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May 27, 2003

Mr. Glenn May
Division of Environmental Remediation
New York State Department of Environmental Conservation
270 Michigan Avenue
Buffalo, New York 14203

Re: Progress Report – November 1, 2002 to April 30, 2003
3M Tonawanda, New York Facility
Order on Consent # B9-0369-91-04, Site Code #915148

Dear Mr. May:

In accordance with the referenced Order on Consent (Order) and at 3M's direction, I am submitting the progress report for the 3M Tonawanda, NY facility for the period extending from November 1, 2002 to April 30, 2003. As required under the Order, the next progress report will be submitted to the New York State Department of Environmental Conservation in November 2003 and cover the six-month period ending October 31, 2003. If you have any comments or questions, please call us.

Very truly yours,

WESTON SOLUTIONS, INC.

Thomas A. Drew, P.G.
Principal Project Manager

cc: Division of Environmental Remediation, Albany (w/o enclosure)
Director, Bureau of Environmental Exposure Investigation, Troy (w/o enclosure)
Division of Environmental Enforcement, Buffalo (w/o enclosure)
C. O'Connor - New York State Department of Health, Buffalo (w/ enclosure)
T. Witer, 3M (w/ enclosure)
G. Stubbs, 3M (w/ enclosure)

PROGRESS REPORT

Site Name and Location:	3M Facility, Tonawanda, New York
Registry Number:	915148
Order on Consent:	B9-0369-91-04
3M Project Contacts:	Tamera Witer (3M Corporate) Greg Stubbs (3M Tonawanda)
NYSDEC Project Lead:	Glenn May
Reporting Period:	November 1, 2002 to April 30, 2003

Background

The New York State Department of Environmental Conservation (NYSDEC) issued a Record of Decision (ROD) (Registry No. 915148) for the 3M Company (3M) facility in Tonawanda, New York. This ROD presents the selected remedial action for the Tonawanda facility based on the site's Administrative Record and public input. Following ROD issuance, the NYSDEC reclassified the 3M Tonawanda site from "Class 3 – Does not present a significant threat to the public health or environment – action may be deferred", to "Class 4 – Site properly closed – requires continued management."

3M is implementing the selected ROD remedy, No Further Action with Monitoring, under an Order on Consent (Index # B9-0369-91-04) (Order) according to the NYSDEC-approved Operation and Maintenance Work Plan (O&M Work Plan), which was made part of the Order. The O&M Work Plan calls for:

- Filing a Declaration of Covenants and Restrictions with the property deed at the Erie County Clerk's Office. This was completed and was reported in the initial progress report for the period ending March 31, 2001.

- Performing long-term groundwater monitoring. Involves semiannual sampling of site monitor wells MW-1, MW-2, MW-3, and MW-4 and annual sampling of the two site lysimeters, LY-1 and LY-2, with groundwater samples analyzed for CS_2.

- Inspecting the completed interim remedial measures (IRMs)(includes the CS_2 tank system, and the catch basin and associated swale) and maintaining the integrity of the IRMs.

This progress report provides a summary of the project activities that have occurred from November 1, 2002 to April 30, 2003. In compliance with the Order and agreement reached with the NYSDEC, future progress reports will be submitted to the NYSDEC on a semiannual basis.

1.0 Summary of Activities Performed During the Reporting Period

The following is a summary of activities performed by 3M during the reporting period:

- Daily inspections of the CS_2 tank/secondary containment system and associated truck/rail unloading stations were conducted for evidence of spills, leaks, unpermitted discharges of water containing CS_2, and maintenance requirements. None of these were observed during the daily inspections. A daily inspection was not performed on December 2, 2002.

- Periodic visual inspections were conducted prior to and during the transfer of CS_2 into the storage tank for evidence of malfunctioning equipment. No deficiencies were noted with respect to CS_2. Water did leak into the CS_2 containment structure from a waterline/valve. The water did not contain CS_2 and this event was not an environmental concern.

- During this reporting period, general maintenance activities were performed around the CS_2 tank system.

- Site groundwater monitoring was conducted on December 2 and 3, 2002 in accordance with procedures specified in the O&M Plan. The monitoring results are summarized in Section 3.0.

2.0 CS_2 Tank System Deficiencies Identified by 3M and Corrective Actions Taken

- The leaking waterline and valve mentioned above were replaced. No other CS_2 tank system deficiencies were noted during this reporting period.

- Due to the missed tank inspection on December 2, 2002, tank inspections are now done twice in a 24-hour period (once on the day shift and once on the night shift) to ensure that, if for some extenuating circumstance, assigned personnel cannot perform the inspection, it is completed during the next work shift. Also, the tank inspection log is audited weekly for completeness and the findings are communicated to 3M management on a weekly basis. If any inspection is missed in the future, follow-up activities will be taken to determine the cause of the missed inspection and to initiate corrective action. Please note that no daily inspection has been missed since the corrective actions mentioned above were implemented by 3M.

3.0 Groundwater Monitoring Results

Summary of Carbon Disulfide Groundwater Analytical Results (mg/L)

Date	Sample ID					
	MW-01	MW-02	MW-03	MW-04	LY-01	LY-02
12/02 and 12/03/02	ND	ND	ND	ND/ND*	NS	560

Notes: NS – Not sampled. Lysimeter did not yield water.
ND – Not detected. The reporting limit for CS_2 is 5 µg/L.
* - Duplicate sample result.

As indicated in the above table, CS_2 was not detected in the groundwater samples collected from site monitor wells MW-01 through MW-04. CS_2 was detected in soil pore water collected from lysimeter LY-02 at 560 mg/L, which is consistent with historical analytical results. Additionally, CS_2 was not detected in the field blank or trip blank. A copy of the analytical data package is provided in Attachment A.

Sampling of lysimeter LY-01 was attempted in December 2002 but the device yielded no water. Sample collection from LY-01 will be attempted again during the next semi-annual sampling event. Please note that the previous LY-01 sampling result was non-detect for CS_2.

4.0 Activities Planned for the Next Reporting Period

The activities planned for the next reporting period (May 1 through October 31, 2003) include:

- Daily and periodic inspections of the CS_2 tank system (includes the containment system and unloading stations).
- Maintenance of the drainage swale, catch basins, and CS_2 tank system, as needed.
- Conduct the annual inspection of the CS_2 tank system and catch basin/surrounding area and conduct a regulatory compliance review pursuant to Order requirements. 3M will notify the NYSDEC at least 10 days in advance of the annual field inspection.
- Collection of groundwater samples from monitor wells MW-01 through MW-04 for CS_2 analysis. Sample collection will be attempted at lysimeter LY-01. The NYSDEC will be notified in advance of sampling.

ATTACHMENT A
LABORATORY ANALYTICAL DATA PACKAGE

SEVERN TRENT STL

ANALYTICAL REPORT

Job#: A02-B917

STL Project#: NY1A8679
Site Name: 3M Tonawanda, NY - Semi-Anual Monitoring
Task: 3M Tonawanda, NY - Semi-Annual Monitoring

Mr. Tom Drew
Roy F. Weston, Inc.
1400 Weston Way
West Chester, PA 19380

STL Buffalo

Mark A. Nemec
Project Manager

12/11/2002

This report contains 14 pages which are individually numbered.

Severn Trent Laboratories, Inc.
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Tel 716 691 2600 Fax 716 691 7991 • *www.stl-inc.com*

SAMPLE SUMMARY

LAB SAMPLE ID	CLIENT SAMPLE ID	SAMPLED		RECEIVED	
		DATE	TIME	DATE	TIME
A2B91701	FIELD BLANK	12/02/2002	17:30	12/03/2002	08:15
A2B91708	LY-02	12/03/2002	07:30	12/03/2002	08:15
A2B91702	MW-01	12/02/2002	15:20	12/03/2002	08:15
A2B91703	MW-02	12/02/2002	16:10	12/03/2002	08:15
A2B91704	MW-03	12/02/2002	17:00	12/03/2002	08:15
A2B91705	MW-04	12/02/2002	18:00	12/03/2002	08:15
A2B91706	MW-04 DUP	12/02/2002	18:00	12/03/2002	08:15
A2B91707	TRIP BLANK	12/02/2002	13:00	12/03/2002	08:15

METHODS SUMMARY

Job#: A02-B917

STL Project#: NY1A8679
Site Name: 3M Tonawanda, NY - Semi-Anual Monitoring

PARAMETER	ANALYTICAL METHOD
METHOD 8260 - Carbon Disulfide	SW8463 8260/5ML

References:

SW8463 "Test Methods for Evaluating Solid Waste Physical/Chemical Methods (SW846), Third Edition, 9/86; Update I, 7/92; Update IIA, 8/93; Update II, 9/94; Update IIB, 1/95; Update III, 12/96.

NON-CONFORMANCE SUMMARY

Job#: A02-B917

STL Project#: NY1A8679
Site Name: 3M Tonawanda, NY - Semi-Anual Monitoring

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

A02-B917
Sample Cooler(s) were received at the following temperature(s); 3 °C
All samples were received in good condition.

GC/MS Volatile Data

No deviations from protocol were encountered during the analytical procedures.

****

Client Sample ID	Lab Sample ID	Parameter (Inorganic)/Method (Organic)	Dilution	Code
LY-02	A2B91708	8260/5ML	10000.00	008

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

DATA COMMENT PAGE

ORGANIC DATA QUALIFIERS

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

INORGANIC DATA QUALIFIERS

ND or U	Indicates element was analyzed for, but not detected. Report with the detection limit value.
J or B	Indicates a value greater than or equal to the instrument detection limit, but less than the quantitation limit
N	Indicates spike sample recovery is not within the quality control limits.
K	Indicates the post digestion spike recovery is not within the quality control limits.
S	Indicates value determined by the Method of Standard Addition.
M	Indicates duplicate injection results exceeded quality control limits
W	Post digestion spike for Furnace AA analysis is out of quality control limits (85-115%) while sample absorbance is less than 50% of spike absorbance
E	Indicates a value estimated or not reported due to the presence of interferences
H	Indicates analytical holding time exceedance The value obtained should be considered an estimate
*	Indicates analysis is not within the quality control limits
+	Indicates the correlation coefficient for the Method of Standard Addition is less than 0 995

Sample Data Package

Date: 12/11/2002
Time: 11:33:51

3M Tonawanda, NY - Semi-Anual Monitoring
3M Tonawanda, NY - Semi-Annual Monitoring
METHOD 8260 - CARBON DISULFIDE

Rept: AN1246

Client ID / Job No / Lab ID / Sample Date		FIELD BLANK A02-B917 A2B91701 12/02/2002		LY-02 A02-B917 A2B91708 12/03/2002		MW-01 A02-B917 A2B91702 12/02/2002		MW-02 A02-B917 A2B91703 12/02/2002	
Analyte	Units	Sample Value	Reporting Limit	Sample Value	Reporting Limit	Sample Value	Reporting Limit	Sample Value	Reporting Limit
Carbon Disulfide	UG/L	ND	5.0	560000	8000	ND	5.0	ND	5.0
IS/SURROGATE(S)									
Chlorobenzene-D5	%	98	50-200	92	50-200	96	50-200	93	50-200
1,4-Difluorobenzene	%	96	50-200	88	50-200	94	50-200	92	50-200
1,4-Dichlorobenzene-D4	%	99	50-200	86	50-200	93	50-200	90	50-200
Toluene-D8	%	94	77-122	94	77-122	92	77-122	94	77-122
p-Bromofluorobenzene	%	103	73-120	101	73-120	101	73-120	102	73-120
1,2-Dichloroethane-D4	%	84	76-136	88	76-136	84	76-136	85	76-136

Client ID / Job No / Lab ID / Sample Date		MW-03 A02-B917 A2B91704 12/02/2002		MW-04 A02-B917 A2B91705 12/02/2002		MW-04 DUP A02-B917 A2B91706 12/02/2002		TRIP BLANK A02-B917 A2B91707 12/02/2002	
Analyte	Units	Sample Value	Reporting Limit	Sample Value	Reporting Limit	Sample Value	Reporting Limit	Sample Value	Reporting Limit
Carbon Disulfide	UG/L	ND	5.0	ND	5.0	ND	5.0	ND	5.0
IS/SURROGATE(S)									
Chlorobenzene-D5	%	96	50-200	94	50-200	92	50-200	94	50-200
1,4-Difluorobenzene	%	93	50-200	91	50-200	90	50-200	91	50-200
1,4-Dichlorobenzene-D4	%	91	50-200	89	50-200	89	50-200	88	50-200
Toluene-D8	%	91	77-122	93	77-122	93	77-122	93	77-122
p-Bromofluorobenzene	%	99	73-120	101	73-120	101	73-120	100	73-120
1,2-Dichloroethane-D4	%	85	76-136	86	76-136	86	76-136	86	76-136

000067

NA = Not Applicable ND = Not Detected

STL Buffalo

Chronology and QC Summary Package

Client ID		vblk85							
Job No	Lab ID	A02-B917	A2B91709						
Sample Date									
Analyte	Units	Sample Value	Reporting Limit	Sample Value	Reporting Limit	Sample Value	Reporting Limit	Sample Value	Reporting Limit
Carbon Disulfide	UG/L	ND	5.0	NA		NA		NA	
IS/SURROGATE(S)									
Chlorobenzene-D5	%	96	50-200	NA		NA		NA	
1,4-Difluorobenzene	%	95	50-200	NA		NA		NA	
1,4-Dichlorobenzene-D4	%	93	50-200	NA		NA		NA	
Toluene-D8	%	95	77-122	NA		NA		NA	
p-Bromofluorobenzene	%	102	73-120	NA		NA		NA	
1,2-Dichloroethane-D4	%	85	76-136	NA		NA		NA	

NA = Not Applicable ND = Not Detected

METHOD 8260 - CARBON DISULFIDE

Client Sample ID Job No & Lab Sample ID	FIELD BLANK A02-B917 A2B91701	LY-02 A02-B917 A2B91708	MW-01 A02-B917 A2B91702	MW-02 A02-B917 A2B91703	MW-03 A02-B917 A2B91704
Sample Date	12/02/2002 17:30	12/03/2002 07:30	12/02/2002 15:20	12/02/2002 16:10	12/02/2002 17:00
Received Date	12/03/2002 08:15	12/03/2002 08:15	12/03/2002 08:15	12/03/2002 08:15	12/03/2002 08:15
Extraction Date					
Analysis Date	12/03/2002 17:36	12/03/2002 21:02	12/03/2002 18:06	12/03/2002 18:35	12/03/2002 19:05
Extraction HT Met?	-	-	-	-	-
Analytical HT Met?	YES	YES	YES	YES	YES
Sample Matrix	WATER	GW	GW	GW	GW
Dilution Factor	1.0	10000.0	1.0	1.0	1.0
Sample wt/vol	0.005 LITERS	0.005 LITERS	0.005 LITERS	0.005 LITERS	0.005 LITERS
% Dry					

000010

NA = Not Applicable

METHOD 8260 - CARBON DISULFIDE

Client Sample ID Job No & Lab Sample ID	MW-04 A02-B917 A2B91705	MW-04 DUP A02-B917 A2B91706	TRIP BLANK A02-B917 A2B91707		
Sample Date	12/02/2002 18:00	12/02/2002 18:00	12/02/2002 13:00		
Received Date	12/03/2002 08:15	12/03/2002 08:15	12/03/2002 08:15		
Extraction Date					
Analysis Date	12/03/2002 19:34	12/03/2002 20:03	12/03/2002 20:33		
Extraction HT Met?	-	-	-		
Analytical HT Met?	YES	YES	YES		
Sample Matrix	GW	GW	WATER		
Dilution Factor	1.0	1.0	1.0		
Sample wt/vol	0.005 LITERS	0.005 LITERS	0.005 LITERS		
% Dry					

000011

NA = Not Applicable

METHOD 8260 - CARBON DISULFIDE

Client Sample ID Job No & Lab Sample ID	vblk85 A02-B917 A2B91709				
Sample Date					
Received Date					
Extraction Date					
Analysis Date	12/03/2002 12:22				
Extraction HT Met?	-				
Analytical HT Met?	-				
Sample Matrix	WATER				
Dilution Factor	1.0				
Sample wt/vol	0.005 LITERS				
% Dry					

000012

NA = Not Applicable

Chain of Custody

Chain of Custody Record

SEVERN TRENT SERVICES — **Severn Trent Laboratories, Inc.**

STL-4124 (0901)

Client: 3M TONAWANDA / WESTON	Project Manager: TOM DREW	Date: 12/3/02	Chain of Custody Number: 136285
Address: 1400 WESTON WAY	Telephone Number (Area Code)/Fax Number: 610.701.7302	Lab Number:	Page ____ of ____
City: WEST CHESTER / State: PA / Zip Code: 19380	Site Contact:	Lab Contact:	
Project Name and Location (State): 3M TONAWANDA, New York	Carrier/Waybill Number:		
Contract/Purchase Order/Quote No.: 02181.006.009			

Sample I.D. No. and Description (Containers for each sample may be combined on one line)	Date	Time	Matrix: Air	Aqueous	Sed.	Soil	Containers & Preservatives: Unpres.	H2SO4	HNO3	HCl	NaOH	ZnAc/ NaOH	Analysis: CS2
MW-01	12/2/02	1520		✓						✓			✓
MW-02	〃	1610		✓						✓			✓
MW-03	〃	1700		✓						✓			✓
MW-04	〃	1800		✓						✓			✓
MW-04 Dup	〃	1800		✓						✓			✓
LY-02	12/3/02	730		✓						✓			✓
Field Blank	12/2/02	1730		✓						✓			✓
Trip Blank	〃	1300		✓						✓			✓

Special Instructions/ Conditions of Receipt

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

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

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

QC Requirements (Specify):

	Date	Time		Date	Time
1. Relinquished By: Greg Hunt	12/3/02		1. Received By: Todd Brandt	12/3/02	08:15
2. Relinquished By:			2. Received By:		
3. Relinquished By:			3. Received By:		

Comments: CS2 - Detection Limit 5 ppb 3°

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