



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

JAN 1 2 2007 NYSDEC REG 9 UNREL **V** REL

January 11, 2007

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

W.O. No. 02181.086.017

Re: Progress Report – June 2006 to December 2006 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 June 2006 to December 2006. As you know, 3M has been conducting ongoing groundwater monitoring and reporting to fulfill the operations and maintenance (O&M) plan requirement specified in the Order for the 3M Tonawanda, NY facility. In August 2005, the Five-Year Evaluation Report was submitted to the New York State Department of Environmental Conservation (NYSDEC) and this report concluded that the selected remedy has been effective in meeting remediation goals outlined in the 1999 Record of Decision (ROD) and remains protective of human health and the environment. The aforementioned evaluation report also contained a recommended future course of action for the facility, including reductions in groundwater monitoring and reporting under the Order/O&M Plan.

By letter of May 18, 2006, the NYSDEC provided comment on the Five-Year Evaluation Report. Based on the presence of carbon disulfide (CS₂) in the subsurface environment, the NYSDEC required continued monitoring at this facility but required only one site monitoring well (MW-4) and one site lysimeter (LY-2) be monitored for CS₂ on a semiannual basis and annual basis, respectively. According to the May 2006 NYSDEC correspondence, reporting on the maintenance of the drainage swale and associated catch basins would continue under the Order/O&M Plan; however, reporting on the continued operations, maintenance and inspection of the existing CS₂ tank system could be completed by 3M under NYSDEC's Chemical Bulk Storage Program.

The attached progress report reflects the monitoring and reporting modifications agreed upon with the NYSDEC for this facility. In June 2006, the semiannual groundwater sample was collected from site monitoring well MW-4 and the annual soil pore water sample was collected from lysimeter LY-2. These samples were submitted to the laboratory for CS_2 analysis. The June 2006 event represents the first sampling of the reduced monitoring network. Per the modified O&M Plan, additional monitoring and



Mr. Glenn May NYSDEC

January 11, 2007

inspection activities were performed in the period from June 2006 to December 2006 and they are described in the attached progress report.

-2-

If you have any comments or questions, please call me at 610-701-7302.

Very truly yours,

WESTON SOLUTIONS, INC.

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

c: 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)
M. Gaetz, 3M (w/ enclosure)
K. Held, 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:	Mark Gaetz (3M Corporate) Keith Held (3M Tonawanda)
NYSDEC Project Lead:	Glenn May
Reporting Period:	June 2006 to December 2006

Background

The New York State Department of Environmental Conservation (NYSDEC) issued a Record of Decision (ROD) (Registry No. 915148) for the 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 NYSDECapproved Operation and Maintenance Work Plan (O&M Work Plan), which was made part of the Order. The original O&M Work Plan called 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 CS₂.
- 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.

Semiannual progress reports have been submitted by 3M to the NYSDEC and these reports summarize project activities that occurred in the previous reporting periods. In August 2005, the Five-Year Evaluation Report was submitted by 3M to the NYSDEC and this report concluded that the selected remedy has been effective in meeting remediation goals outlined in the 1999 ROD and remains protective of human health and



the environment. The aforementioned evaluation report also contained a recommended future course of action for the facility, including reductions in groundwater monitoring and reporting under the Order/O&M Plan.

By letter of May 18, 2006, the NYSDEC provided comment on the Five-Year Evaluation Report. Based on the presence of carbon disulfide (CS₂) in the subsurface environment, NYSDEC required continued monitoring at this facility but required only one site monitoring well (MW-4) and one site lysimeter (LY-2) be monitored for CS₂ on a semiannual basis and annual basis, respectively. According to the May 2006 NYSDEC correspondence, reporting on the maintenance of the drainage swale and associated catch basins would continue under the Order/O&M Plan; however, reporting on the continued operations, maintenance and inspection of the existing CS₂ tank system could be completed by 3M under NYSDEC's Chemical Bulk Storage Program.

This progress report reflects the O&M monitoring and reporting modifications agreed upon with the NYSDEC. In June 2006, the semiannual groundwater sample was collected from site monitoring well MW-4 and the annual soil pore water sample was collected from lysimeter LY-2. These samples were submitted to the laboratory for CS_2 analysis. The June 2006 event represents the first sampling of the reduced monitoring network under the modified O&M Plan. Additional monitoring and inspection activities were performed in the period from June 2006 to December 2006 and they are described below.

1.0 <u>Summary of Activities Performed During the Reporting Period</u>

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

- Annual inspection of the catch basins and associated drainage swale was performed on November 16, 2006. Some ruts were observed in the drainage swale area due to the current tank project. 3M intends to properly grade and reseed this disturbed area in Year 2007 once the tank project is complete.
- Site monitoring was conducted on June 23, 2006 and December 1, 2006 in accordance with the O&M Plan modifications approved by the NYSDEC. Water samples for CS₂ analysis were collected from monitoring well MW-4 and lysimeter LY-02 in June 2006; well MW-4 was sampled in December 2006. Laboratory analytical results from the latter sampling event are pending, and therefore, they are not included in this progress report.

2.0 <u>Water Monitoring Results</u>

	Sample ID and Result				
Sampling Date	MW-4	LY-02			
6/23/06	ND	380			

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

Notes: ND - Not detected. The reporting limit for CS_2 is 5 μ g/L.



As noted above, CS_2 was not detected in the groundwater sample collected from monitor well MW-4 in June 2006. Site lysimeter LY-2 was also sampled in June 2006. CS_2 was found at a concentration of 380 mg/L in the LY-2 pore water sample and this result is comparable to previous sampling data.

A copy of the analytical data package for the June 2006 sampling event is provided in Attachment A.



ATTACHMENT A LABORATORY ANALYTICAL PACKAGE JUNE 2006 SAMPLING EVENT



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ANALYTICAL REPORT

Job#: A06-7214

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

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

> > STL Buffalo

am Mark A. Nemec Project Manager

07/10/2006

STL Buffalo Current Certifications

As of 4/10//2006

STATE	Program	Cert # / Lab ID
AFCEE	AFCEE	
Arkansas	SDWA, CWA, RCRA, SOIL	03-054-D/88-0686
California	NELAP CWA, RCRA	01169CA
Connecticut	SDWA, CWA, RCRA, SOIL	PH-0568
Florida	NELAP CWA, 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	UST	30
Louisiana	NELAP CWA, RCRA	2031
Maine	SDWA, CWA	NY044
Maryland	SDWA	294
Massachusetts	SDWA, CWA	M-NY044
Michigan	SDWA	9937
Minnesota	SDWA, 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,ASP	10026
Oklahoma	CWA, RCRA	9421
Pennsylvania	Env. Lab Reg.	68-281
South Carolina	RCRA	91013
Tennessee	SDWA	02970
USACE	USACE	
USDA	FOREIGN SOIL PERMIT	S-41579
USDOE	Department of Energy	DOECAP-STB
Virginia	SDWA	278
Washington	CWA, RCRA	C1677
West Virginia	CWA, RCRA	252
Wisconsin	CWA	998310390

SAMPLE SUMMARY

			SAMPI	LED	RECEIVE	Ð
LAB SAMPLE ID	CLIENT SAMPLE ID	MATRIX	DATE	TIME	DATE	TIME
A6721404	FB-MW-04	WATER	06/23/2006			
A6721401	LY-02	WATER	06/23/2006			
A6721402	MW-04	GW	06/23/2006	13:40	06/23/2006	14:35
A6721403	MW-04 DUP	GW	06/23/2006	13:40	06/23/2006	14:35
A6721405	TRIP BLANK	WATER	06/23/2006	11:00	06/23/2006	14:35

METHODS SUMMARY

Job#: <u>A06-7214</u>

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

	ANALYTICAL
PARAMETER	METHOD
METHOD 8260 - Carbon Disulfide	SW8463 8260

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#: <u>A06-7214</u>

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

General Comments

The enclosed data may or may not have been reported utilizing data qualifiers (Q) as defined on the Data Comment Page.

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

According to 40CFR Part 136.3, pH, Chlorine Residual, Dissolved Oxygen, Sulfite, and Temperature analyses are to be performed immediately after aqueous sample collection. When these parameters are not indicated as field (e.g. pH-Field), they were not analyzed immediately, but as soon as possible after laboratory receipt.

Sample dilutions were performed as indicated on the attached Dilution Log. The rationale for dilution is specified by the 3-digit code and definition.

Sample Receipt Comments

A06-7214

Sample Cooler(s) were received at the following temperature(s); 4.8 °C All samples were received in good condition.

<u>GC/MS Volatile Data</u>

No deviations from protocol were encountered during the analytical procedures.

The results presented in this report relate only to the analytical testing and condition of the sample at receipt. This report pertains to only those samples actually tested. All pages of this report are integral parts of the analytical data. Therefore, this report should be reproduced only in its entirety.

Dilution Log w/Code Information For Job A06-7214

<u>Client Sample ID</u>	Lab Sample ID	Parameter (Inorganic)/Method (Organic)	<u>Dilution</u>	Code
LY-02	A6721401	8260	5.00	008
LY-02	A6721401DL	8260	4000.00	800
MW-04	A6721402	8260	5.00	003
MW-04 DUP	A6721403	8260	5.00	003

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 QUALIFIER PAGE

These definitions are provided in the event the data in this report requires the use of one or more of the qualifiers. Not all qualifiers defined below are necessarily used in the accompanying data package.

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 CLP methodology only. For Pesticide/Aroclor target analytes, when a difference for detected concentrations between the two GC columns is greater than 25%, 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.
- S Indicates value determined by the Method of Standard Addition.
- 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 the spike or duplicate analysis is not within the quality control limits.
- Indicates the correlation coefficient for the Method of Standard Addition is less than 0.995.

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

Client ID Job No Lab ID Sample Date		FB-MW-04 A06-7214 06/23/2006	A6721404	LY-02 A06-7214 06/23/2006	A6721401	LY-02 A06-7214 06/23/2006	A6721401DL	Mw-04 A06-7214 06/23/2006	A6721402
Analyte	Units	Sample Value	Reporting Limit	Sample Value	Reporting Limit	Sample Value	Reporting Limit	Sample Value	Reporting Limit
arbon Disulfide IS/SURROGATE(S)	UG/L	ND	5.0	32000 E	5.0	380000 D	1900	ND	5.0
hlorobenzene-D5	%	89	50-200	94	50-200	85	50-200	91	50-200
,4-Difluorobenzene	%	94	50-200	98	50-200	86	50-200	98	50-200
,4-Dichlorobenzene-D4	%	75	50-200	84	50-200	73	50-200	77	50-200
oluene-D8	%	102	76-122	101	76-122	92	76-122	103	76-122
-Bromofluorobenzene	%	90	73-120	92	73-120	101	73-120	89	73-120
,2-Dichloroethane-D4	%	105	72-143	112	72-143	133	72-143	105	72-143

Client ID Job No Lab ID Sample Date		MW-04 DUP A06-7214 06/23/2006	A6721403						
Analyte	Units	Sample Value	Reporting Limit	Sample Value	Reporting Limit	Sample Value	Reporting Limit	Sample Value	Reporting Limit
Carbon Disulfide IS/SURROGATE(S)	UG/L	ND	5.0	NA		NA		NA	
Chlorobenzene-D5	%	89	50-200	NA		NA		NA	
1,4-Difluorobenzene	%	94	50-200	NA		NA		NA	
1,4-Dichlorobenzene-D4	%	75	50-200	NA		NA		NA	
Toluene-D8	%	103	76-122	NA		NA		NA	
p-Bromofluorobenzene	%	92	73-120	NA		NA		NA	
1,2-Dichloroethane-D4	%	104	72-143	NA		NA	l	NA	

Chronology and QC Summary Package

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		VBLK11 A06-7214	A6B2210702	VBLK58 A06-7214	A6B2195302				
Analyte	Units	Sample Value	Reporting Limit	Sample Value	Reporting Limit	Sample Value	Reporting Limit	Sample Value	Reporting Limit
Carbon Disulfide IS/SURROGATE(S)	UG/L	ND	5.0	ND	5.0	NA		NA	
Chlorobenzene-D5	%	93	50-200	84	50-200	NA		NA	1
1,4-Difluorobenzene	%	97	50-200	90	50-200	NA		NA	
,4-Dichlorobenzene-D4	%	79	50-200	72	50-200	NA		NA	
oluene-D8	%	97	76-122	104	76-122	NA		NA	
-Bromofluorobenzene	%	104	73-120	90	73-120	NA		NA	
2-Dichloroethane-D4	%	131	72-143	98	72-143	NA		NA	

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		TRIP BLANK A06-7214 06/23/2006	A6721405						
Analyte	Units	Sample Value	Reporting Limit	Sample Value	Reporting Limit	Sample Value	Reporting Limit	Sample Value	Reporting Limit
arbon Disulfide IS/SURROGATE(S)	UG/L	ND	5.0	NA		NA		NA	
chlorobenzene-D5	1%	91	50-200	NA	1 1	NA	ííí	NA	1
,4-Difluorobenzene	%	95	50-200	NA		NA		NA	
,4-Dichlorobenzene-D4	%	76	50-200	NA		NA		NA	
oluene-D8	%	103	76-122	NA		NA		NA	
-Bromofluorobenzene	%	92	73-120	NA		NA		NA	
,2-Dichloroethane-D4	%	105	72-143	NA		NA		NA	

ROY F WESTON SAMPLE CHRONOLOGY

METHOD 8260 - CARBON DISULFIDE

Client Sample ID	FB-MW-04	LY-02	LY-02	MW-04	MW-04 DUP
Job No & Lab Sample ID	A06-7214 A6721404	A06-7214 A6721401	A06-7214 A6721401DL	A06-7214 A6721402	A06-7214 A6721403
Sample Date Received Date Extraction Date Analysis Date Extraction HT Met? Analytical HT Met? Sample Matrix Dilution Factor Sample wt/vol % Dry	06/23/2006 12:50 06/23/2006 14:35 06/28/2006 13:36 - - YES WATER 1.0 0.005 LITERS	06/23/2006 13:50 06/23/2006 14:35 06/28/2006 14:48 	06/23/2006 13:50 06/23/2006 14:35 06/30/2006 09:53 YES WATER 4000.0 0.005 LITERS	06/23/2006 13:40 06/23/2006 14:35 06/28/2006 14:24 - - YES GW 5.0 0.005 LITERS	06/23/2006 13:40 06/23/2006 14:35 06/28/2006 14:00 - - YES GW 5.0 0.005 LITERS

Date: 07/10/2006	ROY F WESTON	Rept: AN1248
Time: 16:24:11	QC SAMPLE CHRONOLOGY	Page: 2

METHOD 8260 - CARBON DISULFIDE

Client Sample ID Job No & Lab Sample ID			
Sample Date Received Date Extraction Date Analysis Date Extraction HT Met? Analytical HT Met? Sample Matrix Dilution Factor Sample wt/vol % Dry	06/23/2006 11:00 06/23/2006 14:35 06/28/2006 13:12 - YES WATER 1.0 0.005 LITERS		

Date: 07/10/2006 Time: 16:24:11		ROY F WESTON QC SAMPLE CHRONOLOGY	Rept: AN1248 Page: 3
METHOD 8260 - CARBON DISULFIDE	FIDE		
Client Sample ID VBLK11 ob No & Lab Sample ID A06-721	VBLK11 A06-7214 A6B2210702	VBLK58 A06-7214 A6B2195302	
Sample Date Received Date			
Extraction Date			
Analysis Date	06/30/2006 01 21	06/28/2006 08:55	
Extraction HT Met?	1		
Analytical HT Met?	1		
Sample Matrix	WATER	WATER	
Dilution Factor	1.0	1.0	
Sample wt/vol	0.005 LITERS	0.005 LITERS	
% Dry			

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Comments