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GW\_Semiannual\_Samplity\_reports report. HW. 932063. 2003-01-01. Semiennet\_\_\_\_\_.pdf

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Project Site numbers will be proceeded by the following:

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



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

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

June 6, 2003

RECEIVED

JUN 1 1 2003

NYSDEC - REG. 9

Y RE

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 2003

Dear Mr. Hinton:

In accordance with the approved sampling plan for the above referenced Site, enclosed are three copies of the first Semi-Annual Ground Water Report, April 20032. 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 laboratory data summary package (Appendix A), and the field logs (Appendix B) for this sampling event are also attached. The Quarterly Site Inspection Forms and the Quarterly Ground Water Elevation Forms are included in Appendices C and D respectively. The analytical data has been validated and found to be acceptable.

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

Sincerely, OLIN CORPORATION

arraine M. Miller

Lorraine M. Miller Principal Environmental Specialist

CC:

C.M. Richards (letter only, via e-mail) T. E. Tirabassi (letter only, via e-mail) M. Walker (1 copy)

dm:sites/P&T Gibson//ENV 4060/O&M/SemiAnnual Sampling April 2003

### bcc: B. H. Brayley (1 copy)

dm:sites/P&T Gibson//ENV 4060/O&M/SemiAnnual Sampling April 2003

#### TABLE 1

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

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

#### April 1-2, 2003

	MW-1R	MW-1R (dup)	MW-2	MW-4	MW-5	MW-A3
PARAMETER						
alpha-BHC	.015J	.014J	.050U	.049U	.048U	.048U
beta-BHC	.053	.052	.050U	.049U	.048U	.048U
delta-BHC	.049U	.049U	.050U	.049U	.048U	.048U
gamma-BHC	.049U	.049U	.050U	.049U	.048U	.048U
Hexachlorobenzene	NR	NR	NR	NR	NR	NR
					•	

Notes:

Concentration in ug/l

U Undetected at associated value

J Estimated value

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

NR Not required for this event.

Next sampling for hexachlorobenzene is scheduled for October 2004.

#### TABLE 2

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

#### ANALYTICAL RESULTS SUMMARY ANNUAL LEACHATE SAMPLING

#### April 1, 2003

	MANHOLE B
PARAMETER	
alpha-BHC	.048U
beta-BHC	.33
delta-BHC	.60
gamma-BHC	.048U
Hexachlorobenzene	NR

#### Notes:

Concentration in ug/l

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

Data has been validated and judged acceptable as qualified.

NR Not required for this event.

Next sampling for hexachlorobenzene is scheduled for October 2005.

#### APPENDIX A

LABORATORY DATA SUMMARY PACKAGE

#### SEMI-ANNUAL GROUND WATER SAMPLING

AND

#### ANNUAL LEACHATE SAMPLING OF MANHOLE B

APRIL 2003

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

dm:sites/P&T Gibson//ENV 4060/O&M/SemiAnnual Sampling April 2003



#### ANALYTICAL REPORT

Job#: A03-3028

STL Project#: NY3A9025 Site Name: OLIN Corporation - Charles Gibson site Task: Olin Corp. - Charles Gibson Site

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

CC: Mr. Michael Walker

STL Buffalo

Brian **d** Fischer Project Manager

Meg Dolan

Analyst

04/17/2003

This report contains

 $\swarrow$  pages which are individually numbered.

Severn Trent Laboratories, Inc. STL Buffalo • 10 Hazelwood Drive, Suite 106, Amherst, NY 14228 Tel 716 691 2600 Fax 716 691 7991 • www.stl-inc.com

## SAMPLE DATA SUMMARY PACKAGE

#### SAMPLE SUMMARY

		SAMPLE	D	RECEIV	ED
LAB SAMPLE ID	<u>CLIENT SAMPLE ID</u>	DATE	TIME	DATE	TIME
A3302801	MHB-040103	04/01/2003	10:30	04/02/2003	
A3302802	MW-1R-040103	04/01/2003	11:50	04/02/2003	13:20
A3302803	MW-2-040103	04/01/2003	15:00	04/02/2003	13:20
A3302803MS	MW-2MS-040103	04/01/2003	15:00	04/02/2003	13:20
A3302803SD	MW-2SD-040103	04/01/2003	15:00	04/02/2003	13:20
A3302804	MW-4-040103	04/01/2003	15:50	04/02/2003	13:20
A3302805	MW-5-040103	04/01/2003			
A3302806	MW-7-040103	04/01/2003			
A3302807	MW-8-040203	04/02/2003			
A3302808	MWA-3-040203	04/02/2003			

-----

#### METHODS SUMMARY

#### Job#: <u>A03-3028</u>

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

2

	A	NALITICAL
PARAMETER		METHOD
ASP 2000- METHOD 8081 BHC'S	ASP00	8081

#### References:

ASP00 "Analytical Services Protocol", New York State Department of Conservation, June 2000.

#### NON-CONFORMANCE SUMMARY

#### Job#: A03-3028

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

#### General Comments

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

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

According to 40CFR Part 136.3, pH, Chlorine Residual and Dissolved Oxygen 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

A03-3028

Sample Cooler(s) were received at the following temperature(s); 2 @ 2.0 °C All samples were received in good condition.

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

4-17-03

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-040103	A3302801	-	-	-	ASP00	-	-	-
MW-1R-040103	A3302802		-	-	ASP00	-	-	-
MW-2-040103	A3302803		-	_	ASP00	-	. <b>-</b>	-
MW-4-040103	A3302804	-	-	· -	ASP00	-	-	
MW-5-040103	A3302805	-	-	-	ASP00	-	-	- `
MW-7-040103	A3302806	-	-	_	ASP00	-	-	-
MW-8-040203	A3302807	-	-	-	ASP00	-	_ •	-
MWA-3-040203	A3302808	-	-	-	ASP00	1		-

NYSDEC-1

#### 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
МНВ-040103	LEACH	04/01/2003	04/02/2003	4/5/2003	4/9/2003
MW-1R-040103	GW	04/01/2003	04/02/2003	4/5/2003	4/9/2003
MW-2-040103	GW	04/01/2003	04/02/2003	4/5/2003	4/9/2003
MW-4-040103	GW	04/01/2003	04/02/2003	4/5/2003	4/9/2003
MW-5-040103	GW	04/01/2003	04/02/2003	4/5/2003	4/9/2003
MW-7-040103	GW	04/01/2003	04/02/2003	4/5/2003	4/9/2003
MW-8-040203	GW	04/02/2003	04/02/2003	4/5/2003	4/9/2003
MWA-3-040203	GW	04/02/2003	04/02/2003	4/5/2003	4/9/2003

NYSDEC-4

#### 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-040103	LEACH	ASP00	SEPF	AS REQUIRED	AS REQUIRED
MW-1R-040103	GW	ASP00	SEPF	AS REQUIRED	AS REQUIRED
MW-2-040103	GW	ASP00	SEPF	AS REQUIRED	AS REQUIRED
MW-4-040103	GW	ASP00	SEPF	AS ŔEQUIRED	AS REQUIRED
MW-5-040103	GW	ASP00	SEPF	AS REQUIRED	AS REQUIRED
MW-7-040103	GW	ASP00	SEPF	AS REQUIRED	AS REQUIRED
MW-8-040203	GW	ASP00	SEPF	AS REQUIRED	AS REQUIRED
MWA-3-040203	GW	ASP00	SEPF	AS REQUIRED	AS REQUIRED

NYSDEC-6

### 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.
- 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.

Client No.

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

Lab Name: <u>STL Buffalo</u> Contra	MHB-040103
Lab Code: <u>RECNY</u> Case No.: SAS No.	: SDG No.:
Matrix: (soil/water) <u>WATER</u>	Lab Sample ID: <u>A3302801</u>
Sample wt/vol: <u>1030.00</u> (g/mL) <u>ML</u>	Lab File ID: <u>RA24460.TX0</u>
* Moisture: decanted: (Y/N) N	Date Samp/Recv: 04/01/2003 04/02/2003
Extraction: (SepF/Cont/Sonc/Soxh): <u>SEPF</u>	Date Extracted: 04/05/2003
Concentrated Extract Volume: <u>10000</u> (uL)	Date Analyzed: 04/09/2003
Injection Volume: <u>1.00</u> (uL)	Dilution Factor: <u>1.00</u>
JPC Cleanup: (Y/N) <u>N</u> pH: <u>7.00</u>	Sulfur Cleanup: (Y/N) N
CAS NO. COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) <u>UG/L</u> Q
319-84-6alpha-BHC 319-85-7beta-BHC 319-86-8delta-BHC 58-89-9gamma-BHC (Lindane)	0.048 U 0.33 0.60 0.048 U

Client No.

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

	MW-1R-040103
Lab Name: <u>STL Buffalo</u> Contrac	t:
Lab Code: <u>RECNY</u> Case No.: SAS No.:	SDG No.:
Matrix: (soil/water) <u>WATER</u>	Lab Sample ID: A3302802
Sample wt/vol: <u>1025.00</u> (g/mL) ML	Lab File ID: RA24461.TX0
% Moisture: decanted: (Y/N) $\underline{N}$	Date Samp/Recv: 04/01/2003 04/02/2003
Extraction: (SepF/Cont/Sonc/Soxh): <u>SEPF</u>	Date Extracted: <u>04/05/2003</u>
Concentrated Extract Volume: 10000(uL)	Date Analyzed: <u>04/09/2003</u>
Injection Volume: <u>1.00</u> (uL)	Dilution Factor: <u>1.00</u>
GPC Cleanup: (Y/N) <u>N</u> pH: 7.00	Sulfur Cleanup: (Y/N) N
	CONCENTRATION UNITS:
CAS NO. COMPOUND	(ug/Lorug/Kg) <u>UG/L</u> Q
319-84-6alpha-BHC	0.015 J
319-85-7beta-BHC	0.053 0.049 U
319-86-8delta-BHC 58-89-9ganma-BHC (Lindane)	0.049 U

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0.050

U

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Client No.

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

	MW-2-040103
Lab Name: <u>SIL Buffalo</u> Contrac	t:
Lab Code: <u>RECNY</u> Case No.: SAS No.:	SDG No.:
Matrix: (soil/water) WATER	Lab Sample ID: A3302803
Sample wt/vol: _1000.00 (g/mL) ML	Lab File ID: RA24462.TX0
* Moisture: decanted: (Y/N) N	Date Samp/Recv: 04/01/2003 04/02/2003
Extraction: (SepF/Cont/Sonc/Soxh): <u>SEPF</u>	Date Extracted: 04/05/2003
Concentrated Extract Volume: 10000(uL)	Date Analyzed: <u>04/09/2003</u>
Injection Volume: <u>1.00</u> (uL)	Dilution Factor:1.00
GPC Cleanup: (Y/N) N pH: 7.00	Sulfur Cleanup: (Y/N) N
CAS NO. COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) <u>UG/L</u> Q
319-84-6alpha-BHC 319-85-7beta-BHC	0.050 U 0.050 U 0.050 U

0.050 58-89-9-----gamma-BHC (Lindane)

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

Client No.

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

Lab Name: <u>STL Buffalo</u> Contra	Ct:
Lab Code: <u>RECNY</u> Case No.: SAS No.	: SDG No.:
Matrix: (soil/water) <u>WATER</u>	Lab Sample ID: <u>A3302804</u>
Sample wt/vol: <u>1025.00</u> (g/mL) <u>ML</u>	Lab File ID: <u>RA24465.TX0</u>
* Moisture: decanted: (Y/N) N	Date Samp/Recv: <u>04/01/2003</u> <u>04/02/2003</u>
Extraction: (SepF/Cont/Sonc/Soxh): <u>SEPF</u>	Date Extracted: <u>04/05/2003</u>
Concentrated Extract Volume: 10000(uL)	Date Analyzed: <u>04/09/2003</u>
Injection Volume: <u>1.00</u> (uL)	Dilution Factor: <u>1.00</u>
GPC Cleanup: (Y/N) <u>N</u> pH: <u>6.00</u>	Sulfur Cleanup: (Y/N) N
CAS NO. COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) <u>UG/L</u> Q
319-84-6alpha-BHC 319-85-7beta-BHC 319-86-8delta-BHC 58-89-9gamma-BHC (Lindane)	0.049 U 0.049 U 0.049 U 0.049 U 0.049 U

Client No.

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

Lab Name: <u>STL Buffalo</u> Contra	ct:	MW-5-040103
Lab Code: <u>RECNY</u> Case No.: SAS No.	: SDG No.:	
Matrix: (soil/water) <u>WATER</u>	Lab Sample ID:	<u>A3302805</u>
Sample wt/vol: <u>1030.00</u> (g/mL) <u>ML</u>	Lab File ID:	RA24466.TX0
& Moisture: decanted: $(Y/N)$ <u>N</u>	Date Samp/Recv:	<u>04/01/2003</u> <u>04/02/2003</u>
Extraction: (SepF/Cont/Sonc/Soxh): <u>SEPF</u>	Date Extracted:	04/05/2003
Concentrated Extract Volume: <u>10000</u> (uL)	Date Analyzed:	04/09/2003
Injection Volume: <u>1.00</u> (uL)	Dilution Factor:	1.00
PC Cleanup: (Y/N) N pH: <u>6.00</u>	Sulfur Cleanup:	(Y/N) <u>N</u>
CAS NO. COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) <u>UG/L</u>	Q
319-84-6alpha-BHC 319-85-7beta-BHC 319-86-8delta-BHC 58-89-9gamma-BHC (Lindane)	0.048 0.048 0.048 0.048 0.048	U U U U

Client No.

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

Lab Name: <u>STL Buffalo</u> Contra	act:	MW-7-040103
Lab Code: <u>RECNY</u> Case No.: SAS No	.: SDG No.:	
Matrix: (soil/water) <u>WATER</u>	Lab Sample ID:	A3302806
Sample wt/vol: <u>1020.00</u> (g/mL) <u>ML</u>	Lab File ID:	RA24467.TX0
% Moisture: decanted: (Y/N) <u>N</u>	Date Samp/Recv:	04/01/2003 04/02/2003
Extraction: (SepF/Cont/Sonc/Soxh): <u>SEPF</u>	Date Extracted:	04/05/2003
Concentrated Extract Volume: 10000(uL)	Date Analyzed:	04/09/2003
Injection Volume: <u>1.00</u> (uL)	Dilution Factor:	1.00
3PC Cleanup: (Y/N) N pH: 6.00	Sulfur Cleanup:	(Y/N) <u>N</u>
CAS NO. COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) <u>UG/L</u>	Q

i	319-84-6alpha-BHC	0.014	J
	319-85-7beta-BHC	0.052	
ĺ	319-86-8delta-BHC	0.049	U
	58-89-9gamma-BHC (Lindane)	0.049	U
i			

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

Client No.

Lab Name: <u>STL Buffalo</u> Cont:	ract:	MWA-3-040203
Lab Code: <u>RECINY</u> Case No.: SAS No	D.: SDG No.:	ć
Matrix: (soil/water) <u>WATER</u>	Lab Sample ID:	<u>A3302808</u>
Sample wt/vol: <u>1035.00</u> (g/mL) <u>ML</u>	Lab File ID:	RA24472.TX0
% Moisture: decanted: (Y/N) $\underline{N}$	Date Samp/Recv:	04/02/2003 04/02/2003
Extraction: (SepF/Cont/Sonc/Soxh): <u>SEPF</u>	Date Extracted:	04/05/2003
Concentrated Extract Volume: <u>10000</u> (uL)	Date Analyzed:	04/09/2003
Injection Volume: <u>1.00</u> (uL)	Dilution Factor:	1.00
GPC Cleanup: (Y/N) <u>N</u> pH: <u>7.00</u>	Sulfur Cleanup:	(Y/N) <u>N</u>
CAS NO. COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) <u>UG/L</u>	Q
319-84-6alpha-BHC 319-85-7beta-BHC 319-86-8delta-BHC	0.048 0.048 0.048	υ

0.048

U

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

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

Lab	Name:	<u>STL Buffalo</u>		Contract:		
Lab	Code:	RECINY	Case No.:	 SAS No.:	 SDG No.:	
	_					

GC Column(1): <u>RTXCLPI</u> ID: <u>0.32</u> (mm)

	Client Sample ID	DCBP %REC	1	TCMX %REC	#							TOT OUT	
	=======================================	=====	==	=====	==	=======	=======	=======	=======	=======		===	
1	Matrix Spike Blank	62		94								0	l
2	Method Blank	66		86								Ō	i
3	MHB-040103	78		129								ō	
4	MW-1R-040103	106	-	90								ŏ	1
5	MW-2-040103	98		92	ĺ							0	
6	MW-2MS-040103	92		98								õ	
7	MW-2SD-040103	108	[	87								ŏ	
8	MW-4-040103	60		80								ŏ	
9	MW-5-040103	72		84								ŏ	
10	MW-7-040103	76		96								ŏ	
<sup>.</sup> 11	MW-8-040203	63		94								ŏ	
12	MWA-3-040203	86		96							,	ŏ	
•													

#### QC LIMITS

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

(28 - 132)(36-132)

# 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: A3302803

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

SAS No.:

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

Matrix Spike - Client Sample No.: MW-2-040103

	f		Y				
COMPOUND	SPIKE ADDED UG/L	SAMPLE CONCENTRATION UG/L	MS CONCENTRATION UG/L	MS % REC #	QC LIMITS REC.	+	
gamma-BHC (Lindane)	0.476	0	 0.376	<del></del> 79	<u></u> 56 - 123	=	

COMPOUND gamma-BHC (Lindane)	SPIKE ADDED UG/L  0.476	MSD CONCENTRATION UG/L 0.344	MSD * REC # 72		0 RPD  15	C LIMITS REC. 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: SIL Buffalo

Contract: \_\_\_\_\_ Lab Samp ID: A3B0355802

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

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

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

Matrix Spike - Client Sample No.: Method Blank

COMPOUND gamma-BHC (Lindane)	SPIKE ADDED UG/L 	MSB CONCENTRATION UG/L 0.391	REC #	QC LIMITS REC.	+	
				20 125		

# 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:

22/173

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

Client No.

Lab Name: <u>STL Buffalo</u> (	Contract: Method Blank
Lab Code: <u>RECNY</u> Case No.:	SAS No.: SDG No.:
Lab Sample ID: <u>A3B0355802</u>	Lab File ID: <u>RA24474.TX0</u>
Matrix: (soil/water) <u>WATER</u>	Extraction: <u>SEPF</u>
Sulfur Cleanup: $(Y'/N)$ : <u>N</u>	Date Extracted: 04/05/2003
Date Analyzed (1): <u>04/09/2003</u>	Date Analyzed (2):
Time Analyzed (1): <u>13:34</u>	Time Analyzed (2):
Instrument ID (1): <u>HP5890-18</u>	Instrument ID (2):
GC Column (1): RTXCLPI Dia: 0.32	2(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	Matrix Spike Blank	A3B0355801	04/09/2003	
2	MHB-040103	A3302801	04/09/2003	
3	MW-1R-040103	A3302802	04/09/2003	
4	MW-2-040103	A3302803	04/09/2003	
5	MW-2MS-040103	A3302803MS	04/09/2003	
6	MW-2SD-040103	A3302803SD	04/09/2003	
.7	MW-4-040103	A3302804	04/09/2003	
· 8	MW-5-040103	A3302805	04/09/2003	
9	MW-7-040103	A3302806	04/09/2003	
10	MW-8-040203	A3302807	04/09/2003	
11	MWA-3-040203	A3302808	04/09/2003	

Comments:

U

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

	-	Client No.
Lab Name: <u>STL Buffalo</u> Cont:	ract:	Method Blank
Lab Code: <u>RECNY</u> Case No.: SAS No	D.: SDG No.:	
Matrix: (soil/water) WATER		
Sample wt/vol: <u>1000.00</u> (g/mL) <u>ML</u>	Lab Sample ID:	<u>A3B0355802</u>
	Lab File ID:	RA24474.TX0
* Moisture: decanted: (Y/N) N	Date Samp/Recv:	
Extraction: (SepF/Cont/Sonc/Soxh): <u>SEPF</u>	Date Extracted:	
Concentrated Extract Volume: 10000 (uL)		
Injection Volume: <u>1.00</u> (uL)	Date Analyzed:	
	Dilution Factor:	1.00
GPC Cleanup: (Y/N) <u>N</u> pH: <u>5.00</u>	Sulfur Cleanup:	(Y/N) <u>N</u>
CAS NO. COMPOUND	CONCEMIRATION UNITS:	
319-84-6alpha-BHC	(ug/L or ug/Kg) UG/L	Q
319-85-7beta-BHC	0.050	U
319-86-8delta-PUC	0.050	Ŭ
58-89-9gamma-BHC (Lindane)	0.050	U
	0.050	UU

.

# SAMPLE DATA PACKAGE

## SDG NARRATIVE

#### SAMPLE SUMMARY

		SAMPLE	C	RECEIVE	Ð
<u>LAB SAMPLE ID</u>	<u>CLIENT SAMPLE ID</u>	DATE	TIME	DATE	TIME_
A3302801	MHB-040103	04/01/2003	10:30	04/02/2003	13:20
A3302802	MW-1R-040103	04/01/2003	11:50	04/02/2003	13:20
A3302803	MW-2-040103			04/02/2003	
A3302803MS	MW-2MS-040103			04/02/2003	
A3302803SD	MW-2SD-040103			04/02/2003	
A3302804	MW-4-040103			04/02/2003	
A3302805	MW-5-040103			04/02/2003	
A3302806	MW-7-040103			04/02/2003	
A3302807	MW-8-040203			04/02/2003	
A3302808	MWA-3-040203	04/02/2003	10:30	04/02/2003	13:20

#### METHODS SUMMARY

### Job#: <u>A03-3028</u>

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

PARAMETER	A	NALYTICAL
ASP 2000- METHOD 8081 BHC'S	ASP00	METHOD 8081

### References:

ASP00

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

#### NON-CONFORMANCE SUMMARY

#### Job#: <u>A03-3028</u>

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

#### General Comments

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

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

According to 40CFR Part 136.3, pH, Chlorine Residual and Dissolved Oxygen 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

A03-3028

Sample Cooler(s) were received at the following temperature(s); 2 @ 2.0 °C All samples were received in good condition.

<u>GC Extractable Data</u>

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

1-17-03 Date

# CHAIN OF CUSTODY DOCUMENTATION

### Chain of Custody Record



services Severn Trent Laboratories, Inc.

STL-4124 (1200)																							
Client			Project Manager, Date												0	Chain of Custody Number 097653							
OLIN CORD		Lon	LOREAN WILLER - OLIN							4-2-03							097653						
Address			Telephone Number (Area Code)/Fax Number								$\sim$	Lab Ni	imber	,			1		1				
City State Zip C	`ada		423-336										M	1	i	Page	? <u>_</u>	of	<u>(</u>	:			
		Miks	Site Contact MIKE WALKON Lab Contact 284 0431 RUN Fischer						Analysis (Attach list if more space is needed)														
Project Name and Location (State)	7310	CarrierA	294 0431 Run fisched				~11			Τ	$\Box$				Τ								
Chaples Gibson Site - Ningung Call	4 137 .				•														8	Spacial	Instructio	nc/	
Contract/Purchase Order/Quote No.	<u>-                                    </u>	<b>_</b>	Containers &						5							<b>\$</b>		ns of Red					
			Matrix Preservatives													•							
Sample I.D. No. and Description (Containers for each sample may be combined on one line)	Date	Time	Air Aqueous	Sed.	Soil	Unpres.	H2SO4	SONH	ΗÇI	NaOH ZnAc/	HOR	X											
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MW7 040103	4-1-03	1250	1			R						x						2	2	ч			
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Possible Hazard Identification		I	Samp	le Dis	posal		1 I					tI	1	ĻĻĻ									
🗌 Non-Hazard 🔲 Flammable 🔲 Skin Irritant 🗌	Poison B	Unknown		eturn 1	To Clie	nt	<b>120</b> D.	Ispos	al By	/ Lab		Archive	For _		_ Monti			be asses 3 months		samples are	retained		
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3. Relinquished By		Date			 A		3 R	eceiv	ed R	$\checkmark$									Date		, Time		17
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DISTRIBUTION: WHITE - Stays with the Sample; CANARY - Returned to Client with Report: PINK - Field Copy

## Chain of Custody Record



SERVICES Severn Trent Laboratories, Inc.

STL-4124 (1200)											-									10/165, 1	
OLIN CORP.		Loan	Manager	Ilse.	· .									Date 4	- 2 -	03		Chi	ain of Custody	Number 654	<u> </u>
196 Lowse River Road		Telepho 42	one Numt	er (Area (	Code)/F	ax Nu	ımber	•						Lab Ni				Pa	ge/	of 1	
Charleston TN ?	Code 67310 LARGERAST,		Waybill N	51		ab Cor		ise	har		A		Anal more	ysis (A space	ttach is nee	list if eded)			<u> </u>		
	Alls NY	L									- AR							5	Special	Instructions	/
			٨	fatrix			Cont Pres				Y						ľ	Bett	Conditio	ns of Receip	ot 👘
Sample I.D. No. and Description (Containers for each sample may be combined on one line)		Time		Sed. Soil	Unores	H2SO4	SONH	Ę	NaOH Znácí	NaOH	252						1	3	5		
MW8 1040203	4-2-03 1	00	X		X						X							2	1 Liter A	nper	
MW5 040103	4-1-0211	630	X		X						X							7	• •	· · · · · · · · · · · · · · · · · · ·	
MW4 040103		50	X		1	ŀ					X							2			
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Possible Hazard Identification	l	l,	Sample	Disposal								Ηļ									
Turn Around Time Required		Inknown		um To Cli	ent						Archive )	For _		Month			y be ass n 3 mon		if samples are	retained	
24 Hours     48 Hours     7 Days     14 Day		Date V		Time		1.5	Epre	ed By	1		21							, Da	ate	Time	
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DISTRIBUTION: WHITE - Stays with the Sample; CANARY - Returned to Client with Report; PINK - Field Copy

## APPENDIX B

#### **FIELD LOGS**

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

## April 2003

## CHARLES GIBSON SITE

## (PINE AND TUSCARORA SITE)

#### NIAGARA FALLS, NEW YORK

NYSDEC Registry No. 9-32-063

RECORDED BY:	Walker		SAMPLE I	D:	MHB-040	103
SAMPLED BY:	Walker	_	SAMPLING	G EVENT/C	ATE:	4/1/03 spring
COMPANY:	Sevenson		MONITOR	ING WELL	Man Hole	В
		-	CONDITIC	N:	Good	
GROUNDWATER PL	JRGE DATA	PURGE D	ATE:			
						L GIBSON SITE
DEPTH TO BOTTOM	FROM TOP OF RISEF	R:		(FT.)	MONITOF	RING WELLS ARE
DEPTH TO WATER F	FROM TOP OF RISER:		13.3	_(FT.)	2-INCH D	IAMETER STAIN-
	WATER COLUMN:			(FT.)	LESS ST	EEL. WELL DEPTHS:
	2" DIA. WELL CONST	ANT:	0.16	-	MW-1R	12.10'
	ONE WELL VOLUME	=		(GALS)	MW-2 MW-A3	12.13' 11.95'
PURGE METHOD: BOTTOM OF WELL/S PURGE START TIME PURGE OBSERVATI	<b>:</b>	STOP TIM	E:		MW-4 MW-5	13.75' 15.28'
FIELD PARAMETER	MEASUREMENTS:	•				
WELL VOLUME	рН	SPECIFIC CONDUCT umhos/cm)		TEMP. (C OR F)	_	NOTES:
1						
2						
3		<u></u>		· · · · · ·	<i>.</i>	
4		<u>.</u>				
5	·					
TOTAL VOLUME PU						
GROUNDWATER O	R SEDIMENT SAMPLIN	IG DATA:		SAMPLE	DATE:	4/1/2003
MEDIA: GROUND CREEK S	WATER XXX	-		SAMPLE		1150
LOCATION:	Man Hole "B"		-			
SAMPLE METHOD:	Took a grab sample u	sing a paras	staltic pump	and dedica	ated hose.	
SAMPLING OBSERV	ATIONS: Clear, no c	odor or shee	n			<u>-</u>
QC SAMPLES TAKE	N:no					
OTHER OBSERVAT	IONS/COMMENTS:	Water sam	ples were s	plit with Bri	an Sydows	ki of the NYSDEC.
Note: specific conduc	tivity formula to 25 degr	ees Celcius	: SC(25)=	SC measu {{T-25)(0.0		

RECORDED BY:	Walker		SAMPLE I	D:	MW1R-04	10103 and MW7-0401
SAMPLED BY:	Walker	_	SAMPLING	GEVENT/D	ATE:	4/1/03 spring
COMPANY:	Sevenson		MONITOR	ING WELL	MW1R ar	nd blind duplicate/MW7
			CONDITIO	N:	Good	
GROUNDWATER F	PURGE DATA	PURGE DA	ATE:	4/1/2003		
					•	LL GIBSON SITE
СЕРТН ТО ВОТТО	M FROM TOP OF RISE	R:	12.1	(FT.)	MONITO	RING WELLS ARE
DEPTH TO WATER	R FROM TOP OF RISER	:	4.15	(FT.)	2-INCH D	DIAMETER STAIN-
	WATER COLUMN:		7.95	(FT.)	LESS ST	EEL. WELL DEPTHS:
	2" DIA. WELL CONS	TANT:	0.16	-	MW-1R	12.10'
	ONE WELL VOLUME	≣=	1.272	(GALS)	MW-2 MW-A3	12.13' 11.95'
PURGE METHOD:			ited hose		MW-4	13.75'
BOTTOM OF WELL PURGE START TIN		OK/None STOP TIM	c.	1150	MW-5	15.28'
PURGE OBSERVA		STOP TIM	<b>L</b> .	1150	,	
FIELD PARAMETE	R MEASUREMENTS:					
		SPECIFIC CONDUCT		TEMP.		
WELL VOLUME	pH	umhos/cm)		(C OR F)		NOTES:
1	8.14	1120	•	7.3	-	Clear,No Odor
2	7.99	1034		6.9		"
3	7.69	1073		68		"
4						
5		-				
TOTAL VOLUME P	URGED: 3.7	5 gallons				
		•				
GROUNDWATER	OR SEDIMENT SAMPLI	NG DATA:		SAMPLE	DATE:	4/1/2003
	IDWATER XXX	_		SAMPLE	TIME:	1150
CREEK	SEDIMENT	_				
LOCATION:	MW1R			<del></del>		
SAMPLE METHOD	: Took sample using a	parastaltic p	ump and de	edicated ho	se.	
SAMPLING OBSEF	RVATIONS: Clear, no	odor or shee	<u>n</u>			
QC SAMPLES TAK	EN: Blind dup	licate sample	es were take	en and labe	led MW7 c	on the COC.
OTHER OBSERVA	TIONS/COMMENTS:	Water sam	ples were s	plit with Br	an Sydows	ski of the NYSDEC.
		· · · · ·		SC measu	ired	
Note: specific cond	uctivity formula to 25 deg	rees Celcius	: SC(25)=			_

.

RECORDED BY:	Walker	•=•	SAMPLE I	D:	MW2-0401	103
SAMPLED BY:	Walker		SAMPLING	GEVENT/D	ATE:	4/1/03 spring
COMPANY:	Sevenson		MONITOR	ING WELL:	MW-2	
、			CONDITIC	N:	Good	
GROUNDWATER PU	RGE DATA	PURGE D	ATE:	4/1/2003		
	· ·					L GIBSON SITE
DEPTH TO BOTTOM	FROM TOP OF RISER	8:	12.13	(FT.)	MONITOR	RING WELLS ARE
DEPTH TO WATER F	ROM TOP OF RISER:	<u> </u>	4.1	(FT.)	2-INCH DI	AMETER STAIN-
	WATER COLUMN:		8.03	(FT.)	LESS STE	EL. WELL DEPTHS:
	2" DIA. WELL CONST	ANT:	0.16	-	MW-1R	12.10'
	ONE WELL VOLUME			(GALS)		12.13' 11.95'
PURGE METHOD:			ated hose		MW-4 MW-5	13.75' 15.29'
BOTTOM OF WELL/S PURGE START TIME PURGE OBSERVATI	E 1430	OK/None STOP TIM	E:	1500		15.20
FIELD PARAMETER	MEASUREMENTS:					
WELL		SPECIFIC CONDUC <sup>-</sup>		TEMP.	•	•
VOLUME	рН	umhos/cm		(C OR F)	_	NOTES:
1	7.78	1405	-	7.3	-	Clear,No Odor
2	7.54	1386		6.5		
3	7.35	1298		6.5		11
4	······					
5						·
TOTAL VOLUME PU		gallons				
TOTAL VOLOME FO		gallons				
GROUNDWATER OF	R SEDIMENT SAMPLIN	IG DATA:		SAMPLE [	DATE:	4/1/2003
MEDIA: GROUND				SAMPLE 1		1500
CREEK S		-		0/ 11/1 212 1		
	MW-2				<u></u>	
SAMPLE METHOD:	Took sample using a p	parastaltic p	oump and de	edicated hos	se.	
SAMPLING OBSERV	ATIONS: Clear, no c	odor or shee	en			·
QC SAMPLES TAKE	N: MS/MSD s	amples we	re also take	n		- -
OTHER OBSERVATI	ONS/COMMENTS:	BHC's on	ly			
		_		SC measu		
Note: specific conduct	tivity formula to 25 degr	ees Celcius	s: SC(25)=	{{T-25)(0.0	(2)}+1	

RECORDED BY:	Walker	S	AMPLE ID		MW4-040	103	
SAMPLED BY:	Walker	s	AMPLING	EVENT/D	ATE:	4/1/03 spring	l
COMPANY:	Sevenson	N	ONITORIN	IG WELL:	MW4		
		C	ONDITION	l: .	Good		
GROUNDWATER PL	JRGE DATA	PURGE DAT	E:	4/1/2003			
						LL GIBSON SIT	
DEPTH TO BOTTOM	I FROM TOP OF RISEF	र:	13.75(	FT.)	MONITO	RING WELLS A	ARE
DEPTH TO WATER	FROM TOP OF RISER:		6.3 (	FT.)	2-INCH D	DIAMETER STA	NN-
	WATER COLUMN:		7.45(	FT.)	LESS ST	EEL. WELL DE	PTHS:
	2" DIA. WELL CONST	ANT:	0.16		MW-1R	12.10'	
PURGE METHOD:	ONE WELL VOLUME	and dedicate	<b>1.192</b> ( <sup>1</sup>	GALS)	MW-2 MW-A3 MW-4	12.13' 11.95' 13.75'	
BOTTOM OF WELL/ PURGE START TIM PURGE OBSERVAT	E: 1525	OK/None STOP TIME:		1550	MW-5	15.28'	
FIELD PARAMETER	MEASUREMENTS:						
		SPECIFIC					
WELL		CONDUCTI		EMP.		NOTEO	
VOLUME	pH	umhos/cm)		<u>C OR F)</u>	-	NOTES:	D. 16
1	7.88	1.98		7.6		Black water/S	
2	7.63	1719		6.8		Grey water S	meil
3 4	7.47	1837		6.9			
5	· · · · · · · · · · · · · · · · · · ·		· · · · · · · · · · · · · · · · · · ·	•		, "	
<u> </u>							
TOTAL VOLUME PU	IRGED: 3.5	gallons					
GROUNDWATER O	R SEDIMENT SAMPLIN	IG DATA:	5		DATE:	4/1/2003	
MEDIA: GROUNE			· s	SAMPLE T	IME:	1550	
		_					
	MW-4						
SAMPLE METHOD:	Took sample using a p	parastaltic pur	np and ded	icated hos	se.		
	ATIONS: Black wate	er came out at	first, then t	urned gre	y as purge	continued.	
QC SAMPLES TAKE	N:						
OTHER OBSERVAT	IONS/COMMENTS:	BHC's only	V	Vater also	has a sulf	fury smell to it	
· · · · · · · · · · · · · · · · · · ·	· · · · · · · · · · · · · · · · · · ·		c	SC measu	red .		
Note: specific conduc	ctivity formula to 25 degr	ees Celcius: S					

RECORDED BY:	Walker	_	SAMPLE	ID:	MW5-040	103	
SAMPLED BY:	Walker		SAMPLIN	G EVENT/D	ATE:	4/1/03 spring	
COMPANY:	Sevenson	_	MONITOR	RING WELL:	MW5		
		_	CONDITIC	DN:	Good		
GROUNDWATER P	URGE DATA	PURGE D	ATE:	4/1/2003			
						L GIBSON SIT	
DEPTH TO BOTTOM	I FROM TOP OF RISE	R:	15.28	6 (FT.)	MONITOR	RING WELLS A	RE
DEPTH TO WATER	FROM TOP OF RISER	: <u></u>	7.1	_(FT.)	2-INCH D	IAMETER STA	IN-
· · · ·	WATER COLUMN:		8.18	6 (FT.)	LESS STI	EEL. WELL DE	PTHS:
	2" DIA. WELL CONS	T <u>ANT:</u>	0.16	<u>i</u>	MW-1R	12.10'	
BOTTOM OF WELL		p and dedica OK/None STOP TIM	ated hose	6 (GALS) 1630	MW-2 MW-A3 MW-4 MW-5		
PURGE OBSERVAT	IONS: Grey wate	er no odor					
FIELD PARAMETER	MEASUREMENTS:						
WELL VOLUME	рН	SPECIFIC CONDUC umhos/cm	TIVITY	TEMP. (C OR F)		NOTES:	
1	6.78	2.57	`	7.5	_	Grey water/ N	lo odor
2	6.67	2.56		7.1		Lt. Rusty/ "	
3	6.65	2.57		7.2	· · · · · · · · · · · · · · · · · · ·	Yellow Tint	
4	· · · · · · · · · · · · · · · · · · ·						
5							
		4 gallons				4/4/20202	
GROUNDWATER O	R SEDIMENT SAMPLI	NG DATA:		SAMPLE [		4/1/2003	
MEDIA: GROUNI	DWATER XXX	_		SAMPLE 1	IME:	1630	
CREEKS		_					
LOCATION:	MW5			_		_	
SAMPLE METHOD:	Took sample using a	parastaltic p	ump and de	edicated hos	se.		
SAMPLING OBSER	then beca	ter started c me yellowis		olor then tur	ned to a ru	usty color	
OTHER OBSERVAT	IONS/COMMENTS:	BHC's onl	<u>у</u>				
Note: specific condu	ctivity formula to 25 deg	rees Celcius	: SC(25)=	SC measu {{T-25)(0.0			

RECORDED BY:	Walker		SAMPLE	E ID:	MW8-040	203
SAMPLED BY:	Walker		SAMPLI	NG EVENT/I	DATE:	4/2/03 spring
COMPANY:	Sevenson		MONITO	RING WELL	.: MW8 / Fie	eld Blank
			CONDIT	ION:	Good	
GROUNDWATER PL	JRGE DATA	PURGE D	DATE:			
						LL GIBSON SITE
DEPTH TO BOTTOM	I FROM TOP OF RIS	SER:		(FT.)	MONITO	RING WELLS ARE
DEPTH TO WATER I	FROM TOP OF RISE	ER:		(FT.)	2-INCH D	IAMETER STAIN-
	WATER COLUMN	:		(FT.)	LESS ST	EEL. WELL DEPTHS:
	2" DIA. WELL CON	NST <u>ANT:</u>		·	MW-1R	12.10'
PURGE METHOD:	ONE WELL VOLU	ME=		(GALS)	MW-2 MW-A3 MW-4	12.13' 11.95' 13.75'
BOTTOM OF WELL/S PURGE START TIME PURGE OBSERVAT	<b>-</b> :	STOP TIM	<b>ЛЕ:</b>		MW-5	15.28'
FIELD PARAMETER	MEASUREMENTS:					
WELL VOLUME	рН	SPECIFIC CONDUC umhos/cn	TIVITY	TEMP. (C OR F)		NOTES:
1	<u> </u>		_			
2						
3						
4						
5	<u>, , , , , , , , , , , , , , , , , , , </u>	· · · · · · · · · · · · · · · · · · ·		<i>,</i>		
TOTAL VOLUME PU	RGED:	gallons			-	
GROUNDWATER O	R SEDIMENT SAMP	LING DATA:		SAMPLE	DATE:	4/2/2003
MEDIA: GROUND				SAMPLE	T <u>IME:</u>	1100
CREEK 5				• `		
	Drive way in front of	of main gate				
SAMPLE METHOD:	Poured pure water	r supplied by t	he lab into	bottles label	ed MW8-04	0203
SAMPLING OBSERV	ATIONS: MW-8 =	= Field Blank				
QC SAMPLES TAKE	N: No.					
OTHER OBSERVATI	ONS/COMMENTS:	BHC's on	ly			· · · ·
Note: specific conduc	tivity formula to 25 d	egrees Celciu	s: SC(25)=	SC measu {{T-25)(0.		

RECORDED BY:	Walker		SAMPLE	ID:	MWA3-04	0203
SAMPLED BY:	Walker	-	SAMPLIN	G EVENT/D	ATE:	4/2/03 spring
COMPANY:	Sevenson	•	MONITOR		MWA3	
		•	CONDITIC	DN:	Good	
GROUNDWATER PU	RGE DATA	PURGE D	ATE:	4/2/2003		
						L GIBSON SITE
<b>ДЕРТН ТО ВОТТОМ</b>	FROM TOP OF RISEF	R:	11.95	i (FT.)	MONITOR	ING WELLS ARE
DEPTH TO WATER F	ROM TOP OF RISER:		5.3	<u>6</u> (FT.)	2-INCH DI	AMETER STAIN-
	WATER COLUMN:		6.65	i (FT.)	LESS STE	EL. WELL DEPTHS:
	2" DIA. WELL CONST	ANT:	0.16	<u>i</u>	MW-1R	12.10'
	ONE WELL VOLUME	=	1.064	(GALS)	MW-2 MW-A3	12.13' 11.95'
	3x w/ parastaltic pump		ted hose		MW-4	13.75'
BOTTOM OF WELL/S		OK/None STOP TIM	E:	1030	MW-5	15.28'
PURGE OBSERVATI						
FIELD PARAMETER	MEASUREMENTS:					
		SPECIFIC				
WELL VOLUME	pН	CONDUCT umhos/cm)		TEMP. (C OR F)		NOTES:
	7.9	593	2	7.1	-	Clear/No odor
2	7.66	561		<u> </u>		n n
3	7.59	575		5.9	·	
4		010		0.0		
5	· · ·					
						•
TOTAL VOLUME PU	RGED <sup>.</sup> 3.25	gallons				
		ganono				· .
	·					
GROUNDWATER OF	R SEDIMENT SAMPLIN	IG DATA:		SAMPLE [	DATE:	4/2/2003
MEDIA: GROUND CREEK SI				SAMPLE -	IME:	1030
		-				
LOCATION:	MWA3		<u></u>			
SAMPLE METHOD:	Took sample using a p	parastaltic p	ump and de	edicated ho	se.	
SAMPLING OBSERV	ATIONS:				· ·	
QC SAMPLES TAKE	N: No.	<b></b>				
OTHER OBSERVATI	ONS/COMMENTS:	BHC's only	<u>y</u>			
	·					
				SC measu		•
Note: specific conduct	tivity formula to 25 degr	ees Celcius	: 50(25)=	{{1-25)(0.0	iz)}+1	

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

DATE:	3/31/2003	}	SEMI-AN	NUAL SAMPLIN	IG EVENT:	Spring	g 2003
PERSON	CALIBRATI	NG METEF	RS:	M. Walker			
pH METER	R USED:	MANUFAC	CTURER:	Oakton			
I		MODEL:		pH Tester 3	·		
		IDENTIFIC	CATION/CO	ONTROL NUMB	ER: <u>E7</u>	80	
		CALIBRA	TION STAN	NDARDS USED:			
			STANDA	RD 7.00 METER	READ:		7
				RD 4.00 METER			
	METER C	ALIBRATIO		RD 10.00 METE NTS: Ne			
SPECIFIC	CONDUCT		ER USED:				
			CTURER:				
		MODEL:		Specific Cond	Meter	· · · · · · · · · · · · · · · · · · ·	
		IDENTIFIC	CATION/CO	ONTROL NUMB	ER: <u>35</u>	607-10	
		CALIBRAT	TION STAN	IDARDS USED:			
•			STANDA	RD 0 READ:		•	
				(STANDARD	USED:		WATER)
			STANDA	RD447		_READ:	468
			STANDA	RD	RE	EAD:	
	METER C	ALIBRATIO	N COMME	NTS:			
		•					· · · · · · · · · · · · · · · · · · ·
			T)/DC.				
THERMO	VIETER US	ED:		Fisher Scientif CTURER: F/S			
				CTURER: <u>F/3</u>		ER: 2111	57/1
		COMMEN					
			•				
		OTHER:	<del></del> .			<u> </u>	
	ISTRUMEN	TS USED:	TYPE:				
				CTURER:			
			IDENTIFI	CATION/CONTR	ROL NUMB	ER:	
		CALIBRAT	TIONS PEF				
					<u> </u>		
OTHER C.	ALIBRATIO	N COMME	NTS:				
	<u> </u>						

#### APPENDIX C

## QUARTERLY SITE INSPECTION FORMS

January - June 2003

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

DATE:	2/19/2003	TIME:	2:00		
		_	· · · · ·		
INSPECT	OR: M. Walke	Г <u> </u>	COMPANY:	Sevenson	<del>_</del> .
WEATHE	iR:				
REASON	I FOR INSPECTION (C	UARTERL	Y OR OTHER <u>):</u>	Quarterly Inspection	<u> </u>
GENERA	subsidence (sinking) and rodent burrows.	, ponded w For site se	is note existence of b ater, stressed vegeta curity, note absence	LE A=ACCEPTABLE are areas (number,size), cracks, tion, soil discoloration or seeps, of locks, gates open or damaged,	•
	missing signs or evid	ence of va	-	ner unusual occurences.)	
		A	COMM	IENTS	
		<u>A</u>	<u> </u>	· 	_
TREES	VEGETATION	<u>A</u>	·	· · · · · · · · · · · · · · · · · · ·	-
LITTER		<u>A</u> A	<u> </u>		_
EROSIO		A	 		
	N (BANK)	<u>~</u> A		· · · · · · · · · · · · · · · · · · ·	_
		· · ·		······································	_
SECURI	I T .				
FENCE/l	OCKS	<u>A</u>	<u> </u>		_
PIEZOM	ETERS/LOCKS	<u>A</u>	— <u> </u>		_
	RING WELLS/LOCKS	<u>A</u>			_
	_ES/LIDS/LOCKS	<u>A</u>		······	_ ·
ELECTR	ICAL PANEL	<u>A</u>	<u> </u>		
ADDITIC	NAL COMMENTS:	The site	was secure and looke	ed good upon arrival.	_
The read	lout on the front of the fl	ow meter v	vas blank. Power to th	ne manhole from the power panel	_
checked	out OK, I suspect the L	CD readou	t on the face of the m	eter could be frozon and shorted.	-
The Fey	delivery system still fun	ctions prop	erly I will contact Ca	rrier Controls to get their	
пегах	uenvery system suit tun				
suggesti	ons and advise.				_
;					
<u>-</u>	·····	·			<u> </u>

ľ

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

THIS FORM TO BE USED FOR	QUARTER	LY AND ALL	OTHER SI	TE INSPECTIONS	
DATE: 4/2/2003	TIME:	1145			
INSPECTOR: M. Walke	r	COMPANY	·:	Sevenson	
WEATHER: 40 <sup>°</sup> F, Clo	oudy and Wi	indy			
REASON FOR INSPECTION (C	UARTERLY	OR OTHER	):	Spring Sample Event	
subsidence (sinking) and rodent burrows.	, ponded wa For site see	s note existen ater, stressed curity, note ab	nce of bare vegetation osence of lo	A=ACCEPTABLE areas (number,size), cracks, , soil discoloration or seeps, ocks, gates open or damaged, unusual occurences.)	
۰. ۲			COMMEN	тs	
ACCESS ROAD	A	_			·
COVER VEGETATION	А				
TREES	A				
LITTER	A				
EROSION (CAP)	A				
EROSION (BANK)	А			·····	
SECURITY:					
FENCE/LOCKS	A		Weld is cra	acked on fence gate latch assembly	
PIEZOMETERS/LOCKS	A				
MONITORING WELLS/LOCKS	Α -				
MANHOLES/LIDS/LOCKS	A				
ELECTRICAL PANEL	Α			,	
ADDITIONAL COMMENTS:	Even thou	ugh the gate la	atch has a	cracked weld, it did not	
compromise the integrity of the I	ocking mecl	nanism. I can	repair the	proken weld and re-adjust the	
gate. I will send you a picture of	the renair fo	or the files			
gale. I win serie you a piotare of					
	<u> </u>				
	- ,				
	L				
L					

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

DATE: <u>4/14/2003</u>	_TIME:	1000		
INSPECTOR: M. Walker	r	COMPANY:	Sevenson	
WEATHER:				
REASON FOR INSPECTION (Q	UARTERL	Y OR OTHER <u>):</u>	Repair Flow meter	
subsidence (sinking), and rodent burrows.	ponded w For site se	ns note existence of b ater, stressed vegeta curity, note absence	LE A=ACCEPTABLE are areas (number,size), cracks, tion, soil discoloration or seeps, of locks, gates open or damaged, er unusual occurences.)	
		COMM	ENTS	
ACCESS ROAD	<u>A</u>			
COVER VEGETATION	A			
TREES	A			
LITTER	A			
EROSION (CAP)	A			
EROSION (BANK)	Α			
SECURITY:				
FENCE/LOCKS	Α			,
PIĖZOMETERS/LOCKS	A			
MONITORING WELLS/LOCKS	A			
MANHOLES/LIDS/LOCKS	A	·		
ELECTRICAL PANEL	<u>A</u>			
ADDITIONAL COMMENTS:	Met with	Steve Frank of Carrie	er Controls to install the repaired	
flow meter face. We also tested t	he pumpir	ig system using the le	vel switches. (tested OK).	
We have discovered that face of	· •			
			· · · · · · · · · · · · · · · · · · ·	
is not in sync. With the readout o	n the fax s	heets. We are workin	g to re-calibrate, and correct this	
situation. We have pumped 5,23	0 gallons c	luring the test, the fax	read out showed 15,977.	

## APPENDIX D

## QUARTERLY GROUNDWATER ELEVATION /PUMPING FORMS

January - June 2003

## 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

	D BE USED FOR ALL QUART ATION MEASURING EVENTS		IETER AND MANHO	OLE GROUND-	
DATE: <u>2/1</u>	9/2003		2:00		
INSPECTO <u>R:</u>	M. Walker	_COMPANY:	Sevenson	· · · · · · · · · · · · · · · · · · ·	
WEATHER <u>:</u>	Cloudy 33 F				
PIEZOMETER	RISER ELEVATION (INSIDE CASING)	DEPTH TO W (FT.)	ATER WATER ELEVATIO	COMMENTS	
P-1	572.72	7.99	564.73	ОК	
P-2	574.89	9.45	565.44	ОК	
P-3	574.16	7.65	566.51	ОК	
P-4	576.14	10.8	565.34	ОК	
P-5	575.05	5.95	569.1	<u>ок</u>	
P-6	578.28	10.4	567.88	ОК	
MANHOLE A	575.22	11.15	564.07	ок	
MANHOLE B	577.34	13.2	564.14	ОК	
Niagara Tusca in Manhole B ( water distance (Note: riser ele	e A empties into Manhole B by arora Road sanitary sewer line and by extension Manhole A) from the manhole rim should evations (re)surveyed Septemb COMMENTS/OBSERVATION	by a float contr below an eleva not be <u>less</u> tha ber, 1999 by W	olled sump pump wh tion of 565 ft. above n 12.41 ft. at Manhol	nich maintains groundwa mean sea level. Therel le B and 10.22 ft. at Mar	ater elevations fore, Depth to
					、
· · · · ·					
			<u>.</u> .		· .
	· ·		A A-		
,,,,,					

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

DATE:	4/2/2003	_TIME:12	00	
NSPECTO <u>R:</u>	M. Walker	COMPANY:	Sevenson	
VEATHER:	40 F, Cloudy, Windy			
PIEZOMETER	RISER ELEVATION (INSIDE CASING)	DEPTH TO WATER (FT.)	R WATER ELEVATION	COMMENTS
P-1	572.72	7.4	565.32	
P-2	574.89	9.35	565.54	
P-3	574.16	6.6	567.56	
P-4	576.14	10.85	565.29	
P-5	575.05	5.2	569.85	
P-6	578.28	10	568.28	
MANHOLE A	575.22	11.25	563.97	<u></u>
MANHOLE B	577.34	13.3	564.04	automatically to th
Niagara Tuscarora in Manhole B (and water distance fror (Note: riser elevation	•	<u>13.3</u> y gravity feed and Mar by a float controlled s below an elevation of not be <u>less</u> than 12.4 ber, 1999 by Wendel s	564.04 nhole B is pumped a sump pump which n 565 ft. above mear 1 ft. at Manhole B a	naintains groundw n sea level. There
MANHOLE B (Note: Manhole A e Niagara Tuscarora in Manhole B (and water distance fror (Note: riser elevation)	577.34 empties into Manhole B by Road sanitary sewer line by extension Manhole A) n the manhole rim should ons (re)surveyed Septemi	<u>13.3</u> y gravity feed and Mar by a float controlled s below an elevation of not be <u>less</u> than 12.4 ber, 1999 by Wendel s	564.04 nhole B is pumped a sump pump which n 565 ft. above mear 1 ft. at Manhole B a	naintains groundw n sea level. There
MANHOLE B (Note: Manhole A e Niagara Tuscarora in Manhole B (and water distance fror (Note: riser elevation)	577.34 empties into Manhole B by Road sanitary sewer line by extension Manhole A) n the manhole rim should ons (re)surveyed Septemi	<u>13.3</u> y gravity feed and Mar by a float controlled s below an elevation of not be <u>less</u> than 12.4 ber, 1999 by Wendel s	564.04 nhole B is pumped a sump pump which n 565 ft. above mear 1 ft. at Manhole B a	naintains groundw n sea level. There
MANHOLE B (Note: Manhole A e Niagara Tuscarora in Manhole B (and water distance fror (Note: riser elevation)	577.34 empties into Manhole B by Road sanitary sewer line by extension Manhole A) n the manhole rim should ons (re)surveyed Septemi	<u>13.3</u> y gravity feed and Mar by a float controlled s below an elevation of not be <u>less</u> than 12.4 ber, 1999 by Wendel s	564.04 nhole B is pumped a sump pump which n 565 ft. above mear 1 ft. at Manhole B a	naintains groundw n sea level. There
MANHOLE B (Note: Manhole A e Niagara Tuscarora in Manhole B (and water distance fror (Note: riser elevation)	577.34 empties into Manhole B by Road sanitary sewer line by extension Manhole A) n the manhole rim should ons (re)surveyed Septemi	<u>13.3</u> y gravity feed and Mar by a float controlled s below an elevation of not be <u>less</u> than 12.4 ber, 1999 by Wendel s	564.04 nhole B is pumped a sump pump which n 565 ft. above mear 1 ft. at Manhole B a	naintains groundw n sea level. There
MANHOLE B (Note: Manhole A e Niagara Tuscarora in Manhole B (and water distance fror (Note: riser elevation)	577.34 empties into Manhole B by Road sanitary sewer line by extension Manhole A) n the manhole rim should ons (re)surveyed Septemi	<u>13.3</u> y gravity feed and Mar by a float controlled s below an elevation of not be <u>less</u> than 12.4 ber, 1999 by Wendel s	564.04 nhole B is pumped a sump pump which n 565 ft. above mear 1 ft. at Manhole B a	naintains groundw n sea level. There



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

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

February 19, 2004

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

RECEIVED

FEB 2 3 7004 NYSDEC REG 9 FOIL REL UNREL

#### Subject: Charles Gibson Site NYSDEC Registry No. 9-32-063 Eleventh Annual Report - 2003

Dear Mr. Hinton:

Enclosed are three copies of the Eleventh Annual Report - 2003 for the referenced site. This report summarizes the activities performed during 2003 for the operation and maintenance of the containment remedy for the site and the ground water monitoring program outside of the containment area.

The following is a summary of major activities that occurred during 2003.

- Semi-annual groundwater sampling events were performed during April and September 2003.
- The annual sediment sampling was performed in September.
- The annual sampling and analysis of leachate was completed in September. There were 5,230 gallons of Leachate discharged to the City of Niagara Falls Wastewater Treatment Facility during 2003.
- The NYSDEC conducted a site inspection on April 1, 2003.

The Semi-Annual Ground Water Sampling and Annual Sediment Sampling Report - September 2003, is included as Appendix A to this report.

Please call me at 423/336-4381 to discuss any information concerning this report.

Sincerely, **OLIN CORPORATION** arraine m. Miller.

Lórraine M. Miller Principal Environmental Specialist

cc: C. M. Richards via e-mail Tom Tirabassi via e-mail Mike Walker via e-mail

dm:sites/P&T(Gibson)/ENV4060/O&M/Eleventh Annual Report 2003

#### ELEVENTH ANNUAL REPORT

2003

#### **CHARLES GIBSON SITE**

#### (PINE AND TUSCARORA SITE)

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

#### PREPARED BY OLIN CORPORATION

FEBRUARY 2004

dm:sites/P&T(Gibson)/ENV4060/O&M/Eleventh Annual Report 2003

..

#### Introduction

This is the Eleventh Annual Report from Olin Corporation (Olin) for the Charles Gibson Site (Pine and Tuscarora Site), located in Niagara Falls, New York. This report summarizes the activities performed during 2003 for the operations and maintenance of the containment remedy for the Site and the ground water monitoring program outside of the containment area.

#### **Background**

The Charles Gibson Site (Site) is located approximately four miles east of downtown Niagara Falls, New York. The Site comprises an area of approximately two acres of land in Niagara County bordered on the south by private property, on the west by Tuscarora Road and on the north and east by Cayuga Creek. The Site is a fully remediated waste site currently surrounded by a fence.

Construction of the remedy on the Site concluded in 1990. The remedy consisted of rerouting Cayuga Creek around and away from the waste, installation of a fully circumscribed soil-bentonite slurry wall barrier and installation of a double flexible membrane liner cap with a perimeter collection drain system. The first year of operations and maintenance (O&M) of the containment remedy for the Site and the ground water monitoring program began in 1993.

Waters collected in the Site perimeter collection drain system are managed by direct discharge to the City of Niagara Falls Wastewater Treatment Facility. The Site is classified as a commercial/small industrial/residential user (CSIRU) and does not require a permit.

Reports are submitted as appropriate to the New York State Department of Environmental Conservation (NYSDEC). Records of all environmental monitoring are maintained by Olin Corporation. These records are available for review and inspection by the State upon reasonable notice.

#### Discussion

The Stipulation and Consent Judgment, CIV 83-1400, and its modification, CIV 83-1400C, (the Agreement) listed the following elements to be included in the required remediation plan for the Site (Plan C):

- 1. Quarterly ground water monitoring for 30 years (revised in 1997 to semiannual);
- 2. Sample collection and analysis of creek water and of creek sediments annually for 30 years;
- 3. Establishment of an upward hydraulic gradient within the containment area, unless Olin can demonstrate by clear and convincing evidence the establishment of the same is unnecessary or inappropriate to the accomplishment of the goals set forth in paragraph 4(a) of the stipulation;
- 4 Acquisition by Olin of easements which would permit the required monitoring;
- 5. Provisions for protection of the Site from disturbance which might increase the threat of contamination migration, including regular inspection of the site;
- 6. Provisions for the design and implementation of a contingency plan in the event that migration of the contaminants occurs despite the implementation of the containment remediation plan;
- 7. Containment or removal of the contaminants deposited or caused to be deposited by Olin which have migrated off-Site consistent with the goals of paragraph 4(a);
- 8. Fiscal arrangements, guarantees, or the provision of financial assurances sufficient to ensure that Olin possess the financial ability to perform the containment remedial plan and monitoring.

The Agreement includes a provision in the event that after seven years following the delivery of a Release of Liability (issued December 15, 1992), Olin demonstrates that conditions at the Site are such that the stated frequency or duration of the requirements of elements 1, 2, or 5 are no longer necessary to determine whether the remediation is effective, Olin may reduce the frequency and duration of such monitoring or inspections. Additionally, if after seven years following the Release of Liability, Olin is able to demonstrate that element 8 is no longer necessary to ensure performance, Olin may alter the fiscal arrangements appropriately.

The approved Operation and Maintenance Manual (O&M Manual (June 2000)) provides details on the O&M of the containment remedy on the northern portion of the site and includes provisions for site control and environmental monitoring. The O&M Manual (June 2000) reflects current activities being performed for the operation and maintenance of the containment remedy for the Site and the ground water monitoring program outside the containment area. The yearly inspection and sampling schedule for the Site is attached for reference (Attachment 1).

The O&M Manual (2000) addresses the required elements as set forth in the Agreement. Element 4, acquisition of easements, is a completed task. Element 6, a contingency plan, is addressed in the O&M Manual. Element 7, containment of the contaminants, has been achieved and is being monitored for effectiveness. Element 8, provision of financial assurance, is being met. This report discusses elements 1, 2, 3, and 5 of the Agreement.

**Element 1)** <u>Semi-annual ground water monitoring.</u> Monitor wells MW-A3, MW-1R, MW-2, MW-4, and MW-5 were sampled for the site compounds alpha-BHC, beta-BHC, gamma-BHC, delta-BHC on April 1-2 and on September 23, 2003. Analyses were performed using SW-846 Method 8080. Sampling results indicate that concentrations of site compounds being monitored are similar to previous results. Monitor wells are sampled for hexachlorobenzene (HCB) every other year. The monitor wells were sampled for HCB in September 2002. The next HCB sampling is scheduled for September 2004.

The semi-annual ground water monitoring data summary from 1997 through 2003 is provided in Table 1. The 1997 time period represents the start of the semi-annual events.

**Element 2)** <u>Annual creek sediment monitoring.</u> Annual sediment sampling was performed on September 24, 2003. Upstream and downstream data were similar to the 2002 sampling event for the alpha, beta, delta and gamma BHC isomers. Annual upstream and downstream sediment sampling results for the project-to-date are summarized in Tables 2 and 3 respectively. Sediment monitoring was modified in 2001 from collecting a grab sample to placement of sediment traps at the upstream and downstream locations. Sediment traps were installed for the first time during the April 2001 sampling event. Evaluating results from sediment trap monitoring will require collecting additional data over the next few monitoring events.

**Element 3)** <u>Establishment of an upward (inward) hydraulic gradient.</u> Quarterly ground water elevations were monitored at piezometer pairs P1/P2, P3/P4, and P5/P6 to maintain an inward hydraulic gradient in the containment area of the site. The data collected during each event is recorded on the Sampling Field Form. An evaluation of data from the piezometer pairs at the Site indicates that an inward hydraulic gradient is generally being maintained in the containment area of the site (Table 4). Water level elevation in Manhole A and Manhole B are monitored quarterly (Table 5).

There were 5,230 gallons of leachate discharged to the POTW during 2003 during a test of the discharge system. Drought conditions continued to exist in the region during 2003. A summary of yearly discharge volumes for the Site is provided in Table 6. Between 1991 and 2003, a total of 812,593 gallons of leachate have been removed from the Site. Annual leachate sampling and analysis for BHC's began in 2000 to replace the POTW sampling that was previously performed. HCB will be monitored every five years starting in 2000. The sampling location is Manhole B. Analytical results for 2003 are provided in Table 7.

**Element 5)** <u>Site protection.</u> Quarterly site inspections were conducted to identify any potential problems with the physical structures and to ensure that the remedial measure components are operating effectively. Routine site maintenance included fertilizing, mowing, weeding and mulching the site area.

Other non routine repairs completed in 2003 included: repairing the readout on the flow meter at the site and testing the pumping system in April. Repairs were made to a section of the stockade perimeter fence along the southeast side of fence that was knocked over by high winds in November. General site conditions and security status were noted on the Site Inspection Form and addressed as appropriate.

#### Conclusions/Recommendations:

The work performed for the Site during 2003 was reviewed and found to be in accordance with the approved O&M Manual (2000). Ground water monitoring indicates there are no increased concentrations of the Site compounds being monitored. Evaluation of the ground water data generated during the 2003 monitoring year indicates that the containment remedy is effective. An evaluation of data from the piezometer pairs at the Site indicates that an inward hydraulic gradient is generally being maintained in the containment area of the site. 2003 data from sediment trap monitoring were similar to the 2002 monitoring.

## Table 1

## Semi-Annual Ground Water Summary

	-				Mo	onitor Well: MW	-A3					
1997	1	998	19	99	20	000	2	001		2002	2	003
September (*)	April	October	April	October	. May	October	April	October	April			September
.059	.016J	.12	.0043J	-	.050U	.054U	.050U	.050U				.035J
.028J	.012J	.0092J	.053U	-	.012J	.054U						.059U
.050U	.050U	.024J	.053U	-	.050U	.054U						.0590
.050U	.050U	· .053U	.053U									.0590
10U	10U	-	11U	-	110	NR						0590
	September (*) .059 .028J .050U .050U	September (*)         April           .059         .016J           .028J         .012J           .050U         .050U           .050U         .050U	September (*)         April         October           .059         .016J         .12           .028J         .012J         .0092J           .050U         .050U         .024J           .050U         .050U         .053U	September (*)         April         October         April           .059         .016J         .12         .0043J           .028J         .012J         .0092J         .053U           .050U         .050U         .024J         .053U           .050U         .050U         .053U         .053U	September (*)         April         October         April         October           .059         .016J         .12         .0043J         -           .028J         .012J         .0092J         .053U         -           .050U         .050U         .024J         .053U         -           .050U         .050U         .053U         -         -	1997         1998         1999         20           September (*)         April         October         April         October         May           .059         .016J         .12         .0043J         -         .050U           .028J         .012J         .0092J         .053U         -         .012J           .050U         .050U         .024J         .053U         -         .050U           .050U         .050U         .053U         -         .050U	1997         1998         1999         2000           September (*)         April         October         April         October         May         October           .059         .016J         .12         .0043J         -         .050U         .054U           .028J         .012J         .0092J         .053U         -         .012J         .054U           .050U         .050U         .024J         .053U         -         .050U         .054U           .050U         .050U         .024J         .053U         -         .050U         .054U           .050U         .053U         .053U         -         .050U         .054U           .050U         .053U         .053U         -         .050U         .054U	September (*)         April         October         April         October         May         October         April           .059         .016J         .12         .0043J         -         .050U         .054U         .050U           .028J         .012J         .0092J         .053U         -         .012J         .054U         .050U           .050U         .050U         .024J         .053U         -         .050U         .054U         .050U           .050U         .050U         .024J         .053U         -         .050U         .054U         .050U           .050U         .050U         .053U         -         .050U         .054U         .050U           .050U         .053U         .053U         -         .050U         .054U         .050U	1997         1998         1999         2000         2001           September (*)         April         October         April         October         May         October         April         October           .059         .016J         .12         .0043J         -         .050U         .054U         .050U         .050U           .028J         .012J         .0092J         .053U         -         .012J         .054U         .050U         .050U           .050U         .050U         .053U         -         .012J         .054U         .050U         .050U           .050U         .053U         .053U         -         .050U         .054U         .050U         .050U	1997         1998         1999         2000         2001           September (*)         April         October         April         October         May         October         April         October	1997         1998         1999         2000         2001         2002           September (*)         April         October         April         October         May         October         April         October         April         September (*)           .059         .016J         .12         .0043J         -         .050U         .054U         .050U         .050U	1997         1998         1999         2000         2002 <t< th=""></t<>

		· · ·					Aonitor Well: MW	/-1R					
	1997	19	98	1	999		2000	20	001	2	002	- 20	03
Parameter	September (*)	April	October	April	October	May	October	April	October	April	September	April	September
Alpha-BHC	.058	.085	.18	.072	.057	.028J	.054U/.052U	.050U/.050U	.099/.060	.070/.061	.055/.030J	.014J/.015U	.052U
Beta-BHC	.053	.14	.20	.13	.080	.12	.038J/.052U	.012J/.050U	.19/.15	.10/.050U	.13/.095	.053/.052	.052U
Gamma-BHC							1			.050U/.05			.0320
	.050U	050U	.028J	.053U	.050UJ	.051U	.054U/.052U	.050U/.050U	.063J/.058U	00	.055U	.049U	052U
Delta-BHC	···									.050U/.05			
	050U	.0042J	.053U	.0054J	.050U	.051U	.054U/.052U	.050U/.050U	.061U/.058U	3.	.055U	.049U	.052U
Hexachlorobenzène	10U	<u>10U</u>	11U	11U	10U	10U	NR	10U/10U	NR	. NR	NR	NR	NR

						M	onitor Well: MW	1-2					
	1997	19	98		1999		2000	2	001		2002	2	003
Parameter	September (*)	April	October	April	October	May	October	April	October	April	September	April	September
Alpha-BHC	.050U	.050U	.053U	.053U	.050U	.029J	.053U	.050U	.054U	.050U	.050U	.050U	.050U
Beta-BHC	.050U	050U	.053U	.053U	.050U	.098	.053U	.050U	.054U	.050U	.050U	.050U	.050U
Gamma-BHC	.050U	.050U	.053U	.053U	.050UJ	.052U	.053U	.050U	.054U	.050U	.050U	.050U	.030J
Delta-BHC	.050U	.050U	.053U	.053U	.050U	.052U	.053U	.050U	.054U	.050U	.050U	.050U	.0303
Hexachlorobenzene	10UJ	, 10U	11U	.10U	10U	10U	NR	100	NR .	NR	NR		.0500 NR

:1

Notes: Concentrations in ug/L (\*) Start of semi annual monitoring program (\*) U

- Not detected
- Estimated value J
- Field Duplicates
- Not enough water for analysis No longer required -
- NR

Data has been validated

## Table 1 (cont.)

## Semi-Annual Ground Water Summary

-5

Monitor Well: MW-4

	1997	1	998		1999	2000		. 20	001		2002	2	003
Parameter	September (*)	April	October	April	October	May	October	April	October	April	September	April	September
Alpha-BHC	.050/.060	.0030J	.053U	.0031J	.050U	.051U/.052U	.054U	.050U	.0069J	.050U	.050U	.049U	.056
Beta-BHC	.055/:069	.016J	.045J	.017J	.066/.068	.045J/.062	.054U	.050U	.047J	.041J	.033J	.049U	.026J
Gamma-BHC	.050U	.050U	.053U	.053U	.050U	.051U/.052U	.054U	.050U	.050U	.071J	.050U	.049U	.033J
Delta-BHC	.050U	.050U	.053U	.053U	.050U	.051U/.052U	.054U	.050U	.050U	.050U	.050U	.049U	.050U
Hexachlorobenzene	10U	10U	10U	10U	10U	10U	NR	· 10U	NR	NR	NR	NR	NR

Monitor Well: MW-5

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	1997	199	8	199	9	2	000	20	001	2	2002	20	003
Parameter	September (*)	April ~	October	April	October	May	October	April	October	April	September	April	September
Alpha-BHC	.059	.050U/.0066J	.053U	.0071J	.045J	.010J	.054U	.050U	.013J	.050U	.050U	.048U	.049U
Beta-BHC	.050U	.0080J/.0084J	.053U	.053U	.050	.031J	.054U	.050U	.022J	.050U	.050U	.048U	.049U
Gamma-BHC	.050U	.050U	.053U	.053U	.0065J	.052U	.054U	.050U	.055U	.050U	.050U	.048U	.049U
Delta-BHC	.050U	.050U	.053U	.053U	.050U	.052U	.054U	.050U	.055U	.050U	.050U	.048U	.049U
Hexachlorobenzene	10U	10U	11U	110/110	100	10U	NR	10U	NR	NR	NR	NR	NR

Notes: Concentrations in ug/l (\*) Start of semi annual monitoring program

Not detected U

Estimated value J

Field Duplicates

Not enough water for analysis No longer required

NR

Data has been validated

dm:sites/P&T(Gibson)/ENV4060/O&M/Eleventh Annual Report 2003

## Table 2 Analytical Summary Cayuga Creek Annual Upstream Sediment Sampling

Parameter	1993 September	1994 June	1994 September	1995 August	1996 September	1997 September	1998 October	1999 October	2000 October	2001* October	2002 September	2003 September
alpha-BHC	1.5 J	NS	6.1 U	8.1J	<sup>^</sup> 2.7J	5.3J		8.9/7.4	3.5	55	19/90	28/22J
beta-BHC	2.3 J	NS	· 2.2 J	12	6.1U	11	5.2	28/19	4.5J	49	37/76	48/30
delta-BHC	6.0 U	NS	6.1 U	21	6.1U	4.0J	5.5	37/31	2. <del>3</del> U	24	31/26	12J/28
gamma-BHC	6.0 U	' NS	6.1 U	12 U	6.1U	2.5J	.31UJ	2.9J/.42J	2.3U	3.3J	5.8U/1.6U	1.9J/26U
НСВ	500 U	NS	510 U	480 U	,500U	330U	470U	480U	NR	NR	NR	NR

## Notes:

Concentration in microgram/kilogram (ug/kg) BHC = Hexachlorocyclohexane

HCB = Hexachlorobenzene

J = Estimated value

U = Undetected at the concentration level specified

NS = Not sampled

NR = No longer required for this event \* Sediment Traps Installed April 2001 Data has been validated

### Table 3 Analytical Summary Cayuga Creek Annual Downstream Sediment Sampling

Parameter	1993 September	1994 June	1994 September	1995 August	1996 September	1997 September	1998 October	1999 October	2000 October	2001* October	2002 September	2003 September
		~ <sup>L</sup>			· · · ·							
alpha-BHC	2,200	5,300	720	790	5000	330	4800J/80000J	4800J	9600/13000	16	26	26J
beta-BHC	390	1,800	82	83 J	600	580	1300J/12000J	1800	3000J/2700J	52	34	45
delta-BHC	27 J	80 J	67 U	250 U	41J	60J	53J/5500UJ	190J	1200U/1400U	65	20	97
gamma-BHC	40 U	690	. 67 U	250 U	35J	44J -	300UJ/690J	52J	1200U/1400U	1.4J	6.0U	31U
HCB	800 U	570 UR	550 U	420 U	330U	330U	520U/550U	510U	NR	NR	NR	NR

Notes:

Concentration in microgram/kilogram (ug/kg)

BHC = Hexachlorocyclohexane

HCB = Hexachlorobenzene

J = Estimated value.

U = Undetected at the concentration level specified

R = Sample result rejected due to low surrogate recoveries caused by matrix interference .

NR = No longer required for this event

\* Sediment Traps Installed April 2001

Data has been validated

## Table 4

	Sey.07	563.97		
Piezometer Pair	2/19/2003	4/2/2003	9/23/2003	11/19/2003
P1	564.73	565.32	565.65	565.73
P2	565.44	565.54	565.30	565.29
P3	566.51 ¥	567.56	565.90	566.16
P4		565.29	565.29	565.19
P5	569.10	569.85	567.43	568.35
P6	567.88	568.28	567.13	567.78

## 2003 Quarterly Groundwater Elevations Summary

Measurement units are in feet. Note:

Piezometers P1, P3, P5 are outside the slurry wall. Piezometers P2, P4, P6 are located within the containment area. Discharge system pumped 5,230 gallons during a test of the system on 4/14/2003.

#### Table 5

## Manhole Monitoring 2003 Water Elevations (ft.)

Date	Manhole A	Manhole B	Comments
2/19/2003	564.07	564.14	
4/2/2003	563.97	564.04	Semi Annual ground water sampling; NYSDEC visit 4/1.
9/23/2003	564.79	564.52	Semi Annual ground water sampling
11/19/2003	563.66	563.73	

Notes:

#### Manhole monitoring:

- Maintain water level below 565 feet to prevent hydrostatic pressure buildup under concrete slab.
- Pump Manhole B as required to maintain an inward gradient. (This pumping requirement is addressed by the operation of the direct discharge system which became operational in March 1997.)

#### Table 6

### Summary of Yearly Discharge Volumes (gallons)

Date	Volume (gallons)
1991	104,120
1992	76,562
1993	77,797
1994	69,724
1995	56,940
1996	77,512
1997(*)	64,687
1998	51,070
1999	140,860
2000	67,236
2001	20,855
2002	0
2003	5230
TOTALS	812,593

(\*) Represents start of operation of direct discharge system Discharge system pumped 5,230 gallons during a test of the system on 4/14/2003.

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#### Table 7 .

#### Annual Manhole B Sampling

#### April 1, 2003

Parameter	Concentration (ug/l)		
alpha – BHC	.048U		
beta - BHC	.33		
delta - BHC	.60		
gamma - BHC	.048U		
Hexachlorobenzene	NR		

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Notes:

U Undetected at associated value

NR Not required for this event

Field blank 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 2005.

## ATTACHMENT 1

# INSPECTION AND SAMPLING SCHEDULE GIBSON SITE

#### GIBSON SITE NIAGARA FALLS, NEW YORK 2004 INSPECTION AND SAMPLING SCHEDULE

Quarterly	Site Inspection (including Site Cover/Cap, Site Fence, Creek Riprap, Site Structures, CPVC Drain/Sump System).
Quarterly	Piezometer and sump groundwater level elevation measurements.
Semi-Annually	Groundwater monitoring well sampling (April and September) for BHC isomers.
Annually	Cayuga Creek sediment sampling (September) for BHC isomers.
Annually	Leachate sample collection and analysis (Manhole B) for BHC isomers (starting in 2000).
Annually	Annual report to NYSDEC (1 <sup>st</sup> Quarter).
Biennially	Groundwater monitoring well sampling (starting in April 2000) for HCB. The biennial sampling events following 2000 will alternate seasonally between April and September sampling. Next HCB sampling is April 2004.
Every Five Years	Leachate sample collection and analysis (Manhole B) (for HCB) (starting in 2000). Next leachate sampling for HCB is 2005.

## APPENDIX A

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dm:sites/P&T(Gibson)/ENV4060/O&M/Eleventh Annual Report 2003

#### CHARLES GIBSON SITE (PINE AND TUSCARORA SITE)

#### NIAGARA FALLS, NEW YORK NYSDEC REGISTRY NO. 9-32-063

#### SEMI-ANNUAL GROUND WATER AND ANNUAL SEDIMENT SAMPLING REPORT

#### SEPTEMBER 2003

## PREPARED BY OLIN CORPORATION

dm:sites/P&T(Gibson)/ENV4060/O&M/Eleventh Annual Report 2003

In accordance with the approved sampling plan for the above referenced Site, this report presents a summary of data for the Semi-Annual Ground Water and Annual Sediment Sampling, collected during September 2003.

The analytical data summary for ground water is listed in Table 1. Analytical results for the annual sediment sampling are listed in Table 2. The laboratory data summary package (Appendix 1), and the field logs (Appendix 2) for this sampling event are also attached. The Quarterly Site Inspection Forms and the Quarterly Ground Water Elevation Forms are included in Appendices 3 and 4 respectively. The analytical data has been validated and found to be acceptable.

#### TABLE 1

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

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

#### September 23-24, 2003

	MW-1R	MW-1R (DUP)	MW-2	MW-4	MW-5	MW-A3
PARAMETER						
alpha-BHC	.052U	.052U	.050U	.056	.049U	.035J
beta-BHC	.052U	.052U	.050U	.026J	.049U	.059U
delta-BHC	.052U	.052U	.050U	:050U	.049U	.059U
gamma-BHC	.052U	.052U	.030J	.033J	.049U	.059U
Hexachlorobenzene	NR	NR	NR	NR	NR	NR
Hexachlorobenzene					NK	

Notes:

Concentration in ug/l

U Undetected at associated value

J Estimated value

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

Data has been validated and judged acceptable as qualified.

NR Not required for this event.

Next biennial sampling for hexachlorobenzene is scheduled for April 2004.

Charles Gibson Site NYSDEC Registry No. 9-32-063 Eleventh Annual Report - 2003

#### TABLE 2

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

#### ANALYTICAL RESULTS SUMMARY ANNUAL SEDIMENT SAMPLING

#### September 24, 2003

	UPSTREAM	DOWNSTREAM
PARAMETER		
alpha-BHC	28/22J	26J
beta-BHC	48/30	45
delta-BHC	12J/28	97
gamma-BHC	1.9J/26U	31U

Notes:

Concentration in ug/kg

Data has been validated and judged acceptable as qualified.

U Compound was analyzed but not detected

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J Compound was analyzed and determined to be present in sample. The concentration listed is an estimated value which is less than the specified minimum detection level but greater than zero Charles Gibson Site NYSDEC Registry No. 9-32-063 Eleventh Annual Report - 2003

#### APPENDIX 1

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#### LABORATORY DATA SUMMARY PACKAGE

#### SEMI-ANNUAL GROUND WATER SAMPLING

AND

### ANNUAL SEDIMENT SAMPLING

:

September 2003

CHARLES GIBSON SITE (PINE AND TUSCARORA SITE)

NIAGARA FALLS, NEW YORK

NYSDEC Registry No. 9-32-063

dm:sites/P&T(Gibson)/ENV4060/O&M/Eleventh Annual Report 2003



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CHARLES GIBSON SITE (aka Pine & Tuscarora, P&T) ENV4060 IND Site Monitoring 2003

SEPTEMBER 2003

SEMI ANNUAL GW MON MONIMO

ANALYTICAL REPORT

Job#: A03-9186

STL Project#: NY1A8693 Site Name: <u>OLIN CORPORATION</u> Task: Charles Gibson Site

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

CC: Mr. Michael Walker

STL Buffalo

Brian J () Fischer Project Manager

Anakoz nn Neary Analyst

10/09/2003

Severn Trent Laboratories, Inc. STL Buffalo • 10 Hazelwood Drive, Suite 106, Amherst, NY 14228 Tel 716 691 2600 Fax 716 691 7991 • www.stHinc.com

# STL Buffalo Current Certifications

STATE	Program	Cert # / Lab ID
A2LA (ISO 17025)	SDWA, CWA, RCRA	0732-01
Arizona	SDWA, CWA, RCRA	AZ0525
Arkansas	SDWA, CWA, RCRA, SOIL	03-054-D/88-0686
California	NELAP SDWA, CWA, RCRA	01169CA
Canada	GENERAL	SCC 1007-15/10B
Connecticut	SDWA, CWA, RCRA, SOIL	PH-0568
Florida	NELAP RCRA	E87672
Georgia	SDWA	. 956
Illinois	NELAP SDWA, CWA, RCRA	200003
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	США	411
North Dakota	SDWA, CWA, RCRA	R-176
Oklahoma	CWA, RCRA	9421
Oregon	NELAP, SDWA, CWA, RCRA	NY200001
Pennsylvania	NELAP, SDWA, CWA, Env. Lab Reg.	68-281
South Carolina	RCRA	91013
Tennessee	SDWA	2970
USDA	FOREIGN SOIL PERMIT	S-4650
Virginia	SDWA	278
Washington	С₩А	C254
West Virginia	CWA	252
Wisconsin	CWA	998310390
Wyoming UST	UST	NA NA

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# SAMPLE DATA SUMMARY PACKAGE

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# SAMPLE SUMMARY

		SAMPLEI	<b>)</b> .	RECEIV	ED
<u>LAB SAMPLE ID</u>	CLIENT SAMPLE ID	DATE	TIME	DATE	TIME
A3918606	092303FIELD BLANK	09/23/2003	15:00	09/24/2003	11:00
A3918605	0923,03MW1R	09/23/2003	12:55	09/24/2003	11:00
A3918604	092303MW2			09/24/2003	
A3918604MS	092303MW2 MS	09/23/2003	13:30	09/24/2003	11.00
A3918604SD	092303MW2 SD			09/24/2003	
A3918602	092303MW4			09/24/2003	
A3918603	092303MW5	09/23/2003	11:30	09/24/2003	11.00
A3918610	092303MW7	09/23/2003	12:55	09/24/2003	11.00
A3918601	092303MWA3	09/23/2003	14.15	09/24/2003	11.00
A3918608	092403BD	09/24/2003	09.30	09/24/2003	11.00
A3918609	092403DS	09/24/2003	09.45	09/24/2003	11.00
A3918607	092403US	09/24/2003	00.30	09/24/2003	11.00
	··· .	02/21/2000	02.30	03/24/2003	TT:00

#### METHODS SUMMARY

# Job#: <u>A03-9186</u>

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

		ANALYTICAL
PARAMETER	· · · · · · · · · · · · · · · · · · ·	METHOD
ASP 2000 - METHOD 8081 BHC'S	ASPOC	8081
ASP 2000- METHOD 8081 BHC'S	ASPOC	8081

#### References:

ASP00

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

#### NON-CONFORMANCE SUMMARY

#### Job#: <u>A03-9186</u>

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

#### General Comments

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

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

According to 40CFR Part 136.3, pH, Chlorine Residual and Dissolved Oxygen 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

A03-9186

Sample Cooler(s) were received at the following temperature(s); 2.0 °C All samples were received in good condition.

#### 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

10-13-03

Date

#### NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION

#### SAMPLE IDENTIFICATION AND ANALYTICAL REQUEST SUMMARY

# LAB NAME: SEVERN TRENT LABORATORIES, INC.

<u> </u>	<u> </u>	· :	· · · · · · · · · · · · · · · · · · ·		····	<u> </u>		
CUSTOMER SAMPLE ID	LABORATORY SAMPLE ID		· · ·	ANALY	TICAL REQ	UIREMENTS	S	5 g -
	•••	VOA GC/MS	BNA GC/MS	VOA GC	PEST PCB	METALS	TCLP HERB	WATER QUALITY
092303MW1R	A3918605	-	-	-	ASP00		-	· -
092303MW2	A3918604	-	· -	-	ASP00	-	-	an s <u>a</u> h
092303MW4	A3918602			-	ASP00	-	-	à
092303MW5	A3918603	÷ .		-	ASP00	-	. –	-
092303MW7	A3918610	-	-		ASP00	-	-	
092303MWA3	A3918601		-	-	ASP00	-	_ ·	-
092403BD	A3918608	÷	· -	-	ASP00	-	-	-
092403DS	A3918609	-	-	-	ASP00	-	<u></u>	-
092403US	A3918607	-	-	- ,	ASP00		-	-

NYSDEC-1

# NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION

# SAMPLE PREPARATION AND ANALYSIS SUMMARY PESTICIDE/PCB ANALYSIS

# LAB NAME: SEVERN TRENT LABORATORIES, INC.

					<u> </u>
SAMPLE IDENTIFICATION		DATE COLLECTED	DATE RECEIVED ~ AT LAB	DATE EXTRACTED	DATE ANALYZED
092303MW1R	WATER	09/23/2003	09/24/2003	09/25/2003	10/01/2003
092303MW2	WATER	09/23/2003	09/24/2003	09/25/2003	10/01/2003
092303MW4	WATER	09/23/2003	09/24/2003	09/25/2003	10/01/2003
092303MW5	WATER	09/23/2003	09/24/2003	09/25/2003	10/01/2003
092303MW7	WATER	09/23/2003	09/24/2003	09/25/2003	10/01/2003
092303MWA3	WATER	09/23/2003	09/24/2003	09/25/2002	10/01/2003
092403BD	SOIL	09/24/2003	09/24/2003	10/01/2003	10/06/2003
092403DS	SOIL	09/24/2003	09/24/2003	10/01/2003	10/06/2003
092403US	SOIL	09/24/2003	09/24/2003	10/01/2003	10/06/2003

NYSDEC-4

#### 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
092303MW1R	WATER	ASP00	SEPF	AS REQUIRED	AS REQUIRED
092303MW2	WATER	ASP00	SEPF	AS REQUIRED	AS REQUIRED
092303MW4	WATER	ASP00	SEPF	AS REQUIRED	AS REQUIRED
092303MW5	WATER	ASP00	SEPF	AS REQUIRED	AS REQUIRED
092303MW7	WATER	ASP00	SEPF	AS REQUIRED	AS REQUIRED
092303MWA3	WATER-	ASP00	SEPF	AS REQUIRED	AS REQUIRED
092403BD	SOIL	ASP00	SONC	AS REQUIRED	AS REQUIRED
092403DS	SOIL	ASP00	SONC	AS REQUIRED	AS REQUIRED
092403US	SOIL	ASP00	SONC	AS REQUIRED	AS REQUIRED

NYSDEC-6

# 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 GCMS.

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.
- <sup>1</sup> 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.

 $\tilde{\mathcal{D}}_{\mathcal{H}}$ 

SAMPLE DATA PACKAGE

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

				Client No.
Lab Name: <u>STL Buffalo</u> Contra	act:		092403B	O(US DUP)
Lab Code: <u>RECNY</u> Case No.: SAS No.	: SDG	No.:		
Matrix: (soil/water) <u>SOIL</u>	. Ia	b Sample ID:	<u>A3918608</u>	3
Sample wt/vol: <u>30.21</u> (g/mL) <u>G</u>	La	b File ID:	RA28889	<u>.TX0</u>
% Moisture: <u>69.3</u> decanted: $(Y/N) \underline{Y}$	Da	te Samp/Recv:	09/24/20	03 09/24/2003
Extraction: (SepF/Cont/Sonc/Soxh): <u>SONC</u>	Da	te Extracted:	10/01/20	003
Concentrated Extract Volume: 10000(uL)	Dar	te Analyzed:	10/06/20	003
Injection Volume: <u>1.00</u> (uL)	Di	lution Factor:	1.00	· .
GPC Cleanup: (Y/N) <u>N</u> pH: _	Su	lfur Cleanup:	(Y/N) <u>N</u>	•
CAS NO. COMPOUND	CONCENTRATION (ug/L or ug/I		Q	-
319-84-6alpha-BHC 319-85-7beta-BHC 319-86-8delta-BHC 58-89-9gamma-BHC (Lindane)		22 30 28 26	J U	

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

Client No.

	•		092403DS	
Lab Name: <u>STL Buffalo</u>	Contract:			J ,
Lab Code: <u>RECNY</u> Case No.:	SAS No.: SI	CG No.:		
Matrix: (soil/water) <u>SOIL</u>	I	lab Sample ID:	A3918609	<b>,</b>
Sample wt/vol: $30.33$ (g/mL) G	· . I	lab File ID:	RA28891.TX	)
% Moisture: 74.5 decanted: (Y/N)	<u>Y</u> . I	Date Samp/Recv:	09/24/2003	09/24/2003
Extraction: (SepF/Cont/Sonc/Soxh): SON	<u> </u>	Date Extracted:	10/01/2003	
Concentrated Extract Volume: 10000(uL	) I	Date Analyzed:	10/06/2003	
Injection Volume: <u>1.00</u> (uL)	. I	Dilution Factor:	1.00	
GPC Cleanup: (Y/N) <u>N</u> pH:	Ś	Sulfur Cleanup:	(Y/N) <u>N</u>	
CAS NO. COMPOUND	CONCENTRATIO (ug/L or ug		Q	
	· · · · · · · · · · · · · · · · · · ·	26	Т	

319-84-6alpha-BHC	26	J	
319-85-7beta-BHC	45		
319-86-8delta-BHC	97		1
58-89-9gamma-BHC (Lindane)	31	υ	

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

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Client No.

			······································
Tab Mara CTT D 66-1			092403US
Lab Name: <u>STL Buffalo</u>	Contract:	· · ·	L
Lab Code: <u>RECNY</u> Case No.:	SAS No.:	SDG No.:	
Matrix: (soil/water) SOIL	•	Lab Sample ID:	<u>A3918607</u>
Sample wt/vol: <u>30.11</u> (g/mL) <u>G</u>		Lab Filë ID:	RA28887.TX0
% Moisture: <u>69.3</u> decanted: (Y/N)	Ϋ́	Date Samp/Recv:	<u>09/24/2003</u> <u>09/24/2003</u>
Extraction: (SepF/Cont/Sonc/Soxh): SO	<u>NC</u>	Date Extracted:	10/01/2003
Concentrated Extract Volume: 10000 (ul	L)	Date Analyzed:	10/06/2003
Injection Volume: <u>1.00</u> (uL)		Dilution Factor:	1.00
GPC Cleanup: (Y/N) <u>N</u> pH: _		Sulfur Cleanup:	(Y/N) <u>N</u>
CAS NO. COMPOUND	CONCENTRAI (ug/L or	ION UNITS: ug/Kg) <u>UG/KG</u>	Q
319-84-6alpha-BHC	· · · · · · · · · · · · · · · · · · ·	28	

319-84-6alpha-BHC	28	
319-85-7beta-BHC	48	
319-86-8delta-BHC	12	J
58-89-9gamma-EHC (Lindane)	1.9	J
		1 a .

Client No.

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

092303FIELD BLANK Lab Name: <u>STL Buffalo</u> Contract: Lab Code: <u>RECNY</u> Case No.: \_\_\_\_\_ SAS No.: \_\_\_\_\_ SDG No.: \_\_\_\_ Matrix: (soil/water) WATER Lab Sample ID: A3918606 Sample wt/vol: \_\_\_\_\_\_ 1035.00 (g/mL) ML Lab File ID: <u>RA28743.TX0</u> % Moisture: \_\_\_\_\_ decanted: (Y/N) N Date Samp/Recv: 09/23/2003 09/24/2003 Extraction: (SepF/Cont/Sonc/Soxh): SEPF Date Extracted: 09/25/2003 Concentrated Extract Volume: 10000 (uL) Date Analyzed: <u>10/01/2003</u> Injection Volume: \_\_\_\_1.00 (uL) Dilution Factor: \_\_\_\_1.00 GPC Cleanup: (Y/N) <u>N</u> pH: <u>7.00</u> Sulfur Cleanup: (Y/N) N CONCENTRATION UNITS: CAS NO. COMPOUND (ug/L or ug/Kg) UG/L 0

	01 (3) (3) <u>00/11</u>	Ŷ
319-84-6alpha-BHC	0.048	U
319-85-7beta-BHC	0.048	UU U
319-86-8delta-BHC	0.048	U
58-89-9gamma-BHC (Lindane)	0.048	Ū
		-

FORM I - GC EXT

Client No.

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

092303MW1R Lab Name: STL Buffalo Contract: Lab Code: <u>RECNY</u> Case No.: \_\_\_\_\_ SAS No.: \_\_\_\_\_ SDG No.: \_\_\_\_ Matrix: (soil/water) WATER Lab Sample ID: A3918605 Sample wt/vol: \_\_\_\_\_\_\_\_ (g/mL) ML Lab File ID: RA28742.TX0 % Moisture:\_\_\_\_\_ decanted: (Y/N) N Date Samp/Recv: 09/23/2003 09/24/2003 Extraction: (SepF/Cont/Sonc/Soxh): SEPF Date Extracted: 09/25/2003 Concentrated Extract Volume: 10000 (uL) Date Analyzed: 10/01/2003 Injection Volume: \_\_\_\_1.00(uL) Dilution Factor: \_\_\_\_1.00 JPC Cleanup: (Y/N) N pH: 7.00 Sulfur Cleanup: (Y/N) N CONCENTRATION UNITS: CAS NO. (ug/L or ug/Kg) <u>UG/L</u> COMPOUND Q

	T	
319-84-6alpha-BHC	0.052	U
319-85-7beta-BHC	0.052	TT
319-86-8delta-BHC	0.052	TT
58-89-9gamma-BHC (Lindane)	0.052	
	0.052	0

Client No.

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

Lab Name: SIL Buffalo	Contract:		092303MW2
Lab Code: REONY Case No.:		SDG No.:	
Matrix: (soil/water) WATER		Lab Sample ID:	
Sample wt/vol: <u>1000.00</u> (g/mL) <u>ML</u>		Lab File ID:	
* Moisture: decanted: (Y/N)			09/23/2003 09/24/2003
Extraction: (SepF/Cont/Sonc/Soxh): <u>SEP</u>		Date Extracted:	
Concentrated Extract Volume: 10000 (uL		Date Analyzed:	
Injection Volume: <u>1.00</u> (uL)		Dilution Factor:	
GPC Cleanup: (Y/N) <u>N</u> pH: <u>6.00</u>		Sulfur Cleanup:	(Y/N) <u>N</u>
	CONCENTRAT	ION UNITS:	· .

CAS NO.	COMPOUND	(ug/L or ug/Kg) <u>UG/L</u>	Q
319-85-7 319-86-8	alpha-BHC beta-BHC delta-BHC gamma-BHC (Lindane)	0.050 0.050 0.050 0.050 0.030	J D D D

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

				Client No.
Lab Name: <u>STL Buffalo</u> Cont	tract:		092303MWA	3
Lab Code: <u>RECNY</u> Case No.: SAS 1	No.:SD0	G No.:		
Matrix: (soil/water) <u>WATER</u>	La	ab Sample ID:	<u>A3918601</u>	_ ·
Sample wt/vol: <u>850.00</u> (g/mL) <u>ML</u>	La	ab File ID:	RA28736.1	<u>X0</u>
% Moisture: decanted: (Y/N) $\underline{N}$	·Da	ate Samp/Recv:	09/23/200	<u>3 09/24/2003</u>
Extraction: (SepF/Cont/Sonc/Soxh): <u>SEPF</u>	Ďa	ate Extracted:	09/25/200	3
Concentrated Extract Volume: 10000(uL)	Da	ate Analyzed:	10/01/200	<u>3</u>
Injection Volume: <u>1.00</u> (uL)	Di	ilution Factor:	1.00	
GPC Cleanup: (Y/N) <u>N</u> pH: <u>7.00</u>	ົ 5ປ	lfur Cleanup:	(Y/N) <u>N</u>	
CAS NO. COMPOUND	CONCENTRATION (ug/L or ug/	NUNITS: 'Kg) <u>UG/L_</u>	Q	
319-84-6alpha-BHC 319-85-7beta-BHC 319-86-8delta-BHC 58-89-9gamma-BHC (Lindane)		0.035 0.059 0.059 0.059	រ ប ប ប	

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

Client No.

. ·				092303MW4
Lab Name: SIL Buffa	<u>alo</u>	Contract:	<u> </u>	
Lab Code: <u>RECNY</u>	Case No.:	SAS No.:	SDG No.:	
Matrix: (soil/water	r) <u>WATER</u>		Lab Sample ID:	<u>A3918602</u>
Sample wt/vol:	<u>1000.00</u> (g/mL) <u>M</u> L		Lab File ID:	RA28737.TX0
% Moisture:	decanted: (Y/N)	N	Date Samp/Recv:	09/23/2003 09/24/2003
Extraction: (SepF/G	Cont/Sonc/Soxh): <u>SE</u>	PF	Date Extracted:	09/25/2003
Concentrated Extra	ct Volume: <u>10000</u> (u)	ե)	Date Analyzed:	10/01/2003
Injection Volume:	1.00 (uL)		Dilution Factor:	1.00
GPC Cleanup: (Y/N	) <u>N</u> pH: <u>7.00</u>		Sulfur Cleanup:,	(Y/N) <u>N</u>
CAS NO.	COMPOUND		TION UNITS: ug/Kg) <u>UG/L</u>	Q

319-84-6alpha-BHC		0.056	
319-85-7beta-BHC		 0.026	J
319-86-8delta-BHC		0.050	U
58-89-9qamma-BHC	(Lindane)	0.033 -	J
			1

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

Client No.

	092303Mw5
Lab Name: <u>STL Buffalo</u> Cont:	ract:
Lab Code: <u>RECINY</u> Case No.: SAS No	D.: SDG No.:
Matrix: (soil/water) <u>WATER</u>	Lab Sample ID: <u>A3918603</u>
Sample wt/vol: $1025.00$ (g/mL) ML	Lab File ID: <u>RA28738.TX0</u>
k Moisture: decanted: (Y/N) <u>N</u>	Date Samp/Recv: <u>09/23/2003</u> <u>09/24/2003</u>
Extraction: (SepF/Cont/Sonc/Soxh): <u>SEPF</u>	Date Extracted: 09/25/2003
Concentrated Extract Volume: <u>10000</u> (uL)	Date Analyzed: <u>10/01/2003</u>
Injection Volume: <u>1.00</u> (uL)	Dilution Factor: <u>1.00</u>
JPC Cleanup: (Y/N) <u>N</u> pH: 7.00	Sulfur Cleanup: (Y/N) <u>N</u>
CAS NO. COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L 0

	- <u>·</u>	
319-84-6alpha-BHC	0.049	ប
319-85-7beta-BHC	0.049	U
319-86-8delta-BHC	0.049	U
58-89-9gamma-BHC (Lindane)	0.049	υ

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

·			Client No.
			092303MW7 (MWIRdu
Lab Name: <u>STL Buffalo</u> Contrac	t:	-	L
Lab Code: <u>RECNY</u> Case No.: SAS No.:	SDG	No.:	
Matrix: (soil/water) <u>WATER</u>	, Ia	b Sample ID:	<u>A3918610</u>
Sample wt/vol:970.00 (g/mL) ML	La	b File ID:	RA28744.TX0
% Moisture: decanted: (Y/N) $\underline{N}$	Da	te Samp/Recv:	09/23/2003 09/24/2003
Extraction: (SepF/Cont/Sonc/Soxh): <u>SEPF</u>	Da	te Extracted:	09/25/2003
Concentrated Extract Volume: 10000(uL)	Da	te Analyzed:	10/01/2003
Injection Volume: <u>1.00</u> (uL)	Di	lution Factor:	1.00
GPC Cleanup: (Y/N) <u>N</u> pH: <u>7.00</u>	Su	lfur Cleanup:	(Y/N) . <u>N</u>
CAS NO. COMPOUND	CONCENTRATION (ug/L or ug/	IUNITS: (Kg) <u>UG/L</u>	Q
319-84-6alpha-BHC		0.052	υ

319-84-6alpha-BHC	0.052	U
319-85-7beta-BHC	0.052	U
319-86-8delta-BHC	0.052	U
58-89-9gamma-BHC (Lindane)	0.052	U
		1

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

Lab Name: <u>STL Buffalo</u>	Contract:	
Lab Code: <u>RECNY</u>	Case No.: SAS No.:	SDG No.:
GC Column(1): <u>RIXCLPI</u>	ID: <u>0.32</u> (mm)	

Level (low/med): LOW

	Client Sample ID	DCBP %REC #	TCMX %REC #	ŧ			TOT OUT
1 2 3 4	092403BD 092403DS 092403US Matrix Spike Blank	124 79 102 111	112 77 88 101		 	 	 0 0 0
5	Matrix Spike Blk Dup Method Blank		95 105				0 \ 0 0 '

QC LÍMITS

(30-150) (30-150)

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

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

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

Lab Name:	<u>STL Buffalo</u>		Contract:		
Lab Code:	RECNY	Case No.:	SAS No.:	SDG No.:	<u> </u>

GC Column(1): <u>RTXCLPI</u> ID: <u>0.32</u> (mm)

	Client Sample ID	DCBP %REC #	TCMX %REC #		 		:		TOT OUT
1	.092303FIELD BLANK	75	104						0
2	092303MW1R	102 ,	102	l.				l	0
3	092303MW2	92	104			:			0
4	092303MW2 MS	.94	98						0
5	092303MW2 SD	91	98						0
6	092303MW4	66	100					•	0
.7	092303MW5	30	118		`				0
8	092303MW7	97	98						0
9	092303MWA3	85	101			<i>•</i>			0
10	Matrix Spike Blank	96	85	1					0
11	Method Blank	88	90		, ,				Ó

nimborral

QC LIMITS

(DCBP) = Decachlorobiphenyl (TCMX) = Tetrachloro-m-xylene (28-132) (36-132)

# Column to be used to flag recovery values

\* Values outside of contract required QC limits

D Surrogates diluted out

#### 25/256 OLIN CORPORATION OLIN CORPORATION - CHARLES GIBSON SITE ASP 2000 - METHOD 8081 BHC'S SOIL MATRIX SPIKE BLANK/MATRIX SPIKE BLANK DUPLICATE RECOVERY

Lab Name: STL Buffalo

Contract: \_\_\_\_\_ Lab Samp ID: A3B1112003

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

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

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

Matrix Spike - Client Sample No.: <u>Method Blank</u> Level:(low/med) <u>LOW</u>

COMPOUND	SPIKE ADDED UG/KG	MSB CONCENTRATION UG/KG	MSB % REC #	QC LIMITS REC.	+	
gamma-BHC (Lindane)	16.2	14.2	<b>=====</b> 87	46 - 127	=	

COMPOUND	SPIKE ADDED UG/KG	MSBD CONCENTRATION UG/KG	MSBD % REC #	% RPD #		C LIMITS REC.	+
gamma-BHC (Lindane)	16.5	14.0	<del>=====</del> 85	2	= <del>====</del> 50	46 - 127	=

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

\* Values outside of QC limits

RPD: \_\_\_\_O out of \_\_\_\_l outside limits Spike recovery: \_\_\_\_O out of \_\_\_\_2 outside limits

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Comments:

FORM III GC EXT

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

Contract: Iab Samp ID: A3918604 Lab Name: STL Buffalo SAS No.: Lab Code: <u>RECNY</u> Case No.: \_\_\_\_\_

SDG No.:

Matrix Spike - Client Sample No.: 092303MW2

COMPOUND	SPIKE ADDED UG/L	SAMPLE CONCENTRATION UG/L	MS CONCENTRATION UG/L	MS % REC #	QC LIMITS REC.	+
gamma-BHC (Lindane)	0.523	0.0300	0.429	76	56 - 123	

COMPOUND	SPIKE ADDED UG/L	MSD CONCENTRATION UG/L	MSD % REC #	% RPD #		C LIMITS REC.	+
gamma-BHC (Lindane)	0.523	0.446	79	4	15	56 - 123	

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

\* Values outside of QC limits

RPD: \_\_\_\_O out of \_\_\_\_l outside limits Spike recovery: 0 out of 2 outside limits 

. . .

Conments:

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

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

Contract: \_\_\_\_\_ Lab Samp ID: A3B1089002

Lab Code: <u>RECNY</u> 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	0.426	85 <u>.</u>	56 - 123	=

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

\* Values outside of QC limits

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

Conments:

FORM III GC EXT

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

Client No.

Lab Name: STL Buffalo	Contract:	Method Blank
Lab Code: <u>RECNY</u> Case No.:	SAS No.:	SDG No.:
Lab Sample ID: <u>A3B1112003</u>	Lab File ID: <u>RA</u>	· · ·
Matrix: (soil/water) <u>SOIL</u>	Extraction:	SONC
Sulfur Cleanup: $(Y/N): \underline{N}$	Date Extracted:	10/01/2003
Date Analyzed (1): <u>10/06/2003</u>	Date Analyzed (2	2):
Time Analyzed (1): <u>17:52</u>	Time Analyzed (2	2):
Instrument ID (1): <u>HP5890-18</u>	Instrument ID (2	2):
GC Column (1): <u>RTXCLPI</u> Dia: 0.32	(mm) GC Column (2):	Dia (mm)

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

	CLIENT	LAB	DATE	DATE
	SAMPLE NO.	SAMPLE ID	ANALYZED 1	ANALYZED 2
1	092403BD	A3918608	10/06/2003	
2	092403DS	A3918609	10/06/2003	
3	092403US	A3918607	10/06/2003	
4	Matrix Spike Blank	A3B1112001	10/06/2003	
5	Matrix Spike Blk Dup	A3B1112002	10/06/2003	

Comments:

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

Client No.

	• .		
· .			Method Blank
Lab Name: <u>STL Buffalo</u>	Contract:	<u> </u>	
Lab Code: <u>RECNY</u> Case No.:	SAS No.:	SDG No.:	
Matrix: (soil/water) <u>SOIL</u>		Lab Sample ID:	<u>A3B1112003</u>
Sample wt/vol: $30.64$ (g/mL) <u>G</u>		Lab File ID:	RA28884.TX0
% Moisture: decanted: (Y/N)	N	Date Samp/Recv:	
Extraction: (SepF/Cont/Sonc/Soxh): SON	NC	Date Extracted:	10/01/2003
Concentrated Extract Volume: 10000 (ul	L)	Date Analyzed:	10/06/2003
Injection Volume: <u>1.00</u> (uL)		Dilution Factor:	1.00
GPC Cleanup: (Y/N) <u>N</u> pH:		Sulfur Cleanup:	(Y/N) <u>N</u>
	CONCENTRAL	TON UNITS:	

CAS NO. COMPOUND				Kg) <u>UG/K</u>			_	
319-84-6 319-85-7 319-86-8	-beta-BHC -delta-BHC			·····	-	7.8 7.8 7.8 7.8	บ บ บ	
58-89-9	-ganna-BHC (1	indane)				1.8	U	

FORM I - GC EXT

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

	METHOD BLANK SUMMARY	Client No
Lab Name: <u>STL Buffalo</u>	Contract:	Method Blank
Lab Code: <u>RECNY</u> Case No.:	SAS No.:	SDG No.:
Lab Sample ID: <u>A3B1089002</u>	Lab File ID: <u>RA</u>	28748.TX0
Matrix: (soil/water) <u>WATER</u>	Extraction:	SEPF
Sulfur Cleanup: (Y/N): <u>N</u>	Date Extracted:	09/25/2003
Date Analyzed (1): <u>10/01/2003</u>	Date Analyzed (	2):
Time Analyzed (1): <u>11:45</u>	Time Analyzed (	2):
Instrument ID (1): <u>HP5890-18</u>	Instrument ID (2	2):

GC Column (1): <u>RTXCLPI</u> Dia: <u>0.32</u>(mm) GC Column (2): \_\_\_\_\_ Dia: \_\_\_\_(mm)

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

CLIENTLABDATEDATESAMPLE NO.SAMPLE IDANALYZED 1ANALYZED 21092303FIELD BLANKA391860610/01/20032092303MW1RA391860510/01/20033092303MW2A391860410/01/20034092303MW2 MSA3918604MS10/01/20035092303MW2 SDA3918604SD10/01/20036092303MW4A391860210/01/20037092303MW5A391860310/01/20038092303MW7A391861010/01/20039092303MWA3A391860110/01/200310Matrix Spike BlankA3B108900110/01/2003			r		
1       092303FIELD BLANK       A3918606       10/01/2003         2       092303MW1R       A3918605       10/01/2003         3       092303MW2       A3918604       10/01/2003         4       092303MW2 MS       A3918604MS       10/01/2003         5       092303MW2 SD       A3918604SD       10/01/2003         6       092303MW4       A3918602       10/01/2003         7       092303MW5       A3918603       10/01/2003         8       092303MW7       A3918610       10/01/2003         9       092303MWA3       A3918601       10/01/2003		SAMPLE NO.			
	3 4 5 6 7 8 9	092303FIELD BLANK 092303MW1R 092303MW2 092303MW2 MS 092303MW2 SD 092303MW4 092303MW5 092303MW5 092303MW7 092303MW7	A3918605 A3918604 A3918604MS A3918604SD A3918602 A3918603 A3918610 A3918601	10/01/2003 10/01/2003 10/01/2003 10/01/2003 10/01/2003 10/01/2003 10/01/2003	==========

lomments:

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

	Client No.
Lab Name: <u>SIL Buffalo</u> Contrac	Method Blank
Lab Code: <u>RECNY</u> Case No.: SAS No.:	: SDG No. :
Matrix: (soil/water) <u>WATER</u>	Lab Sample ID: <u>A3B1089002</u>
Sample wt/vol: <u>1000.00</u> (g/mL) <u>ML</u>	Lab File ID: <u>RA28748.TX0</u>
% Moisture: decanted: (Y/N) $\underline{N}$	Date Samp/Recv:
Extraction: (SepF/Cont/Sonc/Soxh): <u>SEPF</u>	Date Extracted: <u>09/25/2003</u>
Concentrated Extract Volume: <u>10000</u> (uL)	Date Analyzed: <u>10/01/2003</u>
Injection Volume: <u>1.00</u> (uL)	Dilution Factor:1.00
GPC Cleanup: (Y/N) <u>N</u> pH: <u>5.00</u>	Sulfur Cleanup: (Y/N) N
CAS NO. COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) <u>UG/L</u> Q
319-84-6alpha-BHC	

	6			1
319-84-6alpha-BHC		0.050	177	
319-85-7beta-BHC		0.050	0	1
		0.050	ITT	
319-86-8delta-BHC		•	l e	1
		0.050	TT 1	1
58-89-9gamma-BHC (Lindane)		0.050		1
Jo-09-9gailla-BHC (Lindane)		0.050	177	
		0.050	0	
			1	1

SDG NARRATIVE

### SAMPLE SUMMARY

		SAMPLED		RECEIVED	
LAB SAMPLE ID	CLIENT SAMPLE ID	DATE	TIME	DATE	TIME
	092303FIELD BLANK	09/23/2003	15:00	09/24/2003	11.00
A3918605	092303MW1R	09/23/2003	12.55	09/24/2003	11.00
A3918604	092303MW2	09/23/2003	12.20	09/24/2003	11:00
A3918604MS	092303MW2 MS	09/23/2003	12:20	09/24/2003	11:00
A3918604SD	092303MW2 SD	09/23/2003	13:30	09/24/2003	11:00
A3918602		09/23/2003	13:30	09/24/2003	11:00
	092303MW4	09/23/2003	11:50	09/24/2003	11:00
A3918603	092303MW5	09/23/2003	11:30	09/24/2003	11:00
A3918610	092303MW7	09/23/2003	12:55	09/24/2003	11.00
A3918601	092303MWA3	09/23/2003	14.15	09/24/2003	11.00
A3918608	092403BD	09/24/2003	10,20	00/24/2003	11:00
A3918609	092403DS	00/24/2003	09:30	09/24/2003	11:00
A3918607		09/24/2003	09:45	09/24/2003	11:00
~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~	03240305	09/24/2003	09:30	09/24/2003	11:00

# METHODS SUMMARY

### Job#: <u>A03-9186</u>

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

PARAMETER	ANALYTICAL
ASP 2000 - METHOD 8081 BHC'S ASP 2000- METHOD 8081 BHC'S	METHOD           ASP00         8081           ASP00         8081

# References:

ASPO0 "Analytical Services Protocol", New York State Department of Conservation, June 2000.

### 35/256

#### NON-CONFORMANCE SUMMARY

#### Job#: <u>A03-9186</u>

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

#### General Comments

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

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

According to 40CFR Part 136.3, pH, Chlorine Residual and Dissolved Oxygen 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

#### A03-9186

Sample Cooler(s) were received at the following temperature(s); 2.0 °C All samples were received in good condition.

#### <u>GC Extractable Data</u>

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. Fischet Project Manager

10-13-03 Date

• • •

# CHAIN OF CUSTODY DOCUMENTATION

### Chain of Custody Record



SERVICES Severn Trent Laboratories, Inc.

*7* 

STL-4124 (1200)	<u>.</u>																	_							,				
Client OLIN CORP.			Projec	t Mar	nager	μ.'		0										Dat	°q,	24	-13	२	'	Chain	of Cus	<sup>itody N</sup> 96	403	2	
Address 11G/			Teleph	ione i	Numb	er (A	rea (	Code)/	Eax N	lumbe	er				3				Num		0.	<u> </u>	-+				+00	,	—
HTS Lowre R	wor hand					<u>33</u>	6	-							3									Page	e	<u> </u>	of	1	
Charleston.	State Zip	<sup>Code</sup> 37310	Site Ci	ontac S M	" 	lay	1			ontact	•	ch	ملاسم	1	12	·····				ach lis neec									
Project Name and Location (State			Carriei	r/Waj	/bill N	lumbe	er			<u></u>			•		EL L														
Chales Gibson	Sitz, MAGMAN	NY_												_													nstruc		
Contract/Purchase Order/Quote	vo. • • • . •				٨	/atrix	ĸ				ntain serv				00000												s of R	•	
Sample I.D. No. an		Date	Time	$\uparrow$	snoe				Sa C	s s		I	22		6									6	(אור	284	-043	51	
(Containers for each sample may	be combined on one line)			¥.	Aqueous	Sed.	Soil		Unpres. H2SO4	NH NH	нCI	NaC	ZnA		Ć					_		c	RM	B	ESUC	<u>75 T(</u>	s: Mi	KEWn	<u>uk</u> úk
- 092303 MWA3	ZXILGA	9/22/03		ļ .	×			>				<u> </u>			1					_				1			NVIEW		
- 092303 MWY	2×1160	9/23/03	1150		×			7	د				.											2	7491	-OCK	PORT	21	
- COSSOS MWS	2×326P	9/23/03	1130		×			•	٤															N	FALL	-s, N	143	02	_
- 092303 mus 2	GXILGA	9/23/03	1330		*			-	<u>ن</u>															<u> </u>	ns/r	~sc	>		
- 092303 MW & 12	2×14.62	9/22/07	1255		×			7	<b>-</b> .																				
09230 3 Fred Bu	in CZXILGA	9/23/03	1500		*		·	7	•																				
<u> C wm E 055 PU</u>	ZXILGA	9/23/03	1255		×			>	~						4														_
092403 US	18402	9/24/03	0930			x		Y	(																				_
092403 BD	1x 402		0930			×	·	<b>Y</b>	1						<b>1</b>														—
092403 DS	1x 402	9/24/03	0945			X		1	4						$\checkmark$										-				
											1	1												+					—
Possible Hazard Identification		<b>I</b>	I		Sampl	e Dis	posa	1				<u> </u>	I	L	L	L	Ļ.I.								f sample		ete in e d		—
Non-Hazard Flamma Turn Around Time Required	ble 🔲 Skin Irritant	Poison B	Di Unknowi	<u>, [</u>	] Re	turn	To C	lient		Disp						ive For		M	onths	long	ger tha	an 3 i	month	seu ii s)	sample	es are	etameo		_
24 Hours 48 Hours	7 Days 14 Da	avs 🗌 21 Dav	is 🕅 Ott	her <b>L</b>	stru	id		el		C Red	quirer	ment	s (Sp	ecify)	)														
1. Reinquisited By	J04		1/2		42		ne   0		1.	Rece	eived	By	~	<u>ר</u>	P	rhi	* *							Dat	1 <u>25/0</u>	~?	Time		—
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DISTRIBUTION: WHITE - Stays with the Sample; CANARY - Returned to Client with Report; PINK - Field Copy

Charles Gibson Site NYSDEC Registry No. 9-32-063 Eleventh Annual Report - 2003

#### APPENDIX 2

#### FIELD LOGS

#### SEMI-ANNUAL GROUND WATER SAMPLING AND ANNUAL SEDIMENT SAMPLING

September 2003

.

#### CHARLES GIBSON SITE

#### (PINE AND TUSCARORA SITE)

#### NIAGARA FALLS, NEW YORK

NYSDEC Registry No. 9-32-063

	<b>,</b>						
RECORDED BY:	L.Duminuco	-	SAMPLE	ID:	092303M	WA3	
SAMPLED BY:	C. Bove	_	SAMPLIN	G EVENT/D	ATE:	9/23/2003	
COMPANY:	Sevenson	_	MONITOR	RING WELL:	MWA3		
			CONDITIC	DN:	Well casir	ng settled, lid pu	ished up
GROUNDWATER PU	RGE DATA	PURGE D	ATE:	9/23/2003			_
	• •	_				L GIBSON SIT	
	FROM TOP OF RISEF			6 (FT.)		RING WELLS A	
DEPTH TO WATER F	ROM TOP OF RISER:	<u></u>	10.6	<u>5</u> (FT.)	2-INCH D	IAMETER STA	IN-
	WATER COLUMN:		1.35	6 (FT.)	LESS ST	EEL. WELL DE	PTHS:
	2" DIA. WELL CONST	ANT:	0.16	<u>5</u>	MW-1R	12.10'	
	ONE WELL VOLUME	=	0.216	GALS)	MW-2		
PURGE METHOD: BOTTOM OF WELL/S PURGE START TIME PURGE OBSERVATI	1405	o and dedica OK/None STOP TIM		1410	MW-A3 MW-4 MW-5	13.75'	
FIELD PARAMETER	MEASUREMENTS:						
WELL		SPECIFIC CONDUC	ΓΙνίτγ			NOTES:	
	<u>pH</u> 7.7	<u>umhos/cm</u> 1057	2	<u>(C OR F)</u> 15.5	-	Clear/No odo	r
1		1057		15.5		U	4
23	<u>    6.9                                </u>	1048		15.2		11	"
4	0.9	. 1002					
5		<u> </u>					
TOTAL VOLUME PU	RGED: 0.65	5 gallons					
GROUNDWATER O	R SEDIMENT SAMPLI	NG DATA:		SAMPLE (	DATE:	9/23/2003	
MEDIA: GROUND	WATER XXX	_		SAMPLE -	T <u>IME:</u>	1415	
	MWA3	-					
SAMPLE METHOD:	Took sample using a	parastaltic p	oump and d	edicated ho	se.		
SAMPLING OBSER	ATIONS:			· · · · · · · · · · · · · · · · · · ·			
QC SAMPLES TAKE	N: No.	<u></u>		<u></u>		<u> </u>	
OTHER OBSERVAT	IONS/COMMENTS:	BHC's on	ly	2 x 1liter g	lass ambe	r bottles collect	ed.
Note: specific condu	ctivity formula to 25 deg	rees Celcius	s: SC(25)=	SC measu {{T-25)(0.0			

RECORDED BY:	Lou Duminuco		SAMPLE I	D:	MW1R-09	2303 and MW7-092303
SAMPLED BY:	Craig Bove		SAMPLING	EVENT/D	ATE:	9/23/2003
COMPANY:	Sevenson		MONITOR	ING WELL:	MW1R an	d blind duplicate/MW7
			CONDITIO	N:	Good	
GROUNDWATER PU	RGE DATA	PURGE DA	TE:	9/23/2003		
						L GIBSON SITE
	FROM TOP OF RISER			(FT.)		RING WELLS ARE
DEPTH TO WATER F	ROM TOP OF RISER:			(FT.)	2-INCH D	IAMETER STAIN-
	WATER COLUMN:		5	(FT.)		EEL. WELL DEPTHS:
· · ·	2" DIA. WELL CONST	ANT:	0.16		MW-1R	12.10'
	ONE WELL VOLUME	=	0.8	(GALS)	MW-2	12.13'
	3x w/ parastaltic pump	and dedica	ted hose		MW-A3 MW-4	
BOTTOM OF WELL/S		OK/None			MW-5	
PURGE START TIME		STOP TIME	=:	1250		
	JNS:					
FIELD PARAMETER I	MEASUREMENTS:					
		SPECIFIC				
WELL	-11	CONDUCT				NOTES:
VOLUME	<u>pH</u>	umhos/cm) 1118		(C OR F) 18.4	- ·	Clear,No Odor
1	7.5	1127		18.1		
2	7.4	1138		18.4		n
4	7.5	1100				
5						
TOTAL VOLUME PUP	26	gallons				
TOTAL VOLUME FOR	(GED. 2.5	galions				
GROUNDWATER OF	R SEDIMENT SAMPLIN	G DATA:		SAMPLE [	DATE:	9/23/2003
MEDIA: GROUND	WATER XXX			SAMPLE T	IME:	1255
CREEK SI		-				
LOCATION:	MW1R					
SAMPLE METHOD:	Took sample using a p	parastaltic p	ump and de	dicated hos	se.	
SAMPLING OBSERV	ATIONS: <u>Clear, no c</u>	dor or shee	n			
QC SAMPLES TAKE	N: Blind dupli	cate sample	s were take	en and label	led MW7 o	n the COC.
		Collected	1 x 1 liter er	mber glass i	hottles	
OTHER OBSERVATI	UNS/COMMENTS:			nuel glass	DOIIIES.	
	tivity formula to 25 degr	ees Celeiue	SC(25)-	SC measu		_
INOTE: SPECIFIC CONDUC	uvity iorritula to 25 degr	ees veivius.	. 30(23)-	$11^{-2}0/0.0$	<u>'~//``</u>	

							· · · ·
RECORDED BY:	Lou Duminuco	S	SAMPLE II	D:	092303M	W2	
SAMPLED BY:	C. Bove	, S	SAMPLING	G EVENT/D	ATE:	9/23/2003	
COMPANY:	Sevenson	. N	NONITOR	ING WELL:	MW-2		
		(		N:	Good		<u> </u>
GROUNDWATER PU	RGE DATA	PURGE DA	TE:	9/23/2003			
		<b>N</b> .	4 m - 1	/ नन्न भे		LL GIBSON SIT	
	FROM TOP OF RISER			(FT.)			
DEPTH TO WATER F	ROM TOP OF RISER:			_(FT.)		DIAMETER STA	
	WATER COLUMN:			(FT.)		EEL. WELL DE	PTHS:
	2" DIA. WELL CONST	ANT:	0.16	-	MW-1R	12.10'	
	ONE WELL VOLUME			(GALS)	MW-2 MW-A3		
PURGE METHOD:	3x w/ parastaltic pump	and dedicate	ed hose		MW-4 MW-5		
BOTTOM OF WELL/S PURGE START TIME		OK/None STOP TIME		1325	MW-5	15.28'	
PURGE START TIME PURGE OBSERVATI		L. Cr. i IIVIE		1020			
FIELD PARAMETER	WEASUREMENTS:	000010-					
WELL		SPECIFIC CONDUCTI	VITY	TEMP.			
	рН	umhos/cm)		(C OR F)	-	NOTES:	
1	6.8	1250		18.3		Sulfury smell	l/Clear
2	6.9	1175		18.3		Clear/No Odor	,
3	6.9	1176		18.5		Clear/NoOdor	
4							
5							
TOTAL VOLUME PU	IRGED: 3.6	6 gallons					
Į						=	
GROUNDWATER O	R SEDIMENT SAMPLI	NG DATA:		SAMPLE	DATE:	9/23/2003	
MEDIA: GROUNE	OWATER XXX	_		SAMPLE -	T <u>IME</u> :	1330	
LOCATION:	MW-2					<u> </u>	
SAMPLE METHOD:	Took sample using a	parastaltic pu	ump and d	edicated ho	se.		
SAMPLING OBSER	VATIONS: Clear, no	odor or sheer	n		<u>.</u>		
QC SAMPLES TAKE	EN: MS/MSD	samples were	e also take	en.	<u></u>		
OTHER OBSERVAT	TIONS/COMMENTS:	BHC's only	/	6 x 1liter g	lass ambe	er bottles were	taken.
1							
			0000	SC measu			
Note: specific condu	ctivity formula to 25 deg	rees Celcius:	. 3U(25)=	{{T-25)(0.0	∪∠ <i>]</i> }⊤1		
CPA 8142 (1) App D. CwedForm							

CRA 8143 (1) AppD-GwsdForm

ť

SAMPLED BY:       Lou Duminuco       SAMPLING EVENT/DATE:       9/23/2003         COMPANY:       Sevenson       MONITORING WELL:       MW4         CONDITION:       Good         GROUNDWATER PURGE DATA       PURGE DATE:       9/23/2003         DEPTH TO BOTTOM FROM TOP OF RISER:       13.75 (FT.)       MONITORING WELLS ARE			SAMPLING	FIELD FOR		092303MV	N/A
COMPANY: Sevenson MONITORING WELL: MW4 COMPANY: Sevenson MONITORING WELL: MW4 CONDITION: Good GROUNDWATER PURGE DATA PURGE DATE: 9/23/2003 NOTE: ALL GIBSON SITE DEPTH TO BOTTOM FROM TOP OF RISER: 13.75 (FT.) MONITORING WELLS ARE DEPTH TO WATER FROM TOP OF RISER: 7.02 (FT.) 2-INCH DIAMETER STAIN- WATER COLUMN: 6.73 (FT.) LESS STEEL. WELL DEPTHS: 2" DIA. WELL CONSTANT: 0.16 MW-1R 12.10' ONE WELL VOLUME= 1.0768 (GALS) MW-2 12.13' MW-33 11.95' PURGE METHOD: 3x w/ parastaltic pump and dedicated hose MW-4 13.75' BOTTOM OF WELL/SILT BUILDUP: OKNone MW-35 15.28' PURGE OBSERVATIONS: FIELD PARAMETER MEASUREMENTS: WELL CONDUCTIVITY TEMP. VOLUME PH umhos/cm) (C OR F) NOTES: 1 7.4 1834 16.7 Black water/Sulfur 2 7.1 1733 16.4 Grey water Smell 3 7.1 1750 16.3 * 4	· · · · · · · · · · · · · · · · · · ·	Lou Duminuco	-				
CONDITION:       Good         GROUNDWATER PURGE DATA       PURGE DATE:       9/23/2003         DEPTH TO BOTTOM FROM TOP OF RISER:       13.75 (FT.)       MONITORING WELLS ARE         DEPTH TO WATER FROM TOP OF RISER:       7.02 (FT.)       2-INCH DIAMETER STAIN-         WATER COLUMN:       6.73 (FT.)       LESS STEEL. WELL DEPTHS:         2" DIA. WELL CONSTANT:       0.16       MW-1R 12.10'         ONE WELL VOLUME=       1.0768 (GALS)       MW-2       12.13'         PURGE METHOD:       3x w/ parastattic pump and dedicated hose       MW-4       13.75'         BOTTOM OF WELL/SILT BUILDUP:       OK/None       MW-4       13.75'         PURGE OBSERVATIONS:       1145       MW-5       15.28'         PURGE OBSERVATIONS:       SPECIFIC       CONDUCTIVITY       TEMP.         VOLUME       PH       umhos/cm)       (C OF F)       NOTES:         1       7.4       1834       16.7       Biack water/Sulfur         2       7.1       1733       16.4       Grey water Smell         3       7.1       1750       16.3							9/23/2003
GROUNDWATER PURGE DATA     PURGE DATE:     9/23/2003       DEPTH TO BOTTOM FROM TOP OF RISER:     13.75 (FT.)     NOTE: ALL GIBSON SITE       DEPTH TO WATER RROM TOP OF RISER:     7.02 (FT.)     2-INCH DIAMETER STAIN-       WATER COLUMN:     6.73 (FT.)     LESS STEEL. WELL DEPTHS:       2" DIA. WELL CONSTANT:     0.16     MW-1R     12.10'       ONE WELL VOLUME=     1.0768 (GALS)     MW-2     12.13'       PURGE METHOD:     3x w/ parastaltic pump and dedicated hose     MW-4     13.75'       PURGE OBSERVATIONS:     FIELD PARAMETER MEASUREMENTS:     SPECIFIC     WW-4     13.75'       PURGE DATE:     9/23/2003     ILG.3     MW-5     15.28'       VOLUME     PH     umhos/cm)     (C OR F)     NOTES:       YOLUME     PH     umhos/cm)     (C OR F)     Black water/Sulfur       2     7.1     1733     16.4     Grey water       3     7.1     1750     16.3     -       4	COMPANY:	Sevenson					
NOTE: ALL GIBSON SITE         DEPTH TO BOTTOM FROM TOP OF RISER:			<b></b>				
DEPTH TO WATER FROM TOP OF RISER:       7.02 (FT.)       2-INCH DIAMETER STAIN-         WATER COLUMN:       6.73 (FT.)       LESS STEEL. WELL DEPTHS:         2" DIA. WELL CONSTANT:       0.16       MW-1R       12.10'         ONE WELL VOLUME=       1.0768 (GALS)       MW-2       12.13'         PURGE METHOD:       3x w/ parastaltic pump and dedicated hose       MW-4       13.75'         BOTTOM OF WELL/SILT BUILDUP:       OK/None       MW-4       13.75'         PURGE START TIME:       1135       STOP TIME:       1145         PURGE OBSERVATIONS:       SPECIFIC       Well       CONDUCTIVITY       TEMP.         VOLUME       PH       umhos/cm)       (C OR F)       NOTES:         1       7.4       1834       16.7       Black water/Sulfur         2       7.1       1733       16.4       Grey water Smell         3       7.1       1750       16.3       "         4	-					NOTE: AL	
WATER COLUMN:       6.73 (FT.)       LESS STEEL. WELL DEPTHS:         2" DIA. WELL CONSTANT:       0.16       MW-1R       12.10'         ONE WELL VOLUME=       1.0768 (GALS)       MW-2       12.13'         PURGE METHOD:       3x w/ parastatic pump and dedicated hose       MW-4       13.75'         BOTTOM OF WELL/SILT BUILDUP:       OKNone       MW-4       13.75'         PURGE START TIME:       1135       STOP TIME:       1145         PURGE OBSERVATIONS:       SPECIFIC       Well       CONDUCTIVITY       TEMP.         VOLUME       PH       umhos/cm)       (C OR F)       NOTES:         1       7.4       1834       16.7       Black water/Sulfur         2       7.1       1733       16.4       Grey water Smell         3       7.1       1750       16.3       "         4					• • •	2-INCH D	IAMETER STAIN-
2" DIA. WELL CONSTANT:       0.16       MW-1R       12.10'         ONE WELL VOLUME=       1.0768 (GALS)       MW-2       12.13'         PURGE METHOD:       3x w/ parastaltic pump and dedicated hose       MW-4       13.75'         BOTTOM OF WELL/SILT BUILDUP:       OK/None       MW-4       13.75'         PURGE START TIME:       1135       STOP TIME:       1145         PURGE OBSERVATIONS:       SPECIFIC       CONDUCTIVITY       TEMP.         VOLUME       PH       umhos/cm)       (C OR F)       NOTES:         1       7.4       1834       16.7       Black water/Sulfur         2       7.1       1733       16.4       Grey water Smell         3       7.1       1750       16.3       "         4					•		
WW-A3     11.95'       PURGE METHOD:     3x w/ parastatic pump and dedicated hose     MW-4     13.75'       BOTTOM OF WELL/SILT BUILDUP:     OK/None     MW-5     15.28'       PURGE START TIME:     1135     STOP TIME:     1145       PURGE OBSERVATIONS:     SPECIFIC     MW-5     15.28'       FIELD PARAMETER MEASUREMENTS:     SPECIFIC     NOTES:       VOLUME     pH     umhos/cm)     (C OR F)     NOTES:       1     7.4     1834     16.7     Black water/Sulfur       2     7.1     1733     16.4     Grey water Smell       3     7.1     1750     16.3     "       4			TANT:		• •	MW-1R	12.10'
NOTE WELL       MW-5       15.28'         PURGE START TIME:       1135       STOP TIME:       1145         PURGE OBSERVATIONS:       SPECIFIC       NOTES:         FIELD PARAMETER MEASUREMENTS:       SPECIFIC       NOTES:         VOLUME       pH       umhos/cm)       (C OR F)       NOTES:         1       7.4       1834       16.7       Black water/Sulfur         2       7.1       1733       16.4       Grey water Smell         3       7.1       1750       16.3       "         4				1.0768	(GALS)		
SPECIFIC CONDUCTIVITY TEMP. ODUME         pH       umhos/cm)       (C OR F)       NOTES:         1       7.4       1834       16.7       Black water/Sulfur         2       7.1       1733       16.4       Grey water Smell         3       7.1       1750       16.3       "         4	BOTTOM OF WELL/S PURGE START TIME	ILT BUILDUP: 1135	OK/None		1145	MW-5	
WELL       CONDUCTIVITY       TEMP.         VOLUME       pH       umhos/cm)       (C OR F)       NOTES:         1       7.4       1834       16.7       Black water/Sulfur         2       7.1       1733       16.4       Grey water Smell         3       7.1       1750       16.3       "         4	FIELD PARAMETER	MEASUREMENTS:					
2       7.1       1733       16.4       Grey water Smell         3       7.1       1750       16.3       "         4		рН	CONDUC umhos/cn	TIVITY	(C OR F)	_	
3       7.1       1750       16.3       "         4       5       5	11	7.4	1834			<u> </u>	
3       7.1       1750       16.3         4       5       5         TOTAL VOLUME PURGED:       3 gallons         GROUNDWATER OR SEDIMENT SAMPLING DATA:       SAMPLE DATE:       9/23/2003         MEDIA:       GROUNDWATER CREEK SEDIMENT       XXX       SAMPLE TIME:       1150         LOCATION:       MW-4         SAMPLE METHOD:       Took sample using a parastaltic pump and dedicated hose.         SAMPLING OBSERVATIONS:       Black water came out at first, then turned grey as purge continued.	2						
5         TOTAL VOLUME PURGED:       3 gallons         GROUNDWATER OR SEDIMENT SAMPLING DATA:       SAMPLE DATE:       9/23/2003         MEDIA:       GROUNDWATER CREEK SEDIMENT       XXX       SAMPLE TIME:       1150         LOCATION:       MW-4         SAMPLE METHOD:       Took sample using a parastaltic pump and dedicated hose.         SAMPLING OBSERVATIONS:       Black water came out at first, then turned grey as purge continued.		7.1	1750		16.3		II
TOTAL VOLUME PURGED:       3 gallons         GROUNDWATER OR SEDIMENT SAMPLING DATA:       SAMPLE DATE:       9/23/2003         MEDIA:       GROUNDWATER XXX       SAMPLE TIME:       1150         LOCATION:       MW-4         SAMPLE METHOD:       Took sample using a parastaltic pump and dedicated hose.         SAMPLING OBSERVATIONS:       Black water came out at first, then turned grey as purge continued.				<u> </u>			<u> </u>
GROUNDWATER OR SEDIMENT SAMPLING DATA:       SAMPLE DATE:       9/23/2003         MEDIA:       GROUNDWATER       XXX       SAMPLE TIME:       1150         LOCATION:       MW-4         SAMPLE METHOD:       Took sample using a parastaltic pump and dedicated hose.         SAMPLING OBSERVATIONS:       Black water came out at first, then turned grey as purge continued.	5					<u></u>	
MEDIA:       GROUNDWATER CREEK SEDIMENT       XXX       SAMPLE TIME:       1150         LOCATION:       MW-4         SAMPLE METHOD:       Took sample using a parastaltic pump and dedicated hose.         SAMPLING OBSERVATIONS:       Black water came out at first, then turned grey as purge continued.	TOTAL VOLUME PU	RGED:	3 gallons				
MEDIA.       GROUNDWATER       MORE         CREEK SEDIMENT	GROUNDWATER OF	R SEDIMENT SAMPL	ING DATA:		SAMPLE	DATE:	9/23/2003
LOCATION:       MW-4         SAMPLE METHOD:       Took sample using a parastaltic pump and dedicated hose.         SAMPLING OBSERVATIONS:       Black water came out at first, then turned grey as purge continued.			 		SAMPLE	T <u>IME:</u>	1150
SAMPLING OBSERVATIONS: Black water came out at first, then turned grey as purge continued.							
	SAMPLE METHOD:	Took sample using	a parastaltic	pump and d	edicated ho	se.	
QC SAMPLES TAKEN: no	SAMPLING OBSERV	ATIONS: Black wa	ater came ou	ut at first, the	n turned gro	ey as purge	e continued.
	QC SAMPLES TAKE	N: no		<b></b>	•		
OTHER OBSERVATIONS/COMMENTS: BHC's only Water also has a sulfury smell to it	OTHER OBSERVAT	IONS/COMMENTS:	BHC's o	nly	Water als	o has a sul	fury smell to it
Collected2 x 1 liter glass amber bottles.	Collected2 x 1 liter gl	ass amber bottles.					
Note: specific conductivity formula to 25 degrees Celcius: SC(25)= {{T-25}(0.02)}+1			egrees Celci	us: SC(25)=_			

CRA 8143 (1) AppD-GwsdForm

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RECORDED BY:	Lou duminuco		SAMPLE I	·	092303M		
SAMPLED BY:	Craig Bove		SAMPLIN	G EVENT/	DATE:	9/23/2003	
COMPANY:	Sevenson		MONITOR	ING WELL	.: <u>MW5</u>		
			CONDITIC	DN:	Good		
GROUNDWATER PL	IRGE DATA	PURGE	DATE:	9/23/200			
				•		LL GIBSON SIT	
DEPTH TO BOTTOM	FROM TOP OF R	ISER:	15.28	5 (FT.)		RING WELLS A	
DEPTH TO WATER I	FROM TOP OF RIS	SER:	9	(FT.)	2-INCH [	DIAMETER STA	IN-
	WATER COLUM	N:	6.02	(FT.)	LESS ST	EEL. WELL DE	PTHS:
	2" DIA. WELL CO	NSTANT:	0.16	<u>}</u>	MW-1R	12.10'	
	ONĖ WELL VOL	UME=	0.9632	(GALS)	MW-2		
	o 1 1 11	المالية المرتبع المرتبين	includ here		MW-A3 MW-4		
PURGE METHOD: BOTTOM OF WELL/	3x w/ parastaltic	pump and ded OK/None	icated nose e		MW-5		
PURGE START TIMI	E: 1100	STOP T		112			
PURGE OBSERVAT		water no odor					
FIELD PARAMETER	MEASUREMENTS	S:					
		SPECIF	IC				
WELL			CTIVITY	TEMP.			
VOLUME_	pH	umhos/c	m)	(C OR F)	_	NOTES:	
1	6.6	2550		15.9		Murky	
2	6.4	2520		15		murky	n
3	6.6	2670		14.7	<u></u>	clear	57
4				<u>.                                    </u>			
5						<u></u>	
TOTAL VOLUME PU	JRGED:	3 gallons					
	·			·			
GROUNDWATER O				SAMPLE	DATE:	9/23/2003	
IGROUNDWATER U	T SEDIMENT SAN		••				
	DWATER XXX			SAMPLE	TIME:	1130	. <u>.</u>
CREEK	SEDIMENT						
LOCATION:	MW5			. <u></u>	· · · · · · · · · · · · · · · · · · ·		
SAMPLE METHOD:	Took sample us	ing a parastalti	c pump and c	lealcated h	use.		
SAMPLING OBSER	VATIONS: Clea	r water with no	color				
QC SAMPLES TAK	EN <u>: No.</u>						
OTHER OBSERVA	TIONS/COMMENT	S: BHC's	only	Collected	d 2 x 1liter g	glass amber	
		<u> </u>					
·			<u> </u>	SC meas	sured		
Note: specific condu	activity formula to 2	5 degrees Celo	; ius: SC(25)=				
CRA 8143 (1) AppD-GwsdForm		<u>, <sup>v</sup></u>	<u> </u>				

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RECORDED BY:	Lou Duminuco		SAMPLE I	D:	092403DS	
SAMPLED BY:	C. Bove	-		G EVENT/D		
COMPANY:	Sevenson	-				im sediment sample
<u> </u>		-	CONDITIC			un oounione oumpio
GROUNDWATER PU	RGE DATA	PURGE D		DNA		
				DIVI	NOTE: AL	L GIBSON SITE
<b>DEPTH TO BOTTOM</b>	FROM TOP OF RISEF	R:	DNA	(FT.)	MONITOR	ING WELLS ARE
DEPTH TO WATER F	ROM TOP OF RISER:		DNA	(FT.)	2-INCH DI	AMETER STAIN-
	WATER COLUMN:		DNA	(FT.)	LESS STE	EL. WELL DEPTHS:
	2" DIA. WELL CONST	ANT:	DNA		MW-1R	12.10'
	ONE WELL VOLUME	=	DNA	(GALS)	MW-2 MW-A3	12.13' 11.95'
PURGE METHOD: BOTTOM OF WELL/S PURGE START TIME PURGE OBSERVATIO		DNA STOP TIM	E:		MW-4 MW-5	13.75' 15.28'
FIELD PARAMETER	MEASUREMENTS:					
WELL		SPECIFIC CONDUCT				NOTEO
VOLUME1	<u>pH</u>	umhos/cm	2	(C OR F)	-	NOTES:
2						
3	· · · · · · · · · · · · · · · · · · ·			· · · · ·	· · · ·	
4	······································					<u> </u>
5						
TOTAL VOLUME PUI	RGED: DNA	gallons				
GROUNDWATER OF	R SEDIMENT SAMPLIN	IG DATA:		SAMPLE D	DATE:	9/24/2003
MEDIA: GROUND	WATER			SAMPLE T	IME:	1015
CREEK S	EDIMENT XXX	-				
LOCATION:	Creek bed Down stre	am of landfi	II, in line wit	h 3rd steel f	ence posts	, 3/4 way across steam
SAMPLE METHOD:	Composite sample fro	om sedimen	t trap plante	ed 1 year ag	0	
SAMPLING OBSERV	ATIONS: Brown, bla	ck/grey mu	d			
QC SAMPLES TAKE	N <u>: no</u>					
OTHER OBSERVATI	ONS/COMMENTS:	BHC's onl	у	1 x 4 oz. B	ottles collec	sted
Note: specific conduc	tivity formula to 25 degr	ees Celcius	: SC(25)=	SC measure {{T-25)(0.0		

CRA 8143 (1) AppD-GwsdForm

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RECORDED BY:	Lou Duminuco	_	SAMPLE			& 092403BD
SAMPLED BY:	C. Bove	_	SAMPLIN	G EVENT/D	ATE:	9/24/2003
COMPANY:	Sevenson	_	MONITOR	RING WELL	Upstream	sediment sample
			CONDITIC	DN:		
GROUNDWATER PU	IRGE DATA	PURGE D	ATE:	DNA		
		_				L GIBSON SITE
DEPTH TO BOTTOM	FROM TOP OF RISE	र:	DNA	(FT.)	MONITOR	NING WELLS ARE
DEPTH TO WATER F	ROM TOP OF RISER:		DNA	(FT.)	2-INCH DI	AMETER STAIN-
	WATER COLUMN:		DNA	(FT.)	LESS STE	EL. WELL DEPTHS:
	2" DIA. WELL CONST	FANT:	DNA		MW-1R	12.10'
	ONE WELL VOLUME	.=	DNA	(GALS)	MW-2	12.13'
PURGE METHOD: BOTTOM OF WELL/S PURGE START TIME PURGE OBSERVATI	<b>-</b> :	DNA STOP TIM	E:		MW-A3 MW-4 MW-5	11.95' 13.75' 15.28'
FIELD PARAMETER	MEASUREMENTS:					
WELL VOLUME1	<u>pH</u>	SPECIFIC CONDUC <sup>-</sup> umhos/cm	TIVITY	TEMP. (C OR F)	-	NOTES:
2	· · · · · · · · · · · · · · · · · · ·					
3						
4	·····					
5						
TOTAL VOLUME PU	RGED: DNA	gallons				
GROUNDWATER OF	R SEDIMENT SAMPLI	NG DATA:		SAMPLE I	DATE:	9/24/2003
MEDIA: GROUND				SAMPLE 1		1000
	EDIMENT XXX	-		SAMFLE	<u> </u>	1000
LOCATION:	Creek bed Upstream	- of landfill, ir	n line with s	teel gate po	sts, 1/2 way	across steam
SAMPLE METHOD:	Composite sample fr	om sedimen	t trap plante	ed 1 year ac	10	
	<u></u>				•	
SAMPLING OBSERV	ATIONS: Brown, bla	ack/grey mu	d			
QC SAMPLES TAKE	N: Blind Dupl	licate sample	e taken labe	eled 092303	BD on COC	<u>.</u>
OTHER OBSERVAT	IONS/COMMENTS:	BHC's onl	у	2 x 4 oz. B	ottles collec	cted
Noto: opositio conduc	tivity formula to 25 deg		- SC(25)-	SC measu {{T-25}(0.0		-
CRA \$143 (1) AppD-GwsdForm	suvity formula to 25 degl			11-20/(0.0	۲ <u>۲</u>	

CRA 8143 (1) AppD-GwsdF

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

PERSON CALIBRATI		EIMI-ANNOAL SAMPLING L	VENT: Sprir	ng 2003
		Lou Duminuco		
OH METER USED:	MODEL:	URER: <u>Oakton</u> pH Tester 2 TION/CONTROL NUMBER:		
METER C	:	ON STANDARDS USED: TANDARD 7.00 METER RE TANDARD 4.00 METER RE TANDARD 10.00 METER R COMMENTS:	AD:	<u>4.01</u> 10.02
SPECIFIC CONDUC	MANUFAC <sup></sup> MODEL: IDENTIFIC/ CALIBRATI	URER: <u>Oakton</u> Specific Cond. Me TION/CONTROL NUMBER: ON STANDARDS USED: STANDARD 0 READ:	<u>35607-10</u> 32 SED:AIR,	DIWATER)
METER C		STANDARD COMMENTS:		
THERMOMETER US	COMMENT	TYPE: Fisher Scientific D MANUFACTURER: F/S DENTIFICATION/CONTROL S: (DOES THERMOMETER SPECIFIC CONDUCTIVITY N	NUMBER: 211 TEMPERATURE AG	115741 REE WITH
OTHER INSTRUME		TYPE: MANUFACTURER: DENTIFICATION/CONTROL ONS PERFORMED:	NUMBER:	· · · · · · · · · · · · · · · · · · ·

Charles Gibson Site NYSDEC Registry No. 9-32-063 Eleventh Annual Report - 2003

#### **APPENDIX 3**

#### QUARTERLY SITE INSPECTION FORMS

July - December 2003

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

	/30/2003	TIME:	900	IER SITE INSPECTIONS
	/30/2003	_ 11111E.	900	
INSPECTOR	: M. Walker	•	_COMPANY:	Sevenson
WEATHER:				
REASON FO	R INSPECTION (Q	UARTERLY	OR OTHER <u>):</u>	Re-calibrate and test flow meter
-	ITE CONDITIONS: Note: For general sit	e conditions		ABLE A=ACCEPTABLE f bare areas (number,size), cracks,
SI	ubsidence (sinking),	ponded wa	iter, stressed vege	etation, soil discoloration or seeps,
				ce of locks, gates open or damaged, other unusual occurences.)
ACCESS RC		۵	CON	IMENTS
COVER VEG		<u>A</u>		
TREES		A		
LITTER		A		
EROSION (C	CAP)	A		
EROSION (E		А		
SECURITY:				
FENCE/LOC	KS	А		. ·
PIEZOMETE		A		
MONITORIN	G WELLS/LOCKS	A		
MANHOLES	LIDS/LOCKS	A		
ELECTRICA	L PANEL	<u>A</u>		
	L COMMENTS:	Met onsit	te with Steve Fran	ks from Carrier Controls to re-calibrate
and reset the	e flowmeter and che	ck out the a	uto dialer function	I

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

DATE: <u>9/23/2003</u>	TIME:	1030		-
NSPECTO <u>R:</u> Craig Bov	e		·:	Sevenson
WEATHER: Cloudy 62	F			
·	-			· · ·
REASON FOR INSPECTION (Q	UARTERLY	OR OTHER	.):	Fall Sample Event
				, ,
				· · ·
GENERAL SITE CONDITIONS:	e conditions			A=ACCEPTABLE areas (number,size), cracks,
subsidence (sinking),	ponded wa	ater, stressed	vegetation	, soil discoloration or seeps,
and rodent burrows.	For site sec	curity, note at	sence of li	ocks, gates open or damaged, unusual occurences.)
	٨		COMMEN	TS .
ACCESS ROAD COVER VEGETATION	<u>A</u>		<u> </u>	
TREES	<u>A</u>	<b></b>		
LITTER	A	_		
EROSION (CAP)	A			·
EROSION (BANK)	A			
SECURITY:				
FENCE/LOCKS	A			
PIEZOMETERS/LOCKS	<u>A</u>	_		· · · · · · · · · · · · · · · · · · ·
MONITORING WELLS/LOCKS	<u>A</u>	-		
MANHOLES/LIDS/LOCKS	A			
ELECTRICAL PANEL	A			
ADDITIONAL COMMENTS:				
	<u> </u>			
	· · · · · · · · · · · · · · · · · · ·			· · · · · · · · · · · · · · · · · · ·

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

THIS FORM TO BE USED FOR DATE: 11/19/2003	TIME:	1300	
INSPECTOR: Michael		COMPANY:	 Sevenson
INSPECTOR. Michael	Valkel		5676115011
WEATHER: Rain 49	F		
REASON FOR INSPECTION (Q	JARTERI '		Quarterly Inspection (4th)
GENERAL SITE CONDITIONS:		U=UNACCEPTABI	E A=ACCEPTABLE
(Note: For general site		s note existence of bar	e areas (number,size), cracks,
			on, soil discoloration or seeps, locks, gates open or damaged
			r unusual occurences.)
		COMM	ENTS
ACCESS ROAD	Α		
COVER VEGETATION	<u>A</u>	<u> </u>	
TREES	<u>A</u>	<u> </u>	
LITTER	<u>A</u>		
EROSION (CAP)	<u>A</u>		
EROSION (BANK)	<u>A</u>	<u> </u>	
SECURITY:			
FENCE/LOCKS	<u>A</u>		
PIEZOMETERS/LOCKS	<u>A</u>		
MONITORING WELLS/LOCKS	<u>A</u>		
MANHOLES/LIDS/LOCKS	<u>A</u>		
ELECTRICAL PANEL	<u>A</u>		
ADDITIONAL COMMENTS:	A fence	panel had blown down	in a wind storm this week, I
re-installed it and secureed it with	hoth coro	we and naile. It should	hold now
re-installed it and secureed it will	i bour scie		
		<u> </u>	

#### **APPENDIX 4**

#### QUARTERLY GROUNDWATER ELEVATION /PUMPING FORMS

#### July - December 2003

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

dm:sites/P&T(Gibson)/ENV4060/O&M/Eleventh Annual Report 2003

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

DATE:	9/23/2003	_TIME:1	045	·
NSPECTOR:	Craig Bove	_COMPANY:	Sevenson	· · · ·
VEATHER:	Cloudy 65F			
PIEZOMETER	RISER ELEVATION (INSIDE CASING)	DEPTH TO WATE (FT.)	R WATER ELEVATION	COMMENTS
P-1	572.72	7.07	565.65	
<b>P-2</b>	574.89	9.59	565.3	
<b>D-3</b>	574.16	8.26	565.9	
D-4	576.14	10.85	565.29	<u></u>
P-5	575.05	7.62	567.43	<u>.</u>
P-6	578.28	11.15	567.13	
MANHOLE A	575.22	10.43	564.79	
MANHOLE B	577.34	12.82	564.52	<u></u>
(Note: Manhole A	empties into Manhole B b	v gravitv feed and M	lanhole B is pumped a	automatically to the Town of
Niagara Tuscarora in Manhole B (and water distance fro (Note: riser elevat	by extension Manhole A)	by a float controlled below an elevation not be <u>less</u> than 12 ber, 1999 by Wende	l sump pump which n of 565 ft. above mear .41 ft. at Manhole B a	naintains groundwater elevation
Niagara Tuscarora in Manhole B (and water distance fro (Note: riser elevat	a Road sanitary sewer line I by extension Manhole A) m the manhole rim should ions (re)surveyed Septem	by a float controlled below an elevation not be <u>less</u> than 12 ber, 1999 by Wende	l sump pump which n of 565 ft. above mear .41 ft. at Manhole B a	naintains groundwater elevation n sea level. Therefore, Depth
Niagara Tuscarora in Manhole B (and water distance fro (Note: riser elevat	a Road sanitary sewer line I by extension Manhole A) m the manhole rim should ions (re)surveyed Septem	by a float controlled below an elevation not be <u>less</u> than 12 ber, 1999 by Wende	l sump pump which n of 565 ft. above mear .41 ft. at Manhole B a	naintains groundwater elevation n sea level. Therefore, Depth
Niagara Tuscarora in Manhole B (and water distance fro (Note: riser elevat	a Road sanitary sewer line I by extension Manhole A) m the manhole rim should ions (re)surveyed Septem	by a float controlled below an elevation not be <u>less</u> than 12 ber, 1999 by Wende	l sump pump which n of 565 ft. above mear .41 ft. at Manhole B a	naintains groundwater elevation n sea level. Therefore, Depth
Niagara Tuscarora in Manhole B (and water distance fro (Note: riser elevat	a Road sanitary sewer line I by extension Manhole A) m the manhole rim should ions (re)surveyed Septem	by a float controlled below an elevation not be <u>less</u> than 12 ber, 1999 by Wende	l sump pump which n of 565 ft. above mear .41 ft. at Manhole B a	naintains groundwater elevation n sea level. Therefore, Depth
Niagara Tuscarora in Manhole B (and water distance fro (Note: riser elevat	a Road sanitary sewer line I by extension Manhole A) m the manhole rim should ions (re)surveyed Septem	by a float controlled below an elevation not be <u>less</u> than 12 ber, 1999 by Wende	l sump pump which n of 565 ft. above mear .41 ft. at Manhole B a	naintains groundwater elevation n sea level. Therefore, Depth
Niagara Tuscarora in Manhole B (and water distance fro (Note: riser elevat	a Road sanitary sewer line I by extension Manhole A) m the manhole rim should ions (re)surveyed Septem	by a float controlled below an elevation not be <u>less</u> than 12 ber, 1999 by Wende	l sump pump which n of 565 ft. above mear .41 ft. at Manhole B a	naintains groundwater elevation n sea level. Therefore, Depth

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

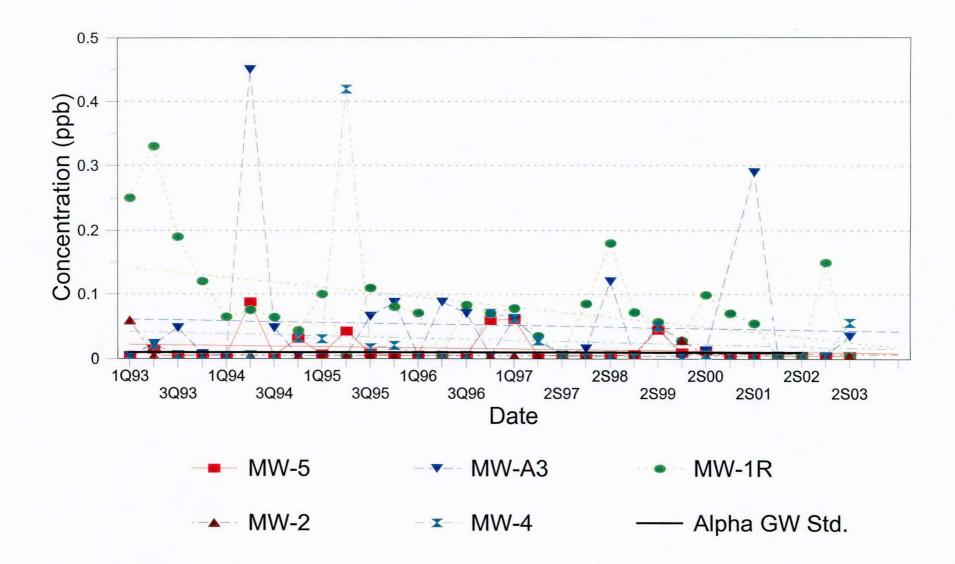
DATE:	11/19/2003	TIME:1300	0	
NSPECTO <u>R:</u>	Michael Walker	_COMPANY:	Sevenson	
VEATHER:	Rainy and 49 F			
PIEZOMETER	RISER ELÉVATION (INSIDE CASING)	DEPTH TO WATER (FT.)	WATER ELEVATION	COMMENTS
P-1	572.72	6.99	565.73	
<b>P-2</b>	574.89	9.6	565.29	
5-3	574.16	8_	566.16	<u></u>
>-4	576.14	10.95	565.19	
<b>5</b> _5	575.05	6.7	568.35	
<b>&gt;</b> -6	578.28	10.5	567.78	
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)

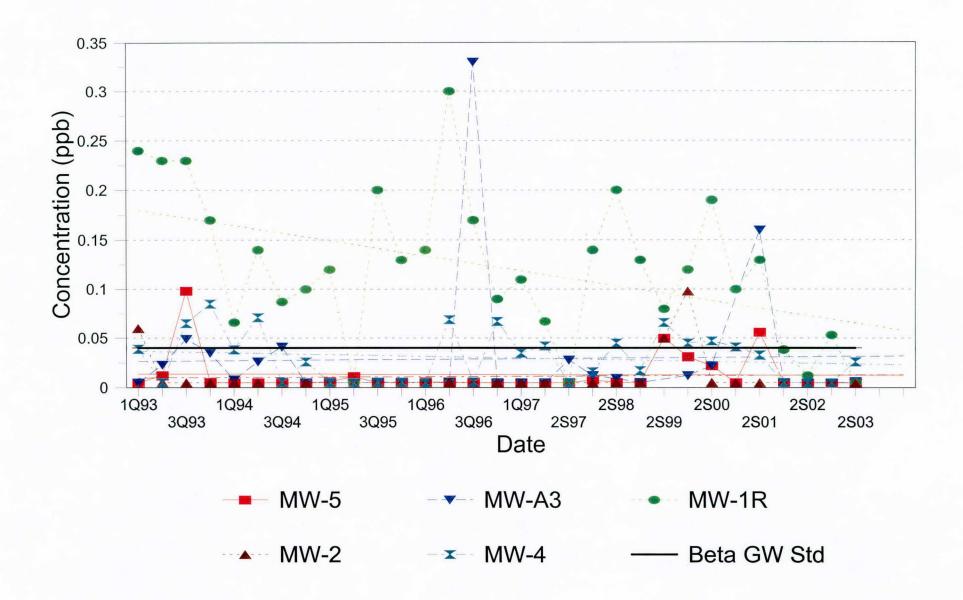
ADDITIONAL COMMENTS/OBSERVATIONS:

## Gibson Site #932063

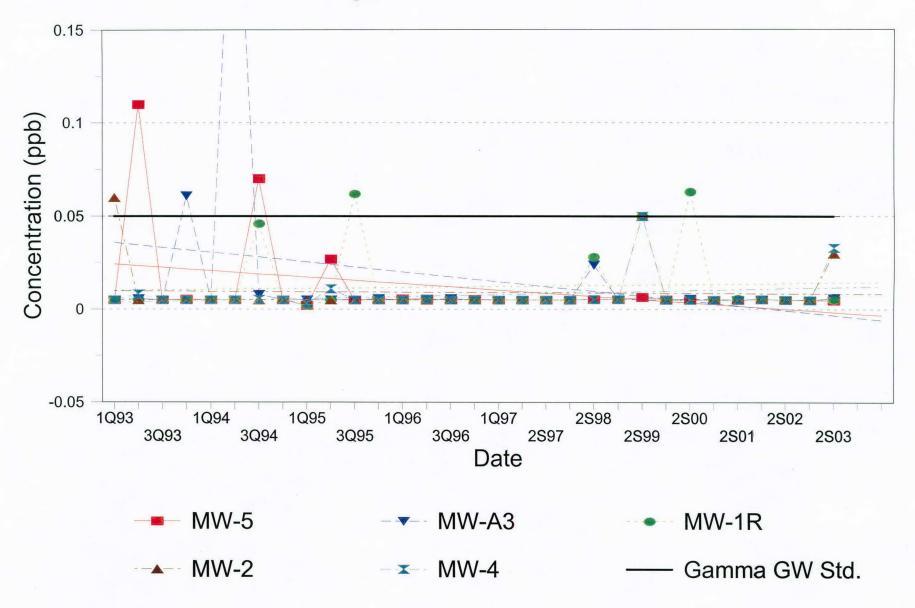
alpha - BHC



# Gibson Site #932063 beta - BHC

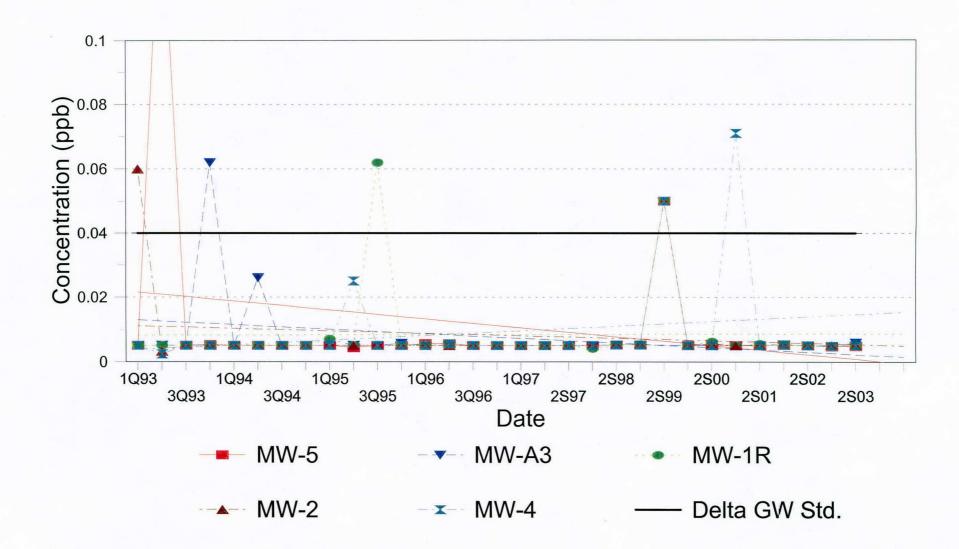


# Gibson Site #932063 gamma - BHC



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

# Gibson Site #932063 delta -BHC





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

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

February 19, 2004

RECEIVED

FEB 2 3 2004

NYSDEC REG 9 FOIL CREL\_\_\_UNREL

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

#### Subject: Charles Gibson Site NYSDEC Registry No. 9-32-063 Eleventh Annual Report - 2003

Dear Mr. Hinton:

Enclosed are three copies of the Eleventh Annual Report - 2003 for the referenced site. This report summarizes the activities performed during 2003 for the operation and maintenance of the containment remedy for the site and the ground water monitoring program outside of the containment area.

The following is a summary of major activities that occurred during 2003.

- Semi-annual groundwater sampling events were performed during April and September 2003.
- The annual sediment sampling was performed in September.
- The annual sampling and analysis of leachate was completed in September. There were 5,230 gallons of Leachate discharged to the City of Niagara Falls Wastewater Treatment Facility during 2003.
- The NYSDEC conducted a site inspection on April 1, 2003.

The Semi-Annual Ground Water Sampling and Annual Sediment Sampling Report - September 2003, is included as Appendix A to this report.

Please call me at 423/336-4381 to discuss any information concerning this report.

Sincerely, OLIN CORPORATION arraine m. Miller.

Lórraine M. Miller Principal Environmental Specialist

cc: C. M. Richards via e-mail Tom Tirabassi via e-mail Mike Walker via e-mail

dm:sites/P&T(Gibson)/ENV4060/O&M/Eleventh Annual Report 2003

#### **ELEVENTH ANNUAL REPORT**

2003

#### **CHARLES GIBSON SITE**

#### (PINE AND TUSCARORA SITE)

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

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#### PREPARED BY OLIN CORPORATION

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#### **FEBRUARY 2004**

dm:sites/P&T(Gibson)/ENV4060/O&M/Eleventh Annual Report 2003

#### Introduction

This is the Eleventh Annual Report from Olin Corporation (Olin) for the Charles Gibson Site (Pine and Tuscarora Site), located in Niagara Falls, New York. This report summarizes the activities performed during 2003 for the operations and maintenance of the containment remedy for the Site and the ground water monitoring program outside of the containment area.

#### Background

The Charles Gibson Site (Site) is located approximately four miles east of downtown Niagara Falls, New York. The Site comprises an area of approximately two acres of land in Niagara County bordered on the south by private property, on the west by Tuscarora Road and on the north and east by Cayuga Creek. The Site is a fully remediated waste site currently surrounded by a fence.

Construction of the remedy on the Site concluded in 1990. The remedy consisted of rerouting Cayuga Creek around and away from the waste, installation of a fully circumscribed soil-bentonite slurry wall barrier and installation of a double flexible membrane liner cap with a perimeter collection drain system. The first year of operations and maintenance (O&M) of the containment remedy for the Site and the ground water monitoring program began in 1993.

Waters collected in the Site perimeter collection drain system are managed by direct discharge to the City of Niagara Falls Wastewater Treatment Facility. The Site is classified as a commercial/small industrial/residential user (CSIRU) and does not require a permit.

Reports are submitted as appropriate to the New York State Department of Environmental Conservation (NYSDEC). Records of all environmental monitoring are maintained by Olin Corporation. These records are available for review and inspection by the State upon reasonable notice.

#### Discussion

The Stipulation and Consent Judgment, CIV 83-1400, and its modification, CIV 83-1400C, (the Agreement) listed the following elements to be included in the required remediation plan for the Site (Plan C):

- 1. Quarterly ground water monitoring for 30 years (revised in 1997 to semiannual);
- 2. Sample collection and analysis of creek water and of creek sediments annually for 30 years;
- Establishment of an upward hydraulic gradient within the containment area, unless Olin can demonstrate by clear and convincing evidence the establishment of the same is unnecessary or inappropriate to the accomplishment of the goals set forth in paragraph 4(a) of the stipulation;
- 4. Acquisition by Olin of easements which would permit the required monitoring;
- 5. Provisions for protection of the Site from disturbance which might increase the threat of contamination migration, including regular inspection of the site;
- 6. Provisions for the design and implementation of a contingency plan in the event that migration of the contaminants occurs despite the implementation of the containment remediation plan;
- 7. Containment or removal of the contaminants deposited or caused to be deposited by Olin which have migrated off-Site consistent with the goals of paragraph 4(a);
- 8. Fiscal arrangements, guarantees, or the provision of financial assurances sufficient to ensure that Olin possess the financial ability to perform the containment remedial plan and monitoring.

The Agreement includes a provision in the event that after seven years following the delivery of a Release of Liability (issued December 15, 1992), Olin demonstrates that conditions at the Site are such that the stated frequency or duration of the requirements of elements 1, 2, or 5 are no longer necessary to determine whether the remediation is effective, Olin may reduce the frequency and duration of such monitoring or inspections. Additionally, if after seven years following the Release of Liability, Olin is able to demonstrate that element 8 is no longer necessary to ensure performance, Olin may alter the fiscal arrangements appropriately.

The approved Operation and Maintenance Manual (O&M Manual (June 2000)) provides details on the O&M of the containment remedy on the northern portion of the site and includes provisions for site control and environmental monitoring. The O&M Manual (June 2000) reflects current activities being performed for the operation and maintenance of the containment remedy for the Site and the ground water monitoring program outside the containment area. The yearly inspection and sampling schedule for the Site is attached for reference (Attachment 1).

The O&M Manual (2000) addresses the required elements as set forth in the Agreement. Element 4, acquisition of easements, is a completed task. Element 6, a contingency plan, is addressed in the O&M Manual. Element 7, containment of the contaminants, has been achieved and is being monitored for effectiveness. Element 8, provision of financial assurance, is being met. This report discusses elements 1, 2, 3, and 5 of the Agreement.

**Element 1)** <u>Semi-annual ground water monitoring.</u> Monitor wells MW-A3, MW-1R, MW-2, MW-4, and MW-5 were sampled for the site compounds alpha-BHC, beta-BHC, gamma-BHC, delta-BHC on April 1-2 and on September 23, 2003. Analyses were performed using SW-846 Method 8080. Sampling results indicate that concentrations of site compounds being monitored are similar to previous results. Monitor wells are sampled for hexachlorobenzene (HCB) every other year. The monitor wells were sampled for HCB in September 2002. The next HCB sampling is scheduled for September 2004.

The semi-annual ground water monitoring data summary from 1997 through 2003 is provided in Table 1. The 1997 time period represents the start of the semi-annual events.

**Element 2)** Annual creek sediment monitoring. Annual sediment sampling was performed on September 24, 2003. Upstream and downstream data were similar to the 2002 sampling event for the alpha, beta, delta and gamma BHC isomers. Annual upstream and downstream sediment sampling results for the project-to-date are summarized in Tables 2 and 3 respectively. Sediment monitoring was modified in 2001 from collecting a grab sample to placement of sediment traps at the upstream and downstream locations. Sediment traps were installed for the first time during the April 2001 sampling event. Evaluating results from sediment trap monitoring will require collecting additional data over the next few monitoring events.

**Element 3)** <u>Establishment of an upward (inward) hydraulic gradient.</u> Quarterly ground water elevations were monitored at piezometer pairs P1/P2, P3/P4, and P5/P6 to maintain an inward hydraulic gradient in the containment area of the site. The data collected during each event is recorded on the Sampling Field Form. An evaluation of data from the piezometer pairs at the Site indicates that an inward hydraulic gradient is generally being maintained in the containment area of the site (Table 4). Water level elevation in Manhole A and Manhole B are monitored guarterly (Table 5).

There were 5,230 gallons of leachate discharged to the POTW during 2003 during a test of the discharge system. Drought conditions continued to exist in the region during 2003. A summary of yearly discharge volumes for the Site is provided in Table 6. Between 1991 and 2003, a total of 812,593 gallons of leachate have been removed from the Site. Annual leachate sampling and analysis for BHC's began in 2000 to replace the POTW sampling that was previously performed. HCB will be monitored every five years starting in 2000. The sampling location is Manhole B. Analytical results for 2003 are provided in Table 7.

Charles Gibson Site NYSDEC Registry No. 9-32-063 Eleventh Annual Report -2003

**Element 5)** <u>Site protection.</u> Quarterly site inspections were conducted to identify any potential problems with the physical structures and to ensure that the remedial measure components are operating effectively. Routine site maintenance included fertilizing, mowing, weeding and mulching the site area.

Other non routine repairs completed in 2003 included: repairing the readout on the flow meter at the site and testing the pumping system in April. Repairs were made to a section of the stockade perimeter fence along the southeast side of fence that was knocked over by high winds in November. General site conditions and security status were noted on the Site Inspection Form and addressed as appropriate.

#### Conclusions/Recommendations:

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The work performed for the Site during 2003 was reviewed and found to be in accordance with the approved O&M Manual (2000). Ground water monitoring indicates there are no increased concentrations of the Site compounds being monitored. Evaluation of the ground water data generated during the 2003 monitoring year indicates that the containment remedy is effective. An evaluation of data from the piezometer pairs at the Site indicates that an inward hydraulic gradient is generally being maintained in the containment area of the site. 2003 data from sediment trap monitoring were similar to the 2002 monitoring.

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#### Table 1

#### Semi-Annual Ground Water Summary

						Mo	nitor Well: MW-	-A3					
	1997	1	998	19	99	20	00	2	001		2002	. 2	2003
Parameter	September (*)	April	October	April	October	May	October	April	October	April	September	April	September
Alpha-BHC	.059	.016J	.12	.0043J	-	.050U	.054U	.050U	.050U	.050U	.029J	.048U	.035J
Beta-BHC	.028J	.012J	.0092J	.053U	-	.012J	.054U	.050U	.050U	.050U	.016J	.048U	.059U
Gamma-BHC	.050U	.050U	.024J	.053U	-	.050U	.054U	.050U	.050U	.050U	.050U	.048U	.059U
Delta-BHC	.050U	.050U	.053U	.053U	-	.050U	.054U	.050U	.050U	.050U	.050U	.048U	.059U
Hexachlorobenzene	10U	10U	-	11U	-	11U	NR	10U	NR	NR	NR	NR	NR

						N	Ionitor Well: MW	/-1R					
	1997	19	98	1	999		2000	20	01	2	002	20	03
Parameter	September (*)	April	October	April	October	May	October	April	October	April	September	April	September
Alpha-BHC	.058	.085	.18	.072	.057	.028J	.054U/.052U	.050U/.050U	.099/.060	.070/.061	.055/.030J	.014J/.015U	.052U
Beta-BHC	.053	.14	.20	.13	.080	.12	.038J/.052U	.012J/.050U	.19/.15	.10/.050U	.13/.095	.053/.052	.052U
Gamma-BHC										.050U/.05			
	.050U	.050U	.028J	.053U	.050UJ	.051U	.054U/.052U	.050U/.050U	.063J/.058U	00	.055U	.049U	.052U
Delta-BHC										.050U/.05			
	.050U	.0042J	.053U	.0054J	.050U	.051U	.054U/.052U	.050U/.050U	.061U/.058U	3	.055U	.049U	.052U
Hexachlorobenzene	10U	10U	11U	110	10U	10U	NR	10U/10U	NR	NR	NR	NR	NR

						M	onitor Well: MW	-2					
	1997	19	98	-	1999		2000	2	001	-	2002	. 2	003
Parameter	September (*)	<ul> <li>April</li> </ul>	October	April	October	May	October	April	October	April	September	April	September
Alpha-BHC	.050U	.050U	.053U	.053U	.050U	.029J	.053U	.050U	.054U	.050U	.050U	.050U	.050U
Beta-BHC	.050U		.053U	.053U	.050U	.098	.053U	.050U	.054U	.050U	.050U	.050U	.050U
Gamma-BHC	.050U	.050U	.053U	.053U	.050UJ	.052U	.053U	.050U	.054U	.050U	• .050U	.050U	.030J
Delta-BHC	.050U	.050U	.053U	.053U	.050U	.052U	.053U	.050U	.054U	.050U	.050U	.050U	.050U
Hexachlorobenzene	10UJ	10U	11U	10U	10U	10U	NR	10U	NR.	NR	NR	NR	NR

4

Notes: Concentrations in ug/L

Start of semi annual monitoring program (\*)

Not detected Ù

Estimated value J

Field Duplicates Not enough water for analysis -

No longer required NR

Data has been validated

#### Table 1 (cont.)

#### Semi-Annual Ground Water Summary

Monitor Well: MW-4

	1997	19	998		1999	2000		20	01		2002	20	003
Parameter	September (*)	April	October	April	October	May	October	April	October	April	September	April	September
Alpha-BHC	.050/.060	.0030J	.053U	.0031J	.050U	.051U/.052U	.054U	.050U	.0069J	.050U	.050U	.0490	.056
Beta-BHC	.055/.069	.016J	.045J	.017J	.066/.068	.045J/.062	.054U	.050U	.047J	.041J	.033J	.049U	.026J
Gamma-BHC	.050U	.050U	.053U	.053U	.050U	.051U/.052U	.054U	.050U	.050U	.071J	.050U	.049U	.033J
Delta-BHC	.050U	.050U	.053U	.053U	.050U	.051U/.052U	.054U	.050U	.050U	.050U	.050U	.049U	.050U
Hexachlorobenzene	10U	10U	10U	10U	10U	10U	NR	10U	NR	NR	NR	NR	NR

#### Monitor Well: MW-5

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	1997	199	18	1999	)	2	000	20	001	2	2002	20	003
Parameter	September (*)	April	October	April	October	May	October	April	October	April	September	April	September
Alpha-BHC	.059	.050U/.0066J	.053U	.0071J	.045J	.010J	.054U	.050U	.013J	.050U	.050U	.048U	.049U
Beta-BHC	.050U	.0080J/.0084J	.053U	.053U	.050	.031J	.054U	.050U	.022J	.050U	.050U	.048U	.049U
Gamma-BHC	.050U	.050U	.053U	.053U	.0065J	.052U	.054U	.050U	.055U	.050U	.050U	.048U	.049U
Delta-BHC	.050U	.050U	.053U	.053U	.050U	.052U	.054U	.050U	.055U	.050U	.050U	.048U	.049U
Hexachlorobenzene	10U	10U	11U	11U/11U	10U	10U	NR	10U	NR	NR	NR	NR	NR

Notes: Concentrations in ug/l

(\*) Start of semi annual monitoring program

.

U Not detected

J Estimated value

/ Field Duplicates

- Not enough water for analysis

NR No longer required

Data has been validated

dm:sites/P&T(Gibson)/ENV4060/O&M/Eleventh Annual Report 2003

# Table 2 Analytical Summary Cayuga Creek Annual Upstream Sediment Sampling

Parameter	1993 September	1994 June	1994 September	1995 August	1996 September	1997 September	1998 October	1999 October	2000 October	2001* October	2002 September	2003 September
alpha-BHC	1.5 J	NS	6.1 U	8.1J	<sup>.</sup> 2.7J	5.3J	2.1J	8.9/7.4	3.5	55	19/90	
beta-BHC	2.3 J	NS	2.2 J	12	6.1U	11	5.2	28/19	4.5J	49	37/76	48/30
delta-BHC	6.0 U	NS	6.1 U	21	6.1U	4.0J	5.5	37/31	2.3U	24	31/26	12J/28
gamma-BHC	6.0 U	NS	6.1 U	12 U	6.1U	2.5J	.31UJ	2.9J/.42J	2.3U	3.3J	5.8U/1.6U	1.9J/26U
НСВ	500 U	NS	510 U	480 U	500U	330U	470U	480U	NR	NR	NR	NR

Notes:

Concentration in microgram/kilogram (ug/kg) BHC = Hexachlorocyclohexane

HCB = Hexachlorobenzene

J = Estimated value

U = Undetected at the concentration level specified

NS = Not sampled

NR = No longer required for this event \* Sediment Traps Installed April 2001 Data has been validated

### Table 3 Analytical Summary Cayuga Creek Annual Downstream Sediment Sampling

Parameter	1993 September	1994 June	1994 September	1995 August	1996 September	1997 September	1998 October	1999 October	2000 October	2001* October	2002 September	2003 September
alpha-BHC	2,200	5,300	720	790	5000	330	4800J/80000J	4800J	9600/13000	16	26	26J
beta-BHC	390	1,800	82	83 J	600	580	1300J/12000J	1800	3000J/2700J	52	34	45
delta-BHC	27 J	80 J	67 U	250 U	41J	60J	53J/5500UJ	190J	1200U/1400U	65	20	97
gamma-BHC	40 U	690	67 U	250 U	35J	44J	300UJ/690J	52J	1200U/1400U	1.4J	6.0U	31U
НСВ	800 U	570 UR	550 U	420 U	330U	330U	520U/550U	510U	NR	NR	NR	NR

Notes:

Concentration in microgram/kilogram (ug/kg) BHC = Hexachlorocyclohexane

HCB = Hexachlorobenzene

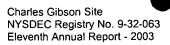
J = Estimated value.

U = Undetected at the concentration level specified

R = Sample result rejected due to low surrogate recoveries caused by matrix interference NR = No longer required for this event

\* Sediment Traps Installed April 2001

Data has been validated



#### Table 4

Piezometer Pair	2/19/2003	4/2/2003	9/23/2003	11/19/2003
P1	564.73	565.32	565.65	565.73
P2	565.44	565.54	565.30	565.29
P3	566.51 565.34	567.56 565.29	565.90 565.29	566.16 565.19
P4	505.54			505.19
P5 P6	569.10 567.88	569.85 568.28	567.43 567.13	568.35 567.78

#### 2003 Quarterly Groundwater Elevations Summary

Note: Measurement units are in feet.

Piezometers P1, P3, P5 are outside the slurry wall. Piezometers P2, P4, P6 are located within the containment area. Discharge system pumped 5,230 gallons during a test of the system on 4/14/2003.

Charles Gibson Site NYSDEC Registry No. 9-32-063 Eleventh Annual Report - 2003

#### Table 5

#### Manhole Monitoring 2003 Water Elevations (ft.)

Date	Manhole A	Manhole B	Comments
2/19/2003	564.07	564.14	
4/2/2003	563.97	564.04	Semi Annual ground water sampling; NYSDEC visit 4/1.
9/23/2003	564.79	564.52	Semi Annual ground water sampling
11/19/2003	563.66	563.73	

Notes:

Manhole monitoring:

 Maintain water level below 565 feet to prevent hydrostatic pressure buildup under concrete slab.

 Pump Manhole B as required to maintain an inward gradient. (This pumping requirement is addressed by the operation of the direct discharge system which became operational in March 1997.)

Charles Gibson Site NYSDEC Registry No. 9-32-063 Eleventh Annual Report -2003

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#### Table 6

#### Summary of Yearly Discharge Volumes (gallons)

Date	Volume (galions)
1991	104,120
1992	76,562
1993	77,797
1994	69,724
1995	56,940
1996	77,512
1997(*)	64,687
1998	51,070
1999	140,860
2000	67,236
2001	20,855
2002	0
2003	5230
TOTALS	812,593

(\*) Represents start of operation of direct discharge system Discharge system pumped 5,230 gallons during a test of the system on 4/14/2003.

### Table 7

### Annual Manhole B Sampling

### April 1, 2003

Parameter	Concentration (ug/l)		
alpha – BHC	.048U		
beta - BHC	.33		
delta - BHC	.60		
gamma - BHC	.048U		
Hexachlorobenzene	NR		

Notes:

U Undetected at associated value

NR Not required for this event

Field blank 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 2005.

## **ATTACHMENT 1**

# INSPECTION AND SAMPLING SCHEDULE GIBSON SITE



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### GIBSON SITE NIAGARA FALLS, NEW YORK 2004 INSPECTION AND SAMPLING SCHEDULE

Quarterly	Site Inspection (including Site Cover/Cap, Site Fence, Creek Riprap, Site Structures, CPVC Drain/Sump System).
Quarterly	Piezometer and sump groundwater level elevation measurements.
Semi-Annually	Groundwater monitoring well sampling (April and September) for BHC isomers.
Annually	Cayuga Creek sediment sampling (September) for BHC isomers.
Annualiy	Leachate sample collection and analysis (Manhole B) for BHC isomers (starting in 2000).
Annually	Annual report to NYSDEC (1 <sup>st</sup> Quarter).
Biennially	Groundwater monitoring well sampling (starting in April 2000) for HCB. The biennial sampling events following 2000 will alternate seasonally between April and September sampling. Next HCB sampling is April 2004.
Every Five Years	Leachate sample collection and analysis (Manhole B) (for HCB) (starting in 2000). Next leachate sampling for HCB is 2005.

APPENDIX A

### CHARLES GIBSON SITE (PINE AND TUSCARORA SITE)

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

SEMI-ANNUAL GROUND WATER AND ANNUAL SEDIMENT SAMPLING REPORT

### SEPTEMBER 2003

### PREPARED BY OLIN CORPORATION

dm:sites/P&T(Gibson)/ENV4060/O&M/Eleventh Annual Report 2003





In accordance with the approved sampling plan for the above referenced Site, this report presents a summary of data for the Semi-Annual Ground Water and Annual Sediment Sampling, collected during September 2003.

The analytical data summary for ground water is listed in Table 1. Analytical results for the annual sediment sampling are listed in Table 2. The laboratory data summary package (Appendix 1), and the field logs (Appendix 2) for this sampling event are also attached. The Quarterly Site Inspection Forms and the Quarterly Ground Water Elevation Forms are included in Appendices 3 and 4 respectively. The analytical data has been validated and found to be acceptable.



### TABLE 1

### CHARLES GIBSON SITE NIAGARA FALLS, NEW YORK

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

### September 23-24, 2003

	MW-1R	MW-1R (DUP)	MW-2	MW-4	MW-5	MW-A3
PARAMETER						
alpha-BHC	.052U	.052U	.050U	.056	.049U	.035J
beta-BHC	.052U	.052U	.050U	.026J	.049U	.059U
delta-BHC	.052U	.052U	.050U	.050U	.049U	.059U
gamma-BHC	.052U	.052U	.030J	.033J	.049U	.059U
Hexachlorobenzene	NR	NR	NR	NR	NR	NR

Notes:

Concentration in ug/l

U Undetected at associated value

J Estimated value

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

NR Not required for this event. Next biennial sampling for hexachlorobenzene is scheduled for April 2004.

### TABLE 2

### CHARLES GIBSON SITE NIAGARA FALLS, NEW YORK

### ANALYTICAL RESULTS SUMMARY ANNUAL SEDIMENT SAMPLING

### September 24, 2003

	UPSTREAM	DOWNSTREAM
PARAMETER		
alpha-BHC	28/22J	26J
beta-BHC	48/30	45
delta-BHC	12J/28	97
gamma-BHC	1.9J/26U	31U

Notes:

Concentration in ug/kg

Data has been validated and judged acceptable as qualified.

- U Compound was analyzed but not detected
- J Compound was analyzed and determined to be present in sample. The concentration listed is an estimated value which is less than the specified minimum detection level but greater than zero

### APPENDIX 1

### LABORATORY DATA SUMMARY PACKAGE

### SEMI-ANNUAL GROUND WATER SAMPLING

AND

### ANNUAL SEDIMENT SAMPLING

September 2003

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

dm:sites/P&T(Gibson)/ENV4060/O&M/Eleventh Annual Report 2003



1/256 FILE COPY

CHARLES GIBSON SITE (aka Pine & Tuscarora, P&T) ENV4060 IND Site Monitoring 2003

SEMIANNUAL GW MONTONING SEPTEMBER 2003

### ANALYTICAL REPORT

Job#: <u>A03-9186</u>

STL Project#: NY1A8693 Site Name: <u>OLIN CORPORATION</u> Task: Charles Gibson Site

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

CC: Mr. Michael Walker

STL Buffalo

Brian J () Fischer Project Manager

Er Nor-Ann Nou nn Neary Analyst

10/09/2003

Severn Trent Laboratories, Inc. STL Buffalo • 10 Hazelwood Drive, Suite 106, Amherst, NY 14228 Tel 716 691 2600 Fax 716 691 7991 • www.stl-inc.com

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### STL Buffalo Current Certifications

STATE	Program	Cert # / Lab ID
A2LA (ISO 17025)	SDWA, CWA, RCRA	0732-01
Arizona	SDWA, CWA, RCRA	AZ0525
Arkansas	SDWA, CWA, RCRA, SOIL	03-054-D/88-0686
California	NELAP SDWA, CWA, RCRA	01169CA
Canada	GENERAL	SCC 1007-15/10B
Connecticut	SDWA, CWA, RCRA, SOIL	PH-0568
Florida	NELAP RCRA	E87672
Georgia	SDWA	956
Illinois	NELAP SDWA, CWA, RCRA	200003
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
Oregon	NELAP, SDWA, CWA, RCRA	NY200001
Pennsylvania	NELAP, SDWA, CWA, Env. Lab Reg.	68-281
South Carolina	RCRA	91013
Tennessee	SDWA	2970
USDA	FOREIGN SOIL PERMIT	S-4650
Virginia	SDWA	278
Washington	CWA	C254
West Virginia	CWA	252
Wisconsin	CWA	998310390
Wyoming UST	UST	NA

### SAMPLE SUMMARY

		SAMPLE	2	RECEIV	ED
LAB SAMPLE ID	CLIENT SAMPLE ID	DATE	TIME	DATE	TIME
A3918606	092303FIELD BLANK	09/23/2003	15:00	09/24/2003	11:00
A3918605	092303MW1R	09/23/2003	12:55	09/24/2003	11:00
A3918604	092303MW2	09/23/2003	13:30	09/24/2003	11:00
A3918604MS	092303MW2 MS			09/24/2003	
A3918604SD	092303MW2 SD	09/23/2003	13:30	09/24/2003	11:00
A3918602	092303MW4	09/23/2003	11:50	09/24/2003	11:00
A3918603	092303MW5	09/23/2003	11:30	09/24/2003	11:00
A3918610	092303MW7			09/24/2003	
A3918601	092303MWA3			09/24/2003	
A3918608	092403BD			09/24/2003	
A3918609	092403DS			09/24/2003	
A3918607	092403US			09/24/2003	

4/256

#### Job#: <u>A03-9186</u>

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

6/256

### 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 and Dissolved Oxygen 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

A03-9186

Sample Cooler(s) were received at the following temperature(s); 2.0 °C All samples were received in good condition.

#### <u>GC Extractable Data</u>

No deviations from protocol were encountered during the analytical procedures.

### NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION

8/256

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
092303MW1R	A3918605	-	-	-	ASP00	· -	+	-
092303MW2	A3918604	-	-	-	ASP00	-	-	-
092303MW4	A3918602	-	-	-	ASP00	-	-	· •
092303MW5	A3918603	-	-	-	ASP00	-	-	-
092303MW7	A3918610	· <u>-</u> ·	-	-	ASP00	-	-	-
092303MWA3	A3918601	-	-	-	ASP00	-	• ·	-
092403BD	A3918608	-	-	-	ASP00	-	-	-
092403DS	A3918609	-	-	-	ASP00	-	-	-
092403US	A3918607	-	-	-	ASP00	-	-	-

NYSDEC-1

### 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
092303MW1R	WATER	ASP00	SEPF	AS REQUIRED	AS REQUIRED
092303MW2	WATER	ASP00	SEPF	AS REQUIRED	AS REQUIRED
092303MW4	WATER	ASP00	SEPF	AS REQUIRED	AS REQUIRED
092303MW5	WATER	ASP00	SEPF	AS REQUIRED	AS REQUIRED
092303MW7	WATER	ASP00	SEPF	AS REQUIRED	AS REQUIRED
092303MWA3	WATER	ASP00	SEPF	AS REQUIRED	AS REQUIRED
092403BD	SOIL	ASP00	SONC	AS REQUIRED	AS REQUIRED
092403DS	SOIL	ASP00	SONC	AS REQUIRED	AS REQUIRED
092403US	SOIL	ASP00	SONC	AS REQUIRED	AS REQUIRED

NYSDEC-6

# SAMPLE DATA PACKAGE

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

Client No.

			092403DS	
Lab Name: <u>STL Buffalo</u>	Contract:		L	
Lab Code: <u>RECNY</u> Case No.: S	AS No.:	SDG No.:		
Matrix: (soil/water) <u>SOIL</u>		Lab Sample ID:	<u>A3918609</u>	_
Sample wt/vol: $30.33$ (g/mL) G		Lab File ID:	RA28891.T	<u>xo</u>
* Moisture: 74.5 decanted: (Y/N) Y	•	Date Samp/Recv:	09/24/200	<u>3 09/24/2003</u>
Extraction: (SepF/Cont/Sonc/Soxh): <u>SONC</u>		Date Extracted:	10/01/200	<u>.</u>
Concentrated Extract Volume: 10000(uL)		Date Analyzed:	10/06/200	<u>3</u>
Injection Volume: <u>1.00</u> (uL)		Dilution Factor:	1.00	
GPC Cleanup: (Y/N) <u>N</u> pH:		Sulfur Cleanup:	(Y/N) <u>N</u>	
CAS NO. COMPOUND	CONCENTRAT. (ug/L or u		Q	
319-84-6alpha-BHC 319-85-7beta-BHC 319-86-8delta-BHC		26 45 97	J	
58-89-9gamma-BHC (Lindane)		31	U	

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

Client No.

Lab Name: <u>STL Buffalo</u> Contrac	092303FI	ELD BLANK
Lab Code: <u>RECNY</u> Case No.: SAS No.:	SDG No.:	
Matrix: (soil/water) <u>WATER</u>	Lab Sample ID: <u>A3918606</u>	_
Sample wt/vol: <u>1035.00</u> (g/mL) <u>ML</u>	Lab File ID: RA28743.7	<u> </u>
% Moisture: decanted: (Y/N) $\underline{N}$	Date Samp/Recv: 09/23/200	<u>09/24/2003</u>
Extraction: (SepF/Cont/Sonc/Soxh): <u>SEPF</u>	Date Extracted: 09/25/200	<u>)3</u>
Concentrated Extract Volume: <u>10000</u> (uL)	Date Analyzed: 10/01/200	<u>)3</u>
Injection Volume: <u>1.00</u> (uL)	Dilution Factor:1.00	
GPC Cleanup: (Y/N) <u>N</u> pH: <u>7.00</u>	Sulfur Cleanup: (Y/N) N	
CAS NO. COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) <u>UG/L</u> Q	
319-84-6alpha-BHC 319-85-7beta-BHC 319-86-8delta-BHC 58-89-9gamma-BHC (Lindane)	0.048         U           0.048         U           0.048         U           0.048         U           0.048         U           0.048         U	

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

Client No. 092303MW2 Lab Name: STL Buffalo Contract: Lab Code: <u>RECNY</u> Case No.: \_\_\_\_\_ SAS No.: \_\_\_\_\_ SDG No.: Matrix: (soil/water) WATER Lab Sample ID: A3918604 Sample wt/vol: 1000.00 (g/mL) ML Lab File ID: RA28739.TX0 % Moisture: \_\_\_\_\_ decanted: (Y/N) N Date Samp/Recv: 09/23/2003 09/24/2003 Extraction: (SepF/Cont/Sonc/Soxh): SEPF Date Extracted: 09/25/2003 Concentrated Extract Volume: 10000 (uL) Date Analyzed: 10/01/2003 Injection Volume: \_\_\_\_1.00 (uL) Dilution Factor: 1.00 GPC Cleanup: (Y/N) N pH: \_6.00 Sulfur Cleanup: (Y/N) N CONCENTRATION UNITS: CAS NO. COMPOUND (ug/L or ug/Kg) <u>UG/L</u> 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) 0.030 J

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

Client No.

	092303MW4
Lab Name: <u>STL Buffalo</u> Contrac	xt:
Lab Code: <u>RECNY</u> Case No.: SAS No.:	SDG No.:
Matrix: (soil/water) <u>WATER</u>	Lab Sample ID: <u>A3918602</u>
Sample wt/vol: <u>1000.00</u> (g/mL) <u>ML</u>	Lab File ID: RA28737.TX0
% Moisture: decanted: (Y/N) <u>N</u>	Date Samp/Recv: <u>09/23/2003</u> <u>09/24/2003</u>
Extraction: (SepF/Cont/Sonc/Soxh): <u>SEPF</u>	Date Extracted: <u>09/25/2003</u>
Concentrated Extract Volume: 10000(uL)	Date Analyzed: <u>10/01/2003</u>
Injection Volume: <u>1.00</u> (uL)	Dilution Factor: <u>1.00</u>
GPC Cleanup: (Y/N) <u>N</u> pH: <u>7.00</u>	Sulfur Cleanup: (Y/N) N
CAS NO. COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) <u>UG/L</u> Q
319-84-6alpha-BHC 319-85-7beta-BHC 319-86-8delta-BHC 58-89-9gamma-BHC (Lindane)	0.056 0.026 J 0.050 U 0.033 J

0.052

0.052

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

		Client No.
Lab Name: <u>STL Buffalo</u> Contrac	t:	092303MW7 (MWIRduy
Lab Code: RECNY Case No.: SAS No.:	SDG No.:	
Matrix: (soil/water) WATER	Lab Sample ID:	<u>A3918610</u>
Sample wt/vol:970.00 (g/mL) $\underline{ML}$	Lab File ID:	RA28744.TX0
% Moisture: decanted: (Y/N) $\underline{N}$	Date Samp/Recv:	<u>09/23/2003</u> <u>09/24/2003</u>
Extraction: (SepF/Cont/Sonc/Soxh): <u>SEPF</u>	Date Extracted:	<u>09/25/2003</u>
Concentrated Extract Volume: 10000(uL)	Date Analyzed:	<u>10/01/2003</u>
Injection Volume: <u>1.00</u> (uL)	Dilution Factor:	1.00
GPC Cleanup: (Y/N) <u>N</u> pH: <u>7.00</u>	Sulfur Cleanup:	(Y/N) <u>N</u>
CAS NO. COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) <u>UG/L</u>	Q
319-84-6alpha-BHC 319-85-7beta-BHC	0.052	υ

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

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

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): <u>RTXCLPI</u> ID: 0.32 (mm)

	Client Sample ID	DCBP %REC #	TCMX %REC #							TOT OUT
٦	092303FIELD BLANK	75	104		======		=======		=======	===
÷						· ·		}	1	0
2	092303MW1R	102	102	[						0
3	092303MW2	92 .	104	1						0
4	092303MW2 MS	94	98							0
5	092303MW2 SD	91	98						· · ·	0
6	092303MW4	66	100							0
7	092303MW5	30	118							0
8	092303MW7	97	98							0
9	092303MWA3	85	101							0
10	Matrix Spike Blank	96	85							0
11	Method Blank	88	90							0

QC LIMITS

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

### (28-132) (36-132)

# 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 TE ASP 2000- METHOD 8081 BHC'S WATER MATRIX SPIKE/MATRIX SPIKE DUPLICATE RECOVERY

Lab	Name:	<u>STL Buffal</u>	<u>lo</u>	Contract:	Lab Samp ID: <u>A3918604</u>
Lab	Code:	RECNY	Case No.:	SAS No.:	SDG No.:

Matrix Spike - Client Sample No.: 092303MW2

COMPOUND	SPIKE ADDED UG/L	SAMPLE CONCENTRATION UG/L	MS CONCENTRATION UG/L	MS % REC #	QC LIMITS REC.	+
garma-BHC (Lindane)	0.523	0.0300	0.429	76	56 - 123	

COMPOUND	SPIKE ADDED UG/L	MSD CONCENTRATION UG/L	MSD % REC #	% RPD #	QC RPD	C LIMITS REC.	+
gamma-BHC (Lindane)	0.523	0.446	79	4	15	56 - 123	

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

\* Values outside of QC limits

RPD: _	<u>0</u> out	t of		<u>1</u> a	ıtsi	de 1	.in	uits	
Spike	recover	y:	0	out	of		2	outside	limits

Comments:

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

Client No.

Lab Name: <u>STL Buffalo</u>	Contract:	Method Blank
Lab Code: <u>RECNY</u> Case No.:		SDG No.:
Lab Sample ID: <u>A3B1112003</u>	Lab File ID: <u>RA</u>	
Matrix: (soil/water) <u>SOIL</u>	Extraction:	SONC
Sulfur Cleanup: (Y/N): <u>N</u>	Date Extracted:	<u>10/01/2003</u>
Date Analyzed (1): <u>10/06/2003</u>	Date Analyzed (2	2):
Time Analyzed (1): <u>17:52</u>	Time Analyzed (2	2):
Instrument ID (1): <u>HP5890-18</u>	Instrument ID (2	2):
GC Column (1): <u>RTXCLPI</u> Dia: <u>0.3</u>	2(mm) GC Column (2): _	Dia:(mm)
THIS METHOD BLANK APPLIES		

	CLIENT	LAB	DATE	DATE
	SAMPLE NO.	SAMPLE ID	ANALYZED 1	ANALYZED 2
1	092403BD	A3918608	10/06/2003	
2	092403DS	A3918609	10/06/2003	
3	092403US	A3918607	10/06/2003	
4	Matrix Spike Blank	A3B1112001	10/06/2003	
5	Matrix Spike Blk Dup	A3B1112002	10/06/2003	

Comments:

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

Client No.

Lab Name: <u>STL Buffalo</u>	Contract:	Method Blank
Lab Code: <u>RECNY</u> Case No.:		
Lab Sample ID: <u>A3B1089002</u>	Lab File ID: <u>R</u>	
Matrix: (soil/water) <u>WATER</u>	Extraction:	SEPF
Sulfur Cleanup: (Y/N): <u>N</u>	Date Extracted	: <u>09/25/2003</u>
Date Analyzed (1): <u>10/01/2003</u>	Date Analyzed	(2):
Time Analyzed (1): <u>11:45</u>	Time Analyzed	(2):
Instrument ID (1): <u>HP5890-18</u>	Instrument ID	(2):
GC Column (1): <u>RTXCLPI</u> Dia: <u>0.3</u>	2(mm) GC Column (2):	Dia:(mm)

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

	CLIENT	LAB	DATE	DATE
	SAMPLE NO.	SAMPLE ID	ANALYZED 1	ANALYZED 2
1 2 3 4 5 6 7 8 9 10	092303FIELD BLANK 092303MW1R 092303MW2 092303MW2 MS 092303MW2 SD 092303MW4 092303MW5 092303MW5 092303MW7 092303MW7 092303MWA3 Matrix Spike Blank	A3918606 A3918605 A3918604 A3918604MS A3918604SD A3918602 A3918603 A3918610 A3918601 A3918601 A3B1089001	10/01/2003 10/01/2003 10/01/2003 10/01/2003 10/01/2003 10/01/2003 10/01/2003 10/01/2003 10/01/2003 10/01/2003 10/01/2003	

Comments:

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# SDG NARRATIVE

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### METHODS SUMMARY

### Job#: <u>A03-9186</u>

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

PARAMETER	ANALYTICAL MEIHOD
ASP 2000 - METHOD 8081 BHC'S ASP 2000- METHOD 8081 BHC'S	ASP00 8081 ASP00 8081
rences:	

### References:

ASP00 "Analytical Services Protocol", New York State Department of Conservation, June 2000.

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

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. Fische Project Manager

10-13-03 Date

# Chain of

# Custody Record



Severn Trent Laboratories, Inc.

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STL-4124 (1200)														<u> </u>							<b></b>	,	
Client OLIN CORP.		Project	Man	ager (l	ι١											Dat	ر 9°	14-1	A7	ζ		hain of Custody N 096	
		Teleph		<u>le v</u> Jumbe			nde)/F	ay Ni	imhe	r				3			Numb			2		030	405
HAS Lowre River Lond		4:	23	-7			. 4	Π	66					5							P	age	of
Charleston IN	37310	Site Co	ontact	M	'en	ι		b Cor			ha	ye.		<u>×</u>		alysis re spa					<b>T</b>	-	
Project Name and Location (State)	11 1411	Carrier	Way	bill Nu	imbe	r			<u> </u>														
Charles Gibson Sitz, Magna to	$MS, NY_{-}$												4										Instructions/
				M	atrix				Con Pres	itaine Serva				8									ns of Receipt
Sample I.D. No. and Description (Containers for each sample may be combined on one line)	Date	Time	Ē	Aqueous	Sed.	Soil	Unores	H2SO4	SONF	нсі	NaOH	InAc/ IaOH		436 436						- Lee		(71L) 284	
092303 MWA3 ZXILGA	9/22/03	1415	++	×	<i>"</i>	<u>,</u>	×				_<	N		1	-				_ <b> </b> ¢		11	RESULTS TO SEVENSON E	
ADTX2 PUNCOESPO	9/23/03	1150		×			×															2749 LOCK	
ADTEXE SAWERE	9/23/03	1130		×			~	·														N.FALLS, N	
092303 mus 2 6×16A	Alzslos	1330		*			*															ms/msc	>
092303 MW & 12 2x164	9/23/07	1255		×			*																
092303 Field BLANCZXILLON	9/23/03	1500		*			~	<u> </u>															
ALLES COMEDESPO	9/23/03	1255		*			. >	•					•	4									
092403 US 1×402	9/24/03	0930		·	x		×													_			
092403 BD 1x 402		0930			*	·	X							$\mathbf{k}$									
092403 DS 1x 402	9/24/03	0945		;	X		4	'						h			1_						
									<u> </u>														
Possible Hazard Identification	_	- <b>A</b> ·		ample	•		•		,	<b>_</b>					<u>(</u> 1		-	(A fee	e mav	be as	sesse	ed if samples are	retained
Non-Hazard Flammable Skin Irritant	Poison B	🗴 Unknown		] Ret	um T	o Clie	ent A		Dispo	sal B	y Lat	b (Spec		rchive Fe	or	Mo	onths	longe	r than	3 mor	nths)		
24 Hours     48 Hours     7 Days     14 D	avs 🗌 21 Dave			m	(da	nd	l		Req	uiren	ents	(Spec	сну)										
1. Reinquished By		Date	/	· · · · ·				1. F	Recei	ved E	<sub>y</sub>	<u> </u>		<u> </u>								Date I	, Time
Millip		1/24	{   b	3	ļ ļ	100	)			Å	an	2	. K	wh	m		-				1	9/25/03	(100
2. Relinquished By		Date	,—		Time	9		2. F	3eće/	Ned	Į,	Ŋ	Ĭ	n.				¢	って	-,	 /	Date 7-21/*03	Time 11:00
3. Relinquished By		Date		للـــــــ ا	Time	•	<u> </u>	3. F	Recei	V A	y y		~	J.C.					<u> </u>	6.50		Date	Time
Commente												$\angle$	$\square$				•						
Comments							2.0	_	う	$\subset$	-	V											

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



### FIELD LOGS

### SEMI-ANNUAL GROUND WATER SAMPLING AND ANNUAL SEDIMENT SAMPLING

September 2003

### CHARLES GIBSON SITE

(PINE AND TUSCARORA SITE)

### NIAGARA FALLS, NEW YORK

NYSDEC Registry No. 9-32-063

	3	AMPLING				
RECORDED BY:	L.Duminuco		SAMPLE	D:	092303M	NA3
SAMPLED BY:	C. Bove	-	SAMPLIN	G EVENT/D	ATE:	9/23/2003
COMPANY:	Sevenson	-	MONITOR		MWA3	
			CONDITIC	DN:	Well casin	g settled, lid pushed
GROUNDWATER PU	IRGE DATA	PURGE D	ATE:	9/23/2003		
	FROM TOP OF RISEF	<b>2</b> .	11 95	5 (FT.)		L GIBSON SITE RING WELLS ARE
	FROM TOP OF RISER:			6 (FT.)		IAMETER STAIN-
DEPTH TO WATER I	WATER COLUMN:	<u></u>		i (FT.)		EEL. WELL DEPTHS
	2" DIA. WELL CONST	ANT	0.16	• •	MW-1R	12.10'
	ONE WELL VOLUME			GALS)	MW-2	12.13'
PURGE METHOD: BOTTOM OF WELL/S PURGE START TIME PURGE OBSERVAT		o and dedica OK/None STOP TIM		1410	MW-A3 MW-4 MW-5 )	11.95' 13.75' 15.28'
FIELD PARAMETER	MEASUREMENTS:					
WELL VOLUME	рН	SPECIFIC CONDUC umhos/cm	TIVITY	TEMP. (C OR F)		NOTES:
1	7.7	1057	<u> </u>	15.5	-	Clear/No odor
2	6.9	1048		15.2		er 17
3	6.9	1052		14.6		st 11
4						
5					<u> </u>	
TOTAL VOLUME PU	RGED: 0.65	5 gallons		SAMPLE	DATE:	9/23/2003
						4.445
MEDIA: GROUNI CREEK S		_		SAMPLE		1415
	MWA3			<u></u>		
SAMPLE METHOD:	Took sample using a	parastaltic (	pump and d	edicated ho	se.	
SAMPLING OBSER	VATIONS:				<u> </u>	
QC SAMPLES TAKE	EN <u>: No.</u>					
OTHER OBSERVAT	IONS/COMMENTS:	BHC's on	nly	2 x 1liter g	lass ambe	r bottles collected.
Note: specific condu	ctivity formula to 25 deg	rees Celciu	s: SC(25)=	SC measu {{T-25)(0.1		
riole. Speenie condu			<u>````</u>			

CRA 8143 (1) AppD-GwsdForm

RECORDED BY:	Lou Duminuco		SAMPLE ID:	MW1R-0	MW1R-092303 and MW7-092303		
SAMPLED BY:	Craig Bove		SAMPLING EVEN	T/DATE:	9/23/2003		
COMPANY:	Sevenson		MONITORING WE	ELL: MW1R a	nd blind duplicate/MW7		
-			CONDITION:	Good			
GROUNDWATER P	URGE DATA	PURGE DA	TE: 9/23/2	003			
					LL GIBSON SITE		
DEPTH TO BOTTO	M FROM TOP OF RIS	SER:	<b>12.1</b> (FT.)	MONITC	RING WELLS ARE		
DEPTH TO WATER	FROM TOP OF RISE	ER:	7.1 (FT.)	2-INCH	DIAMETER STAIN-		
	WATER COLUMN	:	5 (FT.)	LESS ST	TEEL. WELL DEPTHS:		
	2" DIA. WELL COI	NST <u>ANT:</u>	0.16	MW-1R	12.10'		
	ONE WELL VOLU		0.8 (GALS	MW-A3	11.95'		
PURGE METHOD: BOTTOM OF WELL PURGE START TIN PURGE OBSERVA		ump and dedica OK/None STOP TIME		MW-4 MW-5 250			
FIELD PARAMETE	R MEASUREMENTS:						
WELL		SPECIFIC CONDUCT					
VOLUME	<u>pH</u>	umhos/cm)			NOTES:		
1	7.5	1118	18.4		Clear,No Odor		
2	7.4	1127			0 		
3	7.3	1138	18.4	1			
<u> </u>	- <u>-</u>						
TOTAL VOLUME P	URGED:	2.5 gallons					
GROUNDWATER		PLING DATA:	SAMPI	E DATE:	9/23/2003		
					- <u> </u>		
	IDWATER XXX		SAMPI	E T <u>IME:</u>	1255		
LOCATION:	MW1R						
SAMPLE METHOD	: Took sample using	g a parastaltic pi	ump and dedicated	hose.			
SAMPLING OBSEF	RVATIONS: <u>Clear,</u>	no odor or shee	n				
QC SAMPLES TAK	EN: Blind o	uplicate sample	s were taken and la	abeled MW7	on the COC.		
OTHER OBSERVA	TIONS/COMMENTS:	Collected	4 x 1 liter amber gla	ass bottles.			
Note: specific cond	uctivity formula to 25 d	legrees Celcius:	SC me SC(25)= {{T-25}				

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RECORDED BY:	Lou Duminuco		SAMPLE I	D:	092303M	W2	
SAMPLED BY:	C. Bove	SAMPLING EVENT/D			ATE:	9/23/2003	
COMPANY:	Sevenson		MONITOR	ING WELL:	MW-2		
· · · · ·			CONDITIO	N:	Good		
GROUNDWATER PU	RGE DATA	PURGE DA	\TE:	9/23/2003			
			46 **			LL GIBSON SI	
	FROM TOP OF RISER			(FT.)		RING WELLS	
DEPTH TO WATER F	ROM TOP OF RISER:			(FT.)		DIAMETER ST	
	WATER COLUMN:			(FT.)		EEL. WELL DE	EPTHS:
	2" DIA. WELL CONST	0.16	-	MW-1R	12.10'		
		ONE WELL VOLUME= 1.121			MW-2 MW-A3	12.13' 11.95' 12.75'	
PURGE METHOD: BOTTOM OF WELL/S	3x w/ parastaltic pump	and dedica OK/None	ated hose		MW-4 MW-5	13.75' 15.28'	
BOTTOM OF WELL/S PURGE START TIME		STOP TIM	E:	1325		•	
PURGE OBSERVATI		-					
FIELD PARAMETER	MEASUREMENTS						
		SPECIFIC					
WELL		CONDUCT	ΓΙνιτγ	TEMP.			
VOLUME	рН	umhos/cm)	2	(C OR F)	-	NOTES:	
1	6.8	1250		18.3		Sulfury sme	
2	6.9	1175		18.3		Clear/No Odo	
3	6.9	1176		18.5	<b>.</b>	Clear/NoOdo	Г
4				· · · · · ·			
5			<u></u>				
TOTAL VOLUME PU		gallons					
TUTAL VULUWE PU							
GROUNDWATER O	R SEDIMENT SAMPLIN	IG DATA:		SAMPLE [	DATE:	9/23/2003	
MEDIA: GROUNE		_		SAMPLE	TIME:	1330	
CREEK S		-					
LOCATION:	MW-2		<u> </u>	<u></u>			
SAMPLE METHOD:	Took sample using a	parastaltic p	oump and d	edicated ho	se.		
SAMPLING OBSER	VATIONS: Clear, no o	odor or shee	en				
QC SAMPLES TAKE	EN: MS/MSD s	samples we	re also take	<u>.</u>		<u> </u>	
OTHER OBSERVAT	TIONS/COMMENTS:	BHC's on	ly	6 x 1liter <u>c</u>	jlass ambe	er bottles were	taken.
	otivity formula to 05 de			SC measu {{T-25)(0.0			
Note: specific condu	ctivity formula to 25 deg	rees Celciu	5. UU(20)-	$u^{-20}(0.0)$			

CRA 8143 (1) AppD-GwsdForm

RECORDED BY:	Lou Duminuco		SAMPLE I	<b>D:</b>	092303M	W4
SAMPLED <u>BY:</u>	Lou Duminuco		SAMPLING	EVENT/	DATE:	9/23/2003
COMPANY:	Sevenson		MONITORI	NG WELL	.: <u>MW4</u>	
			CONDITIO	N:	Good	<u> </u>
GROUNDWATER P	URGE DATA	PURGE	DATE:	9/23/2003		
	M FROM TOP OF R	RISER:	13.7 <u>5</u>	(FT.)		LL GIBSON SITE RING WELLS ARE
DEPTH TO WATER	FROM TOP OF RI	SER:	7.02	(FT.)	2-INCH D	NAMETER STAIN-
	WATER COLUM		6.73	6.73 (FT.)		EEL. WELL DEPTHS:
	2" DIA. WELL CO		0.16		MW-1R	12.10'
	ONE WELL VOL	UME=	1.0768	(GALS)	MW-2 MW-A3	12.13' 11.95'
PURGE METHOD: BOTTOM OF WELL PURGE START TIM PURGE OBSERVAT	/SILT BUILDUP: IE: 1135	pump and dedi OK/None STOP TI	e	114	MW-4 MW-5	13.75' 15.28'
FIELD PARAMETER	R MEASUREMENT	S:				
WELL		SPECIFI CONDU	CTIVITY	TEMP.		NOTEO
VOLUME	<u>pH</u>	umhos/c		(C OR F)	_	NOTES:
1	7.4	1834		16.7	·····	Black water/Sulfur
2	7.1	1733		<u>16.4</u> 16.3	<u> </u>	Grey water Smell
3	7.1	1750		10.5		
4 5						<u> </u>
<u>_</u>	· · · · · ·	<u> </u>				
TOTAL VOLUME P	URGED:	3 gallons				
GROUNDWATER	OR SEDIMENT SAM	MPLING DATA		SAMPLE	DATE:	9/23/2003
	IDWATER XXX SEDIMENT			SAMPLE	TIME:	1150
LOCATION:	MW-4					
SAMPLE METHOD	: Took sample us	ing a parastalti	c pump and de	edicated h	ose.	
SAMPLING OBSEF	RVATIONS: Blac	k water came c	out at first, the	n turned gi	rey as purge	e continued.
QC SAMPLES TAK	(EN <u>: no</u>					
OTHER OBSERVA	TIONS/COMMENT	S: BHC's	only	Water als	so has a sul	lfury smell to it
Collected2 x 1 liter	glass amber bottles	•				
	uctivity formula to 2		ius: SC(25)=	SC meas {{T-25)(0		

CRA 8143 (1) AppD-GwsdForm

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				VI			
RECORDED BY:	Lou duminuco		SAMPLE I	D:	092303MV	N5	
SAMPLED BY:	Craig Bove		SAMPLING	EVENT/D	ATE:	9/23/2003	
COMPANY:	Sevenson		MONITOR	ING WELL:	MW5		
			CONDITIO	N:	Good		
GROUNDWATER PU	IRGE DATA	PURGE D	ATE:	9/23/2003			TC
DEPTH TO BOTTOM	FROM TOP OF RISER	:	15.28	(FT.)		L GIBSON SI	
DEPTH TO WATER F	ROM TOP OF RISER:		9	(FT.)	2-INCH D	IAMETER STA	AIN-
	WATER COLUMN:		6.02	(FT.)	LESS STE	EEL. WELL DE	EPTHS:
	2" DIA. WELL CONST.	ANT:	0.16		MW-1R	12.10'	
	ONE WELL VOLUME	=		(GALS)	MW-2 MW-A3		
PURGE METHOD: BOTTOM OF WELL/S PURGE START TIME PURGE OBSERVAT	E: 1100	OK/None STOP TIN		1125	MW-4 MW-5	13.75' 15.28'	
FIELD PARAMETER	MEASUREMENTS:						
WELL VOLUME	рН	SPECIFIC CONDUC umhos/cm	TIVITY	TEMP. (C OR F)	-	NOTES:	
1	6.6	2550		15.9		Murky	
2	6.4	2520		15	<u> </u>	murky	17
3	6.6	2670		14.7		clear	31
4	<u></u>						
55							
TOTAL VOLUME PL	JRGED: 3	3 gallons					
GROUNDWATER O	R SEDIMENT SAMPLIN	NG DATA:		SAMPLE	DATE:	9/23/2003	
MEDIA: GROUNI	DWATER XXX	_		SAMPLE	TIME:	1130	
	SEDIMENT	-					
LOCATION:	MW5					<u> </u>	
SAMPLE METHOD:	Took sample using a	parastaltic	pump and d	edicated ho	)Se		
SAMPLING OBSER	VATIONS: Clear wate	er with no c	olor				
QC SAMPLES TAK	EN: No.		<u></u>		<u> </u>		
OTHER OBSERVA	TIONS/COMMENTS:	BHC's or	nly	Collected	2 x 1liter g	lass amber	
Note: specific condu	uctivity formula to 25 deg	rees Celciu	ıs: SC(25)=	SC meas {{T-25)(0.			

CRA 8143 (1) AppD-GwsdForm



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

RECORDED BY:	CORDED BY: Lou Duminuco SAMPL		SAMPLE	IPLE ID: 092403DS			
SAMPLED BY:	C. Bove	-	SAMPLING EVENT/DATE: 9/24/2003			9/24/2003	
COMPANY:	Sevenson	-	MONITORING WELL: Downstream sedimen				
		-	CONDITI				•
GROUNDWATER P	URGE DATA	PURGE D	ATE:	DNA			
					NOTE: AL	L GIBSON SITE	
DEPTH TO BOTTO	M FROM TOP OF RISEF	र:	DNA	(FT.)	MONITOF	RING WELLS AR	E .
DEPTH TO WATER	FROM TOP OF RISER:		DNA	(FT.)	2-INCH D	IAMETER STAIN	-
	WATER COLUMN:		DNA	(FT.)	LESS STE	EEL. WELL DEP	THS:
	2" DIA. WELL CONST	ANT:	DNA		MW-1R	12.10'	
	ONE WELL VOLUME	=	DNA (GALS)		MW-2 MW-A3	12.13' 11.95'	
PURGE METHOD: BOTTOM OF WELL PURGE START TIN PURGE OBSERVA <sup>-</sup>	IE:	DNA STOP TIM	E:		MW-4 MW-5	13.75' 15.28'	
FIELD PARAMETER	R MEASUREMENTS:						
WELL VOLUME			SPECIFIC CONDUCTIVITY umhos/cm)		_	NOTES:	,
1							
2							
3							
4							
5		<u> </u>	······		· · ·		
TOTAL VOLUME P	URGED: DNA	gallons					
GROUNDWATER (	DR SEDIMENT SAMPLIN	NG DATA:		SAMPLE	DATE:	9/24/2003	
MEDIA: GROUN	_		SAMPLE	IPLE T <u>IME: 1015</u>			
CREEK	SEDIMENT XXX	-					
LOCATION:	Creek bed Down stre	am of landf	ill, in line w	ith 3rd steel	fence posts	<u>s, 3/4 way ac</u> ross	steam
SAMPLE METHOD	Composite sample fro	om sedimer	it trap plan	ted 1 year a	go		
SAMPLING OBSER	VATIONS: Brown, bla	ack/grey mu	d				
QC SAMPLES TAK	EN <u>: no</u>						
OTHER OBSERVA	TIONS/COMMENTS:	BHC's on	ly	1 x 4 oz. E	Bottles colle	cted	
Note: specific condu	uctivity formula to 25 deg	rees Celcius	s: SC(25)=	SC measu {{T-25)(0.1			

CRA 8143 (1) AppD-GwsdForm

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

RECORDED BY:	Lou Duminuco		SAMPLE I	D:	092403US	& 092403BD
SAMPLED BY:	C. Bove	-	SAMPLIN	G EVENT/D	ATE:	9/24/2003
COMPANY:	Sevenson	-		·	·	sediment sample
<u> </u>		-	CONDITIC			
GROUNDWATER PU	RGE DATA	PURGE D/		DNA		
				2.0.1	NOTE: AL	L GIBSON SITE
DEPTH TO BOTTOM	FROM TOP OF RISEF	ર:	DNA	(FT.)	MONITOR	ING WELLS ARE
DEPTH TO WATER F	ROM TOP OF RISER:		DNA	(FT.)	2-INCH DI	AMETER STAIN-
	WATER COLUMN:		DNA	(FT.)	LESS STE	EL. WELL DEPTHS:
	2" DIA. WELL CONST	ANT:	DNA		MW-1R	12.10'
	ONE WELL VOLUME	=	DŇA	(GALS)	MW-2 MW-A3	12.13' 11.95'
PURGE METHOD: BOTTOM OF WELL/S PURGE START TIME PURGE OBSERVATIO		DNA STOP TIM	E:		MW-4 MW-5	13.75' 15.28'
FIELD PARAMETER	MEASUREMENTS:					
WELL VOLUME_	рН	SPECIFIC CONDUCT umhos/cm)		TEMP. (C OR F)	_	NOTES:
1						· · · · · ·
2	. <u></u>					
3			. <u></u>			
4						
5						
TOTAL VOLUME PUI	RGED: DNA	gallons				
GROUNDWATER OF	R SEDIMENT SAMPLIN	IG DATA:		SAMPLE	DATE:	9/24/2003
MEDIA: GROUND CREEK SI	WATER	-		SAMPLE T	IME:	1000
LOCATION:	Creek bed Upstream	- of landfill, in	line with st	eel gate po	sts, 1/2 way	across steam
SAMPLE METHOD:	Composite sample fro	om sedimen	t trap plante	ed 1 year ag	10	
SAMPLING OBSERV	ATIONS: Brown, bla	ick/grey muc	ł		•	
QC SAMPLES TAKE	N: Blind Dupl	icate sample	e taken labe	led 092303	BD on COC	<u>).</u>
OTHER OBSERVATI	ONS/COMMENTS:	BHC's only	y	2 x 4 oz. B	ottles collec	sted
Note: specific conduc	tivity formula to 25 degr	ees Celcius	: SC(25)=	SC measu {{T-25)(0.0		

CRA 8143 (1) AppD-GwsdForm

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

PERSON CALIBRATING METERS: Lou Duminuco pH METER USED: MANUFACTURER: Oakton MODEL:PH Tester 2 IDENTIFICATION/CONTROL NUMBER:	DATE: 9/23/2003	SEMI-AN	NUAL SAMPLING EV	ENT: S	pring 2003
MODEL:PH Tester 2 IDENTIFICATION/CONTROL NUMBER: CALIBRATION STANDARDS USED: STANDARD 7.00 METER READ:6.98 STANDARD 4.00 METER READ:4.01 STANDARD 10.00 METER READ:4.01 STANDARD 10.00 METER READ:4.01 STANDARD 10.00 METER READ:4.01 METER CALIBRATION COMMENTS: SPECIFIC CONDUCTIVITY METER USED: MANUFACTURER:6akton MODEL:Specific Cond. Meter IDENTIFICATION/CONTROL NUMBER:55607-10 CALIBRATION STANDARDS USED: STANDARD 0 READ:32 (STANDARD 0 USED:AIR,DIWATER; STANDARDREAD:13 STANDARDREAD:13 STANDARDREAD:13 STANDARDREAD:13 STANDARDREAD:13 STANDARDREAD:13 STANDARDREAD:13 STANDARDREAD:13 STANDARDREAD:13 STANDARDREAD:13 STANDARDREAD:13 STANDARDREAD:13 STANDARDREAD:13 STANDARDREAD:13 STANDARDREAD:13 STANDARDREAD:13 STANDARDREAD:13 STANDARDREAD:13 STANDARDREAD:13 STANDARDREAD:13 STANDARD	PERSON CALIBRATIN	IG METER <u>S:</u>	Lou Duminuco		
STANDARD 7.00 METER READ:       6.98         STANDARD 4.00 METER READ:       4.01         STANDARD 10.00 METER READ:       10.02         METER CALIBRATION COMMENTS:       10.02         SPECIFIC CONDUCTIVITY METER USED:       MANUFACTURER:       Oakton         MODEL:       Specific Cond. Meter       10ENTIFICATION/CONTROL NUMBER:       35607-10         CALIBRATION STANDARDS USED:       STANDARD 0 READ:       32       13         STANDARD 0 READ:       1413       READ:       13         STANDARD       1413       READ:       13         STANDARD       1413       READ:       13         STANDARD       TYPE:       Fisher Scientific Digital       MANUFACTURER:       F/S         IDENTIFICATION/CONTROL NUMBER:       21115741       COMMENTS: (DOES THERMOMETER TEMPERATURE AGREE WITH SPECIFIC CONDUCTIVITY METER TEMPERATURE ?) yes	ĺ	MODEL:	pH Tester 2		
STANDARD 4.00 METER READ:       4.01         STANDARD 10.00 METER READ:       10.02         METER CALIBRATION COMMENTS:		CALIBRATION STAN	DARDS USED:		
MANUFACTURER:       Oakton         MODEL:       Specific Cond. Meter         IDENTIFICATION/CONTROL NUMBER:       35607-10         CALIBRATION STANDARDS USED:       STANDARD 0 READ:         STANDARD 0 READ:       32         (STANDARD 0 USED:       AIR,DIWATER]         STANDARD       1413         READ:       13         STANDARD       READ:         METER CALIBRATION COMMENTS:	METER CA	STANDAF STANDAF	RD 4.00 METER REA RD 10.00 METER REA	D:	4.01
(STANDARD 0 USED:AIR,DIWATER) STANDARD1413READ:13 STANDARDREAD: METER CALIBRATION COMMENTS: THERMOMETER USED: TYPE: Fisher Scientific Digital MANUFACTURER: F/S IDENTIFICATION/CONTROL NUMBER: 21115741 COMMENTS: (DOES THERMOMETER TEMPERATURE AGREE WITH SPECIFIC CONDUCTIVITY METER TEMPERATURE ?) yes		MANUFACTURER: MODEL: IDENTIFICATION/CO	Oakton Specific Cond. Mete DNTROL NUMBER:	er	
MANUFACTURER: <u>F/S</u> IDENTIFICATION/CONTROL NUMBER: <u>21115741</u> COMMENTS: (DOES THERMOMETER TEMPERATURE AGREE WITH SPECIFIC CONDUCTIVITY METER TEMPERATURE ?) <u>yes</u>	METER CA	STANDAR STANDAR	(STANDARD 0 USE RD1413 RD	ED:AIF READ <u>:</u>	
COMMENTS: (DOES THERMOMETER TEMPERATURE AGREE WITH SPECIFIC CONDUCTIVITY METER TEMPERATURE ?) yes	THERMOMETER USE	MANUFA	CTURER: <u>F/S</u>		21115741
OTHER:		COMMENTS: (DOES	THERMOMETER TE	EMPERATURE	AGREE WITH
OTHER INSTRUMENTS USED: TYPE: MANUFACTURER: IDENTIFICATION/CONTROL NUMBER:	OTHER INSTRUMEN	MANUFA	CTURER:		
CALIBRATIONS PERFORMED:		CALIBRATIONS PER	RFORMED:		
OTHER CALIBRATION COMMENTS:	OTHER CALIBRATIO	N COMMENTS:		<b>.</b>	

## **APPENDIX 3**

#### QUARTERLY SITE INSPECTION FORMS

July - December 2003

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	QUARTER	RLY AND ALL OTHER	R SITE INSPECTIONS
DATE: 6/30/2003	_TIME:	900	
NSPECTO <u>R: M. Walke</u>	r	COMPANY:	Sevenson
WEATHER:			
REASON FOR INSPECTION (Q	UARTERL	Y OR OTHER <u>):</u>	Re-calibrate and test flow meter
			•
GENERAL SITE CONDITIONS: (Note: For general site	te conditior		LE A=ACCEPTABLE are areas (number,size), cracks,
subsidence (sinking)	, ponded w	ater, stressed vegeta	tion, soil discoloration or seeps,
			of locks, gates open or damaged, her unusual occurences.)
		COMM	
ACCESS ROAD	А		
COVER VEGETATION	A		
TREES	A		
LITTER	Α		
EROSION (CAP)	<u>A</u>	<u> </u>	
EROSION (BANK)	<u>A</u>		·····
SECURITY:		•	
FENCE/LOCKS	А		
PIEZOMETERS/LOCKS	A		
MONITORING WELLS/LOCKS	A		
MANHOLES/LIDS/LOCKS	A		
ELECTRICAL PANEL	Α		
ADDITIONAL COMMENTS:	Met ons	ite with Steve Franks	from Carrier Controls to re-calibrate
	<u></u>		
and reset the flowmeter and che	ck out the	auto dialer function.	
		<u></u>	

•

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

DATE: 9/23/2003	TIME:	1030	HER SITE INSPECTIONS
· · ·	-		
INSPECTOR: Craig Bov	e	COMPANY:	Sevenson
WEATHER: Cloudy 62	F		
REASON FOR INSPECTION (QI	UARTERL	Y OR OTHER <u>):</u>	Fall Sample Event
GENERAL SITE CONDITIONS: (Note: For general sit	e conditior		ABLE A=ACCEPTABLE of bare areas (number,size), cracks,
subsidence (sinking),	ponded w	ater, stressed veg	etation, soil discoloration or seeps,
and rodent burrows. missing signs or evide	For site se ence of va	ecurity, note absen ndalism. Note any	nce of locks, gates open or damaged, v other unusual occurences.)
			MMENTS
ACCESS ROAD	А		
	A		
TREES	A		
LITTER	<u>A</u>		
EROSION (CAP)	<u>A</u>		
EROSION (BANK)	Α		
SECURITY:			
FENCE/LOCKS	А		
I ENCE/ECONO	<u>A</u>		
PIEZOMETERS/LOCKS			
PIEZOMETERS/LOCKS	<u>A</u>		· · · · · · · · · · · · · · · · · · ·
MONITORING WELLS/LOCKS	A		
MONITORING WELLS/LOCKS MANHOLES/LIDS/LOCKS ELECTRICAL PANEL	A A		
MONITORING WELLS/LOCKS MANHOLES/LIDS/LOCKS	A A		
MONITORING WELLS/LOCKS MANHOLES/LIDS/LOCKS ELECTRICAL PANEL	A A		
MONITORING WELLS/LOCKS MANHOLES/LIDS/LOCKS ELECTRICAL PANEL	A A		
MONITORING WELLS/LOCKS MANHOLES/LIDS/LOCKS ELECTRICAL PANEL	A A		
MONITORING WELLS/LOCKS MANHOLES/LIDS/LOCKS ELECTRICAL PANEL	A A		
MONITORING WELLS/LOCKS MANHOLES/LIDS/LOCKS ELECTRICAL PANEL	A A		

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



	1300	
lallian		
/alker	COMPANY:	Sevenson
:		
ARTERLY	OR OTHER):	Quarterly Inspection (4th)
onded wat	note existence of er, stressed veget urity, note absence	ABLE A=ACCEPTABLE bare areas (number,size), cracks, tation, soil discoloration or seeps, e of locks, gates open or damaged, ther unusual occurences.)
	CON	MMENTS
Α		
A		
A		
<b>A</b> ·		
<u>A</u>	<u> </u>	
A		
A		
A		
<u>A</u>		
<u>A</u>	<u> </u>	
Α	<u> </u>	
A fence p	anel had blown do	own in a wind storm this week, I
both screw	e and nails. It she	hand hold now
both Selew	is, and hans. It one	
	·····	
	······································	
	conditions         ponded wat         for site sect         nce of vance         A         A         A         A         A         A         A         A         A         A         A         A         A         A         A         A         A         A         A         A         A         A         A         A         A         A         A         A         A         A         A         A         A         A         A         A fence p	A       CON         A       CON

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#### QUARTERLY GROUNDWATER ELEVATION /PUMPING FORMS

July - December 2003

# 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

DATE:	9/23/2003		5		
INSPECTOR:	Craig Bove	_COMPANY:	Sevenson		
WEATHER:	Cloudy 65F				
PIEZOMETER	RISER ELEVATION (INSIDE CASING)	DEPTH TO WATER (FT.)	WATER ELEVATION	COMMENTS	
P-1	572.72	7.07	565.65		
P-2	574.89	9.59	565.3		
P-3	574.16	8.26	565.9	<u> </u>	
P-4	576.14	10.85	565.29		
P-5	575.05	7.62	567.43	<u>.</u>	
P-6	578.28	11.15	567.13		
MANHOLE A	575.22	10.43	564.79		
MANHOLE B	577.34	12.82	564.52		
Niagara Tuscarora in Manhole B (and water distance fro (Note: riser elevat	a Road sanitary sewer line by extension Manhole A) m the manhole rim should ions (re)surveyed Septem	by a float controlled so below an elevation of not be <u>less</u> than 12.41 ber, 1999 by Wendel S	ump pump which n 565 ft. above mear ft. at Manhole B a	automatically to the Town of naintains groundwater eleva n sea level. Therefore, Depl and 10.22 ft. at Manhole A.	tion
ADDITIONAL COI	MMENTS/OBSERVATION	15:			
1					

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

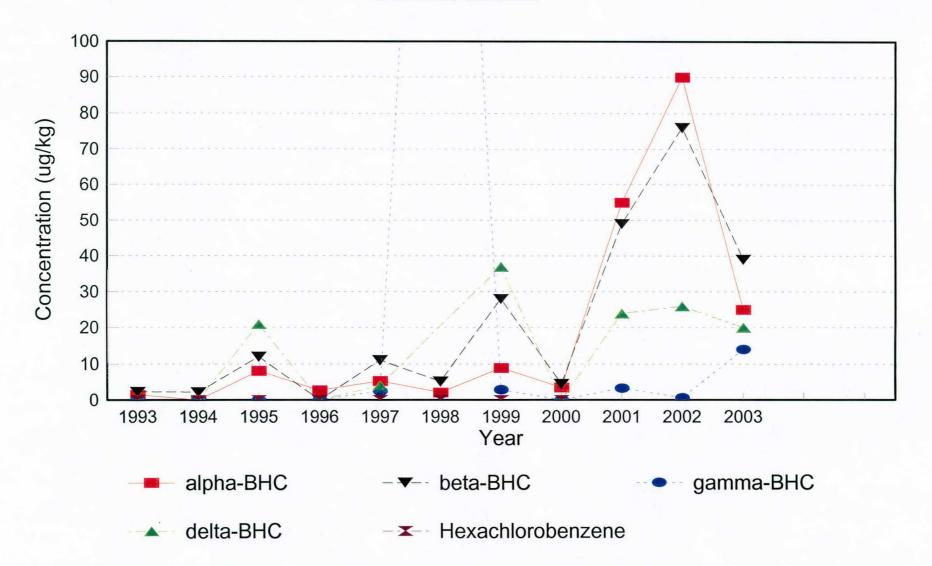
# THIS FORM TO BE USED FOR ALL QUARTERLY PIEZOMETER AND MANHOLE GROUND-WATER ELEVATION MEASURING EVENTS

DATE:	11/19/2003	TIME:1300	)	
INSPECTO <u>R:</u>	Michael Walker	COMPANY:	Sevenson	
WEATHER:	Rainy and 49 F			
PIEZOMETER	RISER ELÉVATION (INSIDE CASING)	DEPTH TO WATER (FT.)	WATER ELEVATION	COMMENTS
P-1	572.72	6.99	565.73	
P-2	574.89	9.6	565.29	<u> </u>
P-3	574.16	8	566.16	
P-4	576.14	10.95	565.19	
P-5	575.05	6.7	568.35	
P-6	578.28	10.5	567.78	
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)

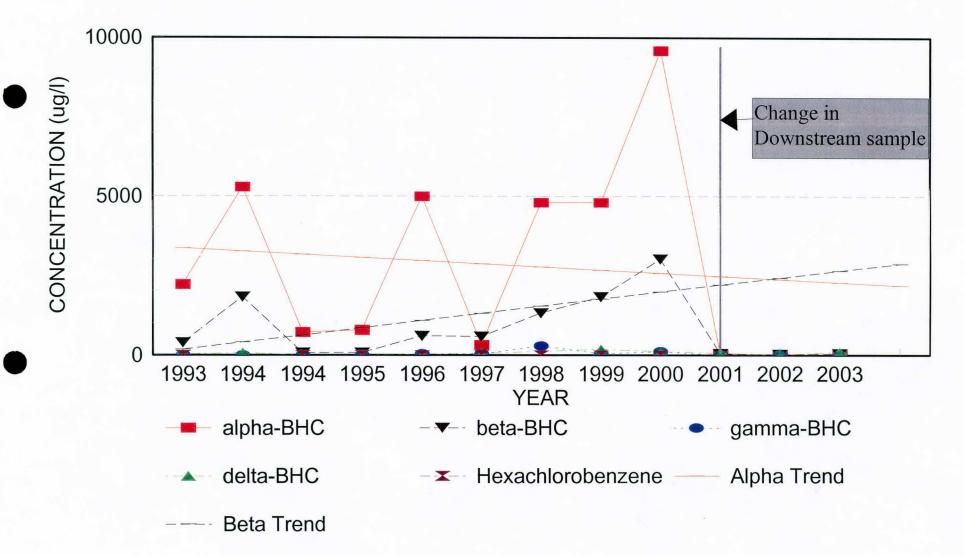
ADDITIONAL COMMENTS/OBSERVATIONS:

# OLIN GIBSON SITE #932063 UPSTREAM SEDIMENT



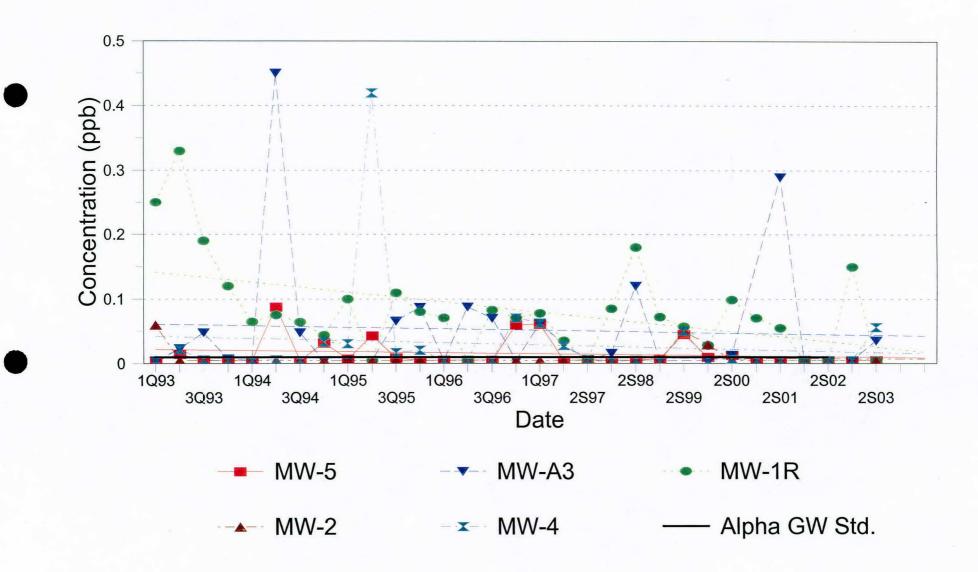
# **OLIN GIBSON SITE #932063**

DOWNSTREAM SEDIMENT

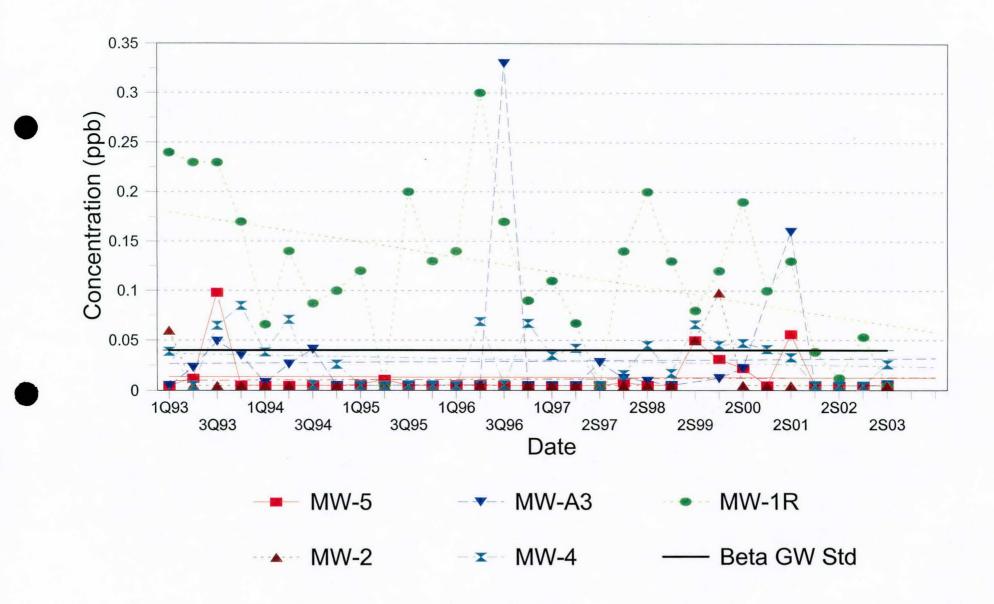


# Gibson Site #932063

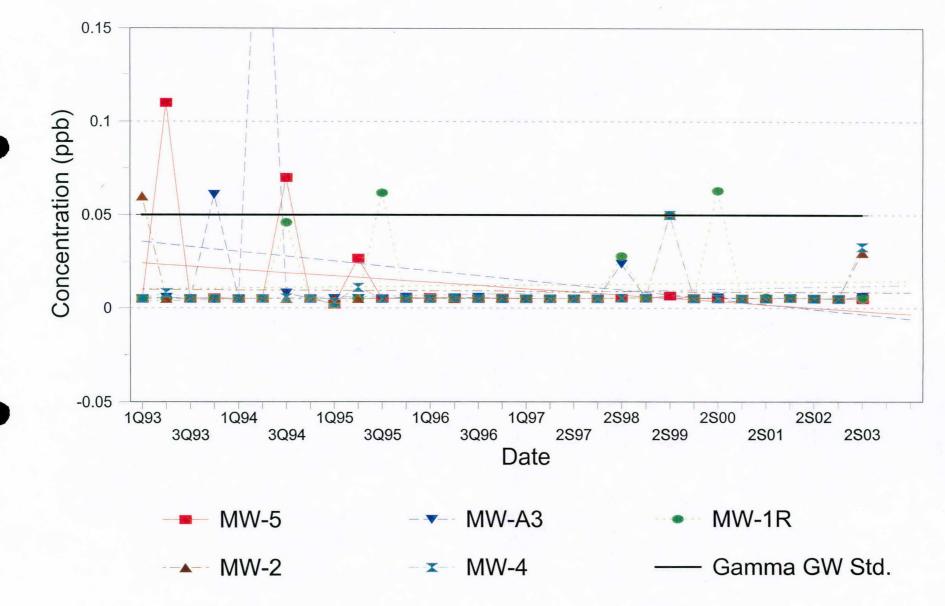
alpha - BHC



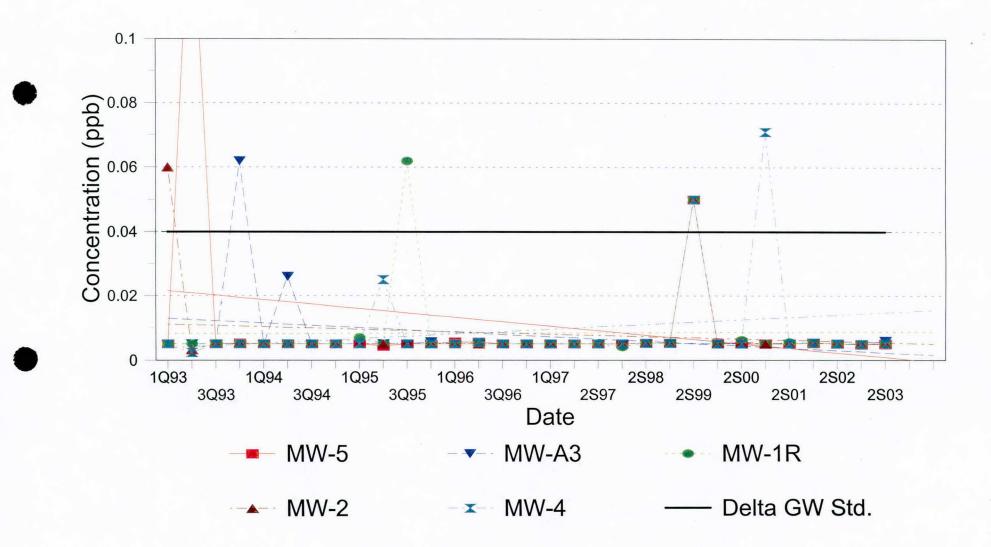
# Gibson Site #932063 beta - BHC



# Gibson Site #932063 gamma - BHC



# Gibson Site #932063 delta -BHC





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

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

June 6, 2003

RECEIVED

JUN 1 1 2003



NYSDEC - REG. 9 FOIL REL\_UNREL

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

Subject: Charles Gibson Site (Pine and Tuscarora Site) Niagara Falls, New York NYSDEC Registry No. 9-32-063 Semi-Annual Ground Water Sampling Report April 2003

Dear Mr. Hinton:

1

In accordance with the approved sampling plan for the above referenced Site, enclosed are three copies of the first Semi-Annual Ground Water Report, April 20032. 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 laboratory data summary package (Appendix A), and the field logs (Appendix B) for this sampling event are also attached. The Quarterly Site Inspection Forms and the Quarterly Ground Water Elevation Forms are included in Appendices C and D respectively. The analytical data has been validated and found to be acceptable.

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

Sincerely, OLIN CORPORATION Garraine M. Miller

Lorraine M. Miller Principal Environmental Specialist

CC:

C.M. Richards (letter only, via e-mail) T. E.Tirabassi (letter only, via e-mail) M. Walker (1 copy)

dm:sites/P&T Gibson//ENV 4060/O&M/SemiAnnual Sampling April 2003

#### TABLE 1

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

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

#### April 1-2, 2003

	MW-1R	MW-1R (dup)	MW-2	MW-4	MW-5	MW-A3
PARAMETER						
alpha-BHC	015J	.014J	.050U	.049U	.048U	.048U
beta-BHC	.053	.052	.050U	.049U	.048U	.048U
delta-BHC	.049U	.049U	.050U	.049U	.048U	.048U
gamma-BHC	.049U	.049U	.050U	.049U	.048U	.048U
Hexachlorobenzene	NR	NR	NR	NR	NR	NR

#### Notes:

Concentration in ug/l

U Undetected at associated value

J Estimated value

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

NR Not required for this event.

Next sampling for hexachlorobenzene is scheduled for October 2004.

dm:sites/P&T Gibson//ENV 4060/O&M/SemiAnnual Sampling April 2003

#### TABLE 2

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

#### ANALYTICAL RESULTS SUMMARY ANNUAL LEACHATE SAMPLING

#### April 1, 2003

	MANHOLE B
PARAMETER	
alpha-BHC	.048U
beta-BHC	.33
delta-BHC	.60
gamma-BHC	.048U
Hexachlorobenzene	· NR

#### Notes:

Concentration in ug/l

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

Data has been validated and judged acceptable as qualified.

NR Not required for this event.

Next sampling for hexachlorobenzene is scheduled for October 2005.

#### APPENDIX A

#### LABORATORY DATA SUMMARY PACKAGE

#### SEMI-ANNUAL GROUND WATER SAMPLING

#### AND

#### ANNUAL LEACHATE SAMPLING OF MANHOLE B

#### **APRIL 2003**

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

dm:sites/P&T Gibson//ENV 4060/O&M/SemiAnnual Sampling April 2003



#### ANALYTICAL REPORT

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Job#: A03-3028

STL Project#: NY3A9025 Site Name: OLIN Corporation - Charles Gibson site Task: Olin Corp. - Charles Gibson Site

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

CC: Mr. Michael Walker

STL Buffalo

Brian **d** Fischer Project Manager

Meg Dolan Analyst

04/17/2003

This report contains

 $\underline{/2}$  pages which are individually numbered.

Severn Trent Laboratories, Inc. STL Buffalo • 10 Hazelwood Drive, Suite 106, Amherst, NY 14228 Tel 716 691 2600 Fax 716 691 7991 • www.stl-inc.com

# SAMPLE DATA SUMMARY PACKAGE

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## SAMPLE SUMMARY

· · · · · · · · · · · · · · · · · · ·	SAMPLED	RECEIVED
LAB SAMPLE ID CLIENT SAMPLE ID	DATE TIME	DATE TIME
A3302801 MHB-040103	04/01/2003 10:30	04/02/2003 13:20
A3302802 MW-1R-040103	04/01/2003 11:50	04/02/2003 13:20
A3302803 MW-2-040103	04/01/2003 15:00	04/02/2003 13:20
A3302803MS MW-2MS-040103	04/01/2003 15:00	04/02/2003 13:20
A3302803SD MW-2SD-040103	04/01/2003 15:00	04/02/2003 13:20
A3302804 MW-4-040103		04/02/2003 13:20
A3302805 MW-5-040103		04/02/2003 13:20
A3302806 MW-7-040103		04/02/2003 13:20
A3302807 MW-8-040203	04/02/2003 11:00	04/02/2003 13:20
A3302808 MWA-3-040203	04/02/2003 10:30	04/02/2003 13:20

#### METHODS SUMMARY

#### Job#: <u>A03-3028</u>

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

	ANALYTICAL
PARAMETER	METHOD
ASP 2000- METHOD 8081 BHC'S	ASP00 8081

#### References:

ASP00

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

#### NON-CONFORMANCE SUMMARY

#### Job#: <u>A03-3028</u>

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

#### General Comments

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

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

According to 40CFR Part 136.3, pH, Chlorine Residual and Dissolved Oxygen 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

A03-3028

Sample Cooler(s) were received at the following temperature(s); 2 @ 2.0 °C All samples were received in good condition.

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

4-17-03

Date

#### NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION

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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-040103	A3302801	-	-	-	ASP00	-		-
MW-1R-040103	A3302802	-	. –	-	ASP00	-	-	-
MW-2-040103	A3302803	-	-	-	ASP00	-	-	-
MW-4-040103	A3302804	-	-	-	ASP00	-	-	-
MW-5-040103	A3302805	-		_	ASP00	-	-	_
MW-7-040103	A3302806	-	-	_	ASP00	-		-
MW-8-040203	A3302807	-	-	-	ASP00	-	-	-
MWA-3-040203	A3302808	-		-	ASP00	-	_	-

NYSDEC-1

#### 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-040103	LEACH	04/01/2003	04/02/2003	4/5/2003	4/9/2003
MW-1R-040103	GW	04/01/2003	04/02/2003	4/5/2003	4/9/2003
MW-2-040103	GW	04/01/2003	04/02/2003	4/5/2003	4/9/2003
MW-4-040103	GW	04/01/2003	04/02/2003	4/5/2003	4/9/2003
MW-5-040103	GW	04/01/2003	04/02/2003	`    4/5/2003	4/9/2003
MW-7-040103	GW	04/01/2003	04/02/2003	4/5/2003	4/9/2003
MW-8-040203	GW	04/02/2003	04/02/2003	4/5/2003	4/9/2003 <sup>.</sup>
MWA-3-040203	GW	04/02/2003	04/02/2003	4/5/2003	4/9/2003

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### 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-040103	LEACH	ASP00	SEPF	AS REQUIRED	AS REQUIRED
MW-1R-040103	GW	ASP00	SEPF	AS REQUIRED	AS REQUIRED
MW-2-040103	GW	ASP00	SEPF	AS REQUIRED	AS REQUIRED
MW-4-040103	GW	ASP00	SEPF	AS REQUIRED	AS REQUIRED
MW-5-040103	GW	ASP00	SEPF	AS REQUIRED	AS REQUIRED
MW-7-040103	GW	ASP00	SEPF	AS REQUIRED	AS REQUIRED
MW-8-040203	GW	ASP00	SEPF	AS REQUIRED	AS REQUIRED
MWA-3-040203	GW	ASPOÓ.	SEPF	AS REQUIRED	AS REQUIRED

NYSDEC-6

## 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/Arocior target analyte when there is greater than 25% difference for detected concentrations between the two GC columns. The lower of the two values is reported on the data page and flagged with a "P".
- A This flag indicates that a TIC is a suspected aldol-condensation product.
- Indicates coelution.
- Indicates analysis is not within the quality control limits.

#### INORGANIC DATA QUALIFIERS

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

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

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Client No.

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

Lab Name: <u>STL Buffalo</u> Contra	Ct:
Lab Code: <u>RECNY</u> Case No.: SAS No.	: SDG No.:
Matrix: (soil/water) <u>WATER</u>	Lab Sample ID: <u>A3302801</u>
Sample wt/vol: <u>1030.00</u> (g/mL) <u>ML</u>	Lab File ID: <u>RA24460.TX0</u>
* Moisture: decanted: (Y/N) N	Date Samp/Recv: <u>04/01/2003</u> 04/02/2003
Extraction: (SepF/Cont/Sonc/Soxh): <u>SEPF</u>	Date Extracted: 04/05/2003
Concentrated Extract Volume: <u>10000</u> (uL)	Date Analyzed: 04/09/2003
Injection Volume: <u>1.00</u> (uL)	Dilution Factor:1.00
JPC Cleanup: (Y/N) <u>N</u> pH: 7.00	Sulfur Cleanup: (Y/N) <u>N</u>
CAS NO. COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) <u>UG/L</u> Q
319-84-6alpha-BHC 319-85-7beta-BHC 319-86-8delta-BHC 58-89-9gamma-BHC (Lindane)	0.048 U 0.33 0.60 0.048 U

OLIN CORPORATION OLIN CORPORATION - CHARLES GIBSON SITE ASP 2000- METHOD 8081 EHC'S 12/173

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Client No.

ANALYSIS DATA SHEET

Lab Name: <u>STL Buffalo</u> Contract:	MW-1R-040103
	······································
Lab Code: <u>RECNY</u> Case No.: SAS No.: _	SDG No.:
Matrix: (soil/water) <u>WATER</u>	Lab Sample ID: <u>A3302802</u>
Sample wt/vol: 1025.00 (g/mL) ML	Lab File ID: <u>RA24461.TX0</u>
% Moisture: decanted: (Y/N) <u>N</u>	Date Samp/Recv: 04/01/2003 04/02/2003
Extraction: (SepF/Cont/Sonc/Soxh): <u>SEPF</u>	Date Extracted: <u>04/05/2003</u>
Concentrated Extract Volume: 10000(uL)	Date Analyzed: <u>04/09/2003</u>
Injection Volume: <u>1.00</u> (uL)	Dilution Factor: <u>1.00</u>
GPC Cleanup: (Y/N) <u>N</u> pH: <u>7.00</u>	Sulfur Cleanup: (Y/N) N
CAS NO. COMPOUND	ONCENTRATION UNITS: (ug/Lorug/Kg) <u>UG/L</u> Q
319-84-6alpha-BHC 319-85-7beta-BHC 319-86-8delta-BHC 58-89-9gamma-BHC (Lindane)	0.015 J 0.053 0.049 U 0.049 U

OLIN CORPORATION

# 13/173

Client No.

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

		MW-2-040103
Lab Name: <u>STL Buffalo</u> Contract	:	
Lab Code: RECNY Case No.: SAS No.:	SDG No.:	
Matrix: (soil/water) WATER	Lab Sample ID:	<u>A3302803</u>
Sample wt/vol: <u>1000.00</u> (g/mL) ML	Lab File ID:	RA24462.TX0
% Moisture: decanted: $(Y/N)$ N	Date Samp/Recv:	04/01/2003 04/02/2003
Extraction: (SepF/Cont/Sonc/Soxh): SEPF	Date Extracted:	04/05/2003
Concentrated Extract Volume: 10000 (uL)	Date Analyzed:	04/09/2003
Injection Volume: <u>1.00</u> (uL)	Dilution Factor:	1.00
GPC Cleanup: (Y/N) N pH: 7.00	Sulfur Cleanup:	(Y/N) <u>N</u>
	CONCENTRATION UNITS: (ug/L or ug/Kg) <u>UG/L</u>	Q
319-84-6alpha-BHC 319-85-7beta-BHC 319-86-8delta-BHC 58-89-9gamma-BHC (Lindane)	0.050 0.050 0.050 0.050	บ บ

FORM I - GC EXT

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Client No.

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

Lab Name: <u>SIL Buffalo</u> Co	ontract:	MW-4-040103
Lab Code: <u>RECNY</u> Case No.: SAS	S No.: SDG No.:	
Matrix: (soil/water) <u>WATER</u>	Lab Sample ID:	<u>A3302804</u>
Sample wt/vol: _ <u>1025.00</u> (g/mL) <u>ML</u>	Lab File ID:	RA24465.TX0
* Moisture: decanted: (Y/N) $\underline{N}$	Date Samp/Recv:	04/01/2003 04/02/2003
Extraction: (SepF/Cont/Sonc/Soxh): <u>SEPF</u>	Date Extracted:	04/05/2003
Concentrated Extract Volume: <u>10000</u> (uL)	Date Analyzed:	04/09/2003
Injection Volume: <u>1.00</u> (uL)	Dilution Factor:	1.00
GPC Cleanup: (Y/N) <u>N</u> pH: <u>6.00</u>	Sulfur Cleanup:	(Y/N) <u>N</u>
CAS NO. COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) <u>UG/L</u>	Q

319-84-6alpha-BHC	0.049	U	
319-85-7beta-BHC	0.049	U	
319-86-8delta-BHC	0.049	Ū	ł
58-89-9gamma-BHC (Lindane)	0.049	υ	l
			1

15/173

Client No.

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

Lab Name: <u>STL Buffalo</u> Contra	MW-5-040103	
Lab Code: <u>RECNY</u> Case No.: SAS No.	SDG No.:	
Matrix: (soil/water) WATER	Lab Sample ID: A3302805	
Sample wt/vol: <u>1030.00</u> (g/mL) <u>ML</u>	Lab File ID: RA24466.TX0	
& Moisture: decanted: (Y/N) $\underline{N}$	Date Samp/Recv: 04/01/2003 04/02/2	2003
Extraction: (SepF/Cont/Sonc/Soxh): SEPF	Date Extracted: <u>04/05/2003</u>	
Concentrated Extract Volume: 10000(uL)	Date Analyzed: 04/09/2003	
Injection Volume: <u>1.00</u> (uL)	Dilution Factor:1.00	
JPC Cleanup: (Y/N) N pH: 6.00	Sulfur Cleanup: (Y/N) N	
CAS NO. COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) <u>UG/L</u> Q	
319-84-6alpha-BHC 319-85-7beta-BHC 319-86-8delta-BHC 58-89-9gamma-BHC (Lindane)	0.048 U 0.048 U 0.048 U 0.048 U 0.048 U	

 $\sim$  ·

OLIN CORPORATION

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

Lab Name: <u>STL_Buffalo</u> Contrac	t:	MW-7-040103
Lab Nalle: <u>SID Bullato</u> Contrac		
Lab Code: <u>RECNY</u> Case No.: SAS No.:	SDG No.:	
Matrix: (soil/water) <u>WATER</u>	Lab Sample ID:	<u>A3302806</u>
Sample wt/vol: <u>1020.00</u> (g/mL) ML	Lab File ID:	RA24467.TX0
% Moisture: decanted: (Y/N) N	Date Samp/Recv:	04/01/2003 04/02/2003
Extraction: (SepF/Cont/Sonc/Soxh): <u>SEPF</u>	Date Extracted:	04/05/2003
Concentrated Extract Volume: 10000(uL)	Date Analyzed:	04/09/2003
Injection Volume: <u>1.00</u> (uL)	Dilution Factor:	1.00
SPC Cleanup: (Y/N) <u>N</u> pH: <u>6.00</u>	Sulfur Cleanup:	(Y/N) <u>N</u>
CAS NO. COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) <u>UG/L</u>	Q
319-84-6alpha-BHC 319-85-7beta-BHC 319-86-8delta-BHC 58-89-9gamma-BHC (Lindane)	0.014 0.052 0.049 0.049	J U U

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Client No.

# 18/173

Client No.

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

MWA-3-040203 Lab Name: STL Buffalo Contract: Lab Code: <u>RECNY</u> Case No.: \_\_\_\_ SAS No.: \_\_\_\_ SDG No.: Matrix: (soil/water) WATER Lab Sample ID: A3302808 Sample wt/vol: 1035.00 (q/mL) ML Lab File ID: RA24472.TX0 % Moisture:\_\_\_\_\_ decanted: (Y/N) <u>N</u> Date Samp/Recv: 04/02/2003 04/02/2003 Extraction: (SepF/Cont/Sonc/Soxh): SEPF Date Extracted: 04/05/2003 Concentrated Extract Volume: 10000 (uL) Date Analyzed: 04/09/2003 Injection Volume: \_\_\_\_1.00(uL) Dilution Factor: 1.00 GPC Cleanup: (Y/N) <u>N</u> pH: <u>7.00</u> Sulfur Cleanup: (Y/N) <u>N</u> CONCENTRATION UNITS: CAS NO. COMPOUND (ug/L or ug/Kg) <u>UG/L</u> Q 319-84-6----alpha-BHC 0.048 U 319-85-7----beta-BHC 0.048 U 319-86-8----delta-BHC 0.048 U 58-89-9-----gamma-BHC (Lindane) U 0.048

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

Lab	Name:	<u>STL Buffalo</u>		Contract:	·		
Lab	Code:	RECNY	Case No.:	 SAS No.:	_	SDG No.:	

GC Column(1): <u>RTXCLPI</u> ID: <u>0.32</u> (mm)

	Client Sample ID	DCBP %REC	TCMX %REC	#							TOT OUT
7	Matrix Spike Blank	62	= ======	==	======	=======	=======	======	=======	======	===
÷	-		94						·		0
2	Method Blank	66	86		ļ						
3	MHB-040103	78	129								0
4	MW-1R-040103	106	90								Ō
5	MW-2-040103	98	92							· .	0
6	MW-2MS-040103	92	98								0
7	MW-2SD-040103	108	87								0
8	MW-4-040103	60	80								
9	MW-5-040103	72	84								0
10	MW-7-040103	76	96								
11	MW-8-040203	63	94								0
12	MWA-3-040203	86	96							i	0

QC LIMITS

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

(28 - 132)(36 - 132)

# 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: <u>A3302803</u> Lab Code: <u>RECNY</u> Case No.: \_\_\_\_\_ SAS No.: \_\_\_\_\_ SDG No.: \_\_\_\_\_

Matrix Spike - Client Sample No.: MW-2-040103

COMPOUND ====================================	SPIKE ADDED UG/L 	SAMPLE CONCENTRATION UG/L 0	MS CONCENTRATION UG/L 0.376	MS % REC # 79	QC LIMITS REC.	+	
--------------------------------------------------	----------------------------	--------------------------------------	--------------------------------------	------------------------	----------------------	---	--

$\begin{array}{c c c c c c c c c c c c c c c c c c c $		SPIKE ADDED	MSD CONCENTRATION	MSD		-		T_]
		UG/L			* RPD #		•	
	gailla-BHC (Lindane)	0.476	0.344	72	9	===== 15	<u></u> 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: <u>A3B0355802</u>

Lab Code: <u>RECNY</u> 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.	+	
L		0.500	0.391		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:

# 22/173

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

Client No.

Lab Name, STI Duffele	lontroat.	Method Blank	
Lab Name: <u>STL Buffalo</u> C	ontract:		<u></u>
Lab Code: <u>RECNY</u> Case No.:	SAS No.:	SDG No.:	
Lab Sample ID: <u>A3B0355802</u>	Lab File ID: <u>I</u>	RA24474.TX0	
Matrix: (soil/water) <u>WATER</u>	Extraction:	SEPF	
Sulfur Cleanup: (Y/N): <u>N</u>	Date Extracted	d: <u>04/05/2003</u>	
Date Analyzed (1): <u>04/09/2003</u>	Date Analyzed	(2):	
Time Analyzed (1): <u>13:34</u>	Time Analyzed	(2):	
Instrument ID (1): <u>HP5890-18</u>	Instrument ID	(2):	
GC Column (1): <u>RTXCLPI</u> Dia: <u>0.32</u>	(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	Matrix Spike Blank	A3B0355801	04/09/2003	
2	MHB-040103	A3302801	04/09/2003	
3	MW-1R-040103	A3302802	04/09/2003	
4	MW-2-040103	A3302803	04/09/2003	
5	MW-2MS-040103	A3302803MS	.04/09/2003	
6	MW-2SD-040103	A3302803SD	04/09/2003	
.7	MW-4-040103	A3302804	04/09/2003	
8	MW-5-040103	A3302805	04/09/2003	
9	MW-7-040103	A3302806	04/09/2003	
10	MW-8-040203	A3302807	04/09/2003	
11	MWA-3-040203	A3302808	04/09/2003	
	1			

Comments:

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

		Client No.
Lab Name: <u>STL Buffalo</u> Con	tract:	Method Blank
Lab Code: <u>RECNY</u> Case No.: SAS :	No.: SDG No.:	
Matrix: (soil/water) WATER		
	Lab Sample ID:	<u>A3B0355802</u>
Sample wt/vol: <u>1000.00</u> (g/mL) <u>ML</u>	Lab File ID:	RA24474.TX0
* Moisture: decanted: $(Y/N)$ N	Date Samp/Recv:	
Extraction: (SepF/Cont/Sonc/Soxh): <u>SEPF</u>	Date Extracted:	
Concentrated Extract Volume: <u>10000</u> (uL)		
Injection Volume: <u>1.00</u> (uL)	Date Analyzed:	-
	Dilution Factor:	1.00
GPC Cleanup: (Y/N) <u>N</u> pH: <u>5.00</u>	Sulfur Cleanup:	
CAS NO. COMPOUND	CONCENTRATION UNITS:	
319-84-6alpha-BHC	(ug/L or ug/Kg) UG/L	Q
319-85-7beta-BHC	0.050	U
1319-86-8delta mig	0.050	U
58-89-9gamma-EHC (Lindane)	0.050 0.050	บ บ

# SAMPLE DATA PACKAGE

SDG NARRATIVE

# ·

### SAMPLE SUMMARY

		SAMPLE	2	RECEIV	ED
LAB SAMPLE ID	CLIENT SAMPLE ID	DATE	<u>TIME</u>	DATE	<u>TIME</u>
A3302801	MHB-040103	04/01/2003	10:30	04/02/2003	13:20
A3302802	MW-1R-040103	04/01/2003	11:50	04/02/2003	13:20
A3302803	MW-2-040103	04/01/2003	15:00	04/02/2003	13:20
A3302803MS	MW-2MS-040103	04/01/2003	15:00	04/02/2003	13:20
A3302803SD	MW-2SD-040103			04/02/2003	
A3302804	MW-4-040103	04/01/2003	15:50	04/02/2003	13:20
A3302805	MW-5-040103	04/01/2003	16:30	04/02/2003	13:20
A3302806	MW-7-040103	04/01/2003	12:50	04/02/2003	13:20
A3302807	MW-8-040203	04/02/2003	11:00	04/02/2003	13:20
A3302808	MWA-3-040203	04/02/2003	10:30	04/02/2003	13:20

### METHODS SUMMARY

## Job#: <u>A03-3028</u>

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

PARAMETER	A	NALYTICAL
ASP 2000- METHOD 8081 BHC'S	ASP00	METHOD 8081

## References:

ASP00

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

### NON-CONFORMANCE SUMMARY

### Job#: <u>A03-3028</u>

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

### <u>General</u> 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 and Dissolved Oxygen 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

### A03-3028

Sample Cooler(s) were received at the following temperature(s); 2 @ 2.0 °C All samples were received in good condition.

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

4-17-03 Date

CHAIN OF CUSTODY DOCUMENTATION

## Chain of Custody Record



SERVICES Severn Trent Laboratories, Inc.

STL-4124 (1200)																					
Client		Project I	Manager	1.1				,						Date	· _	- 7		Cha	in of Custody N 097	<sup>umber</sup> ににつ	
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City State Zip	Code	Site Cor	ntact	ren	•		Conta		1				Ana	alysis (/ e space	Attach	ist if		T			
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				Matrix				eserva										17			
Sample I.D. No. and Description (Containers for each sample may be combined on one line)	Date	Time	Air Aqueous	Sed.	10 10	Unpres.	H2SO4	HNOS	NaOH	ZnAC NaOH	X						¥				
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MW2 040103	4.1.03	1500	×			X					¥							2_	И.		
MW 2m5 040103	4-1-03	1500	x			$\star$					x							à	м		
MW2 3D 0401 03	4-1-03	1500	Ä			X					X							2	h		
MW7 040103	4-1-03	1250	X			2					X							2	ч		
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Describe Manual Martin																				•	
Possible Hazard Identification	🗆 Poison B 🚺			le Dispo		. r	<b>n</b>			-		_							l if samples are	retained	
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DISTRIBUTION: WHITE - Stays with the Sample; CANARY - Returned to Client with Report; PINK - Field Copy

# Chain of Custody Record



SERVICES Severn Trent Laboratories, Inc.

STL-4124 (1200)																					
Client OLIN CORP. Address		Project M	M	Ilse	e									Date 4	- 2 -	03		Chain	of Custody	<sup>Number</sup> 7654	
1186 Lawre River Road		Telephor			Code	)/Fax I	Vumb	er							lumber				<i>[</i> ,		1.
Charleston TN State	87310	Site Con	tact WAL 047	ren-	•	Lab Ci BR			hor	•			An mor	alysis (/ e space	Attach i e is nee	list if eded)		Page		OF	
Charles Gibson Site, NIAGARA	Alls NV	Carrier/V	vaydiii N	Imper							430							5	Snecia	I Instructio	ns/
Contract/Purchase Order/Quote No.	•		M	atrix				ntaine serva	ers & tives		<u>ب</u>							Co M		ons of Reci	
Sample I.D. No. and Description (Containers for each sample may be combined on one line)	Date	Time	Air Aqueous	Sed. Soil		Unpres.	SONH	нсі	NaOH	NaOH	- 257						X	30		·	
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MW5 040103	4-1-021	630	X			X					X							7	••		
MW4 0401 03	41-03 15	550	X			4					X							2	"		
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Possible Hazard Identification			Sample															1	F	Bart-	
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DISTRIBUTION: WHITE - Stays with the Sample; CANARY - Returned to Client with Report; PINK - Field Copy

### APPENDIX B

### FIELD LOGS

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

### April 2003

### CHARLES GIBSON SITE

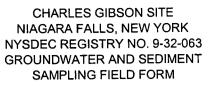
### (PINE AND TUSCARORA SITE)

### NIAGARA FALLS, NEW YORK

NYSDEC Registry No. 9-32-063

dm:sites/P&T Gibson//ENV 4060/O&M/SemiAnnual Sampling April 2003

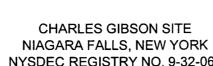
RECORDED BY:	Walker	_	SAMPLE I	D:	MHB-040	103	-
SAMPLED BY:	Walker	_	SAMPLING	GEVENT/C	ATE:	4/1/03 spring	
COMPANY:	Sevenson	_	MONITOR	ING WELL	: Man Hole	В	
	• • • • • • • • • • • • • • • • • • • •	-	CONDITIO	N:	Good		
GROUNDWATER PL	JRGE DATA	PURGE DA	ATE:				
					NOTE: AI	L GIBSON SITE	:
DEPTH TO BOTTON	I FROM TOP OF RISEF	र:		(FT.)	MONITO	RING WELLS AF	₹E
DEPTH TO WATER I	FROM TOP OF RISER:		13.3	(FT.)	2-INCH D	IAMETER STAIN	1-
	WATER COLUMN:			(FT:)	LESS ST	EEL. WELL DEP	THS:
	2" DIA. WELL CONST	ANT:	0.16		MW-1R	12.10'	
	ONE WELL VOLUME	=		(GALS)	MW-2	12.13'	
PURGE METHOD: BOTTOM OF WELL/S PURGE START TIME PURGE OBSERVAT	Ξ:	STOP TIM	E:		MW-A3 MW-4 MW-5	11.95' 13.75' 15.28'	
FIELD PARAMETER	MEASUREMENTS:						
WELL VOLUME	<u>pH</u>	SPECIFIC CONDUCT umhos/cm)		TEMP. (C OR F)	_ ·	NOTES:	
. 1	•			· · ·			
2					<u> </u>		
4	· · · · · ·		····;-			·	2
5						<u> </u>	
TOTAL VOLUME PU	RGED: R SEDIMENT SAMPLIN	NG DATA:		SAMPLE	DATE:	4/1/2003	
MEDIA: GROUND	WATER XXX			SAMPLE -	TIME:	1150	
		- -			· <u></u>		•
LOCATION:	Man Hole "B"		•			<u>.</u>	
SAMPLE METHOD:	Took a grab sample u	sing a paras	taltic pump	and dedica	ated hose.	. <u> </u>	
SAMPLING OBSERV	ATIONS: Clear, no o	odor or shee	n				
QC SAMPLES TAKE	N <u>: no</u>					<u> </u>	
OTHER OBSERVAT	IONS/COMMENTS:	Water sam	ples were s	plit with Bri	an Sydows	ki of the NYSDE	C.
Note: specific conduc	tivity formula to 25 degr	ees Celcius	SC(25)=	SC measu {{T-25)(0.0			



RECORDED BY:	Walker		SAMPLE I	D:	MW1R-04	40103 and MW7-0401
SAMPLED BY:	Walker		SAMPLING	G EVENT/D	ATE:	4/1/03 spring
COMPANY:	Sevenson	-	MONITOR	ING WELL	: MW1R ar	nd blind duplicate/MW7
		-	CONDITIO	)N:	Good	
GROUNDWATER PL	URGE DATA	PURGE D	ATE:	4/1/2003	3	
						LL GIBSON SITE
DEPTH TO BOTTON	I FROM TOP OF RISEF	<b>२</b> :	12.1	l (FT.)	MONITO	RING WELLS ARE
DEPTH TO WATER	FROM TOP OF RISER:	:	4.15	5_(FT.)	2-INCH E	DIAMETER STAIN-
	WATER COLUMN:		7.95	5 (FT.)	LESS ST	EEL. WELL DEPTHS:
	2" DIA. WELL CONS	T <u>ANT:</u>	0.16	<u>}</u>	MW-1R	12.10'
	ONE WELL VOLUME	<u>:</u> =	1.272	2 (GALS)	MW-2 MW-A3	11.95'
PURGE METHOD: BOTTOM OF WELL/ PURGE START TIM PURGE OBSERVAT		p and dedic OK/None STOP TIM		1150	MW-4 MW-5 D	(
FIELD PARAMETER						
WELL VOLUME	рН	SPECIFIC CONDUC umhos/cm	TIVITY	TEMP. (C OR F)		NOTES:
1	8.14	1120	<u> </u>	7.3	-	Clear,No Odor
2	7.99	1034		6.9		
3	7.69	1073		68		17
4		·		· .		
5						
TOTAL VOLUME PU	JRGED: 3.7	5 gallons		SAMPLE	DATE:	4/1/2003
		NO LI III			<u> </u>	· · · · · · · · · · · · · · · · · · ·
	DWATER XXX SEDIMENT	_		SAMPLE	T <u>IME:</u>	1150
	MW1R		<u>    .                                </u>			
SAMPLE METHOD:	Took sample using a	parastaltic	pump and d	edicated ho	)se	
SAMPLING OBSER		odor or she				
QC SAMPLES TAKE	EN: Blind dup	licate samp	les were tak	en and labe	eled MW7 o	on the COC.
OTHER OBSERVAT	TIONS/COMMENTS:	Water sai	mples were	<u>split with Br</u>	ian Sydow	ski of the NYSDEC.
	uctivity formula to 25 dec		 SC(25)=	SC measu {{T-25)(0.0		<u></u>

RECORDED BY:	Walker	_	SAMPLE I	D:	MW2-040	103
SAMPLED BY:	Walker		SAMPLIN	G EVENT/D	ATE:	4/1/03 spring
COMPANY:	Sevenson	<b>-</b>	MONITOR	ING WELL	: MW-2	
		-	CONDITIC	DN:	Good	
GROUNDWATER PI	URGE DATA	PURGE D	ATE:	4/1/2003	3	
						L GIBSON SITE
DEPTH TO BOTTON	I FROM TOP OF RISEF	र:	12.13	(FT.)	MONITOR	RING WELLS ARE
DEPTH TO WATER	FROM TOP OF RISER:		4.1	_(FT.)	2-INCH D	IAMETER STAIN-
	WATER COLUMN:	,	8.03	(FT.)	LESS ST	EEL. WELL DEPTHS:
	2" DIA. WELL CONST	ANT:	0.16	-	MW-1R	12.10'
	ONE WELL VOLUME	=	1.2848	(GALS)	MW-2 MW-A3	12.13' 11.95'
PURGE METHOD:	• • • •		ated hose		MW-4	13.75'
BOTTOM OF WELL/ PURGE START TIM		OK/None STOP TIM	E:	1500	MW-5	15.28'
PURGE OBSERVAT						
FIELD PARAMETER						
		SPECIFIC				
WELL		CONDUCT		TEMP.		
VOLUME	<u>pH</u>	umhos/cm	)	(C OR F)	-	NOTES:
1	7.78	1405		7.3		Clear,No Odor
2	7.54	1386		6.5		
3	7.35	1298		6.5		
4						
5						
TOTAL VOLUME PU	JRGED: 4	gallons				
GROUNDWATER O	R SEDIMENT SAMPLIN	NG DATA:		SAMPLE I	DATE:	4/1/2003
MEDIA: GROUNE		-		SAMPLE	T <u>IME:</u>	1500
		-		, <sup>.</sup>		
	MW-2					
SAMPLE METHOD:	Took sample using a	parastaltic p	ump and de	edicated ho	se.	
SAMPLING OBSER	VATIONS: Clear, no o	odor or shee	en			
QC SAMPLES TAKE	EN <u>: MS/MSD s</u>	samples wer	e also take	n		- · ·
OTHER OBSERVAT	IONS/COMMENTS:	BHC's onl	y			
	ctivity formula to 25 degr			SC measu		

RECORDED BY:	Walker		SAMPLE I	D:	MW4-040	103	
SAMPLED BY:	Walker		SAMPLING	GEVENT/D	ATE:	4/1/03 spring	
COMPANY:	Sevenson	•	MONITOR	ING WELL:	MW4		
		• • •	CONDITIC	DN:	Good		
GROUNDWATER PL	IRGE DATA	PURGE D	ATE:	4/1/2003			
					NOTE: AL	L GIBSON SITE	
<b>ДЕРТН ТО ВОТТОМ</b>	FROM TOP OF RISER	<b>k</b> :	13.75	(FT.)	MONITO	RING WELLS ARE	
DEPTH TO WATER F	ROM TOP OF RISER:		6.3	(FT.)	2-INCH D	IAMETER STAIN-	
	WATER COLUMN:		7.45	(FT.)	LESS ST	EEL. WELL DEPTHS:	
	2" DIA. WELL CONST	ANT:	0.16	_	MW-1R	12.10'	
	ONE WELL VOLUME	= .	1.192	(GALS)	MW-2 MW-A3	12.13' 11.95'	
PURGE METHOD: BOTTOM OF WELL/S PURGE START TIME	SILT BUILDUP:	and dedica OK/None STOP TIM		1550	MW-4 MW-5	13.75' 15.28'	
PURGE OBSERVATI			<b>L</b> .				
FIELD PARAMETER	MEASUREMENTS:						
		SPECIFIC					
WELL		CONDUCT		TEMP.		NOTEO	
VOLUME	<u>pH</u>	umhos/cm	2	(C OR F)	-	NOTES:	
1	7.88	1.98		7.6		Black water/Sulfur	
2	7.63	1719		<u>6.8</u> 6.9		Grey water Smell	
3 4	7.47	1837		0.9		<u>.</u>	
5							
						· · · · · ·	
TOTAL VOLUME PU	RGED: 3.5	gallons					
GROUNDWATER O	R SEDIMENT SAMPLIN	G DATA:		SAMPLE [	DATE:	4/1/2003	
						4550	
MEDIA: GROUND CREEK S	WATER XXX	- -		SAMPLE 1		1550	
	MW-4						
SAMPLE METHOD:	Took sample using a p	parastaltic p	ump and de	edicated hos	se.	<u></u>	
SAMPLING ÖBSERV	ATIONS: Black wate	r came out	at first, ther	n turned gre	y as purge	continued.	
QC SAMPLES TAKE	N <u>:</u>						
OTHER OBSERVATI	ONS/COMMENTS:	BHC's onl	у	Water also	has a sulf	ury smell to it	
Noto: opocific conduc	tivity formula to 25 degr			SC measu		 _	
mole. specific conduc	aivity formula to 25 degr	ees veivius	. 50(25)-	11 - 23 / 0.0	<u>~//                                     </u>		



NYSDEC REGISTRY NO. 9-32-063 GROUNDWATER AND SEDIMENT SAMPLING FIELD FORM

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	RECORDED BY:	Walker	SAMPLE	ID:	MW5-040	103
CONDITION:         Good           GROUNDWATER PURGE DATA         PURGE DATE:         4/1/2003 NOTE: ALL GIBSON SITE           DEPTH TO BOTTOM FROM TOP OF RISER:         15.28 (FT.)         MONITORING WELLS ARE           DEPTH TO WATER FROM TOP OF RISER:         7.1 (FT.)         2-INCH DIAMETER STAIN- WATER COLUMN:         8.18 (FT.)         LESS STEEL, WELL DEPTHS:           2" DIA WELL CONSTANT:         0.16         MW-1R         12.10'           ONE WELL VOLUME=         1.3088 (GALS)         MW-2         12.13'           BOTTOM OF WELL/SIL DUP         OKNONE         MW-3         11.95'           PURGE START TIME         1600         STOP TIME:         1630           PURGE OBSERVATIONS:         Grey water no odor         FIELD PARAMETER MEASUREMENTS:           SPECIFIC         CONDUCTIVITY         TEMP,           VOLUME         PH         umbos/cm)         (C OR F)         NOTES:           1         6.73         2.57         7.2         Yellow Tim           4	SAMPLED BY:	Walker	SAMPLIN		DATE:	4/1/03 spring
GROUNDWATER PURGE DATA     PURGE DATE:     4/1/2003       NOTE: ALL GIBSON SITE     NOTE: ALL GIBSON SITE       DEPTH TO BOTTOM FROM TOP OF RISER:     15.28 (FT.)     MONITORING WELLS ARE       DEPTH TO WATER FROM TOP OF RISER:     7.1 (FT.)     2-INCH DIAMETER STAIN-       WATER COLUMN:     8.18 (FT.)     LISCS STEEL. WELL DEPTHS:       2" DIA. WELL CONSTANT:     0.16     MW-1R     12.10'       ONE WELL VOLUME=     1.3088 (GALS)     MW-2     12.13'       PURGE METHOD:     3x w/ parastaltic pump and dedicated hose     MW-4     13.75'       BOTTOM OF WELL/SILT BUILDUP:     OK/None     MW-5     15.28'       PURGE START TIME     1600     STOP TIME:     1630       PURGE START TIME     1600     STOP TIME:     1630       PURGE OBSERVATIONS:     Grey water no odor     GrounDUCTIVITY     TEMP.       VOLUME     PH     umhos/cm)     (C OR F)     NOTES:       1     6.78     2.57     7.5     Grey water/ No odor       2     6.65     2.57     7.2     Yellow Tint       3     6.65     2.57     7.2     Yellow Tint       4	COMPANY:	Sevenson	- MONITO	RING WELL	: MW5	·
NOTE: ALL GIBSON SITE DEPTH TO BOTTOM FROM TOP OF RISER: 7.1 (FT.) 2-INCH DIAMETER STAIN- WATER COLUMN: 8.18 (FT.) LESS STEEL. WELL DEPTHS: 2° DIA. WELL CONSTANT: 0.16 MW-1R 12.10° ONE WELL VOLUME= 1.3088 (GALS) MW-2 12.13' MW-A3 13.75° PURGE METHOD: 3x w/ parastatic pump and dedicated hose: MW-4 1 3.75° BOTTOM OF WELLSILT BUILDUP: OK/None MW-4 1 3.75° BOTTOM OF WELLSILT BUILDUP: OK/None MW-5 15.28' PURGE OBSERVATIONS: Grey water no odor FIELD PARAMETER MEASUREMENTS: SPECIFIC WELL CONDUCTIVITY TEMP. VOLUME pH UTMbs/cm) (C OR F) NOTES: 1 6.78 2.57 7.5 Grey water/ No odor 2 6.67 2.56 7.1 LL Rusty/ " 3 6.65 2.57 7.2 Yellow Tint 4 5 TOTAL VOLUME PURGED: 4 gailons GROUNDWATER OR SEDIMENT SAMPLING DATA: SAMPLE DATE: 4/1/2003 MEDIA: GROUNDWATER XXX CREEK SEDIMENT SAMPLING DATA: SAMPLE DATE: 4/1/2003 SAMPLE TIME: 1630 GROUNDWATER OR SEDIMENT SAMPLING DATA: SAMPLE DATE: 4/1/2003 SAMPLE METHOD: Took sample using a parastatilic pump and dedicated hose. SAMPLE METHOD: Took sample using a parastatilic pump and dedicated hose. SAMPLING OBSERVATIONS: Purge water started out grey in color then turned to a rusty color Then became yellowish / clear. QC SAMPLES TAKEN: No. OTHER OBSERVATIONS: BHC's only		·	CONDITI	ON:	Good	
DEPTH TO BOTTOM FROM TOP OF RISER: DEPTH TO WATER FROM TOP OF RISER: DEPTH TO WATER FROM TOP OF RISER: 2' DIA. WELL CONST <u>AINT</u> 0.16 WW-1R 12.10' ONE WELL VOLUME= 1.3088 (GALS) MW-2 12.13' MW-3 11.95' PURGE METHOD: 3x w/ parastaltic pump and dedicated hose: BOTTOM OF WELLSILT BUILDUP: OKNONe PURGE DESERVATIONS: Grey water no odor FIELD PARAMETER MEASUREMENTS: SPECIFIC VOLUME 1 6.78 2.57 7.5 Grey water/ No odor 2 6.67 2.56 7.1 LL Rusty/ 4 5 TOTAL VOLUME PURGED: 4 gallons GROUNDWATER XXX CREEK SEDIMENT CARPLE AMPLE TIME: 1630 GROUNDWATER XXX SAMPLE DATE: 4/1/2003 MW-5 SAMPLE METHOD: MW-5 SAMPLE METHOD: CONDUCTIVITY 4 5 TOTAL VOLUME PURGED: 4 gallons GROUNDWATER XXX SAMPLE TIME: 1630 CREEK SEDIMENT CREEK SEDIMENT COR F) MW-5 SAMPLE METHOD: Took sample using a parastaltic pump and dedicated hose. SAMPLE METHOD: CONDUCTIVIS: PURGE START TIME: SAMPLE METHOD: CONDUCTIONS: MW5 SAMPLE METHOD: CONDUCTIONS: PURGE VATIONS: PURGE VATIONS: PURGE VATIONS: SAMPLE METHOD: CONDUCTIONS: MW5 SAMPLE METHOD: CONDUCTIONS: MW5 SAMPLE METHOD: CONDUCTIONS: MW5 SAMPLE METHOD: Took sample using a parastaltic pump and dedicated hose. SAMPLING OBSERVATIONS: PURGE VATIONS: BHC's only SC measured	GROUNDWATER P	URGE DATA	PURGE DATE:	4/1/2003	3	
DEPTH TO WATER FROM TOP OF RISER:       7.1 (FT.)       2-INCH DIAMETER STAIN- WATER COLUMN:       8.18 (FT.)       LESS STEEL. WELL DEPTHS:         2" DIA. WELL CONSTANT:       0.16       MW-1R       12.10'         ONE WELL VOLUME=       1.3088 (GALS)       MW-2       12.13'         MW-A3       11.95'       MW-4       13.75'         PURGE METHOD:       3x w/ parastaltic pump and dedicated hose       MW-4       13.75'         BOTTOM OF WELL/SILT BUILDUP:       OK/None       MW-5       15.28'         PURGE TART TIME:       1630       STOP TIME:       1630         PURGE OBSERVATIONS:       Grey water no odor       FIELD PARAMETER MEASUREMENTS:       SPECIFIC         CONDUCTIVITY       TEMP.       ONOTES:       NOTES:       NOTES:         VOLUME       PH       umhos/cmm)       (C OR F)       NOTES:         1       6.78       2.57       7.5       Grey water/ No odor         2       6.67       2.56       7.1       Lt. Rusty/       "         3       6.65       2.57       7.2       Yellow Tint       "         4					NOTE: A	LL GIBSON SITE
WATER COLUMN:       8.18 (FT.)       LESS STEEL WELL DEPTHS:         2" DIA. WELL CONSTANT:       0.16       MW-1R       12.10'         ONE WELL VOLUME=       1.3088 (GALS)       MW-2       12.13'         MW-A3       11.95'       MW-4       13.75'         BOTTOM OF WELL/SILT BUILDUP:       OKNone       MW-4       13.75'         BOTTOM OF WELL/SILT BUILDUP:       OK/None       MW-4       13.75'         BOTTOM OF WELL/SILT BUILDUP:       OK/None       MW-5       15.28'         PURGE OBSERVATIONS:       Grey water no odor       1630       PURGE OBSERVATIONS:       Grey water no odor         FIELD PARAMETER MEASUREMENTS:       SPECIFIC       CONDUCTIVITY       TEMP.       OTES:       1         0.0100       1       6.78       2.57       7.5       Grey water/ No odor         2       6.67       2.56       7.1       Lt. Rusty/ "       "         3       6.65       2.57       7.2       Yellow Tint       "         4	DEPTH TO BOTTO	M FROM TOP OF RISE	२: <b>15.2</b>	8 (FT.)	MONITO	RING WELLS ARE
2" DIA. WELL CONSTANT:         0.16         MW-1R         12.10'           ONE WELL VOLUME=         1.3088 (GALS)         MW-2         12.13'           MW-4         13.75'         MW-4         13.75'           BOTTOM OF WELL/SILT BUILDUP:         OK/None         MW-4         13.75'           BOTTOM OF WELL/SILT BUILDUP:         OK/None         MW-4         13.75'           BOTTOM OF WELL/SILT BUILDUP:         OK/None         MW-5         15.28'           PURGE OBSERVATIONS:         Grey water no odor         FIELD PARAMETER MEASUREMENTS:         SPECIFIC           VOLUME         PH         umhos/cm)         (C OR F)         NOTES:           1         6.78         2.57         7.5         Grey water/ No odor           2         6.67         2.56         7.1         LL Rusty/ "         "           3         6.65         2.57         7.2         Yellow Tint         "           4	DEPTH TO WATER	FROM TOP OF RISER:	7.	<u>1</u> (FT.)	2-INCH D	IAMETER STAIN-
ONE WELL VOLUME=       1.3088 (GALS)       MW-2       12.13'         MW-4       11.95'       MW-4       13.75'         BOTTOM OF WELL/SILT BUILDUP:       OK/None       MW-5       15.28'         PURGE OBSERVATIONS:       Grey water no odor       1630         FIELD PARAMETER MEASUREMENTS:       SPECIFIC       CONDUCTIVITY       TEMP.         VOLUME       PH       umhos/cm)       (C OR F)       NOTES:         1       6.73       2.57       7.5       Grey water/ No odor         2       6.67       2.56       7.1       LL Rusty/       "         3       6.65       2.57       7.2       Yellow Tint       "         4		WATER COLUMN:	8.1	8 (FT.)	LESS ST	EEL. WELL DEPTHS:
MW-A3       11.95'         PURGE METHOD:       3x w/ parastallic pump and dedicated hose:       MW-4       13.75'         BOTTOM OF WELL/SILT BUILDUP:       OK/None       MW-5       15.28'         PURGE START TIME:       1600       STOP TIME:       1630         PURGE OBSERVATIONS:       Grey water no odor       FIELD PARAMETER MEASUREMENTS:         SPECIFIC         WELL       CONDUCTIVITY       TEMP.         VOLUME       PH       unthos/cm)       (C OR F)       NOTES:         1       6.78       2.57       7.5       Grey water/ No odor         2       6.67       2.56       7.1       Lt. Rusty/ "       "         3       6.65       2.57       7.2       Yellow Tint       "         4		2" DIA. WELL CONS	TANT: 0.1	<u>6</u>	MW-1R	12.10'
PURGE METHOD: 3x w/ parastaltic pump and dedicated hose: BOTTOM OF WELL/SILT BUILDUP: OK/None MW-5 15.28' PURGE TART TIME 1600 STOP TIME: 1630 PURGE OBSERVATIONS: Grey water no odor FIELD PARAMETER MEASUREMENTS: WELL CONDUCTIVITY TEMP. VOLUME PH umhos/cm) (C OR F) NOTES: 1 6.78 2.57 7.5 Grey water/ No odor 2 6.67 2.56 7.1 Lt. Rusty/ " " 3 6.65 2.57 7.2 Yellow Tint 4 5 TOTAL VOLUME PURGED: 4 gallons GROUNDWATER OR SEDIMENT SAMPLING DATA: SAMPLE DATE: 4/1/2003 MEDIA: GROUNDWATER XXX SAMPLE TIME: 1630 CREEK SEDIMENT XAMPLING DATA: SAMPLE TIME: 1630 LOCATION: MW5 SAMPLE METHOD: Took sample using a parastaltic pump and dedicated hose. SAMPLE METHOD: Took sample using a parastaltic pump and dedicated hose. SAMPLE METHOD: Took sample using a parastaltic pump and dedicated hose. SAMPLE METHOD: MW5 SAMPLE STAKEN: No. OTHER OBSERVATIONS/COMMENTS: <u>BHC's only</u>		ONE WELL VOLUME	= 1.308	8 (GALS)		
PURGE START TIME: 1600 STOP TIME: 1630 PURGE OBSERVATIONS: Grey water no odor FIELD PARAMETER MEASUREMENTS:           SPECIFIC           WELL         CONDUCTIVITY         TEMP.           VOLUME         pH         umhos/cm)         (C OR F)         NOTES:           1         6.73         2.57         7.5         Grey water/ No odor           2         6.67         2.56         7.1         Lt. Rusty/ "         "           3         6.65         2.57         7.2         Yellow Tint         "           4			p and dedicated hose <sup>,</sup>			
PURGE OBSERVATIONS: Grey water no odor FIELD PARAMETER MEASUREMENTS:           SPECIFIC         SPECIFIC           WELL         CONDUCTIVITY         TEMP.           VOLUME         pH         umhos/cm)         (C OR F)         NOTES:           1         6.78         2.57         7.5         Grey water/ No odor           2         6.67         2.56         7.1         Lt. Rusty/"         "           3         6.65         2.57         7.2         Yellow Tint         "           4				4000		15.28'
FIELD PARAMETER MEASUREMENTS:           SPECIFIC CONDUCTIVITY TEMP.           VOLUME         pH         umhos/cm)         (C OR F)         NOTES:           1         6.78         2.57         7.5         Grey water/ No odor           2         6.67         2.56         7.1         Lt. Rusty/         "           3         6.65         2.57         7.2         Yellow Tint         "           4				1630	)	
SPECIFIC CONDUCTIVITY TEMP. Umhos/cm)       NOTES: (C OR F)       NOTES: NOTES:         1       6.78       2.57       7.5       Grey water/ No odor         2       6.67       2.56       7.1       Lt Rusty/ "       "         3       6.65       2.57       7.2       Yellow Tint       "         4						•
WELL         CONDUCTIVITY         TEMP.           VOLUME         pH         umhos/cm)         (C OR F)         NOTES:           1         6.78         2.57         7.5         Grey water/ No odor           2         6.67         2.56         7.1         Lt. Rusty/ "         "           3         6.65         2.57         7.2         Yellow Tint         "           4	FIELD PARAMETER	R MEASUREMENTS:				
VOLUME         pH         umhos/cm)         (C OR F)         NOTES:           1         6.78         2.57         7.5         Grey water/ No odor           2         6.67         2.56         7.1         Lt. Rusty/ "         "           3         6.65         2.57         7.2         Yellow Tint         "           4						
1         6.78         2.57         7.5         Grey water/ No odor           2         6.67         2.56         7.1         Lt. Rusty/ "         "           3         6.65         2.57         7.2         Yellow Tint         "           4		рН				NOTES:
2         6.67         2.56         7.1         Lt. Rusty/"           3         6.65         2.57         7.2         Yellow Tint           4		<u> </u>	<u>·</u>		_	
3       6.65       2.57       7.2       Yellow Tint         4       5         TOTAL VOLUME PURGED:       4 gallons         GROUNDWATER OR SEDIMENT SAMPLING DATA:       SAMPLE DATE:       4/1/2003         MEDIA:       GROUNDWATER       XXX       SAMPLE TIME:       1630         CREEK SEDIMENT	2					
5         TOTAL VOLUME PURGED:       4 gallons         GROUNDWATER OR SEDIMENT SAMPLING DATA:       SAMPLE DATE:       4/1/2003         MEDIA:       GROUNDWATER       XXX       SAMPLE TIME:       1630         LOCATION:       MW5         SAMPLE METHOD:       Took sample using a parastaltic pump and dedicated hose.         SAMPLING OBSERVATIONS:       Purge water started out grey in color then turned to a rusty color then became yellowish / clear.         QC SAMPLES TAKEN:       No.         OTHER OBSERVATIONS/COMMENTS:       BHC's only						
TOTAL VOLUME PURGED:       4 gallons         GROUNDWATER OR SEDIMENT SAMPLING DATA:       SAMPLE DATE:       4/1/2003         MEDIA:       GROUNDWATER CREEK SEDIMENT       XXX       SAMPLE TIME:       1630         LOCATION:       MW5         SAMPLE METHOD:       Took sample using a parastaltic pump and dedicated hose.         SAMPLE METHOD:       Took sample using a parastaltic pump and dedicated hose.         SAMPLES TAKEN:       No.         OTHER OBSERVATIONS/COMMENTS:       BHC's only         SC measured       SC measured	4					
GROUNDWATER OR SEDIMENT SAMPLING DATA:       SAMPLE DATE:       4/1/2003         MEDIA:       GROUNDWATER CREEK SEDIMENT       XXX       SAMPLE TIME:       1630         LOCATION:       MW5         SAMPLE METHOD:       Took sample using a parastaltic pump and dedicated hose.         SAMPLING OBSERVATIONS:       Purge water started out grey in color then turned to a rusty color then became yellowish / clear.         QC SAMPLES TAKEN:       No.         OTHER OBSERVATIONS/COMMENTS:       BHC's only	5					
GROUNDWATER OR SEDIMENT SAMPLING DATA:       SAMPLE DATE:       4/1/2003         MEDIA:       GROUNDWATER CREEK SEDIMENT       XXX       SAMPLE TIME:       1630         LOCATION:       MW5         SAMPLE METHOD:       Took sample using a parastaltic pump and dedicated hose.         SAMPLING OBSERVATIONS:       Purge water started out grey in color then turned to a rusty color then became yellowish / clear.         QC SAMPLES TAKEN:       No.         OTHER OBSERVATIONS/COMMENTS:       BHC's only						
MEDIA:       GROUNDWATER       XXX       SAMPLE TIME:       1630         LOCATION:       MW5         SAMPLE METHOD:       Took sample using a parastaltic pump and dedicated hose.         SAMPLING OBSERVATIONS:       Purge water started out grey in color then turned to a rusty color then became yellowish / clear.         QC SAMPLES TAKEN:       No.         OTHER OBSERVATIONS/COMMENTS:       BHC's only	TOTAL VOLUME PL	JRGED: 4	l gallons			
MEDIA:       GROUNDWATER CREEK SEDIMENT       XXX       SAMPLE TIME:       1630         LOCATION:       MW5         SAMPLE METHOD:       Took sample using a parastaltic pump and dedicated hose.         SAMPLING OBSERVATIONS:       Purge water started out grey in color then turned to a rusty color then became yellowish / clear.         QC SAMPLES TAKEN:       No.         OTHER OBSERVATIONS/COMMENTS:       BHC's only			-			
MEDIA:       GROUNDWATER CREEK SEDIMENT       XXX       SAMPLE TIME:       1630         LOCATION:       MW5         SAMPLE METHOD:       Took sample using a parastaltic pump and dedicated hose.         SAMPLING OBSERVATIONS:       Purge water started out grey in color then turned to a rusty color then became yellowish / clear.         QC SAMPLES TAKEN:       No.         OTHER OBSERVATIONS/COMMENTS:       BHC's only				SAMPLE		4/1/2003
CREEK SEDIMENT				0, 21		
LOCATION:       MW5         SAMPLE METHOD:       Took sample using a parastaltic pump and dedicated hose.         SAMPLING OBSERVATIONS:       Purge water started out grey in color then turned to a rusty color then became yellowish / clear.         QC SAMPLES TAKEN:       No.         OTHER OBSERVATIONS/COMMENTS:       BHC's only         SC measured       SC measured			_ ·	SAMPLE	TIME:	1630
SAMPLE METHOD:       Took sample using a parastaltic pump and dedicated hose.         SAMPLING OBSERVATIONS:       Purge water started out grey in color then turned to a rusty color then became yellowish / clear.         QC SAMPLES TAKEN:       No.         OTHER OBSERVATIONS/COMMENTS:       BHC's only         SC measured	CREEN		<del>-</del> .			
SAMPLING OBSERVATIONS:       Purge water started out grey in color then turned to a rusty color then became yellowish / clear.         QC SAMPLES TAKEN:       No.         OTHER OBSERVATIONS/COMMENTS:       BHC's only         SC measured	LOCATION:	MW5				
then became yellowish / clear.         QC SAMPLES TAKEN:       No.         OTHER OBSERVATIONS/COMMENTS:       BHC's only         SC measured	SAMPLE METHOD:	Took sample using a	parastaltic pump and o	dedicated ho	se.	<u> </u>
then became yellowish / clear.         QC SAMPLES TAKEN:       No.         OTHER OBSERVATIONS/COMMENTS:       BHC's only         SC measured	SAMPLING OBSER	VATIONS: Purge wa	ter started out grey in	color then tu	irned to a ri	usty color
OTHER OBSERVATIONS/COMMENTS: BHC's only SC measured		then beca				
SC measured	QC SAMPLES TAK	EN: No.				
SC measured	OTHER OBSERVAT	FIONS/COMMENTS:	BHC's only			
			<b></b>			
	· · · · · · · · · · · · · · · · · · ·	·		SC meacu	ired	
	Note: specific condu	ctivity formula to 25 deg	rees Celcius: SC(25)=			_

RECORDED BY:	Walker	SAI	MPLE ID:	MW8-04	0203	
SAMPLED BY:	Walker	SAN	/PLING EVENT/	DATE:	4/2/03 spring	
COMPANY:	Sevenson	MO		L: MW8 / F	ield Blank	
			NDITION:	Good		
GROUNDWATER	PURGE DATA	PURGE DATE:				
		:		NOTE: A	ALL GIBSON SITE	
DEPTH TO BOTTO	M FROM TOP OF RIS	SER:	(FT.)	MONITO	ORING WELLS ARE	
DEPTH TO WATEF	R FROM TOP OF RISE	ER:	(FT.)	2-INCH	DIAMETER STAIN-	
	WATER COLUMN	:	(FT.)	LESS S	TEEL. WELL DEPTHS	3:
	2" DIA. WELL COM	NST <u>ANT:</u>		MW-1R	12.10'	
PURGE METHOD:	ONE WELL VOLU	ME=	(GALS)	MW-2 MW-A3 MW-4	12.13' ' 11.95' 13.75'	
BOTTOM OF WELL PURGE START TIN PURGE OBSERVA	ИE:	STOP TIME:	•	MW-5	15.28'	
FIELD PARAMETE	R MEASUREMENTS:					
WELL VOLUME	рН	SPECIFIC CONDUCTIVIT umhos/cm)	Y TEMP. (C OR F)	_	NOTES:	
1						
2						
3				<u> </u>	<u> </u>	
5				<u> </u>	······································	
TOTAL VOLUME P	URGED:	gallons				
GROUNDWATER	OR SEDIMENT SAMP	LING DATA:	SAMPLE	DATE:	4/2/2003	
			SAMPLE	TIME:	1100	
	Drive way in front of	of main gate				
SAMPLE METHOD	: Poured pure water	r supplied by the lab	into bottles labe	ed MW8-0	40203	
SAMPLING OBSEF	RVATIONS: <u>MW-8 =</u>	Field Blank				
QC SAMPLES TAK	EN <u>: No.</u>	-		<u> </u>	<u> </u>	
OTHER OBSERVA	TIONS/COMMENTS:	BHC's only				
Note: specific condu	uctivity formula to 25 d	egrees Celcius: SC	(25)= <u>SC meas</u> (25)= {{T-25)(0.			

RECORDED BY:	Walker		SAMPLE ID:	MWA3	3-040203	<u> </u>
SAMPLED BY:	Walker	_	SAMPLING EVE	ENT/DATE:	4/2/03 spring	
COMPANY:	Sevenson		MONITORING	WELL: MWA3	<b>j</b>	
		-	CONDITION:	Good		
GROUNDWATER PU	IRGE DATA	PURGE DA	ATE: 4/2	2/2003		
					: ALL GIBSON SITE	
DEPTH TO BOTTOM	FROM TOP OF RISER	R:	11.95 (FT.)		TORING WELLS ARE	Ξ
DEPTH TO WATER F	ROM TOP OF RISER:		<u> </u>	) 2-INCI	H DIAMETER STAIN-	-
	WATER COLUMN:		6.65 (FT.)	) LESS	STEEL. WELL DEPT	HS:
	2" DIA. WELL CONST	ANT:	0.16	MW-1I	R 12.10'	
	ONE WELL VOLUME:	=	<b>1.064</b> (GAI			
PURGE METHOD:	3x w/ parastaltic pump	and dodica	tod boso '	MW-A MW-4		
BOTTOM OF WELL/S		OK/None	aleu nose	MW-5		
PURGE START TIME		STOP TIM	E:	1030		
PURGE OBSERVATI	ONS:					
FIELD PARAMETER	MEASUREMENTS:					
· ·		SPECIFIC				
WELL		CONDUCT				
VOLUME	pH	umhos/cm)		<u>PRF)</u>	NOTES:	
1	7.9	593		7.1	Clear/No odor	
2	7.66	561		<u>5.1</u>		".
34	7.59	575	t	5.9		"
		-			<u></u>	
	·				<u> </u>	
TOTAL VOLUME PUP	RGED: 3.25	gallons				
	·				\$ 	
GROUNDWATER OF	R SEDIMENT SAMPLIN	G DATA:	SAM	IPLE DATE:	4/2/2003	
MEDIA: GROUND	WATER XXX		SAM	IPLE TIME:	1030	
CREEK SI					1000	
	N 41 A / A /				<i>.</i>	
LOCATION:	MWA3					
SAMPLE METHOD:	Took sample using a p	arastaltic pu	ump and dedicate	ed hose.		
SAMPLING OBSERV	ATIONS:		<u></u> .		•	
QC SAMPLES TAKE	N: No.				<u>.</u>	
OTHER OBSERVATION		BHC's only	1			
OTHER OBSERVATION		BHC's only	,			
	· · · · · · · · · · · · · · · · · · ·		<u></u>		<u></u> .	
Note: coocific cooduct	tivity formula to 25 degre	oos Coloius		neasured		
inole, specific conduct	uvity iornula to 25 degre	ses Geicius:	<u> </u>	. <u></u>		

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

DATE: <u>3/31/2003</u>	SEMI-AN	NUAL SAMPLING EVENT	: Spring 2003	
PERSON CALIBRATING ME	TER <u>S:</u>	M. Walker		
pH METER USED: MANU	FACTURER:	Oakton		
MODE	L:	pH Tester 3		
IDENT	IFICATION/CO	DNTROL NUMBER:	780	
CALIB	RATION STAP	NDARDS USED:		
	STANDA	RD 7.00 METER READ:	7	
		RD 4.00 METER READ:		
METER CALIBRA	STANDA TION COMME	RD 10.00 METER READ: NTS: New battery	· · · · · · · · · · · · · · · · · · ·	
SPECIFIC CONDUCTIVITY N	AETER USED	Oaktaż		
		Specific Cond. Meter	· · · · · · · · · · · · · · · · · · ·	
		ONTROL NUMBER: 3	5607-10	
CALIB	RATION STAP	IDARDS USED:		
	STANDA	RD 0 READ:		
		(STANDARD 0 USED:		)
	· ŚTANDA	RD447	READ:	468
	STANDA	RDF	READ:	
METER CALIBRA	TION COMME	NTS:		
· · · · · · · · · · · · · · · · · · ·	·			
THERMOMETER USED:				
		CTURER: <u>F/S</u> CATION/CONTROL NUM	BER: 21115741	
COMM			ERATURE AGREE WITH	
		CONDUCTIVITY METER		<u></u>
OTHEI	२:			
OTHER INSTRUMENTS USE				
		CATION/CONTROL NUME		
	RATIONS PER	RFORMED:		
		······	· · · · · · · · · · · · · · · · · · ·	
OTHER CALIBRATION COM	MENIS:	· .		
			•	
L				

### APPENDIX C

### QUARTERLY SITE INSPECTION FORMS

January - June 2003

# 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

DATE: <u>2/19/2003</u>	TIME:	2:00		
INSPECTO <u>R:</u> M. Walk	ker	COMPANY:	Sevenson	
WEATHER:				
REASON FOR INSPECTION (	QUARTERL	Y OR OTHER):	Quarterly Inspection	
		<u></u>	· ·	
subsidence (sinking and rodent burrows	site condition g), ponded w s. For site se	ns note existence of vater, stressed veget ecurity, note absence	BLE A=ACCEPTABLE bare areas (number,size), cracks, ation, soil discoloration or seeps, e of locks, gates open or damaged, ther unusual occurences.)	
		COM	MENTS	
ACCESS ROAD	A			
COVER VEGETATION	<u>A</u>			
TREES	Α			
LITTER	<u>A</u>			
EROSION (CAP)	Α			
EROSION (BANK)	<u>A</u>			
SECURITY:				
FENCE/LOCKS	A			
PIEZOMETERS/LOCKS	<b>A</b> .			
MONITORING WELLS/LOCKS	S A			
MANHOLES/LIDS/LOCKS	A			
ELECTRICAL PANEL	<u>A</u>			
ADDITIONAL COMMENTS:	The site	was secure and look	ked good upon arrival.	
The readout on the front of the	flow meter v	was blank. Power to	the manhole from the power panel	
	LCD readou	it on the face of the r	neter could be frozon and shorted.	
checked out OK, I suspect the	LOD ICUdde			
checked out OK, I suspect the The Fax delivery system still fu		perly. I will contact Ca	arrier Controls to get their	
· · · · · · · · · · · · · · · · · · ·		perly. I will contact Ca	arrier Controls to get their	

1

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

.

THIS FORM TO BE USED FOR	QUARTERL	Y AND ALL O	THER SITE INSPECTIONS	
DATE: <u>4/2/2003</u>	TIME:	1145		
INSPECTOR: M. Walke	r	COMPANY	Sevenson	
WEATHER: 40 F, Clo	udy and Wir	ndy		
REASON FOR INSPECTION (Q	UARTERLY	OR OTHER <u>):</u>	Spring Sample Event	
subsidence (sinking), and rodent burrows.	ponded wat For site sec	note existence ter, stressed ve urity, note abse	TABLE A=ACCEPTABLE of bare areas (number,size), cracks, getation, soil discoloration or seeps, nce of locks, gates open or damaged, y other unusual occurences.)	
		C	DMMENTS	
ACCESS ROAD	<u>A</u>	- —	JMMENTS	
COVER VEGETATION TREES	<u>A</u>			
LITTER	<u>A</u> A		·····	
EROSION (CAP)	<u>A</u>			
EROSION (BANK)	A			
SECURITY:				
FENCE/LOCKS	A	W	eld is cracked on fence gate latch assembly	
PIEZOMETERS/LOCKS	Ā			
MONITORING WELLS/LOCKS	A			
MANHOLES/LIDS/LOCKS	<u>A</u>			
ELECTRICAL PANEL	<u>A</u>		· · · · · · · · · · · · · · · · · · ·	
ADDITIONAL COMMENTS:	Even thou	gh the gate late	h has a cracked weld, it did not	۰. ۱
compromise the integrity of the lo	ocking mech	anism. I can re	pair the broken weld and re-adjust the	
gate. I will send you a picture of	the repair for	r the files.		
galot i vim cone you a pictare of	<u></u>			
		· · · ·	·	
		•.		
	•		·	

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

THIS FOR	RM TO BE USED FOR	QUARTER	LY AND ALL	OTHER SI	TE INSPECTIONS
DATE:	4/14/2003	TIME:	1000		
INSPECT	OR: M. Walker			:	Sevenson
WEATHE	R:				
REASON	FOR INSPECTION (Q			).	Repair Flow meter
NLAUUN		0/ 11 11 11 12		<u>/:</u>	
GENERA	subsidence (sinking),	ponded wa For site se	s note existen ater, stressed curity, note ab	nce of bare vegetation osence of lo	A=ACCEPTABLE areas (number,size), cracks, , soil discoloration or seeps, ocks, gates open or damaged, unusual occurences.)
	· ·			COMMEN	TS
ACCESS	ROAD	<u>A</u>			
COVER	VEGETATION	Α			· .
TREES		<u>A</u>	· .		<u></u>
LITTER		Α			
EROSIO	N (CAP)	<u>A</u>		, <u>=</u>	
ERÒSIOI	N (BANK)	<u>A</u>			·
SECURI	TY:				
FENCE/L	OCKS	A			
1	ETERS/LOCKS	A			
ΜΟΝΙΤΟ	RING WELLS/LOCKS	A			
MANHOL	ES/LIDS/LOCKS	А	·		
ELECTR	ICAL PANEL	A			
ADDITIO	NAL COMMENTS:	Met with	Steve Frank c	of Carrier C	ontrols to install the repaired
flow mete	er face. We also tested	he pumpin	g system usin	g the level	switches. (tested OK).
We have	discovered that face of	the flow m	eter, which is	accurate a	ccording to our calculations,
is not in s	sync. With the readout c	n the fax s	heets. We are	working to	re-calibrate, and correct this
situation.	. We have pumped 5,23	0 gallons d	uring the test,	the fax rea	ad out showed 15,977.
	······································				
1					

### APPENDIX D

### QUARTERLY GROUNDWATER ELEVATION /PUMPING FORMS

January - June 2003

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

dm:sites/P&T Gibson//ENV 4060/O&M/SemiAnnual Sampling April 2003

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

DATE: <u>2/19/20</u>	03	_TIME:	2:00	
INSPECTOR:	M. Walker	_COMPANY:	Sevenson	
WEATHER:	Cloudy 33 F			
PIEZOMETER	RISER ELEVATION (INSIDE CASING)	DEPTH TO W (FT.)	ATER WATER ELEVATION	COMMENTS
P-1	572.72	7.99	564.73	ОК
P-2	574.89	9.45	565.44	ОК
P-3	574.16	7.65	566.51	<u>OK</u>
P-4	576.14	10.8	565.34	ОК
P-5	575.05	5.95	569.1	ОК
P-6	578.28	10.4	567.88	ОК
MANHOLE A	575.22	11.15	564.07	OK
MANHOLE B	577.34	13.2	564.14	ОК
Niagara Tuscarora in Manhole B (and I water distance from (Note: riser elevatio	mpties into Manhole B by Road sanitary sewer line by extension Manhole A) a the manhole rim should ons (re)surveyed Septeml	by a float contro below an elevat not be <u>less</u> thar ber, 1999 by We	blled sump pump which ion of 565 ft. above me n 12.41 ft. at Manhole E endel Surveyors)	n maintains groundw ean sea level. There 3 and 10.22 ft. at Ma
ADDITIONAL COM	MENTS/OBSERVATION	IS <u>: All</u>	wells and manholes lo	oked OK.
			· · ·	······
				<u>.</u>

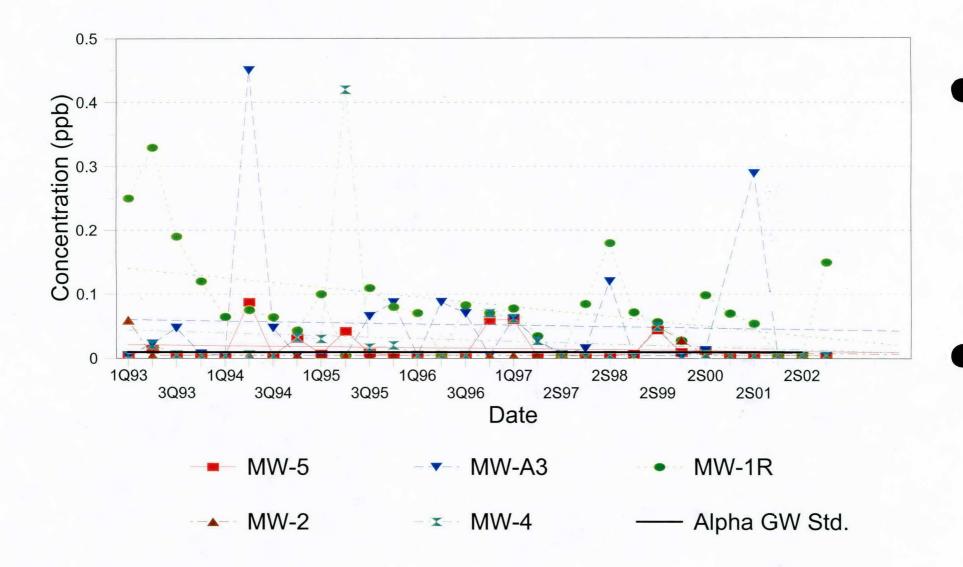
CRA 8143 (1) AppD-GwleForm

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

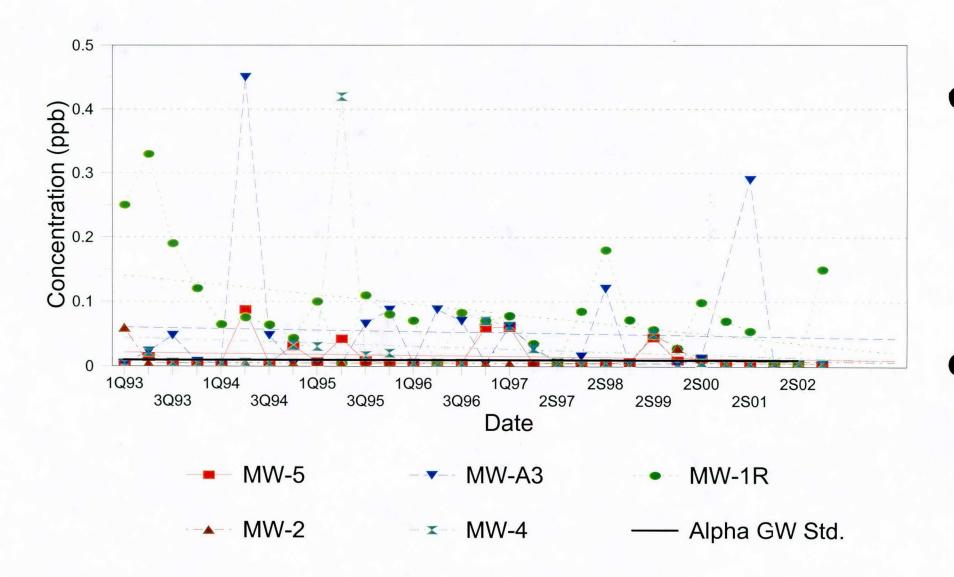
DATE:	4/2/2003	_TIME:	1200		
INSPECTOR:	M. Walker		Sevenson		
WEATHER:	40 F, Cloudy, Windy		······································		
PIEZOMETER	RISER ELEVATION (INSIDE CASING)	DEPTH TO WAT (FT.)	ER WATER ELEVATION	COMMENTS	
P-1	572.72	7.4	565.32		-
P-2	574.89	9.35	565.54		
P-3	574.16	6.6	567.56		
P-4	576.14	10.85	565.29		
P-5	575.05	5.2	569.85		
P-6	578.28	10	568.28		
MANHOLE A	575.22	11.25	563.97	<del></del>	
MANHOLE B	577.34	<sup>`</sup> '13.3	564.04		
(Note: Manhole A Niagara Tuscarora in Manhole B (and water distance fro (Note: riser elevat	empties into Manhole B by a Road sanitary sewer line I by extension Manhole A) m the manhole rim should ions (re)surveyed Septeml MMENTS/OBSERVATION	by a float controlle below an elevation not be <u>less</u> than 12 per, 1999 by Wend	d sump pump which n of 565 ft. above mear 2.41 ft. at Manhole B a	naintains groundwa n sea level. Theref	ter elevations ore, Depth to
(Note: Manhole A Niagara Tuscarora in Manhole B (and water distance fro (Note: riser elevat	a Road sanitary sewer line I by extension Manhole A) m the manhole rim should ions (re)surveyed Septeml	by a float controlle below an elevation not be <u>less</u> than 12 per, 1999 by Wend	d sump pump which n of 565 ft. above mear 2.41 ft. at Manhole B a	naintains groundwa n sea level. Theref	ter elevations ore, Depth to
(Note: Manhole A Niagara Tuscarora in Manhole B (and water distance fro (Note: riser elevat	a Road sanitary sewer line I by extension Manhole A) m the manhole rim should ions (re)surveyed Septeml	by a float controlle below an elevation not be <u>less</u> than 12 per, 1999 by Wend	d sump pump which n of 565 ft. above mear 2.41 ft. at Manhole B a	naintains groundwa n sea level. Theref	ter elevations ore, Depth to
(Note: Manhole A Niagara Tuscarora in Manhole B (and water distance fro (Note: riser elevat	a Road sanitary sewer line I by extension Manhole A) m the manhole rim should ions (re)surveyed Septeml	by a float controlle below an elevation not be <u>less</u> than 12 per, 1999 by Wend	d sump pump which n of 565 ft. above mear 2.41 ft. at Manhole B a	naintains groundwa n sea level. Theref	ter elevations ore, Depth to
(Note: Manhole A Niagara Tuscarora in Manhole B (and water distance fro (Note: riser elevat	a Road sanitary sewer line I by extension Manhole A) m the manhole rim should ions (re)surveyed Septeml	by a float controlle below an elevation not be <u>less</u> than 12 per, 1999 by Wend	d sump pump which n of 565 ft. above mear 2.41 ft. at Manhole B a	naintains groundwa n sea level. Theref	ter elevations ore, Depth to

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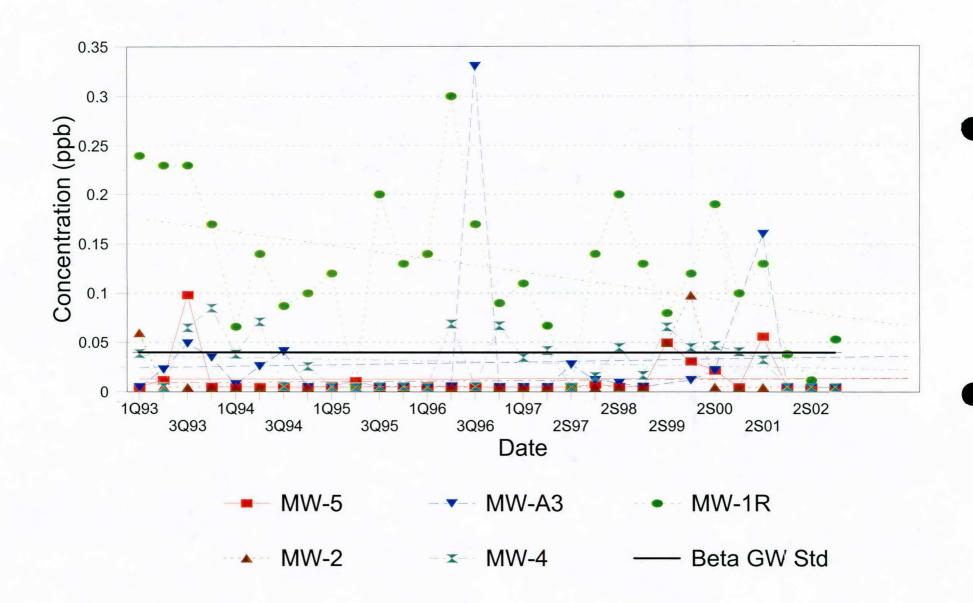
alpha - BHC



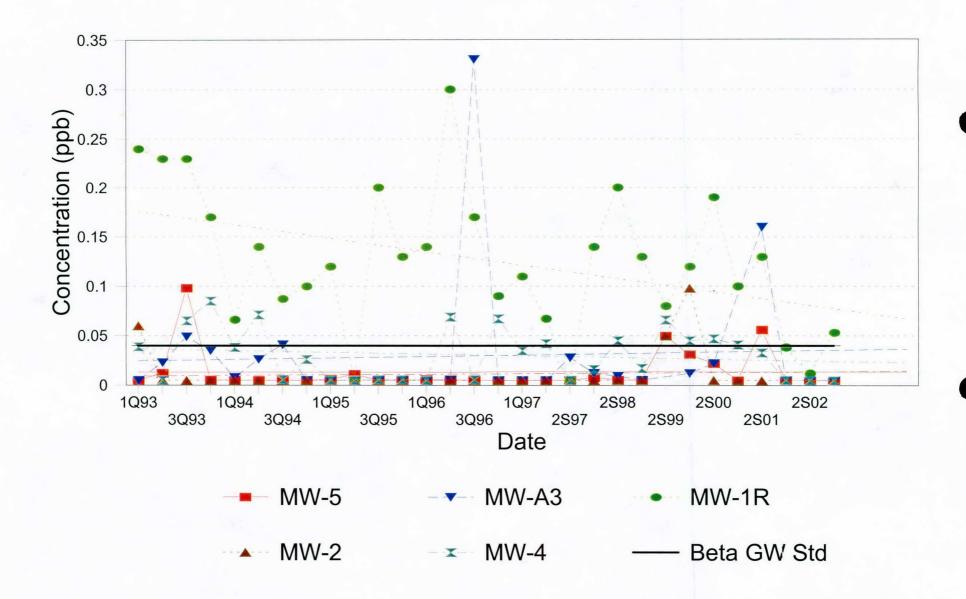
alpha - BHC



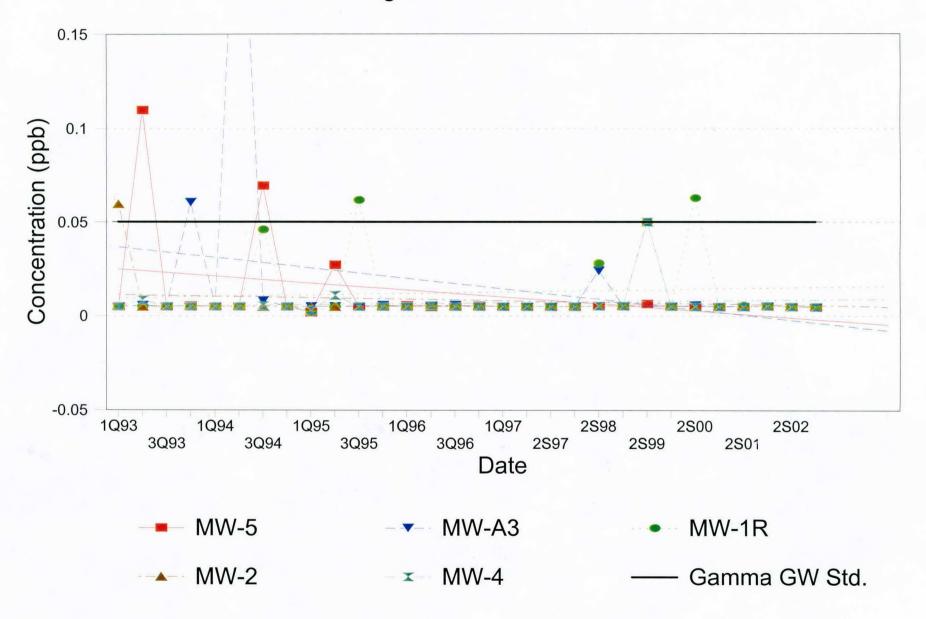
beta - BHC



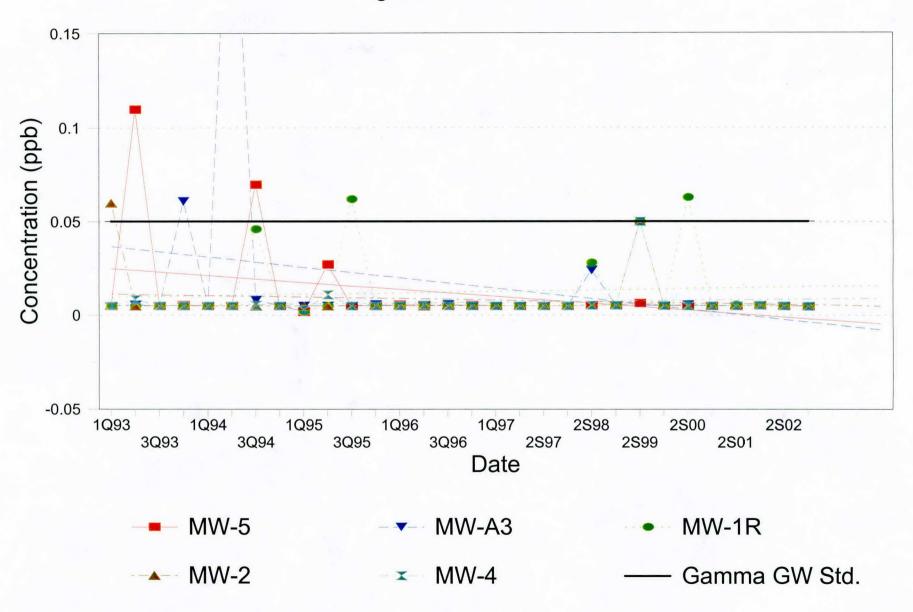
beta - BHC



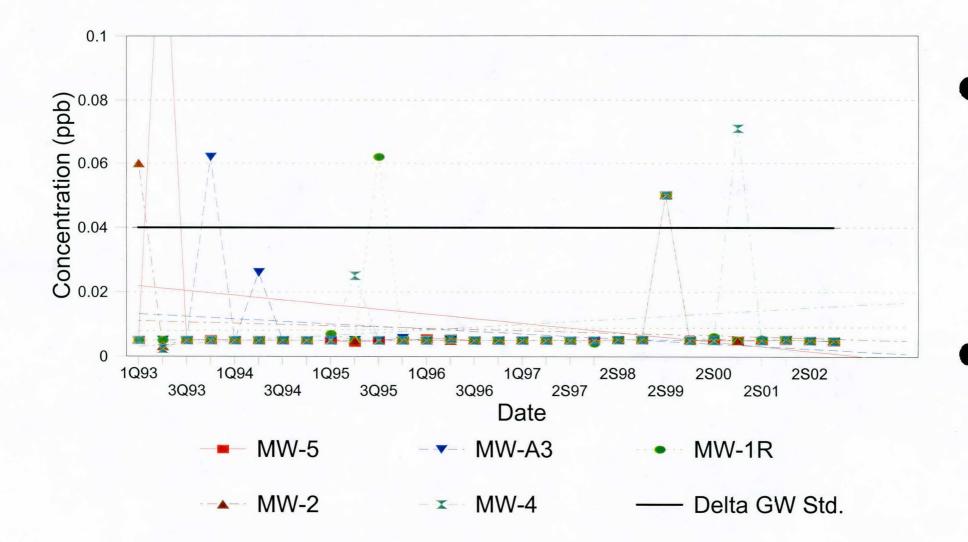
gamma - BHC



gamma - BHC



delta -BHC



delta -BHC

