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432063 2004 SAUDILY Data

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

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

February 3, 2005

'Jy Aft

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 Twelfth Annual Report - 2004

RECEIVED

FEB 0 8 2005. NYSDEC REG 9 FOIL REL UNREL

Dear Mr. Hinton:

Enclosed are three copies of the Twelfth Annual Report - 2004 for the referenced site. This report summarizes the activities performed during 2004 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 2004.

- Semi-annual ground water sampling events were performed during April and September 2004.
- Annual sediment sampling was performed in September.
- Annual sampling and analysis of leachate was completed in September. There were 65, 082 gallons of leachate discharged to the City of Niagara Falls Wastewater Treatment Facility during 2004.
- NYSDEC conducted a site inspection on April 6, 2004.

The Semi-Annual Ground Water Sampling and Annual Sediment Sampling Report - September 2004, is included as Appendix A to this report.

At this time. Olin requests NYSDEC discontinue the requirement for hexachorobenzene (HCB) monitoring in ground water wells. This request is based on the Site never having any detections of this compound in the ground water.

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

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Ρ 0 R Α TION

Sincerely, OLIN CORPORATION arraine M. Miller

Lorraine M. Miller **Principal Environmental Specialist** 

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

#### **TWELFTH ANNUAL REPORT**

2004

#### **CHARLES GIBSON SITE**

#### (PINE AND TUSCARORA SITE)

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

#### PREPARED BY OLIN CORPORATION

**FEBRUARY 2005** 

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#### Introduction

This is the Twelfth Annual Report from Olin Corporation (Olin) for the Charles Gibson Site (Pine and Tuscarora Site), located in Niagara Falls, New York. This report summarizes activities performed during 2004 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).

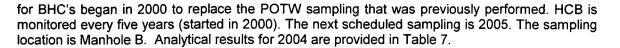
The O&M Manual (2000) addresses the required elements as set forth in the Agreement. Element 4, acquisition of easements, is a completed task. Element 6, a contingency plan, is addressed in the O&M Manual. Element 7, containment of the contaminants, has been achieved and is being monitored for effectiveness. 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 6 and on September 20, 2004. 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 2004. HCB was not detected in any of the ground water wells. HCB has not been detected in any ground water samples. The next HCB sampling is scheduled for September 2006. The semi-annual ground water monitoring data summary from 1997 through 2004 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 20, 2004. Upstream data were similar to the 2003 sampling event for the alpha, beta, delta and gamma BHC isomers. Concentrations were typically below or slightly above the lab detection limits resulting in estimated concentrations. Downstream data were slightly above 2003 results for the alpha and beta BHC compounds while delta and gamma BHC results were lower than 2003 data. 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 being maintained in the containment area of the site (Table 4). Water level elevations in Manhole A and Manhole B are monitored quarterly (Table 5).

There were 65,082 gallons of leachate discharged to the POTW during 2004. A summary of yearly discharge volumes for the Site is provided in Table 6. Between 1991 and 2004, a total of 877,675 gallons of leachate were removed from the Site. Annual leachate sampling and analysis



**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 2004 include: repairing a seventy foot section of the stockade perimeter fence along the northeast side of fence that was knocked over by high winds in April; removing and repairing the readout on the flow meter, and testing the pumping system in October. 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 2004 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 2004 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 being maintained in the containment area of the site. Data from 2004 sediment trap monitoring were similar to the 2003 monitoring.

Olin requests NYSDEC to discontinue the requirement for hexachorobenzene (HCB) monitoring in ground water wells. This request is based on the Site never having any detections of this compound in the ground water.

#### Table 1

#### Semi-Annual Ground Water Summary

								Monitor W	ell: MW-A3				-		
	1997	1	998	19	99	20	000	. 20	001	2	002		2003	2	2004
Parameter	September (*)	April	October	April	October	May	October	April	October	Aprii	September	April	September	April	September
Alpha-BHC	.059	.016J	.12	.0043J	-	.050U	.054U	.050U	.050U	.050U	.029J	.048U	.035J	.048U	047U
Beta-BHC	.028J	.012J	.0092J	.053U	-	.012J	.054U	.050U	.050U	.050U	.016J	.048U	.059U	.048U	.047U
Gamma-BHC	.050U	.050U	.024J	.053U	-	.050U	.054U	.050U	.050U	.050U	.050U	.048U	.059U	.048U	.047U
Delta-BHC	.050U	.050U	.053U	.053U	-	.050U	.054U	.050U	.050U	.050U	.050U	.048U	.059U	.048U	.047U
Hexachlorobenzene	10U	10U	-	11U	-	110	NR	100	NR	NR	NR	NR	NR	10Ü	NR

÷

								Monitor Well: M	W-1R						
•	1997	1	998	19	999		2000	20	01	200	2	20	03	· 20	04
Parameter	September (*)	April	October	April	October	May	October	April	October	April	September	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	.049U/.049	.026J/.048U
Beta-BHC	.053	.14	.20	.13	.080	.12	.038J/.052U	.012J/.050U	.19/.15	.10/.050U	.13/.095	.053/.052	.052U	.049U/.065	.090/.024
Gamma-BHC	050U	.050U	.028J	.053U	.050UJ	.051U	.054U/.052U	.050U/.050U	.063J/.058U	.050U/.050U	.055U	.049U	.052U	.049U/.049U	.048U/048
Delta-BHC	.050U	.0042J	.053U	.0054J	.050U	.051U	.054U/.052U	.050U/.050U	.061U/.058U	.050U/.053	.055U	.049U	.052U	.049U/.049U	.048U/.0480
Hexachlorobenzene	10U	10U	110	110	10U	10U	NR	10U/10U	NR	NR	NR	NR	NR	10U	NR

							N	Ionitor Well	: MW-2						
	1997	19	998		999		2000	20	001	2	2002		2003		2004
Parameter	September (*)	April	October	April	October	May	October	April	October	April	October	April	September	April	September
Alpha-BHC	.050U	.050U	.053U	.053U	.050U	.029J	.053U	.050U	.054U	.050U	.050U	.059U	.050U	.050U	.050U
Beta-BHC	.050U	.050U	.053U	.053U	.05QU	.098	.053U	.050U	.054U	.050U	.050U	.0500	.050U	.050U	.050U
Gamma-BHC	.050U	.050U	.053U,	.053U	.050UJ	.052U	.053U	.050U	.054U	.050U	.050U	.050U	.030J	.050U	.030J
Delta-BHC	.050U	.050U	.053U	.053U	.050U	.052U	.053U	.050U	.054U	.050U	.050U	.0500	.050U	.050U	.050U
Hexachlorobenzene	10UJ	10U	110	10U	10Ų	100	NR	10U	NR	NR '	NR	NR	NR	10U	NR

 Notes:
 Concentrations in ug/L

 (\*)
 Start of semi annual monitoring program

 U
 Not detected

 J
 Estimated value

 /
 Field Duplicates

 Not enough sample for analysis

 NB
 Not enough sample for analysis

NR Not required Data has been validated

#### Table 1 (cont.)

#### Semi-Annual Ground Water Summary

Monitor Well: MW-4

	1997		998		1999	200	0	2	001		2002		2003	2	004
Parameter	September (*)	April	October	April	October	May	October	April	October	April	September	April	September	April	September
Alpha-BHC	.050/.060	0030J	.053U	.0031J	.050U	.051U/.052U	.054U	.050U	.0069J	.050U	050U	.049U	.056	.048U	.048U
Beta-BHC	.055/.069	.016J	045J	.017J	.066/.068	.045J/.062	.054U	.050U	.047J	.041J	.033J	.049U	.026J	.048U	.037J
Gamma-BHC	.050U	.050U	.053U	.053U	.050U	.051U/.052U	.054U	.050U	.050U	.071J	.050U	.049U	.033J	.0480	.048U
Delta-BHC	.050U	.050U	.053U	.053U	.050U	.051U/.052U	.054U	.050U	.050U	.050U	.0500	.049U	.050U		
Hexachlorobenzene	100	10U	10U	10U	10U	100	NR	1011	NR	.0000	NR	.0430 NR	.0300 NP	.048U	.048U

#### Monitor Well: MW-5

	1997	1998		199	9	2	000		001		2002		2003		004
Parameter	September (*)	April	October	April	October	May	October	April	October	April	September	April	September		1
Alpha-BHC	.059	.050U/.0066J	.053U	.0071J	.045J	.010J	.054U	.050U	.013J	.050U	.050U	.048U		April	September
Beta-BHC	.050U	.0080J/.0084J	.053U	.053U	.050	.031J	.054U	.050U	.0133	.050U			.049U	.048U	.048U
Gamma-BHC	.050U	.050U	.053U	.053U	.0065J	.052U	.0540	.050U	.022J		.050U	048U	.049U	.048U	.048U
Delta-BHC	.050U	.050U	.053U	.053U	.050U	.052U	.054U	.0500		.050U	.050U	.048U	.049U	.048U	.0480
Hexachlorobenzene	10U	100	110	110/110	100			.0500	.055U	.050U	.050U	.048U	.049U	.048U	.048U
				110/110		100	NR	100	NR	NR	NR NR	NR	NR I	100	NR

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Notes: Concentrations in ug/l

(\*) U Start of semi annual monitoring program

Not detected

J Estimated value

Field Duplicates 1

Not enough sample for analysis

NR Not required

Data has been validated

#### 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* Octob <u>er</u>	2002 September	2003 September	2004 September
alpha-BHC	1.5 J	NS	6.1 U	8.1J	2.7J	5.3J	2.1J	8.9/7.4	3.5	55	19/90	28/22J	80U/86J
beta-BHC	2.3 J	NS	2.2 J	12	6.1U	11	5.2	28/19	4.5J	49	37/76	48/30	20J/190
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	23J/56J
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	80U/38J
HCB	500 U	NS	510 U	480 U	500U	330U	470U	480U	NR	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	2004 September
alpha-BHC	2.200	5.300	720	790	5000	330	4800J/80000J	4000 /	000040000				
beta-BHC	390	1,800	82	83 J	600	580	1300J/12000J	4800J 1800	9600/13000 3000J/2700J	<u>16</u> 52	26	26J 45	200
delta-BHC	27 J	80 J	67 U	250 U	41J	60J	53J/5500UJ	190J	1200U/1400U	65	20	43	140 12J
gamma-BHC	40 U	690	67 U	250 U	35J	44J	300UJ/690J	52J	1200U/1400U	1.4J	6.0U	31U	7.4J
НСВ	800 U	570 UR	550 U	420 U	330U	330U	520U/550U	510U	NR	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

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### Table 4

Piezometer Pair	2/18/2004	4/6/2004	9/20/2004	11/23/2004
P1	565.14	565.70	566.30	565.17
P2	565.47	568.54	565.49	565.31
P3	567.04	567.91	566.32	565.66
P4	565.39	565.38	565.43	565.28
P5	569.21	569.88	569.05	568.55
P6	567.88	568.23	567.89	567.48

#### 2004 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 65, 082 gallons during a 2004.



# Table 5

### Manhole Monitoring 2004 Water Elevations (ft.)

Date	Manhole A	Manhole B	Comments
2/18/2004	564.50	564.54	Quarterly inspection
4/6/2004	564.01	564.08	Semi Annual ground water sampling; NYSDEC visit.
9/20/2004	564.22	564.27	Semi Annual ground water sampling
11/23/2004	563.82	563.89	Quarterly inspection

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)
	(ganere)
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 (1)	5230
2004	65,082
	977 675
TOTALS	877,675

Notes:

(\*) Represents start of operation of direct discharge system

(1) Pumped during test of system on 4/13/2003

Discharge system pumped during February, March, April, May, July, and December of 2004.



# Table 7

### Annual Manhole B Sampling

### September 20, 2004

Parameter	Concentration (ug/l)
alpha – BHC	.12J
beta - BHC	.18J
delta - BHC	.20J
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

## GIBSON SITE NIAGARA FALLS, NEW YORK 2005 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 September 2006.
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 2004**

### PREPARED BY OLIN CORPORATION

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 2004.

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 20, 2004

MW-1R	MW-1R (DUP)	MW-2	MW-4	MW-5	MW-A3
.026J	.048U	.050U	.048U	.048U	.047U
.090	.024J	.050U	.037J	.048U	.047U
.048U	.048U	.050U	.048U	.048U	.047U
.048U	.048U	.050U	.048U	.048U	.047U
NR	NR	NR	NR	NR	NR
-	.026J .090 .048U .048U	(DUP) (DUP) .026J .048U .090 .024J .048U .048U .048U .048U	(DUP)           .026J         .048U         .050U           .090         .024J         .050U           .048U         .048U         .050U           .048U         .048U         .050U	(DUP)            .026J         .048U         .050U         .048U           .090         .024J         .050U         .037J           .048U         .048U         .050U         .048U           .048U         .048U         .050U         .048U	(DUP)

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 September 2006.



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

#### ANALYTICAL RESULTS SUMMARY ANNUAL SEDIMENT SAMPLING

#### September 20, 2004

•	UPSTREAM	DOWNSTREAM
PARAMETER		
alpha-BHC	80U/86J	200
beta-BHC	20J/190	140
delta-BHC	23J/56J	12J
gamma-BHC	80U/38J	7.4J

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



#### LABORATORY DATA SUMMARY PACKAGE

### SEMI-ANNUAL GROUND WATER SAMPLING

AND

# ANNUAL SEDIMENT SAMPLING

September 2004

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



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

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

#### ANALYTICAL REPORT

Job#: A04-2982

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

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

CC-Mr. Michael Walker

STL Buffalo

Brian J()Fischer Project Manager

Magy Ann Neary

Analyst

10/6/2004 -

Leavers in Environmental lesting

# STL Buffalo Current Certifications

STATE	Program	Cert # / Lab ID
Arkansas	SDWA, CWA, RCRA, SOIL	03-054-D/88-0686
California	NELAP SDWA, CWA, RCRA	01169CA
Connecticut	SDWA, CWA, RCRA, SOIL	PH-0568
Florida	NELAP RCRA	E87672
Georgia	SDWA	956
Illinois	NELAP SDWA, CWA, RCRA	200003
lowa	SW/CS	374
Kansas	NELAP SDWA, CWA, RCRA	E-10187
Kentucky	SDWA	90029
Kentucky UST	ÜST	30
Louisiana	NELAP CWA, RCRA	2031
Maine	SDWA, CWA	NY044
Maryland	SDWA	294
Massachusetts	SDWA, CWA	M-NY044
Michigan	SDWA	9937
Minnesota	CWA, RCRA	036-999-337
New Hampshire	NELAP SDWA, CWA	233701
New Jersey	SDWA, CWA, RCRA, CLP	NY455
New York	NELAP, AIR, SDWA, CWA, RCRA	10026
North Carolina	CWA	411
North Dakota	SDWA, CWA, RCRA	R-176
Oklahoma	CWA, RCRA	9421
Pennsylvania	Env. Lab Reg.	68-281
South Carolina	RCRA	. 91013
USDA	FOREIGN SOIL PERMIT	S-41579
Virginia	SDWA	278
Washington	С₩А	C254
West Virginia	CWA	252
Wisconsin	CWA	998310390
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# SAMPLE DATA SUMMARY PACKAGE

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# SAMPLE SUMMARY

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LAB SAMPLE ID \_\_\_\_\_ CLIENT SAMPLE ID A49

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A4906409	DS-1
A4906407	FIELD BLANK X-1
A4906408	MANHOLE B
A4906410	MS-1
A4906401	MW-1R
A4906403	MW-2
A4906404	MW-4
A4906405	MW-5
A4906402	MW-7
A4906406	MW-A3
A4906411	<del>₩5-1</del> US-1
	lac
	12/21/04

SAMPLE	U	RECEIV	ED
 DATE	TIME	DATE	TIME
		09/20/2004	
09/20/2004	15:30	09/20/2004	17:05
09/20/2004	15:20	09/20/2004	17:05
09/20/2004	16:00	09/20/2004	17:05
09/20/2004	12:00	09/20/2004	17:05
09/20/2004	12:50	09/20/2004	17:05
09/20/2004	13:25	09/20/2004	17:05
		09/20/2004	
09/20/2004	09:00	09/20/2004	17:05
		09/20/2004	
09/20/2004	15:50	09/20/2004	17:05

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#### METHODS SUMMARY

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### Job#: <u>A04-9064</u>

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

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ANALYTICAL
METHOD
ASP00 8081
ASP00 8081

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

#### NON-CONFORMANCE SUMMARY

#### Job#: <u>A04-9064</u>

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

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#### 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

A04-9064

Sample Cooler(s) were received at the following temperature(s); 3.2 °C All samples were received in good condition.

#### GC Extractable Data

For method 8081 pesticides, the extracts were was acid treated to minimize matrix interferences. None of the target pesticide compounds reported for this job are effected by this cleanup.

All extracts required treatment with Copper prior to analysis due to the presence of elemental Sulfur.

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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

<u>\0-し-D4</u> Date

Date: 10/04/2004		Dilution Log K/Code For Job AD4-9			• •	Page: 1 Rept: AK1266R
<u> </u>	Lab Sample ID A49064D9	<u>Parameter (Inorganic)</u> 8081	/Method (Organic)	Dilution	<u>Code</u> 008	
ms-1 <del>- vs-1</del> US-1	A4906410 A4906411	8081 8081		4.00		

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Dilution Code Definition:

002 - sample matrix effects

003 - excessive foaming

004 - high levels of non-target compounds

005 - sample matrix resulted in method non-compliance for an Internal Standard

006 - sample matrix resulted in method non-compliance for Surrogate

007 - nature of the TCLP matrix

008 - high concentration of target analyte(s)

009 - sample turbidity

010 - sample color

011 - insufficient volume for lower dilution

012 - sample viscosity

013 - other

# NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION

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### SAMPLE IDENTIFICATION AND ANALYTICAL REQUEST SUMMARY

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

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CUSTOMER SAMPLE ID	LABORATORY SAMPLE ID	ANALYTICAL REQUIREMENTS						
		VOA GC/MS	BNA GC/MS	VOA GC	PEST PCB	METALS	TCLP HERB	WATER QUALITY
DS-1	A4906409	-	-	-	ASP00	-	-	
FIELD BLANK X-1	A4906407	-	· -		ASP00	-	-	-
MANHOLE B	A4906408	-	1	-	ASP00	-		-
MS-1	A4906410	-	1	-	ASP00	-	-	-
MW-1R	A4906401		-	-	ASP00		-	
MW-2	A4906403	-	-		ASP00	-	-	-
MW-4	A4906404	-	-	-	ASP00	-	-	-
MW-5	A4906405	-	-	-	ASP00	-	-	-
MŴ-7	A4906402	-	-	-	ASP00	-	-	_
MW-A3	A4906406	-	-	-	ASP00	-	-	÷
<del>VS-1</del> US-1	A4906411	-	-	-	ASP00	-		-

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# NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION

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# SAMPLE PREPARATION AND ANALYSIS SUMMARY PESTICIDE/PCB ANALYSIS

# LAB NAME: SEVERN TRENT LABORATORIES, INC.

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SAMPLE IDENTIFICATION	MATRIX	DATE COLLECTED	DATE RECEIVED AT LAB	DATE EXTRACTED	DATE ANALYZED
DS-1	SOIL	09/20/2004	09/20/2004	9/27/2004	9/30/2004
·· FIELD BLANK X-1	WATER	09/20/2004	09/20/2004	9/23/2004	9/27/2004
MANHOLE B	WATER	09/20/2004	09/20/2004	9/23/2004	09/27/2004
MŚ-1	SOIL	09/20/2004	09/20/2004	9/27/2004	9/30/2004
MW-1R	WATER	09/20/2004	09/20/2004	9/23/2004	9/26/2004
MW-2	WATER	09/20/2004	09/20/2004	9/23/2004	9/26/2004
MŴ-4	WATER	09/20/2004	09/20/2004	9/23/2004	9/26/2004
MW-5	WATER	09/20/2004	09/20/2004	9/23/2004	9/26/2004
MW-7	WATER	09/20/2004	09/20/2004	9/23/2004	9/26/2004
MW-A3	WATER	09/20/2004	09/20/2004	9/23/2004	9/26/2004
US-1 <del>VS-1</del>	SOIL	09/20/2004	09/20/2004	9/27/2004	09/30/2004

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NYSDEC-4

### NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION

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### SAMPLE PREPARATION AND ANALYSIS SUMMARY ORGANIC ANALYSIS

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

LAB NAME: SEVERN TREN	1 22001011	51000, 210		······································	
SAMPLE IDENTIFICATION	MATRIX	ANALYTICAL PROTOCOL	EXTRACTION METHOD	AUXILIARY CLEAN UP	DIL/CONC FACTOR
DS-1	SOIL	ASP00	SONC	AS REQUIRED	AS REQUIRED
FIELD BLANK X-1	WATER	ASP00	SEPF	AS REQUIRED	AS REQUIRED
MANHOLE B	WATER	ASP00	SEPF	AS REQUIRED	AS REQUIRED
MS-1	SOIL	ASP00	SONC	AS REQUIRED	AS REQUIRED
MW-1R	WATER	ASP00	SEPF	AS REQUIRED	AS REQUIRED
MŴ-2	WATER	ASP00	SEPF	AS REQUIRED	AS REQUIRED
MW-4	WATER	ASP00	SEPF	AS REQUIRED	AS REQUIRED
MW-5	WATER	ASP00	SEPF	AS REQUIRED	AS REQUIRED
MW-7	WATER	ASP00	SEPF	AS REQUIRED	AS REQUIRED
MW-A3	WATER	ASP00	SEPF	AS REQUIRED	AS REQUIRED
- <del>VS-1</del> US-1	SOIL	ASP00	SONC	AS REQUIRED	AS REQUIRED

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# 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 flagoed 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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ANALYSIS DATA SHEET

Client No.

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	DS-1
Lab Name: <u>SIL Buffalo</u> Contrac	st:
Lab Code: <u>RECNY</u> Case No.: SAS No.:	: SDG No.:
Matrix: (soil/water) SOIL	Lab Sample ID: <u>A4906409</u>
Sample wt/vol:30.23 (g/mL) G	Lab File ID: <u>18B26154.TX0</u>
% Moisture: 57.0 decanted: $(Y/N)$ N	Date Samp/Recv: 09/20/2004 09/20/2004
Extraction: (SepF/Cont/Sonc/Soxh): <u>SONC</u>	Date Extracted: 09/27/2004
Concentrated Extract Volume: _10000(uL)	Date Analyzed: 09/30/2004
Injection Volume: <u>1.00</u> (uL)	Dilution Factor: <u>2.00</u>
GPC Cleanup: (Y/N) N pH:_	Sulfur Cleanup: (Y/N) Y
CAS NO. COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) <u>UG/KG</u> Q

		T I
319-84-6alpha-BHC	200	
319-85-7beta-BHC	140	
319-86-8delta-BHC	12	J
58-89-9gamma-BHC (Lindane)	7.4	J

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

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

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	FIELD BLANK X-1
Lab Name: <u>STL Buffalo</u> Contract	
Lab Code: <u>RECNY</u> Case No.: SAS No.:	SDG No.:
Matrix: (soil/water) <u>WATER</u>	Lab Sample ID: <u>A4906407</u>
Sample wt/vol: <u>1045.00</u> (g/mL) <u>ML</u>	Lab File ID: <u>18B26069.TX0</u>
% Moisture: decanted: (Y/N) <u>N</u>	Date Samp/Recv: 09/20/2004 09/20/2004
Extraction: (SepF/Cont/Sonc/Soxh): <u>SEPF</u>	Date Extracted: 09/23/2004
Concentrated Extract Volume: 10000(uL)	Date Analyzed: 09/27/2004
Injection Volume: <u>1.00</u> (uL)	Dilution Factor: 1.00
GPC Clearup: (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 Q</u>
319-84-6alpha-BHC 319-85-7beta-BHC 319-86-8delta-BHC	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

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ANALYSIS DATA SHEET

MANHOLE B Contract: \_ Lab Name: STL Buffalo Lab Code: <u>RECNY</u> Case No.: \_\_\_\_\_ SAS No.: \_\_\_\_\_ SDG No.: \_\_\_\_ Matrix: (soil/water) WATER Lab Sample ID: <u>A4906408</u> 18B26070.TX0 Lab File ID: Sample wt/vol: <u>1045.00</u> (g/mL) ML Date Samp/Recv: 09/20/2004 09/20/2004 % Moisture:\_\_\_\_\_ decanted: (Y/N) N Date Extracted: 09/23/2004 Extraction: (SepF/Cont/Sonc/Soxh): SEPF Date Analyzed: 09/27/2004 Concentrated Extract Volume: 10000 (uL) Dilution Factor: \_\_\_\_\_1.00 Injection Volume: <u>1.00</u>(uL) GPC Cleanup: (Y/N) N pH: 6.00 Sulfur Cleanup: (Y/N) N CONCENTRATION UNTIS:

(ug/L or ug/Kg) UG/L\_\_\_

CAS NO.	COMPOUND .	(ug/L or ug/I	(g) <u>UG/L</u>	Q	_
319-85-7	alpha-BHC beta-BHC delta-BHC ganma-BHC (Lindane)	·	0.12 0.18 0.20 0.048	ם ררר	



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Client No.

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OLIN CORPORATION - CHAR ASP 2000 - METHOD		
ANALYSIS DATA		•
· · ·		Client No.
		MS-1
Lab Name:   SIL Buffalo   Contract:	······································	l
Lab Code: <u>RECNY</u> Case No.: SAS No.:	SDG No.:	
Matrix: (soil/water) <u>SOIL</u>	Lab Sample ID:	<u>A4906410</u>
Sample wt/vol: <u>30.24</u> (g/mL) <u>G</u>	Lab File ID:	18B26155.TX0
% Moisture: 75.3 decanted: $(Y/N)$ Y	Date Samp/Recv:	<u>09/20/2004</u> <u>09/20/2004</u>
Extraction: (SepF/Cont/Sonc/Soxh): SONC	Date Extracted:	09/27/2004
Concentrated Extract Volume: <u>10000</u> (uL)	Date Analyzed:	09/30/2004
Injection Volume: <u>1.00</u> (uL)	Dilution Factor:	4.00
GPC Cleanup: (Y/N) N pH:_	Sulfur Cleanup:	(Y/N) <u>Y</u>
•	NTRATION UNITS: L or ug/Kg) <u>UG/KG</u>	Q

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319-84-6alpha-BHC	86	J
319-85-7beta-BHC	190	
319-86-8delta-BHC	56	J
58-89-9gamma-BHC (Lindane)	38	J

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	OLIN	CORPORATION -	CHARLES	GIBSON	SITE			
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		ANALYSIS :	DATA SHEE	T				

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	· · · · · · · · · · · · · · · · · · ·	Client No.
		MW-1R
Lab Name: <u>STL Buffalo</u> Contrac	t:	<b>ا</b> ــــــــــــــــــــــــــــــــــــ
Lab Code: <u>RECNY</u> Case No.: SAS No.:	SDG No.:	
Matrix: (soil/water) WATER	Lab Sample ID:	<u>A4906401</u>
Sample wt/vol: (g/mL) ML	Lab File ID:	18B26059.TX0
% Moisture: decanted: (Y/N) $\underline{N}$	Date Samp/Recv:	09/20/2004 09/20/2004
Extraction: (SepF/Cont/Sonc/Soxh): <u>SEPF</u>	Date Extracted:	09/23/2004
Concentrated Extract Volume: 10000(uL)	Date Analyzed:	09/26/2004
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>
CAS NO. COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) <u>UG/L</u>	Q

	<u>_</u>	
319-84-6alpha-BHC	0.026	J
319-85-7beta-BHC	0090	
319-86-8delta-BHC	0.048	U
58-89-9garma-BHC (Lindane)	0.048	U

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

ANALYSIS DATA SHEET

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MW-2 Contract: Lab Name: STL Buffalo Lab Code: RECNY Case No.: \_\_\_\_ SAS No.: \_\_\_\_ SDG No.: \_\_\_\_ Matrix: (soil/water) WATER Lab Sample ID: A4906403 Sample wt/vol: \_1000.00 (g/mL) ML Lab File ID: 18B26061.TX0 % Moisture:\_\_\_\_ decanted: (Y/N) N Date Samp/Recv: 09/20/2004 09/20/2004 Extraction: (SepF/Cont/Sonc/Soxh): SEPF Date Extracted: 09/23/2004 Concentrated Extract Volume: 10000 (uL) Date Analyzed: 09/26/2004 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 CONCENTRATION UNITS: CAS NO. (ug/L or ug/Kg) UG/L COMPOUND. 0

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319-84-6alpha-BHC		0.050	υ
319-85-7beta-BHC		0.050	υ
319-86-8delta-BHC	······································	0.050	υ
58-89-9gamma-BHC (Lindane)	· · · · · · · · · · · · · · · · · · ·	0.050	υ
L			1 · f

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

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	 t:	MW-4
Lab Code: <u>RECNY</u> Case No.: SAS No.:	SDG No.:	
Matrix: (soil/water) <u>WATER</u>	Lab Sample ID:	<u>A4906404</u>
Sample wt/vol:1045.00 (g/mL) <u>ML</u>	Lab File ID:	18B26064.TX0
% Moisture: decanted: (Y/N) $\underline{N}$	Date Samp/Recv:	09/20/2004 09/20/2004
Extraction: (SepF/Cont/Sonc/Soxh): <u>SEPF</u>	Date Extracted:	09/23/2004
Concentrated Extract Volume: 10000 (uL)	Date Analyzed:	09/26/2004
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>
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 0.037 0.048 0.048 0.048	J.

OLIN CORPORATION 20/306 OLIN CORPORATION - CHARLES GIBSON SITE ASP 2000- METHOD 8081 BHC'S

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#### ANALYSIS DATA SHEET .

	· · · · · · · · ·	Client No.
	t:	MW-5
Lab Code: <u>RECNY</u> Case No.: SAS No.:	SDG No.:	
Matrix: (soil/water) <u>WATER</u>	Lab Sample ID:	<u>A4906405</u>
Sample wt/vol: <u>1045.00</u> (g/mL) <u>ML</u>	Lab File ID:	<u>18B26065.TX0</u>
% Moisture: decanted: (Y/N) $\underline{N}$	Date Samp/Recv:	<u>09/20/2004</u> <u>09/20/2004</u>
Extraction: (SepF/Cont/Sonc/Soxh): <u>SEPF</u>	Date Extracted:	09/23/2004
Concentrated Extract Volume: 10000(uL)	Date Analyzed:	09/26/2004
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>
CAS NO. COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) <u>UG/L</u>	Q

319-84-6alpha-BHC	0.048	U
319-85-7beta-BHC	0.048	י ט
319-86-8delta-BHC	0.048	U U
58-89-9gamma-BHC (Lindane)	0.048	U

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

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			MW-7
Lab Name: STL Buffalo			
Lab Code: <u>RECNY</u> Case No.:	SAS No.: 5	SDG No.:	· .
Matrix: (soil/water) WATER		Lab Sample ID:	<u>A4906402</u>
Sample wt/vol: <u>1040.00</u> (g/mL) ML		Lab File ID:	18B26060.TX0
% Moisture: decanted: (Y/N) ]	N	Date Samp/Recv:	09/20/2004 09/20/2004
Extraction: (SepF/Cont/Sonc/Soxh): <u>SEP</u>	<u>F</u>	Date Extracted:	<u>09/23/2004</u>
Concentrated Extract Volume: 10000 (uL	)	Date Analyzed:	09/26/2004
Injection Volume: <u>1.00</u> (uL)		Dilution Factor:	1.00
GPC Cleanup: (Y/N) N pH: 6.00		Sulfur Cleanup:	(Y/N) <u>N</u>
CAS NO. COMPOUND	CONCENTRATI (ug/L or u	ION UNITS: 19/Kg) <u>UG/L</u>	Q
		0.040	TT

	319-84-6alpha-BHC	0.048.	υ
	319-85-7beta-BHC	0.024	J
••	319-86-8delta-BHC	0.048	ט
	58-89-9gamma-BHC (Lindane)	0.048	υ

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

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22/306

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ANALYSIS DATA SHEET

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	Client No.
· · · · · · · · ·	MW-A3
Lab Name: <u>SIL Buffalo</u> Contrac	st:
Lab Code: <u>RECNY</u> Case No.: SAS No.:	SDG No.:
Matrix: (soil/water) <u>WATER</u>	Lab Sample ID: <u>A4906406</u>
Sample wt/vol: _1055.00 (g/mL) ML	Lab File ID: <u>18B26066.TX0</u>
% Moisture: decanted: (Y/N) $\underline{N}$	Date Samp/Recv: <u>09/20/2004</u> <u>09/20/2004</u>
Extraction: (SepF/Cont/Sonc/Soxh): <u>SEPF</u>	Date Extracted: 09/23/2004
Concentrated Extract Volume: 10000 (uL)	Date Analyzed: 09/26/2004
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	0.047	υ	ĺ
319-85-7beta-BHC	0.047	υ	
319-86-8delta-BHC	0.047	υ	ĺ
58-89-9gamma-BHC (Lindane)	0.047	υ	
			1

OLIN CORPORATION 23/306 OLIN CORPORATION - CHARLES GIBSON SITE ASP 2000 - METHOD 8081 BHC'S ANALYSIS DATA SHEET

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Client No.

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			<del>₩5-1</del> US-	
Lab Name: <u>STL Buffalo</u> Con	tract:	-	Ja	1 12/21/04
Lab Code: <u>RECNY</u> Case No.: SAS	No.:	No.:		
Matrix: (soil/water) <u>SOIL</u>	Iab	o Sample ID:	<u> A4906411</u>	
Sample wt/vol: <u>30.36</u> (g/mL) <u>G</u>	Iah	o File ID:	<u>18B26156</u>	.TX0
% Moisture: 60.6 decanted: (Y/N) N	Dat	te Samp/Recv:	<u>09/20/20</u>	<u>04 09/20/2004</u>
Extraction: (SepF/Cont/Sonc/Soxh): <u>SONC</u>	Dat	te Extracted:	<u>09/27/20</u>	<u>04</u>
Concentrated Extract Volume: 10000 (uL)	Dat	e Analyzed:	<u>09/30/20</u>	04
Injection Volume: <u>1.00</u> (uL)	Dil	lution Factor:	4.00	
GPC Cleanup: (Y/N) <u>N</u> pH:	Sul	lfur Cleanup:	(Y/N) <u>Y</u>	
CAS NO. COMPOUND	CONCENTRATION (ug/L or ug/F		Q	
319-84-6alpha-BHC		80	U	

319-84-6alpha-BHC	B0 ·	ט ט	
319-85-7beta-BHC	20	J	
319-86-8delta-BHC	23 ·	J	
58-89-9gamma-BHC (Lindane)	· 80 ·	ប	

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# Chain of Custody Record



SERVICES Severn Trent Laboratories, Inc.

STL-4124 (0901) Client		1	<u> </u>														<u>``</u>		
OLIN CORP.		Project M			4.11	< 0					•		Date	20-0	×4	Chain of C		<sup>mber</sup> 349	•
Address		Telephon	e Numb	er (Are	a Code	/Fax,	Numbe	nr					Lab Nu		1		<u>134</u>	<u>343</u>	
Address PO BUX 248, 1186 LOWSE RWISE A City State Zip	d	423	330	5-L	USI	/	42	3	336	, 41	66					Page	<b> </b>	of	
City State Zip Charles ton, The TN 3 Project Name and Location (State)	<sup>Code</sup> 7310	Site Cont	NACK	61		Vad C BL	iontael AN	r.sd	ver	_		A ma	nalysis (Al pre space	ttach list il is needed	; ) 1 1 1		<b>\</b>	<u> </u>	
Project Name and Excation (State)	Alls AND	Carrier/M	/aybill N	lumber							First Start						nonial lu		
Contract/Purchase Order/Quote No.	<del>11/1 = 1</del>		٨	Aatrix				ntaine serva			No.					Co	onditions	nstruction s of Rece	is/ ipt
Sample I.D. No. and Description (Containers for each sample may be combined on one line)	Date	Time	Air Aqueous	Sed.	libe	Unpres.	HNO3	Ę	NaOH ZnAc/	NaOH	BHC								
MW-1R	9-20-04 12	00	X			X					۲ ۲					Эх	Litra	GLAS	
MW-Y	9-20-04 0	900	X			X					X					24		e Gla	
Mw-2	9-20.041	250	X			<u>א</u>					K				+	19 V		GLA	
MW-4		325	K			6					K					- <u> ~</u> -		GLAS	
MW-5'		400	X			Ø				/	X		┼╌┼╴┼				11	~(v)_	· <u>·</u> ····
MW-AB	9-20-04/	410	X			xi				_ <u> </u> ľ	X'				╄╌┼─┤	····-	М		
Field Blauk X-1		530	$\mathbf{x}$			Ø		11			$\mathcal{R}$		<u>†-</u> ††-		┼╾┼─┤	v	1		<u> </u>
MANHOLE B		520	X			$\mathbf{x}$					×	<u>-</u>			┼╌┼╶┤		<u>`</u> ,		
DS-1		630		X		x	-	+			$\tilde{\mathbf{x}}$				┼─┼─┼	<u> </u>	Glas		
MS-1		600		X		X	-				X				┼╾┼╼╉	102			
15-1	9-20-64 1:			λ		সি	1				yo –				╂╌┠╼╆	h		·	
						1									╋╼┼╾┤	'			
Possible Hazard Identification			Sampi				_⊥ ^					L	44						<u> </u>
Non-Hazard Flammable Skin Irrilant	🗆 Poison B 🗡	Unknown		aturn To	Client		VDispo				Archive	or	Month	Is longer	han 1 mon	essed if sam th)	pies are re	ained	1
<u> </u>	ays 🗌 21 Days	Olhei	STAN	KIAA	Lot	$ ^{a}$	IC Req	uirem	ents (S	Specify)									
(1. Remoquistied ex		Date		Time	<u></u> 70ぢ	- 1.	Rece			D	1					Date	101	Time	<u> </u>
2. Relinquished By		1-20 Date					<u>~</u>			. Ľ	<u>LA</u>	w					2/04	170	5
		5410		Time		5	Alece	iveu D	'Y				3	Z°C	.)	Date		Time	
3. Relinquished By		Date		Time		3	. Rece	ived B	ly						<u> </u>	Date	l	Time	<u> </u>
Comments Copy to Mike Warke	n e Sivi	1 M5m	Pini			ta	1	27	149	100	kone	101		we f.	16 201	1112	 אס		)
DISTRIBUTION: WHITE - Returned to Client with Report, (	CANARY - Stays with	the Sample	e; PINK	· Field	Copy	→ 1 <u>134</u>	<u>*</u> t	0.1			-quit	1 mg	1.	ARA ta	u - t	143	12		6
										ph#	74	981	raizi	trap.	* 71	6 285	5420	1	

Charles Gibson Site NYSDEC Registry No. 9-32-063 Twelfth Annual Report - 2004



#### **APPENDIX 2**

#### FIELD LOGS

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

September 2004

#### 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/Twelfth Annual Report 2004

RECORDED BY:	Walker	SAN	IPLE ID:	MW-1R +	MW-7
SAMPLED <u>BY:</u>	Walker	SAN	IPLING EVENT/I	DATE:	9/20/2004
COMPANY:	Sevenson	MOI	NITORING WELL	.: <u>MW-1R</u> +	- 1
		 CON		good	
GROUNDWATER P	URGE DATA	PURGE DATE:	9/20/200		LL GIBSON SITE
DEPTH TO BOTTOM	M FROM TOP OF RIS	SER:	12.1 (FT.)		RING WELLS ARE
DEPTH TO WATER	FROM TOP OF RISE	ER:	<u>5.3</u> (FT.)	2-INCH E	DIAMETER STAIN-
	WATER COLUMN	:	6.8 (FT.)	LESS ST	EEL. WELL DEPTHS
	2" DIA. WELL CO	NSTANT:	0.16	MW-1R	12.10'
	ONE WELL VOLÜ		1.09 (GALS)	MW-2 MW-A3	
	Parastaltic Pump v			MW-4 MW-5	13.75' 15.28'
BOTTOM OF WELL PURGE START TIM PURGE OBSERVA	IE: 1130	None STOP TIMI	1200	C-VVIVI	13.20
FIELD PARAMETER	R MEASUREMENTS				
		SPECIFIC CONDUCTIVIT	Y TEMP.		
WELL VOLUME	pН	umhos/cm)	(C OR F)		NOTES:
1	6.7	912	67.3		Clear
2	7.6	926	69.3		Clear
3	7.7	1023	65.5		Clear
4			····		<del></del>
5			·		<b>.</b>
TOTAL VOLUME P	URGED: 3.0 Ga	Ι.			
GROUNDWATER (	OR SEDIMENT SAM	PLING DATA:	SAMPLE	DATE:	9/20/2004
	IDWATER X		SAMPLE	T <u>IME:</u>	1200
LOCATION:	<u>MW-1R + MW-7</u>		;		
SAMPLE METHOD	Purge 3 volumes	and then sample	,		
SAMPLING OBSEF	RVATIONS: <u>Water</u>	clear			
QC SAMPLES TAK	EN: Duplic	ate samples taken a	ind labeled MW-7	/ Sampled a	at "10:00 am"
OTHER OBSERVA	TIONS/COMMENTS	Collected 4, 1	liter glass amber	jars for BH	IC analysis.
1					

	······				
RECORDED BY:	Walker	5	SAMPLE ID:	MW-2	
SAMPLED BY:	Walker	s	SAMPLING EVENT/	DATE:	9/20/2004
COMPANY:	Sevenson	N		: MW-2	-
			CONDITION:	good	
GROUNDWATER P	URGE DATA	PURGE DA	TE: <u>9/20/200</u>	_	LL GIBSON SITE
DEPTH TO BOTTO	M FROM TOP OF RI	SER:	12.13 (FT.)		RING WELLS ARE
DEPTH TO WATER	FROM TOP OF RIS	ER:	5.75 (FT.)	2-INCH E	DIAMETER STAIN-
	WATER COLUMN	:	6.38 (FT.)	LESS ST	EEL. WELL DEPTHS:
	2" DIA. WELL CO	NST <u>ANT:</u>	0.16	MW-1R	12.10'
	ONE WELL VOLU	ME=	1.02 (GALS)	MW-2 MW-A3	12.13' 11.95'
	Parastaltic Pump		<b>e</b> .	MW-4	
BOTTOM OF WELL PURGE START TIM		None STOP TIM	1250	MW-5	15.28'
PURGE OBSERVA		vater with black s			
FIELD PARAMETER	R MEASUREMENTS	:			
1		SPECIFIC			
WELL	~LJ	CONDUCTI umhos/cm)	VITY       TEMP. _(C OR F)		NOTES:
VOLUME 1	<u>рН</u> 8	1493	<u>(0 01(1)</u> 65.7	_	Clear/black specs
2	7.4	1266	65.8		Clear
3	7.4	1281	65.5		Clear
4	7.4	1279	63.8		clear
5					
TOTAL VOLUME P					
GROUNDWATER C	OR SEDIMENT SAMI	PLING DATA:	SAMPLE	DATE:	9/20/2004
	DWATER <u>X</u> SEDIMENT		SAMPLE	TIME:	1250
	MW-2				
SAMPLE METHOD	: Purge 3 volumes	and then sample			
SAMPLING OBSER	VATIONS: <u>Water</u>	clear	<u></u>		<u> </u>
QC SAMPLES TAK	EN:				
OTHER OBSERVA	TIONS/COMMENTS:	Collected 2	, 1 liter glass amber	jars for BH	C analysis.
1					

RECORDED BY:	Walker	SAM	PLE ID:	MW-4	
SAMPLED BY:	Walker	SAM	PLING EVENT/	DATE:	9/20/2004
COMPANY:	Sevenson	MON	IITORING WELL	: MW-4	-
			DITION:	good	
	······································	CON		good	
GROUNDWATER P	URGE DATA	PURGE DATE:	9/20/200		
	M FROM TOP OF RISE	२:	13.75 (FT.)		L GIBSON SITE RING WELLS ARE
DEPTH TO WATER	FROM TOP OF RISER		6.62 (FT.)	2-INCH D	IAMETER STAIN-
	WATER COLUMN:		7.13 (FT.)	LESS ST	EEL. WELL DEPTHS:
	2" DIA. WELL CONS	TANT:	0.16	MW-1R	12.10'
	ONE WELL VOLUME		1.14 (GALS)	MW-2 MW-A3	
BOTTOM OF WELL PURGE START TIM	Parastaltic Pump w/ o /SILT BUILDUP: 1E: 1310	None STOP TIMI	1325 s. Sulfer sm	MW-4 MW-5	13.75'
PURGE OBSERVA	TIONS: Clear wat	er with black spec	s. Suller Sir	ien	
FIELD PARAMETE	R MEASUREMENTS:	SPECIFIC			
WELL		CONDUCTIVIT	Y TEMP.		
VOLUME	<u>рН</u>	umhos/cm)	<u>(C OR F)</u>	<u> </u>	NOTES:
1	7.9	1874	63.8		Clear/black specs
2	7.8	1680	63.2		Cloudy /sulfer odor
3	7.7	1999	63.3		cloudy/no odor
4	7.7	2370	62.7		cloudy
5		<u>.                                    </u>			
TOTAL VOLUME P	URGED: 3.5 gallor	1			
GROUNDWATER	OR SEDIMENT SAMPL	NG DATA:	SAMPLE	DATE:	9/20/2004
	NDWATER X		SAMPLE		1325
LOCATION:	MW-4	. <u></u>			
SAMPLE METHOD	: Purge 3 volumes and	then sample			
SAMPLING OBSEI	RVATIONS: Cloudy w	ater no smell			
QC SAMPLES TAP	<en<u>:</en<u>				
OTHER OBSERVA	TIONS/COMMENTS:	Collected 2, 1	liter glass ambe	r jars for BH	C analysis.
			<u></u>	<u>.</u>	

RECORDED BY:	Walker			SAMPLE I	D:	MW-5	······································
SAMPLED BY:	Walker			SAMPLIN	G EVENT/D	ATE:	9/20/2004
COMPANY:	Sevenson			MONITOR	ING WELL:	MVV-5	
				CONDITIC	N:	good	
	URGE DATA		PURGE D	ATE:	9/20/2004		
							L GIBSON SITE
DEPTH TO BOTTOM					(FT.)		RING WELLS ARE
DEPTH TO WATER			<u></u>		(FT.)		IAMETER STAIN-
	WATER CO				(FT.)		EEL. WELL DEPTH
		LL CONST		0.16	-	MW-1R	12.10'
	ONE WELL	VOLUME=	3	1.27	(GALS)	MW-2 MW-A3	12.13' 11.95'
PURGE METHOD:	Parastaltic	Pump w/ de	edicated ho	se		MW-4	13.75'
BOTTOM OF WELL	SILT BUILDU	JP:	None			MW-5	15.28'
PURGE START TIM		Cloudy wat	STOP TIM		)		
PURGE OBSERVAT	IONS:	Cioudy wai		<b>1</b> 1501			
FIELD PARAMETER	R MEASUREN	MENTS:					
			SPECIFIC		75115		
WELL	-11		CONDUC <sup>®</sup>		TEMP. (C OR F)		NOTES:
	<u>pH</u> 7.1		umhos/cm 1386	2	<u>(C OK F)</u> 65	_	orange/cloudy
<u> </u>	6.9		2150	<u></u>	62.5		cloudy
3	6.9		2180		62.6		Clear
4	6.9		2150		62		Clear
5							
		3.75 gallor					0/20/2004
GROUNDWATER (	OR SEDIMEN	T SAMPLIN	IG DATA:		SAMPLE	DATE:	9/20/2004
	DWATER	<u>x</u>	_		SAMPLE	T <u>IME:</u>	1400
CREEK	SEDIMENT		-				
	MW-5		<u> </u>				
SAMPLE METHOD	: Purge 3 vo	olumes and	then samp	le			
SAMPLING OBSEF	RVATIONS:	Water clea	ar	t			
QC SAMPLES TAK	EN:	no			<u> </u>		
OTHER OBSERVA	TIONS/COM	MENTS:	Collected	2, 1 liter gl	ass amber	jars for BH	C analysis.
				<u> </u>			
							_
			<del>_</del>				

CRA 8143 (1) AppD-GwsdForm

RECORDED BY:	Walker	S	AMPLE ID:	MW-A3	
SAMPLED <u>BY:</u>	Walker	S	AMPLING EVENT/	DATE:	9/20/2004
COMPANY:	Sevenson	N	IONITORING WELI	: MW-A3	
		C	ONDITION:	good	
		PURGE DAT	E: 9/20/200	4	
GROUNDWATER F		FUNGEDAT	L. <u>37207200</u>	NOTE: A	LL GIBSON SITE
<b>DEPTH TO BOTTO</b>	M FROM TOP OF RIS	ER:	11.95 (FT.)		RING WELLS ARE
DEPTH TO WATER	FROM TOP OF RISE	R:	<u>8.4</u> (FT.)	2-INCH [	DIAMETER STAIN-
	WATER COLUMN:		3.55 (FT.)	LESS ST	EEL. WELL DEPTHS:
	2" DIA. WELL CON	IST <u>ANT:</u>	0.16	MW-1R	12.10'
	ONE WELL VOLUI		0.57 (GALS)	MW-2 MW-A3	
PURGE METHOD:	Parastaltic Pump w		9	MW-4 MW-5	
BOTTOM OF WELL PURGE START TIM		None STOP TIM	1450	C-VVIVI	10.20
PURGE START TIM					
FIELD PARAMETE	R MEASUREMENTS:				
		SPECIFIC	VITY TEMP.		
WELL VOLUME	рН	CONDUCTI <sup>V</sup> umhos/c <u>m</u> )	(C OR F)	)	NOTES:
	7.6	884	61.8	<b>_</b>	Clear
2	7.6	660	60.6		Clear
3	7.5	623	61		Clear
4	7.5	615	61.4		Clear
5					
			SAMPLE		9/20/2004
GROUNDWATER	OR SEDIMENT SAMF	LING DATA:			
	NDWATER <u>X</u>		SAMPLE	TIME:	1450
	MW-A3	, <b></b> ,_			
SAMPLE METHO	D: Purge 3 volumes a	and then sample			
SAMPLING OBSE	RVATIONS: <u>Water</u>	clear			
QC SAMPLES TA	KEN <u>: no</u>				
OTHER OBSERV	ATIONS/COMMENTS:	Collected 2	, 1 liter glass ambe	r jars for BH	IC analysis.

RECORDED BY:	Walker	SAMPL	E ID:	Manhole	В
SAMPLED BY:	Walker	SAMPL	ING EVENT/[	DATE:	9/20/2004
	Coverson		ORING WELL	Manhola	<b>D</b>
COMPANY:	Sevenson		ORING WELL		<u>D</u>
		CONDI	TION:	good	
GROUNDWATER P	URGE DATA	PURGE DATE:	9/20/2004		
DEPTH TO BOTTO	M FROM TOP OF RIS	ER:	(FT.)		LL GIBSON SITE RING WELLS ARE
DEPTH TO WATER	FROM TOP OF RISE	R:	(FT.)	2-INCH [	DIAMETER STAIN-
	WATER COLUMN:		(FT.)	LESS ST	EEL. WELL DEPTHS
	2" DIA. WELL CON	STANT:		MW-1R	12.10'
	ONE WELL VOLUM	NE=	(GALS)	MW-2	
	Parastaltic Pump w	/ dedicated hose		MW-A3 MW-4	13.75'
BOTTOM OF WELL PURGE START TIN		STOP TIMI		MW-5	15.28'
PURGE OBSERVA					
FIELD PARAMETE	R MEASUREMENTS:				
		SPECIFIC	TEMP		
WELL VOLUME	рН	CONDUCTIVITY umhos/cm)	TEMP. (C OR F)		NOTES:
1	<u>P:-</u>		<u>()</u>	_	
2					
3					
4					
5		·		<u> </u>	
MEDIA: GROUN	OR SEDIMENT SAMP	LING DATA:	SAMPLE		9/20/2004 1520
CREEK	SEDIMENT				
	Manhole B				
SAMPLE METHOD	: Parastaltic <u>Pump w</u>	/ dedicated hose			
SAMPLING OBSEF	RVATIONS: <u>Water c</u>	lear			
QC SAMPLES TAK	(EN <u>: no</u>			<u></u>	
OTHER OBSERVA	TIONS/COMMENTS:	Collected 2, 1 liter	glass amber	jars for BH	C analysis.

CRA 8143 (1) AppD-GwsdForm

		SAMPLING FIELD FC			
RECORDED BY:	Walker	SAMPL	E ID: DS-1		
SAMPLED <u>BY:</u>	Walker	SAMPLI	NG EVENT/DATE:	9/20/2004	
COMPANY:	Sevenson	MONITO	DRING WELL: DS-1		
		CONDIT	ION:	<u></u>	
FIELD PARAMETE	R MEASUREMENTS				
		SPECIFIC CONDUCTIVITY	TEMP.		
WELL VOLUME	рН	umhos/cm)	(C OR F)	NOTES:	
	<u>PU</u>		<u></u>		
2	<u> </u>		· · ·	<u> </u>	
3					
4					
5					
GROUNDWATER	OR SEDIMENT SAN	IPLING DATA:	SAMPLE DATE:	9/20/2004	
	IDWATER		SAMPLE TIME:	1630	
CREEK	SEDIMENT X			-	
LOCATION:	Creek bed down	stream of the landfill cap			
SAMPLE METHOD	:Sedir	nent trap composite			
SAMPLING OBSEF					
QC SAMPLES TAK	(EN <u>:</u>				
OTHER OBSERVA	TIONS/COMMENTS	S:			
			SC measured		
Note: specific cond	uctivity formula to 25	degrees Celcius: SC(25)	= {{T- <u>25</u> )(0.02)}+1		

.

		<u>د</u>	SAMPLING F	TELD FU				
RECORDED BY:	Walker			SAMPLE	ID:	US-1		
SAMPLED BY:	Walker		_	SAMPLI	NG EVEN	T/DATE:	9/20/2004	
COMPANY:	Sevenson		_	MONITC	RING WE	ELL: US-1		
				CONDIT	ION:	good	·····	
FIELD PARAMETER	R MEASURE	MENTS:						
			SPECIFIC					
WELL			CONDUCT		TEMP.		NOTES	
VOLUME	рН	-	umhos/cm	2	<u>(C OR</u>	<u>r)</u>	NOTES:	
1								
2								
3								
4							<u> </u>	
5			<u> </u>					
GROUNDWATER (	OR SEDIMEN		NG DATA:		SAMPI	LE DATE:	9/20/2004	
	IDWATER SEDIMENT	<u>x</u>			SAMP	LE T <u>IME:</u>	1550	<u>.                                    </u>
	Creek bec	l upstream	of the landfil	ll cap				
SAMPLE METHOD	l:	Sediment	t trap compo	site				
SAMPLING OBSEF	RVATIONS:							
QC SAMPLES TAK	(EN:	Duplicate	sample take	en and lat	eled "MS-	1" and timec	1 1600.	
OTHER OBSERVA		MENTS:	<u> </u>					
						easured		
Note: specific cond		la to 25 doc	Troos Colcius	s' SC(25)	= {{T-25	1(0.02)}+1		

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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

DATE:	9/20/2004		SEMI-ANN	UAL SAMF	PLING EVE	ENT:	Fall 2	2004	
PERSON	CALIBRATI		S:	M. Walker					
pH METE		MANUFAC		pH Tester		Junction E-780			
		CALIBRATI	ON STAN	DARDS US	ED:				
	METER C/		STANDAF STANDAF	RD 7.00 ME RD 4.00 ME RD 10.00 ME N <u>TS:</u>	TER REAI	D:	4.1		
SPECIFIC	CONDUCT	MANUFAC MODEL: IDENTIFIC	TURER:	Oakton		E-780			
				RD 0 READ: (STANDA	:	D:	AIR,	WATE	ER)
	METER C	ALIBRATIO		RD IN <u>TS:</u>	4	47		450	
THERMO	DMETER US		IDENTIFI	CTURER: CATION/CO		IUMBER:		48-12	
		COMMEN <sup>®</sup>	TS: (DOES SPECIFIC	CONDUC	METER TE TIVITY ME	EMPERAT ETER TER	TURE AG	REE WITH JRE ?) <u>no</u>	 
OTHER	INSTRUMEN	ITS USED:	MANUFA	CTURER: CATION/CO		NUMBER:	· · ·		
		CALIBRAT		RFORMED:					
OTHER	CALIBRATIC		NTS:						





Charles Gibson Site NYSDEC Registry No. 9-32-063 Twelfth Annual Report - 2004

.

### **APPENDIX 3**

## QUARTERLY SITE INSPECTION FORMS

July - December 2004

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

ATE: <u>8/6/2004</u> TIME: <u>4:00 PM</u> NSPECTOR: <u>Walker</u> <u>COMPANY: Sevenson</u> VEATHER: Sunny  EEASON FOR INSPECTION (QUARTERLY OR OTHER): <u>check on system, no fax report sen</u> SENERAL SITE CONDITIONS: <u>U=UNACCEPTABLE</u> <u>A=ACCEPTABLE</u> (Note: For general site conditions note existence of bare areas (number, size), cracks, subsidence (sinking), ponded water, stressed vegetation, soil discoloration or seeps, and rodent burrows. For site security, note absence of locks, gates open or damaged, missing signs or evidence of vandalism. Note any other unusual occurences.)  COMMENTS  CCCESS ROAD <u>A</u> REES <u>A</u> Trees along the property line have been cut ITTER <u>A</u> ROSION (CAP) <u>A</u> REOSION (CAP) <u>A</u> RECURITY:  ENCE/LOCKS <u>A</u> MONITORING WELLS/LOCKS <u>A</u> MANHOLES/LIDS/LOCKS <u>A</u> LECTRICAL PANEL <u>A</u>	THIS FORM TO BE USED FOR	QUARTERL	Y AND ALL O	HER SITE INSPECTIONS	
VEATHER:       Sunny         REASON FOR INSPECTION (QUARTERLY OR OTHER):       check on system, no fax report sen         SENERAL SITE CONDITIONS:       U=UNACCEPTABLE         (Note: For general site conditions note existence of bare areas (number, size), cracks, subsidence (sinking), ponded water, stressed vegetation, soil discoloration or seeps, and rodent burrows. For site security, note absence of locks, gates open or damaged, missing signs or evidence of vandalism. Note any other unusual occurences.)         CCESS ROAD       A         COMMENTS       COMMENTS         CCESS ROAD       A         COVER VEGETATION       A         REES       A         Trees along the property line have been cut         ITTER       A         SEROSION (CAP)       A         SECURITY:         EECORFLOCKS       A         MONTORING WELLS/LOCKS       A         SELECTRICAL PANEL       A         SECURITY:       Checked the auto dialer because no faxes have been sent. Found nat the electrical fault light was lit. Shut down the dialer to reboot the unit					
EEASON FOR INSPECTION (QUARTERLY OR OTHER):       check on system, no fax report sent         SENERAL SITE CONDITIONS:       U=UNACCEPTABLE A=ACCEPTABLE (Note: For general sile conditions note existence of bare areas (number, size), cracks, subsidence (sinking), ponded water, stressed vegetation, soil discoloration or seeps, and rodent burrows. For sile security, note absence of locks, gates open or damaged, missing signs or evidence of vandalism. Note any other unusual occurences.)         CCESS ROAD       A         COEXEX VEGETATION       A         REES       A         Trees along the property line have been cut         ITTER       A         REOSION (CAP)       A         RECOSION (BANK)       A         SECURITY:       ENCE/LOCKS         YEZOMETERS/LOCKS       A         ANHOLES/LIDS/LOCKS       A         Anholes/LIDS/LOCK	INSPECTOR: Walker		COMPANY:	Sevenson	
EEASON FOR INSPECTION (QUARTERLY OR OTHER):       check on system, no fax report sent         SENERAL SITE CONDITIONS:       U=UNACCEPTABLE A=ACCEPTABLE (Note: For general sile conditions note existence of bare areas (number, size), cracks, subsidence (sinking), ponded water, stressed vegetation, soil discoloration or seeps, and rodent burrows. For sile security, note absence of locks, gates open or damaged, missing signs or evidence of vandalism. Note any other unusual occurences.)         CCESS ROAD       A         COEXEX VEGETATION       A         REES       A         Trees along the property line have been cut         ITTER       A         REOSION (CAP)       A         RECOSION (BANK)       A         SECURITY:       ENCE/LOCKS         YEZOMETERS/LOCKS       A         ANHOLES/LIDS/LOCKS       A         Anholes/LIDS/LOCK	WEATHER: Sunny				
SENERAL SITE CONDITIONS:       U=UNACCEPTABLE A=ACCEPTABLE (Note: For general site conditions note existence of bare areas (number, size), cracks, subsidence (sinking), ponded water, stressed vegetation, soil discoloration or seeps, and rodent burrows. For site security, note absence of locks, gates open or damaged, missing signs or evidence of vandalism. Note any other unusual occurences.)         CCESS ROAD       A         COMMENTS         CCESS ROAD       A         COVER VEGETATION       A         REES       A         Trees along the property line have been cut         ITTER       A         GROSION (CAP)       A         RECURITY:         YECOKS       A         YEZOMETERS/LOCKS       A         ANHOLES/LIDS/LOCKS       A         ANHOLES/LIDS/LOCKS       A         ALLECTRICAL PANEL       A         ADDITIONAL COMMENTS:       Checked the auto dialer because no faxes have been sent. Found hat the electrical fault light was lit. Shut down the dialer to reboot the unit					
(Note: For general site conditions note existence of bare areas (number, size), cracks, subsidence (sinking), ponded water, stressed vegetation, soil discoloration or seeps, and rodent burrows. For site security, note absence of locks, gates open or damaged, missing signs or evidence of vandalism. Note any other unusual occurences.)         COMMENTS         COMETERS/LOCKS         A         Checked the auto dialer because no faxes have been sent. Found         Not checked the auto dialer because no faxes have been sent. Found         Nat the electrical fault light was lit	REASON FOR INSPECTION (Q	UARTERLY	OR OTHER):	check on system, no	fax report sen
(Note: For general site conditions note existence of bare areas (number, size), cracks, subsidence (sinking), ponded water, stressed vegetation, soil discoloration or seeps, and rodent burrows. For site security, note absence of locks, gates open or damaged, missing signs or evidence of vandalism. Note any other unusual occurrences.)         COMMENTS         COMETERS/LOCKS         A         Checked the auto dialer because no faxes have been sent. Found         Not checked the auto dialer because no faxes have been sent. Found         Checked the auto dialer because no fa					
(Note: For general site conditions note existence of bare areas (number, size), cracks, subsidence (sinking), ponded water, stressed vegetation, soil discoloration or seeps, and rodent burrows. For site security, note absence of locks, gates open or damaged, missing signs or evidence of vandalism. Note any other unusual occurences.)         COMMENTS         COMETERS/LOCKS         A         COMETERS/LOCKS         A         Checked the auto dialer because no faxes have been sent. Found         Not colspan="2">Checked the auto dialer be					
and rodent burrows. For site security, note absence of locks, gates open or damaged, missing signs or evidence of vandalism. Note any other unusual occurences.)         COMMENTS         ACCESS ROAD       A         COVER VEGETATION       A         REES       A         Trees along the property line have been cut         ITTER       A         ROSION (CAP)       A         RECURITY:         EECURITY:         IDDITIONAL COMMENTS:		e conditions			cracks,
missing signs or evidence of vandalism. Note any other unusual occurences.)         COMMENTS         COVER VEGETATION       A         REES       A         Trees along the property line have been cut         ITTER       A         REOSION (CAP)       A         RECURITY:					
COMMENTS         COCESS ROAD       A         COVER VEGETATION       A         REES       A         Trees along the property line have been cut         ITTER       A         IROSION (CAP)       A         REOSION (BANK)       A         SECURITY:					amaged,
A       A         COVER VEGETATION       A         REES       A         Trees along the property line have been cut         ITTER       A         INDITIONAL COMMENTS:       Checked the auto dialer because no faxes have been sent. Found					
COVER VEGETATION       A         REES       A         Trees along the property line have been cut         ITTER       A         ITTER       A         ROSION (CAP)       A         ROSION (BANK)       A         SECURITY:       A         TEROSION (BANK)       A         SECURITY:       A         TODITIONING WELLS/LOCKS       A         ANHOLES/LIDS/LOCKS       A         ANHOLES/LIDS/LOCKS       A         Checked the auto dialer because no faxes have been sent. Found         nat the electrical fault light was lit. Shut down the dialer to reboot the unit         oocked the panel and left the site.	ACCESS ROAD	A			
ITTER       A         IROSION (CAP)       A         IROSION (BANK)       A         IROSION (BANK)       A         IRECURITY:       Image: Contract of the stema in	COVER VEGETATION				
IROSION (CAP)       A         IROSION (BANK)       A         IROSION (BANK)       A         SECURITY:       Image: Contract of the state of the state of the state of the state of the state.         SECURITY:       Image: Contract of the state of the state of the state of the state of the state.         SECURITY:       Image: Contract of the state	TREES	А	Tr	es along the property line ha	ve been cut
ROSION (BANK)       A         SECURITY:         rence/LOCKS       A         PIEZOMETERS/LOCKS       A         MONITORING WELLS/LOCKS       A         MANHOLES/LIDS/LOCKS       A         MANHOLES/LIDS/LOCKS       A         MANHOLES/LIDS/LOCKS       A         MANHOLES/LIDS/LOCKS       A         MANHOLES/LIDS/LOCKS       A         Checked the auto dialer because no faxes have been sent. Found         nat the electrical fault light was lit. Shut down the dialer to reboot the unit         ocked the panel and left the site.	LITTER	<u>A</u>			
BECURITY:         ENCE/LOCKS       A         PIEZOMETERS/LOCKS       A         MONITORING WELLS/LOCKS       A         MANHOLES/LIDS/LOCKS       A         MANHOLES/LIDS/LOCKS       A         SELECTRICAL PANEL       A         NDDITIONAL COMMENTS:       Checked the auto dialer because no faxes have been sent. Found         nat the electrical fault light was lit. Shut down the dialer to reboot the unit         ocked the panel and left the site.	EROSION (CAP)	А			
ENCE/LOCKS       A         PIEZOMETERS/LOCKS       A         MONITORING WELLS/LOCKS       A         MANHOLES/LIDS/LOCKS       A         MANHOLES/LIDS/LOCKS       A         MODITIONAL COMMENTS:       Checked the auto dialer because no faxes have been sent. Found         Matthe electrical fault light was lit. Shut down the dialer to reboot the unit         Mocked the panel and left the site.	EROSION (BANK)	<u>A</u>			
PIEZOMETERS/LOCKS       A         MONITORING WELLS/LOCKS       A         MANHOLES/LIDS/LOCKS       A         Checked the auto dialer because no faxes have been sent. Found         NDDITIONAL COMMENTS:       Checked the auto dialer because no faxes have been sent. Found         nat the electrical fault light was lit. Shut down the dialer to reboot the unit         ocked the panel and left the site.	SECURITY:				
MONITORING WELLS/LOCKS       A         MANHOLES/LIDS/LOCKS       A         ELECTRICAL PANEL       A         ADDITIONAL COMMENTS:       Checked the auto dialer because no faxes have been sent. Found         nat the electrical fault light was lit. Shut down the dialer to reboot the unit         ocked the panel and left the site.	FENCE/LOCKS	А	_		
MANHOLES/LIDS/LOCKS       A         A       A         ELECTRICAL PANEL       A         ADDITIONAL COMMENTS:       Checked the auto dialer because no faxes have been sent. Found         nat the electrical fault light was lit. Shut down the dialer to reboot the unit         ocked the panel and left the site.	PIEZOMETERS/LOCKS	A			
ELECTRICAL PANEL       A         ADDITIONAL COMMENTS:       Checked the auto dialer because no faxes have been sent. Found         nat the electrical fault light was lit. Shut down the dialer to reboot the unit         ocked the panel and left the site.	MONITORING WELLS/LOCKS	A			
ADDITIONAL COMMENTS: Checked the auto dialer because no faxes have been sent. Found the electrical fault light was lit. Shut down the dialer to reboot the unit ocked the panel and left the site.	MANHOLES/LIDS/LOCKS	Α			
nat the electrical fault light was lit. Shut down the dialer to reboot the unit ocked the panel and left the site.	ELECTRICAL PANEL	Α			
ocked the panel and left the site.	ADDITIONAL COMMENTS:	Checked t	he auto dialer b	ecause no faxes have been s	ent. Found
ocked the panel and left the site.	that the electrical fault light was l	it Shutdowr	the dialer to re	boot the unit	
	and the electrical fault light was f	it. Shut down			<u>, , , , , , , , , , , , , , , , , </u>
	Locked the panel and left the site	<u>).</u>		<u> </u>	
			<u> </u>		
	·				<u></u>

THIS FORM TO BE USED FOR	QUARTERI	Y AND ALL OTHER S	SITE INSPECTIONS
DATE: <u>9/17/2004</u>	TIME:	1100	_
INSPECTOR: M. Walke	r	COMPANY:	Sevenson
WEATHER:			
REASON FOR INSPECTION (Q	UARTERLY	OR OTHER <u>):</u>	Equipment repair
subsidence (sinking) and rodent burrows.	ponded wa For site sec	ter, stressed vegetatio urity, note absence of	A=ACCEPTABLE e areas (number,size), cracks, n, soil discoloration or seeps, locks, gates open or damaged, unusual occurences.)
		COMMEN	ITS
ACCESS ROAD	<u>A</u>		
COVER VEGETATION	Α		
TREES	Α	<del>.</del>	
LITTER	<u>A</u>		
EROSION (CAP)	A		
EROSION (BANK)	Α	-	
SECURITY:			
FENCE/LOCKS	Α		<u>.</u>
PIEZOMETERS/LOCKS	А		
MONITORING WELLS/LOCKS	A		
MANHOLES/LIDS/LOCKS	A		······································
ELECTRICAL PANEL	A		
ADDITIONAL COMMENTS:	Met onsite	with Steve from Carrie	er Controlss to continue troublshooting the
Flow meter. After numerous pho	ne conversa	itions with the manufac	cturers tech line, it was determined that
		· · · · · · · · · · · · · · · · · · ·	
unit would have to be removed a	nd sent in to	be repaired at the fact	tory. Apparently whatever fried the auto dialer
has also fried the meter. Steve s	aid he will c	all me when he gets a	quote on repair or replacement of the unit.
······································		<u></u>	
		· · · · · · · · · · · · · · · · · · ·	

THIS FORM TO BE USE	D FOR QUARTER	RLY AND ALL OTHE	ER SITE INSPECTIONS
DATE: <u>9/20/2004</u>	TIME:	900	
INSPECTO <u>R:</u> Mi	ke Walker	COMPANY:	Sevenson
WEATHER: Su	inny 70F		
REASON FOR INSPECT	ION (QUARTERL	Y OR OTHER <u>):</u>	Semi annual Sampling, Monthly Insp.
subsidence (s and rodent bu	neral site conditior inking), ponded w irrows. For site se	ns note existence of vater, stressed veget ecurity, note absence ndalism. Note any o	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	<u>A</u>	<u> </u>	
COVER VEGETATION	<u>A</u>	<u> </u>	
TREES	<u>A</u>		<u> </u>
LITTER	<u>A</u>		······································
EROSION (CAP)	<u>A</u>	<u> </u>	
EROSION (BANK)	<u>A</u>		· · · · · · · · · · · · · · · · · · ·
SECURITY:			
FENCE/LOCKS	А		
PIEZOMETERS/LOCKS	A		· · ·
MONITORING WELLS/L	OCKS A		
MANHOLES/LIDS/LOCK	is A		
ELECTRICAL PANEL	A		
ADDITIONAL COMMEN	TS: Some or	e had built a "bridge	" made of rocks across the creek and
it was acting as a dam. I	removed a portion	n of the rocks and le	t the water flow through so the water
		9   4 4 (4	
would return to its intende	ed level. ( about 5	" lower that it was).	

THIS FORM TO BE USED FO	OR QUARTERL	Y AND ALL OTHER	R SITE INSPECTIONS
DATE: <u>10/13/2004</u>	TIME:	830	
NSPECTO <u>R: Walke</u>	er	_COMPANY:	Sevenson
VEATHER:			
REASON FOR INSPECTION	(QUARTERLY	OR OTHER):	Install flow meter parts
		· · · · ·	
subsidence (sinkin and rodent burrow	site conditions ag), ponded wa s. For site sec	note existence of b ter, stressed vegeta urity, note absence	BLE A=ACCEPTABLE are areas (number,size), cracks, tion, soil discoloration or seeps, of locks, gates open or damaged, ier unusual occurences.)
		COM	MENTS
ACCESS ROAD	Α		
COVER VEGETATION	Α		
TREES	<u>A</u>	<u> </u>	
LITTER	A		
EROSION (CAP)	Α	<u> </u>	
EROSION (BANK)	Α		
SECURITY:			
FENCE/LOCKS	A		
PIEZOMETERS/LOCKS	A		
MONITORING WELLS/LOCK	S A		
MANHOLES/LIDS/LOCKS	A		
ELECTRICAL PANEL	A		
ADDITIONAL COMMENTS:	Met onsi	te with David Carrier	of Carrier Controls to install the repaired
		· · · · · · · · · · · · · · · · · · ·	eters of the meter to original specs.
now meter. Also rebooled the	now program	and reset the param	eters of the meter to original specs.
	- 11 Jun		
			· · · · · · · · · · · · · · · · · · ·

DATE: 10/27/2004	TIME:	900	
INSPECTOR: Walker	_	COMPANY:	Sevenson
<u> </u>	·····		
WEATHER: Sunny 70	)		
REASON FOR INSPECTION (QL	JARTERLY	OR OTHER):	Adjust calibration on flowmeter/auto diale
GENERAL SITE CONDITIONS:		U=UNACCEPTABLI	E A=ACCEPTABLE
(Note: For general site		note existence of bare	e areas (number,size), cracks,
			n, soil discoloration or seeps, ocks, gates open or damaged,
		dalism. Note any other	
		COMME	NTS
ACCESS ROAD	Α		
COVER VEGETATION	<u>A</u>		·····
TREES	А		
LITTER	Α		· · · · · · · · · · · · · · · · · · ·
EROSION (CAP)	Α		
EROSION (BANK)	<u>A</u>		
SECURITY:			
FENCE/LOCKS	<u>A</u>		
PIEZOMETERS/LOCKS	<u>A</u>	<u> </u>	
MONITORING WELLS/LOCKS	A		
MANHOLES/LIDS/LOCKS	Α		
ELECTRICAL PANEL	A	<u> </u>	· .
ADDITIONAL COMMENTS:	Met onsi	e with Steve Franks of	Carrier Controls to find out why the
Flow meter and the auto dialer wh	nere not cor	nmunicating with each	other. We corrected the problem
and Steve installed a set of switch	nes, to mak	e testing the pumping s	system manually, safer and easier.
We then ran the system for 77 ga	llons to see	if the count would sho	w up on the faxes for the following
	e reset the	counter to zero, so the	only counts on it will be
day, they did. I will now have Stev			
day, they did. I will now have Stev actual gallons pumped from now o			nat the Electrical utility company

DATE: <u>11/23/2004</u>	TIME:	1200N		
NSPECTOR: Walker		_COMPANY:	Sevenson	
WEATHER: Cloudy D	amp 39 F			
REASON FOR INSPECTION (QI	UARTERLY	OR OTHER):	Quarterly Inspection	
subsidence (sinking), and rodent burrows.	ponded wat For site secu	note existence of er, stressed veget irity, note absence	ABLE A=ACCEPTABLE bare areas (number,size), cracks, ation, soil discoloration or seeps, e of locks, gates open or damaged, ther unusual occurences.)	
		CON	MMENTS	
ACCESS ROAD	Α			
COVER VEGETATION	Α			
TREES	<u>A</u>			
LITTER	<u>A</u>			
EROSION (CAP)	А			
EROSION (BANK)	A			
ECURITY:				
ENCE/LOCKS	А			
PIEZOMETERS/LOCKS	A			. <u> </u>
MONITORING WELLS/LOCKS	A		· · · · · · · · · · · · · · · · · · ·	
MANHOLES/LIDS/LOCKS	A			
ELECTRICAL PANEL	A			
ADDITIONAL COMMENTS:	The site lo	boked good, the w	rater level in the creek seemed low.	
				<u></u>
Fence was secure and the place	looked ready	/ for the winter sea	ason.	
	<u>.</u>			
				<u> </u>



### **APPENDIX 4**

#### QUARTERLY GROUNDWATER ELEVATION /PUMPING FORMS

July - December 2004

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

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

#### THIS FORM TO BE USED FOR ALL QUARTERLY PIEZOMETER AND MANHOLE GROUND-WATER ELEVATION MEASURING EVENTS 930 DATE: 9/20/2004 TIME: INSPECTOR: Walker COMPANY: Sevenson WEATHER: Sunny 70 F RISER ELEVATION DEPTH TO WATER WATER COMMENTS (INSIDE CASING) ELEVATION PIEZOMETER (FT.) P-1 572.72 6.42 566.3 OK P-2 9.4 565.49 OK 574.89 P-3 574.16 7.84 566.32 OK 565.43 P-4 576.14 10.71 OK P-5 OK 575.05 6 569.05 P-6 578.28 10.39 567.89 OK 564.22 OK MANHOLE A 575.22 11 564.27 OK MANHOLE B 577.34 13.07 (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: The site looks good.

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

INSPECTOR:       Walker       COMPANY:       Sevenson         WEATHER:       Cloudy and Damp 39 F         PIEZOMETER       RISER ELEVATION (INSIDE CASING)       DEPTH TO WATER (FT.)       WATER ELEVATION       COMMENTS         P-1       572.72       7.55       565.17       OK         P-2       574.89       9.58       565.31       OK         P-3       574.16       8.5       565.66       OK         P-4       576.14       10.86       565.28       OK         P-5       575.05       6.5       568.55       OK         P-6       578.28       10.8       567.48       OK         MANHOLE A       575.22       11.4       563.82       OK         MANHOLE B       577.34       13.45       563.89       OK         Nanhole B (and by extension Manhole B by gravit feed and Manhole B is pumped automatically to the Niagara Tuscarora Road sanitary sewer line by a float controlled sump pump which maintains groundwa in Manhole B (and by extension Manhole A) below an elevation of 565 ft. above mean sea level. Therefer Water distance from the manhole rim should not be less than 12.41 ft. at Manhole B and 10.22 ft. at Man (Note: riser elevations (re)surveyed September, 1999 by Wendel Surveyors)         ADDITIONAL COMMENTS/OBSERVATIONS:       Everything looked good.		04	_TIME:	1200N		
RISER ELEVATION (INSIDE CASING)DEPTH TO WATER (FT.)WATER ELEVATIONCOMMENTS COMMENTSP-1572.727.55565.17OKP-2574.899.58565.31OKP-3574.168.5565.66OKP-4576.1410.86565.28OKP-5575.056.5568.55OKP-6578.2810.8567.48OKMANHOLE A575.2211.4563.82OKMANHOLE B577.3413.45563.89OKNote: Manhole A empties into Manhole B by gravity feed and Manhole B is pumped automatically to the Niagara Tuscarora Road sanitary sewer line by a float controlled sump pump which maintains groundwa in Manhole B (and by extension Manhole A) below an elevation of 565 ft. above mean sea level. Therefore water distance from the manhole rim should not be less than 12.41 ft. at Manhole B and 10.22 ft. at Man (Note: riser elevations (re)surveyed September, 1999 by Wendel Surveyors)	NSPECTOR:	Walker		:	Sevenson	
PIEZOMETER         (INSIDE CASING)         (FT.)         ELEVATION           2-1         572.72         7.55         565.17         OK           2-2         574.89         9.58         565.31         OK           2-3         574.16         8.5         565.66         OK           2-4         576.14         10.86         565.28         OK           2-5         575.05         6.5         568.55         OK           2-6         578.28         10.8         567.48         OK           MANHOLE A         575.22         11.4         563.82         OK           MANHOLE B         577.34         13.45         563.89         OK           Note: Manhole A empties into Manhole B by gravity feed and Manhole B is pumped automatically to the viagara Tuscarora Road sanitary sever line by a float controlled sump pump which maintains groundwa in Manhole B (and by extension Manhole A) below an elevation of 565 ft. above mean sea level. Therefore water distance from the manhole rim should not be less than 12.41 ft. at Manhole B and 10.22 ft. at Manhole Note: riser elevations (re)surveyed September, 1999 by Wendel Surveyors)	VEATHER:	Cloudy and Damp 39	F			
P-2574.899.58565.31OKP-3574.168.5565.66OKP-4576.1410.86565.28OKP-5575.056.5568.55OKP-6578.2810.8567.48OKMANHOLE A575.2211.4563.82OK(Note: Manhole A empties into Manhole B by gravity feed and Manhole B is pumped automatically to the Niagara Tuscarora Road sanitary sewer line by a float controlled sump pump which maintains groundwa in Manhole B (and by extension Manhole A) below an elevation of 565 ft. above mean sea level. Therefor water distance from the manhole rim should not be less than 12.41 ft. at Manhole B and 10.22 ft. at Man (Note: riser elevations (re)surveyed September, 1999 by Wendel Surveyors)	PIEZOMETER			WATER		COMMENTS
P-3574.168.5565.66OKP-4576.1410.86565.28OKP-5575.056.5568.55OKP-6578.2810.8567.48OKMANHOLE A575.2211.4563.82OKMANHOLE B577.3413.45563.89OK(Note: Manhole A empties into Manhole B by gravity feed and Manhole B is pumped automatically to the Niagara Tuscarora Road sanitary sewer line by a float controlled sump pump which maintains groundwa in Manhole B (and by extension Manhole A) below an elevation of 565 ft. above mean sea level. Therefor water distance from the manhole rim should not be less than 12.41 ft. at Manhole B and 10.22 ft. at Man (Note: riser elevations (re)surveyed September, 1999 by Wendel Surveyors)	P-1	572.72	7.55		565.17	OK
P-4576.1410.86565.28OKP-5575.056.5568.55OKP-6578.2810.8567.48OKMANHOLE A575.2211.4563.82OKMANHOLE B577.3413.45563.89OK(Note: Manhole A empties into Manhole B by gravity feed and Manhole B is pumped automatically to the Niagara Tuscarora Road sanitary sewer line by a float controlled sump pump which maintains groundwa in Manhole B (and by extension Manhole A) below an elevation of 565 ft. above mean sea level. Therefor water distance from the manhole rim should not be less than 12.41 ft. at Manhole B and 10.22 ft. at Man (Note: riser elevations (re)surveyed September, 1999 by Wendel Surveyors)	P-2	574.89	9.58		565.31	ОК
P-5575.056.5568.55OKP-6578.2810.8567.48OKMANHOLE A575.2211.4563.82OKMANHOLE B577.3413.45563.89OK(Note: Manhole A empties into Manhole B by gravity feed and Manhole B is pumped automatically to the Niagara Tuscarora Road sanitary sewer line by a float controlled sump pump which maintains groundwa in Manhole B (and by extension Manhole A) below an elevation of 565 ft. above mean sea level. Therefor water distance from the manhole rim should not be less than 12.41 ft. at Manhole B and 10.22 ft. at Man (Note: riser elevations (re)surveyed September, 1999 by Wendel Surveyors)	P-3	574.16	8.5		565.66	OK
P-6578.2810.8567.48OKMANHOLE A575.2211.4563.82OKMANHOLE B577.3413.45563.89OK(Note: Manhole A empties into Manhole B by gravity feed and Manhole B is pumped automatically to the Niagara Tuscarora Road sanitary sewer line by a float controlled sump pump which maintains groundwa in Manhole B (and by extension Manhole A) below an elevation of 565 ft. above mean sea level. Therefore water distance from the manhole rim should not be less than 12.41 ft. at Manhole B and 10.22 ft. at Man (Note: riser elevations (re)surveyed September, 1999 by Wendel Surveyors)	P-4	576.14	10.86		565.28	OK
MANHOLE A       575.22       11.4       563.82       OK         MANHOLE B       577.34       13.45       563.89       OK         (Note: Manhole A empties into Manhole B by gravity feed and Manhole B is pumped automatically to the Niagara Tuscarora Road sanitary sewer line by a float controlled sump pump which maintains groundwa in Manhole B (and by extension Manhole A) below an elevation of 565 ft. above mean sea level. Therefore water distance from the manhole rim should not be less than 12.41 ft. at Manhole B and 10.22 ft. at Man (Note: riser elevations (re)surveyed September, 1999 by Wendel Surveyors)	P-5	575.05	6.5		568.55	OK
MANHOLE B       577.34       13.45       563.89       OK         (Note: Manhole A empties into Manhole B by gravity feed and Manhole B is pumped automatically to the Niagara Tuscarora Road sanitary sewer line by a float controlled sump pump which maintains groundwa in Manhole B (and by extension Manhole A) below an elevation of 565 ft. above mean sea level. Therefore water distance from the manhole rim should not be less than 12.41 ft. at Manhole B and 10.22 ft. at Man (Note: riser elevations (re)surveyed September, 1999 by Wendel Surveyors)	P-6	578.28	10.8		567.48	OK
(Note: Manhole A empties into Manhole B by gravity feed and Manhole B is pumped automatically to the Niagara Tuscarora Road sanitary sewer line by a float controlled sump pump which maintains groundwa in Manhole B (and by extension Manhole A) below an elevation of 565 ft. above mean sea level. Therefore water distance from the manhole rim should not be less than 12.41 ft. at Manhole B and 10.22 ft. at Man (Note: riser elevations (re)surveyed September, 1999 by Wendel Surveyors)	MANHOLE A	575.22	11.4		563.82	ОК
Niagara Tuscarora Road sanitary sewer line by a float controlled sump pump which maintains groundwa in Manhole B (and by extension Manhole A) below an elevation of 565 ft. above mean sea level. Therefore water distance from the manhole rim should not be less than 12.41 ft. at Manhole B and 10.22 ft. at Man (Note: riser elevations (re)surveyed September, 1999 by Wendel Surveyors)	MANHOLE B	577.34	13.45		563.89	ОК
	Niagara Tuscarora F in Manhole B (and by water distance from (Note: riser elevatior	Road sanitary sewer line by y extension Manhole A) b the manhole rim should n ns (re)surveyed Septembo	by a float con below an elev not be <u>less</u> that er, 1999 by W	trolled sum ation of 56 an 12.41 ft Vendel Sur	np pump which ma 5 ft. above mean s . at Manhole B and veyors)	aintains groundwa sea level. Theref



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

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

February 3, 2005

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 Twelfth Annual Report - 2004

RECEIVED

FEB 0 8 2005 NYSDEC REG 9 FOIL VREL UNREL

Dear Mr. Hinton:

Enclosed are three copies of the Twelfth Annual Report - 2004 for the referenced site. This report summarizes the activities performed during 2004 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 2004.

- Semi-annual ground water sampling events were performed during April and September 2004.
- Annual sediment sampling was performed in September.
- Annual sampling and analysis of leachate was completed in September. There were 65, 082 gallons of leachate discharged to the City of Niagara Falls Wastewater Treatment Facility during 2004.
- NYSDEC conducted a site inspection on April 6, 2004.

The Semi-Annual Ground Water Sampling and Annual Sediment Sampling Report - September 2004, is included as Appendix A to this report.

At this time, Olin requests NYSDEC discontinue the requirement for hexachorobenzene (HCB) nonitoring in ground water wells. This request is based on the Site never having any detections of this compound in the ground water.

CORPORATION

after 2005 HeB Data fin MIGB

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

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

Lorraine 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/Twelfth Annual Report 2004

OLIN

#### **TWELFTH ANNUAL REPORT**

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2004

#### **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

**FEBRUARY 2005** 

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#### Introduction

This is the Twelfth Annual Report from Olin Corporation (Olin) for the Charles Gibson Site (Pine and Tuscarora Site), located in Niagara Falls, New York. This report summarizes activities performed during 2004 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 6 and on September 20, 2004. 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 2004. HCB was not detected in any of the ground water wells. HCB has not been detected in any ground water samples. The next HCB sampling is scheduled for September 2006. The semi-annual ground water monitoring data summary from 1997 through 2004 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 20, 2004. Upstream data were similar to the 2003 sampling event for the alpha, beta, delta and gamma BHC isomers. Concentrations were typically below or slightly above the lab detection limits resulting in estimated concentrations. Downstream data were slightly above 2003 results for the alpha and beta BHC compounds while delta and gamma BHC results were lower than 2003 data. 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 being maintained in the containment area of the site (Table 4). Water level elevations in Manhole A and Manhole B are monitored quarterly (Table 5).

There were 65,082 gallons of leachate discharged to the POTW during 2004. A summary of yearly discharge volumes for the Site is provided in Table 6. Between 1991 and 2004, a total of 877,675 gallons of leachate were removed from the Site. Annual leachate sampling and analysis

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Charles Gibson Site NYSDEC Registry No. 9-32-063 Twelfth Annual Report -2004

for BHC's began in 2000 to replace the POTW sampling that was previously performed. HCB is monitored every five years (started in 2000). The next scheduled sampling is 2005. The sampling location is Manhole B. Analytical results for 2004 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 2004 include: repairing a seventy foot section of the stockade perimeter fence along the northeast side of fence that was knocked over by high winds in April; removing and repairing the readout on the flow meter, and testing the pumping system in October. 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 2004 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 2004 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 being maintained in the containment area of the site. Data from 2004 sediment trap monitoring were similar to the 2003 monitoring.

Olin requests NYSDEC to discontinue the requirement for hexachorobenzene (HCB) monitoring in ground water wells. This request is based on the Site never having any detections of this compound in the ground water.

#### Table 1

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#### Semi-Annual Ground Water Summary

								Monitor W	/ell: MW-A3						
	1997	1	998	19	99	2000		2001		2002		2003			2004
Parameter	September (*)	April	October	April	October	May	October	April	October	April	September	April	September	April	September
Alpha-BHC	.059	.016J	.12	.0043J		.050U	.054U	.050U	.050U	.050U	.029J	.048U	.035J	.048U	.047U
Beta-BHC	.028J	.012J	.0092J	.053U	-	.012J	.054U	.050U	.050U	.050U	.016J	.048U	.059U	.048U	.047U
Gamma-BHC	.050U	.050U	.024J	.053U		.050U	.054U	.050U	.050U	.050U	.050U	.048U	.059U	.048U	.047U
Delta-BHC	.050U	.050U	.053U	.053U	-	.050U	.054U	.050U	.050U	.050U	.050U	.048U	.059U	.048U	.047U
Hexachlorobenzene	10Ú	10U	-	110	-	11U	NR	10U	NR	NR	NR	NR	NR	10U	NR

								Monitor Well: M	W-1R						$\frown$
	1997	1	998	1	999		2000	2001		2002		2003		20	04
Parameter	September (*)	April	October	April	October	May	October	April	October	April	September	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	.049U/.049	.026J/.048U
Beta-BHC	.053	.14	.20	.13	.080	.12	.038J/.052U	.012J/.050U	.19/.15	.10/.050U	.13/.095	.053/.052	.052U	.049U/.065	.090/.024
Gamma-BHC	.050U	.050U	.028J	.053U	.050UJ	.051U	.054U/.052U	.050U/.050U	.063J/.058U	.050U/.050U	.055U	.049U	.052U	.049U/.049U	.048U/048
Delta-BHC	.050U	.0042J	.053U	.0054J	.050U	.051U	.054U/.052U	.050U/.050U	.061U/.058U	.050U/.053	.055U	.049U	.052U	.049U/.049U	.048U/.048U
Hexachlorobenzene	10U	10U	110	110	10U	10U	NR	100/100	NR	NR	NR	NR	NR	100	NR

	•						M	onitor Well	: MW-2						
	1997	19	98	1	999	1	2000	20	001	2	002		2003	2	2004
Parameter	September (*)	April	October	April	October	May	October	April	October	April	October	April	September	April	September
Alpha-BHC	.050U	.050U	.053U	.053U	.050U	.029J	.053U	.050U	.054U	.050U	.050U	.050U	.050U	.050U	.050U
Beta-BHC	.050U	.050U	.053U	.053U	.050U	.098	.053U	.050U	.054U	.050U	.050U	.050U	.050U	.050U	.050U
Gamma-BHC	.050Ū	.050U	.053U	.053U	.050UJ	052U	.053U	.050U	.054U	.050U	.050U	.050U	.030J	.050U	.030J
Delta-BHC	.050U	.050U	.053U	.053U	.050U	.052U	.053U	.050U	.054U	.050U	.050U	.050U	.050U	.050U	.050U
Hexachlorobenzene	1000	100	11U	10ປ	10U	100	NR	100	NR	NR	NR	NR	NR	100	NR

 Notes:
 Concentrations in ug/L

 (\*)
 Start of semi annual monitoring program

 U
 Not detected

 J
 Estimated value

 /
 Field Duplicates

 Not detected
 Notes and the second second

Not enough sample for analysis -

Not required NR

Data has been validated

dm:sites/P&T(Gibson)/ENV4060/O&M/Twelfth Annual Report 2004

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#### Table 1 (cont.)

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#### Semi-Annual Ground Water Summary

#### Monitor Well: MW-4

1997	1	998		1999	200	D	2	001		2002		2003	2	004
September (*)	April	October	April	October	May	October	April	October		· · · · · · · · · · · · · · · · · · ·	April	,		
050/.060	.0030J	.053U	.0031J	.050U	.051U/.052U	.054U	.050U							September .048U
.055/.069	.016J	045J	.017J	.066/.068	.045J/.062	.054U	050U							
.050U	.050U	.053U	.053U	.050U	.051U/.052U									.037J
.050U	.050U	.053U	.053U	.050U										.048U
100	100	10U	100	10U	100	NR				.0000				.048U
	September (*) .050/.060 .055/.069 .050U .050U	September (*)         April           .050/.060         .0030J           .055/.069         .016J           .050U         .050U           .050U         .050U	.050/.060 .0030J .053U .055/.069 .016J .045J .050U .050U .053U .050U .050U .053U	September (*)         April         October         April           .050/.060         .0030.J         .053U         .0031.J           .055/.069         .016.J         .045.J         .017.J           .050U         .050U         .053U         .053U           .050U         .050U         .053U         .053U           .050U         .050U         .053U         .053U	September (*)         April         October         April         October           .050/.060         .0030J         .053U         .0031J         .050U           .055/.069         .016J         .045J         .017J         .066/.068           .050U         .053U         .053U         .053U         .050U           .050U         .050U         .053U         .053U         .050U           .050U         .050U         .053U         .053U         .050U	September (*)         April         October         April         October         May           .050/.060         .0030J         .053U         .0031J         .050U         .051U/.052U           .055/.069         .016J         .045J         .017J         .066/.068         .045J/.062           .050U         .050U         .053U         .053U         .050U         .051U/.052U           .050U         .050U         .053U         .050U         .051U/.052U           .050U         .050U         .053U         .050U         .051U/.052U	September (*)         April         October         April         October         May         October           .050/.060         .0030J         .053U         .0031J         .050U         .051U/.052U         .054U           .055/.069         .016J         .045J         .017J         .066/.068         .045J/.062         .054U           .050U         .050U         .053U         .053U         .050U         .054U           .050U         .050U         .053U         .050U         .054U         .054U           .050U         .053U         .053U         .050U         .054U         .054U	September (*)         April         October         April         October         May         October         April           .050/.060         .0030J         .053U         .0031J         .050U         .051U/.052U         .054U         .050U           .055/.069         .016J         .045J         .017J         .066/.068         .045J/.062         .054U         .050U           .050U         .050U         .053U         .053U         .050U         .051U/.052U         .054U         .050U           .050U         .050U         .053U         .053U         .050U         .051U/.052U         .054U         .050U           .050U         .053U         .053U         .050U         .051U/.052U         .054U         .050U           .050U         .053U         .053U         .050U         .051U/.052U         .054U         .050U	September (*)         April         October         April         October         May         October         April         October           .050/.060         .0030J         .053U         .0031J         .050U         .051U/.052U         .054U         .050U         .0069J           .055/.069         .016J         .045J         .017J         .066/.068         .045J/.062         .054U         .050U         .0093J           .050U         .050U         .053U         .050U         .053U         .050U         .050U	September (*)         April         October         April         October         May         October         April         Oct	September (*)         April         October         April         October         May         October         April         October         April         Cotober         April         October         Octob         Oct	September (*)         April         October         April         October         May         October         April         October         Octob         Oct	September (*)         April         October         April         October         May         October         April         October         April         September         September         April         September         September         April         September         September         September         September         September         September         September <td>September (*)         April         October         May         October         April         October         April         September (*)         April</td>	September (*)         April         October         May         October         April         October         April         September (*)         April

#### Monitor Well: MW-5

	1997	1998	1	199	9	2	000	2	001		2002		2003		
Parameter	September (*)	April	October	April	October	May	October	April	October	April	September	April		20	
Alpha-BHC	.059	.050U/.0066J	.053U	.0071J	.045J	.010J	.054U	.050U	.013J	.050U	.050U		September	April	September
Beta-BHC	.050U	.0080J/.0084J	.053U	.053U	.050	.031J	.054U	.0500	.022J	.0500		.048U	.049U	.048U	.048U
Gamma-BHC	.050U	.050U	.053U	.053U	.0065J	.052U	.054U	.050U			.050U	048U	.049U	.048U	.048U
Delta-BHC	.050U	.050U	.053U	.053U	.050U	.052U			.055U	.050U	.050U	.048U	049U	.048U	.048U
Hexachlorobenzene	10U	100	11U	110/110	10U		.054U	.050U	.055U	.050U	.050U	048U	.049U	.048U	.048U
		100	110			10U	NR	100	NR	NR	NR	NR	NR	100	NR

Notes: Concentrations in ug/l

(\*) U Start of semi annual monitoring program

Not detected

J Estimated value

Field Duplicates 1

Not enough sample for analysis

NR Not required

Data has been validated

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#### Table 2 Analytical Summary Cayuga Creek

Annual Upstream Sediment Sampling

Parameter	1993 <sup>°</sup> September	1994 June	1994 September	1995 August	1996 September	1997 September	1998 October	1999 October	2000 October	2001* October	2002 September	2003 September	2004 September
alpha-BHC	1.5 J	NS	6.1 U	8.1J	2.7J	5.3J	2.1J	8.9/7.4	3.5	55	19/90	28/22J	80U/86J
beta-BHC	2.3 J	NS	2.2 J	12	6.1U	11	5.2	28/19	4.5J	49	37/76	48/30	20J/190
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	23J/56J
gamma-BHC	6.0 U	NS	6.1 Ū	12 U	6.1U	2.5J	.31UJ	2.9J/.42J	2.3U	3.3J	5.8U/1.6U	1.9J/26U	80U/38J
НСВ	500 U	NS	510 Ū	480 U	500U	330U	470U	480U	NR	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	2004 September
alpha-BHC	2,200	5,300	720	790	5000	330		4800J	9600/13000	16	26	26J	200
beta-BHC	390	1,800	82 .	83 J	600	580	1300J/12000J	1800	3000J/2700J	52	34	45	140
delta-BHC	27 J	80 J	67 U	250 U	41J	60J	53J/5500UJ	190J	1200U/1400U	65	20	97	12J
gamma-BHC	40 U	690	67 U	250 U	35J	44J	300UJ/690J	52J	1200U/1400U	1.4J	6.0U	31U	7.4J
НСВ	800 U	570 UR	550 U	420 U	330U	330U	520U/550U	510U	NR	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

MH-A 20	104 Quarterly Gr 544.54	roundwater Eler 564.01	vations Summary SC4. 2で	563.82
Piezometer Pair	2/18/2004	4/6/2004	9/20/2004	11/23/2004
P1	565.14 <b>†</b>	565.70	566.30	565.17
P2	565.47 <b>†</b>	568.54	565.49	565.31
P3	567.04	567.91	566.32	565.66
P4	565.39 <b>4</b>	565.38	565.43	565.28
P5	569.21 ↓	569.88	569.05	568.55
P6	567.88 ♥	568.23	567.89	567.48

<u>،</u>

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 pumper 65, 082 allons during a 2004.



# Table 5

# Manhole Monitoring 2004 Water Elevations (ft.)

Date	Manhole A	Manhole B	Comments
2/18/2004	564.50	564.54	Quarterly inspection
4/6/2004	564.01	564.08	Semi Annual ground water sampling; NYSDEC visit.
9/20/2004	564.22	564.27	Semi Annual ground water sampling
11/23/2004	563.82	563.89	Quarterly inspection

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)
	(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 (1)	5230
2004	65,082
TOTALS	877,675

Notes:

(\*) Represents start of operation of direct discharge system
(1) Pumped during test of system on 4/13/2003
Discharge system pumped during February, March, April, May, July, and December of 2004.



# Table 7

# Annual Manhole B Sampling

# September 20, 2004

Parameter	Concentration (ug/l)
alpha – BHC	.12J
beta - BHC	.18J
delta - BHC	.20J
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



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 September 2006.
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 2004

# PREPARED BY OLIN CORPORATION





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 2004.

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 20, 2004

	MW-1R	MW-1R (DUP)	MW-2	MW-4	MW-5	MW-A3
PARAMETER						
alpha-BHC	.026J	.048U	.050U	.048U	.048U	.047U
beta-BHC	.090	.024J	.050U	.037J	.048U	.047U
delta-BHC	.048U	.048U	.050U	.048U	.048U	.0 <u>47U</u>
gamma-BHC	.048U	.048U	.050U	.048U	.048U	.047U
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 September 2006.

# TABLE 2

# CHARLES GIBSON SITE NIAGARA FALLS, NEW YORK

# ANALYTICAL RESULTS SUMMARY ANNUAL SEDIMENT SAMPLING

# September 20, 2004

····	UPSTREAM	DOWNSTREAM
PARAMETER		
alpha-BHC	80U/86J	200
beta-BHC	20J/190	140
delta-BHC	23J/56J	12J
gamma-BHC	80U/38J	7.4J

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 2004

CHARLES GIBSON SITE

(PINE AND TUSCARORA SITE)

NIAGARA FALLS, NEW YORK

NYSDEC Registry No. 9-32-063



/306

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

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

## ANALYTICAL REPORT

Job#: A04-2982

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

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

CC-Mr\_Michael\_Walker

STL Buffalo

Brian J() Fischer Project Manager

la Mary Ann Neary

Analyst

10/6/2004

Leaners in Environmental Testing

# STL Buffalo Current Certifications

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Program	Cert # / Lab ID
SDWA, CWA, RCRA, SOIL	03-054-D/88-0686
NELAP SDWA, CWA, RCRA	01169CA
SDWA, CWA, RCRA, SOIL	PH-0568
NELAP RCRA	E87672
SDWA	956
NELAP SDWA, CWA, RCRA	200003
SW/CS	374
NELAP SDWA, CWA, RCRA	E-10187
SDWA	90029
UST	30
NELAP CWA, RCRA	2031
SDWA, CWA	NY044
SDWA	294
SDWA, CWA	M-NYD44
SDWA .	9937
CWA, RCRA	036-999-337
NELAP SDWA, CWA	233701
SDWA, CWA, RCRA, CLP	NY455
NELAP, AIR, SDWA, CWA, RCRA	10026
CWA	411
	R-176
CWA, RCRA	9421
Env. Lab Reg.	68-281
RCRA	91013
FOREIGN SOIL PERMIT	S-41579
SDWA	. 278
CWA	C254
CWA	. 252
CWA	998310390
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	SDWA, CWA, RCRA, SOIL         NELAP SDWA, CWA, RCRA         SDWA, CWA, RCRA, SOIL         NELAP RCRA         SDWA         NELAP RCRA         SDWA         NELAP SDWA, CWA, RCRA         SW/CS         NELAP SDWA, CWA, RCRA         SDWA         UST         NELAP CWA, RCRA         SDWA         CWA         SDWA         CWA, RCRA         SDWA, CWA, RCRA         CWA         SDWA, CWA, RCRA         CWA         SDWA, CWA, RCRA         Env. Lab Reg.         RCRA         FOREIGN SOIL PERMIT         SDWA         CWA         CWA         CWA

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SAMPLE DATA SUMMARY PACKAGE

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# . SAMPLE SUMMARY

See. 10. 1944

LAB SAMPLE ID

A4906408

A4906410

A4906401

A4906403

A4906404

A4906405 A4906402

A4906406

A4906411

SAMPLED

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A49064	109
A49064	107

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MS-1 ·

MW-1R

MW-2

MW-4 MW-5

MW-7 MW-A3

<del>√5-1</del> US-1

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	SAMPLED		RECEIV	ED
CLIENT SAMPLE ID	DATE	TIME	DATE	TIME
DS-1	09/20/2004	16:30	09/20/2004	17:05
FIELD BLANK X-1	09/20/2004	15:30	09/20/2004	17:05
MANHOLE B	09/20/2004	15:20	09/20/2004	17:05
MS-1	09/20/2004	16:00	09/20/2004	17:05
MW-1R	09/20/2004	12:00	09/20/2004	17:05
MW-2	09/20/2004	12:50	09/20/2004	17:05
MW-4	09/20/2004	13:25	09/20/2004	17:05
MW-5	09/20/2004	14:00	09/20/2004	17:05
MW-7	09/20/2004	09:00	09/20/2004	17:05
MW-A3			09/20/2004	
<del>VS-1</del> US-1	09/20/2004	15:50	09/20/2004	17:05

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# METHODS SUMMARY

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# Job#: <u>A04-9064</u>

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

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

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

#### NON-CONFORMANCE SUMMARY

#### Job#: <u>A04-9064</u>

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

6/306

#### General Comments

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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

A04-9064

Sample Cooler(s) were received at the following temperature(s); 3.2 °C All samples were received in good condition.

<u>GC Extractable Data</u>

For method 8081 pesticides, the extracts were was acid treated to minimize matrix interferences. None of the target pesticide compounds reported for this job are effected by this cleanup.

All extracts required treatment with Copper prior to analysis due to the presence of elemental Sulfur.

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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

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10-6-04

Date

	Date: 10/04/2004		• •	og w/Code Informat Job AD4-9064				Page:	1
•					•••• • ••			Rept: AK12	DOK :.
	<u>Client Sample ID</u>	Lab Sample ID	Parameter (I	norganic)/Method	(Organic)	Dilution	Code		
	DS-1	A4906409	8081			2.00	008		
	MS-1	A4906410	8081			4.00	008		
	- <del>45-1</del> -15-1	A4906411	8081	•	•	4.00	002		
	12/21/04								

Dilution Code Definition:

002 - sample matrix effects

003 - excessive foaming

004 - high levels of non-target compounds

005 - sample matrix resulted in method non-compliance for an Internal Standard

006 - sample matrix resulted in method non-compliance for Surrogate

007 - nature of the TCLP matrix

008 - high concentration of target analyte(s)

009 - sample turbidity

010 - sample color

011 - insufficient volume for lower dilution

012 - sample viscosity

013 - other

# NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION

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# SAMPLE IDENTIFICATION AND ANALYTICAL REQUEST SUMMARY

# LAB NAME: SEVERN TRENT LABORATORIES, INC.

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CUSTOMER SAMPLE ID	LABORATORY SAMPLE ID	ANALYTICAL REQUIREMENTS						
		VOA GC/MS	BNA GC/MS	VOA GC	PEST PCB	METALS	TCLP HERB	WATER QUALITY
DS-1	A4906409	-	-	-	ASP00	-	_	<b>-</b> ,
FIELD BLANK X-1	A4906407	-			ASP00	-	-	<b>-</b> ·
MANHOLE B	A4906408	-	-	-	ASP00	-		- ·
MS-1	A4906410	-	-	-	ASP00	-	-	-
MW-1R	A4906401	-	-	_	ASP00		-	-
MW-2	A4906403	-	-	- ~	ASP00	-	-	-
MW-4	A4906404	_	-	-	ASP00	-	_	-
MW-5	A4906405	-	-	_	ASP00	-	-	-
MŴ-7	A4906402	~	-	-	ASP00	-	-	-
MW-A3	A4906406	-	-	-	ASP00	-	-	<u>-</u> ·
<del>VS-1</del> US-1	A4906411		1	-	ASP00	-		-

12/21/04

NYSDEC-1

# NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION

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# SAMPLE PREPARATION AND ANALYSIS SUMMARY PESTICIDE/PCB ANALYSIS

# LAB NAME: SEVERN TRENT LABORATORIES, INC.

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SAMPLE IDENTIFICATION	MATRIX	DATE COLLECTED	DATE RECEIVED AT LAB	DATE EXTRACTED	DATE ANALYZED
DS-1	SOIL	09/20/2004	09/20/2004	9/27/2004	9/30/2004
FIELD BLANK X-1	WATER	09/20/2004	09/20/2004	9/23/2004	9/27/2004
MANHOLE B	WATER	09/20/2004	09/20/2004	9/23/2004	09/27/2004
MŚ-1	SOIL	09/20/2004	09/20/2004	9/27/2004	9/30/2004
MW-1R	WATER	09/20/2004	09/20/2004	9/23/2004	9/26/2004
MW-2	WATER	09/20/2004	09/20/2004	9/23/2004	9/26/2004
MŴ-4	WATER	09/20/2004	09/20/2004	9/23/2004	9/26/2004
MW-5	WATER	09/20/2004	09/20/2004	9/23/2004	9/26/2004
MW-7	WATER	09/20/2004	09/20/2004	9/23/2004	9/26/2004
MW-A3	WATER	09/20/2004	09/20/2004	9/23/2004	9/26/2004
US-1 <del>VS-1</del>	SOIL	09/20/2004	09/20/2004	9/27/2004	09/30/2004
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NYSDEC-4

# NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION

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# SAMPLE PREPARATION AND ANALYSIS SUMMARY ORGANIC ANALYSIS

# LAB NAME: SEVERN TRENT LABORATORIES, INC.

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SAMPLE IDENTIFICATION	MATRIX	ANALYTICAL PROTOCOL	EXTRACTION METHOD	AUXILIARY CLEAN UP	DIL/CONC FACTOR
DS-1	SOIL	ASP00	SONC	AS REQUIRED	AS REQUIRED
FIELD BLANK X-1	WATER	ASP00	SEPF	AS REQUIRED	AS REQUIRED
MANHOLE B	WATER	ASP00	SEPF	AS REQUIRED	AS REQUIRED
MS-1	SOIL	ASP00	SONC	AS REQUIRED	AS REQUIRED -
MW-1R	WATER	ASP00	SEPF	AS REQUIRED	AS REQUIRED
MW-2	WATER	ASP00	SEPF	AS REQUIRED	AS REQUIRED
MW-4	WATER	ASP00	SEPF	AS REQUIRED	AS REQUIRED
MW-5	WATER	ASP00	SEPF	AS REQUIRED	AS REQUIRED
MW-7	WATER	ASP00	SEPF	AS REQUIRED	AS REQUIRED
MW-A3	WATER	ASP00	SEPF	AS REQUIRED	AS REQUIRED
- <del>VS-1</del> US-1	SOIL	ASP00	SONC	AS REQUIRED	AS REQUIRED

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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.

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- 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.

# 13/306 OLIN CORPORATION OLIN CORPORATION - CHARLES GIBSON SITE ASP 2000 - METHOD 8081 BHC'S ANALYSIS DATA SHEET

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Client No.

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			DS-1
Lab Name: <u>SIL Buffalo</u>	Contract:	· ·	
Lab Code: <u>REONY</u> Case No.:	SAS No.:	SDG No.:	
Matrix: (soil/water) SOIL		Lab Sample ID:	<u>A4906409</u>
Sample wt/vol:		Lab File ID:	18B26154.TX0
% Moisture: 57.0 decanted: (Y/N)	N	Date Samp/Recv:	09/20/2004 09/20/2004
Extraction: (SepF/Cont/Sonc/Soxh): SO	NC	Date Extracted:	09/27/2004
Concentrated Extract Volume: 10000 (ul	L)	Date Analyzed:	09/30/2004
Injection Volume: <u>1.00</u> (uL)		Dilution Factor:	2.00
GPC Cleanup: (Y/N) N pH:_		Sulfur Cleanup:	(Y/N) <u>Y</u>
CAS NO. COMPOUND		TION UNITS: · ug/Kg) <u>UG/KG</u>	Q
319-84-6alpha-BHC	· · · · · · · · · · · · · · · · · · ·	200	

319-84-6alpha-BHC	200	
319-85-7beta-BHC	140	
319-86-8delta-BHC	12	J
58-89-9ganma-BHC (Lindane)	7.4	J

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

Client No.

14/306

FIELD BLANK X-1 Lab Name: <u>STL Buffalo</u> Contract: Lab Code: RECNY Case No.: \_\_\_\_\_ SAS No.: \_\_\_\_\_ SDG No.: \_\_\_\_ Matrix: (soil/water) WATER Lab Sample ID: A4906407 Sample wt/vol: <u>1045.00</u> (g/mL) ML Lab File ID: <u>18B26069.TX0</u> % Moisture:\_\_\_\_\_ decanted: (Y/N) N Date Samp/Recv: <u>09/20/2004</u> <u>09/20/2004</u> Extraction: (SepF/Cont/Sonc/Soxh): SEPF Date Extracted: 09/23/2004 Concentrated Extract Volume: 10000 (uL) Date Analyzed: 09/27/2004 Injection Volume: <u>1.00</u> (uL) Dilution Factor: \_\_\_1.00 GPC Clearup: (Y/N) <u>N</u> pH: <u>6.00</u> Sulfur Cleanup: (Y/N) N CONCENTRATION UNITS: CAS NO. COMPOUND (ug/L or ug/Kg) <u>UG/L</u> Q

	<u> </u>	
319-84-6alpha-BHC	0.048	ט
319-85-7beta-BHC	0.048	ប
319-86-8delta-BHC	0.048	ט ו
58-89-9gamma-BHC (Lindane)	0.048	ט

OLIN CORFORATION ··· OLIN CORPORATION - CHARLES GIBSON SITE ASP 2000- METHOD 8081 BHC'S

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Client No.

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ANALYSIS DATA SHEET

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and the second			MANHOLE B
Lab Name: <u>SIL Buffalo</u>	Contract:		لــــــــــــــــــــــــــــــــــــ
Lab Code: <u>RECNY</u> Case No.:	SAS No.: S	SDG No.:	
Matrix: (soil/water) WATER		Lab Sample ID:	<u>A4906408</u>
Sample wt/vol: <u>1045.00</u> (g/mL) <u>ML</u>		Lab File ID:	18B26070.TX0
% Moisture: decanted: (Y/N)	N	Date Samp/Recv:	09/20/2004 09/20/2004
Extraction: (SepF/Cont/Sonc/Soxh): SEP	<u>PF</u>	Date Extracted:	09/23/2004
Concentrated Extract Volume: 10000 (uL	(د	Date Analyzed:	09/27/2004
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	CONCENTRATI (ug/L or u	ION UNITS: pg/Kg) <u>UG/L</u>	Q

319-84-6alpha-BHC	0.12	J	
319-85-7beta-BHC	0.18	J.	
319-86-8delta-BHC	0.20	J	
58-89-9gamma-BHC (Lindane)	0.048	ប	ĺ

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FORM I - GC EXT

# 16/306 OLIN CORPORATION OLIN CORPORATION - CHARLES GIBSON SITE ASP 2000 - METHOD 8081 BHC'S ANALYSIS DATA SHEET

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Client No.

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Lab Name: <u>SIL Buffalo</u> Contrac		
	·····	
Lab Code: <u>RECNY</u> Case No.: SAS No.:	SDG No.:	
Matrix: (soil/water) <u>SOIL</u>	Lab Sample ID:	<u>A4906410</u>
Sample wt/vol: $30.24$ (g/mL) G	Lab File ID:	18B26155.TX0
% Moisture: 75.3 decanted: (Y/N) $\underline{Y}$	Date Samp/Recv:	09/20/2004 09/20/2004
Extraction: (SepF/Cont/Sonc/Soxh): <u>SONC</u>	Date Extracted:	09/27/2004
Concentrated Extract Volume: <u>10000</u> (uL)	Date Analyzed:	09/30/2004
Injection Volume: <u>1.00</u> (uL)	Dilution Factor:	4.00
GPC Cleanup: (Y/N) N pH: _	Sulfur Cleanup:	(Y/N) <u>Y</u>
CAS NO. COMPOUND	CONCENTRATION UNITS: (va/L or va/Ka) UG/KG	0

	00.2002		<b>~</b>	_
319-84-6	alpha-BHC	 86	J	
319-85-7	beta-BHC	 190	1	
319-86-8	delta-BHC	 56 <sup>-</sup>	J	·
58-89-9	gamma-BHC (Lindane)	 38	J	ł
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OLIN CORPORATION		17/306	
OLIN CORPORATION - CHARLES GI	BSON SITE		
ASP 2000- METHOD 8081 EH ANALYSIS DATA SHEET			· · · · · · · · ·
			Client No.
Lab Name: <u>STL Buffalo</u> Contract:		MW-1R	
Lab Code: <u>RECNY</u> Case No.: SAS No.: SI	DG No.:		
Matrix: (soil/water) WATER I	Lab Sample ID:	<u>A4906401</u>	-
Sample wt/vol: <u>1030.00</u> (g/mL) <u>ML</u> I	Lab File ID:	18B26059.	<u>IX0</u>
% Moisture: decanted: (Y/N) N I	Date Samp/Recv:	09/20/2004	<u>1 09/20/2004</u>
Extraction: (SepF/Cont/Sonc/Soxh): <u>SEPF</u> I	Date Extracted:	<u>09/23/2004</u>	<u>1</u> .
Concentrated Extract Volume: <u>10000</u> (uL) I	Date Analyzed:	09/26/2004	<u>1</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 (ug/L or ug	NUNITS: J/Kg) <u>UG/L</u>	Q	
319-84-6alpha-BHC	0.026	J	
319-85-7beta-BHC 319-86-8delta-BHC	0.048	υ	
58-89-9gama-BHC (Lindane)	0.048	U	

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#### 18/306 OLIN CORPORATION OLIN CORPORATION - CHARLES GIBSÓN SITE <u>...</u> ASP 2000- METHOD 8081 BHC'S

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ANALYSIS DATA SHEET

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Lab Name: <u>STL Buffalo</u> Contract:	 	MW-2
Lab Code: <u>RECNY</u> Case No.: SAS No.:	SDG No.:	· · · · · ·
Matrix: (soil/water) WATER	Lab Sample ID:	<u>A4906403</u>
Sample wt/vol: <u>1000.00</u> (g/mL) <u>ML</u>	Lab File ID:	18B26061.TX0
% Moisture: decanted: (Y/N) N	Date Samp/Recv:	<u>09/20/2004</u> <u>09/20/2004</u>
Extraction: (SepF/Cont/Sonc/Soxh): <u>SEPF</u>	Date Extracted:	09/23/2004
Concentrated Extract Volume: 10000 (uL)	Date Analyzed:	<u>09/26/2004</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>
	NON UNITS: ug/Kg) <u>UG/L</u>	Q

319-84-6alpha-BHC	0.050	υ
319-85-7beta-BHC	0.050	υ
319-86-8delta-BHC	0.050	υ
58-89-9gamma-BHC (Lindane)	0.050	υ

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

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

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Client No.

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	MW-4
Lab Name:STL BuffaloContract	t:
Lab Code: <u>RECNY</u> Case No.: SAS No.:	SDG No.:
Matrix: (soil/water) WATER	Lab Sample ID: <u>A4906404</u>
Sample wt/vol: <u>1045.00</u> (g/mL) <u>ML</u>	Lab File ID: <u>18B26064.TX0</u>
% Moisture: decanted: (Y/N) N	Date Samp/Recv: 09/20/2004 09/20/2004
Extraction: (SepF/Cont/Sonc/Soxh): <u>SEPF</u>	Date Extracted: <u>09/23/2004</u>
Concentrated Extract Volume: <u>10000</u> (uL)	Date Analyzed: <u>09/26/2004</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 58-89-9	0.048 U 0.037 J 0.048 U 

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

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<u>.</u> .	• •	÷	Client No.
Lab Name: <u>SIL Buffalo</u>	Contract:	··· · ·	MW-5
Lab Code: <u>RECNY</u> Case No.:	SAS No.:	SDG No.:	
Matrix: (soil/water) <u>WATER</u>		Lab Sample ID:	<u>A4906405</u>
Sample wt/vol: <u>1045.00</u> (g/mL) <u>ML</u>		Lab File ID:	18B26065.TX0
% Moisture: decanted: (Y/N)	<u>N</u>	Date Samp/Recv:	09/20/2004 09/20/2004
Extraction: (SepF/Cont/Sonc/Soxh): <u>SEP</u>	E	Date Extracted:	09/23/2004
Concentrated Extract Volume: 10000 (uL	)	Date Analyzed:	09/26/2004
Injection Volume: <u>1.00</u> (uL)		Dilution Factor:	1.00
GPC Cleamup: (Y/N) <u>N</u> pH: <u>7.00</u>		Sulfur Cleanup:	(Y/N) <u>N</u>
	CONCENTRAL	ION UNITS:	~

CAS NO.	COMPOUND	(ug/L or ug/K	g) <u>UG/L</u>	Q
319-85-7 319-86-8	alpha-BHC beta-BHC delta-BHC gamma-BHC (Lindane)		0.048 0.048 0.048 0.048	บ บ บ บ

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

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

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		MW-7
Lab Name:     STL Buffalo     Contract:		L
Lab Code: <u>RECNY</u> Case No.: SAS No.:	SDG No.:	•
Matrix: (soil/water) WATER	Lab Sample ID:	<u>A4906402</u>
Sample wt/vol: _1040.00 (g/mL) ML	Lab File ID:	18B26060.TX0
% Moisture: decanted: (Y/N) N	Date Samp/Recv:	09/20/2004 09/20/2004
Extraction: (SepF/Cont/Sonc/Soxh): <u>SEPF</u>	Date Extracted:	09/23/2004
Concentrated Extract Volume: 10000 (uL)	Date Analyzed:	09/26/2004
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>
CONCENTRAT CAS NO. COMPOUND (ug/L or t	ION UNITS: ug/Kg) <u>UG/L</u>	Q
319-84-6alpha-BHC 319-85-7beta-BHC	0.048	

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## ANALYSIS DATA SHEET

	Client No.
	MW-A3
Lab Name: <u>SIL Buffalo</u> Contrac	t:
Lab Code: <u>RECNY</u> Case No.: SAS No.:	SDG No.:
Matrix: (soil/water) <u>WATER</u>	Lab Sample ID: <u>A4906406</u>
Sample wt/vol: _1055.00 (g/mL) ML	Lab File ID: <u>18B26066.TX0</u>
% Moisture: decanted: (Y/N) N	Date Samp/Recv: 09/20/2004 09/20/2004
Extraction: (SepF/Cont/Sonc/Soxh): <u>SEPF</u>	Date Extracted: <u>09/23/2004</u>
Concentrated Extract Volume: 10000(uL)	Date Analyzed: 09/26/2004
Injection Volume: <u>1.00</u> (uL)	Dilution Factor: <u>1.00</u>
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	0.047 U

319-84-6alpha-BHC	0.047	ប
319-85-7beta-BHC	0.047	U
319-86-8delta-BHC	0.047	υ
58-89-9gamma-BHC (Lindane)	0.047	υ
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OLIN CORPORATION OLIN CORPORATION - CHARLES GIBSON SITE ASP 2000 - METHOD 8081 BHC'S ANALYSIS DATA SHEET

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Client No.

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₩5-1 US-1 Lab Name: STL Buffalo Contract: \_ Jas 12/21/04 Lab Code: RECNY Case No.: \_\_\_\_\_ SAS No.: \_\_\_\_\_ SDG No.: \_ Lab Sample ID: A4906411 Matrix: (soil/water) SOIL Lab File ID: 18B26156.TXO Sample wt/vol: 30.36 (g/mL) GDate Samp/Recv: 09/20/2004 09/20/2004 % Moisture: 60.6 decanted: (Y/N) N Date Extracted: 09/27/2004 Extraction: (SepF/Cont/Sonc/Soxh): SONC Date Analyzed: 09/30/2004 Concentrated Extract Volume: 10000(uL) Dilution Factor: \_\_\_\_\_4.00 Injection Volume: <u>1.00</u>(uL) Sulfur Cleanup: (Y/N) Y GPC Clearup: (Y/N) N pH:\_ CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG Q CAS NO. COMPOUND 220 04 6 80 . 11 alpha-PUC

319-84-6alpha-BHC		0	i i
319-85-7beta-BHC	20	J	·
319-86-8delta-BHC	23 ·	J	ŀ
58-89-9gamma-BHC (Lindane)	80	υ	

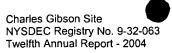
#### A CARLENCE STOL 1 2.

# Chain of Custody Record



Severn Trent Laboratories, Inc.

S1L-4124 (0901)																		
		Project N	Aanager An N	e M	Ille	,				• ••		Date	20-	04	Chain ol	Custody I	1349	3
OLIN CORP.		Telephoi	ne Numb	er (Area	Code)/E		her					Lab Nurr		-	··	<u> </u>	1040	<u> </u>
PO BUX 248, 1186 LOWIE RUISE A	A			<u> </u>			23	ઝ	36 L	1166		200 110			Page _		of <u></u>	
Cily State Zip	<sup>Code</sup> 7310	Site Con	tact		La	b Conta	apt				Апа	lysis (Atl	ach list	if	Ī		•	
Chapleston, IN 3	7510	Mike	WALK	íl	<u> </u>	ALAN	<u>) }.</u>	del			more	space is	s neede					•
Project Name and Location (State)	N	Carrier/V	Vaybill N	umber						5267								
Churcles Gibton S. 12, Nugara F Contract/Purchase Order/Quote No.	Alls, My									- 34						Special Conditio	Instructions of Re	ons/
	•		r	1atrix			Contail reserv			155%						Conunio		Leipt
Sample I.D. No. and Description	Date	Time	eous		Unpres.	H2SO4	8	E	કદ	- 1								
(Containers for each sample may be combined on one line)			Air	Sed. Sail	1		HN03 HCI	N N	2 V Z V Z	BIK			_					
MW-IR	9-20-04 M	200	X							ĸ					122	Lits	c ÁLA	55
MW-Y	9-20-04 (	<u>2900</u>	X		X-					X					1 27	c 1.L	tra Gl	ASS
<u>Mw-2</u>	9-20-041	250	X							K					2	¥.IL	G1/	
MW - H	9-20 04 1	325	K		9					K						+ 1	- G(A	
MW-5'		400	X		X			1.		X						11		:
MW-AB	9-20-04	14 50	Ŕ		X					X						М	•	
Field Plauk X-1		1530	$-\infty$		X	,				x						2)		
MALHOLE B'	A 21	1520	X		ĺΪ́	e				x								
75-1	9-20-04	1630		X	X					X					4	52 G/A	 አና	
MS-1	9-20-04	1600		X	14	1-1				K						11 /		
V5-1		550		<u>}</u>	ΪX					1×				-		h		
					/													
Possible Hazard Identification				e Dispos		~			Lk			<u>.</u>			ssessed if s			
Non-Hazard Flammable Skin Irritant Turn Around Time Required	Poison B	Unknown	Re Re	alurn To C	Client	Dol				Archive Fo	r	Month:		r than 1 mc		ampies an	eretaineu	i
	ays 🗌 21 Days	Oine	STAN	rlaa	d '	'   <sup>ac #</sup>	Require	ement	s (Spec	ify)								· · ·
(1. Reliquished BX / )	ays 27 Days	Date		, Time	~	- 1. Be	eceived	d By		~		• • • • • • • • • • • • • • • • • • • •			, Date		Time	<u> </u>
July Mich	-	1.00	3-04	170	05	161	an		2.1	Proper	i	/				70/04	Time	25-
2. Relinquished By		Date		Time		2 Ale	eceived	d By		V Critar	(	$\overline{\mathcal{O}}$	700	· · · · · ·	Date		Time	
3. Relinquished By				<u> </u>								<u>`?-</u>	20					· · · ·
		Date		Time		3. Re	eceived	а Ву							Date		Time	
Comments Copy to Mike Warke	n c. Seu	Ún Sam	ENN	L.	أدري	TAL	. 6	74	96	ockart	RO	Nisc	ARA F	alls	AN NU	312	. <b>.</b> .	(
DISTRIBUTION: WHITE - Returned to Client with Report;	CANARY - Slays wil	h the Samp	le; PINK	- Field C	Сору	·	-1			# 711	ગ્રેજ્ય(	(12)	Fap	4		75 (0)	<u></u>	¢
									4	1.0	٥٠٥٠٩٢	201	VAP	1	116 25	¢ر)~ ⊂ «	$\sim$	•





# **APPENDIX 2**

# FIELD LOGS

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

September 2004

#### CHARLES GIBSON SITE

#### (PINE AND TUSCARORA SITE)

# NIAGARA FALLS, NEW YORK

NYSDEC Registry No. 9-32-063

RECORDED BY:	Walker		SAMF	LE ID:	MW-1R +	MW-7
SAMPLED BY:	Walker		SAMF	LING EVENT/D	ATE:	9/20/2004
	Souccon		ΜΟΝΙ	TORING WELL	· MW-1R +	- F
COMPANY:	Sevenson					<u> </u>
			CONE		good	
	URGE DATA	PURGE D/	ATE:	9/20/2004		
	I FROM TOP OF	RISER:		12.1 (FT.)		LL GIBSON SITE RING WELLS ARE
DEPTH TO WATER	FROM TOP OF R	ISER:		5.3 (FT.)	2-INCH D	DIAMETER STAIN-
	WATER COLU			6.8 (FT.)	LESS ST	EEL. WELL DEPTH
	2" DIA. WELL C	ONSTANT:		0.16	MW-1R	12.10'
	ONE WELL VO	LUME=		1.09 (GALS)	MW-2 MW-A3	12.13' 11.95'
PURGE METHOD: BOTTOM OF WELL/ PURGE START TIM PURGE OBSERVAT	SILT BUILDUP: E: 1130	None STOP TIM		1200	MW-4 MW-5	13.75' 15.28'
FIELD PARAMETER	R MEASUREMEN	TS:				
		SPECIFIC CONDUC		TEMP.		
WELL VOLUME	pН	umhos/cm		(C OR F)		NOTES:
1	6.7	912	4	67.3		Clear
2	7.6	926		69.3		Clear
3	7.7	1023		65.5		Clear
4		<u> </u>				
5						<u></u>
TOTAL VOLUME PU	<u>,</u>			SAMPLE		9/20/2004
GROUNDWATER C	R SEDIMENT SA	MPLING DATA:		SAWFLE		9/20/2004
	DWATER <u>X</u> SEDIMENT			SAMPLE	T <u>IME:</u>	1200
	MW-1R + MW-	7				
SAMPLE METHOD:	Purge 3 volum	es and then sampl	le			
SAMPLING OBSER	VATIONS: <u>Wa</u>	ter_clear	<u> </u>			
QC SAMPLES TAK	EN: Duj	olicate samples tal	ken an	d labeled MW-7	Sampled a	at "10:00 am"
OTHER OBSERVA	TIONS/COMMEN	TS: Collected	4 , 1 lit	er glass amber	jars for BH	C analysis.
· · · · · · · · · · · · · · · · · · ·						

RECORDED BY:	Walker			SAMF		D:	MW-2		
SAMPLED BY:	Walker			SAMF	PLING	EVENT/C	DATE:	9/20/2004	
<u></u>			-					<b></b>	
COMPANY:	Sevenson		-	MON	IURI	NG WELL	: IVIVV-2		
				CON		N:	good		
GROUNDWATER P	URGE DATA	ι	PURGE D	ATE:		9/20/2004			
			<b>-</b> .		0 40	/ET )		LL GIBSON SIT	
DEPTH TO BOTTO				1		(FT.)		RING WELLS A	
DEPTH TO WATER						(FT.)		NAMETER STA	
	WATER C					(FT.)		EEL. WELL DE	PIHS:
		ELL CONST			0.16		MW-1R	12.10'	
	ONE WEL	L VOLUME	=		1.02	(GALS)	MW-2 MW-A3	12.13' 11.95'	
PURGE METHOD:				ose			MW-4	13.75' 15.28'	
BOTTOM OF WELL PURGE START TIM			None STOP TIM	11	1250		MW-5	15.28'	
PURGE OBSERVA			er with black						
FIELD PARAMETE	R MEASURE	MENTS:							
			SPECIFIC	;					
WELL			CONDUC	TIVITY		TEMP.			
	<u>pH</u>	-	umhos/cm	<u>)</u>		(C OR F)	-	NOTES:	
1	8		1493			65.7		Clear/black s	specs
2	7.4		1266			65.8	······	Clear	
3	7.4		1281			65.5		Clear	
4	7.4	<u> </u>	1279			63.8		clear	
5									
TOTAL VOLUME P	URGED:	3.0 Gal.							
GROUNDWATER			NG DATA:			SAMPLE	DATE:	9/20/2004	
	IDWATER	<u>x</u>	_			SAMPLE	T <u>IME:</u>	12 <u>50</u>	
CREEK	SEDIMENT								
LOCATION:	MW-2	<b></b>							
SAMPLE METHOD	: Purge 3 v	olumes and	I then samp	le					
SAMPLING OBSEF	RVATIONS:	Water cle	ar						
QC SAMPLES TAK	(EN:								
OTHER OBSERVA	TIONS/COM	MENTS:	Collected	2 , 1 lit	er gla	ss amber	jars for BH	C analysis.	
				·					

CRA 8143 (1) AppD-GwsdForm

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RECORDED BY:	Walker	SA	MPLE ID:	MW-4	
SAMPLED <u>BY:</u>	Walker	SA	MPLING EVENT/	DATE:	9/20/2004
COMPANY:	Sevenson	MC	ONITORING WELL	.: <u>MW-4</u>	<b></b>
		c		good	
			E: 9/20/200	4	
GROUNDWATER P	UKGE DATA	PURGE DATE	<u>9/20/200</u>		LL GIBSON SITE
DEPTH TO BOTTO	M FROM TOP OF R	ISER:	13.75 (FT.)	MONITO	RING WELLS ARE
DEPTH TO WATER	R FROM TOP OF RIS	SER:	6.62 (FT.)	2-INCH D	DIAMETER STAIN-
	WATER COLUM		7.13 (FT.)	LESS ST	EEL. WELL DEPTHS
	2" DIA, WELL CC	•	0.16	MW-1R	12.10'
	ONE WELL VOLU		1.14 (GALS)	MW-2 MW-A3	11.95'
	Parastaltic Pump			MW-4	
BOTTOM OF WELL		None STOP TIM	1325	MW-5	15.28'
PURGE START TIN PURGE OBSERVA	ME: 1310 TIONS: Clear			nell	
FIELD PARAMETE	R MEASUREMENTS				
			ITY TEMP.		
WELL VOLUME	pH _	umhos/cm)	(C OR F)	i	NOTES:
	7.9	1874	63.8		Clear/black specs
2	7.8	1680	63.2		Cloudy /sulfer odor
3	7.7	1999	63.3		cloudy/no odor
4	7.7	2370	62.7		cloudy
5					
		allon			
TOTAL VOLUME F	PURGED: 3.5 ga	ailoit			
GROUNDWATER	OR SEDIMENT SAN	IPLING DATA:	SAMPLE	DATE:	9/20/2004
			SAMPLE		1325
CREEK		<u></u>			
	MW-4				
SAMPLE METHOD	D: Purge 3 volumes	and then sample			
SAMPLING OBSE	RVATIONS: Cloud	dy water no smell			
QC SAMPLES TA	KEN:	<u></u>			
OTHER OBSERV	ATIONS/COMMENTS	S: Collected 2 ,	1 liter glass ambe	r jars for BH	IC analysis.
					_

CRA 8143 (1) AppD-GwsdForm

RECORDED BY:	Walker		-	SAMPLE I	D:	MW-5	
	Walker		-	SAMPLING		ATE:	9/20/2004
SAMPLED <u>BY:</u>	VVAINCI	<u></u>	-				-
COMPANY:	Sevenson		-	MONITOR	ING WELL:	MW-5	
		• • • • • • • • • • • • • • • • • • •		CONDITIO	N:	good	
GROUNDWATER F			PURGE D	ATE:	9/20/2004		
						NOTE: AL	L GIBSON SITE
DEPTH TO BOTTO					(FT.)		RING WELLS ARE
DEPTH TO WATER	R FROM TOP C	F RISER:	<u> </u>		_(FT.)		IAMETER STAIN-
	WATER CO				(FT.)		EEL. WELL DEPTHS
	2" DIA. WE		· · · · · · · · · · · · · · · · · · ·	0.16	-	MW-1R	
	ONE WELL				(GALS)	MW-2 MW-A3 MW-4	
PURGE METHOD: BOTTOM OF WELL	Parastaltic SILT BUILDU	Pump w/ d P:	None	DSE		MW-5	13.75' 15.28'
PURGE START TIM	ME: 1340		STOP TIM		I		
PURGE OBSERVA	TIONS:	Cloudy wa	ter turning o	clear			
FIELD PARAMETE	R MEASUREM	IENTS:					
			SPECIFIC		TEMP.		
WELL VOLUME	pН		CONDUC umhos/cm		(C OR F)		NOTES:
1	7.1		1386	<u> </u>	65	_	orange/cloudy
2	6.9		2150		62.5		cloudy
3	6.9		2180		62.6		Clear
4	6.9		2150		62		Clear
5				<u></u>		<u></u>	<del>_</del> _
TOTAL VOLUME F	PURGED:	3.75 gallo	ns				
GROUNDWATER	OR SEDIMEN	SAMPLI	NG DATA:		SAMPLE	DATE:	9/20/2004
	NDWATER	<u>x</u>	_		SAMPLE	T <u>IME:</u>	1400
	MW-5	• 					
SAMPLE METHOD	D: Purge 3 vo	lumes and	then samp	le		<u></u>	
SAMPLING OBSE	RVATIONS:	Water clea	ar	<del></del>	<u> </u>		
QC SAMPLES TAI	KEN:	no					
OTHER OBSERVA	ATIONS/COMM	IENTS:	Collected	2, 1 liter gl	ass amber	jars for BH(	C analysis.
				<u> </u>	<u> </u>		
							_

SAMPLED BY:     Walker     SAMPLING EVENT/DATE:     9/20/2004       COMPANY:     Sevenson     MONITORING WELL:     MW-A3       CONDITION:     good       GROUNDWATER PURGE DATA     PURGE DATE:     9/20/2004       NOTE: ALL GIBSON SITE     MONITORING WELL:     MV-A3       DEPTH TO BOTTOM FROM TOP OF RISER:     11.95 (FT.)     MONITORING WELLS AR       DEPTH TO WATER FROM TOP OF RISER:     0.16     MW-1R     12.10'       WATER COLUMN:     3.55 (FT.)     LESS STEEL. WELL DEP       2" DIA. WELL CONSTANT:     0.16     MW-4R     12.10'       ONE WELL VOLUME=     0.57 (GALS)     MW-2     12.13'       MW-43     11.95'     MW-43     11.95'       PURGE START TIME:     1435     STOP TIMI     1450       PURGE OBSERVATIONS:     Clear     MW-5     15.28'       FIELD PARAMETER MEASUREMENTS:     SPECIFIC     MW-5     15.28'       WELL     CONDUCTIVITY     TEMP.     MOTES:       1     7.6     884     61.8     Clear       2     7.6     660     60.6     Clear       3     7.5     623     61     Clear       3     7.5     615     61.4     Clear       5     COTAL VOLUME PURGED:     1.5 gallons <t< th=""><th>RECORDED BY: Walk</th><th>er</th><th>-</th><th>SAMPLE I</th><th>D:</th><th>MW-A3</th><th>·····</th></t<>	RECORDED BY: Walk	er	-	SAMPLE I	D:	MW-A3	·····
CONDITION: good         CONDITION: good         OTTOM FROM TOP OF RISER: 11.95 (FT.)         DEPTH TO BOTTOM FROM TOP OF RISER: 11.95 (FT.)       MONITORING WELLS AR         DEPTH TO WATER FROM TOP OF RISER:	SAMPLED <u>BY: Walk</u>	er	-	SAMPLING	G EVENT/D	ATE:	9/20/2004
CONDITION: good         CONDITION: good         SROUNDWATER PURGE DATA       PURGE DATE: 9/20/2004         NOTE: ALL GIBSON SITE         DEPTH TO BOTTOM FROM TOP OF RISER: 11.95 (FT.)       MONITORING WELLS AR         DEPTH TO WATER FROM TOP OF RISER: 11.95 (FT.)       LESS STEEL. WELL DEP         WATER COLUMN:       3.55 (FT.)       LESS STEEL. WELL DEP         Q'DIA. WELL CONSTANT: 0.16       MW-1R 12.10         ONE WELL VOLUME=       0.57 (GALS)       MW-1 12.10         ONE WELL VOLUME=       0.57 (GALS)       MW-4 13.75         PURGE START TIME: 1435       STOP TIMI 1450         PURGE START TIME: 1435         SPECIFIC         WELL       CONDUCTIVITY TEMP.         VOLUME       PURGE START TIME: 1450         TOTAL VOLUME PURGED: 1.5 gallons       SAMPLE DATE: 9/20/2004 <tr< td=""><td></td><td>enson</td><td></td><td>MONITOR</td><td></td><td>MW-A3</td><td>-</td></tr<>		enson		MONITOR		MW-A3	-
SROUNDWATER PURGE DATA       PURGE DATE:       9/20/2004 NOTE: ALL GIBSON SITE         DEPTH TO BOTTOM FROM TOP OF RISER:       11.95 (FT.)       MONITORING WELLS AR         DEPTH TO WATER FROM TOP OF RISER:       8.4 (FT.)       2-INCH DIAMETER STAIN         WATER COLUMN:       3.55 (FT.)       LESS STEEL. WELL DEP         2" DIA. WELL CONSTANT:       0.16       MW-1R       12.10         ONE WELL VOLUME=       0.57 (GALS)       MW-2       12.13         PURGE METHOD:       Parastaltic Pump w/ dedicated hose       MW-4       13.75         BOTTOM OF WELL/SILT BUILDUP:       None       MW-5       15.28'         PURGE DARAMETER MEASUREMENTS:       SPECIFIC       MW-5       15.28'         PURGE DARAMETER MEASUREMENTS:       SPECIFIC       WELL       CONDUCTIVITY       TEMP.         VOLUME       PH       umhos/cmm)       (C OR F)       NOTES:         1       7.6       884       61.8       Clear         2       7.6       660       60.6       Clear         3       7.5       623       61       Clear         5       5       5       5       5       5         TOTAL VOLUME PURGED:       1.5 gallons       SAMPLE DATE:       9/20/2004			-				
NOTE: ALL GIBSON SITE DEPTH TO BOTTOM FROM TOP OF RISER: 11.95 (FT.) MONITORING WELLS AR DEPTH TO WATER FROM TOP OF RISER: 8.4 (FT.) 2-INCH DIAMETER STAN WATER COLUMN: 3.55 (FT.) LESS STEEL. WELL DEP 2" DIA. WELL CONSTANT: 0.16 MW-1R 12.10' ONE WELL VOLUME= 0.57 (GALS) MW-2 12.13' MW-A3 11.95' PURGE METHOD: Parastaltic Pump w/ dedicated hose MW-4 13.75' BOTTOM OF WELL/SILT BUILDUP: None MW-4 13.75' BOTTOM OF WELL/SILT BUILDUP: None MW-5 15.28' PURGE START TIME: 1435 STOP TIMI 1450 PURGE OBSERVATIONS: Clear FIELD PARAMETER MEASUREMENTS: WELL CONDUCTIVITY TEMP. VOLUME PH umhos/cm) (C OR F) NOTES: 1 7.6 884 61.8 Clear 2 7.6 6660 60.6 Clear 3 7.5 623 61 Clear 5 TOTAL VOLUME PURGED: 1.5 gailons GROUNDWATER OR SEDIMENT SAMPLING DATA: SAMPLE DATE: 9/20/2004 MEDIA: GROUNDWATER X CREEK SEDIMENT <u>SAMPLING DATA</u> : SAMPLE DATE: 9/20/2004 MEDIA: GROUNDWATER X CREEK SEDIMENT <u>SAMPLING DATA</u> : SAMPLE TIME: 1450 CREEK SEDIMENT <u>SAMPLING DATA</u> : SAMPLE TIME: 1450 CREEK SEDIMENT <u>MW-A3</u> SAMPLE METHOD: Purge 3 volumes and then sample SAMPLING OBSERVATIONS: <u>Water clear</u> QC SAMPLES TAKEN: no		<u></u>		CONDITIC	·····	good	
DEPTH TO BOTTOM FROM TOP OF RISER: 11.95 (FT.) MONITORING WELLS AR DEPTH TO WATER FROM TOP OF RISER: 8.4 (FT.) 2-INCH DIAMETER STAN WATER COLUMN: 3.55 (FT.) LESS STEEL. WELL DEP 2" DIA. WELL CONST <u>ANT</u> : 0.16 MW-1R 12.10' ONE WELL VOLUME= 0.57 (GALS) MW-2 12.13' MW-33 11.95' PURGE METHOD: Parastaltic Pump w/ dedicated hose MW-4 13.75' BOTTOM OF WELL/SILT BUILDUP: None MW-5 15.28' PURGE START TIME: 1435 STOP TIMI 1450 PURGE OBSERVATIONS: Clear FIELD PARAMETER MEASUREMENTS: WELL CONDUCTIVITY TEMP. VOLUME PH umhos/cm) (C OR F) NOTES: 1 7.6 884 61.8 Clear 2 7.6 660 60.6 Clear 3 7.5 623 61 Clear 4 7.5 615 61.4 Clear 5 TOTAL VOLUME PURGED: 1.5 gallons GROUNDWATER OR SEDIMENT SAMPLING DATA: SAMPLE DATE: 9/20/2004 MEDIA: GROUNDWATER X SAMPLING DATA: SAMPLE TIME: 1450 CREEK SEDIMENT XAMPLING DATA: SAMPLE TIME: 1450 CREEK SEDIMENT MW-33 SAMPLE METHOD: Purge 3 volumes and then sample SAMPLING OBSERVATIONS: Water clear QC SAMPLES TAKEN: no	<b>GROUNDWATER PURGE</b>	DATA	PURGE D/	ATE:	9/20/2004		
WATER COLUMN:         3.55 (FT.)         LESS STEEL. WELL DEP           2" DIA. WELL CONSTANT:         0.16         MW-1R         12.10'           ONE WELL VOLUME=         0.57 (GALS)         MW-2         12.13'           PURGE METHOD:         Parastaltic Pump w/ dedicated hose         MW-4         13.75'           BOTTOM OF WELL/SILT BUILDUP:         None         MW-4         13.75'           PURGE START TIME:         1435         STOP TIMI         1450           PURGE OBSERVATIONS:         Clear         CONDUCTIVITY         TEMP.           FIELD PARAMETER MEASUREMENTS:         SPECIFIC         NOTES:         NOTES:           WELL         CONDUCTIVITY         TEMP.         VOLUME         NOTES:           1         7.6         660         60.6         Clear           2         7.6         660         60.6         Clear           3         7.5         623         61         Clear           5         TOTAL VOLUME PURGED:         1.5 gailons         SAMPLE DATE:         9/20/2004           MEDIA:         GROUNDWATER         X         SAMPLE DATE:         9/20/2004           MEDIA:         GROUNDWATER         X         SAMPLE TIME:         1450           LOCAT	DEPTH TO BOTTOM FRO	N TOP OF RISEF	र:	. 11.95	(FT.)		
2" DIA. WELL CONSTANT:         0.16         MW-IR         12.10'           ONE WELL VOLUME=         0.57 (GALS)         MW-2         12.13'           PURGE METHOD:         Parastaltic Pump w/ dedicated hose         MW-4         13.75'           BOTTOM OF WELL/SILT BUILDUP:         None         MW-5         15.28'           PURGE START TIME:         1435         STOP TIMI         1450           PURGE OBSERVATIONS:         Clear         CONDUCTIVITY         TEMP.           FIELD PARAMETER MEASUREMENTS:         SPECIFIC         CONDUCTIVITY         TEMP.           VOLUME         PH         umhos/cm)         (C OR F)         NOTES:           1         7.6         660         60.6         Clear           2         7.6         660         60.6         Clear           3         7.5         623         61         Clear           5         5         5         5         5         5           TOTAL VOLUME PURGED:         1.5 gallons         SAMPLE DATE:         9/20/2004           MEDIA:         GROUNDWATER         X         SAMPLE DATE:         9/20/2004           MEDIA:         GROUNDWATER         X         SAMPLE         1450           CREEK SEDI	DEPTH TO WATER FROM	TOP OF RISER:		8.4	(FT.)	2-INCH D	IAMETER STAIN-
ONE WELL VOLUME=       0.57 (GALS)       MW-2       12.13'         MW-A3       11.95'         PURGE METHOD:       Parastaltic Pump w/ dedicated hose       MW-4       13.75'         BOTTOM OF WELL/SILT BUILDUP:       None       MW-4       13.75'         PURGE START TIME:       1450       MW-5       15.28'         PURGE OBSERVATIONS:       Clear       SPECIFIC       MW-5       15.28'         FIELD PARAMETER MEASUREMENTS:       SPECIFIC       CONDUCTIVITY       TEMP.       MOTES:         VOLUME       PH       umhos/cm)       (C OR F)       NOTES:         1       7.6       660       60.6       Clear         2       7.6       660       60.6       Clear         3       7.5       623       61       Clear         5       5       5       5       5       5         TOTAL VOLUME PURGED:       1.5 gallons       SAMPLE DATE:       9/20/2004         MEDIA:       GROUNDWATER OR SEDIMENT SAMPLING DATA:       SAMPLE DATE:       9/20/2004         MEDIA:       GROUNDWATER X       SAMPLE METHOD:       1450         LOCATION:       MW-A3       SAMPLE       SAMPLE METHOD:       1450         SAMPLE METHOD:	WAT	ER COLUMN:		3.55	(FT.)	LESS ST	EEL. WELL DEPTH
MW-A3     11.95'       PURGE METHOD:     Parastaltic Pump w/ dedicated hose     MW-4     13.75'       BOTTOM OF WELL/SILT BUILDUP:     None     MW-5     15.28'       PURGE START TIME:     1450     MW-5     15.28'       PURGE OBSERVATIONS:     Clear     Clear     SPECIFIC       FIELD PARAMETER MEASUREMENTS:     SPECIFIC     NOTES:     NOTES:       VOLUME     pH     umhos/cm)     (C OR F)     NOTES:       1     7.6     884     61.8     Clear       2     7.6     660     60.6     Clear       3     7.5     623     61     Clear       4     7.5     615     61.4     Clear       5     TOTAL VOLUME PURGED:     1.5 gallons     SAMPLE DATE:     9/20/2004       MEDIA:     GROUNDWATER     X     SAMPLE TIME:     1450       LOCATION:     MW-A3     SAMPLE TIME:     1450       SAMPLE METHOD:     Purge 3 volumes and then sample     SAMPLING OBSERVATIONS:     Water clear       QC SAMPLES TAKEN:     no     Notes     Main classical classica	2" D	IA. WELL CONST		0.16	-	MW-1R	12.10'
BOTTOM OF WELL/SILT BUILDUP:     None     MW-5     15.28'       PURGE START TIME:     1435     STOP TIMI     1450       PURGE OBSERVATIONS:     Clear     SPECIFIC       FIELD PARAMETER MEASUREMENTS:     SPECIFIC     NOTES:       WELL     CONDUCTIVITY     TEMP.       VOLUME     PH     umhos/cm)     (C OR F)     NOTES:       1     7.6     660     60.6     Clear       2     7.6     660     60.6     Clear       3     7.5     623     61     Clear       4     7.5     615     61.4     Clear       5     SAMPLE PURGED:     1.5 gallons     SAMPLE DATE:     9/20/2004       MEDIA:     GROUNDWATER OR SEDIMENT SAMPLING DATA:     SAMPLE DATE:     9/20/2004       MEDIA:     GROUNDWATER CR SEDIMENT     X     SAMPLE TIME:     1450       LOCATION:     MW-A3     SAMPLE METHOD:     Purge 3 volumes and then sample     SAMPLING OBSERVATIONS:     Water clear       QC SAMPLES TAKEN:     no     No     No     No	ONE	WELL VOLUME	=	0.57	(GALS)		
DUTON OF WELL       1435       STOP TIMI       1450         PURGE START TIME       1435       STOP TIMI       1450         PURGE OBSERVATIONS:       Clear       SPECIFIC       CONDUCTIVITY       TEMP.         VOLUME       pH       umhos/cm)       (C OR F)       NOTES:         1       7.6       884       61.8       Clear         2       7.6       660       60.6       Clear         3       7.5       623       61       Clear         4       7.5       615       61.4       Clear         5       5       5       5       5       5         TOTAL VOLUME PURGED: 1.5 gallons         GROUNDWATER OR SEDIMENT SAMPLING DATA:       SAMPLE DATE: 9/20/2004         MEDIA:       GROUNDWATER       X       SAMPLE TIME:       1450         CREEK SEDIMENT         LOCATION:       MW-A3       SAMPLE METHOD:       Purge 3 volumes and then sample         SAMPLING OBSERVATIONS:       Water clear       QC SAMPLES TAKEN:       no				se			
OURGE OBSERVATIONS: Clear         SPECIFIC CONDUCTIVITY TEMP. CONDUCTIVITY TEMP. CONDUCTIVITY TEMP.         volume       pH       umbos/cm)       (C OR F)       NOTES:         1       7.6       884       61.8       Clear         2       7.6       660       60.6       Clear         3       7.5       623       61       Clear         4       7.5       615       61.4       Clear         5       5       5       5       5         TOTAL VOLUME PURGED: 1.5 gallons         GROUNDWATER OR SEDIMENT SAMPLING DATA: SAMPLE DATE: 9/20/2004         MEDIA:       GROUNDWATER CR SEDIMENT SAMPLING DATA:       SAMPLE DATE: 9/20/2004         MEDIA:       GROUNDWATER CR SEDIMENT XAMPLING DATA:       SAMPLE DATE: 9/20/2004         MEDIA:       GROUNDWATER CR SEDIMENT XAMPLING DATA:       SAMPLE DATE: 9/20/2004         MEDIA:       GROUNDWATER CR SEDIMENT XAMPLING DATA:       SAMPLE DATE: 9/20/2004         SAMPLE METHOD:       MW-A3       SAMPLE METHOD: 1450         SAMPLE METHOD:       Purge 3 volumes and then sample       SAMPLE         SAMPLING OBSERVATIONS:       Water clear       QC SAMPLES TAKEN: no				1/50	1	MW-5	15.28'
SPECIFIC CONDUCTIVITY         TEMP.           1         7.6         884         61.8         Clear           2         7.6         660         60.6         Clear           3         7.5         623         61         Clear           4         7.5         615         61.4         Clear           5         5         5         5         5         5           TOTAL VOLUME PURGED: 1.5 gallons           GROUNDWATER OR SEDIMENT SAMPLING DATA:         SAMPLE DATE: 9/20/2004           MEDIA:         GROUNDWATER OR SEDIMENT SAMPLING DATA:         SAMPLE TIME: 1450           LOCATION:           MW-A3         SAMPLE METHOD: Purge 3 volumes and then sample           SAMPLE METHOD:           Purge 3 volumes and then sample         GROUNDLES TAKEN: no			3108 110	1 1430			
WELL         CONDUCTIVITY         TEMP.           VOLUME         pH         umhos/cm)         (C OR F)         NOTES:           1         7.6         884         61.8         Clear           2         7.6         660         60.6         Clear           3         7.5         623         61         Clear           4         7.5         615         61.4         Clear           5         5         5         5         5         5           TOTAL VOLUME PURGED: 1.5 gallons           GROUNDWATER OR SEDIMENT SAMPLING DATA:         SAMPLE DATE: 9/20/2004           MEDIA:         GROUNDWATER CR SEDIMENT         X         SAMPLE TIME: 1450           LOCATION:         MW-A3         SAMPLE METHOD: Purge 3 volumes and then sample         SAMPLE METHOD:         Purge 3 volumes and then sample           SAMPLING OBSERVATIONS:         Water clear         QC SAMPLES TAKEN:         no	FIELD PARAMETER MEAS	SUREMENTS:					
VOLUME         pH         umhos/cm)         (C OR F)         NOTES:           1         7.6         884         61.8         Clear           2         7.6         660         60.6         Clear           3         7.5         623         61         Clear           4         7.5         615         61.4         Clear           5         5         5         5         5         5					TEMP		
Image: Second							NOTES:
2         7.6         660         60.6         Clear           3         7.5         623         61         Clear           4         7.5         615         61.4         Clear           5         5         5         615         61.4         Clear           TOTAL VOLUME PURGED: 1.5 gallons           GROUNDWATER OR SEDIMENT SAMPLING DATA: SAMPLE DATE: 9/20/2004           MEDIA:         GROUNDWATER CREEK SEDIMENT         X         SAMPLE TIME: 1450           LOCATION:         MW-A3         SAMPLE METHOD: Purge 3 volumes and then sample         SAMPLES TAKEN: no           SAMPLES TAKEN:         no         No         No         No		7.6		2			
3       7.5       623       61       Clear         4       7.5       615       61.4       Clear         5       5       5       5       5         TOTAL VOLUME PURGED: 1.5 gallons         GROUNDWATER OR SEDIMENT SAMPLING DATA: SAMPLE DATE: 9/20/2004         MEDIA:       GROUNDWATER CREEK SEDIMENT       X       SAMPLE TIME: 1450         LOCATION:       MW-A3       SAMPLE METHOD: Purge 3 volumes and then sample       SAMPLING OBSERVATIONS: Water clear         QC SAMPLES TAKEN:       no       No       No							Clear
4       7.5       615       61.4       Clear         5       5       5       5       5         TOTAL VOLUME PURGED: 1.5 gallons         GROUNDWATER OR SEDIMENT SAMPLING DATA: SAMPLE DATE: 9/20/2004         MEDIA:       GROUNDWATER X       SAMPLE DATE: 9/20/2004         MEDIA:       GROUNDWATER X       SAMPLE TIME: 1450         CREEK SEDIMENT       X       SAMPLE TIME: 1450         LOCATION:       MW-A3       SAMPLE METHOD: Purge 3 volumes and then sample         SAMPLING OBSERVATIONS:       Water clear       QC SAMPLES TAKEN: no			623		61		Clear
TOTAL VOLUME PURGED:       1.5 gallons         GROUNDWATER OR SEDIMENT SAMPLING DATA:       SAMPLE DATE:       9/20/2004         MEDIA:       GROUNDWATER X       SAMPLE TIME:       1450         CREEK SEDIMENT       MW-A3       SAMPLE METHOD:       Purge 3 volumes and then sample         SAMPLE METHOD:       Purge 3 volumes and then sample       SAMPLES TAKEN:       no		7.5	615		61.4		Clear
GROUNDWATER OR SEDIMENT SAMPLING DATA:       SAMPLE DATE:       9/20/2004         MEDIA:       GROUNDWATER X       SAMPLE TIME:       1450         CREEK SEDIMENT       MW-A3       SAMPLE METHOD:       Purge 3 volumes and then sample         SAMPLING OBSERVATIONS:       Water clear       QC SAMPLES TAKEN:       no	5					. <u></u>	
MEDIA:       GROUNDWATER       X       SAMPLE TIME:       1450         LOCATION:       MW-A3         SAMPLE METHOD:       Purge 3 volumes and then sample         SAMPLING OBSERVATIONS:       Water clear         QC SAMPLES TAKEN:       no		<u></u>			SAMPLE	DATE:	9/20/2004
INEDIA:       SINCONDUCTION         CREEK SEDIMENT	14					<u> </u>	
SAMPLE METHOD: Purge 3 volumes and then sample SAMPLING OBSERVATIONS: Water clear QC SAMPLES TAKEN: no			_		SAMPLE		1450
SAMPLING OBSERVATIONS: <u>Water clear</u>		/-A3					<u></u>
QC SAMPLES TAKEN: no	SAMPLE METHOD: <u>Pur</u>	ge 3 volumes and	I then sampl	e			
	SAMPLING OBSERVATIO	NS: <u>Water cle</u>	ar				
OTHER OBSERVATIONS/COMMENTS: Collected 2 , 1 liter glass amber jars for BHC analysis.	QC SAMPLES TAKEN:	no	<u></u>				
	OTHER OBSERVATIONS	COMMENTS:	Collected	2,1 liter gl	ass amber	jars for BH	C analysis.

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RECORDED BY:	Walker		•	SAMPLE	ID:	Manhole E	3
SAMPLED BY:	Walker			SAMPLIN	G EVENT/D	ATE:	9/20/2004
COMPANY:	Sevenson			MONITOR		Manhole E	3
			-	CONDITIC	DN:	good	
GROUNDWATER P			PURGE D	ΔΤΕ΄	9/20/2004		
DEPTH TO BOTTOM				~ 1 <b>L</b> .	(FT.)	NOTE: AL	L GIBSON SITE
DEPTH TO WATER					(FT.)		IAMETER STAIN-
DEI III IO WATER	WATER CO				_(FT.)		EEL. WELL DEPTHS:
	2" DIA. WE		ANT:		(***)	MW-1R	12.10'
	ONE WELL				(GALS)	MW-2 MW-A3	12.13' 11.95'
PURGE METHOD:			edicated ho	ose		MW-4	13.75'
BOTTOM OF WELL PURGE START TIM		JP:	STOP TIM	ti		MW-5	15.28'
PURGE OBSERVAT			510r 110	1			
FIELD PARAMETER		MENTS:					
					TEMP.		
WELL VOLUME	pH		umhos/cm		(C OR F)		NOTES:
1	<u> </u>					-	
2							
3							
4							
5							
TOTAL VOLUME PI	JRGED:						
GROUNDWATER C	R SEDIMEN	T SAMPLI	NG DATA:		SAMPLE	DATE:	9/20/2004
	DWATER SEDIMENT	<u>x</u>	_		SAMPLE	T <u>IME:</u>	1520
LOCATION:	Manhole B		_				<u> </u>
SAMPLE METHOD	: Parastaltic	Pump w/ c	ledicated h	ose			
SAMPLING OBSER	VATIONS:	Water clea	ar	. <u></u>			<u></u>
QC SAMPLES TAK	EN:	no					·
OTHER OBSERVA	TIONS/COM	IENTS:	Collected	2, 1 liter gl	ass amber	ars for BHC	Canalysis.
			<u> </u>				

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RECORDED BY:	Walker	SAMPL	EID: DS-1	
SAMPLED BY:	Walker	SAMPL	ING EVENT/DATE:	9/20/2004
COMPANY:	Sevenson		DRING WELL: DS-1	
		CONDI		
FIELD PARAMETER	R MEASUREMENTS	S:		
		SPECIFIC		
WELL	<b>n</b> LJ			NOTES:
VOLUME1	рН	umhos/cm)	(C OR F)	NOTES.
2				
3				· · · · · · · · · · · · · · · · · · ·
4				
5		······		
TOTAL VOLUME P	URGED: `			
	URGED: ` OR SEDIMENT SAM	IPLING DATA:	SAMPLE DATE:	9/20/2004
<b>GROUNDWATER (</b> MEDIA: GROUN	OR SEDIMENT SAM	IPLING DATA:	SAMPLE D <u>ATE:</u> SAMPLE T <u>IME:</u>	<u>9/20/2004</u> 1630
<b>GROUNDWATER (</b> MEDIA: GROUN	OR SEDIMENT SAM	IPLING DATA:		
<b>GROUNDWATER (</b> MEDIA: GROUN	DR SEDIMENT SAM IDWATER SEDIMENT X	IPLING DATA:		
<b>GROUNDWATER (</b> MEDIA: GROUN CREEK	DR SEDIMENT SAM IDWATER SEDIMENT X Creek bed down			
<b>GROUNDWATER (</b> MEDIA: GROUN CREEK LOCATION <u>:</u>	DR SEDIMENT SAM	stream of the landfill cap		
GROUNDWATER O MEDIA: GROUN CREEK LOCATION <u>:</u> SAMPLE METHOD	DR SEDIMENT SAM	stream of the landfill cap		
GROUNDWATER O MEDIA: GROUN CREEK LOCATION <u>:</u> SAMPLE METHOD SAMPLING OBSER QC SAMPLES TAK	DR SEDIMENT SAM	stream of the landfill cap		
GROUNDWATER O MEDIA: GROUN CREEK LOCATION <u>:</u> SAMPLE METHOD SAMPLING OBSER QC SAMPLES TAK	DR SEDIMENT SAM	stream of the landfill cap		

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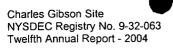
		SAMPLIN	G FIELD FU			
RECORDED BY:	Walker		SAMPL	E ID:	US-1	
SAMPLED BY:	Walker		SAMPLI	NG EVEN	T/DATE:	9/20/2004
COMPANY:	Sevenson		MONITO		ELL: <u>US-1</u>	
			CONDIT	ION:	good	
FIELD PARAMETER		ENTS:				
		SPECI	=IC			
WELL		CONDU	JCTIVITY			
VOLUME	рН	umhos/	<u>cm)</u>	<u>(C OR</u>	<u>F)</u>	NOTES:
1						
2						
3			<u> </u>	=		
4						<u> </u>
5			··- ··- ··-			
GROUNDWATER O	R SEDIMENT	SAMPLING DAT	<b>A</b> :	SAMP	LE DATE:	9/20/2004
		x		SAMP	LE T <u>IME:</u>	1550
	Creek bed u	upstream of the lar	ndfill cap			
SAMPLE METHOD:		Sediment trap con	nposite			<u> </u>
SAMPLING OBSER		<u></u>				
QC SAMPLES TAK	EN <u>:</u>	Duplicate sample	aken and lal	peled "MS	-1" and timed	1 1600.
OTHER OBSERVA	TIONS/COMM	ENTS:				
	<u> </u>	<u></u>			easured	
Nata: analifia condu	uctivity formula	to 25 degrees Cel	cius: SC(25)	= {{T-25	)(0.02)}+1	

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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

DATE:	9/20/2004	s	SEMI-ANN	IUAL SAMF	LING EVE	NT:	Fall 200	04	
PERSON		G METER <u>S</u>	•	M. Walker				<u></u>	
pH METE	Ν			Oakton pH Tester NTROL NU		Junction E-780		_, , , , , , , , , , , , , , , , , , ,	
				DARDS US					
	METER CAL	S	STANDAR STANDAR	2D 7.00 ME 2D 4.00 ME 2D 10.00 ME NTS:	TER READ	: 4			
SPECIFIC	Ν	MANUFACT	URER:	Oakton	IMBER:	E-780			
	C	CALIBRATI	ON STAN	DARDS US	ED:				
			STANDAF STANDAF	•	RD 0 USE	D:	AIR,	WATER	٢)
	METER CA			RD NTS:	_ 44	7		450	
THERMO	DMETER USE			CTURER:			14-648	3-12	
			S: (DOES SPECIFIC	CONDUC	METER TE TIVITY ME	MPERATU TER TEMF	PERATUR	EE WITH RE ?) <u>no</u>	
OTHER	INSTRUMENT		MANUFA	CTURER: CATION/CO		UMBER:			
	-	CALIBRAT	IONS PEF	RFORMED:					
OTHER	- CALIBRATION		ITS:						
				<u> </u>	<u>, , , , , , , , , , , , , , , , , , , </u>				





# QUARTERLY SITE INSPECTION FORMS

July - December 2004

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/Twelfth Annual Report 2004

THIS FORM TO BE USED FOR	QUARTER	LY AND ALL	OTHER SI	TE INSPECTIONS
ATE: 8/6/2004	TIME:	4:00 PM		-
ISPECTO <u>R:</u> Walker	<u>-</u>			Sevenson
EATHER: Sunny				
EASON FOR INSPECTION (Q	UARTERL	Y OR OTHER	):	check on system, no fax report se
subsidence (sinking)	ponded wa For site se	s note exister ater, stressed curity, note at	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
CCESS ROAD	Α			
OVER VEGETATION	<u>A</u>	<b></b> .		· · ·
REES	A		Trees alon	g the property line have been cut
ITTER	Α			· · · · · · · · · · · · · · · · · · ·
ROSION (CAP)	<u>A</u>			
OSION (BANK)	<u>A</u>	<u> </u>		
ECURITY:				
ENCE/LOCKS	А			
IEZOMETERS/LOCKS	A	_		
IONITORING WELLS/LOCKS	A			
ANHOLES/LIDS/LOCKS	A			
LECTRICAL PANEL	А			
DDITIONAL COMMENTS:	Checked	the auto diale	er because	no faxes have been sent. Found
				o upit
nat the electrical fault light was	it. Shut dov			
ocked the panel and left the site	Э			
···				
			<u> </u>	
				1
				· · · · · · · · · · · · · · · · · · ·

THIS FORM TO BE USED FO			R SITE INSPECTIONS	
DATE: <u>9/17/2004</u>	TIME:	1100		
INSPECTO <u>R: M. Wa</u>	lker	COMPANY:	Sevenson	
WEATHER:				
REASON FOR INSPECTION	(QUARTERL	Y OR OTHER <u>):</u>	Equipment repair	
subsidence (sinkii and rodent burrow	I site conditior ng), ponded w vs. For site se	ns note existence of ater, stressed veget curity, note absence	BLE A=ACCEPTABLE bare areas (number,size), cracks, ation, soil discoloration or seeps, of locks, gates open or damaged, ther unusual occurences.)	
		COMI	MENTS	
ACCESS ROAD	<u>A</u>	<u> </u>	· · · · · · · · · · · · · · · · · · ·	
COVER VEGETATION	Α			
TREES	Α	<u> </u>		
LITTER	<u>A</u>			
EROSION (CAP)	Α			
EROSION (BANK)	<u>A</u>			
SECURITY:				
FENCE/LOCKS	<u>A</u>		· · · · · · · · · · · · · · · · · · ·	
PIEZOMETERS/LOCKS	Α	<u> </u>		
MONITORING WELLS/LOCH	<s <u="">A</s>		· · · · · · · · · · · · · · · · · · ·	
MANHOLES/LIDS/LOCKS	Α	<u> </u>	: 	
ELECTRICAL PANEL	<u>A</u>			
ADDITIONAL COMMENTS:	Met onsi	ite with Steve from C	Carrier Controlss to continue troublshooting	the
Flow motor After pumprous	nhone conver	sations with the mar	nufacturers tech line, it was determined that	t
unit would have to be remove	ed and sent in	to be repaired at the	e factory. Apparently whatever fried the auto	o dialei
bas also fried the meter. Ste	ve said he will	l call me when he ge	ts a quote on repair or replacement of the u	unit.
	<u> </u>	<u></u>		

DATE: <u>9/20/2004</u>	TIME:	900	·
INSPECTO <u>R:</u> Mił	e Walker	_COMPANY:	Sevenson
WEATHER: Su	nny 70F		
REASON FOR INSPECT	ION (QUARTERL)	Y OR OTHER <u>):</u>	Semi annual Sampling, Monthly Insp.
subsidence (si and rodent but	neral site condition inking), ponded wa rrows. For site se	s note existence of ater, stressed vege curity, note absenc	ABLE A=ACCEPTABLE f bare areas (number,size), cracks, etation, soil discoloration or seeps, ce of locks, gates open or damaged, other unusual occurences.)
		COM	MENTS
ACCESS ROAD	A		
COVER VEGETATION	A		
TREES	<u>A</u>		
ITTER	<u>A</u>		
EROSION (CAP)	Α		
EROSION (BANK)	A		
SECURITY:			
ENCE/LOCKS	А		
PIEZOMETERS/LOCKS	А		
MONITORING WELLS/LO	DCKS A		
	S A		
ANHOLES/LIDS/LOCK	А		· · · · · · · · · · · · · · · · · · ·
MANHOLES/LIDS/LOCK		e had built a "bridge	e" made of rocks across the creek and
MANHOLES/LIDS/LOCK ELECTRICAL PANEL ADDITIONAL COMMENT	S: Some on		e" made of rocks across the creek and

THIS FORM TO BE USED FOR		Y AND ALL OTHER	R SITE INSPECTIONS	
DATE: <u>10/13/2004</u>	TIME:	830		
INSPECTO <u>R:</u> Walker		_COMPANY:	Sevenson	
WEATHER:				
REASON FOR INSPECTION (QI			Install flow meter parts	
		01( 0111E(t) <u></u>		
subsidence (sinking), and rodent burrows.	ponded wate For site secu	note existence of ba er, stressed vegetat urity, note absence of	BLE A=ACCEPTABLE are areas (number,size), cracks, ion, soil discoloration or seeps, of locks, gates open or damaged, er unusual occurences.)	· .
		COMM	IENTS	
ACCESS ROAD	Α			
COVER VEGETATION	<u>A</u>	<u> </u>		
TREES	<u>A</u>			
LITTER	A		·	
EROSION (CAP)	A			
EROSION (BANK)	А	_		-
SECURITY:				
FENCE/LOCKS	<u>A</u>			
PIEZOMETERS/LOCKS	<u>A</u>			
MONITORING WELLS/LOCKS	А	<del>_</del>		
MANHOLES/LIDS/LOCKS	A			
ELECTRICAL PANEL	A			
ADDITIONAL COMMENTS:	Met onsite	e with David Carrier	of Carrier Controls to install the repaired	
New motor Alex reported the flo				
	w program a	nd reset the parame	eters of the meter to original specs.	

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WEATHER: Sunny 70 F REASON FOR INSPECTION (QUARTERLY OR O	NACCEPTABLE xistence of bare essed vegetation, ote absence of lo	A=ACCEPTABLE areas (number,size), cracks, , soil discoloration or seeps, ocks, gates open or damaged, inusual occurences.)
WEATHER:       Sunny 70 F         REASON FOR INSPECTION (QUARTERLY OR OT         GENERAL SITE CONDITIONS:       U=U         (Note: For general site conditions note e         subsidence (sinking), ponded water, streand rodent burrows.         For site security, n         missing signs or evidence of vandalism.         ACCESS ROAD       A         COVER VEGETATION       A         TREES       A         LITTER       A         EROSION (CAP)       A         EROSION (BANK)       A         SECURITY:         FENCE/LOCKS       A         PIEZOMETERS/LOCKS       A         MONITORING WELLS/LOCKS       A	THER): NACCEPTABLE xistence of bare essed vegetation, ote absence of lo Note any other u	Adjust calibration on flowmeter/auto dialer A=ACCEPTABLE areas (number,size), cracks, , soil discoloration or seeps, ocks, gates open or damaged, inusual occurences.)
WEATHER:       Sunny 70 F         REASON FOR INSPECTION (QUARTERLY OR OT         GENERAL SITE CONDITIONS:       U=U         (Note: For general site conditions note e         subsidence (sinking), ponded water, streand rodent burrows.         For site security, n         missing signs or evidence of vandalism.         ACCESS ROAD       A         COVER VEGETATION       A         TREES       A         LITTER       A         EROSION (CAP)       A         EROSION (BANK)       A         SECURITY:         FENCE/LOCKS       A         PIEZOMETERS/LOCKS       A         MONITORING WELLS/LOCKS       A	THER): NACCEPTABLE xistence of bare essed vegetation, ote absence of lo Note any other u	A=ACCEPTABLE areas (number,size), cracks, , soil discoloration or seeps, ocks, gates open or damaged, inusual occurences.)
REASON FOR INSPECTION (QUARTERLY OR OR         GENERAL SITE CONDITIONS:       U=U         (Note: For general site conditions note esubsidence (sinking), ponded water, streand rodent burrows. For site security, nmissing signs or evidence of vandalism.         ACCESS ROAD       A         COVER VEGETATION       A         TREES       A         LITTER       A         EROSION (CAP)       A         EROSION (BANK)       A         SECURITY:         FENCE/LOCKS       A         PIEZOMETERS/LOCKS       A         MONITORING WELLS/LOCKS       A	NACCEPTABLE xistence of bare essed vegetation, ote absence of lo Note any other u	A=ACCEPTABLE areas (number,size), cracks, , soil discoloration or seeps, ocks, gates open or damaged, inusual occurences.)
GENERAL SITE CONDITIONS:       U=U         (Note: For general site conditions note e         subsidence (sinking), ponded water, streand rodent burrows.         and rodent burrows.         For site security, n         missing signs or evidence of vandalism.         ACCESS ROAD       A         COVER VEGETATION       A         TREES       A         LITTER       A         EROSION (CAP)       A         EROSION (BANK)       A         SECURITY:       FENCE/LOCKS         FENCE/LOCKS       A         MONITORING WELLS/LOCKS       A         MANHOLES/LIDS/LOCKS       A	NACCEPTABLE xistence of bare essed vegetation, ote absence of lo Note any other u	A=ACCEPTABLE areas (number,size), cracks, , soil discoloration or seeps, ocks, gates open or damaged, inusual occurences.)
(Note: For general site conditions note e subsidence (sinking), ponded water, streand rodent burrows. For site security, mmissing signs or evidence of vandalism.         ACCESS ROAD       A         COVER VEGETATION       A         TREES       A         LITTER       A         EROSION (CAP)       A         SECURITY:       FENCE/LOCKS         FENCE/LOCKS       A         MONITORING WELLS/LOCKS       A         MANHOLES/LIDS/LOCKS       A	xistence of bare essed vegetation, ote absence of lo Note any other u	areas (number,size), cracks, , soil discoloration or seeps, ocks, gates open or damaged, inusual occurences.)
COVER VEGETATIONATREESALITTERAEROSION (CAP)AEROSION (BANK)ASECURITY:FENCE/LOCKSAPIEZOMETERS/LOCKSAMONITORING WELLS/LOCKSAMANHOLES/LIDS/LOCKSA		NTS
COVER VEGETATIONATREESALITTERAEROSION (CAP)AEROSION (BANK)ASECURITY:FENCE/LOCKSAPIEZOMETERS/LOCKSAMONITORING WELLS/LOCKSAMANHOLES/LIDS/LOCKSA		
TREES       A         LITTER       A         EROSION (CAP)       A         EROSION (BANK)       A         SECURITY:       A         FENCE/LOCKS       A         PIEZOMETERS/LOCKS       A         MONITORING WELLS/LOCKS       A         MANHOLES/LIDS/LOCKS       A	<u></u>	
LITTER <u>A</u> EROSION (CAP) <u>A</u> EROSION (BANK) <u>A</u> SECURITY: FENCE/LOCKS <u>A</u> PIEZOMETERS/LOCKS <u>A</u> MONITORING WELLS/LOCKS <u>A</u> MANHOLES/LIDS/LOCKS <u>A</u>		
EROSION (CAP) <u>A</u> EROSION (BANK) <u>A</u> SECURITY: FENCE/LOCKS <u>A</u> PIEZOMETERS/LOCKS <u>A</u> MONITORING WELLS/LOCKS <u>A</u> MANHOLES/LIDS/LOCKS <u>A</u>		
EROSION (BANK) A SECURITY: FENCE/LOCKS A PIEZOMETERS/LOCKS A MONITORING WELLS/LOCKS A MANHOLES/LIDS/LOCKS A		
SECURITY: FENCE/LOCKS <u>A</u> PIEZOMETERS/LOCKS <u>A</u> MONITORING WELLS/LOCKS <u>A</u> MANHOLES/LIDS/LOCKS <u>A</u>		
FENCE/LOCKSAPIEZOMETERS/LOCKSAMONITORING WELLS/LOCKSAMANHOLES/LIDS/LOCKSA		
PIEZOMETERS/LOCKS     A       MONITORING WELLS/LOCKS     A       MANHOLES/LIDS/LOCKS     A		
MONITORING WELLS/LOCKS <u>A</u> MANHOLES/LIDS/LOCKS <u>A</u>		
MANHOLES/LIDS/LOCKS A		· · · ·
FLECTRICAL PANEL A		
		·······
ADDITIONAL COMMENTS: Met onsite with	Steve Franks of (	Carrier Controls to find out why the
Flow meter and the auto dialer where not communic	ating with each o	other. We corrected the problem
and Steve installed a set of switches, to make testin	g the pumping sy	stem manually, safer and easier.
We then ran the system for 77 gallons to see if the c	ount would show	vup on the faxes for the following
day, they did. I will now have Steve reset the counte	r to zero, so the	only counts on it will be
actual gallons pumped from now on.	want to note that	at the Electrical utility company
was gearing up to do some maintenance on the high		······································

THIS FORM TO BE USED FO	OR QUARTERI	Y AND ALL OTHE	R SITE INSPECTIONS	
DATE: <u>11/23/2004</u>	TIME:	1200N		
INSPECTOR: Walke	er	_COMPANY:	Sevenson	
WEATHER: Cloud	ly Damp 39 F			
REASON FOR INSPECTION	(QUARTERLY	OR OTHER):	Quarterly Inspection	
subsidence (sinkin and rodent burrow	l site conditions ng), ponded wat vs. For site sec	note existence of b ter, stressed vegeta urity, note absence	BLE A=ACCEPTABLE bare areas (number,size), cracks, tion, soil discoloration or seeps, of locks, gates open or damaged, her unusual occurences.)	
		COM	MENTS	
ACCESS ROAD	<u>A</u>			
COVER VEGETATION	<u>A</u>			
TREES	Α	<u> </u>		
LITTER	<u>A</u>			
EROSION (CAP)	<u>A</u>			
EROSION (BANK)	Α			
SECURITY:				
FENCE/LOCKS	A			
PIEZOMETERS/LOCKS	A			
MONITORING WELLS/LOCK	S A			
MANHOLES/LIDS/LOCKS	А			
ELECTRICAL PANEL	A	<u> </u>		
ADDITIONAL COMMENTS:	The site I	ooked good, the wa	ter level in the creek seemed low.	
Fence was secure and the pla	ace looked read	v for the winter sea	son	
· · · · · · · · · · · · · · · · · · ·				
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# **APPENDIX 4**

# QUARTERLY GROUNDWATER ELEVATION / PUMPING FORMS

July - December 2004

CHARLES GIBSON SITE (PINE AND TUSCARORA SITE) NIAGARA FALLS, NEW YORK

NYSDEC Registry No. 9-32-063

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

#### THIS FORM TO BE USED FOR ALL QUARTERLY PIEZOMETER AND MANHOLE GROUND-WATER ELEVATION MEASURING EVENTS TIME: 930 DATE: 9/20/2004 COMPANY: Sevenson Walker INSPECTOR: WEATHER: Sunny 70 F RISER ELEVATION DEPTH TO WATER WATER COMMENTS PIEZOMETER (INSIDE CASING) (FT.) ELEVATION OK P-1 572.72 6.42 566.3 565.49 OK 574.89 9.4 P-2 OK P-3 574.16 7.84 566.32 565.43 OK P-4 10.71 576.14 P-5 575.05 6 569.05 OK 567.89 P-6 10.39 OK · 578.28 ÔK 564.22 MANHOLE A 575.22 11 13.07 564.27 OK MANHOLE B 577.34

(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: The site looks good.

7118

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

WEATHER:Cloudy and Damp 39 FPIEZOMETERRISER ELEVATION (INSIDE CASING)DEPTH TO WATER (FT.)WATER ELEVATIONCOMMENTSP-1572.727.55565.17OKP-2574.899.58565.31OKP-3574.168.5565.66OK	DATE: <u>11/23/2</u>	2004	TIME:	1200N		
RISER ELEVATION (INSIDE CASING)DEPTH TO WATER (FT.)WATER ELEVATIONCOMMENTSP-1572.727.55565.17OKP-2574.899.58565.31OKP-3574.168.5565.66OKP-4576.1410.86565.28OKP-5575.056.5568.55OKP-6578.2810.8567.48OKMANHOLE A575.2211.4563.82OKMANHOLE B577.3413.45563.89OKNiagara Tuscarora Road sanitary sewer line by a float controlled sump pump which maintains groundwater of in Manhole B (and by extension Manhole A) below an elevation of 565 ft. above mean sea level. Therefore, water distance from the manhole rim should not be less than 12.41 ft. at Manhole B and 10.22 ft. at Manhole (Note: riser elevations (re)surveyed September, 1999 by Wendel Surveyors)	INSPECTOR:	Walker		(:	Sevenson	<u></u>
PIEZOMETER(INSIDE CASING)(FT.)ELEVATION2-1572.727.55565.17OK2-2574.899.58565.31OK2-3574.168.5565.66OK2-4576.1410.86565.28OK2-5575.056.5568.55OK2-6578.2810.8567.48OKANHOLE A575.2211.4563.82OKNote: Manhole A empties into Manhole B by gravity feed and Manhole B is pumped automatically to the TooNote: Manhole A empties into Manhole B by an elevation of 565 ft. above mean sea level. Therefore, vater distance from the manhole rim should not be less than 12.41 ft. at Manhole B and 10.22 ft. at Manhole Note: riser elevations (re)surveyed September, 1999 by Wendel Surveyors)	VEATHER:	Cloudy and Damp 39	F			
P-2574.899.58565.31OKP-3574.168.5565.66OKP-4576.1410.86565.28OKP-5575.056.5568.55OKP-6578.2810.8567.48OKMANHOLE A575.2211.4563.82OKMANHOLE B577.3413.45563.89OKNiagara Tuscarora Road sanitary sewer line by a float controlled sump pump which maintains groundwater of Manhole B (and by extension Manhole A) below an elevation of 565 ft. above mean sea level. Therefore, water distance from the manhole rim should not be less than 12.41 ft. at Manhole B and 10.22 ft. at Manhole (Note: riser elevations (re)surveyed September, 1999 by Wendel Surveyors)	PIEZOMETER			) WATER		COMMENTS
P-3574.168.5565.66OKP-4576.1410.86565.28OKP-5575.056.5568.55OKP-6578.2810.8567.48OKMANHOLE A575.2211.4563.82OKMANHOLE B577.3413.45563.89OK(Note: Manhole A empties into Manhole B by gravity feed and Manhole B is pumped automatically to the TowNiagara Tuscarora Road sanitary sewer line by a float controlled sump pump which maintains groundwater of in Manhole B (and by extension Manhole A) below an elevation of 565 ft. above mean sea level. Therefore, water distance from the manhole rim should not be less than 12.41 ft. at Manhole B and 10.22 ft. at Manhole (Note: riser elevations (re)surveyed September, 1999 by Wendel Surveyors)	P-1	572.72	7.55	-	565.17	OK
P-4576.1410.86565.28OKP-5575.056.5568.55OKP-6578.2810.8567.48OKMANHOLE A575.2211.4563.82OKMANHOLE B577.3413.45563.89OK(Note: Manhole A empties into Manhole B by gravity feed and Manhole B is pumped automatically to the TowOKNiagara Tuscarora Road sanitary sewer line by a float controlled sump pump which maintains groundwater of in Manhole B (and by extension Manhole A) below an elevation of 565 ft. above mean sea level. Therefore, water distance from the manhole rim should not be less than 12.41 ft. at Manhole B and 10.22 ft. at Manhole (Note: riser elevations (re)surveyed September, 1999 by Wendel Surveyors)	P-2	574.89	9.58		565.31	OK
P-5575.056.5568.55OKP-6578.2810.8567.48OKMANHOLE A575.2211.4563.82OKMANHOLE B577.3413.45563.89OK(Note: Manhole A empties into Manhole B by gravity feed and Manhole B is pumped automatically to the TowNiagara Tuscarora Road sanitary sewer line by a float controlled sump pump which maintains groundwater of in Manhole B (and by extension Manhole A) below an elevation of 565 ft. above mean sea level. Therefore, water distance from the manhole rim should not be less than 12.41 ft. at Manhole B and 10.22 ft. at Manhole (Note: riser elevations (re)surveyed September, 1999 by Wendel Surveyors)	P-3	574.16			565.66	OK
P-6578.2810.8567.48OKMANHOLE A575.2211.4563.82OKMANHOLE B577.3413.45563.89OK(Note: Manhole A empties into Manhole B by gravity feed and Manhole B is pumped automatically to the TowNiagara Tuscarora Road sanitary sewer line by a float controlled sump pump which maintains groundwater of in Manhole B (and by extension Manhole A) below an elevation of 565 ft. above mean sea level. Therefore, water distance from the manhole rim should not be less than 12.41 ft. at Manhole B and 10.22 ft. at Manhole (Note: riser elevations (re)surveyed September, 1999 by Wendel Surveyors)	P-4	576.14	10.86		565.28	OK
MANHOLE A       575.22       11.4       563.82       OK         MANHOLE B       577.34       13.45       563.89       OK         (Note: Manhole A empties into Manhole B by gravity feed and Manhole B is pumped automatically to the Tow Niagara Tuscarora Road sanitary sewer line by a float controlled sump pump which maintains groundwater of in Manhole B (and by extension Manhole A) below an elevation of 565 ft. above mean sea level. Therefore, water distance from the manhole rim should not be less than 12.41 ft. at Manhole B and 10.22 ft. at Manhole (Note: riser elevations (re)surveyed September, 1999 by Wendel Surveyors)	P-5	575.05	6.5		568.55	ОК
MANHOLE B577.3413.45OK(Note: Manhole A empties into Manhole B by gravity feed and Manhole B is pumped automatically to the Tow Niagara Tuscarora Road sanitary sewer line by a float controlled sump pump which maintains groundwater on Manhole B (and by extension Manhole A) below an elevation of 565 ft. above mean sea level. Therefore, water distance from the manhole rim should not be less than 12.41 ft. at Manhole B and 10.22 ft. at Manhole (Note: riser elevations (re)surveyed September, 1999 by Wendel Surveyors)	<b>D</b> -6	578.28	10.8		567.48	OK
(Note: Manhole A empties into Manhole B by gravity feed and Manhole B is pumped automatically to the Tow Niagara Tuscarora Road sanitary sewer line by a float controlled sump pump which maintains groundwater of In Manhole B (and by extension Manhole A) below an elevation of 565 ft. above mean sea level. Therefore, water distance from the manhole rim should not be less than 12.41 ft. at Manhole B and 10.22 ft. at Manhole (Note: riser elevations (re)surveyed September, 1999 by Wendel Surveyors)	MANHOLE A	575.22	11.4		563.82	ОК
Nagara Tuscarora Road sanitary sewer line by a float controlled sump pump which maintains groundwater on Manhole B (and by extension Manhole A) below an elevation of 565 ft. above mean sea level. Therefore, water distance from the manhole rim should not be less than 12.41 ft. at Manhole B and 10.22 ft. at Manhole Note: riser elevations (re)surveyed September, 1999 by Wendel Surveyors)		577.34	13.45	•	563.89	ОК
	MANHOLE B					
	(Note: Manhole A e Niagara Tuscarora n Manhole B (and water distance from (Note: riser elevatio	Road sanitary sewer line b by extension Manhole A) b n the manhole rim should n ons (re)surveyed Septembe	y a float con elow an elev ot be <u>less</u> th er, 1999 by V	trolled sum ation of 56 an 12.41 ft Vendel Sur	np pump which ma 5 ft. above mean a. at Manhole B an veyors)	intains groundwate sea level. Therefor
	(Note: Manhole A e Niagara Tuscarora in Manhole B (and water distance from (Note: riser elevatio	Road sanitary sewer line b by extension Manhole A) b n the manhole rim should n ons (re)surveyed Septembe	y a float con elow an elev ot be <u>less</u> th er, 1999 by V	trolled sum ation of 56 an 12.41 ft Vendel Sur	np pump which ma 5 ft. above mean a. at Manhole B an veyors)	intains groundwate sea level. Therefor
	(Note: Manhole A e Niagara Tuscarora in Manhole B (and water distance from (Note: riser elevatio	Road sanitary sewer line b by extension Manhole A) b n the manhole rim should n ons (re)surveyed Septembe	y a float con elow an elev ot be <u>less</u> th er, 1999 by V	trolled sum ation of 56 an 12.41 ft Vendel Sur	np pump which ma 5 ft. above mean a. at Manhole B an veyors)	intains groundwate sea level. Therefor

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