Roy F. Weston, Inc.
1400 Weston Way
P.O. Box 2653
West Chester, Pennsylvania 19380
610-701-3000 • Fax 610-701-3186
www.rfweston.com

December 1, 2001

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

Re: Progress Report – April 1 to October 31, 2001
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 April 1 to October 31, 2001. As required under the Order, the next progress report will be submitted to the New York State Department of Environmental Conservation in May 2002 and cover the six-month period ending April 30, 2002. If you have any comments or questions, please call us.

Very truly yours,

ROY F. WESTON, 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. Marks, 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:	Tim Marks (3M Corporate) Greg Stubbs (3M Tonawanda)
NYSDEC Project Lead:	Glenn May
Reporting Period:	April 1 to October 31, 2001

Background

The New York State Department of Environmental Conservation (NYSDEC) issued a Record of Decision (ROD) (Registry No. 915148) for the Minnesota Mining and Manufacturing 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 April 1 to October 31, 2001. 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.

- 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.

- During the period July 16 to 23, 2001, the entire area around the catch basins was regraded to repair areas disturbed by recent plant expansion and construction activities. New stone, fabric, and topsoil were placed and the topsoil was hydroseeded. Also, the fencing and gates at the railroad tracks were damaged by a rail car and a contractor has been retained to conduct repairs. These repairs are underway and expected to be complete during the next reporting period.

- Site groundwater monitoring was conducted on July 26 and 27, 2001 in accordance with procedures specified in the O&M Plan. The monitoring results are summarized in Section 3.0. However, it is noted that the lysimeters were unintentionally covered during the maintenance activities described above and could not be located during the sampling event.

- Surveyors were retained to stake the lysimeters locations based on survey coordinates. In the localized area around the stakes, surface soils were removed and lysimeters uncovered. The lysimeters were inspected and appeared to be undamaged. Sampling of the lysimeters is planned for December 2001.

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

- No deficiencies were noted during this reporting period.

3.0 Groundwater Monitoring Results

Summary of Carbon Disulfide Groundwater Analytical Results

Date	Sample ID					
	MW-01	MW-02	MW-03	MW-04	LY-01	LY-02
7/26/01& 7/27/01	ND	ND	ND	ND	NS	NS

Notes: ND – Not detected. The reporting limit for CS_2 is 5 µg/L.
NS – Not sampled.

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 in July 2001. Additionally, CS_2 was not detected in the field blank or trip blank and there were no data quality issues. A copy of the analytical data package is provided in Attachment A.

As previously mentioned, sampling of the site lysimeters (LY-01 and LY-02) will be performed in December 2001.

4.0 Activities Planned for the Next Reporting Period

The activities planned for the next reporting period (November 1, 2001 through April 30, 2002) 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 NYSDEC at least 10 days in advance of the annual field inspection.
- Collection of groundwater samples on December 4 and 5, 2001 from monitor wells MW-01 through MW-04 and lysimeters LY-01 and LY-02 for CS_2 analysis. NYSDEC was notified in advance of sampling.

Attachment A
Groundwater Analytical Data Package – July 2001

SEVERN
TRENT
SERVICES

STL Buffalo
10 Hazelwood Drive
Suite 106
Amherst, NY 14228

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

August 21, 2001

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

RE: Analytical Results A01-7149

Dear Mr. Drew:

Please find enclosed analytical results concerning the samples recently submitted by your firm. The pertinent information regarding these analyses is listed below:

Quote #:	NY00-307
Project Name:	3M Tonawanda, NY - Semi-Annual Monitoring
Matrix:	Groundwater
Sample Received:	07/27/01
Sample Date:	07/26,27/01

If you have any questions concerning these data, please contact the Project Manager at (716) 691-2600 and refer to the I.D. number listed below. It has been our pleasure to provide Roy F. Weston, Inc. with environmental testing services. We look forward to serving you in the future.

Sincerely,

STL Buffalo

Mark A. Nemec
Program Manager

MAN/sth
Enclosure

I.D. #A01-7149
#NY1A8679

This report contains 14 pages which are individually numbered.

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STL Buffalo

METHODOLOGY

The specific methodologies employed in obtaining the enclosed analytical results are indicated on the specific data tables. The method numbers presented refer to the following U.S. Environmental Protection Agency references:

- "Test Methods for Evaluating Solid Waste, Physical/Chemical Methods" (SW-846), Third Edition, Update III, December 1996, U.S. Environmental Protection Agency Office of Solid Waste.

COMMENTS

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

The cooler was received at a temperature of 13°C.

No deviations from protocol were encountered for Method 8260.

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: 08/21/2001
Time: 11:37:15

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

Rept: AN0326

Client ID		FEILD BLANK		MW-01		MW-02		MW-04	
Job No	Lab ID	A01-7149	A1714905	A01-7149	A1714901	A01-7149	A1714902	A01-7149	A1714903
Sample Date		07/26/2001		07/26/2001		07/26/2001		07/26/2001	
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	%	90	50-200	92	50-200	94	50-200	92	50-200
1,4-Difluorobenzene	%	91	50-200	96	50-200	96	50-200	94	50-200
1,4-Dichlorobenzene-D4	%	95	50-200	98	50-200	99	50-200	95	50-200
Toluene-D8	%	105	77-115	104	77-115	105	77-115	105	77-115
p-Bromofluorobenzene	%	107	77-112	106	77-112	107	77-112	106	77-112
1,2-Dichloroethane-D4	%	111	84-126	106	84-126	106	84-126	107	84-126

Client ID		MW-04 FD							
Job No	Lab ID	A01-7149	A1714903FD						
Sample Date		07/26/2001							
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	%	93	50-200	NA		NA		NA	
1,4-Difluorobenzene	%	94	50-200	NA		NA		NA	
1,4-Dichlorobenzene-D4	%	99	50-200	NA		NA		NA	
Toluene-D8	%	105	77-115	NA		NA		NA	
p-Bromofluorobenzene	%	108	77-112	NA		NA		NA	
1,2-Dichloroethane-D4	%	109	84-126	NA		NA		NA	

000094

NA = Not Applicable ND = Not Detected

STL Buffalo

Chronology and QC Summary Package

Date: 08/21/2001
Time: 11:37:53

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

Rept: AN0326

Client ID		VBLK15							
Job No	Lab ID	A01-7149	A1714908						
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	%	98	50-200	NA		NA		NA	
1,4-Dichlorobenzene-D4	%	100	50-200	NA		NA		NA	
Toluene-D8	%	106	77-115	NA		NA		NA	
p-Bromofluorobenzene	%	105	77-112	NA		NA		NA	
1,2-Dichloroethane-D4	%	108	84-126	NA		NA		NA	

000096

NA = Not Applicable ND = Not Detected

STL Buffalo

Date: 08/21/2001
Time: 11:37:53

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

Rept: AN0326

Client ID Job No Lab ID Sample Date		Matrix Spike Blank A01-7149 A1714909							
Analyte	Units	Sample Value	Reporting Limit	Sample Value	Reporting Limit	Sample Value	Reporting Limit	Sample Value	Reporting Limit
Carbon Disulfide	UG/L	83	5.0	NA		NA		NA	
IS/SURROGATE(S)									
Chlorobenzene-D5	%	96	50-200	NA		NA		NA	
1,4-Difluorobenzene	%	104	50-200	NA		NA		NA	
1,4-Dichlorobenzene-D4	%	88	50-200	NA		NA		NA	
Toluene-D8	%	107	77-115	NA		NA		NA	
p-Bromofluorobenzene	%	103	77-112	NA		NA		NA	
1,2-Dichloroethane-D4	%	101	84-126	NA		NA		NA	

200007

NA = Not Applicable ND = Not Detected

STL Buffalo

Date: 08/21/2001
Time: 11:37:53

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

Rept: AN0326

Client ID Job No Sample Date	Lab ID	MW-03 A01-7149 07/27/2001	A1714907	TRIP BLANK A01-7149 07/27/2001	A1714906				
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	NA		NA	
IS/SURROGATE(S)									
Chlorobenzene-D5	%	88	50-200	89	50-200	NA		NA	
1,4-Difluorobenzene	%	91	50-200	91	50-200	NA		NA	
1,4-Dichlorobenzene-D4	%	92	50-200	87	50-200	NA		NA	
Toluene-D8	%	105	77-115	106	77-115	NA		NA	
p-Bromofluorobenzene	%	106	77-112	104	77-112	NA		NA	
1,2-Dichloroethane-D4	%	110	84-126	111	84-126	NA		NA	

000008

NA = Not Applicable ND = Not Detected

STL Buffalo

METHOD 8260 - CARBON DISULFIDE

Client Sample ID Job No & Lab Sample ID	FEILD BLANK A01-7149 A1714905	MW-01 A01-7149 A1714901	MW-02 A01-7149 A1714902	MW-04 A01-7149 A1714903	MW-04 FD A01-7149 A1714903FD
Sample Date	07/26/2001 15:30	07/26/2001 16:15	07/26/2001 16:30	07/26/2001 17:20	07/26/2001 17:20
Received Date	07/27/2001 09:15	07/27/2001 09:15	07/27/2001 09:15	07/27/2001 09:15	07/27/2001 09:15
Extraction Date					
Analysis Date	08/09/2001 05:04	08/09/2001 03:02	08/09/2001 03:33	08/09/2001 04:03	08/09/2001 04:33
Extraction HT Met?	-	-	-	-	-
Analytical HT Met?	YES	YES	YES	YES	YES
Sample Matrix	GW	GW	GW	GW	GW
Dilution Factor	1.0	1.0	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					

000009

NA = Not Applicable

METHOD 8260 - CARBON DISULFIDE

Client Sample ID Job No & Lab Sample ID	MW-03 A01-7149 A1714907	TRIP BLANK A01-7149 A1714906			
Sample Date	07/27/2001 08:15	07/27/2001			
Received Date	07/27/2001 09:15	07/27/2001 09:15			
Extraction Date					
Analysis Date	08/09/2001 06:05	08/09/2001 05:34			
Extraction HT Met?	-	-			
Analytical HT Met?	YES	YES			
Sample Matrix	GW	GW			
Dilution Factor	1.0	1.0			
Sample wt/vol	0.005 LITERS	0.005 LITERS			
% Dry					

000010

NA = Not Applicable

METHOD 8260 - CARBON DISULFIDE

Client Sample ID Job No & Lab Sample ID	Matrix Spike Blank A01-7149 A1714909				
Sample Date					
Received Date					
Extraction Date					
Analysis Date	08/08/2001 23:29				
Extraction HT Met?	-				
Analytical HT Met?	-				
Sample Matrix	WATER				
Dilution Factor	1.0				
Sample wt/vol	0.005 LITERS				
% Dry					

000011

NA = Not Applicable

METHOD 8260 - CARBON DISULFIDE

Client Sample ID Job No & Lab Sample ID	VBLK15 A01-7149 A1714908				
Sample Date					
Received Date					
Extraction Date					
Analysis Date	08/09/2001 00:00				
Extraction HT Met?	-				
Analytical HT Met?	-				
Sample Matrix	WATER				
Dilution Factor	1.0				
Sample wt/vol	0.005 LITERS				
% Dry					

000912

NA = Not Applicable

Chain of Custody

Chain of Custody Record

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

STL-4124 (0700)

Client: 3M - TONAWANDA / WESTON	Project Manager: TOM DREW	Date: 7/27/01	Chain of Custody Number: 012993
Address: 1400 WESTON WAY	Telephone Number (Area Code)/Fax Number: 610-701-7302	Lab Number:	Page 1 of 1
City: WEST CHESTER / State: PA / Zip Code: 19380	Site Contact:	Lab Contact: Mark Nemec	Analysis (Attach list if more space is needed)
Project Name and Location (State): 3M-TONAWANDA	Carrier/Waybill Number:		
Contract/Purchase Order/Quote No.			

Sample I.D. No. and Description (Containers for each sample may be combined on one line)	Date	Time	Matrix: Air	Aqueous	Sed.	Soil	Containers & Preservatives: Unpres.	H2SO4	HNOS	HCl	NaOH	ZnAc/NaOH	CS2	Special Instructions/ Conditions of Receipt
MW-01	7/26/01	1615		✓						✓			✓	*CS2 detection limit 5ppb
MW-02		1630		✓						✓			✓	
MW-04		1720		✓						✓			✓	
MW-04 Dup		1720		✓						✓			✓	
Field Blank		1530		✓						✓			✓	
Trip Blank	7/27/01			✓						✓			✓	
MW-03	7/27/01	815		✓						✓			✓	
														AC13166
														13 @

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 3 months)

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	7/27/01	9:15	1. Received By	7/27/01	935
2. Relinquished By			2. Received By		
3. Relinquished By			3. Received By		

Comments

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