ<br>บ<br>บ      |  |  |

• ...

Client No.

#### OLIN CORPORATION OLIN CORPORATION - CHARLES GIBSON SITE ASP 2000- METHOD 8081 BHC'S ANALYSIS DATA SHEET

|  |   | MHB-040505            |
|--|---|-----------------------|
| Lab Name: <u>STL Buffalo</u> Contrac   | t:  |                       |
| Lab Code: <u>RECNY</u> Case No.: SAS No.:  | SDG No.:  |                       |
| Matrix: (soil/water) <u>WATER</u>  | Lab Sample ID:                                      | <u>A5310001</u>       |
| Sample wt/vol: <u>1060.00</u> (g/mL) ML  | Lab File ID:  | 18A52122.TX0          |
| * Moisture: decanted: (Y/N) N  | Date Samp/Recv:                                     | 04/05/2005 04/05/2005 |
| Extraction: (SepF/Cont/Sonc/Soxh): <u>SEPF</u>   | Date Extracted:                                     | 04/07/2005            |
| Concentrated Extract Volume: <u>10000</u> (uL)   | Date Analyzed:                                      | 04/13/2005            |
| Injection Volume: <u>1.00</u> (uL)   | Dilution Factor:                                    | 1.00                  |
| GPC Cleanup: (Y/N) <u>N</u> pH: <u>6.00</u>  | Sulfur Cleanup:                                     | (Y/N) <u>N</u>        |
| CAS NO. COMPOUND   | CONCENTRATION UNITS:<br>(ug/L or ug/Kg) <u>UG/L</u> | Q                     |
| 319-84-6alpha-BHC<br>319-85-7beta-BHC<br>319-86-8delta-BHC<br>58-89-9gamma-BHC (Lindane) | 0.046<br>0.076<br>0.28<br>0.047                     | J                     |

#### OLIN CORPORATION. OLIN CORPORATION - CHARLES GIBSON SITE ASP 2000- METHOD 8081 BHC'S ANALYSIS DATA SHEET

Client No.

|  | MW-1R-040505  |
|--|---|
| Lab Name: <u>STL Buffalo</u> Contr             | act:  |
| Lab Code: <u>RECNY</u> Case No.: SAS No        | SDG No.:  |
| Matrix: (soil/water) <u>WATER</u>              | Lab Sample ID: <u>A5310002</u>                        |
| Sample wt/vol: <u>1000.00</u> (g/mL) <u>ML</u> | Lab File ID: <u>18A52123.TX0</u>                      |
| % Moisture: decanted: (Y/N) $\underline{N}$    | Date Samp/Recv: 04/05/2005 04/05/2005                 |
| Extraction: (SepF/Cont/Sonc/Soxh): <u>SEPF</u> | Date Extracted: <u>04/07/2005</u>                     |
| Concentrated Extract Volume: <u>10000</u> (uL) | Date Analyzed: <u>04/13/2005</u>                      |
| Injection Volume: <u>1.00</u> (uL)             | Dilution Factor: <u>1.00</u>                          |
| GPC Cleanup: (Y/N) <u>N</u> pH: <u>6.00</u>    | Sulfur Cleanup: (Y/N) N                               |
| CAS NO. COMPOUND                               | CONCENTRATION UNITS:<br>(ug/L or ug/Kg) <u>UG/L</u> Q |
| 319-84-6alpha-BHC                              | 0.040 J   |
| 319-85-7beta-BHC                               | 0.050 U   |
| 319-86-8delta-BHC                              |   |
| 158-89-9CAUTG-BHC (1110ADE)                    |   |

58-89-9-----gamma-BHC (Lindane)

U

0.050

#### OLIN CORPORATION OLIN CORPORATION - CHARLES GIBSON SITE ASP 2000- METHOD 8081 BHC'S ANALYSIS DATA SHEET

Client No.

|  |  |                                  | MW-2-040        | 505   |
|--|--|----------------------------------|-----------------|---|
| Lab Name: <u>STL Buffalo</u>                               | Contract:                              |                                  |                 |   |
| iab Code: <u>RECNY</u> Case No.: S                         | SAS No.:                               | SDG No.:                         |                 |   |
| Matrix: (soil/water) <u>WATER</u>                          |  | Lab Sample ID:                   | <u>A5310003</u> | <u>.                                     </u> |
| Sample wt/vol: _1000.00 (g/mL) <u>ML</u>                   |  | Lab File ID:                     | <u>18A52124</u> | .TX0  |
| * Moisture: decanted: (Y/N) h                              | N .                                    | Date Samp/Recv:                  | 04/05/20        | 05 04/05/2005                                 |
| Extraction: (SepF/Cont/Sonc/Soxh): SEPI                    | Ē                                      | Date Extracted:                  | 04/07/20        | 005   |
| Concentrated Extract Volume: 10000(uL)                     | )                                      | Date Analyzed:                   | 04/13/20        | 005   |
| Injection Volume: <u>1.00</u> (uL)                         |  | Dilution Factor:                 | 1.00            | 2   |
| GPC Cleanup: (Y/N) <u>N</u> pH: <u>6.00</u>                |  | Sulfur Cleanup:                  | (Y/N) <u>N</u>  |   |
| CAS NO. COMPOUND   | CONCENTRAT<br>(ug/L or                 | ION UNITS:<br>ug/Kg) <u>UG/L</u> | Q               |   |
| 319-84-6alpha-BHC<br>319-85-7beta-BHC<br>319-86-8delta-BHC | ······································ | 0.050<br>0.050<br>0.050          | ប<br>ប<br>ប     |   |

58-89-9-----gamma-BHC (Lindane)

#### OLIN CORPORATION OLIN CORPORATION - CHARLES GIBSON SITE ASP 2000- METHOD 8081 EHC'S ANALYSIS DATA SHEET

Client No.

|  |                                  | MW-4-040505           |
|--|----------------------------------|-----------------------|
| Lab Name:   STL Buffalo   Contract:  |                                  |                       |
| Lab Code: <u>RECINY</u> Case No.: SAS No.: SDG   | G No.:                           |                       |
| Matrix: (soil/water) WATER La  | ab Sample ID:                    | <u>A5310004</u>       |
| Sample wt/vol: _1060.00 (g/mL) ML La   | ab File ID:                      | <u>18A52127.TX0</u>   |
| % Moisture: decanted: (Y/N) N Da   | ate Samp/Recv:                   | 04/05/2005 04/05/2005 |
| Extraction: (SepF/Cont/Sonc/Soxh): <u>SEPF</u> Da  | ate Extracted:                   | <u>04/07/2005</u>     |
| Concentrated Extract Volume: 10000 (uL) Da   | ate Analyzed:                    | 04/13/2005            |
| Injection Volume: <u>1.00</u> (uL) Di  | ilution Factor:                  | 1.00                  |
| GPC Cleanup: (Y/N) <u>N</u> pH: <u>6.00</u> Su   | lfur Cleanup:                    | (Y/N) <u>N</u>        |
| CONCENTRATION<br>CAS NO. COMPOUND (ug/L or ug/   | NUNITS:<br>/Kg) <u>UG/L</u>      | Q                     |
| 319-84-6alpha-BHC<br>319-85-7beta-BHC<br>319-86-8delta-BHC<br>58-89-9gamma-BHC (Lindane) | 0.047<br>0.047<br>0.047<br>0.047 | บ<br>บ<br>บ<br>บ      |

#### OLIN CORPORATION OLIN CORPORATION - CHARLES GIBSON SITE ASP 2000- METHOD 8081 BHC'S ANALYSIS DATA SHEET

Client No.

|  | MW-5-040505   |
|--|---|
| Lab Name:   STL Buffalo   Contract:  |   |
| Lab Code: RECNY Case No.: SAS No.:   | SDG No.:  |
| Matrix: (soil/water) <u>WATER</u>  | Lab Sample ID: <u>A5310005</u>                      |
| Sample wt/vol: <u>1060.00</u> (g/mL) ML  | Lab File ID: <u>18A52128.TX0</u>                    |
| % Moisture: decanted: (Y/N) $\underline{N}$  | Date Samp/Recv: <u>04/05/2005</u> <u>04/05/2005</u> |
| Extraction: (SepF/Cont/Sonc/Soxh): <u>SEPF</u>   | Date Extracted: <u>04/07/2005</u>                   |
| Concentrated Extract Volume: 10000 (uL)  | Date Analyzed: <u>04/13/2005</u>                    |
| Injection Volume: <u>1.00</u> (uL)   | Dilution Factor: <u>1.00</u>                        |
| GPC Cleanup: (Y/N) <u>N</u> pH: <u>6.00</u>  | Sulfur Cleanup: (Y/N) N                             |
| CAS NO. COMPOUND (U  | CENTRATION UNITS:<br>1g/Lorug/Kg) <u>UG/L</u> Q     |
| 319-84-6alpha-BHC<br>319-85-7beta-BHC<br>319-86-8delta-BHC<br>58-89-9gamma-BHC (Lindane) | 0.047 U<br>0.047 U<br>0.047 U<br>0.047 U<br>0.047 U |

#### OLIN CORPORATION OLIN CORPORATION - CHARLES GIBSON SITE ASP 2000- METHOD 8081 BHC'S ANALYSIS DATA SHEET

21/278 MW-IR(DUP) Client No.

٦

|  | MW-7-040505                           |
|--|---------------------------------------|
| Lab Name: <u>STL Buffalo</u> Contra            |                                       |
| Lab Code: <u>RECNY</u> Case No.: SAS No.       | : SDG No.:                            |
| Matrix: (soil/water) <u>WATER</u>              | Lab Sample ID: A5310006               |
| Sample wt/vol: <u>1020.00</u> (g/mL) <u>ML</u> | Lab File ID: <u>18A52129.TX0</u>      |
| % Moisture: decanted: (Y/N) <u>N</u>           | Date Samp/Recv: 04/05/2005 04/05/2005 |
| Extraction: (SepF/Cont/Sonc/Soxh): <u>SEPF</u> | Date Extracted: 04/07/2005            |
| Concentrated Extract Volume: 10000 (uL)        | Date Analyzed: 04/13/2005             |
| Injection Volume: <u>1.00</u> (uL)             | Dilution Factor: <u>1.00</u>          |
| GPC Cleanup: (Y/N) <u>N</u> pH: <u>6.00</u>    | Sulfur Cleanup: (Y/N) N               |
|  | CONCENTRATION UNITS.                  |
| CAS NO. COMPOUND                               | (ug/L or ug/Kg) <u>UG/L</u> Q         |
| 319-84-6alpha-BHC                              | 0.049 U                               |
| 319-85-7beta-BHC                               | 0.049 U                               |
| 319-86-8delta-BHC                              | 0.049 U                               |
| 58-89-9gamma-BHC (Lindane)                     | 0.049 U                               |

#### OLIN CORPORATION OLIN CORPORATION - CHARLES GIBSON SITE ASP 2000- METHOD 8081 BHC'S ANALYSIS DATA SHEET

Client No.

|  | MWA-3-040505                                  |
|--|---|
| Lab Name: <u>STL Buffalo</u> Contra            | Ict:  |
| Lab Code: <u>RECNY</u> Case No.: SAS No.       | : SDG No.:                                    |
| Matrix: (soil/water) WATER                     | Lab Sample ID: A5310007                       |
| Sample wt/vol: <u>1060.00</u> (g/mL) <u>ML</u> | Lab File ID: <u>18A52130.TX0</u>              |
| % Moisture: decanted: (Y/N) $\underline{N}$    | Date Samp/Recv: 04/05/2005 04/05/2005         |
| Extraction: (SepF/Cont/Sonc/Soxh): <u>SEPF</u> | Date Extracted: <u>04/07/2005</u>             |
| Concentrated Extract Volume: <u>10000</u> (uL) | Date Analyzed: <u>04/13/2005</u>              |
| Injection Volume: <u>1.00</u> (uL)             | Dilution Factor: <u>1.00</u>                  |
| GPC Cleanup: (Y/N) <u>N</u> pH: <u>6.00</u>    | Sulfur Cleanup: (Y/N) <u>N</u>                |
|  | CONCENTRATION UNITS:                          |
| CAS NO. COMPOUND                               | $(ug/L \text{ or } ug/Kg) \underline{Ug/L} Q$ |
| 319-84-6alpha-BHC                              | 0.047 U                                       |
| 319-85-7beta-BHC                               | 0.047 U                                       |
| 319-86-8delta-BHC                              | 0.047 U                                       |
| 58-89-9ganma-BHC (Lindane)                     | 0.047 U                                       |

#### OLIN CORPORATION OLIN CORPORATION - CHARLES GIBSON SITE ASP 2000/8270 - HEXACHLOROBENZENE ONLY WATER SURROGATE RECOVERY

#### Contract: \_ Lab Name: STL Buffalo

SAS No.: \_\_\_ Lab Code: RECNY Case No.: \_\_\_\_ SDG No.: .

|   | Client Sample ID   | Lab Sample ID | 2CP<br>%REC # | 2FP<br>%REC # | DCB<br>%REC # | FBP<br>%REC # | NBZ<br>%REC # | PHL<br>%REC # | TBP<br>%REC # | TPH<br>%rec`# | TOT<br>OUT |
|---|--------------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|------------|
|   |                    |               |               | =======       | ======        | =======       | =======       | =======       | ======        |               | ===        |
| 1 | FIELD BLANK-040505 | A5310008      | 68            | 35            | 65            | 79            | 81            | 22            | 86            | 94            | ol         |
| 2 | Matrix Spike Blank | A5B0493201    | 65            | 37            | 58            | 73            | 72            | 24            | 89            | 86            | 0          |
| 3 | MHB-040505         | A5310001      | 69            | 37            | 62            | 77            | 79            | 23            | 98            | 88            | 0          |
| 4 | SBLK               | A5B0493202    | 69            | 39            | 49            | 70            | 78            | 26            | 86            | 96            | 0          |
| 1 |                    |               | · ·           |               |               |               |               |               |               |               |            |

QC LIMITS

| 2CP | =          | 2-Chlorophenol-d4      | ( 33-110) |
|-----|------------|------------------------|-----------|
| 2FP | =          | 2-Fluorophenol         | (21-110)  |
| CB  | =          | 1,2-Dichlorobenzene-d4 | ( 16-110) |
| BP  | , <b>z</b> | 2-Fluorobiphenyl       | ( 43-116) |
| IBZ | =          | Nitrobenzene-D5        | ( 35-114) |
| 'HL | =          | Phenol-D5              | ( 10-110) |
| BP  | =          | 2,4,6-Tribromophenol   | ( 10-123) |
| PH  | =          | p-Terphenyl-d14        | ( 33-141) |
|     |            |                        |           |

# Column to be used to flag recovery values
\* Values outside of contract required QC limits

D Surrogates diluted out

### OLIN CORPORATION OLIN CORPORATION - CHARLES GIBSON SITE ASP 2000- METHOD 8081 BHC'S WATER SURRÖGATE RECOVERY

| Lab Name: STL Buffalo        |                      | Contract: |          |
|------------------------------|----------------------|-----------|----------|
| Lab Code: <u>RECNY</u>       | Case No.:            | SAS No.:  | SDG No.: |
| GC Column(1): <u>RTXCLPI</u> | ID: <u>0.00</u> (mm) |           |          |

|    | Client Sample ID   | Lab Sample ID | DCBP<br>%REC # | TCMX<br>%REC # |   |          |   |   |   | ======= | TOT<br>OUT |
|----|--------------------|---------------|----------------|----------------|---|----------|---|---|---|---------|------------|
| 1  | FIELD BLANK-040505 | A5310008      | 100            | 82             |   |          |   | · |   |         | 0          |
| 2  | Matrix Spike Blank | A5B0467601    | 70             | 76             |   | {        |   |   |   |         | 0          |
| 3  | Method Blank       | A5B0467602    | 81             | 76             |   | <b>[</b> | • |   |   |         | 0          |
| 4  | MHB-040505         | A5310001      | 81             | 82             |   | 1        |   |   |   |         | 0          |
| 5  | MW-1R-040505       | A5310002      | 78             | 80             | 1 |          |   |   |   |         | 0          |
| 6  | MW-2-040505        | A5310003      | 82             | 82             | 1 |          |   |   |   |         | 0          |
| 7  | MW-2-040505        | A5310003MS    | 72             | 85             |   |          |   |   |   |         | 0          |
| 8  | MW-2-040505        | A5310003SD    | 76             | 84             |   |          |   |   |   |         | 0          |
| 9  | MW-4-040505        | A5310004      | 85             | 81             | 1 |          |   |   |   |         | 0          |
| 10 | MW-5-040505        | A5310005      | 50             | 84             |   |          |   |   |   |         | 0          |
| 11 | MW-7-040505        | A5310006      | 56             | 83             | 1 |          |   |   |   |         | 0          |
| 12 | MWA-3-040505       | A5310007      | 90             | 77             | 1 |          |   |   | • |         | 0          |

QC LIMITS

(DCBP) = Decachlorobiphenyl (TCMX) = Tetrachloro-m-xylene

# (30-150) (30-150)

# Column to be used to flag recovery values
\* Values outside of contract required QC limits
D Surrogates diluted out

#### OLIN CORPORATION OLIN CORPORATION - CHARLES GIBSON SITE ASP 2000- METHOD 8081 BHC'S WATER MATRIX SPIKE/MATRIX SPIKE DUPLICATE RECOVERY

Contract: \_\_\_\_\_ Lab Samp ID: A5310003 Lab Name: <u>STL Buffalo</u>

25/278

SAS No.: \_\_\_\_\_

SDG No.: \_\_\_\_\_

Lab Code: RECNY Case No.: \_\_\_\_

Matrix Spike - Client Sample No.: MW-2-040505

| COMPOUND            | SPIKE<br>ADDED<br>UG/L | SAMPLE<br>CONCENTRATION<br>UG/L | MS<br>CONCENTRATION<br>UG/L | MS<br>%<br>REC # | QC<br>LIMITS<br>REC. | + |
|---------------------|------------------------|---------------------------------|-----------------------------|------------------|----------------------|---|
| gamma-BHC (Lindane) | 0.462                  | 0                               | 0.448                       | 97               | 56 - 123             |   |

| COMPOUND            | SPIKE<br>ADDED<br>UG/L | MSD<br>CONCENTRATION<br>UG/L | MSD<br>%<br>REC # | %<br>RPD # | QC<br>RPD | C LIMITS<br>REC. |  |
|---------------------|------------------------|------------------------------|-------------------|------------|-----------|------------------|--|
| gamma-BHC (Lindane) | 0.462                  | 0.465                        | 101               | 4          | 15        | 56 - 123         |  |

# Column to be used to flag recovery and RPD values with an asterisk

\* Values outside of QC limits

RPD: \_\_\_\_0 out of \_\_\_\_1 outside limits Spike recovery: \_\_\_\_0 out of \_\_\_\_2 outside limits

Comments:

#### OLIN CORPORATION OLIN CORPORATION - CHARLES GIBSON SITE ASP 2000- METHOD 8081 EHC'S WATER MATRIX SPIKE BLANK RECOVERY

Lab Name: <u>STL Buffalo</u>

Contract: \_\_\_\_\_ Lab Samp ID: <u>A5B0467602</u>

26/278

Lab Code: <u>RECNY</u> Case No.: \_\_\_\_\_ SAS No.: \_\_\_\_\_ SDG No.: \_\_\_\_\_

Matrix Spike - Client Sample No.: Method Blank

| COMPOUND            | SPIKE<br>ADDED<br>UG/L | MSB<br>CONCENTRATION<br>UG/L | MSB<br>%<br>REC # | QC<br>LIMITS<br>REC. | + |
|---------------------|------------------------|------------------------------|-------------------|----------------------|---|
| gamma-BHC (Lindane) | 0.500                  | 0.483                        | 97                | 56 - 123             |   |

# Column to be used to flag recovery and RPD values with an asterisk

\* Values outside of QC limits

Spike recovery: <u>0</u> out of <u>1</u> outside limits

Comments:

-

#### OLIN CORPORATION OLIN CORPORATION - CHARLES GIBSON SITE ASP 2000/8270 - HEXACHLOROBENZENE ONLY METHOD BLANK SUMMARY

Client No.

|                          |          |                         | SBLK              |
|--------------------------|----------|-------------------------|-------------------|
| Lab Name: STL Builar     |          | itract:                 | <u></u>           |
| Lab Code: <u>RECNY</u> C | ase No.: | SAS No.:                | SDG No.:          |
| Lab File ID: <u>V</u>    | 08876.RR | Lab Sample ID: <u>A</u> | <u>15B0493202</u> |
| Instrument ID:           | HP5973V  | Date Extracted:         | <u>04/11/2005</u> |
| Matrix: (soil/water)     | WATER    | Date Analyzed:          | 04/14/2005        |
| Level: (low/med)         | LOW      | Time Analyzed:          | 12:34             |

THIS METHOD BLANK APPLIES TO THE FOLLOWING SAMPLES, MS AND MSD:

|   | CLIENT             | LAB        | LAB       | DATE       |
|---|--------------------|------------|-----------|------------|
|   | SAMPLE NO.         | SAMPLE ID  | FILE ID   | ANALYZED   |
| 1 | FIELD BLANK-040505 | A5310008   | V08878.RR | 04/14/2005 |
| 2 | Matrix Spike Blank | A5B0493201 | V08875.RR | 04/14/2005 |
| 3 | MHB-040505         | A5310001   | V08877.RR | 04/14/2005 |

\_\_\_\_

Comments:

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Client No.

#### OLIN CORPORATION OLIN CORPORATION - CHARLES GIBSON SITE ASP 2000/8270 - HEXACHLOROBENZENE ONLY ANALYSIS DATA SHEET

|   | SBLK  |
|---|---|
| Ab Name:   STL Buffalo   Contract:            |   |
| ab Code: <u>RECINY</u> Case No.: SAS No.:     | SDG No.:  |
| atrix: (soil/water) <u>WATER</u>              | Lab Sample ID: <u>A5B0493202</u>                      |
| Sample wt/vol: <u>1000.0</u> (g/mL) <u>ML</u> | Lab File ID: <u>V08876.RR</u>                         |
| evel: (low/med) LOW                           | Date Samp/Recv:                                       |
| Moisture: decanted: (Y/N) $\underline{N}$     | Date Extracted: <u>04/11/2005</u>                     |
| bncentrated Extract Volume: 1000 (uL)         | Date Analyzed: <u>04/14/2005</u>                      |
| njection Volume: 2.00(uL)                     | Dilution Factor:1.00                                  |
| ₽C Cleanup: (Y/N) <u>N</u> pH: <u>5.0</u>     |   |
| Cas no. compound                              | CONCENTRATION UNITS:<br>(ug/L or ug/Kg) <u>UG/L</u> Q |

118-74-1----Hexachlorobenzene

#### OLIN CORPORATION OLIN CORPORATION - CHARLES GIBSON SITE ASP 2000- METHOD 8081 BHC'S METHOD BLANK SUMMARY

Client No.

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| Lab Name: <u>STL Buffalo</u> Con     | Method Blank                      |
|--------------------------------------|-----------------------------------|
| Lab Code: <u>RECNY</u> Case No.:     | SAS No.: SDG No.:                 |
| Lab Sample ID: <u>A5B0467602</u>     | Lab File ID: <u>18A52135.TX0</u>  |
| Matrix: (soil/water) <u>WATER</u>    | Extraction: <u>SEPF</u>           |
| Sulfur Cleanup: (Y/N): <u>N</u>      | Date Extracted: <u>04/07/2005</u> |
| Date Analyzed (1): <u>04/13/2005</u> | Date Analyzed (2):                |
| Time Analyzed (1): <u>19:27</u>      | Time Analyzed (2):                |
| Instrument ID (1): <u>HP5890-18</u>  | Instrument ID (2):                |
| GC Column (1): <u>RTXCLPI</u> Dia:(  | nm) GC Column (2): Dia:(mm)       |

THIS METHOD BLANK APPLIES TO THE FOLLOWING SAMPLES, MS AND MSD:

|                | CLIENT                                  | LAB        | DATE         | DATE        |
|----------------|---|------------|--------------|-------------|
|                | SAMPLE NO.                              | SAMPLE ID  | ANALYZED 1   | ANALYZED 2  |
|                | ======================================= |            | ============ | =========== |
| 1              | FIELD BLANK-040505                      | A5310008   | 04/13/2005   |             |
| 2              | Matrix Spike Blank                      | A5B0467601 | 04/13/2005   |             |
| 3              | MHB-040505                              | A5310001   | 04/13/2005   |             |
| 4 <sup>.</sup> | MW-1R-040505                            | A5310002   | 04/13/2005   |             |
| 5              | MW-2-040505                             | A5310003   | 04/13/2005   |             |
| 6              | MW-2-040505                             | A5310003MS | 04/13/2005   |             |
| 7              | MW-2-040505                             | A5310003SD | 04/13/2005   |             |
| 8              | MW-4-040505                             | A5310004   | 04/13/2005   |             |
| 9              | MW-5-040505                             | A5310005   | 04/13/2005   |             |
| 10             | MW-7-040505                             | A5310006   | 04/13/2005   |             |
| 11             | MWA-3-040505                            | A5310007   | 04/13/2005   |             |
|                |   |            |              |             |

Comments:

Client No.

#### OLIN CORPORATION OLIN CORPORATION - CHARLES GIBSON SITE ASP 2000- METHOD 8081 BHC'S ANALYSIS DATA SHEET

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|  | ······································ |  |  |  |
|--|--|--|--|--|
|  | Method Blank                           |  |  |  |
| Lab Name:   STL Buffalo   Contract:            | []                                     |  |  |  |
| Lab Code: <u>RECNY</u> Case No.: SAS No.:      | SDG No.:                               |  |  |  |
| Matrix: (soil/water) WATER                     | Lab Sample ID: <u>A5B0467602</u>       |  |  |  |
| Sample wt/vol: <u>1000.00</u> (g/mL) <u>ML</u> | Lab File ID: <u>18A52135.TX0</u>       |  |  |  |
| * Moisture: decanted: (Y/N) N Date Samp/Recv:  |  |  |  |  |
| Extraction: (SepF/Cont/Sonc/Soxh): <u>SEPF</u> | Date Extracted: <u>04/07/2005</u>      |  |  |  |
| Concentrated Extract Volume: <u>10000</u> (uL) | Date Analyzed: <u>04/13/2005</u>       |  |  |  |
| Injection Volume: <u>1.00</u> (uL)             | Dilution Factor: <u>1.00</u>           |  |  |  |
| GPC Cleanup: (Y/N) <u>N</u> pH: <u>5.00</u>    | Sulfur Cleanup: (Y/N) N                |  |  |  |
| CONCENT  | RATION UNITS:                          |  |  |  |
| CAS NO. COMPOUND (ug/L                         | orug/Kg) <u>UG/L</u> Q                 |  |  |  |
| 319-84-6alpha-BHC                              | 0.050 U                                |  |  |  |
| 319-85-7beta-BHC                               | 0.050 U                                |  |  |  |
| 319-86-8delta-BHC                              | 0.050 U                                |  |  |  |
| 58-89-9garma-BHC (Lindane)                     | 0.050 U                                |  |  |  |

.

# OLIN CORPORATION OLIN CORPORATION - CHARLES GIBSON SITE ASP 2000/8270 - HEXACHLOROBENZENE ONLY SEMIVOLATILE INTERNAL STANDARD AREA AND RT SUMMARY

| Lab Name: <u>STL Buffalo</u>  |           | Contract: Labsampid: | A5C0003231   |
|-------------------------------|-----------|----------------------|--------------|
| Lab Code: <u>RECNY</u>        | Case No.: | SAS No.: SDG N       | 0.:          |
| Lab File ID (Standard):       | V08868.RR | Date Analyzed:       | 04/14/2005   |
| Instrument ID: <u>HP5973V</u> |           | Time Analyzed:       | <u>08:52</u> |

|                  |  |  | IS1 (ANT)<br>AREA #                  | RT #                                      | ISZ (CRY)<br>AREA #                  | RT #                                      | IS3 (DCB)<br>AREA #                  | RT #                         |
|------------------|--|--|--------------------------------------|---|--------------------------------------|---|--------------------------------------|------------------------------|
|                  | 12 HOUR STD<br>UPPER LINIT<br>LOWER LIMIT                      | -  | 374181<br>748362<br>187091           | 11.06<br>11.56<br>10.56                   | 565800<br>1131600<br>282900          | 15.73<br>16.23<br>15.23                   | 210437<br>420874<br>105219           | 6.61<br>7.11<br>6.11         |
|                  | CLIENT SAMPLE  | Lab Sample ID                                    |                                      | ======                                    |                                      | =======                                   |                                      |                              |
| 1<br>2<br>3<br>4 | FIELD BLANK-040505<br>Matrix Spike Blank<br>MHB-040505<br>SBLK | A5310008<br>A5B0493201<br>A5310001<br>A5B0493202 | 380451<br>389066<br>363454<br>371347 | 11.06<br>11.06<br>11.06<br>11.06<br>11.06 | 564923<br>616254<br>583648<br>582121 | 15.73<br>15.73<br>15.73<br>15.73<br>15.73 | 204269<br>208917<br>199669<br>197810 | 6.61<br>6.61<br>6.62<br>6.62 |
|                  | <u> </u>   | ·  |                                      | AF<br>QC                                  | REA UNIT                             |   | ITS                                  |                              |

IS1 (ANT) = Acenaphthene-D10 IS2 (CRY) = Chrysene-D12 IS3 (DCB) = 1,4-Dichlorobenzene-D4

| QC LIMITS | QC LIMITS         |
|-----------|-------------------|
| ( 50-200) | -0.50 / +0.50 min |
| ( 50-200) | -0.50 / +0.50 min |
| ( 50-200) | -0.50 / +0.50 min |

# Column to be used to flag recovery values
\* Values outside of contract required QC limits

#### OLIN CORPORATION OLIN CORPORATION - CHARLES GIBSON SITE ASP 2000/8270 - HEXACHLOROBENZENE ONLY SEMIVOLATILE INTERNAL STANDARD AREA AND RT SUMMARY

|                  |  |  | IS4 (NPT)<br>AREA #                  | RT #                                 | IS5(PHN)<br>AREA #                   | RT #                                      | ISG (PRY)<br>AREA #                  | RT #                                      |
|------------------|--|--|--------------------------------------|--------------------------------------|--------------------------------------|---|--------------------------------------|---|
|                  | 12 HOUR STD<br>UPPER LINIT<br>LOWER LINIT                      |  | 747410<br>1494820<br>373705          | 8.47<br>8.97<br>7.97                 | 609614<br>1219228<br>304807          | 13.09<br>13.59<br>12.59                   | 621747<br>1243494<br>310874          | 16.98<br>17.48<br>16.48                   |
|                  | CLIENT SAMPLE  | Lab Sample ID                                    | ************                         | *******                              |                                      |   | ***********                          |   |
| 1<br>2<br>3<br>4 | FIELD BLANK-040505<br>Matrix Spike Blank<br>MHB-040505<br>SBLK | A5310008<br>A580493201<br>A5310001<br>A580493202 | 735151<br>754794<br>711207<br>703262 | 8.47<br>8.47<br>8.47<br>8.47<br>8.47 | 599871<br>630016<br>584688<br>594310 | 13.09<br>13.09<br>13.09<br>13.09<br>13.09 | 675572<br>720999<br>687837<br>683117 | 16.98<br>16.98<br>16.98<br>16.98<br>16.98 |

IS4 (NPT) = Naphthalene-D8 IS5 (PHN) = Phenanthrene-D10

IS6 (PRY) = Perylene-D12

| AREA UNIT<br>QC LIMITS | 00      | RT<br>LIMITS |
|------------------------|---------|--------------|
| ( 50-200)              | -0.50 / | +0.50 min    |
| ( 50-200)              | -0.50 / | +0.50 min    |
| ( 50-200)              | -0.50 / | +0.50 min    |

# Column to be used to flag recovery values
\* Values outside of another in the second se

Values outside of contract required QC limits

Batch Quality Control Data

5 A.C. 31 5 7 3

#### Date: 04/22/2005 10:28:27 Batch No: A5B04932

MS/MSD Batch QC Results

Rept: AN1392

Lab Sample ID: A5324203 A5324203MS

|  |                     | Concentration |              |                 |              |               | % Recovery |          |          |          |              |                  |
|--|---------------------|---------------|--------------|-----------------|--------------|---------------|------------|----------|----------|----------|--------------|------------------|
| Analyte  | Units of<br>Measure | Sample        | Matrix Spike | Spike Duplicate | Spike<br>MS  | Amount<br>MSD | MS         | MSD      | Avg      | %<br>RPD | QC LI<br>RPD | MITS<br>REC.     |
| EARTH - ASPOO 8270 PAH'S - W<br>Acenaphthene<br>Pyrene | UG/L<br>UG/L        | 0<br>0        | 43.0<br>46.3 | 43.5<br>47.8    | 50.0<br>50.0 | 50.0<br>50.0  | 86<br>93   | 87<br>96 | 87<br>95 | 1<br>3   | 31.0<br>31.0 | 46-118<br>26-127 |

A5324203SD

\* Indicates Result is outside QC Limits NC = Not Calculated ND = Not Detected 34/278

# SAMPLE DATA PACKAGE

## **SDG NARRATIVE**

#### SAMPLE SUMMARY

|   |              |                    |        | SAMPI       | LED   | RECEIVE    | ED          |
|---|--------------|--------------------|--------|-------------|-------|------------|-------------|
| Ŀ | AB SAMPLE ID | CLIENT SAMPLE ID   | MATRIX | DATE        | TIME  | DATE       | <u>TIME</u> |
|   | A5310008     | FIELD BLANK-040505 | WATER  | 04/05/2005  | 09:40 | 04/05/2005 | 16:40       |
|   | A5310001     | MHB-040505         | LEACH  | 04/05/2005  | 10:00 | 04/05/2005 | 16:40       |
|   | A5310002     | MW-1R-040505       | GW     | 04/05/2005  | 11:50 | 04/05/2005 | 16:40       |
|   | A5310003     | MW-2-040505        | GW     | 04/05/2005  | 11:05 | 04/05/2005 | 16:40       |
|   | A5310003MS   | MW-2-040505        | GW     | 04/05/2005  | 11:05 | 04/05/2005 | 16:40       |
|   | A5310003SD   | MW-2-040505        | GW     | 04/05/2005  | 11:05 | 04/05/2005 | 16:40       |
|   | A5310004     | MW-4-040505        | GW     | 04/05/2005  | 13:05 | 04/05/2005 | 16:40       |
|   | A5310005     | MW-5-040505        | GW     | 04/05/2005  | 12:50 | 04/05/2005 | 16:40       |
|   | A5310006     | MW-7-040505        | GW     | 04/05/2005  | 16:30 | 04/05/2005 | 16:40       |
|   | A5310007     | MWA-3-040505       | GW     | .04/05/2005 | 13:55 | 04/05/2005 | 16:40       |
|   |              |                    |        |             |       |            |             |

#### METHODS SUMMARY

#### Job#: <u>A05-3100</u>

STL Project#: <u>NY3A9025</u> Site Name: <u>Olin Corporation - Charles Gibson site</u>

| PARAMETER                              | ANALYTICAL<br>METHOD |
|--|----------------------|
| ASP 2000/8270 - HEXACHLOROBENZENE ONLY | ASP00 8270           |
| ASP 2000- METHOD 8081 BHC'S            | ASP00 8081           |

ASP00

"Analytical Services Protocol", New York State Department of Conservation, June 2000.

#### NON-CONFORMANCE SUMMARY

#### Job#: A05-3100

#### STL Project#: <u>NY3A9025</u> Site Name: <u>Olin Corporation - Charles Gibson site</u>

#### General Comments

The enclosed data have been reported utilizing data qualifiers (Q) as defined on the Data Comment Page.

Soil, sediment and sludge sample results are reported on "dry weight" basis unless otherwise noted in this data package.

According to 40CFR Part 136.3, pH, Chlorine Residual, Dissolved Oxygen, Sulfite, and Temperature analyses are to be performed immediately after aqueous sample collection. When these parameters are not indicated as field (e.g. pH-Field), they were not analyzed immediately, but as soon as possible after laboratory receipt.

Sample dilutions were performed as indicated on the attached Dilution Log. The rationale for dilution is specified by the 3-digit code and definition.

Sample Receipt Comments

#### A05-3100

Sample Cooler(s) were received at the following temperature(s); 2@4.0 °C All samples were received in good condition.

#### GC/MS Semivolatile Data

Samples MHB-040505 and FIELD BLANK-040505, 8270 waters, were extracted outside of the ASP 2000 required holding time.

The requested target analyte list does not include any spiking compounds routinely analyzed. Spike recovery data has not been included in the report.

#### GC Extractable Data

No deviations from protocol were encountered during the analytical procedures.

#### \*\*\*\*\*\*

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

"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 and in the computer-readable data submitted on floppy diskette has been authorized by the Laboratory Manager or his designee, as verified by the following signature."

Brian J. Fischer Project Manager

4-26-05

Date

#### APPENDIX B

#### FIELD LOGS

#### SEMI-ANNUAL GROUND WATER SAMPLING AND ANNUAL LEACHATE SAMPLING AT MANHOLE B

April 2005

#### CHARLES GIBSON SITE

#### (PINE AND TUSCARORA SITE)

#### NIAGARA FALLS, NEW YORK

NYSDEC Registry No. 9-32-063

#### CHARLES GIBSON SITE NIAGARA FALLS, NEW YORK NYSDEC REGISTRY NO. 9-32-063 GROUNDWATER SAMPLING FIELD PARAMETERS FIELD INSTRUMENTATION CALIBRATION FORM

| DATE: 4/5/2005     | SEMI-ANNUAL SAMPLING EVENT: Spring Semi-Annual Sampling 2005   |
|--------------------|--|
| PERSON CALIBRATIN  | NG METERS: M. Walker   |
| pH METER USED: N   | MANUFACTURER: Corning<br>MODEL: pH -20<br>IDENTIFICATION/CONTROL NUMBER: E-864   |
| METER CAI          | CALIBRATION STANDARDS USED:<br>STANDARD 7.00 METER READ:   |
| SPECIFIC CONDUCTIN | VITY METER USED:         MANUFACTURER:       Oakton         MODEL:       Hand Held         IDENTIFICATION/CONTROL NUMBER:       E-864  |
| METER CAL          | STANDARD 0 READ:AIR,WATER) (STANDARD447READ:451 STANDARDREAD:  |
| THERMOMETER USED   | D: TYPE: Digital<br>MANUFACTURER: Fischer-Scientific<br>IDENTIFICATION/CONTROL NUMBER: E-864<br>COMMENTS: (DOES THERMOMETER TEMPERATURE AGREE WITH<br>SPECIFIC CONDUCTIVITY METER TEMPERATURE ?) Y<br>OTHER: |
| OTHER INSTRUMENTS  | S USED: TYPE:<br>MANUFACTURER:<br>IDENTIFICATION/CONTROL NUMBER:<br>CALIBRATIONS PERFORMED:  |
| _                  |  |



| RECORDED BY:   | И. Walker                 |                                  | SAMPLE       | ID:                     | MHB-0405              | 505                            |
|--|---------------------------|----------------------------------|--------------|-------------------------|-----------------------|--------------------------------|
| SAMPLED BY: C  | C. Jones                  | _                                | SAMPLIN      | G EVENT/C               | ATE:                  | 4/5/2005                       |
| COMPANY: S   | Sevenson                  | _                                | MONITOF      | RING WELL               | : Manhole E           | 3                              |
|  |                           |                                  | CONDITIO     | ON:                     | Good                  | <u> </u>                       |
| GROUNDWATER PUR  | GE DATA                   | PURGE D                          | ATE: 4/5/0   | 5                       |                       |                                |
| DEPTH TO BOTTOM F  | ROM TOP OF RISE           | R:                               | xxxx         | (FT.)                   | NOTE: AL              | L GIBSON SHE<br>RING WELLS ARE |
| DEPTH TO WATER FR  | OM TOP OF RISER:          |                                  | XXXX         | _(FT.)                  | 2-INCH DI             | AMETER STAIN-                  |
| v  | VATER COLUMN:             |                                  | XXXX         | (FT.)                   | LESS STE              | EL. WELL DEPTHS:               |
| 2  | " DIA. WELL CONST         | Г <u>АNT:</u>                    | XXXX         | <u> </u>                | MW-1R                 | 12.10'                         |
| C<br>PURGE METHOD: X   |                           | =                                | XXXX         | (GALS)                  | MW-2<br>MW-A3<br>MW-4 | 12.13'<br>11.95'<br>13.75'     |
| BOTTOM OF WELL/SIL<br>PURGE START TIME:<br>PURGE OBSERVATION | .T BUILDUP:<br>XXX<br>NS: | STOP TIM                         | IXXXX        |                         | MVV-5                 | 15.28'                         |
| FIELD PARAMETER MI   | EASUREMENTS:              |                                  |              |                         |                       |                                |
| WELL<br>VOLUMEP  | н                         | SPECIFIC<br>CONDUCT<br>umhos/cm) | rivity<br>)  | TEMP.<br>(C OR F)       | _                     | NOTES:                         |
| 1  | 7.94                      | 563                              | -<br>        | 46 F                    |                       |                                |
| 2  |                           |                                  |              |                         |                       | ····-                          |
| 3  |                           |                                  |              |                         |                       | ,                              |
| 4  |                           | <u> </u>                         |              |                         | <u> </u>              |                                |
| 5  |                           |                                  | <u></u>      |                         | <u></u>               |                                |
| TOTAL VOLUME PURG  | ED: GRAB SAM              | MPLE                             |              |                         |                       |                                |
| GROUNDWATER OR S   | EDIMENT SAMPLIN           | IG DATA:                         |              | SAMPLE                  | DATE:                 | 4/5/2005                       |
| MEDIA: GROUNDW/<br>CREEK SED                                 | ATER <u>X</u>             | -                                |              | SAMPLE                  | IME:                  | 1000                           |
| LOCATION: N  | Ianhole "B"               |                                  |              |                         |                       |                                |
| SAMPLE METHOD: G   | arab sample using a p     | parastaltic p                    | ump with d   | edicated tub            | bing                  |                                |
| SAMPLING OBSERVAT  | IONS: <u>Clear, No</u>    | odor.                            |              |                         |                       |                                |
| QC SAMPLES TAKEN:  | No                        |                                  |              |                         |                       |                                |
| OTHER OBSERVATION  | IS/COMMENTS:              | 4 - 1 liter (                    | glass jars f | illed.                  |                       |                                |
| Note: specific conductivi                                    | ty formula to 25 degr     | ees Celcius                      | :_SC(25)=    | SC measu<br>{{T-25)(0.0 | red<br>2)}+1          |                                |
| CRA \$143 (1) AppD-GwedForm                                  |                           |                                  |              |                         |                       |                                |

| RECORDED BY:               | M. Walker                 |                | SAMPLE       | ID:             | MW-1R-0      | 40505          |
|----------------------------|---------------------------|----------------|--------------|-----------------|--------------|----------------|
| SAMPLED BY:                | C. Jones                  | -              | SAMPLIN      | G EVENT/D       | ATE:         | 4/5/2005       |
| COMPANY:                   | Sevenson                  | -              | MONITOR      |                 | <u>MW-1R</u> |                |
|                            | ····                      | <u></u>        | CONDITIC     | DN:             | good         |                |
| GROUNDWATER PU             | IRGE DATA                 | PURGE D        | ATE: 4/5/05  | 5               | NOTE         |                |
|                            |                           | 5.             | 12 1         | (FT )           | NOTE: AL     | L GIBSON SHE   |
|                            |                           | ۸.             | 2.1          |                 |              |                |
| DEPTH TO WATER I           | -RUM TOP OF RISER:        |                | 2.95         | _(F1.)<br>_(FT) |              |                |
|                            |                           | ~^NIT.         | 9.15         | (FI.)           | LESS STE     |                |
|                            | 2 DIA. WELL CONST         | ANT.           | 0.10         |                 |              | 12.10          |
|                            | ONE WELL VOLUME           | = ·            | 1.40         | (GALS)          | MW-A3        | 11.95'         |
| PURGE METHOD:              | Low flow using Parast     | altic pump a   | and dedicat  | ed tubing. A    | MW-4         | 13.75'         |
| BOTTOM OF WELL             |                           | NO<br>STOP TIM | 1135         |                 | MVV-5        | 15.28'         |
| PURGE OBSERVATI            |                           |                | 1100         |                 |              |                |
|                            |                           |                |              |                 |              |                |
| FIELD PARAMETER            | WEASUREMEN IS:            |                |              |                 |              |                |
| WELL                       |                           | CONDUCT        |              | TEMP.           |              |                |
| VOLUME                     | pH                        | umhos/cm)      | 2            | (C OR F)        | _            | NOTES:         |
| 1                          | 8.18                      | 906            |              | 7.1             |              | Clear          |
| 2                          | 7.99                      | 934            |              | 7.1             |              | Clear          |
| 3                          | 7.96                      | 898            |              | 7.3             |              | Clear          |
| 4                          |                           |                |              |                 |              |                |
| 5                          |                           | · · · · ·      |              |                 |              |                |
| TOTAL VOLUME PUI           | RGED: 4.38                |                |              |                 |              |                |
| GROUNDWATER OF             | R SEDIMENT SAMPLIN        | IG DATA:       |              | SAMPLE D        | DATE:        | 4/5/2005       |
| MEDIA: GROUND'<br>CREEK SI | WATER <u>X</u>            |                |              | SAMPLE 7        | IME:         | 1150           |
|                            | MW-1R                     |                |              |                 |              | <u></u>        |
| SAMPLE METHOD:             | Low flow using Parasta    | altic pump a   | ind dedicate | ed tubing. A    | fter purging | 3 volumes.     |
| SAMPLING OBSERV            | ATIONS: Sample vo         | lume ran dr    | y after 3 bo | ttles, we wa    | ited 15 min  | . for recharge |
| QC SAMPLES TAKEN           | N: yes, blind c           | luplicate "M   | W-7"         |                 |              |                |
| OTHER OBSERVATIO           | ONS/COMMENTS:             | MW-7 was       | used as a    | "blind duplic   | ate" taken   | at this time   |
| and labeled 1630 for       | time of sample. 4 1 lite  | r amber jars   | s filled.    | SC measu        | red          |                |
| Note: specific conduct     | ivity formula to 25 degre | ees Celcius    | SC(25)=      | {{T-25)(0.0     | 2)}+1        | -              |

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|  |  |   |                        |                                   |              | an and a first state of the state |  |
|--|--|---|------------------------|-----------------------------------|--------------|---|--|
| RECORDED BY:   | M. Walker  | _ s   | SAMPLE                 | ID:                               | MW-2-040     | 0505  |  |
| SAMPLED BY:  | C. Jones   | _ s   |                        | G EVENT/D                         | ATE:         | 4/5/2005  |  |
| COMPANY:   | Sevenson   | N   | IONITOF                | ORING WELL: <u>MW-2</u>           |              |   |  |
|  |  | C   | ONDITIC                | ON:                               | good         |   |  |
| GROUNDWATER PUR  |  | PURGE DAT   | ΓE: 4/5/05             | 5                                 |              |   |  |
|  |  |   |                        |                                   | NOTE: AL     | L GIBSON SITE   |  |
| DEPTH TO BOTTOM F  | ROM TOP OF RISE  | R:  | 12.13                  | (FT.)                             | MONITOF      | RING WELLS ARE  |  |
| DEPTH TO WATER FF  | ROM TOP OF RISER   |   | 3.51                   | _(FT.)                            | 2-INCH D     | IAMETER STAIN-  |  |
| ١  | WATER COLUMN:  |   | 8.62                   | (FT.)                             | LESS ST      | EEL. WELL DEPTHS:   |  |
| :  | 2" DIA. WELL CONS <sup>-</sup>                                 | TANT:   | 0.16                   | _                                 | MW-1R        | 12.10'  |  |
| . (  | ONE WELL VOLUME  | =   | 1.38                   | (GALS)                            | MW-2         | 12.13'  |  |
|  |  |   |                        |                                   | MW-A3        | 11.95'  |  |
| PURGE METHOD:  | Low flow using Parast  | taltic pump and                                     | d dedicat              | ed tubing. A                      | MW-4         | 13.75'  |  |
| PURGE START TIME:  | 1038   | STOP TIM  | 1100                   |                                   | 1010 0*0     | 10.20   |  |
| PURGE OBSERVATIO   | NS: Clear wate   | er  | -                      |                                   |              |   |  |
|  |  |   |                        |                                   |              |   |  |
| FIELD PARAMETER M  | EAOUREINIEN 15   |   |                        | •                                 |              |   |  |
| WELL   |  |   | ΛITY                   | TEMP.                             |              |   |  |
| VOLUME F   | pH   | umhos/cm)   |                        | (C OR F)                          | _            | NOTES:  |  |
| 1  | 7.63   | 1639  |                        | 7.4                               |              |   |  |
| 2  | 7.62   | 1443  |                        | 7.3                               |              |   |  |
| 3  | 7.6  | 1463  |                        | 7.3                               |              |   |  |
| 4  | <u></u>  |   |                        |                                   |              |   |  |
| 5  |  |   | <u> </u>               |                                   |              | ····  |  |
| TOTAL VOLUME PURC  | GED: 4.2 gallons   | 5   |                        |                                   |              |   |  |
| GROUNDWATER OR S   |  | NG DATA:  |                        | SAMPLE [                          | DATE:        | 4/5/2005  |  |
|  |  |   |                        |                                   |              | 1105  |  |
| CREEK SEI  |  | -   |                        | JAWFLE                            |              |   |  |
|  |  | -   |                        |                                   |              |   |  |
| LOCATION:  | viw-2  |   |                        |                                   |              |   |  |
|  | ow flow using Parast   | altic pump and                                      | d dedicat              | ed tubing. A                      | fter purging | g 3 volumes.  |  |
| SAMPLE METHOD: <u>I</u>  |  |   |                        |                                   |              |   |  |
| SAMPLE METHOD: <u>I</u><br>SAMPLING OBSERVA <sup>-</sup>   | TIONS: <u>Clear, No</u>  | o odor.   |                        |                                   |              |   |  |
| SAMPLE METHOD: <u> </u>  | TIONS: <u>Clear, No</u><br>MS & MSI                            | o odor.<br>O samples take                           | en along               | with normal                       | samples ta   | aken  |  |
| SAMPLE METHOD: <u>I</u><br>SAMPLING OBSERVA <sup>*</sup><br>QC SAMPLES TAKEN <u>:</u><br>OTHER OBSERVATION | TIONS: <u>Clear, No</u><br><u>MS &amp; MSE</u><br>NS/COMMENTS: | o odor.<br>D samples take<br><u>6 - 1 liter gla</u> | en along<br>ass jars f | with normal                       | samples ta   | aken  |  |
| SAMPLE METHOD: <u>I</u><br>SAMPLING OBSERVA<br>QC SAMPLES TAKEN <u>:</u><br>OTHER OBSERVATIO               | TIONS: <u>Clear, No</u><br><u>MS &amp; MSE</u><br>NS/COMMENTS: | o odor.<br>O samples take<br>6 - 1 liter gla        | en along<br>ass jars f | with normal<br>illed.<br>SC measu | samples ta   | aken  |  |

| RECORDED BY:              | M. Walker                |               | SAMPLE       | ID:                       | MW-4-04        | 0505              |
|---------------------------|--------------------------|---------------|--------------|---------------------------|----------------|-------------------|
| SAMPLED BY:               | C. Jones                 | _             | SAMPLIN      | IG EVENT/                 | DATE:          | 4/5/2005          |
| COMPANY:                  | Sevenson                 |               | MONITO       | RING WELL                 | .: <u>MW-4</u> |                   |
|                           |                          |               | CONDITI      | ON:                       | good           |                   |
| GROUNDWATER PL            | JRGE DATA                | PURGE D       | ATE: 4/5/0   | 5                         |                |                   |
|                           |                          |               |              |                           | NOTE: AI       | LL GIBSON SITE    |
| DEPTH TO BOTTOM           | I FROM TOP OF RISE       | R:            | 13.75        | (FT.)                     | MONITO         | RING WELLS ARE    |
| DEPTH TO WATER            | FROM TOP OF RISER        | :             | 6.1          | _(FT.)                    | 2-INCH D       | DIAMETER STAIN-   |
|                           | WATER COLUMN:            |               | 7.65         | (FT.)                     | LESS ST        | EEL. WELL DEPTHS: |
|                           | 2" DIA. WELL CONST       | Γ <u>ΑΝΤ:</u> | 0.16         | _                         | MW-1R          | 12.10'            |
|                           | ONE WELL VOLUME          | :<br>=        | 1.22         | (GALS)                    | MW-2<br>MW-A3  | 12.13'<br>11.95'  |
|                           | Low flow using Parast    | altic pump a  | ind dedicat  | ed tubing. A              | MW-4           | 13.75'            |
| PURGE START TIME          | E: 1255<br>ONS:          | STOP TIM      | 1305         |                           | 10100-5        | 15.28             |
| FIELD PARAMETER           | MEASUREMENTS:            |               |              |                           |                |                   |
|                           |                          | SPECIFIC      | -11 /1-7-1 / |                           |                |                   |
|                           | лH                       | CONDUCI       |              | IEMP.                     |                | NOTES             |
| 1                         | 7.83                     | 1358          |              | 7 1                       | -<br>Bl        | ack/Grev Water    |
| 2                         | 7 7                      | 1433          |              | 6.6                       |                |                   |
| 3                         | 77                       | 1764          |              | 7.2                       |                | Clearing          |
| 4                         |                          |               | <u> </u>     |                           |                |                   |
| 5                         |                          |               |              |                           |                | <u> </u>          |
| TOTAL VOLUME PUP          | RGED: 3.6 gallons        | · .           |              |                           |                |                   |
| GROUNDWATER OR            | SEDIMENT SAMPLIN         | G DATA:       |              | SAMPLE C                  | DATE:          | 4/5/2005          |
| MEDIA: GROUND<br>CREEK SE | WATER <u>X</u>           |               |              | SAMPLE T                  | <u>IME:</u>    | 1305              |
|                           | MW-4 near Auto Zone      |               |              |                           |                |                   |
| SAMPLE METHOD:            | Low flow using Parasta   | altic pump ar | nd dedicate  | ed tubing. A              | fter purging   | 3 volumes.        |
| SAMPLING OBSERV           | ATIONS: Clear durin      | g Sampling    |              |                           |                |                   |
| QC SAMPLES TAKEN          | I: No                    |               |              |                           |                |                   |
| OTHER OBSERVATIO          | DNS/COMMENTS:            | 2, 1 liter ar | nber jars fi | lled.                     |                |                   |
| Note: specific conducti   | vity formula to 25 degre | es Celcius:   | SC(25)=      | SC measur<br>{{T-25)(0.0) | ed<br>2)}+1    | -                 |

CRA 8143 (1) AppD-GwsdForm



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| RECORDED BY: M. Walker SAMPLE ID: MVV-5-040305<br>SAMPLED BY: C. Jones SAMPLING EVENT/DATE: 4/5/2005<br>COMPANY: Sevenson MONTORING WELL: MVV-5<br>CONDITION: good<br>GROUNDWATER PURGE DATA PURGE DATE: 4/5/05<br>NOTE: ALL GIBSON SIT<br>DEPTH TO BOTTOM FROM TOP OF RISER: 15.28 (FT.) MONITORING WELLS A<br>DEPTH TO WATER FROM TOP OF RISER: 6.71 (FT.) 2-INCH DIAMETER STAI<br>WATER COLUMN: 8.67 (FT.) LESS STEEL. WELL DEF<br>2" DIA. WELL CONSTANT: 0.16 MWV-18 12.10"<br>ONE WELL VOLUME= 1.37 (GALS) MWV-2 12.13"<br>MWV-3 11.95"<br>PURGE METHOD: Low flow using Parastaltic pump and dedicated tubing. A/MWV-4 13.75"<br>BOTTOM OF WELL/SILT BUILDUF: No MWV-5 15.28"<br>PURGE OBSERVATIONS:<br>FIELD PARAMETER MEASUREMENTS:<br>FIELD PARAMETER MEASUREMENTS:<br>FIELD PARAMETER MEASUREMENTS:<br>SPECIFIC<br>2 6.92 1930 7.5 Clear<br>3 6.89 1941 7.6 Clear<br>4 5<br>TOTAL VOLUME PURGED: 4.11 gallons<br>GROUNDWATER OR SEDIMENT SAMPLING DATA: SAMPLE DATE: 4/5/2005<br>MEDIA: GROUNDWATER X<br>CREEK SEDIMENT SAMPLING DATA: SAMPLE DATE: 4/5/2005<br>MEDIA: GROUNDWATER X<br>CREEK SEDIMENT SAMPLING DATA: SAMPLE DATE: 4/5/2005<br>SAMPLE METHOD: Low flow using Parastaltic pump and dedicated tubing. After purging 3 volumes.<br>SAMPLE METHOD: Low flow using Parastaltic pump and dedicated tubing. After purging 3 volumes.<br>SAMPLES TAKEN. No<br>OTHER OBSERVATIONS: 2.1 liter amber jars filled.  |                                      |                                       |               |                |                         | MALE OF        |                  |       |
|--|--------------------------------------|---------------------------------------|---------------|----------------|-------------------------|----------------|------------------|-------|
| SAMPLED BY:       C. Jones       SAMPLING EVENT/DATE:       4/5/2005         COMPANY:       Sevenson       MONITORING WELL: MW-5       CONDITION:       good         GROUNDWATER PURGE DATA       PURGE DATE: 4/5/05       NOTE: ALL GIBSON SIT         DEPTH TO BOTTOM FROM TOP OF RISER:       15.28       (FT.)       MONITORING WELLS         DEPTH TO BOTTOM FROM TOP OF RISER:       6.71       (FT.)       2-INCH DIAMETER STAI         WATER COLUMN:       8.57       (FT.)       LESS STEEL.       WELL DEF         2' DIA. WELL CONSTANT:       0.16       MW-1R       12.10'         ONE WELL VOLUME=       1.37       (GALS)       MW-2       12.13'         PURGE METHOD:       Low flow using Parastaltic pump and dedicated tubing. A/IWW-4       13.75'         BOTTOM OF WELLS/LT BUILDUP:       No       MW-5       15.28'         PURGE OBSERVATIONS:       1215       STOP TIMI       1240         PURGE OBSERVATIONS:       1215       STOP TIMI       1240         PURGE DARAMETER MEASUREMENTS:       SPECIFIC       WELL       CONDUCTIVITY         VOLUME       PH       umhos/cm)       (C OR F)       NOTES:         1       6.85       1885       7.3       Light orange color         2       6.92<   | RECORDED BY:                         | M. Walker                             | -             | SAMPLE         | טו:<br>                 | 10100-5-040    | 000              |       |
| COMPANY:       Sevenson       MONITORING WELL:       MW-5<br>CONDITION:       good         GROUNDWATER PURGE DATA       PURGE DATE:       4/5/05       NOTE: ALL GIBSON SIT         DEPTH TO BOTTOM FROM TOP OF RISER:       15.28       (FT.)       MONITORING WELLS A         DEPTH TO WATER FROM TOP OF RISER:       6.71       (FT.)       2-INCH DIAMETER STAI         WATER COLUMN:       8.57       (FT.)       LESS STEEL. WELL DEI         2" DIA WELL CONSTANT:       0.16       MW-48       12.13'         MW-A3       11.95'       MW-43       13.75'         BOTTOM OF WELLYSILT BUILDUP:       No       MW-5       15.28'         PURGE DERVATIONS:       FIELD PARAMETER MEASUREMENTS:       SPECIFIC       CONDUCTIVITY       TEMP.         YOLUME       PH       umhos/cm)       (C OR F)       NOTES:         1       6.85       1886       7.3       Light orange color         2       6.92       1930       7.5       Clear         4   | SAMPLED <u>BY:</u>                   | C. Jones                              | -             | SAMPLIN        | G EVENT/D               | ATE:           | 4/5/2005         |       |
| CONDITION:         good           GROUNDWATER PURGE DATA         PURGE DATE: 4/5/05         NOTE: ALL GIBSON SIT           DEPTH TO BOTTOM FROM TOP OF RISER:         15.28 (FT.)         MONITORING WELLS A           DEPTH TO WATER FROM TOP OF RISER:         6.71 (FT.)         2-INCH DIAMETER STAI           WATER COLUMN:         8.57 (FT.)         LESS STEEL. WELL DEF           2" DIA. WELL CONSTANT:         0.16 MW-1R 12.10'           ONE WELL VOLUME=         1.37 (GALS)         MW-2 13.75'           BOTTOM OF WELL/SILT BUILDUP:         No         MW-3 11.95'           PURGE START TIME:         1215 STOP TIMI 1240         MW-5 15.28'           PURGE OBSERVATIONS:         FIELD PARAMETER MEASUREMENTS:         SPECIFIC           WELL         CONDUCTIVITY         TEMP.           VOLUME         PH         umhos/cm)         (C OR F)         NOTES:           1         6.85         1885         7.3         Light orange color           2         6.92         1930         7.5         Clear           4         5         CREAT         SAMPLE DATE:         4/5/2005           GROUNDWATER OR SEDIMENT SAMPLING DATA:         SAMPLE DATE:         4/5/2005           MEDIA:         GROUNDWATER X         SAMPLE DATE:         1250   | COMPANY:                             | Sevenson                              | _             | MONITOR        |                         | <u>MW-5</u>    |                  |       |
| GROUNDWATER PURGE DATA       PURGE DATE: 4/5/05       NOTE: ALL GIBSON SIT         DEPTH TO BOTTOM FROM TOP OF RISER:       15.28 (FT.)       MONITORING WELLS A         DEPTH TO WATER FROM TOP OF RISER:       6.71 (FT.)       2-INCH DIAMETER STAIL         WATER COLUMN:       8.57 (FT.)       LESS STEEL. WELL DEF         2" DIA. WELL CONSTANT:       0.16 MW-1R 12.10'       MW-1R 12.10'         ONE WELL VOLUME=       1.37 (GALS)       MW-2 12.13'         PURGE METHOD:       Low flow using Parastaltic pump and dedicated tubing. AIMW-4 13.75'         BOTTOM OF WELL/SILT BUILDUP:       No       MW-3 11.95'         PURGE DBSERVATIONS:       1215       STOP TIMI 1240         PURGE DBSERVATIONS:       5       SPECIFIC         FIELD PARAMETER MEASUREMENTS:       SPECIFIC       CONDUCTIVITY TEMP.         VOLUME       PH       umhos/cm)       (C OR F)       NOTES:         1       6.85       1885       7.3       Light orange color         2       6.92       1930       7.5       Clear         3       6.89       1941       7.6       Clear         4   |                                      | <u> </u>                              |               | CONDITIC       | DN:                     | good           |                  |       |
| NOTE: ALL GIBSON SIT<br>DEPTH TO BOTTOM FROM TOP OF RISER: 15.28 (FT.) MONITORING WELLS A<br>DEPTH TO WATER FROM TOP OF RISER: 6.71 (FT.) 2-INCH DIAMETER STAI<br>WATER COLUMN: 8.57 (FT.) LESS STEEL. WELL DEF<br>2" DIA. WELL CONSTANT: 0.16 MW-4 12.10'<br>ONE WELL VOLUME= 1.37 (GALS) MW-2 12.13'<br>MW-3 11.95'<br>PURGE METHOD: Low flow using Parastatic pump and dedicated tubing. AJ MW-3 13.75'<br>BOTTOM OF WELL/SILT BUILDUP: No<br>MW-5 15.28'<br>PURGE OBSERVATIONS:<br>FIELD PARAMETER MEASUREMENTS:<br>FIELD PARAMETER MEASUREMENTS:<br>FIELD PARAMETER MEASUREMENTS:<br>FIELD PARAMETER MEASUREMENTS:<br>FIELD PARAMETER MEASUREMENTS:<br>SPECIFIC<br>CONDUCTIVITY TEMP.<br>VOLUME pH umhos/cm) (C OR F) NOTES:<br>0 6.85 1885 7.3 Light orange color<br>2 6.92 1930 7.5 Clear<br>3 6.89 1941 7.6 Clear<br>4 5<br>TOTAL VOLUME PURGED: 4.11 gallons<br>GROUNDWATER OR SEDIMENT SAMPLING DATA: SAMPLE DATE: 4/5/2005<br>MEDIA: GROUNDWATER X<br>CREEK SEDIMENT SAMPLING DATA: SAMPLE TIME: 1250<br>CREEK SEDIMENT SAMPLING OBSERVATIONS: As we sampled, a couple of "slugs" of orange silt came through the hose.<br>CC SAMPLES TAKEN: NO<br>OTHER OBSERVATIONS/COMMENTS: 2, 1 liter amber jars filled.                    | GROUNDWATER PU                       | RGE DATA                              | PURGE DA      | TE: 4/5/05     | 5                       |                |                  |       |
| DEPTH TO BOTTOM FROM TOP OF RISER:<br>DEPTH TO WATER FROM TOP OF RISER:<br>DEPTH TO WATER FROM TOP OF RISER:<br>WATER COLUMN:<br>8.57 (FT.)<br>LESS STEEL. WELL DEF<br>2" DIA. WELL CONSTANT:<br>ONE WELL VOLUME=<br>1.37 (GALS)<br>MW-42 12.13'<br>MW-33 11.95'<br>PURGE METHOD:<br>Low flow using Parastallic pump and dedicated tubing. AIMW-4<br>90000 MW-5 15.28'<br>PURGE START TIME:<br>1215 STOP TIMI 1240<br>PURGE OBSERVATIONS:<br>FIELD PARAMETER MEASUREMENTS:<br>WELL<br>CONDUCTIVITY TEMP.<br>VOLUME<br>1 6.85 1885 7.3 Light orange color<br>2 6.92 1930 7.5 Clear<br>3 6.89 1941 7.6 Clear<br>4<br>5<br>TOTAL VOLUME PURGED: 4.11 gallons<br>GROUNDWATER OR SEDIMENT SAMPLING DATA:<br>SAMPLE DATE: 4/5/2005<br>MEDIA:<br>GROUNDWATER X<br>CREEK SEDIMENT X<br>MEDIA:<br>GROUNDWATER X<br>CREEK SEDIMENT X<br>MEDIA:<br>GROUNDWATER X<br>CREEK SEDIMENT X<br>MEDIA:<br>GROUNDWATER X<br>CREEK SEDIMENT X<br>MW-5<br>SAMPLE METHOD:<br>Low flow using Parastaltic pump and dedicated tubing. After purging 3 volumes.<br>SAMPLE METHOD:<br>Low flow using Parastaltic pump and dedicated tubing. After purging 3 volumes.<br>SAMPLE METHOD:<br>COMPLEX As we sampled, a couple of "slugs" of orange silt came through<br>the hose.<br>QC SAMPLES TAKEN:<br>NO<br>OTHER OBSERVATIONS:<br>2, 1 liter amber jars filled.   |                                      |                                       |               |                |                         | NOTE: AL       | L GIBSON SI      | ΓE    |
| DEPTH TO WATER FROM TOP OF RISER: 6.71 (FT.) 2-INCH DIAMETER STAI<br>WATER COLUMN: 8.57 (FT.) LESS STEEL. WELL DEF<br>2" DIA. WELL CONSTANT: 0.16 MW-1R 12.10'<br>ONE WELL VOLUME= 1.37 (GALS) MW-2 12.13'<br>MW-3 11.95'<br>PURGE METHOD: Low flow using Parastaltic pump and dedicated tubing. AIMW-4 13.75'<br>BOTTOM OF WELL/SILT BUILDUP: No MW-5 15.28'<br>PURGE START TIME: 1215 STOP TIMI 1240<br>PURGE OBSERVATIONS:<br>FIELD PARAMETER MEASUREMENTS:<br>FIELD PARAMETER MEASUREMENTS:<br>FIELD PARAMETER MEASUREMENTS:<br>FIELD PARAMETER MEASUREMENTS:<br>FIELD PARAMETER MEASUREMENTS:<br>TOTAL VOLUME <u>PH</u> <u>umhos/cm</u> ( <u>C OR F)</u> <u>NOTES:</u><br>1 6.85 1885 7.3 Light orange color<br>2 6.92 1930 7.5 Clear<br>3 6.89 1941 7.6 Clear<br>4 5<br>TOTAL VOLUME PURGED: 4.11 gallons<br>GROUNDWATER OR SEDIMENT SAMPLING DATA: SAMPLE DATE: 4/5/2005<br>MEDIA: GROUNDWATER X<br>CREEK SEDIMENT <u>X</u> SAMPLE DATE: 1250<br>CREEK SEDIMENT <u>X</u> SAMPLE TIME: 1250<br>CREEK SEDIMENT <u>As we sampled, a coouple of "slugs" of orange silt came through the hose.</u><br>QC SAMPLES TAKEN: NO<br>OTHER OBSERVATIONS: <u>2, 1 liter amber jars filled.</u>   | DEPTH TO BOTTOM                      | FROM TOP OF RISEF                     | र:            | 15.28          | (FT.)                   | MONITOF        | RING WELLS A     | ARE   |
| WATER COLUMN: 8.57 (FT.) LESS STEEL. WELL DEF<br>2" DIA. WELL CONST <u>ANT: 0.16</u> MW-1R 12.10'<br>ONE WELL VOLUME= 1.37 (GALS) MW-2 12.13'<br>MW-3 11.95'<br>PURGE METHOD: Low flow using Parastallic pump and dedicated tubing. AI MW-4 13.75'<br>BOTTOM OF WELL/SILT BUILDUP: No MW-5 15.28'<br>PURGE CARAT TIME: 1215 STOP TIMI 1240<br>PURGE OBSERVATIONS:<br>FIELD PARAMETER MEASUREMENTS:<br>SPECIFIC<br>WELL CONDUCTIVITY TEMP.<br>VOLUME pH umhos/cm) (C OR F) NOTES:<br>1 6.85 1885 7.3 Light orange color<br>2 6.92 1930 7.5 Clear<br>3 6.89 1941 7.6 Clear<br>4 5<br>TOTAL VOLUME PURGED: 4.11 gallons<br>GROUNDWATER OR SEDIMENT SAMPLING DATA: SAMPLE DATE: 4/5/2005<br>MEDIA: GROUNDWATER X SAMPLING DATA: SAMPLE TIME: 1250<br>CREEK SEDIMENT<br>LOCATION: MW-5<br>SAMPLE METHOD: Low flow using Parastaltic pump and dedicated tubing. After purging 3 volumes.<br>SAMPLE METHOD: Low flow using Parastaltic pump and dedicated tubing. After purging 3 volumes.<br>SAMPLE METHOD: Low flow using Parastaltic pump and dedicated tubing. After purging 3 volumes.<br>SAMPLE METHOD: Low flow using Parastaltic pump and dedicated tubing. After purging 3 volumes.<br>SAMPLE METHOD: Low flow using Parastaltic pump and dedicated tubing. After purging 3 volumes.<br>SAMPLE METHOD: Low flow using Parastaltic pump and dedicated tubing. After purging 3 volumes.<br>SAMPLE METHOD: Low flow using Parastaltic pump and dedicated tubing. After purging 3 volumes.<br>SAMPLE METHOD: Low flow using Parastaltic pump and dedicated tubing. After purging 3 volumes.<br>SAMPLE METHOD: Low flow using Parastaltic pump and dedicated tubing. After purging 3 volumes.<br>SAMPLE METHOD: Low flow using Parastaltic pump and dedicated tubing. After purging 3 volumes.<br>SAMPLE METHOD: Low flow using Parastaltic pump and dedicated tubing. After purging 3 volumes.<br>SAMPLE METHOD: Low flow using Parastaltic pump and dedicated tubing. After purging 3 volumes.<br>SAMPLE METHOD: Low flow using Parastaltic pump and dedicated tubing. After purging 3 volumes.<br>SAMPLE METHOD: 2, 1 liter amber jars filled. | DEPTH TO WATER F                     | ROM TOP OF RISER:                     |               | 6.71           | _(FT.)                  | 2-INCH D       | IAMETER STA      | IN-   |
| 2" DIA. WELL CONSTANT:         0.16         MW-1R         12.10'           ONE WELL VOLUME=         1.37         (GALS)         MW-2         12.13'           PURGE METHOD:         Low flow using Parastaltic pump and dedicated tubing. AIMW-4         13.75'           BOTTOM OF WELL/SILT BUILDUP:         No         MW-5         15.28'           PURGE START TIME:         1215         STOP TIMI         1240           PURGE OBSERVATIONS:         FIELD PARAMETER MEASUREMENTS:         SPECIFIC         WELL           VOLUME         PH         umhos/cm)         (C OR F)         NOTES:           1         6.85         1885         7.3         Light orange color           2         6.92         1930         7.5         Clear           3         6.89         1941         7.6         Clear           4   |                                      | WATER COLUMN:                         |               | 8.57           | (FT.)                   | LESS ST        | EEL. WELL DE     | PTHS: |
| ONE WELL VOLUME=       1.37 (GALS) MW-2       12.13' MW-A3         PURGE METHOD:       Low flow using Parastaltic pump and dedicated tubing. AIMW-4       13.75' MW-A3         BOTTOM OF WELL/SILT BUILDUP:       No       MW-5       15.28'         PURGE START TIME:       1215       STOP TIMI       1240         PURGE OBSERVATIONS:       SPECIFIC       SPECIFIC         VOLUME       pH       umhos/cm)       (C OR F)       NOTES:         1       6.85       1885       7.3       Light orange color         2       6.92       1930       7.5       Clear         3       6.89       1941       7.6       Clear         4  |                                      | 2" DIA. WELL CONST                    | ANT:          | 0.16           | _                       | MW-1R          | 12.10'           |       |
| PURGE METHOD: Low flow using Parastaltic pump and dedicated tubing. AIMW-4 13.75'<br>BOTTOM OF WELL/SILT BUILDUP: No MW-5 15.28'<br>PURGE START TIME: 1215 STOP TIMI 1240<br>PURGE OBSERVATIONS:<br>FIELD PARAMETER MEASUREMENTS:<br>WELL CONDUCTIVITY TEMP.<br>VOLUME pH umhos/cm) (C OR F) NOTES:<br>1 6.85 1885 7.3 Light orange color<br>2 6.92 1930 7.5 Clear<br>3 6.89 1941 7.6 Clear<br>4 5<br>TOTAL VOLUME PURGED: 4.11 gallons<br>GROUNDWATER OR SEDIMENT SAMPLING DATA: SAMPLE DATE: 4/5/2005<br>MEDIA: GROUNDWATER X SAMPLING DATA: SAMPLE DATE: 4/5/2005<br>MEDIA: GROUNDWATER X SAMPLING DATA: SAMPLE TIME: 1250<br>LOCATION: MW-5<br>SAMPLE METHOD: Low flow using Parastaltic pump and dedicated tubing. After purging 3 volumes.<br>SAMPLE METHOD: Low flow using Parastaltic pump and dedicated tubing. After purging 3 volumes.<br>SAMPLING OBSERVATIONS: As we sampled, a coouple of "slugs" of orange silt came through the hose.<br>QC SAMPLES TAKEN: No<br>OTHER OBSERVATIONS/COMMENTS: 2, 1 liter amber jars filled.  |                                      | ONE WELL VOLUME                       | =             | 1.37           | (GALS)                  | MW-2<br>MW-A3  | 12.13'<br>11.95' |       |
| BOTTOM OF WELL/SILT BUILDUP: No MW-5 15.28' PURGE START TIME: 1215 STOP TIMI 1240 PURGE OBSERVATIONS: FIELD PARAMETER MEASUREMENTS: WELL SPECIFIC WELL CONDUCTIVITY TEMP. VOLUME pH umhos/cm) (C OR F) NOTES: 1 6.85 1885 7.3 Light orange color 2 6.92 1930 7.5 Clear 3 6.89 1941 7.6 Clear 4 5 TOTAL VOLUME PURGED: 4.11 gallons GROUNDWATER OR SEDIMENT SAMPLING DATA: SAMPLE DATE: 4/5/2005 MEDIA: GROUNDWATER X SAMPLING DATA: SAMPLE TIME: 1250 CREEK SEDIMENT LOCATION: MW-5 SAMPLE METHOD: Low flow using Parastaltic pump and dedicated tubing. After purging 3 volumes. SAMPLING OBSERVATIONS: As we sampled, a coouple of "slugs" of orange silt came through the hose. QC SAMPLES TAKEN: No OTHER OBSERVATIONS/COMMENTS: 2, 1 liter amber jars filled.   | PURGE METHOD:                        | Low flow using Parast                 | altic pump ar | nd dedicat     | ed tubing. A            | MW-4           | 13.75'           |       |
| PURGE START TIME: 1215 STOP TIMI 1240 PURGE OBSERVATIONS: FIELD PARAMETER MEASUREMENTS:           SPECIFIC           WELL         CONDUCTIVITY         TEMP.           VOLUME         pH         umhos/cm)         (C OR F)         NOTES:           1         6.85         1885         7.3         Light orange color           2         6.92         1930         7.5         Clear           3         6.89         1941         7.6         Clear           4  | BOTTOM OF WELL/S                     | ILT BUILDUP:                          | No            |                | <b>*</b>                | MW-5           | 15.28'           |       |
| FIELD PARAMETER MEASUREMENTS:         SPECIFIC<br>CONDUCTIVITY TEMP.<br>Umhos/cm)         VOLUME       pH       umhos/cm)       (C OR F)       NOTES:         1       6.85       1885       7.3       Light orange color         2       6.92       1930       7.5       Clear         3       6.89       1941       7.6       Clear         4   | PURGE START TIME<br>PURGE OBSERVATIO | : 1215<br>DNS:                        | STOP TIM      | 1240           |                         |                |                  |       |
| SPECIFIC<br>CONDUCTIVITY TEMP.<br>CONDUCTIVITY TEMP.<br>(C OR F) NOTES:<br>1         1       6.85       1885       7.3       Light orange colo         2       6.92       1930       7.5       Clear         3       6.89       1941       7.6       Clear         4   | FIELD PARAMETER                      | MEASUREMENTS:                         |               |                |                         |                |                  |       |
| WELL       CONDUCTIVITY       TEMP.         1       6.85       1885       7.3       Light orange colo         2       6.92       1930       7.5       Clear         3       6.89       1941       7.6       Clear         4  |                                      |                                       | SPECIFIC      |                |                         |                |                  |       |
| VOLUME       pri       unnosciny       (CORF)       NOTES.         1       6.85       1885       7.3       Light orange colo         2       6.92       1930       7.5       Clear         3       6.89       1941       7.6       Clear         4   | WELL                                 | <b>5</b> 4                            | CONDUCT       | IVITY          |                         |                |                  |       |
| 1       0.65       1005       7.3       Light brange cord         2       6.92       1930       7.5       Clear         3       6.89       1941       7.6       Clear         4  |                                      | <u> </u>                              | 1995          |                | <u>(UUR F)</u><br>72    | -              | abt orange col   | ٦r    |
| 2     6.92     1930     7.5     Clear       3     6.89     1941     7.6     Clear       4  | 1                                    | 0.00                                  | 000           |                | 7.5                     | L);            |                  | 1     |
| 3       6.89       1941       7.6       Clear         4  | 2                                    | 6.92                                  | 1930          |                | <u> </u>                |                | Clear            |       |
| 4       5         TOTAL VOLUME PURGED:       4.11 gallons         GROUNDWATER OR SEDIMENT SAMPLING DATA:       SAMPLE DATE:       4/5/2005         MEDIA:       GROUNDWATER CREEK SEDIMENT       X       SAMPLE TIME:       1250         LOCATION:       MW-5       SAMPLE METHOD:       Low flow using Parastaltic pump and dedicated tubing. After purging 3 volumes.         SAMPLE METHOD:       Low flow using Parastaltic pump and dedicated tubing. After purging 3 volumes.         SAMPLING OBSERVATIONS:       As we sampled, a coouple of "slugs" of orange silt came through the hose.         QC SAMPLES TAKEN:       No         OTHER OBSERVATIONS/COMMENTS:       2, 1 liter amber jars filled.   | 3                                    | 0.89                                  | 1941          |                | 0.1                     |                | Clear            |       |
| Journal Science       3         TOTAL VOLUME PURGED:       4.11 gallons         GROUNDWATER OR SEDIMENT SAMPLING DATA:       SAMPLE DATE:       4/5/2005         MEDIA:       GROUNDWATER CREEK SEDIMENT       X       1250         LOCATION:       MW-5       SAMPLE METHOD:       Low flow using Parastaltic pump and dedicated tubing. After purging 3 volumes.         SAMPLE METHOD:       Low flow using Parastaltic pump and dedicated tubing. After purging 3 volumes.         SAMPLING OBSERVATIONS:       As we sampled, a coouple of "slugs" of orange silt came through the hose.         QC SAMPLES TAKEN:       No         OTHER OBSERVATIONS/COMMENTS:       2, 1 liter amber jars filled.  | <u>4</u><br>۶                        | · · · · · · · · · · · · · · · · · · · |               | · <del>_</del> |                         |                |                  |       |
| TOTAL VOLUME PURGED:       4.11 gallons         GROUNDWATER OR SEDIMENT SAMPLING DATA:       SAMPLE DATE:       4/5/2005         MEDIA:       GROUNDWATER CREEK SEDIMENT       X       SAMPLE TIME:       1250         LOCATION:       MW-5         SAMPLE METHOD:       Low flow using Parastaltic pump and dedicated tubing. After purging 3 volumes.         SAMPLING OBSERVATIONS:       As we sampled, a coouple of "slugs" of orange silt came through the hose.         QC SAMPLES TAKEN:       No         OTHER OBSERVATIONS/COMMENTS:       2 , 1 liter amber jars filled.  | 5                                    |                                       |               |                |                         |                |                  |       |
| GROUNDWATER OR SEDIMENT SAMPLING DATA:       SAMPLE DATE:       4/5/2005         MEDIA:       GROUNDWATER<br>CREEK SEDIMENT       X       SAMPLE TIME:       1250         LOCATION:       MW-5         SAMPLE METHOD:       Low flow using Parastaltic pump and dedicated tubing. After purging 3 volumes.         SAMPLING OBSERVATIONS:       As we sampled, a coouple of "slugs" of orange silt came through<br>the hose.         QC SAMPLES TAKEN:       No         OTHER OBSERVATIONS/COMMENTS:       2 , 1 liter amber jars filled.  | TOTAL VOLUME PUF                     | RGED: 4.11 gallor                     | IS            |                |                         |                |                  |       |
| MEDIA:       GROUNDWATER<br>CREEK SEDIMENT       X       SAMPLE TIME:       1250         LOCATION:       MW-5         SAMPLE METHOD:       Low flow using Parastaltic pump and dedicated tubing. After purging 3 volumes.         SAMPLING OBSERVATIONS:       As we sampled, a coouple of "slugs" of orange silt came through<br>the hose.         QC SAMPLES TAKEN:       No         OTHER OBSERVATIONS/COMMENTS:       2 , 1 liter amber jars filled.   | GROUNDWATER OR                       | SEDIMENT SAMPLIN                      | IG DATA:      |                | SAMPLE                  | DATE:          | 4/5/2005         |       |
| LOCATION:       MW-5         SAMPLE METHOD:       Low flow using Parastaltic pump and dedicated tubing. After purging 3 volumes.         SAMPLING OBSERVATIONS:       As we sampled, a coouple of "slugs" of orange silt came through the hose.         QC SAMPLES TAKEN:       No         OTHER OBSERVATIONS/COMMENTS:       2 , 1 liter amber jars filled.   | MEDIA: GROUND<br>CREEK SE            | WATER <u>X</u>                        | -             |                | SAMPLE <sup>-</sup>     | LINE:          | 1250             |       |
| SAMPLE METHOD:       Low flow using Parastaltic pump and dedicated tubing. After purging 3 volumes.         SAMPLING OBSERVATIONS:       As we sampled, a coouple of "slugs" of orange silt came through the hose.         QC SAMPLES TAKEN:       No         OTHER OBSERVATIONS/COMMENTS:       2 , 1 liter amber jars filled.  |                                      | MW-5                                  |               |                |                         |                |                  |       |
| SAMPLING OBSERVATIONS:       As we sampled, a coouple of "slugs" of orange silt came through the hose.         QC SAMPLES TAKEN:       No         OTHER OBSERVATIONS/COMMENTS:       2, 1 liter amber jars filled.   | SAMPLE METHOD:                       | Low flow using Parast                 | altic pump a  | nd dedicat     | ed tubing. A            | fter purging   | g 3 volumes.     |       |
| QC SAMPLES TAKEN:       No         OTHER OBSERVATIONS/COMMENTS:       2 , 1 liter amber jars filled.         SC measured   | SAMPLING OBSERV                      | ATIONS: As we sam                     | npled, a coou | iple of "slu   | igs" of orang           | ge silt came   | e through        |       |
| OTHER OBSERVATIONS/COMMENTS: <u>2, 1 liter amber jars filled.</u>  | QC SAMPLES TAKEN                     | N: No                                 |               |                |                         |                |                  |       |
| SC measured  | OTHER OBSERVATIO                     | ONS/COMMENTS:                         | 2, 1 liter a  | mber jars i    | filled.                 | ,              |                  |       |
| Note: specific conductivity formula to 25 degrees Celcius: SC(25)= {{T-25}(0.02)}+1  | Note: specific conduct               | ivity formula to 25 dear              | ees Celcius:  | SC(25)=        | SC measu<br>{{T-25)(0.0 | ured<br>02)}+1 |                  | · · · |
| CRA 8143 (1) AppD-GwsdForm   | CRA 8143 (1) AppD-GwsdForm           | ,                                     |               | · · · · ·      |                         | 1 7 . a        | •                |       |

|  | SA                                      | MPLING F                        | FIELD FO           | RM                |                       |                            |
|--|---|---------------------------------|--------------------|-------------------|-----------------------|----------------------------|
| RECORDED BY:                                       | M. Walker                               |                                 | SAMPLE             | ID:               | MW-7-04               | 0505                       |
| SAMPLED BY:  | C. Jones                                |                                 | SAMPLI             | NG EVENT/D        | ATE:                  | 4/5/2005                   |
| COMPANY:   | Sevenson                                |                                 | MONITO             | RING WELL         | : <u>MW-1 Du</u>      | plicate (blind)            |
|  |   |                                 | CONDIT             | ION:              |                       | ,                          |
| GROUNDWATER F                                      | PURGE DATA                              | PURGE D                         | ATE: 4/5/0         | )5                |                       |                            |
| DEPTH TO BOTTO                                     | M FROM TOP OF RISER:                    |                                 | xxxx               | (FT.)             | MONITO                | RING WELLS ARE             |
| DEPTH TO WATEF                                     | R FROM TOP OF RISER:                    |                                 | XXXX               | _(FT.)            | 2-INCH D              | NAMETER STAIN-             |
|  | WATER COLUMN:                           |                                 | XXXX               | (FT.)             | LESS ST               | EEL. WELL DEPTHS:          |
|  | 2" DIA. WELL CONSTA                     | NT:                             | XXXX               |                   | MW-1R                 | 12.10'                     |
|  | ONE WELL VOLUME=                        |                                 | XXXX               | (GALS)            | MW-2<br>MW-A3<br>MW-4 | 12.13'<br>11.95'<br>13.75' |
| BOTTOM OF WELL<br>PURGE START TIM<br>PURGE OBSERVA | /SILT BUILDUP: ><br>/E: XXX S<br>TIONS: | XXXX<br>STOP TIM                | IXXXX              |                   | MW-5                  | 15.28'                     |
| FIELD PARAMETE                                     | R MEASUREMENTS:                         |                                 |                    |                   |                       |                            |
| WELL<br>VOLUME                                     | рн <u></u>                              | SPECIFIC<br>CONDUCT<br>umhos/cm | ΓΙVΙΤΥ<br><u>)</u> | TEMP.<br>(C OR F) | -                     | NOTES:                     |
| 2  |   |                                 |                    |                   |                       |                            |
| 3  |   |                                 |                    |                   |                       |                            |
| 4  |   |                                 |                    |                   |                       |                            |
| 5  |   |                                 |                    |                   |                       | <u>_</u>                   |
| TOTAL VOLUME P                                     | URGED:                                  |                                 |                    |                   |                       |                            |
| GROUNDWATER C                                      | OR SEDIMENT SAMPLING                    | G DATA:                         |                    | SAMPLE [          | DATE:                 | 4/5/2005                   |
| MEDIA: GROUN<br>CREEK                              | DWATER X                                |                                 |                    | SAMPLE 1          |                       | "1630"                     |
|  | MW-1R blind duplicate                   |                                 |                    |                   |                       |                            |
| SAMPLE METHOD:                                     | Low flow using Parastal                 | ltic pump a                     | ind dedica         | ited tubing. A    | fter purging          | g 3 volumes.               |
| SAMPLING OBSER                                     | VATIONS: <u>Clear, No o</u>             | odor.                           |                    |                   |                       | <u></u>                    |
| QC SAMPLES TAK                                     | EN:No                                   |                                 |                    |                   |                       |                            |
| OTHER OBSERVA                                      | TIONS/COMMENTS: 4                       | 4 - 1 liter (                   | glass jars         | filled.           |                       | <u> </u>                   |
| Then labeled MW-7                                  | and timed at 1630. To serv              | ve as Blind                     | Dup for (          | QC purposes       | •                     |                            |
|  |   |                                 |                    | SC measu          | red                   | ·                          |
| Note: specific condu                               | ictivity formula to 25 degree           | es Celçius                      | : SC(25)=          | {{1,-25)(0.0      | 12)}+1                |                            |

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CRA 8143 (1) AppD-GwsdForm
|  |                                  | CHARLES (<br>NAGARA FAL<br>SDEC REGIS<br>OUNDWATE<br>SAMPLING | GIBSON S<br>LS, NEW<br>TRY NO. 9<br>R AND SE<br>FIELD FO | ITE<br>YORK<br>9-32-063<br>DIMENT<br>RM | •  |                   |  |
|--|----------------------------------|---|--|---|--|-------------------|--|
| RECORDED BY:                                       | M. Walker                        |   | SAMPLE   | ID:                                     | MW-8-04  | 0505              |  |
| SAMPLED BY:  | C. Jones                         |   | SAMPLI   | NG EVENT/                               | DATE:  | 4/5/2005          |  |
| COMPANY:   | Sevenson                         |   | MONITO   | RING WELL                               | .: Field Bla                                   | nk                |  |
|  |                                  |   | CONDIT   | ION:                                    |  |                   |  |
| GROUNDWATER F                                      | PURGE DATA                       | PURGE D   | ATE:   |   |  |                   |  |
| DEPTH TO BOTTOM FROM TOP OF RISER:                 |                                  |   |  | (FT.)                                   | MONITORING WELLS ARE<br>2-INCH DIAMETER STAIN- |                   |  |
| DEPTH TO WATER FROM TOP OF RISER:                  |                                  |   |  | (FT.)                                   |  |                   |  |
|  | WATER COLUMN:                    |   |  | (FT.)                                   | LESS ST  | EEL. WELL DEPTHS: |  |
|  | 2" DIA. WELL CON                 | ST <u>ANT:</u>  |  |   | MW-1R  | 12.10'            |  |
|  | ONE WELL VOLUM                   | /IE=  |  | (GALS)                                  | MW-2<br>MW-A3                                  | 12.13'<br>11.95'  |  |
| PURGE METHOD:                                      |                                  |   |  |   | _MW-4  | 13.75'            |  |
| BOTTOM OF WELL<br>PURGE START TIM<br>PURGE OBSERVA | ./SILT BUILDUP:<br>1E:<br>TIONS: | STOP TIM  | 11   |   | MW-5   | 15.28'            |  |
| FIELD PARAMETER                                    | R MEASUREMENTS:                  |   |  |   |  |                   |  |
| WELL<br>VOLUME                                     | рН                               | SPECIFIC<br>CONDUC<br>umhos/cm                                | :<br>TIVITY<br><u>))</u>                                 | TEMP.<br><u>(C OR F)</u>                | _  | NOTES:            |  |
| 1  |                                  |   |  |   |  | <u>.</u>          |  |
| 2  |                                  |   |  |   |  |                   |  |
| 3  |                                  |   |  |   |  |                   |  |
| 5  |                                  |   |  |   |  |                   |  |
| TOTAL VOLUME PI                                    | JRGED:                           |   |  |   |  |                   |  |
| GROUNDWATER C                                      | OR SEDIMENT SAMPL                | ING DATA:   |  | SAMPLE                                  | DATE:  | 4/5/2005          |  |
| MEDIA: GROUN<br>CREEK                              | DWATER                           | _   |  | SAMPLE                                  | T <u>IME:</u>                                  | 940               |  |
|  | Field Blank                      |   | <u>.</u>   |   |  |                   |  |
| SAMPLE METHOD:                                     |                                  |   |  |   |  |                   |  |
| SAMPLING OBSER                                     |                                  |   |  |   | <u>-</u>                                       |                   |  |
| QC SAMPLES TAK                                     | EN <u>:</u>                      |   | ·  | · · · · · · · · · · · · · · · · · · ·   |  |                   |  |
| OTHER OBSERVAT                                     | TIONS/COMMENTS:                  | 2 1 liter a   | mber jars f  | illed with lab                          | supplied w                                     | rater and         |  |
| sealed on site.                                    | • <u></u>                        |   | - <u>.</u>   | <u> </u>                                | urod   | <u></u>           |  |
| Note: specific condu                               | ctivity formula to 25 de         | grees Celcius   | SC(25)=  | <u>SC measu</u><br>{{T-25)(0.           | 02)}+1   |                   |  |

CRA 8143 (1) AppD-GwsdForm

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CHARLES GIBSON SITE NIAGARA FALLS, NEW YORK NYSDEC REGISTRY NO. 9-32-063 GROUNDWATER AND SEDIMENT SAMPLING FIELD FORM

|                                    | MA Mallion                  |                                  | CAMPLE             | 10.                          |                               | 40505                                |  |
|------------------------------------|-----------------------------|----------------------------------|--------------------|------------------------------|-------------------------------|--------------------------------------|--|
| RECORDED BT.                       |                             | _                                | SAWFLE             |                              | 10100-743-0                   | 40505                                |  |
| SAMPLED BY:                        | C. Jones                    | _                                | SAMPLIN            | IG EVENT/L                   | DATE:                         | 4/5/2005                             |  |
| COMPANY:                           | Sevenson                    | _                                | MONITO             | RING WELL                    | : <u>MW-A3</u>                | <u></u> _                            |  |
|                                    |                             |                                  | CONDITI            | ON:                          | good                          |                                      |  |
| GROUNDWATER PI                     | JRGE DATA                   | PURGE D                          | ATE: 4/5/0         | 5                            |                               |                                      |  |
| DEPTH TO BOTTOM FROM TOP OF RISER: |                             |                                  |                    | (FT.)                        | (FT.) MONITORING WELLS AR     |                                      |  |
| DEPTH TO WATER                     | FROM TOP OF RISER           | :                                | 4.51               | (FT.)                        | 2-INCH D                      | DIAMETER STAIN-                      |  |
|                                    | WATER COLUMN:               |                                  | 7.44               | (FT.)                        | LESS ST                       | EEL. WELL DEPTHS:                    |  |
|                                    | 2" DIA. WELL CONS           | TANT:                            | 0.16               |                              | MW-1R                         | 12.10'                               |  |
| PURGE METHOD:                      | ONE WELL VOLUME             | taltic pump a                    | 1.19<br>and dedica | —<br>(GALS)<br>ted tubing. A | MW-2<br>MW-A3<br>MW-4<br>MW-5 | 12.13'<br>11.95'<br>13.75'<br>15.28' |  |
| PURGE START TIME<br>PURGE OBSERVAT | E: 1335<br>IONS: Clear wate | STOP TIM                         | 1350               |                              |                               | 10.20                                |  |
| FIELD PARAMETER                    | MEASUREMENTS:               |                                  |                    |                              |                               |                                      |  |
| WELL<br>VOLUME                     | pH                          | SPECIFIC<br>CONDUCT<br>umhos/cm) | TIVITY             | TEMP.<br>(C OR F)            | _                             | NOTES:                               |  |
| 1                                  | 7.24                        | 469                              |                    | 6.8                          |                               |                                      |  |
| 2                                  | 7.31                        | 447                              |                    | 6.4                          |                               |                                      |  |
| 3                                  | 7.32                        | 496                              |                    | 6.2                          |                               |                                      |  |
| 4                                  |                             |                                  |                    |                              |                               |                                      |  |
| 5                                  |                             | <u>.</u>                         |                    |                              |                               |                                      |  |
| TOTAL VOLUME PU                    | RGED: 3.6 gallons           | <b>3</b>                         |                    |                              |                               |                                      |  |
| GROUNDWATER OF                     | R SEDIMENT SAMPLIN          | IG DATA:                         |                    | SAMPLE D                     | DATE:                         | 4/5/2005                             |  |
| MEDIA: GROUND                      |                             | -                                |                    | SAMPLE T                     | IME:                          | 1355                                 |  |
|                                    | MW-A3, Behind the N         | -<br>Iiagara Mote                | I.                 |                              |                               |                                      |  |
| SAMPLE METHOD:                     | Low flow using Parast       | altic pump a                     | nd dedicat         | ed tubing. A                 | fter purging                  | 3 volumes.                           |  |
| SAMPLING OBSERV                    | ATIONS: <u>Clear, No</u>    | odor.                            |                    |                              |                               |                                      |  |
| QC SAMPLES TAKE                    | ٩:                          |                                  |                    |                              |                               | <u></u>                              |  |
| OTHER OBSERVATIO                   | ONS/COMMENTS:               | 2, 1 liter a                     | mber jars f        | illed.                       | ·····                         |                                      |  |
| Note: specific conduct             | ivity formula to 25 degre   | ees Celcius:                     | SC(25)=            | SC measur<br>{{T-25)(0.02    | ed<br>2)}+1                   | -                                    |  |

CRA 8143 (1) AppD-GwsdForm

#### APPENDIX C

# QUARTERLY SITE INSPECTION FORMS

January - June 2005

CHARLES GIBSON SITE (PINE AND TUSCARORA SITE) NIAGARA FALLS, NEW YORK NYSDEC Registry No. 9-32-063

#### CHARLES GIBSON SITE NIAGARA FALLS, NEW YORK NYSDEC REGIS\$RY NO. 9-32-063 SITE INSPECTION FORM

|                        | 4/5/2005  | _TIME:   | 900  |   |
|------------------------|---|--|--|---|
| INSPECT                | OR: M. Walker   | <u>r</u>   | COMPANY:   | Sevenson  |
| WEATHE                 | iR:   |  |  |   |
| REASON                 | FOR INSPECTION (QI  | UARTERL'   | Y OR OTHER <u>):</u>   | Spring Sample Event 2005, Quarterly Insp.   |
| GENERA                 | L SITE CONDITIONS:<br>(Note: For general site<br>subsidence (sinking),<br>and rodent burrows.<br>missing signs or evide | e condition<br>ponded wa<br>For site se<br>ence of var | U=UNACCEPTABL<br>s note existence of ba<br>ater, stressed vegetat<br>curity, note absence o<br>idalism. Note any oth | LE A=ACCEPTABLE<br>are areas (number,size), cracks,<br>tion, soil discoloration or seeps,<br>of locks, gates open or damaged,<br>her unusual occurences.) |
|                        |   |  | COMM   | ENTS  |
| ACCESS                 | ROAD  | ?  | See bel  | low for comments  |
| COVER V                | /EGETATION  | ?  |  |   |
| TREES                  |   | <u> </u>   |  |   |
| LITTER                 |   | ?  | <u> </u>   |   |
| EROSION                | √ (CAP)   | ?  |  |   |
| EROSION                | I (BANK)  | ?  | <u></u>  |   |
| SECURIT                | Υ:  |  |  |   |
| FENCE/L                | OCKS  | A  |  |   |
| PIEZOME                | TERS/LOCKS  | A  |  | ······································  |
| MONITOR                | RING WELLS/LOCKS  | A  |  |   |
| MANHOL                 | ES/LIDS/LOCKS   | A  |  | · · · · · · · · · · · · · · · · · · ·   |
| ELECTRI                | CAL PANEL   | A  |  |   |
| ADDITIO                | NAL COMMENTS:   | A Spring   | snow storm hit 2 days  | s before the scheduled inspection   |
| and samp               | ling event. Leaving 8" o  | of snow cov  | ering the area (includ   | ling the cap and driveway.  |
| <u></u>                |   |  | <u></u>  |   |
| will return            | n after the snow melts a  | nd do a mo   | ore thorough inspection  | on. Mike Hinton of the NYSDEC   |
|                        | site. He would also like  | to meet u  | s here when we do th   | e follow up inspection after the  |
| met <u>us on</u>       |   |  |  |   |
| met us on              |   |  |  |   |
| met us on<br>snow melt | S.  |  |  |   |

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#### CHARLES GIBSON SITE NIAGARA FALLS, NEW YORK NYSDEC REGISTRY NO. 9-32-063 SITE INSPECTION FORM

| DATE: <u>4/19/2005</u>  | TIME:  | 900  |   |  |  |
|---|--|--|---|--|--|
| INSPECTO <u>R: M. Walke</u>   | r  | _COMPANY:  | Sevenson  |  |  |
| WEATHER:  |  |  | -   |  |  |
| REASON FOR INSPECTION (Q  | UARTERL  | Y OR OTHER <u>):</u>   | Semi Annual Site Inspection   |  |  |
| GENERAL SITE CONDITIONS:<br>(Note: For general si<br>subsidence (sinking)<br>and rodent burrows.<br>missing signs or evid | te condition<br>, ponded w<br>For site se<br>ence of val | U=UNACCEPTAE<br>is note existence of l<br>ater, stressed vegeta<br>curity, note absence<br>indalism. Note any ot | BLE A=ACCEPTABLE<br>bare areas (number,size), cracks,<br>ation, soil discoloration or seeps,<br>of locks, gates open or damaged,<br>her unusual occurrences.) |  |  |
|   |  | COM  | MENTS   |  |  |
| ACCESS ROAD   | А  | Good   |   |  |  |
|   | <u>A</u>   | Green  | and thick   |  |  |
| TREES   | A  | Starting to bud  |   |  |  |
| LITTER  | A  | None   |   |  |  |
|   | <u>A</u>   | None   | None  |  |  |
| EROSION (BANK)  | A  | None   |   |  |  |
| SECURITY:   |  |  |   |  |  |
| FENCE/LOCKS   | A  | Good   |   |  |  |
| PIEZOMETERS/LOCKS   | A  | Good   |   |  |  |
| MONITORING WELLS/LOCKS  | A  | Good   |   |  |  |
| MANHOLES/LIDS/LOCKS   | A  | Good   |   |  |  |
| ELECTRICAL PANEL  | A  | Good   |   |  |  |
| ADDITIONAL COMMENTS:  | This visit   | is a follow up to the  | original inspection on 4/5/05   |  |  |
| Since then the snow has melter  | l and we ca  | an get a better look a   | t the cap and surrounding areas.  |  |  |
| Since men, the show has menee   |  |  |   |  |  |
| Mike Hinton from the NYSDEC r   | net me out   | on site for the walk   | through. He was happy with the  |  |  |
| way everything looked.  |  |  |   |  |  |
| nay orony and groon out   |  |  |   |  |  |
|   |  |  |   |  |  |
|   |  |  |   |  |  |
|   | <u> </u>   |  | <u></u>   |  |  |



# QUARTERLY GROUNDWATER ELEVATION /PUMPING FORMS

January - June 2005

CHARLES GIBSON SITE (PINE AND TUSCARORA SITE) NIAGARA FALLS, NEW YORK NYSDEC Registry No. 9-32-063

dm:sites/P&T Gibson//site monitoring/semiannual gw sampling /April 2005

# CHARLES GIBSON SITE NIAGARA FALÉS, NEW YORK NYSDEC REGISTRY NO. 9-32-063 **GROUNDWATER ELEVATION FORM**

#### THIS FORM TO BE USED FOR ALL QUARTERLY PIEZOMETER AND MANHOLE GROUND-WATER ELEVATION MEASURING EVENTS 900 TIME: 4/5/2005 DATE: COMPANY: Sevenson INSPECTOR: M. Walker WEATHER: Sunny 38 F COMMENTS RISER ELEVATION DEPTH TO WATER WATER **ELEVATION** (INSIDE CASING) (FT.) PIEZOMETER 565.71 7.01 P-1 572.72 565.53 9.36 P-2 574.89 567.61 See Below 6.55 P-3 574.16 565.34 P-4 576.14 10.8 569.85 5.2 575.05 **P-5** 10.25 568.03 P-6 578.28 563.66 575.22 11.56 MANHOLE A 13.61 563.73 577.34 MANHOLE B

(Note: Manhole A empties into Manhole B by gravity feed and Manhole B is pumped automatically to the Town of Niagara Tuscarora Road sanitary sewer line by a float controlled sump pump which maintains groundwater elevations in Manhole B (and by extension Manhole A) below an elevation of 565 ft. above mean sea level. Therefore, Depth to water distance from the manhole rim should not be less than 12.41 ft. at Manhole B and 10.22 ft. at Manhole A. (Note: riser elevations (re)surveyed September, 1999 by Wendel Surveyors)

ADDITIONAL COMMENTS/OBSERVATIONS: Well casing at P-3 has settled 2".

CRA 8143 (1) AppD-GwleForm