The electronic version of this file/report should have the file name:

Type of document . Site Number . Year-Month . File *Year-Year* or Report name . pdf

_____ . _____ - ___ . File _____ .pdf

example: *letter . Year-Month . File Year-Year . pdf*

Report . HW.932063.2005-07-29 . GW_Sampling.pdf

_____ . _____ - ___ . _____ .pdf

example: *report . Site Number . Year-Month . Report Name . pdf*

Project Site numbers will be proceeded by the following:

Municipal Brownfields - B
Superfund - HW
Spills - SP
ERP - E
VCP - V
BCP - C

BS

932063

2005 GW File

Olin

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

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

July 29, 2005

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 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

Lorraine M. Miller

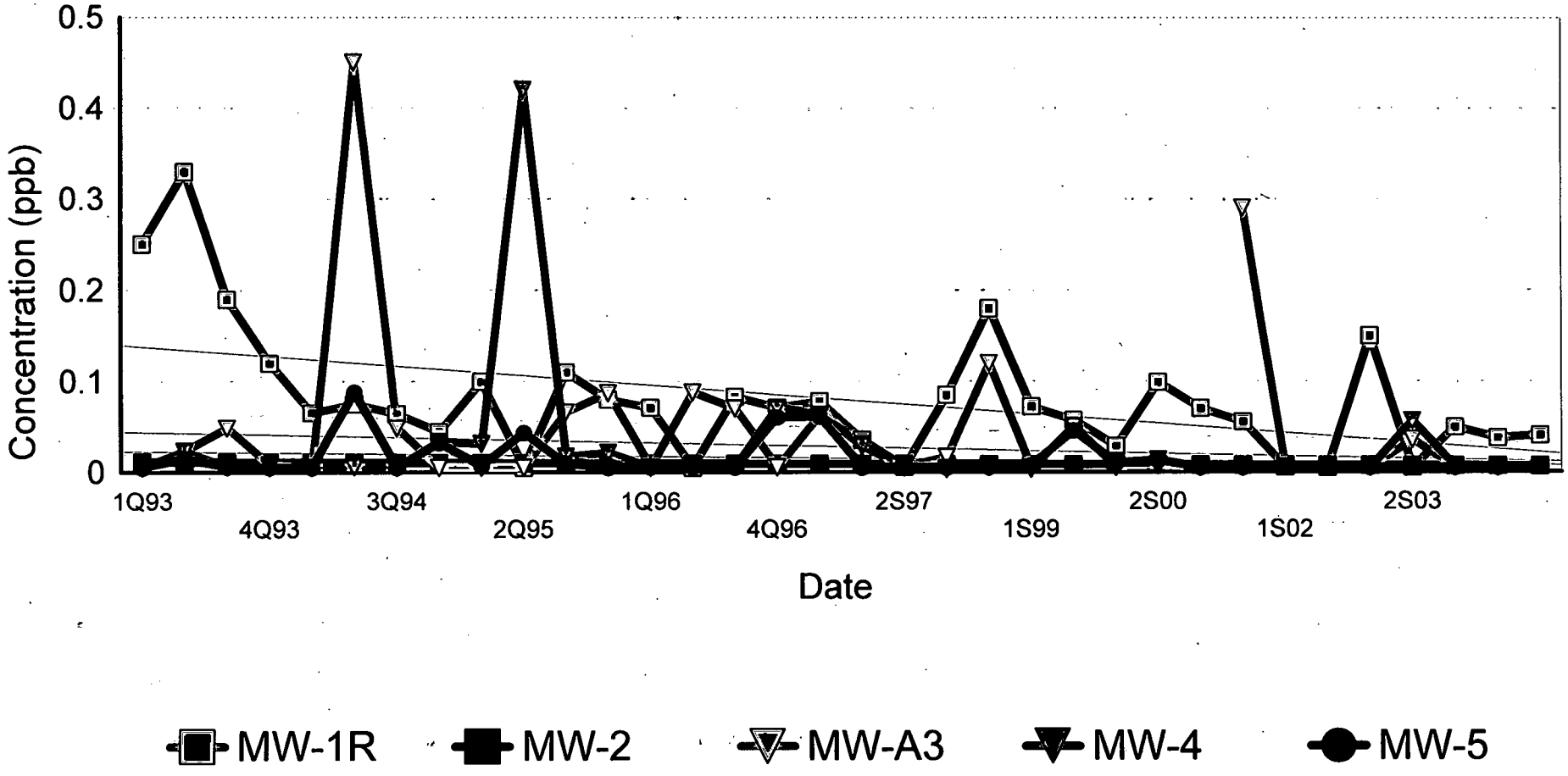
Lorraine M. Miller
Principal Environmental Specialist

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

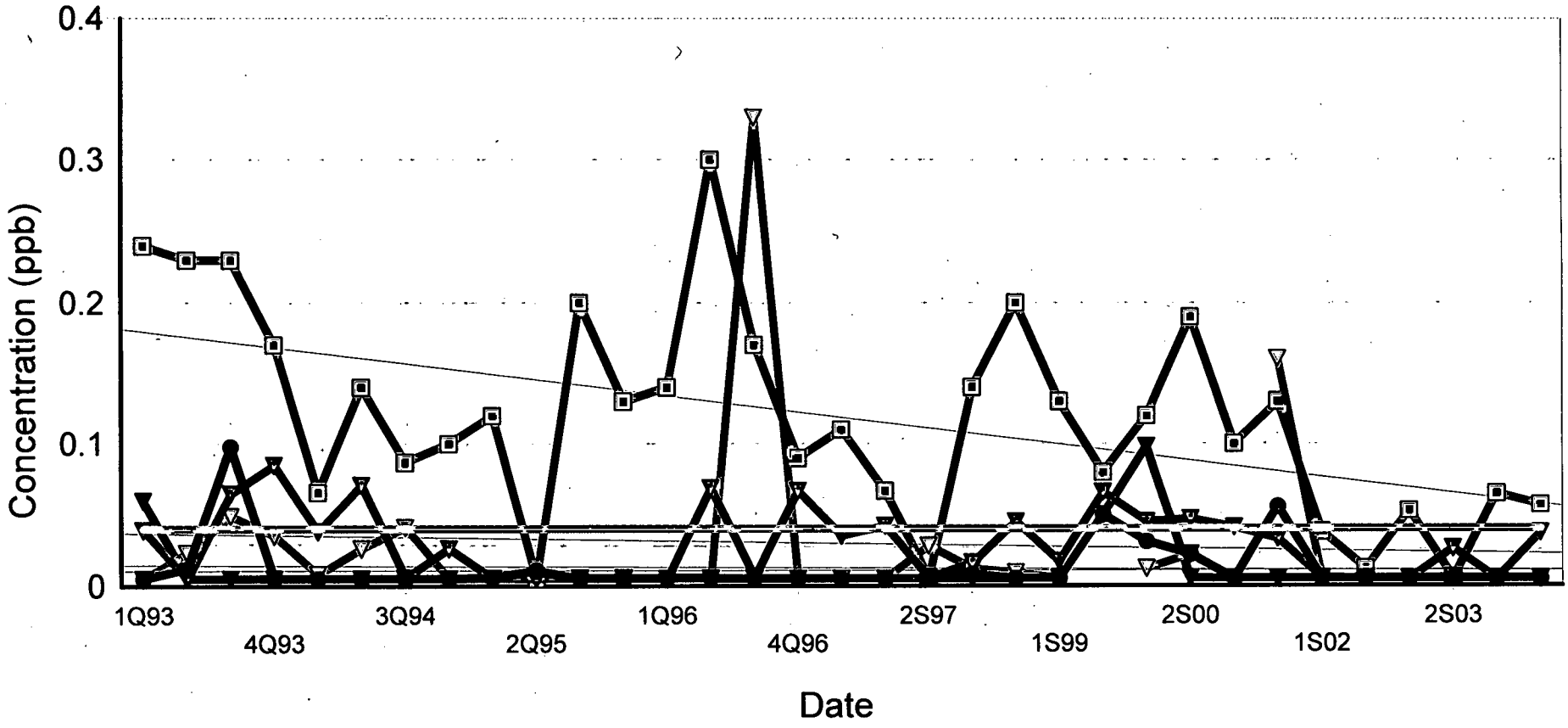
alpha - BHC



Non-detects plotted as 1/10th of detection limit

Gibson Site #932063

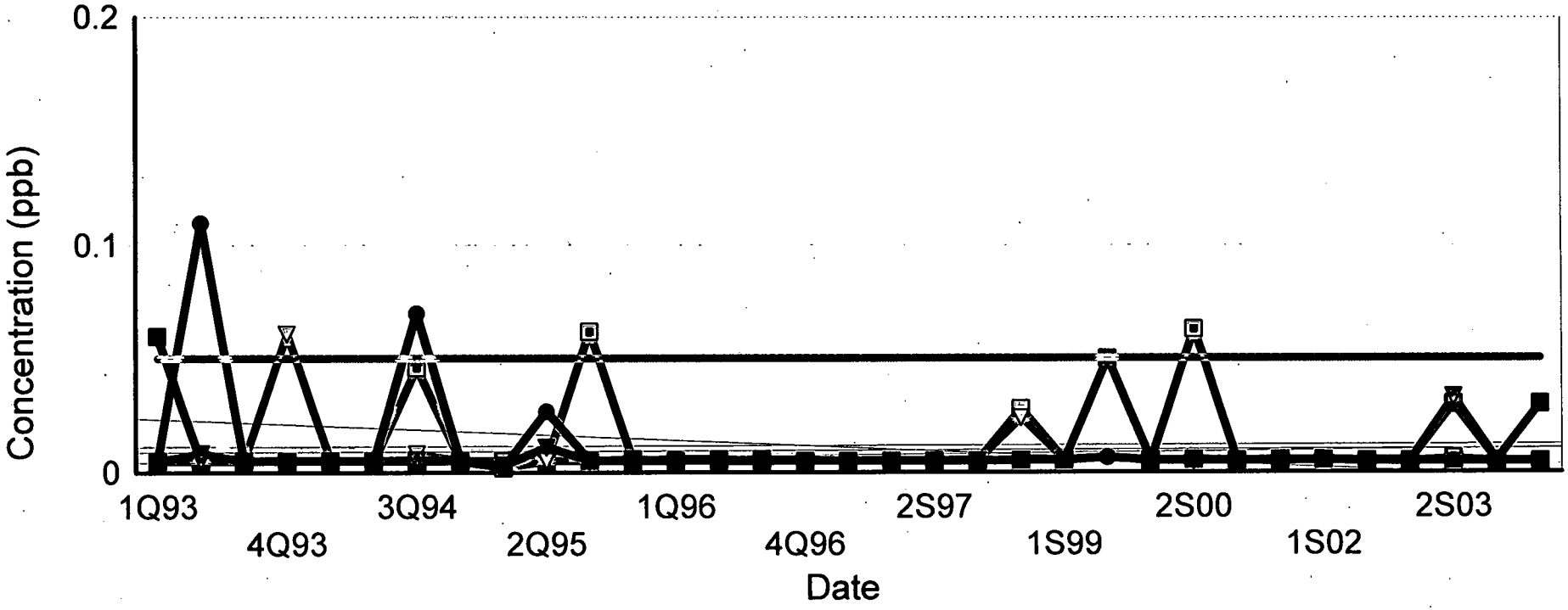
beta - BHC



Non-detects plotted as 1/10th of detection limit

Gibson Site #932063

gamma - BHC



MW-1R

MW-2

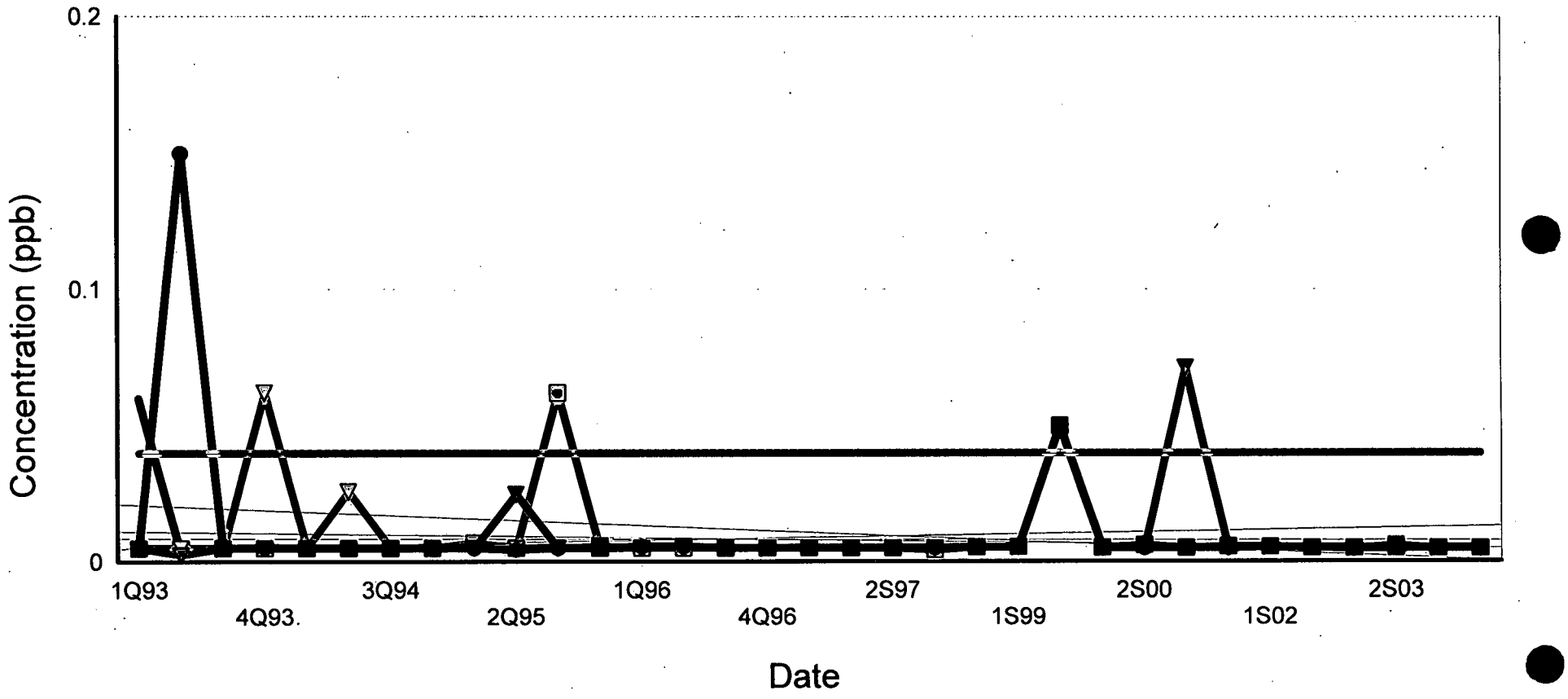
MW-A3

MW-4

Non-detects plotted as 1/10th of detection limit

Gibson Site #932063

delta -BHC



Non-detects plotted as 1/10th of detection limit

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 (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:

Concentration in ug/l
U 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

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

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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LIST OF APPENDICES

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 Extraction (days)	Extraction to 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	Field Duplicate ID
MW-1R	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

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-7-040505*		MW-2-040505		MW-4-040505		MW-5-040505	
Sample Date	04/05/05		04/05/05		04/05/05		04/05/05		04/05/05		04/05/05	
BHC Isomers in Water via Method 8081A (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	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	U	<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 Method 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 STL

Severn Trent Laboratories, Inc.

STL-4124 (0901)

Client: OLIN Corp	Project Manager: Lorraine Miller	Date: 4.5.05	Chain of Custody Number: 191879
Address: 1186 Lower River Rd PO Box 248	Telephone Number (Area Code)/Fax Number: 423 336 4000 / 423 336-4166	Lab Number:	Page 1 of 1
City: Charleston; State: TN; Zip Code: 37310	Site Contact: Mike Walker	Lab Contact: Brian Fisher	
Project Name and Location (State): Charles Gibson Site Niagara Falls, NY.	Carrier/Waybill Number:		
Contract/Purchase Order/Quote No.			

Sample I.D. No. and Description (Containers for each sample may be combined on one line)	Date	Time	Matrix: Air	Aqueous	Sed.	Soil	Containers & Preservatives: Unpres.	H2SO4	HNO3	HCl	NaOH	ZnAc/NaOH	Analysis: BNs	HCB	Special Instructions/ Conditions of Receipt
MW-1R-040505	4.5.05	1150		X			X						X		2-1 Lt Amber
MW-2-040505		1105											X		6-1 Lt Amber (MS+MSD)
MW-A3-040505		1355											X		2-1 Lt Amber
MW-4-040505		1305											X		2-1 Lt Amber
MW-5-040505		1250											X		2-1 Lt Amber
MW-7-040505		1630											X		2-1 Lt Amber
MHB-040505		1000											X	X	4-1 Lt Amber
Field Blank-040505		0940											X		4-1 Lt Amber

Possible Hazard Identification: ☐ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☒ Unknown

Sample Disposal: ☐ Return To Client ☒ Disposal By Lab ☐ Archive For _____ Months (A fee may be assessed if samples are retained longer than 1 month)

Turn Around Time Required: ☐ 24 Hours ☐ 48 Hours ☐ 7 Days ☐ 14 Days ☐ 21 Days ☒ Other Standard

QC Requirements (Specify):

1. Relinquished By	Date: 4.5.05	Time: 1640	1. Received By	Date: 040505	Time: 1640
2. Relinquished By	Date:	Time:	2. Received By	Date:	Time:
3. Relinquished By	Date:	Time:	3. Received By	Date:	Time:

Comments: 2 Cooler

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

42/278

APPENDIX B

SUMMARY ANALYTICAL REPORT

FILE COPY

SEVERN TRENT STL

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

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

CHARLES GIBSON SITE
ENV. MONITORING 2005
IND
ENV

ANALYTICAL REPORT

Job#: A05-3100

STL Project#: NY3A9025
Site Name: OLIN CORPORATION
Task: Charles Gibson Site

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

CC: Mr. Michael Walker

STL Buffalo

Brian J Fischer
Project Manager

Martha Fuller
Analyst

Donna Besco
Analyst

4/25/05

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	036-999-337
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

SAMPLE DATA SUMMARY PACKAGE

SAMPLE SUMMARY

LAB SAMPLE ID	CLIENT SAMPLE ID	MATRIX	SAMPLED DATE	SAMPLED TIME	RECEIVED DATE	RECEIVED 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	GW	04/05/2005	12:50	04/05/2005	16:40
A5310006	MW-7-040505 (DUP MW18)	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#: A05-3100

STL Project#: NY3A9025
Site Name: Olin Corporation - Charles Gibson site

PARAMETER	ANALYTICAL 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#: NY3A9025
Site Name: Olin Corporation - Charles Gibson site

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

NEW YORK STATE
DEPARTMENT OF ENVIRONMENTAL CONSERVATION

SAMPLE IDENTIFICATION
AND
ANALYTICAL REQUEST SUMMARY

LAB NAME: SEVERN TRENT LABORATORIES, INC.

CUSTOMER SAMPLE ID	LABORATORY SAMPLE ID	ANALYTICAL REQUIREMENTS						
		VOA GC/MS	BNA GC/MS	VOA GC	PEST PCB	METALS	TCLP HERB	WATER 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	-	-	-

NEW YORK STATE
DEPARTMENT OF ENVIRONMENTAL CONSERVATION

SAMPLE PREPARATION AND ANALYSIS SUMMARY
B\N-A ANALYSIS

LAB NAME: SEVERN TRENT LABORATORIES, INC.

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

NYSDEC-3

NEW YORK STATE
DEPARTMENT OF ENVIRONMENTAL CONSERVATION

SAMPLE PREPARATION AND ANALYSIS SUMMARY
PESTICIDE/PCB ANALYSIS

LAB NAME: SEVERN TRENT LABORATORIES, INC.

SAMPLE IDENTIFICATION	MATRIX	DATE COLLECTED	DATE RECEIVED AT LAB	DATE EXTRACTED	DATE 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

NEW YORK STATE
DEPARTMENT OF ENVIRONMENTAL CONSERVATION

SAMPLE PREPARATION AND ANALYSIS SUMMARY
ORGANIC ANALYSIS

LAB NAME: SEVERN TRENT LABORATORIES, INC.

SAMPLE IDENTIFICATION	MATRIX	ANALYTICAL PROTOCOL	EXTRACTION METHOD	AUXILIARY CLEAN UP	DIL/CONC 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.
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 dilution 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.
1	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.

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

Client No.

FIELD BLANK-040505

Lab Name: STL Buffalo Contract: _____

Lab Code: RECNY Case No.: _____ SAS No.: _____ SDG No.: _____

Matrix: (soil/water) WATER Lab Sample ID: A5310008

Sample wt/vol: 1060.0 (g/mL) ML Lab File ID: V08878.RR

Level: (low/med) LOW Date Samp/Recv: 04/05/2005 04/05/2005

% Moisture: _____ decanted: (Y/N) N 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) N pH: 6.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
118-74-1	Hexachlorobenzene	9	U

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

Client No.

MHB-040505

Lab Name: STL Buffalo Contract: _____

Lab Code: RECNY Case No.: _____ SAS No.: _____ SDG No.: _____

Matrix: (soil/water) WATER Lab Sample ID: A5310001

Sample wt/vol: 1060.0 (g/mL) ML Lab File ID: V08877.RR

Level: (low/med) LOW Date Samp/Recv: 04/05/2005 04/05/2005

% Moisture: _____ decanted: (Y/N) N 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) N pH: 6.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
118-74-1	Hexachlorobenzene	9	U

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

Client No.

FIELD BLANK-040505

Lab Name: STL Buffalo Contract: _____

Lab Code: RECNY Case No.: _____ SAS No.: _____ SDG No.: _____

Matrix: (soil/water) WATER Lab Sample ID: A5310008

Sample wt/vol: 1055.00 (g/mL) ML Lab File ID: 18A52131.TX0

% Moisture: _____ decanted: (Y/N) N Date Samp/Recv: 04/05/2005 04/05/2005

Extraction: (SepF/Cont/Sonc/Soxh): SEPF Date Extracted: 04/07/2005

Concentrated Extract Volume: 10000 (uL) Date Analyzed: 04/13/2005

Injection Volume: 1.00 (uL) Dilution Factor: 1.00

GPC Cleanup: (Y/N) N pH: 6.00 Sulfur Cleanup: (Y/N) N

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
319-84-6	alpha-BHC	0.047	U
319-85-7	beta-BHC	0.047	U
319-86-8	delta-BHC	0.047	U
58-89-9	gamma-BHC (Lindane)	0.047	U

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

Client No.

MHB-040505

Lab Name: STL Buffalo Contract: _____

Lab Code: RECNY Case No.: _____ SAS No.: _____ SDG No.: _____

Matrix: (soil/water) WATER Lab Sample ID: A5310001

Sample wt/vol: 1060.00 (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): SEPF Date Extracted: 04/07/2005

Concentrated Extract Volume: 10000 (uL) Date Analyzed: 04/13/2005

Injection Volume: 1.00 (uL) Dilution Factor: 1.00

GPC Cleanup: (Y/N) N pH: 6.00 Sulfur Cleanup: (Y/N) N

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
319-84-6	alpha-BHC	0.046	J
319-85-7	beta-BHC	0.076	
319-86-8	delta-BHC	0.28	
58-89-9	gamma-BHC (Lindane)	0.047	U

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

Client No.

MW-1R-040505

Lab Name: STL Buffalo Contract: _____

Lab Code: RECNY Case No.: _____ SAS No.: _____ SDG No.: _____

Matrix: (soil/water) WATER Lab Sample ID: A5310002

Sample wt/vol: 1000.00 (g/mL) ML Lab File ID: 18A52123.TX0

% Moisture: _____ decanted: (Y/N) N Date Samp/Recv: 04/05/2005 04/05/2005

Extraction: (SepF/Cont/Sonc/Soxh): SEPF Date Extracted: 04/07/2005

Concentrated Extract Volume: 10000 (uL) Date Analyzed: 04/13/2005

Injection Volume: 1.00 (uL) Dilution Factor: 1.00

GPC Cleanup: (Y/N) N pH: 6.00 Sulfur Cleanup: (Y/N) N

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
319-84-6	alpha-BHC	0.040	J
319-85-7	beta-BHC	0.050	U
319-86-8	delta-BHC	0.036	J
58-89-9	gamma-BHC (Lindane)	0.050	U

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

Client No.

MW-2-040505

Lab Name: STL Buffalo Contract: _____

Lab Code: RECNY Case No.: _____ SAS No.: _____ SDG No.: _____

Matrix: (soil/water) WATER Lab Sample ID: A5310003

Sample wt/vol: 1000.00 (g/mL) ML Lab File ID: 18A52124.TX0

% Moisture: _____ decanted: (Y/N) N Date Samp/Recv: 04/05/2005 04/05/2005

Extraction: (SepF/Cont/Sonc/Soxh): SEPF Date Extracted: 04/07/2005

Concentrated Extract Volume: 10000 (uL) Date Analyzed: 04/13/2005

Injection Volume: 1.00 (uL) Dilution Factor: 1.00

GPC Cleanup: (Y/N) N pH: 6.00 Sulfur Cleanup: (Y/N) N

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/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)	0.050	U

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

Client No.

MW-4-040505

Lab Name: STL Buffalo Contract: _____

Lab Code: RECNY Case No.: _____ SAS No.: _____ SDG No.: _____

Matrix: (soil/water) WATER Lab Sample ID: A5310004

Sample wt/vol: 1060.00 (g/mL) ML Lab File ID: 18A52127.TX0

% Moisture: _____ decanted: (Y/N) N Date Samp/Recv: 04/05/2005 04/05/2005

Extraction: (SepF/Cont/Sonc/Soxh): SEPF Date Extracted: 04/07/2005

Concentrated Extract Volume: 10000 (uL) Date Analyzed: 04/13/2005

Injection Volume: 1.00 (uL) Dilution Factor: 1.00

GPC Cleanup: (Y/N) N pH: 6.00 Sulfur Cleanup: (Y/N) N

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
319-84-6	alpha-BHC	0.047	U
319-85-7	beta-BHC	0.047	U
319-86-8	delta-BHC	0.047	U
58-89-9	gamma-BHC (Lindane)	0.047	U

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) WATER Lab Sample ID: A5310005

Sample wt/vol: 1060.00 (g/mL) ML Lab File ID: 18A52128.TX0

% Moisture: _____ decanted: (Y/N) N Date Samp/Recv: 04/05/2005 04/05/2005

Extraction: (SepF/Cont/Sonc/Soxh): SEPF Date Extracted: 04/07/2005

Concentrated Extract Volume: 10000 (uL) Date Analyzed: 04/13/2005

Injection Volume: 1.00 (uL) Dilution Factor: 1.00

GPC Cleanup: (Y/N) N pH: 6.00 Sulfur Cleanup: (Y/N) N

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
319-84-6	alpha-BHC	0.047	U
319-85-7	beta-BHC	0.047	U
319-86-8	delta-BHC	0.047	U
58-89-9	gamma-BHC (Lindane)	0.047	U

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

MW-1R (FIELD DUP)

Client No.

MW-7-040505

Lab Name: STL Buffalo Contract: _____

Lab Code: RECNY Case No.: _____ SAS No.: _____ SDG No.: _____

Matrix: (soil/water) WATER Lab Sample ID: A5310006

Sample wt/vol: 1020.00 (g/mL) ML Lab File ID: 18A52129.TX0

% Moisture: _____ decanted: (Y/N) N Date Samp/Recv: 04/05/2005 04/05/2005

Extraction: (SepF/Cont/Sonc/Soxh): SEPF Date Extracted: 04/07/2005

Concentrated Extract Volume: 10000 (uL) Date Analyzed: 04/13/2005

Injection Volume: 1.00 (uL) Dilution Factor: 1.00

GPC Cleanup: (Y/N) N pH: 6.00 Sulfur Cleanup: (Y/N) N

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
319-84-6	alpha-BHC	0.049	U
319-85-7	beta-BHC	0.049	U
319-86-8	delta-BHC	0.049	U
58-89-9	gamma-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: STL Buffalo Contract: _____

Lab Code: RECNY Case No.: _____ SAS No.: _____ SDG No.: _____

Matrix: (soil/water) WATER Lab Sample ID: A5310007

Sample wt/vol: 1060.00 (g/mL) ML Lab File ID: 18A52130.TX0

% Moisture: _____ decanted: (Y/N) N Date Samp/Recv: 04/05/2005 04/05/2005

Extraction: (SepF/Cont/Sonc/Soxh): SEPF Date Extracted: 04/07/2005

Concentrated Extract Volume: 10000 (uL) Date Analyzed: 04/13/2005

Injection Volume: 1.00 (uL) Dilution Factor: 1.00

GPC Cleanup: (Y/N) N pH: 6.00 Sulfur Cleanup: (Y/N) N

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
319-84-6	alpha-BHC	0.047	U
319-85-7	beta-BHC	0.047	U
319-86-8	delta-BHC	0.047	U
58-89-9	gamma-BHC (Lindane)	0.047	U

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

Lab Name: STL Buffalo Contract: _____

Lab Code: RECNY Case No.: _____ SAS No.: _____ SDG No.: _____

	Client Sample ID	Lab Sample ID	2CP %REC	#	2FP %REC	#	DCB %REC	#	FBP %REC	#	NBZ %REC	#	PHL %REC	#	TBP %REC	#	TPH %REC	#	TOT OUT
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
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

			QC LIMITS
2CP	=	2-Chlorophenol-d4	(33-110)
2FP	=	2-Fluorophenol	(21-110)
DCB	=	1,2-Dichlorobenzene-d4	(16-110)
FBP	=	2-Fluorobiphenyl	(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: STL Buffalo Contract: _____

Lab Code: RECNY Case No.: _____ SAS No.: _____ SDG No.: _____

GC Column(1): RTXCLPI ID: 0.00 (mm)

	Client Sample ID	Lab Sample ID	DCBP %REC	#	TCMX %REC	#							TOT OUT
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								0
12	MWA-3-040505	A5310007	90		77								0

QC LIMITS

(DCBP) = Decachlorobiphenyl (30-150)
(TCMX) = Tetrachloro-m-xylene (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

Lab Name: STL Buffalo Contract: _____ Lab Samp ID: A5310003

Lab Code: RECNY Case No.: _____ SAS No.: _____ SDG No.: _____

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

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

COMPOUND	SPIKE ADDED UG/L	MSD CONCENTRATION UG/L	MSD % REC #	% RPD #	QC LIMITS RPD	QC LIMITS 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 BHC'S
WATER MATRIX SPIKE BLANK RECOVERY

Lab Name: STL Buffalo Contract: _____ Lab Samp ID: A5B0467602

Lab Code: RECNY Case No.: _____ SAS No.: _____ SDG No.: _____

Matrix Spike - Client Sample No.: Method Blank

COMPOUND	SPIKE ADDED UG/L	MSB CONCENTRATION UG/L	MSB % REC #	QC LIMITS 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: ____0 out of ____1 outside limits

Comments: _____

_____

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

Client No.: SBLK

Lab Name: STL Buffalo Contract: _____

Lab Code: RECNY Case No.: _____ SAS No.: _____ SDG No.: _____

Lab File ID: V08876.RR Lab Sample ID: A5B0493202

Instrument ID: HP5973V Date Extracted: 04/11/2005

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 SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE 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: _____

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

Client No.

SBLK

Lab Name: STL Buffalo Contract: _____

Lab Code: RECNY Case No.: _____ SAS No.: _____ SDG No.: _____

Matrix: (soil/water) WATER Lab Sample ID: A5B0493202

Sample wt/vol: 1000.0 (g/mL) ML Lab File ID: V08876.RR

Level: (low/med) LOW Date Samp/Recv: _____ _____

% Moisture: _____ decanted: (Y/N) N 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) N pH: 5.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
118-74-1	Hexachlorobenzene	10	U

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

Client No.

Method Blank

Lab Name: STL Buffalo Contract: _____

Lab Code: RECNY Case No.: _____ SAS No.: _____ SDG No.: _____

Lab Sample ID: A5B0467602 Lab File ID: 18A52135.TX0

Matrix: (soil/water) WATER Extraction: SEPF

Sulfur Cleanup: (Y/N): N Date Extracted: 04/07/2005

Date Analyzed (1): 04/13/2005 Date Analyzed (2): _____

Time Analyzed (1): 19:27 Time Analyzed (2): _____

Instrument ID (1): HP5890-18 Instrument ID (2): _____

GC Column (1): RTXCLPI Dia: ____(mm) GC Column (2): _____ Dia: ____(mm)

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

	CLIENT SAMPLE NO.	LAB SAMPLE ID	DATE ANALYZED 1	DATE 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	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: _____

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

Client No.

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: _____ _____

Extraction: (SepF/Cont/Sonc/Soxh): SEPF Date Extracted: 04/07/2005

Concentrated Extract Volume: 10000 (uL) Date Analyzed: 04/13/2005

Injection Volume: 1.00 (uL) Dilution Factor: 1.00

GPC Cleanup: (Y/N) N pH: 5.00 Sulfur Cleanup: (Y/N) N

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/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)	0.050	U

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

Lab Name: STL Buffalo Contract: _____ Labsampid: A5C0003231

Lab Code: RECNY Case No.: _____ SAS No.: _____ SDG No.: _____

Lab File ID (Standard): V08868.RR Date Analyzed: 04/14/2005

Instrument ID: HP5973V Time Analyzed: 08:52

		IS1 (ANT) AREA	#	RT	#	IS2 (CRY) AREA	#	RT	#	IS3 (DCB) AREA	#	RT	#
	12 HOUR STD	374181		11.06		565800		15.73		210437		6.61	
	UPPER LIMIT	748362		11.56		1131600		16.23		420874		7.11	
	LOWER LIMIT	187091		10.56		282900		15.23		105219		6.11	
	CLIENT SAMPLE	Lab Sample ID											
1	FIELD BLANK-040505	A5310008		11.06		564923		15.73		204269		6.61	
2	Matrix Spike Blank	A5B0493201		11.06		616254		15.73		208917		6.61	
3	MHB-040505	A5310001		363454		11.06		583648		15.73		199669	6.62
4	SBLK	A5B0493202		371347		11.06		582121		15.73		197810	6.62

	AREA UNIT QC LIMITS	RT QC LIMITS
IS1 (ANT) = Acenaphthene-D10	(50-200)	-0.50 / +0.50 min
IS2 (CRY) = Chrysene-D12	(50-200)	-0.50 / +0.50 min
IS3 (DCB) = 1,4-Dichlorobenzene-D4	(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

Lab Name: STL Buffalo Contract: _____ Labsampid: A5C0003231

Lab Code: RECNY Case No.: _____ SAS No.: _____ SDG No.: _____

Lab File ID (Standard): V08868.RR Date Analyzed: 04/14/2005

Instrument ID: HP5973V Time Analyzed: 08:52

			IS4 (NPT) AREA	#	RT	#	IS5(PHN) AREA	#	RT	#	IS6 (PRY) AREA	#	RT	#
	12 HOUR STD		747410		8.47		609614		13.09		621747		16.98	
	UPPER LIMIT		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												
1	FIELD BLANK-040505	A5310008	735151		8.47		599871		13.09		675572		16.98	
2	Matrix Spike Blank	A5B0493201	754794		8.47		630016		13.09		720999		16.98	
3	MHB-040505	A5310001	711207		8.47		584688		13.09		687837		16.98	
4	SBLK	A5B0493202	703262		8.47		594310		13.09		683117		16.98	

	AREA UNIT QC LIMITS	RT QC LIMITS
IS4 (NPT) = Naphthalene-D8	(50-200)	-0.50 / +0.50 min
IS5 (PHN) = Phenanthrene-D10	(50-200)	-0.50 / +0.50 min
IS6 (PRY) = Perylene-D12	(50-200)	-0.50 / +0.50 min

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

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

Analyte	Units of Measure	Concentration			Spike Amount		% Recovery			% RPD	QC LIMITS	
		Sample	Matrix Spike	Spike Duplicate	MS	MSD	MS	MSD	Avg		RPD	REC.
EARTH - ASP00 8270 PAH'S - W												
Acenaphthene	UG/L	0	43.0	43.5	50.0	50.0	86	87	87	- 1	31.0	46-118
Pyrene	UG/L	0	46.3	47.8	50.0	50.0	93	96	95	3	31.0	26-127

34/278

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

STL Buffalo

SAMPLE DATA PACKAGE

SAMPLE SUMMARY

LAB SAMPLE ID	CLIENT SAMPLE ID	MATRIX	SAMPLED DATE	SAMPLED TIME	RECEIVED DATE	RECEIVED 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	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#: A05-3100

STL Project#: NY3A9025
Site Name: Olin Corporation - Charles Gibson site

PARAMETER	ANALYTICAL 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#: NY3A9025
Site Name: Olin Corporation - Charles Gibson site

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 CALIBRATING METERS: M. Walker

pH METER USED: MANUFACTURER: Corning
MODEL: pH -20
IDENTIFICATION/CONTROL NUMBER: E-864

CALIBRATION STANDARDS USED:

STANDARD 7.00 METER READ: 7.04
STANDARD 4.00 METER READ:
STANDARD 10.00 METER READ:

METER CALIBRATION COMMENTS: New Batteries
Single point Calibration

SPECIFIC CONDUCTIVITY METER USED:
MANUFACTURER: Oakton
MODEL: Hand Held
IDENTIFICATION/CONTROL NUMBER: E-864

CALIBRATION STANDARDS USED:

STANDARD 0 READ:
(STANDARD 0 USED: ____AIR, ____WATER)
STANDARD 447 READ: 451
STANDARD ____ READ: ____

METER CALIBRATION COMMENTS: New Batteries

THERMOMETER USED: TYPE: Digital
MANUFACTURER: Fischer-Scientific
IDENTIFICATION/CONTROL NUMBER: E-864

COMMENTS: (DOES THERMOMETER TEMPERATURE AGREE WITH SPECIFIC CONDUCTIVITY METER TEMPERATURE ?) Y
OTHER:

OTHER INSTRUMENTS USED: TYPE:
MANUFACTURER:
IDENTIFICATION/CONTROL NUMBER:

CALIBRATIONS PERFORMED:

OTHER CALIBRATION COMMENTS:

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: MHB-040505
SAMPLED BY: C. Jones
SAMPLING EVENT/DATE: 4/5/2005
COMPANY: Sevenson
MONITORING WELL: Manhole B
CONDITION: Good

GROUNDWATER PURGE DATA PURGE DATE: 4/5/05

DEPTH TO BOTTOM FROM TOP OF RISER: XXXX (FT.)
DEPTH TO WATER FROM TOP OF RISER: XXXX (FT.)
WATER COLUMN: XXXX (FT.)
2" DIA. WELL CONSTANT: XXXX
ONE WELL VOLUME= XXXX (GALS)

PURGE METHOD: XXXX
BOTTOM OF WELL/SILT BUILDUP: XXXX
PURGE START TIME: XXX STOP TIME: XXXX
PURGE OBSERVATIONS:

NOTE: ALL GIBSON SITE MONITORING WELLS ARE 2-INCH DIAMETER STAIN-LESS STEEL. WELL DEPTHS:

MW-1R	12.10'
MW-2	12.13'
MW-A3	11.95'
MW-4	13.75'
MW-5	15.28'

FIELD PARAMETER MEASUREMENTS:

WELL VOLUME	pH	SPECIFIC CONDUCTIVITY umhos/cm)	TEMP. (C OR F)	NOTES:
1	7.94	563	46 F	
2				
3				
4				
5				

TOTAL VOLUME PURGED: GRAB SAMPLE

GROUNDWATER OR SEDIMENT SAMPLING DATA: SAMPLE DATE: 4/5/2005

MEDIA: GROUNDWATER X
CREEK SEDIMENT
SAMPLE TIME: 1000

LOCATION: Manhole "B"

SAMPLE METHOD: Grab sample using a parastaltic pump with dedicated tubing

SAMPLING OBSERVATIONS: Clear , No odor.

QC SAMPLES TAKEN: No

OTHER OBSERVATIONS/COMMENTS: 4 - 1 liter glass jars filled.

Note: specific conductivity formula to 25 degrees Celcius: SC(25)= SC measured / {{T-25)(0.02)}+1

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

RECORDED BY: M. Walker
SAMPLED BY: C. Jones
COMPANY: Sevenson

SAMPLE ID: MW-1R-040505
SAMPLING EVENT/DATE: 4/5/2005
MONITORING WELL: MW-1R
CONDITION: good

GROUNDWATER PURGE DATA PURGE DATE: 4/5/05

DEPTH TO BOTTOM FROM TOP OF RISER: 12.1 (FT.)
DEPTH TO WATER FROM TOP OF RISER: 2.95 (FT.)
WATER COLUMN: 9.15 (FT.)
2" DIA. WELL CONSTANT: 0.16
ONE WELL VOLUME= 1.46 (GALS)

PURGE METHOD: Low flow using Parastaltic pump and dedicated tubing. Af
BOTTOM OF WELL/SILT BUILDUP: No
PURGE START TIME: 1115 STOP TIM 1135
PURGE OBSERVATIONS:

NOTE: ALL GIBSON SITE MONITORING WELLS ARE 2-INCH DIAMETER STAIN-LESS STEEL. WELL DEPTHS:

MW-1R	12.10'
MW-2	12.13'
MW-A3	11.95'
MW-4	13.75'
MW-5	15.28'

FIELD PARAMETER MEASUREMENTS:

WELL VOLUME	pH	SPECIFIC CONDUCTIVITY umhos/cm)	TEMP. (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 PURGED: 4.38

GROUNDWATER OR SEDIMENT SAMPLING DATA: SAMPLE DATE: 4/5/2005

MEDIA: GROUNDWATER X
CREEK SEDIMENT
SAMPLE TIME: 1150

LOCATION: MW-1R

SAMPLE METHOD: Low flow using Parastaltic pump and dedicated tubing. After purging 3 volumes.

SAMPLING OBSERVATIONS: Sample volume ran dry after 3 bottles, we waited 15 min. for recharge

QC SAMPLES TAKEN: yes, blind duplicate "MW-7"

OTHER OBSERVATIONS/COMMENTS: MW-7 was used as a "blind duplicate" taken at this time and labeled 1630 for time of sample. 4 1 liter amber jars filled.

Note: specific conductivity formula to 25 degrees Celcius: SC(25)= SC measured / {{T-25)(0.02)}+1

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

RECORDED BY: M. Walker
SAMPLED BY: C. Jones
COMPANY: Sevenson

SAMPLE ID: MW-2-040505
SAMPLING EVENT/DATE: 4/5/2005
MONITORING WELL: MW-2
CONDITION: good

GROUNDWATER PURGE DATA PURGE DATE: 4/5/05

DEPTH TO BOTTOM FROM TOP OF RISER: 12.13 (FT.)
DEPTH TO WATER FROM TOP OF RISER: 3.51 (FT.)
WATER COLUMN: 8.62 (FT.)
2" DIA. WELL CONSTANT: 0.16
ONE WELL VOLUME= 1.38 (GALS)

PURGE METHOD: Low flow using Parastaltic pump and dedicated tubing. Af
BOTTOM OF WELL/SILT BUILDUP: No
PURGE START TIME: 1038 STOP TIME 1100
PURGE OBSERVATIONS: Clear water

NOTE: ALL GIBSON SITE MONITORING WELLS ARE 2-INCH DIAMETER STAIN-LESS STEEL. WELL DEPTHS:

MW-1R	12.10'
MW-2	12.13'
MW-A3	11.95'
MW-4	13.75'
MW-5	15.28'

FIELD PARAMETER MEASUREMENTS:

WELL VOLUME	pH	SPECIFIC CONDUCTIVITY umhos/cm)	TEMP. (C OR F)	NOTES:
1	7.63	1639	7.4	
2	7.62	1443	7.3	
3	7.6	1463	7.3	
4				
5				

TOTAL VOLUME PURGED: 4.2 gallons

GROUNDWATER OR SEDIMENT SAMPLING DATA: SAMPLE DATE: 4/5/2005

MEDIA: GROUNDWATER X
CREEK SEDIMENT

SAMPLE TIME: 1105

LOCATION: MW-2

SAMPLE METHOD: Low flow using Parastaltic pump and dedicated tubing. After purging 3 volumes.

SAMPLING OBSERVATIONS: Clear , No odor.

QC SAMPLES TAKEN: MS & MSD samples taken along with normal samples taken

OTHER OBSERVATIONS/COMMENTS: 6 - 1 liter glass jars filled.

Note: specific conductivity formula to 25 degrees Celcius: SC(25)= SC measured / {{T-25)(0.02)}+1

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-4-040505
SAMPLED BY: C. Jones
SAMPLING EVENT/DATE: 4/5/2005
COMPANY: Sevenson
MONITORING WELL: MW-4
CONDITION: good

GROUNDWATER PURGE DATA PURGE DATE: 4/5/05

DEPTH TO BOTTOM FROM TOP OF RISER: 13.75 (FT.)
DEPTH TO WATER FROM TOP OF RISER: 6.1 (FT.)
WATER COLUMN: 7.65 (FT.)
2" DIA. WELL CONSTANT: 0.16
ONE WELL VOLUME= 1.22 (GALS)

NOTE: ALL GIBSON SITE MONITORING WELLS ARE 2-INCH DIAMETER STAIN-LESS STEEL. WELL DEPTHS:

MW-1R	12.10'
MW-2	12.13'
MW-A3	11.95'
MW-4	13.75'
MW-5	15.28'

PURGE METHOD: Low flow using Parastaltic pump and dedicated tubing. A
BOTTOM OF WELL/SILT BUILDUP: No
PURGE START TIME: 1255 STOP TIM 1305
PURGE OBSERVATIONS:

FIELD PARAMETER MEASUREMENTS:

WELL VOLUME	pH	SPECIFIC CONDUCTIVITY umhos/cm)	TEMP. (C OR F)	NOTES:
1	7.83	1358	7.1	Black/Grey Water
2	7.7	1433	6.6	Lt. Grey
3	7.7	1764	7.2	Clearing
4				
5				

TOTAL VOLUME PURGED: 3.6 gallons

GROUNDWATER OR SEDIMENT SAMPLING DATA: SAMPLE DATE: 4/5/2005

MEDIA: GROUNDWATER X
CREEK SEDIMENT
SAMPLE TIME: 1305

LOCATION: MW-4 near Auto Zone.

SAMPLE METHOD: Low flow using Parastaltic pump and dedicated tubing. After purging 3 volumes.

SAMPLING OBSERVATIONS: Clear during Sampling

QC SAMPLES TAKEN: No

OTHER OBSERVATIONS/COMMENTS: 2 , 1 liter amber jars filled.

Note: specific conductivity formula to 25 degrees Celcius: SC(25)= SC measured / {{T-25)(0.02)}+1

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

RECORDED BY: M. Walker
SAMPLED BY: C. Jones
COMPANY: Sevenson

SAMPLE ID: MW-5-040505
SAMPLING EVENT/DATE: 4/5/2005
MONITORING WELL: MW-5
CONDITION: good

GROUNDWATER PURGE DATA PURGE DATE: 4/5/05

DEPTH TO BOTTOM FROM TOP OF RISER: 15.28 (FT.)
DEPTH TO WATER FROM TOP OF RISER: 6.71 (FT.)
WATER COLUMN: 8.57 (FT.)
2" DIA. WELL CONSTANT: 0.16
ONE WELL VOLUME= 1.37 (GALS)

PURGE METHOD: Low flow using Parastaltic pump and dedicated tubing. Af
BOTTOM OF WELL/SILT BUILDUP: No
PURGE START TIME: 1215 STOP TIM 1240
PURGE OBSERVATIONS:

NOTE: ALL GIBSON SITE MONITORING WELLS ARE 2-INCH DIAMETER STAIN-LESS STEEL. WELL DEPTHS:

MW-1R	12.10'
MW-2	12.13'
MW-A3	11.95'
MW-4	13.75'
MW-5	15.28'

FIELD PARAMETER MEASUREMENTS:

WELL VOLUME	pH	SPECIFIC CONDUCTIVITY umhos/cm)	TEMP. (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
CREEK SEDIMENT

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.

Note: specific conductivity formula to 25 degrees Celcius: SC(25)= SC measured / {{T-25)(0.02)}+1

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

RECORDED BY: M. Walker
SAMPLED BY: C. Jones
COMPANY: Sevenson

SAMPLE ID: MW-7-040505
SAMPLING EVENT/DATE: 4/5/2005
MONITORING WELL: MW-1 Duplicate (blind)
CONDITION:

GROUNDWATER PURGE DATA PURGE DATE: 4/5/05

DEPTH TO BOTTOM FROM TOP OF RISER: XXXX (FT.)
DEPTH TO WATER FROM TOP OF RISER: XXXX (FT.)
WATER COLUMN: XXXX (FT.)
2" DIA. WELL CONSTANT: XXXX
ONE WELL VOLUME= XXXX (GALS)

PURGE METHOD: XXXX
BOTTOM OF WELL/SILT BUILDUP: XXXX
PURGE START TIME: XXX STOP TIME: XXXX
PURGE OBSERVATIONS:

NOTE: ALL GIBSON SITE MONITORING WELLS ARE 2-INCH DIAMETER STAINLESS STEEL. WELL DEPTHS:

MW-1R	12.10'
MW-2	12.13'
MW-A3	11.95'
MW-4	13.75'
MW-5	15.28'

FIELD PARAMETER MEASUREMENTS:

WELL VOLUME	pH	SPECIFIC CONDUCTIVITY umhos/cm)	TEMP. (C OR F)	NOTES:
1				
2				
3				
4				
5				

TOTAL VOLUME PURGED:

GROUNDWATER OR SEDIMENT SAMPLING DATA: SAMPLE DATE: 4/5/2005

MEDIA: GROUNDWATER X
CREEK SEDIMENT
SAMPLE TIME: "1630"

LOCATION: MW-1R blind duplicate

SAMPLE METHOD: Low flow using Parastaltic pump and dedicated tubing. After purging 3 volumes.

SAMPLING OBSERVATIONS: Clear , No odor.

QC SAMPLES TAKEN: No

OTHER OBSERVATIONS/COMMENTS: 4 - 1 liter glass jars filled.

Then labeled MW-7 and timed at 1630. To serve as Blind Dup for QC purposes.

Note: specific conductivity formula to 25 degrees Celcius: $SC(25) = \frac{SC\ measured}{\{(T-25)(0.02)\}+1}$

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

RECORDED BY: M. Walker
SAMPLED BY: C. Jones
COMPANY: Sevenson

SAMPLE ID: MW-8-040505
SAMPLING EVENT/DATE: 4/5/2005
MONITORING WELL: **Field Blank**
CONDITION:

GROUNDWATER PURGE DATA PURGE DATE:

DEPTH TO BOTTOM FROM TOP OF RISER: (FT.)
DEPTH TO WATER FROM TOP OF RISER: (FT.)
WATER COLUMN: (FT.)
2" DIA. WELL CONSTANT:
ONE WELL VOLUME= (GALS)
PURGE METHOD:
BOTTOM OF WELL/SILT BUILDUP:
PURGE START TIME: STOP TIME
PURGE OBSERVATIONS:

NOTE: ALL GIBSON SITE MONITORING WELLS ARE 2-INCH DIAMETER STAINLESS STEEL. WELL DEPTHS:

MW-1R	12.10'
MW-2	12.13'
MW-A3	11.95'
MW-4	13.75'
MW-5	15.28'

FIELD PARAMETER MEASUREMENTS:

WELL VOLUME	pH	SPECIFIC CONDUCTIVITY umhos/cm)	TEMP. (C OR F)	NOTES:
1				
2				
3				
4				
5				

TOTAL VOLUME PURGED:

GROUNDWATER OR SEDIMENT SAMPLING DATA: SAMPLE DATE: 4/5/2005

MEDIA: GROUNDWATER ____ SAMPLE TIME: 940
CREEK SEDIMENT ____

LOCATION: Field Blank

SAMPLE METHOD:

SAMPLING OBSERVATIONS:

QC SAMPLES TAKEN:

OTHER OBSERVATIONS/COMMENTS: 2 1 liter amber jars filled with lab supplied water and sealed on site.

Note: specific conductivity formula to 25 degrees Celcius: $SC(25) = \frac{SC\ measured}{\{(T-25)(0.02)\}+1}$

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-A3-040505
SAMPLED BY: C. Jones
SAMPLING EVENT/DATE: 4/5/2005
COMPANY: Sevenson
MONITORING WELL: MW-A3
CONDITION: good

GROUNDWATER PURGE DATA PURGE DATE: 4/5/05

DEPTH TO BOTTOM FROM TOP OF RISER: 11.95 (FT.)
DEPTH TO WATER FROM TOP OF RISER: 4.51 (FT.)
WATER COLUMN: 7.44 (FT.)
2" DIA. WELL CONSTANT: 0.16
ONE WELL VOLUME= 1.19 (GALS)

PURGE METHOD: Low flow using Parastaltic pump and dedicated tubing. A
BOTTOM OF WELL/SILT BUILDUP: No
PURGE START TIME: 1335 STOP TIM 1350
PURGE OBSERVATIONS: Clear water

NOTE: ALL GIBSON SITE MONITORING WELLS ARE 2-INCH DIAMETER STAIN-LESS STEEL. WELL DEPTHS:

MW-1R	12.10'
MW-2	12.13'
MW-A3	11.95'
MW-4	13.75'
MW-5	15.28'

FIELD PARAMETER MEASUREMENTS:

WELL VOLUME	pH	SPECIFIC CONDUCTIVITY umhos/cm)	TEMP. (C OR F)	NOTES:
1	7.24	469	6.8	
2	7.31	447	6.4	
3	7.32	496	6.2	
4				
5				

TOTAL VOLUME PURGED: 3.6 gallons

GROUNDWATER OR SEDIMENT SAMPLING DATA: SAMPLE DATE: 4/5/2005

MEDIA: GROUNDWATER X
CREEK SEDIMENT
SAMPLE TIME: 1355

LOCATION: MW-A3, Behind the Niagara Motel.

SAMPLE METHOD: Low flow using Parastaltic pump and dedicated tubing. After purging 3 volumes.

SAMPLING OBSERVATIONS: Clear , No odor.

QC SAMPLES TAKEN:

OTHER OBSERVATIONS/COMMENTS: 2 , 1 liter amber jars filled.

Note: specific conductivity formula to 25 degrees Celcius: $SC(25) = \frac{SC\ measured}{\{(T-25)(0.02)\}+1}$

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 REGISTRY NO. 9-32-063
SITE INSPECTION FORM

THIS FORM TO BE USED FOR QUARTERLY AND ALL OTHER SITE INSPECTIONS

DATE: 4/5/2005 TIME: 900

INSPECTOR: M. Walker COMPANY: Sevenson

WEATHER:

REASON FOR INSPECTION (QUARTERLY OR OTHER): Spring Sample Event 2005, Quarterly Insp.

GENERAL SITE CONDITIONS: U=UNACCEPTABLE A=ACCEPTABLE

(Note: For general site conditions note existence of bare areas (number,size), cracks, subsidence (sinking), ponded water, stressed vegetation, soil discoloration or seeps, and rodent burrows. For site security, note absence of locks, gates open or damaged, missing signs or evidence of vandalism. Note any other unusual occurences.)

		COMMENTS
ACCESS ROAD	?	See below for comments
COVER VEGETATION	?	
TREES	A	
LITTER	?	
EROSION (CAP)	?	
EROSION (BANK)	?	
SECURITY:		
FENCE/LOCKS	A	
PIEZOMETERS/LOCKS	A	
MONITORING WELLS/LOCKS	A	
MANHOLES/LIDS/LOCKS	A	
ELECTRICAL PANEL	A	

ADDITIONAL COMMENTS: A Spring snow storm hit 2 days before the scheduled inspection and sampling event, Leaving 8" of snow covering the area (including the cap and driveway. I will return after the snow melts and do a more thorough inspection. Mike Hinton of the NYSDEC met us on site. He would also like to meet us here when we do the follow up inspection after the snow melts.

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

THIS FORM TO BE USED FOR QUARTERLY AND ALL OTHER SITE INSPECTIONS

DATE: 4/19/2005 TIME: 900

INSPECTOR: M. Walker COMPANY: Sevenson

WEATHER:

REASON FOR INSPECTION (QUARTERLY OR OTHER): Semi Annual Site Inspection

GENERAL SITE CONDITIONS: U=UNACCEPTABLE A=ACCEPTABLE

(Note: For general site conditions note existence of bare areas (number,size), cracks, subsidence (sinking), ponded water, stressed vegetation, soil discoloration or seeps, and rodent burrows. For site security, note absence of locks, gates open or damaged, missing signs or evidence of vandalism. Note any other unusual occurrences.)

		COMMENTS
ACCESS ROAD	A	Good
COVER VEGETATION	A	Green and thick
TREES	A	Starting to bud
LITTER	A	None
EROSION (CAP)	A	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 melted and we can get a better look at the cap and surrounding areas. Mike Hinton from the NYSDEC met me out on site for the walk through. He was happy with the way everything looked.

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 FALLS, 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

DATE: 4/5/2005 TIME: 900

INSPECTOR: M. Walker COMPANY: Sevenson

WEATHER: Sunny 38 F

PIEZOMETER	RISER ELEVATION (INSIDE CASING)	DEPTH TO WATER (FT.)	WATER 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 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".

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

Client No.

MHB-040505

ab Name: STL Buffalo Contract: _____

ab Code: RECNY Case No.: _____ SAS No.: _____ SDG No.: _____

latrix: (soil/water) WATER Lab Sample ID: A5310001

ample wt/vol: 1060.0 (g/mL) ML Lab File ID: V08877.RR

evel: (low/med) LOW Date Samp/Recv: 04/05/2005 04/05/2005

; Moisture: _____ decanted: (Y/N) N Date Extracted: 04/11/2005

oncentrated Extract Volume: 1000 (uL) Date Analyzed: 04/14/2005

njection Volume: 2.00 (uL) Dilution Factor: 1.00

PC Cleanup: (Y/N) N pH: 6.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
118-74-1	Hexachlorobenzene	9	U

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

Client No.

FIELD BLANK-040505

Lab Name: STL Buffalo Contract: _____

Lab Code: RECNY Case No.: _____ SAS No.: _____ SDG No.: _____

Matrix: (soil/water) WATER Lab Sample ID: A5310008

Sample wt/vol: 1060.0 (g/mL) ML Lab File ID: V08878.RR

Level: (low/med) LOW Date Samp/Recv: 04/05/2005 04/05/2005

% Moisture: _____ decanted: (Y/N) N 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) N pH: 6.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
118-74-1	Hexachlorobenzene	9	U

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.

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 dilution 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.

1 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.

NEW YORK STATE
DEPARTMENT OF ENVIRONMENTAL CONSERVATION

SAMPLE PREPARATION AND ANALYSIS SUMMARY
ORGANIC ANALYSIS

LAB NAME: SEVERN TRENT LABORATORIES, INC.

SAMPLE IDENTIFICATION	MATRIX	ANALYTICAL PROTOCOL	EXTRACTION METHOD	AUXILIARY CLEAN UP	DIL/CONC 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

NEW YORK STATE
DEPARTMENT OF ENVIRONMENTAL CONSERVATION

SAMPLE PREPARATION AND ANALYSIS SUMMARY
PESTICIDE/PCB ANALYSIS

LAB NAME: SEVERN TRENT LABORATORIES, INC.

SAMPLE IDENTIFICATION	MATRIX	DATE COLLECTED	DATE RECEIVED AT LAB	DATE EXTRACTED	DATE 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

NEW YORK STATE
DEPARTMENT OF ENVIRONMENTAL CONSERVATION

SAMPLE PREPARATION AND ANALYSIS SUMMARY
B\N-A ANALYSIS

LAB NAME: SEVERN TRENT LABORATORIES, INC.

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

NEW YORK STATE
DEPARTMENT OF ENVIRONMENTAL CONSERVATION

SAMPLE IDENTIFICATION
AND
ANALYTICAL REQUEST SUMMARY

LAB NAME: SEVERN TRENT LABORATORIES, INC.

CUSTOMER SAMPLE ID	LABORATORY SAMPLE ID	ANALYTICAL REQUIREMENTS						
		VOA GC/MS	BNA GC/MS	VOA GC	PEST PCB	METALS	TCLP HERB	WATER 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#: A05-3100

STL Project#: NY3A9025
Site Name: Olin Corporation - Charles Gibson site

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#: A05-3100

STL Project#: NY3A9025
Site Name: Olin Corporation - Charles Gibson site

PARAMETER	ANALYTICAL 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.

SAMPLE SUMMARY

LAB SAMPLE ID	CLIENT SAMPLE ID	MATRIX	SAMPLED DATE	SAMPLED TIME	RECEIVED DATE	RECEIVED 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	GW	04/05/2005	12:50	04/05/2005	16:40
A5310006	MW-7-040505 (DUP MW18)	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

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	036-999-337
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

FILE COPY

SEVERN TRENT STL

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

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

CHARLES Gibson SITE
ENV. MONITORING 2005
IND
ENV

ANALYTICAL REPORT

Job#: A05-3100

STL Project#: NY3A9025
Site Name: OLIN CORPORATION
Task: Charles Gibson Site

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

CC: Mr. Michael Walker

STL Buffalo

Brian J. Fischer
Project Manager

Martha Fuller
Analyst

Donna Besco
Analyst

4/25/05

APPENDIX B

SUMMARY ANALYTICAL REPORT

Chain of Custody Record

SEVERN TRENT **STL**

Severn Trent Laboratories, Inc.

STL-4124 (0901)

Client: OLIN Corp	Project Manager: Lorraine Miller	Date: 4.5.05	Chain of Custody Number: 191879
Address: 1186 Lower River Rd Box 248	Telephone Number (Area Code)/Fax Number: 423 336 4000 / 423 336-4166	Lab Number:	Page 1 of 1
City: Charleston; State: TN; Zip Code: 37310	Site Contact: Mike Walker	Lab Contact: Brian Fisher	
Project Name and Location (State): Charles Gibson Site, Niagara Falls, NY.	Carrier/Waybill Number:		
Contract/Purchase Order/Quote No.			

Sample I.D. No. and Description (Containers for each sample may be combined on one line)	Date	Time	Matrix: Air	Aqueous	Sed.	Soil	Containers & Preservatives: Unpres.	H2SO4	HNO3	HCl	NaOH	ZnAc/NaOH	Analysis: BNE	HCB	Special Instructions/ Conditions of Receipt
MW-1R-040505	4.5.05	1180		X			X						X		2-1 Lt Amber
MW-2-040505		1105											X		6-1 Lt Amber (MS+MSD)
MW-A3-040505		1355											X		2-1 Lt Amber
MW-4-040505		1305											X		2-1 Lt Amber
MW-5-040505		1250											X		2-1 Lt Amber
MW-7-040505		1630											X		2-1 Lt Amber
MHB-040505		1000											X	X	4-1 Lt Amber
Field Blank-040505		0940											X		4-1 Lt Amber

Possible Hazard Identification: ☐ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☒ Unknown

Sample Disposal: ☐ Return To Client ☒ Disposal By Lab ☐ Archive For _____ Months (A fee may be assessed if samples are retained longer than 1 month)

Turn Around Time Required: ☐ 24 Hours ☐ 48 Hours ☐ 7 Days ☐ 14 Days ☐ 21 Days ☒ Other Standard

QC Requirements (Specify)

1. Relinquished By	Date: 4.5.05	Time: 1640	1. Received By	Date: 040505	Time: 1640
2. Relinquished By	Date:	Time:	2. Received By	Date:	Time:
3. Relinquished By	Date:	Time:	3. Received By	Date:	Time:

Comments: 2.4°C

42/278

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 Method 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-7-040505*		MW-2-040505		MW-4-040505		MW-5-040505	
Sample Date	04/05/05		04/05/05		04/05/05		04/05/05		04/05/05		04/05/05	
BHC Isomers in Water via Method 8081A (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	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	U	<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	Field Duplicate ID
MW-1R	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 Extraction (days)	Extraction to Analysis (days)
BHCs	Water	7	40
Hexachlorobenzene	Water	7	40

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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

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

PARAMETER	MW-1R	MW-1R (dup)	MW-2	MW-4	MW-5	MW-A3
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:

Concentration in ug/l
U 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

MH —
932063
Correspondence - file

Olin

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

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

July 29, 2005

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 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

Lorraine M. Miller

Lorraine 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: STL Buffalo Contract: _____

Lab Code: RECNY Case No.: _____ SAS No.: _____ SDG No.: _____

Matrix: (soil/water) WATER Lab Sample ID: A5310008

Sample wt/vol: 1055.00 (g/mL) ML Lab File ID: 18A52131.TX0

% Moisture: _____ decanted: (Y/N) N Date Samp/Recv: 04/05/2005 04/05/2005

Extraction: (SepF/Cont/Sonc/Soxh): SEPF Date Extracted: 04/07/2005

Concentrated Extract Volume: 10000 (uL) Date Analyzed: 04/13/2005

Injection Volume: 1.00 (uL) Dilution Factor: 1.00

GPC Cleanup: (Y/N) N pH: 6.00 Sulfur Cleanup: (Y/N) N

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
319-84-6	alpha-BHC	0.047	U
319-85-7	beta-BHC	0.047	U
319-86-8	delta-BHC	0.047	U
58-89-9	gamma-BHC (Lindane)	0.047	U

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

Client No.

MHB-040505

Lab Name: STL Buffalo Contract: _____

Lab Code: RECNY Case No.: _____ SAS No.: _____ SDG No.: _____

Matrix: (soil/water) WATER Lab Sample ID: A5310001

Sample wt/vol: 1060.00 (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): SEPF Date Extracted: 04/07/2005

Concentrated Extract Volume: 10000 (uL) Date Analyzed: 04/13/2005

Injection Volume: 1.00 (uL) Dilution Factor: 1.00

GPC Cleanup: (Y/N) N pH: 6.00 Sulfur Cleanup: (Y/N) N

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
319-84-6	alpha-BHC	0.046	J
319-85-7	beta-BHC	0.076	
319-86-8	delta-BHC	0.28	
58-89-9	gamma-BHC (Lindane)	0.047	U

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

Client No.

MW-1R-040505

Lab Name: STL Buffalo Contract: _____

Lab Code: RECNY Case No.: _____ SAS No.: _____ SDG No.: _____

Matrix: (soil/water) WATER Lab Sample ID: A5310002

Sample wt/vol: 1000.00 (g/mL) ML Lab File ID: 18A52123.TX0

% Moisture: _____ decanted: (Y/N) N Date Samp/Recv: 04/05/2005 04/05/2005

Extraction: (SepF/Cont/Sonc/Soxh): SEPF Date Extracted: 04/07/2005

Concentrated Extract Volume: 10000 (uL) Date Analyzed: 04/13/2005

Injection Volume: 1.00 (uL) Dilution Factor: 1.00

GPC Cleanup: (Y/N) N pH: 6.00 Sulfur Cleanup: (Y/N) N

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
319-84-6	alpha-BHC	0.040	J
319-85-7	beta-BHC	0.050	U
319-86-8	delta-BHC	0.036	J
58-89-9	gamma-BHC (Lindane)	0.050	U

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

Client No.

MW-2-040505

Lab Name: STL Buffalo Contract: _____

Lab Code: RECNY Case No.: _____ SAS No.: _____ SDG No.: _____

Matrix: (soil/water) WATER Lab Sample ID: A5310003

Sample wt/vol: 1000.00 (g/mL) ML Lab File ID: 18A52124.TX0

% Moisture: _____ decanted: (Y/N) N Date Samp/Recv: 04/05/2005 04/05/2005

Extraction: (SepF/Cont/Sonc/Soxh): SEPF Date Extracted: 04/07/2005

Concentrated Extract Volume: 10000 (uL) Date Analyzed: 04/13/2005

Injection Volume: 1.00 (uL) Dilution Factor: 1.00

GPC Cleanup: (Y/N) N pH: 6.00 Sulfur Cleanup: (Y/N) N

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/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)	0.050	U

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

Client No.

MW-4-040505

Lab Name: STL Buffalo Contract: _____

Lab Code: RECNY Case No.: _____ SAS No.: _____ SDG No.: _____

Matrix: (soil/water) WATER Lab Sample ID: A5310004

Sample wt/vol: 1060.00 (g/mL) ML Lab File ID: 18A52127.TX0

% Moisture: _____ decanted: (Y/N) N Date Samp/Recv: 04/05/2005 04/05/2005

Extraction: (SepF/Cont/Sonc/Soxh): SEPF Date Extracted: 04/07/2005

Concentrated Extract Volume: 10000 (uL) Date Analyzed: 04/13/2005

Injection Volume: 1.00 (uL) Dilution Factor: 1.00

GPC Cleanup: (Y/N) N pH: 6.00 Sulfur Cleanup: (Y/N) N

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
319-84-6	alpha-BHC	0.047	U
319-85-7	beta-BHC	0.047	U
319-86-8	delta-BHC	0.047	U
58-89-9	gamma-BHC (Lindane)	0.047	U

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) WATER Lab Sample ID: A5310005

Sample wt/vol: 1060.00 (g/mL) ML Lab File ID: 18A52128.TX0

% Moisture: _____ decanted: (Y/N) N Date Samp/Recv: 04/05/2005 04/05/2005

Extraction: (SepF/Cont/Sonc/Soxh): SEPF Date Extracted: 04/07/2005

Concentrated Extract Volume: 10000 (uL) Date Analyzed: 04/13/2005

Injection Volume: 1.00 (uL) Dilution Factor: 1.00

GPC Cleanup: (Y/N) N pH: 6.00 Sulfur Cleanup: (Y/N) N

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
319-84-6	alpha-BHC	0.047	U
319-85-7	beta-BHC	0.047	U
319-86-8	delta-BHC	0.047	U
58-89-9	gamma-BHC (Lindane)	0.047	U

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

MW-1R (FIELD DUP)

Client No.

MW-7-040505

Lab Name: STL Buffalo Contract: _____

Lab Code: RECNY Case No.: _____ SAS No.: _____ SDG No.: _____

Matrix: (soil/water) WATER Lab Sample ID: A5310006

Sample wt/vol: 1020.00 (g/mL) ML Lab File ID: 18A52129.TX0

% Moisture: _____ decanted: (Y/N) N Date Samp/Recv: 04/05/2005 04/05/2005

Extraction: (SepF/Cont/Sonc/Soxh): SEPF Date Extracted: 04/07/2005

Concentrated Extract Volume: 10000 (uL) Date Analyzed: 04/13/2005

Injection Volume: 1.00 (uL) Dilution Factor: 1.00

GPC Cleanup: (Y/N) N pH: 6.00 Sulfur Cleanup: (Y/N) N

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
319-84-6	alpha-BHC	0.049	U
319-85-7	beta-BHC	0.049	U
319-86-8	delta-BHC	0.049	U
58-89-9	gamma-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: STL Buffalo Contract: _____

Lab Code: RECNY Case No.: _____ SAS No.: _____ SDG No.: _____

Matrix: (soil/water) WATER Lab Sample ID: A5310007

Sample wt/vol: 1060.00 (g/mL) ML Lab File ID: 18A52130.TX0

% Moisture: _____ decanted: (Y/N) N Date Samp/Recv: 04/05/2005 04/05/2005

Extraction: (SepF/Cont/Sonc/Soxh): SEPF Date Extracted: 04/07/2005

Concentrated Extract Volume: 10000 (uL) Date Analyzed: 04/13/2005

Injection Volume: 1.00 (uL) Dilution Factor: 1.00

GPC Cleanup: (Y/N) N pH: 6.00 Sulfur Cleanup: (Y/N) N

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
319-84-6	alpha-BHC	0.047	U
319-85-7	beta-BHC	0.047	U
319-86-8	delta-BHC	0.047	U
58-89-9	gamma-BHC (Lindane)	0.047	U

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

Lab Name: STL Buffalo Contract: _____

Lab Code: RECNY Case No.: _____ SAS No.: _____ SDG No.: _____

	Client Sample ID	Lab Sample ID	2CP %REC	#	2FP %REC	#	DCB %REC	#	FBP %REC	#	NBZ %REC	#	PHL %REC	#	TBP %REC	#	TPH %REC	#	TOT OUT
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
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

			QC LIMITS
2CP	=	2-Chlorophenol-d4	(33-110)
2FP	=	2-Fluorophenol	(21-110)
DCB	=	1,2-Dichlorobenzene-d4	(16-110)
FBP	=	2-Fluorobiphenyl	(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: STL Buffalo Contract: _____

Lab Code: RECNY Case No.: _____ SAS No.: _____ SDG No.: _____

GC Column(1): RTXCLPI ID: 0.00 (mm)

	Client Sample ID	Lab Sample ID	DCBP %REC	#	TCMX %REC	#							TOT OUT
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								0
12	MWA-3-040505	A5310007	90		77								0

QC LIMITS

(DCBP) = Decachlorobiphenyl (30-150)
(TCMX) = Tetrachloro-m-xylene (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

Lab Name: STL Buffalo Contract: _____ Lab Samp ID: A5310003

Lab Code: RECNY Case No.: _____ SAS No.: _____ SDG No.: _____

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

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

COMPOUND	SPIKE ADDED UG/L	MSD CONCENTRATION UG/L	MSD % REC #	% RPD #	QC LIMITS RPD	QC LIMITS 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 BHC'S
WATER MATRIX SPIKE BLANK RECOVERY

Lab Name: STL Buffalo Contract: _____ Lab Samp ID: A5B0467602

Lab Code: RECNY Case No.: _____ SAS No.: _____ SDG No.: _____

Matrix Spike - Client Sample No.: Method Blank

COMPOUND	SPIKE ADDED UG/L	MSB CONCENTRATION UG/L	MSB % REC #	QC LIMITS 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: ____0 out of ____1 outside limits

Comments: _____

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

Client No.: SBLK

Lab Name: STL Buffalo Contract: _____

Lab Code: RECNY Case No.: _____ SAS No.: _____ SDG No.: _____

Lab File ID: V08876.RR Lab Sample ID: A5B0493202

Instrument ID: HP5973V Date Extracted: 04/11/2005

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 SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE 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: _____

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

Client No.

SBLK

Lab Name: STL Buffalo Contract: _____

Lab Code: RECNY Case No.: _____ SAS No.: _____ SDG No.: _____

Matrix: (soil/water) WATER Lab Sample ID: A5B0493202

Sample wt/vol: 1000.0 (g/mL) ML Lab File ID: V08876.RR

Level: (low/med) LOW Date Samp/Recv: _____ _____

% Moisture: _____ decanted: (Y/N) N 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) N pH: 5.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
118-74-1	Hexachlorobenzene	10	U

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

Client No.

Method Blank

Lab Name: STL Buffalo Contract: _____

Lab Code: RECNY Case No.: _____ SAS No.: _____ SDG No.: _____

Lab Sample ID: A5B0467602 Lab File ID: 18A52135.TX0

Matrix: (soil/water) WATER Extraction: SEPF

Sulfur Cleanup: (Y/N): N Date Extracted: 04/07/2005

Date Analyzed (1): 04/13/2005 Date Analyzed (2): _____

Time Analyzed (1): 19:27 Time Analyzed (2): _____

Instrument ID (1): HP5890-18 Instrument ID (2): _____

GC Column (1): RTXCLPI Dia: ____(mm) GC Column (2): _____ Dia: ____(mm)

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

	CLIENT SAMPLE NO.	LAB SAMPLE ID	DATE ANALYZED 1	DATE 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	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: _____

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

Client No.

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: _____ _____

Extraction: (SepF/Cont/Sonc/Soxh): SEPF Date Extracted: 04/07/2005

Concentrated Extract Volume: 10000 (uL) Date Analyzed: 04/13/2005

Injection Volume: 1.00 (uL) Dilution Factor: 1.00

GPC Cleanup: (Y/N) N pH: 5.00 Sulfur Cleanup: (Y/N) N

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/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)	0.050	U

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

Lab Name: STL Buffalo Contract: _____ Labsampid: A5C0003231

Lab Code: RECNY Case No.: _____ SAS No.: _____ SDG No.: _____

Lab File ID (Standard): V08868.RR Date Analyzed: 04/14/2005

Instrument ID: HP5973V Time Analyzed: 08:52

			IS1 (ANT) AREA	#	RT	#	IS2 (CRY) AREA	#	RT	#	IS3 (DCB) AREA	#	RT	#
	12 HOUR STD		374181		11.06		565800		15.73		210437		6.61	
	UPPER LIMIT		748362		11.56		1131600		16.23		420874		7.11	
	LOWER LIMIT		187091		10.56		282900		15.23		105219		6.11	
	CLIENT SAMPLE	Lab Sample ID												
1	FIELD BLANK-040505	A5310008	380451		11.06		564923		15.73		204269		6.61	
2	Matrix Spike Blank	A5B0493201	389066		11.06		616254		15.73		208917		6.61	
3	MHB-040505	A5310001	363454		11.06		583648		15.73		199669		6.62	
4	SBLK	A5B0493202	371347		11.06		582121		15.73		197810		6.62	

	AREA UNIT QC LIMITS	RT QC LIMITS
IS1 (ANT) = Acenaphthene-D10	(50-200)	-0.50 / +0.50 min
IS2 (CRY) = Chrysene-D12	(50-200)	-0.50 / +0.50 min
IS3 (DCB) = 1,4-Dichlorobenzene-D4	(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

Lab Name: STL Buffalo Contract: _____ Labsampid: A5C0003231

Lab Code: RECNY Case No.: _____ SAS No.: _____ SDG No.: _____

Lab File ID (Standard): V08868.RR Date Analyzed: 04/14/2005

Instrument ID: HP5973V Time Analyzed: 08:52

			IS4 (NPT) AREA	#	RT	#	IS5(PHN) AREA	#	RT	#	IS6 (PRY) AREA	#	RT	#
	12 HOUR STD		747410		8.47		609614		13.09		621747		16.98	
	UPPER LIMIT		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												
1	FIELD BLANK-040505	A5310008	735151		8.47		599871		13.09		675572		16.98	
2	Matrix Spike Blank	A5B0493201	754794		8.47		630016		13.09		720999		16.98	
3	MHB-040505	A5310001	711207		8.47		584688		13.09		687837		16.98	
4	SBLK	A5B0493202	703262		8.47		594310		13.09		683117		16.98	

	AREA UNIT QC LIMITS	RT QC LIMITS
IS4 (NPT) = Naphthalene-D8	(50-200)	-0.50 / +0.50 min
IS5 (PHN) = Phenanthrene-D10	(50-200)	-0.50 / +0.50 min
IS6 (PRY) = Perylene-D12	(50-200)	-0.50 / +0.50 min

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

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

Analyte	Units of Measure	Concentration			Spike Amount		% Recovery			% RPD	QC LIMITS	
		Sample	Matrix Spike	Spike Duplicate	MS	MSD	MS	MSD	Avg		RPD	REC.
EARTH - ASP00 8270 PAH'S - W												
Acenaphthene	UG/L	0	43.0	43.5	50.0	50.0	86	87	87	1	31.0	46-118
Pyrene	UG/L	0	46.3	47.8	50.0	50.0	93	96	95	3	31.0	26-127

34/278

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

STL Buffalo

SAMPLE DATA PACKAGE

SDG NARRATIVE

SAMPLE SUMMARY

LAB SAMPLE ID	CLIENT SAMPLE ID	MATRIX	SAMPLED DATE	SAMPLED TIME	RECEIVED DATE	RECEIVED 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	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#: A05-3100

STL Project#: NY3A9025
Site Name: Olin Corporation - Charles Gibson site

PARAMETER	ANALYTICAL 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#: NY3A9025
Site Name: Olin Corporation - Charles Gibson site

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 CALIBRATING METERS: M. Walker

pH METER USED: MANUFACTURER: Corning
MODEL: pH -20
IDENTIFICATION/CONTROL NUMBER: E-864

CALIBRATION STANDARDS USED:

STANDARD 7.00 METER READ: 7.04
STANDARD 4.00 METER READ:
STANDARD 10.00 METER READ:

METER CALIBRATION COMMENTS: New Batteries
Single point Calibration

SPECIFIC CONDUCTIVITY METER USED:
MANUFACTURER: Oakton
MODEL: Hand Held
IDENTIFICATION/CONTROL NUMBER: E-864

CALIBRATION STANDARDS USED:

STANDARD 0 READ:
(STANDARD 0 USED: ____AIR, ____WATER)
STANDARD 447 READ: 451
STANDARD ____ READ:

METER CALIBRATION COMMENTS: New Batteries

THERMOMETER USED: TYPE: Digital
MANUFACTURER: Fischer-Scientific
IDENTIFICATION/CONTROL NUMBER: E-864
COMMENTS: (DOES THERMOMETER TEMPERATURE AGREE WITH SPECIFIC CONDUCTIVITY METER TEMPERATURE ?) Y
OTHER:

OTHER INSTRUMENTS USED: TYPE:
MANUFACTURER:
IDENTIFICATION/CONTROL NUMBER:

CALIBRATIONS PERFORMED:

OTHER CALIBRATION COMMENTS:

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

RECORDED BY: M. Walker
SAMPLED BY: C. Jones
COMPANY: Sevenson

SAMPLE ID: MHB-040505
SAMPLING EVENT/DATE: 4/5/2005
MONITORING WELL: Manhole B
CONDITION: Good

GROUNDWATER PURGE DATA PURGE DATE: 4/5/05

DEPTH TO BOTTOM FROM TOP OF RISER: XXXX (FT.)
DEPTH TO WATER FROM TOP OF RISER: XXXX (FT.)
WATER COLUMN: XXXX (FT.)
2" DIA. WELL CONSTANT: XXXX
ONE WELL VOLUME= XXXX (GALS)

PURGE METHOD: XXXX
BOTTOM OF WELL/SILT BUILDUP: XXXX
PURGE START TIME: XXX STOP TIME: XXXX
PURGE OBSERVATIONS:

NOTE: ALL GIBSON SITE MONITORING WELLS ARE 2-INCH DIAMETER STAIN-LESS STEEL. WELL DEPTHS:

MW-1R	12.10'
MW-2	12.13'
MW-A3	11.95'
MW-4	13.75'
MW-5	15.28'

FIELD PARAMETER MEASUREMENTS:

WELL VOLUME	pH	SPECIFIC CONDUCTIVITY umhos/cm)	TEMP. (C OR F)	NOTES:
1	7.94	563	46 F	
2				
3				
4				
5				

TOTAL VOLUME PURGED: GRAB SAMPLE

GROUNDWATER OR SEDIMENT SAMPLING DATA: SAMPLE DATE: 4/5/2005

MEDIA: GROUNDWATER X
CREEK SEDIMENT

SAMPLE TIME: 1000

LOCATION: Manhole "B"

SAMPLE METHOD: Grab sample using a parastaltic pump with dedicated tubing

SAMPLING OBSERVATIONS: Clear , No odor.

QC SAMPLES TAKEN: No

OTHER OBSERVATIONS/COMMENTS: 4 - 1 liter glass jars filled.

Note: specific conductivity formula to 25 degrees Celcius: $SC(25) = \frac{SC\ measured}{\{(T-25)(0.02)\}+1}$

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

RECORDED BY: M. Walker
SAMPLED BY: C. Jones
COMPANY: Sevenson

SAMPLE ID: MW-1R-040505
SAMPLING EVENT/DATE: 4/5/2005
MONITORING WELL: MW-1R
CONDITION: good

GROUNDWATER PURGE DATA PURGE DATE: 4/5/05

DEPTH TO BOTTOM FROM TOP OF RISER: 12.1 (FT.)
DEPTH TO WATER FROM TOP OF RISER: 2.95 (FT.)
WATER COLUMN: 9.15 (FT.)
2" DIA. WELL CONSTANT: 0.16
ONE WELL VOLUME= 1.46 (GALS)

NOTE: ALL GIBSON SITE MONITORING WELLS ARE 2-INCH DIAMETER STAIN-LESS STEEL. WELL DEPTHS:

MW-1R	12.10'
MW-2	12.13'
MW-A3	11.95'
MW-4	13.75'
MW-5	15.28'

PURGE METHOD: Low flow using Parastaltic pump and dedicated tubing. A
BOTTOM OF WELL/SILT BUILDUP: No
PURGE START TIME: 1115 STOP TIM 1135
PURGE OBSERVATIONS:

FIELD PARAMETER MEASUREMENTS:

WELL VOLUME	pH	SPECIFIC CONDUCTIVITY umhos/cm)	TEMP. (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 PURGED: 4.38

GROUNDWATER OR SEDIMENT SAMPLING DATA: SAMPLE DATE: 4/5/2005

MEDIA: GROUNDWATER X
CREEK SEDIMENT
SAMPLE TIME: 1150

LOCATION: MW-1R

SAMPLE METHOD: Low flow using Parastaltic pump and dedicated tubing. After purging 3 volumes.

SAMPLING OBSERVATIONS: Sample volume ran dry after 3 bottles, we waited 15 min. for recharge

QC SAMPLES TAKEN: yes, blind duplicate "MW-7"

OTHER OBSERVATIONS/COMMENTS: MW-7 was used as a "blind duplicate" taken at this time

and labeled 1630 for time of sample. 4 1 liter amber jars filled.

Note: specific conductivity formula to 25 degrees Celcius: SC(25)= SC measured / {{T-25)(0.02)}+1

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-2-040505
SAMPLED BY: C. Jones
SAMPLING EVENT/DATE: 4/5/2005
COMPANY: Sevenson
MONITORING WELL: MW-2
CONDITION: good

GROUNDWATER PURGE DATA PURGE DATE: 4/5/05

DEPTH TO BOTTOM FROM TOP OF RISER: 12.13 (FT.)
DEPTH TO WATER FROM TOP OF RISER: 3.51 (FT.)
WATER COLUMN: 8.62 (FT.)
2" DIA. WELL CONSTANT: 0.16
ONE WELL VOLUME= 1.38 (GALS)

NOTE: ALL GIBSON SITE MONITORING WELLS ARE 2-INCH DIAMETER STAIN-LESS STEEL. WELL DEPTHS:

MW-1R	12.10'
MW-2	12.13'
MW-A3	11.95'
MW-4	13.75'
MW-5	15.28'

PURGE METHOD: Low flow using Parastaltic pump and dedicated tubing. Al
BOTTOM OF WELL/SILT BUILDUP: No
PURGE START TIME: 1038 STOP TIM 1100
PURGE OBSERVATIONS: Clear water

FIELD PARAMETER MEASUREMENTS:

WELL VOLUME	pH	SPECIFIC CONDUCTIVITY umhos/cm)	TEMP. (C OR F)	NOTES:
1	7.63	1639	7.4	
2	7.62	1443	7.3	
3	7.6	1463	7.3	
4				
5				

TOTAL VOLUME PURGED: 4.2 gallons

GROUNDWATER OR SEDIMENT SAMPLING DATA: SAMPLE DATE: 4/5/2005

MEDIA: GROUNDWATER X
CREEK SEDIMENT
SAMPLE TIME: 1105

LOCATION: MW-2
SAMPLE METHOD: Low flow using Parastaltic pump and dedicated tubing. After purging 3 volumes.
SAMPLING OBSERVATIONS: Clear , No odor.
QC SAMPLES TAKEN: MS & MSD samples taken along with normal samples taken
OTHER OBSERVATIONS/COMMENTS: 6 - 1 liter glass jars filled.

Note: specific conductivity formula to 25 degrees Celcius: SC(25)= SC measured / {{T-25)(0.02)}+1

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-4-040505

SAMPLED BY: C. Jones SAMPLING EVENT/DATE: 4/5/2005

COMPANY: Sevenson MONITORING WELL: MW-4

CONDITION: good

GROUNDWATER PURGE DATA PURGE DATE: 4/5/05

DEPTH TO BOTTOM FROM TOP OF RISER: 13.75 (FT.)

DEPTH TO WATER FROM TOP OF RISER: 6.1 (FT.)

WATER COLUMN: 7.65 (FT.)

2" DIA. WELL CONSTANT: 0.16

ONE WELL VOLUME= 1.22 (GALS)

NOTE: ALL GIBSON SITE MONITORING WELLS ARE 2-INCH DIAMETER STAIN-LESS STEEL. WELL DEPTHS:

MW-1R	12.10'
MW-2	12.13'
MW-A3	11.95'
MW-4	13.75'
MW-5	15.28'

PURGE METHOD: Low flow using Parastaltic pump and dedicated tubing. Af
BOTTOM OF WELL/SILT BUILDUP: No
PURGE START TIME: 1255 STOP TIM 1305
PURGE OBSERVATIONS:

FIELD PARAMETER MEASUREMENTS:

WELL VOLUME	pH	SPECIFIC CONDUCTIVITY umhos/cm)	TEMP. (C OR F)	NOTES:
1	7.83	1358	7.1	Black/Grey Water
2	7.7	1433	6.6	Lt. Grey
3	7.7	1764	7.2	Clearing
4				
5				

TOTAL VOLUME PURGED: 3.6 gallons

GROUNDWATER OR SEDIMENT SAMPLING DATA: SAMPLE DATE: 4/5/2005

MEDIA: GROUNDWATER X SAMPLE TIME: 1305
CREEK SEDIMENT

LOCATION: MW-4 near Auto Zone.

SAMPLE METHOD: Low flow using Parastaltic pump and dedicated tubing. After purging 3 volumes.

SAMPLING OBSERVATIONS: Clear during Sampling

QC SAMPLES TAKEN: No

OTHER OBSERVATIONS/COMMENTS: 2 , 1 liter amber jars filled.

Note: specific conductivity formula to 25 degrees Celcius: $SC(25) = \frac{SC\ measured}{\{(T-25)(0.02)\}+1}$

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

RECORDED BY: M. Walker
SAMPLED BY: C. Jones
COMPANY: Sevenson

SAMPLE ID: MW-5-040505
SAMPLING EVENT/DATE: 4/5/2005
MONITORING WELL: MW-5
CONDITION: good

GROUNDWATER PURGE DATA PURGE DATE: 4/5/05

DEPTH TO BOTTOM FROM TOP OF RISER: 15.28 (FT.)
DEPTH TO WATER FROM TOP OF RISER: 6.71 (FT.)
WATER COLUMN: 8.57 (FT.)
2" DIA. WELL CONSTANT: 0.16
ONE WELL VOLUME= 1.37 (GALS)

NOTE: ALL GIBSON SITE MONITORING WELLS ARE 2-INCH DIAMETER STAIN-LESS STEEL. WELL DEPTHS:

MW-1R	12.10'
MW-2	12.13'
MW-A3	11.95'
MW-4	13.75'
MW-5	15.28'

PURGE METHOD: Low flow using Parastaltic pump and dedicated tubing. Af
BOTTOM OF WELL/SILT BUILDUP: No
PURGE START TIME: 1215 STOP TIME 1240
PURGE OBSERVATIONS:

FIELD PARAMETER MEASUREMENTS:

WELL VOLUME	pH	SPECIFIC CONDUCTIVITY umhos/cm)	TEMP. (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
CREEK SEDIMENT

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.

Note: specific conductivity formula to 25 degrees Celcius: SC(25)= $\frac{SC\ measured}{\{(T-25)(0.02)\}+1}$

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

RECORDED BY: M. Walker
SAMPLED BY: C. Jones
COMPANY: Sevenson

SAMPLE ID: MW-7-040505
SAMPLING EVENT/DATE: 4/5/2005
MONITORING WELL: MW-1 Duplicate (blind)
CONDITION:

GROUNDWATER PURGE DATA PURGE DATE: 4/5/05

DEPTH TO BOTTOM FROM TOP OF RISER: XXXX (FT.)
DEPTH TO WATER FROM TOP OF RISER: XXXX (FT.)
WATER COLUMN: XXXX (FT.)
2" DIA. WELL CONSTANT: XXXX
ONE WELL VOLUME= XXXX (GALS)

PURGE METHOD: XXXX
BOTTOM OF WELL/SILT BUILDUP: XXXX
PURGE START TIME: XXX STOP TIM XXXX
PURGE OBSERVATIONS:

NOTE: ALL GIBSON SITE MONITORING WELLS ARE 2-INCH DIAMETER STAIN-LESS STEEL. WELL DEPTHS:

MW-1R	12.10'
MW-2	12.13'
MW-A3	11.95'
MW-4	13.75'
MW-5	15.28'

FIELD PARAMETER MEASUREMENTS:

WELL VOLUME	pH	SPECIFIC CONDUCTIVITY umhos/cm)	TEMP. (C OR F)	NOTES:
1				
2				
3				
4				
5				

TOTAL VOLUME PURGED:

GROUNDWATER OR SEDIMENT SAMPLING DATA: SAMPLE DATE: 4/5/2005

MEDIA: GROUNDWATER X
CREEK SEDIMENT

SAMPLE TIME: "1630"

LOCATION: MW-1R blind duplicate

SAMPLE METHOD: Low flow using Parastaltic pump and dedicated tubing. After purging 3 volumes.

SAMPLING OBSERVATIONS: Clear , No odor.

QC SAMPLES TAKEN: No

OTHER OBSERVATIONS/COMMENTS: 4 - 1 liter glass jars filled.

Then labeled MW-7 and timed at 1630. To serve as Blind Dup for QC purposes.

Note: specific conductivity formula to 25 degrees Celcius: $SC(25) = \frac{SC\ measured}{\{(T-25)(0.02)\}+1}$

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-8-040505

SAMPLED BY: C. Jones SAMPLING EVENT/DATE: 4/5/2005

COMPANY: Sevenson MONITORING WELL: **Field Blank**

CONDITION:

GROUNDWATER PURGE DATA PURGE DATE:

DEPTH TO BOTTOM FROM TOP OF RISER: (FT.)

DEPTH TO WATER FROM TOP OF RISER: (FT.)

WATER COLUMN: (FT.)

2" DIA. WELL CONSTANT:

ONE WELL VOLUME= (GALS)

PURGE METHOD:

BOTTOM OF WELL/SILT BUILDUP:

PURGE START TIME: STOP TIM

PURGE OBSERVATIONS:

NOTE: ALL GIBSON SITE MONITORING WELLS ARE 2-INCH DIAMETER STAIN-LESS STEEL. WELL DEPTHS:

MW-1R	12.10'
MW-2	12.13'
MW-A3	11.95'
MW-4	13.75'
MW-5	15.28'

FIELD PARAMETER MEASUREMENTS:

WELL VOLUME	pH	SPECIFIC CONDUCTIVITY umhos/cm)	TEMP. (C OR F)	NOTES:
1				
2				
3				
4				
5				

TOTAL VOLUME PURGED:

GROUNDWATER OR SEDIMENT SAMPLING DATA: SAMPLE DATE: 4/5/2005

MEDIA: GROUNDWATER _____ SAMPLE TIME: 940
CREEK SEDIMENT _____

LOCATION: Field Blank

SAMPLE METHOD:

SAMPLING OBSERVATIONS:

QC SAMPLES TAKEN:

OTHER OBSERVATIONS/COMMENTS: 2 1 liter amber jars filled with lab supplied water and sealed on site.

Note: specific conductivity formula to 25 degrees Celcius: SC(25)= SC measured / {{T-25)(0.02)}+1

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

RECORDED BY: M. Walker
SAMPLED BY: C. Jones
COMPANY: Sevenson

SAMPLE ID: MW-A3-040505
SAMPLING EVENT/DATE: 4/5/2005
MONITORING WELL: MW-A3
CONDITION: good

GROUNDWATER PURGE DATA PURGE DATE: 4/5/05

DEPTH TO BOTTOM FROM TOP OF RISER: 11.95 (FT.)
DEPTH TO WATER FROM TOP OF RISER: 4.51 (FT.)
WATER COLUMN: 7.44 (FT.)
2" DIA. WELL CONSTANT: 0.16
ONE WELL VOLUME= 1.19 (GALS)

PURGE METHOD: Low flow using Parastaltic pump and dedicated tubing. Af
BOTTOM OF WELL/SILT BUILDUP: No
PURGE START TIME: 1335 STOP TIME 1350
PURGE OBSERVATIONS: Clear water

NOTE: ALL GIBSON SITE MONITORING WELLS ARE 2-INCH DIAMETER STAIN-LESS STEEL. WELL DEPTHS:

MW-1R	12.10'
MW-2	12.13'
MW-A3	11.95'
MW-4	13.75'
MW-5	15.28'

FIELD PARAMETER MEASUREMENTS:

WELL VOLUME	pH	SPECIFIC CONDUCTIVITY umhos/cm)	TEMP. (C OR F)	NOTES:
1	7.24	469	6.8	
2	7.31	447	6.4	
3	7.32	496	6.2	
4				
5				

TOTAL VOLUME PURGED: 3.6 gallons

GROUNDWATER OR SEDIMENT SAMPLING DATA: SAMPLE DATE: 4/5/2005

MEDIA: GROUNDWATER X
CREEK SEDIMENT

SAMPLE TIME: 1355

LOCATION: MW-A3, Behind the Niagara Motel.

SAMPLE METHOD: Low flow using Parastaltic pump and dedicated tubing. After purging 3 volumes.

SAMPLING OBSERVATIONS: Clear , No odor.

QC SAMPLES TAKEN:

OTHER OBSERVATIONS/COMMENTS: 2 , 1 liter amber jars filled.

Note: specific conductivity formula to 25 degrees Celcius: SC(25)= SC measured / {{T-25)(0.02)}+1

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 REGISTRY NO. 9-32-063
SITE INSPECTION FORM

THIS FORM TO BE USED FOR QUARTERLY AND ALL OTHER SITE INSPECTIONS

DATE: 4/5/2005 TIME: 900

INSPECTOR: M. Walker COMPANY: Sevenson

WEATHER:

REASON FOR INSPECTION (QUARTERLY OR OTHER): Spring Sample Event 2005, Quarterly Insp.

GENERAL SITE CONDITIONS: U=UNACCEPTABLE A=ACCEPTABLE

(Note: For general site conditions note existence of bare areas (number,size), cracks, subsidence (sinking), ponded water, stressed vegetation, soil discoloration or seeps, and rodent burrows. For site security, note absence of locks, gates open or damaged, missing signs or evidence of vandalism. Note any other unusual occurences.)

		COMMENTS
ACCESS ROAD	?	See below for comments
COVER VEGETATION	?	
TREES	A	
LITTER	?	
EROSION (CAP)	?	
EROSION (BANK)	?	

SECURITY:

FENCE/LOCKS	A	
PIEZOMETERS/LOCKS	A	
MONITORING WELLS/LOCKS	A	
MANHOLES/LIDS/LOCKS	A	
ELECTRICAL PANEL	A	

ADDITIONAL COMMENTS: A Spring snow storm hit 2 days before the scheduled inspection and sampling event, Leaving 8" of snow covering the area (including the cap and driveway. I will return after the snow melts and do a more thorough inspection. Mike Hinton of the NYSDEC met us on site. He would also like to meet us here when we do the follow up inspection after the snow melts.

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

THIS FORM TO BE USED FOR QUARTERLY AND ALL OTHER SITE INSPECTIONS

DATE: 4/19/2005 TIME: 900

INSPECTOR: M. Walker COMPANY: Sevenson

WEATHER:

REASON FOR INSPECTION (QUARTERLY OR OTHER): Semi Annual Site Inspection

GENERAL SITE CONDITIONS: U=UNACCEPTABLE A=ACCEPTABLE

(Note: For general site conditions note existence of bare areas (number,size), cracks, subsidence (sinking), ponded water, stressed vegetation, soil discoloration or seeps, and rodent burrows. For site security, note absence of locks, gates open or damaged, missing signs or evidence of vandalism. Note any other unusual occurrences.)

		COMMENTS
ACCESS ROAD	A	Good
COVER VEGETATION	A	Green and thick
TREES	A	Starting to bud
LITTER	A	None
EROSION (CAP)	A	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 melted and we can get a better look at the cap and surrounding areas. Mike Hinton from the NYSDEC met me out on site for the walk through. He was happy with the way everything looked.

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 FALLS, 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

DATE: 4/5/2005 TIME: 900

INSPECTOR: M. Walker COMPANY: Sevenson

WEATHER: Sunny 38 F

PIEZOMETER	RISER ELEVATION (INSIDE CASING)	DEPTH TO WATER (FT.)	WATER 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 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".