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March 14, 2019

Mr. Brian Sadowski
New York State Department of Environmental Conservation, Region 9
Division of Environmental Remediation
270 Michigan Avenue
Buffalo, New York 14203-2999

Subject: 2018 PERIODIC REVIEW REPORT
Chem-Trol Site, Registry No. 9-15-015,
Blasdell, Erie County

Dear Mr. Sadowski:

AECOM Technical Services, Inc. (AECOM), on behalf of SC Holdings, Inc. (SC Holdings), is submitting this Periodic Review Report (PRR) along with a completed Institutional Controls and Engineering Controls (IC/EC) Certification Form (Attachment A) for the Chem-Trol site. This report is being submitted as requested by the New York State Department of Environmental Conservation (NYSDEC) in its letter dated January 4, 2019 to Mr. Mark DeVine. (Please note effective October 1, 2018, Mr. Chad Moose, P.G., District Manager, Waste Management, 100 Brandywine Boulevard, Suite 300, Newtown, PA 18940, is the responsible official for Waste Management for this site. Future correspondence should be directed to Mr. Moose.) The letter provides guidance for preparing the PRR and IC/EC form and requires that they be submitted to NYSDEC no later than March 17, 2019.

I. INTRODUCTION

The Chem-Trol site is located at 4818 Lake Avenue, Town of Hamburg, in Erie County, New York. Chem-Trol Pollution Services (Chem-Trol) purchased the property in 1969 and operated the site as a waste chemical processing facility that included chemical recovery, storage, and neutralization. Wastes, including capacitors, pesticides, oil sludges, paint sludges, spent solvents and pickle liquors, were accepted at the facility for processing. The facility ceased operations in 1972.

As a result of historic waste processing activities, on-site soil and groundwater were impacted with heavy metals and volatile organic compounds (VOCs). In 1977, as part of the facility closure activities, Chem-Trol removed approximately 95 cubic yards of contaminated soils, placed clean soil cover and established vegetative cover over the area.

Investigative studies led to a Record of Decision (ROD) in 1996 that specified additional remedial activities. These included removal of additional soils, and construction of a soil vapor extraction (SVE) system and groundwater collection and treatment system. The SVE system includes a header pipe and eight subsurface laterals installed in a linear array within the area of remediated soils. The groundwater collection and treatment system includes a blast-fractured bedrock trench in which three

groundwater collection wells are installed, conveyance piping, and a shallow tray air stripper that removes VOCs from the collected groundwater. The treated groundwater is discharged through a pipe to the South Branch of Smokes Creek.

The SVE system and the groundwater collection and treatment system continue to operate. During 2010, McMahon & Mann Consulting Engineers, PC (MMCE) evaluated the effectiveness of passive operation of the SVE system in removing soil vapors. Subsequently, the SVE system was converted from active to passive operation in 2010. A copy of the SVE system evaluation letter report was included as Attachment B in the 2010 PRR.

II. SITE OVERVIEW

The Chem-Trol site is situated in an urban setting with industrial/commercial areas to the north and east, commercial development along Lake Avenue to the south, and residential areas to the west, across the South Branch of Smokes Creek. Figure 1 shows the Chem-Trol site location and features.

Investigations completed between 1991 and 1994 showed contaminated soils generally located in the former operations and surface lagoon areas. Additional soil contamination was found in the on-site tributary of Smokes Creek as well as the flood plain along the western edge of the site. Contaminated groundwater was found in the overburden as well as the shallow bedrock beneath the site. Groundwater contours developed as part of the investigations show that groundwater flows in a northwesterly direction beneath the site toward the South Branch of Smokes Creek.

Because of the on-site contamination, the Chem-Trol site was assigned a hazardous waste site classification of 2 by NYSDEC. This classification indicates that the site poses a significant threat to public health and/or the environment and that action in the form of further investigations and remediation is required.

NYSDEC selected a remedial design based upon the results of the Remedial Investigation/Feasibility Study (RI/FS) for the Chem-Trol site. The March 1996 ROD selected a remedy that included:

- Excavation of soils and sediments from selected areas of the site;
- Installation of a groundwater collection trench along the western edge of the site;
- Improvement of the existing soil cover over the former chemical processing area; and,
- Installation of a SVE system within the former waste chemical processing area.

Pre-design investigations and remedial design were completed between 1997 and 2000. Construction of the ROD-required remedial components was completed between 1999 and 2001. Operation, maintenance and monitoring of the remedial components began in 2001. In December 2004, the Chem-Trol site was re-classified to a class 4 site by NYSDEC. This classification indicates that remedial actions taken at the site to eliminate significant threats to public health and the environment have been properly constructed and implemented, and long-term operation, maintenance and monitoring of the in-place remedial systems is necessary to assure remedy effectiveness.

Goals for the remedial program were established through the remediation selection process given in 6 NYCRR 375-1.10. The remediation goals established for this site include:

- Reduce and remove chemical contamination in the soils, sediments and groundwater at the site;
- Eliminate the potential for direct human or animal contact with the contaminated soils, sediments, and groundwaters at the site;
- Prevent migration of contaminants in the on-site soils into the groundwater;
- Prevent off-site migration of contaminated groundwater and mitigate the impacts of contaminated groundwater to the environment; and,
- Provide for attainment of Soil Cleanup Guidelines (SCG) for groundwater quality to the extent practical.

III. REMEDY PERFORMANCE, EFFECTIVENESS AND PROTECTIVENESS

SC Holdings continues to monitor the performance of the SVE and groundwater collection and treatment system.

SVE System

SC Holdings submitted a work plan to NYSDEC on October 22, 2009 proposing conversion of the active system to a passive venting system and monitoring the performance of the passive system for a year. NYSDEC authorized the conversion to a passive system along with monthly monitoring. The SVE treatment system was converted from active to passive operation in January 2010.

After a year of monitoring, SC Holdings submitted a report describing the monitoring results as indicating that passive operation of the SVE system provides similar and possibly improved effectiveness as active operation of the SVE system in venting soil vapors. Water level data in the passive vent risers indicated that passive venting might also contribute to generally lower water levels in the laterals for a longer period of time over the course of the year and therefore provide a greater opportunity to vent soil vapors.

It was recommended that active operation of the SVE system permanently cease and that passive operation of the SVE system laterals continue. In addition, it was recommended that continued monitoring of the SVE system laterals be eliminated. NYSDEC agreed with these recommendations in a letter to Mr. Mark Snyder dated May 29, 2011.

During this reporting period, the SVE system continued to operate passively. The lateral riser pipes were visually examined for damage during quarterly site visits. No damage was observed during these site visits.

Groundwater Collection and Treatment System

SC Holdings has the following actions performed by AECOM (items 1 through 5) and TestAmerica Laboratories, Inc. (Amherst, NY) (item 6) in order to monitor the performance of the groundwater collection system as required in the ROD:

1. Perform monthly operation and maintenance tasks on the system;
2. Perform quarterly acid wash of the air stripper, including a once-per-year dismantling of the air stripper to check seals and remove mineral accumulation in air stripper trays using mechanical means (scrubbing, re-drilling holes to full diameter, etc.);
3. Sample and analyze the groundwater collection and treatment system influent and effluent on a monthly basis for a site-specific list of 10 VOCs, Total Iron, Total Suspended Solids (TSS), and pH;
4. Measure and record water levels in groundwater extraction wells and groundwater monitoring wells on a quarterly basis;
5. Prepare bedrock groundwater contours based on quarterly water level measurements collected during the year; and,
6. Obtain annual groundwater samples for VOCs from six groundwater monitoring wells.

Effluent from the groundwater collection and treatment system (air stripper) discharges into the South Branch of Smokes Creek. Monthly aqueous effluent samples taken from the air stripper surface water discharge pipe are analyzed for surface water discharge parameter limit concentrations including VOCs by EPA Method 624.1, Total Iron by EPA Method 200.7, TSS by Standard Method (SM) 2540D, and pH by SM 4500 H+ B. Analytical test results show that discharge parameter concentrations in the air stripper effluent for 2018 were below the concentration and mass loading discharge limits established by NYSDEC for 12 of 12 months.

Analytical test results for the 2018 monthly aqueous effluent samples are included in the Operation and Maintenance (O&M) reports submitted by AECOM to NYSDEC on a quarterly basis.

Monthly testing of the air stripper exhaust discharge (vapor phase) samples ceased after April 2011. Monthly testing was eliminated based upon a letter from Al Zylinski, NYSDEC Division of Air Resources, to MMCE (consultant to SC Holdings) dated April 6, 2011. The letter approved elimination of sampling and testing of the air stripper exhaust.

A summary of groundwater elevations measured in the groundwater monitoring wells and piezometers during 2018 is included in Table 1 - Summary of Groundwater Elevation Measurements. Quarterly groundwater elevation contours for 2018 are plotted on Figures 2 through 5.

The contours show that the three extraction wells depress water levels in the trench below natural groundwater levels in that area of the site. The resulting depression in the groundwater table creates groundwater flow toward the collection trench. The measurements demonstrate that the collection trench is functioning as designed to restrict offsite flow and limit groundwater discharge to the South Branch of Smokes Creek.

VOC analytical test results of groundwater treatment system influent samples have historically shown o-chlorotoluene levels in higher concentrations than other organic compounds. Therefore, concentrations of o-chlorotoluene detected in groundwater treatment influent samples have been used to assess the performance of the treatment system in reducing organic compound concentrations in the groundwater. The o-chlorotoluene concentration data for influent groundwater samples was plotted versus time for the January 2003 through December 2018 sampling events (see Figure 6). The plot shows that the concentration of o-chlorotoluene in the influent groundwater samples has been reduced since initiation of treatment system operation. This indicates that the treatment system is meeting the remedial goal of reducing organic compound concentrations in the groundwater.

A comparison of the influent and effluent sample analytical results shows that the air stripper is effectively removing VOCs from the groundwater collected by the treatment system.

Annual Groundwater Monitoring

Annual groundwater monitoring was conducted by TestAmerica Laboratories, Inc. field services personnel on October 30, 2018. Groundwater samples are typically collected from overburden well MW-3S and bedrock wells MW-7R, MW-8R, MW-9R, MW-13R, and MW-15R; however, MW-3S was dry[1] and MW-15R could not be located[2] at the time of sampling. Groundwater samples were successfully collected from MW-7R, MW-8R, MW-9R and MW-13R and analyzed by TestAmerica Laboratories, Inc. (Amherst, NY) for VOCs by EPA Method 8260C. A summary of VOC detections for the annual 2018 groundwater-monitoring event is included as Table 2, Detection Summary. The complete 2018 groundwater sample analytical laboratory report is included as Attachment B. Historical concentration versus time trend plots for monitoring wells MW-3S, MW-8R, MW-9R, and MW-13R are included as Attachment C.

IV. O&M PLAN COMPLIANCE

SC Holdings performed the following activities as part of the O&M Plan requirements:

Soil Vapor Extraction System

AECOM performed the following activity in 2018 as part of quarterly visits to the site:

- Visually observed each SVE passive vent riser for damage.

[1] AECOM notified NYSDEC of the condition of MW-3S upon receipt of the analytical data on December 16, 2018. NYSDEC requested that a follow-up effort be made to sample the monitoring well when there was sufficient groundwater present to collect a sample. AECOM will notify TestAmerica Laboratories field services staff following the March 2019 round of water level monitoring if sufficient volume is measured in the well.

[2] MW-15R is located approximately 950 feet downstream of MW-13R along the west bank of the South Branch of Smokes Creek. AECOM notified NYSDEC of the problem locating MW-15R upon receipt of the analytical data on December 16, 2018. NYSDEC requested that a follow-up effort be made to locate the well and collect a sample after the winter season and before emergence of spring foliage. If the well is again not located, NYSDEC will be contacted regarding an action plan for that location.

Groundwater Collection and Treatment System

AECOM performed the following activities in 2018 as part of routine monthly O&M visits:

- Verified that each extraction well was running and performing as designed;
- Observed that each pump was operating, documented pumping rates, total gallons pumped and insured that high and low water controls are functioning as designed;
- Performed monthly influent and effluent sample analytical testing;
- Observed that the air stripper was performing as designed;
- Performed monthly inspections of air stripper trays;
- Performed acid washes quarterly or more often if necessary to promote optimum removal of VOCs; and,
- Prepared and submitted O&M reports on a quarterly basis to NYSDEC.

The quarterly O&M reports submitted to NYSDEC provide further details on specific activities performed, analytical testing results, and observations made during the routine monthly O&M visits. Routine activities include general inspection and maintenance work performed on pumps, equipment, and sensors, as described in the monthly O&M reports.

In addition, the following non-routine maintenance activities were also performed and reported in the respective quarterly O&M reports this reporting period:

- October 2018 – The treated water discharge line from the treatment building to the South Branch of Smokes Creek was cleaned using a high-pressure line jet to remove accumulated iron scaling that was restricting effluent flow.
- October/November 2018 – Diagnosed failure of submersible pump in EW-2 (October) and replaced in-kind (November).
- December 2018 – Diagnosed failure of EW-2 level transducer; replacement ordered (well remained operational in manual mode); replacement pending at end of reporting period but is anticipated to be completed during the first quarter of 2019.

In a letter dated May 4, 2018, NYSDEC approved the 2017 PRR with no comments.

V. OTHER ITEMS

Emerging Contaminants Groundwater Sampling

Emerging contaminants groundwater sampling was completed at the Chem-Trol site during 2018. The sampling was completed in response to NYSDEC letter request of April 23, 2018, directing emerging contaminants (1,4-dioxane and per- and polyfluoroalkyl substances (PFAS)) groundwater sampling at the Site. A letter work plan for sampling was prepared by AECOM and submitted to NYSDEC on June 21, 2018. NYSDEC approved the letter work plan on August 10, 2018. Groundwater sampling for emerging contaminants was performed on October 30, 2018 by TestAmerica Laboratories, Inc. field services personnel. A letter report summarizing the emerging

contaminants groundwater sampling was submitted to NYSDEC under separate cover on March 14, 2019.

VI. CONCLUSIONS AND RECOMMENDATIONS

Groundwater Collection and Treatment

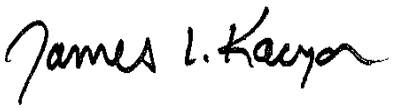
A comparison of the monthly influent vs. effluent analytical test results shows that the groundwater collection and treatment system continues to remove contaminants from groundwater at the Chem-Trol site. A plot of the influent o-chlorotoluene concentration versus time (see Figure 6) indicates that the source contributing to groundwater VOC concentrations has been reduced to where its influence on groundwater has decreased and appears to continue approaching an asymptotic curve.

The quarterly groundwater elevation data show that the groundwater collection system continues to contain groundwater contaminants and creates a gradient toward the groundwater collection wells and away from the South Branch of Smokes Creek.

No changes to the activities currently being performed at the Chem-Trol site are recommended.

Please call the undersigned at AECOM (716-923-1300) or Mr. Chad Moose (215-269-2114) if you have any questions or require any additional information after reviewing this report.

Sincerely yours,



James L. Kaczor, P.G.
Project Manager
james.kaczor@aecom.com

Enclosures (Tables, Figures)

Attachments (IC/EC Form, 2018 Annual Groundwater Data Report, Historical Trend Plots)

cc: Chad Moose, P.G. (SC Holdings, Inc.), w/attachments
Daniel Servetas, P.E. (AECOM), w/attachments
60592091 Project File

TABLES

Table 1
Chem-Trol Site, Blasdell, NY
Summary of Groundwater Elevation Measurements 2018

Pumping Wells		1Q Date 3/5/2018		2Q Date 6/22/2018		3Q Date 9/17/2018		4Q Date 12/28/2018	
Well ID	Monitoring Point (TIC)	Depth To Water (ft)	1st Quarter Elevation (ft)	Depth To Water (ft)	2nd Quarter Elevation (ft)	Depth To Water (ft)	3rd Quarter Elevation (ft)	Depth To Water (ft)	4th Quarter Elevation (ft)
EW-1	624.07	15.96	608.11	19.60	604.47	19.74	604.33	17.65	606.42
EW-2	622.16	11.51	610.65	13.74	608.42	13.80	608.36	11.79	610.37
EW-3	621.10	17.86	603.24	20.25	600.85	19.15	601.95	17.13	603.97

East of Cap (North to South)

Well ID	Monitoring Point (TIC)	Depth To Water (ft)	1st Quarter Elevation (ft)	Depth To Water (ft)	2nd Quarter Elevation (ft)	Depth To Water (ft)	3rd Quarter Elevation (ft)	Depth To Water (ft)	4th Quarter Elevation (ft)
MW-6S	638.54	6.70	631.84	10.60	627.94	12.66	625.88	6.91	631.63
MW-6R	638.64	16.78	621.86	17.71	620.93	18.17	620.47	16.82	621.82
P-1S	642.80	4.59	638.21	6.94	635.86	8.61	634.19	4.54	638.26
MW-1R	645.36	6.56	638.80	8.79	636.57	10.35	635.01	6.47	638.89
MW-1S	645.40	5.62	639.78	7.90	637.50	10.43	634.97	4.72	640.68
MW-7S	642.85	3.41	639.44	8.50	634.35	11.17	631.68	3.50	639.35
MW-7R	642.28	3.26	639.02	7.01	635.27	8.30	633.98	4.32	637.96

Center of Cap (North to South)

Well ID	Monitoring Point (TIC)	Depth To Water (ft)	1st Quarter Elevation (ft)	Depth To Water (ft)	2nd Quarter Elevation (ft)	Depth To Water (ft)	3rd Quarter Elevation (ft)	Depth To Water (ft)	4th Quarter Elevation (ft)
P-5S	637.54	7.70	629.84	13.01	624.53	>13.45	<624.09	8.40	629.14
P-5R	637.88	18.71	619.17	19.78	618.10	>20.37	<617.51	18.83	619.05
MW-5S	636.28	10.73	625.55	13.30	622.98	14.10	622.18	10.86	625.42
P-2R	646.96	4.02	642.94	11.98	634.98	14.15	632.81	3.79	643.17
P-2S	646.44	7.94	638.50	10.12	636.32	11.79	634.65	8.04	638.40
MW-2S	644.85	5.72	639.13	8.14	636.71	9.79	635.06	5.67	639.18

West of Cap (North to South)

Well ID	Monitoring Point (TIC)	Depth To Water (ft)	1st Quarter Elevation (ft)	Depth To Water (ft)	2nd Quarter Elevation (ft)	Depth To Water (ft)	3rd Quarter Elevation (ft)	Depth To Water (ft)	4th Quarter Elevation (ft)
MW-4S	637.18	12.80	624.38	15.20	621.98	>15.37	<621.81	12.97	624.21
MW-4R	637.02	26.31	610.71	29.00	608.02	29.01	608.01	25.62	611.40
P-4S	636.54	14.56	621.98	15.91	620.63	15.98	620.56	14.26	622.28
MW-3S	637.64	16.58	621.06	17.60	620.04	18.58	619.06	16.20	621.44
P-3R	639.92	20.32	619.60	20.27	619.65	20.25	619.67	20.21	619.71
P-3S	639.46	18.45	621.01	19.24	620.22	19.85	619.61	18.27	621.19
OW-3R	638.78	23.03	615.75	24.16	614.62	24.54	614.24	22.83	615.95

West of Trench (North to South)

Well ID	Monitoring Point (TIC)	Depth To Water (ft)	1st Quarter Elevation (ft)	Depth To Water (ft)	2nd Quarter Elevation (ft)	Depth To Water (ft)	3rd Quarter Elevation (ft)	Depth To Water (ft)	4th Quarter Elevation (ft)
OW-1FR	620.42	9.55	610.87	12.21	608.21	12.31	608.11	8.81	611.61
P97-5	613.65	3.30	610.35	5.71	607.94	5.85	607.80	2.57	611.08
MW-10S	615.15*	3.75	611.40*	>5.75	<609.40*	>5.75	<609.40*	3.05	612.10*
MW-10R	615.47	4.64	610.83	7.24	608.23	7.07	608.40	4.21	611.26
P97-4	614.8	4.25	610.55	6.80	608.00	6.91	607.89	3.50	611.30
MW-8S	617.28	5.74	611.54	>7.00	<610.28	>7.00	<610.28	5.85	611.43
MW-8R	617.38	6.58	610.80	9.13	608.25	9.31	608.07	5.83	611.55
P97-3	617.66	7.73	609.93	9.54	608.12	9.62	608.04	5.95	611.71
MW-9RD	619.13	7.80	611.33	7.15	611.98	7.35	611.78	7.45	611.68
MW-9R	619.17	7.98	611.19	11.09	608.08	11.10	608.07	7.10	612.07
MW-9S	619.91	8.16	611.75	>10.40	<609.51	10.14	609.77	7.45	612.46
OW-2FR	624.14	12.84	611.30	15.96	608.18	12.98	611.16	12.00	612.14
P97-2	619.07	7.12	611.95	9.25	609.82	9.19	609.88	6.49	612.58
P97-1	619.97	6.79	613.18	8.79	611.18	8.75	611.22	6.55	613.42
MW-12R	621.59	7.16	614.43	9.61	611.98	11.18	610.41	8.32	613.27
MW-12S	621.17	3.98	617.19	>9.39	<611.78	7.09	614.08	3.56	617.61

West of Smokes Creek (North to South)

Well ID	Monitoring Point (TIC)	Depth To Water (ft)	1st Quarter Elevation (ft)	Depth To Water (ft)	2nd Quarter Elevation (ft)	Depth To Water (ft)	3rd Quarter Elevation (ft)	Depth To Water (ft)	4th Quarter Elevation (ft)
MW-13R	615.14	5.10	610.04	7.55	607.59	7.65	607.49	4.33	610.81
MW-14R	618.55	4.86	613.69	5.23	613.32	5.74	612.81	5.04	613.51

* MW-10S reference point and elevations estimated- well replaced in 2016.

Table 2
Detection Summary

Client: Waste Management
Project/Site: ChemTrol Site - Annual Groundwater

TestAmerica Job ID: 480-144453-1

Client Sample ID: DUP — Lab Sample ID: 480-144453-1

No Detections.

Client Sample ID: MW-13R — Lab Sample ID: 480-144453-2

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
1,1-Dichloroethane	27		15		ug/L	40		8260C	Total/NA
o-Chlorotoluene	2300		34		ug/L	40		8260C	Total/NA
Chloroethane	27		13		ug/L	40		8260C	Total/NA
Methylene Chloride	82		18		ug/L	40		8260C	Total/NA

Client Sample ID: MW-7R — Lab Sample ID: 480-144453-4

No Detections.

Client Sample ID: MW-8R — Lab Sample ID: 480-144453-5

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
o-Chlorotoluene	85		5.0		ug/L	1		8260C	Total/NA

Client Sample ID: MW-9R — Lab Sample ID: 480-144453-6

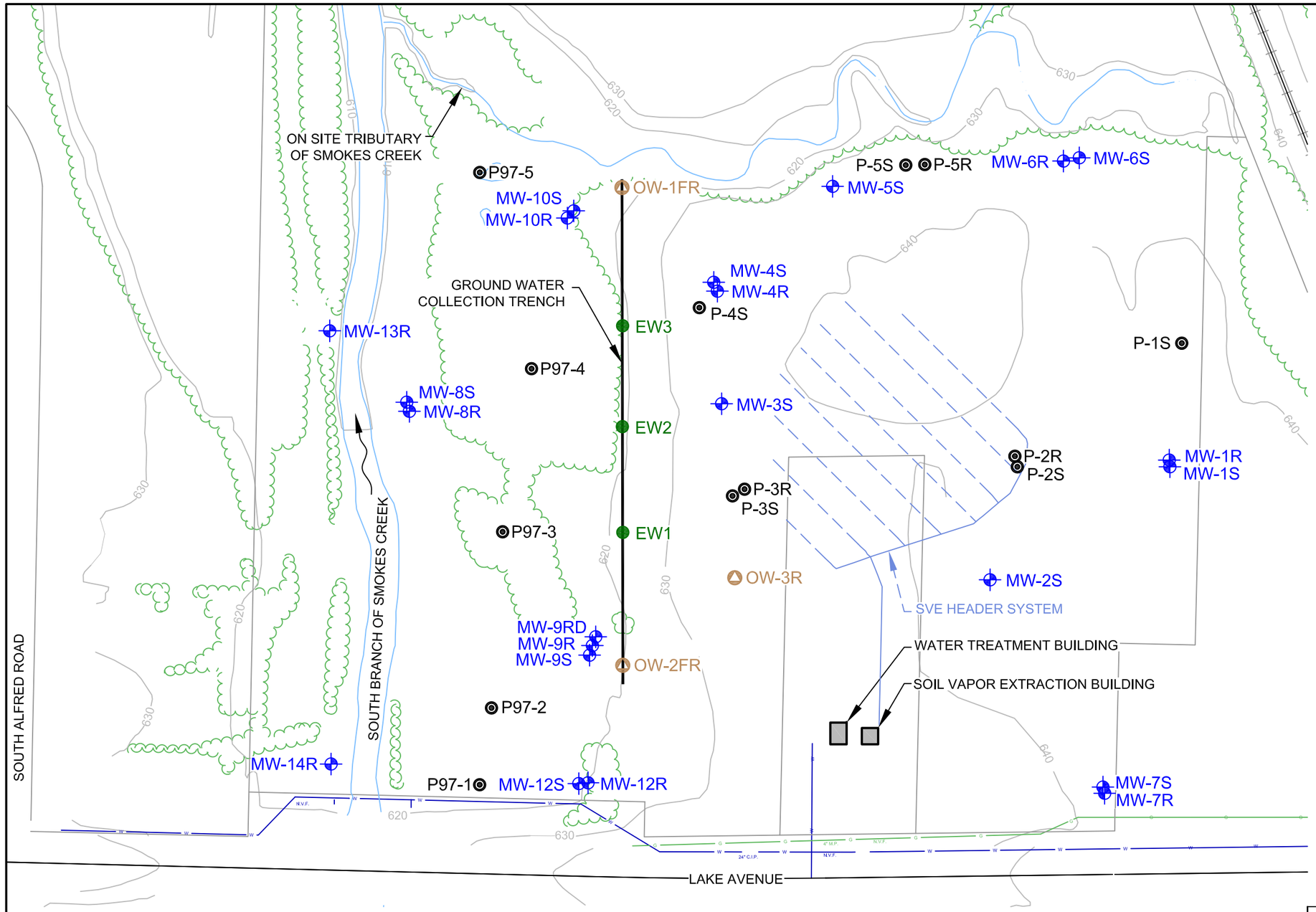
Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
1,1,1-Trichloroethane	150		5.0		ug/L	4		8260C	Total/NA
1,1-Dichloroethane	130		5.0		ug/L	4		8260C	Total/NA
o-Chlorotoluene	40		5.0		ug/L	4		8260C	Total/NA
Chloroethane	25		5.0		ug/L	4		8260C	Total/NA

Client Sample ID: TB — Lab Sample ID: 480-144453-7

No Detections.

This Detection Summary does not include radiochemical test results.

FIGURES



SOURCE: BASEMAP AND DATA SHOWN PROVIDED BY McMahon & Mann Consulting Engineers, P.C., MARCH 2011.

AECOM
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Amherst, New York 14226
T: 716.836.4506

FIGURE 1
SITE PLAN

CHEM-TROL
ERIE COUNTY, NEW YORK

FEBRUARY 2013 60164822

L:\Group\earth\Chem-Trol\60164822_001 Site Plan.dwg, 2/25/2013 11:46:57 AM, Splawnm

N

ON SITE TRIBUTARY OF SMOKES CREEK

SOUTH BRANCH OF SMOKES CREEK

SOUTH ALFRED ROAD

LAKE AVENUE

GROUNDWATER COLLECTION TRENCH

WATER TREATMENT BUILDING

SOIL VAPOR EXTRACTION BUILDING

P97-5, 610.35

OW-1FR, 610.87

MW-10R, 610.83

MW-13R, 610.04

MW-4R, 610.71

EW3, 603.24

P97-4, 610.55

MW-8R, 610.80

EW2, 610.65

P97-3, 609.93

EW1, 608.11

MW-9R, 611.19

OW-2FR, 611.30

P97-2, 611.95

MW-14R, 613.69

P97-1, 613.18

MW-12R, 614.43

P-5R, 619.17

MW-6R, 621.86

P-3R, 619.60

P-2R, 642.94

MW-1R, 638.80

OW-3R, 615.75

MW-7R, 639.02

604 606 608 610 612 614 616 618 620 622 624 626 628 630 632 634 636 638 640 642

610 620 630 640

100 0 100 Feet

Legend

- Extraction Well
- Monitoring Well
- Observation Well
- Piezometer
- Groundwater Flow Direction
- Groundwater Elevation Contour
- Edge of Water
- Property Line
- Existing Ground Elevation Contour

MW-6R, 621.86
Location ID — Groundwater Elevation

CHEM-TROL
BEDROCK GROUNDWATER CONTOURS
MARCH 5, 2018

AECOM

FIGURE 2

J:\Projects\60526520_ChmTri2017\900-CAD-GIS\920-GIS or Graphics\Arcmap\FIRST QUARTER 2018 GW CONTOURS.mxd 4/2/2018

N

ON SITE TRIBUTARY OF SMOKES CREEK

SOUTH BRANCH OF SMOKES CREEK

SOUTH ALFRED ROAD

LAKE AVENUE

GROUNDWATER COLLECTION TRENCH

WATER TREATMENT BUILDING

SOIL VAPOR EXTRACTION BUILDING

P97-5, 607.94

OW-1FR, 608.21

P-5R, 618.10

MW-6R, 620.93

MW-10R, 608.23

MW-4R, 608.02

EW3, 600.85

MW-13R, 607.59

P97-4, 608.00

MW-8R, 608.25

EW2, 608.42

P-2R, 634.98

MW-1R, 636.57

P-3R, 619.65

P97-3, 608.12

EW1, 604.47

OW-3R, 614.62

MW-9R, 608.08

OW-2FR, 608.18

P97-2, 609.82

MW-14R, 613.32

P97-1, 611.18

MW-12R, 611.98

MW-7R, 635.27

610 612 614 616 618 620 622 624 626 628 630 632 634 636 638 640

Legend

- Extraction Well
- Monitoring Well
- Observation Well
- Piezometer
- Groundwater Flow Direction
- Groundwater Elevation Contour
- Edge of Water
- Property Line
- Existing Ground Elevation Contour

MW-6R, 620.93
Location ID — Groundwater Elevation

100 0 100 Feet

CHEM-TROL
BEDROCK GROUNDWATER CONTOURS
JUNE 22, 2018

AECOM

FIGURE 3

J:\Projects\60526520_ChmTrl2017\900-CAD-GIS\920-GIS or Graphics\Arcmap\SECOND QUARTER 2018 GW CONTOURS.mxd 7/2/2018

N

ON SITE TRIBUTARY OF SMOKES CREEK

SOUTH BRANCH OF SMOKES CREEK

SOUTH ALFRED ROAD

LAKE AVENUE

GROUNDWATER COLLECTION TRENCH

WATER TREATMENT BUILDING

SOIL VAPOR EXTRACTION BUILDING

P97-5, 607.8

OW-1FR, 608.11

P-5R, Dry

MW-6R, 620.47

MW-10R, 608.40

MW-4R, 608.01

EW3, 601.95

MW-13R, 607.49

P97-4, 607.89

MW-8R, 608.07

EW2, 608.36

P-2R, 632.81

MW-1R, 635.01

P-3R, 619.67

P97-3, 608.04

EW1, 604.33

OW-3R, 614.24

MW-9R, 608.07

OW-2FR, 611.16

P97-2, 609.88

MW-14R, 612.81

P97-1, 611.22

MW-12R, 610.41

MW-7R, 633.98

604 606 608 610 612 614 616 618 620 622 624 626 628 630 632 634

606 608 612

610 620 630 640

Legend

- Extraction Well
- Monitoring Well
- Observation Well
- Piezometer
- Groundwater Flow Direction
- Groundwater Elevation Contour
- Edge of Water
- Property Line
- Existing Ground Elevation Contour

MW-6R, 620.47
Location ID — Groundwater Elevation

100 0 100 Feet

CHEM-TROL
BEDROCK GROUNDWATER CONTOURS
SEPTEMBER 19, 2018

AECOM

FIGURE 4

J:\Projects\60526520_ChmTri2017\900-CAD-GIS\920-GIS or Graphics\Arcmap\THIRD QUARTER 2018 GW CONTOURS.mxd 11/9/2018

N

SOUTH ALFRED ROAD

SOUTH BRANCH OF SMOKES CREEK

ON SITE TRIBUTARY OF SMOKES CREEK

GROUNDWATER COLLECTION TRENCH

P97-5, 611.08
OW-1FR, 611.61
MW-10R, 611.26
P-5R, 619.05
MW-6R, 621.82
MW-4R, 611.40
EW3, 603.97
MW-13R, 610.81
P97-4, 611.30
MW-8R, 611.55
EW2, 610.37
P-2R, 643.17
MW-1R, 638.89
P-3R, 619.71
P97-3, 611.71
EW1, 606.42
OW-3R, 615.95
MW-9R, 612.07
OW-2FR, 612.14
P97-2, 612.58
WATER TREATMENT BUILDING
SOIL VAPOR EXTRACTION BUILDING
MW-14R, 613.51
P97-1, 613.42
MW-12R, 613.27
MW-7R, 637.96

LAKE AVENUE

Legend

- Extraction Well
- Monitoring Well
- Observation Well
- Piezometer
- Groundwater Flow Direction
- Groundwater Elevation Contour
- Edge of Water
- Property Line
- Existing Ground Elevation Contour

MW-6R, 621.82
Location ID — Groundwater Elevation

100 0 100 Feet

CHEM-TROL
BEDROCK GROUNDWATER CONTOURS
DECEMBER 28, 2018

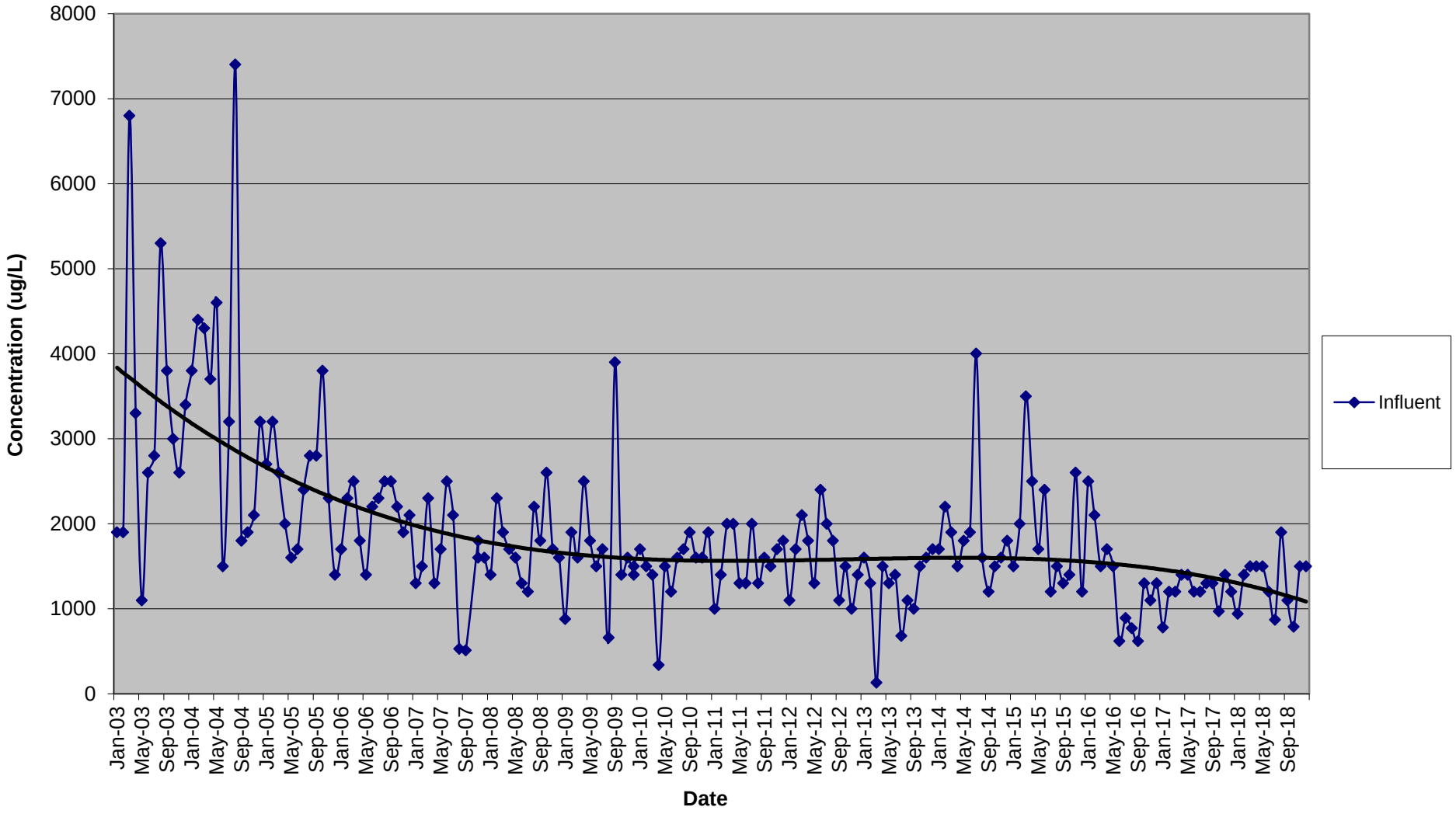
AECOM

FIGURE 5

J:\Projects\60526520_ChmTrl2017\900-CAD-GIS\920-GIS or Graphics\Arcmap\FOURTH QUARTER 2018 GW CONTOURS.mxd 3/14/2019

FIGURE 6

Chem-Trol Groundwater Treatment System
Influent o-Chlorotoluene Concentration
2003-2018



ATTACHMENT A

Completed IC/EC Form

Enclosure 2
NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION
Site Management Periodic Review Report Notice
Institutional and Engineering Controls Certification Form

Site Details **Box 1**

Site No. 915015

Site Name Chem-Trol

Site Address: Lake Avenue Zip Code: 14107
City/Town: Hamburg
County: Erie
Site Acreage: 17.520

Reporting Period: ~~February 15, 2018 to February 15, 2019~~
January 1, 2018 to December 31, 2018

	YES	NO
1. Is the information above correct?	☐	☒
If NO, include handwritten above or on a separate sheet.		
2. Has some or all of the site property been sold, subdivided, merged, or undergone a tax map amendment during this Reporting Period?	☐	☒
3. Has there been any change of use at the site during this Reporting Period (see 6NYCRR 375-1.11(d))?	☐	☒
4. Have any federal, state, and/or local permits (e.g., building, discharge) been issued for or at the property during this Reporting Period?	☐	☒
If you answered YES to questions 2 thru 4, include documentation or evidence that documentation has been previously submitted with this certification form.		
5. Is the site currently undergoing development?	☐	☒

Box 2

	YES	NO
6. Is the current site use consistent with the use(s) listed below? Closed Landfill	☒	☐
7. Are all ICs/ECs in place and functioning as designed?	☒	☐

IF THE ANSWER TO EITHER QUESTION 6 OR 7 IS NO, sign and date below and DO NOT COMPLETE THE REST OF THIS FORM. Otherwise continue.

A Corrective Measures Work Plan must be submitted along with this form to address these issues.

Signature of Owner, Remedial Party or Designated Representative Date

SITE NO. 915015 **Box 3**

Description of Institutional Controls

Parcel	Owner	Institutional Control
151.02-1-14.1	SC Holdlings Inc./Waste Management	Ground Water Use Restriction
		Monitoring Plan
		O&M Plan
		Landuse Restriction
		Building Use Restriction

The controls identified in the Declaration of Covenants and Restrictions, recorded with Erie County on March 25, 2004, include but are not limited to the following: The owner of the Property shall maintain the cap covering the Property by maintaining its grass cover, or after obtaining written approval from the Relevant Agency, by capping the Property with another material. The property is prohibited from being used for purposes other than for industrial or commercial use, excluding use for day care, child care and medical care; the use of groundwater underlying the property is prohibited without treatment to render it safe for drinking water or industrial purposes, except that the groundwater may be reasonably used as necessary to conduct tests to monitor contamination levels of the groundwater. These restrictive covenants are binding and shall run with the land.

Box 4

Description of Engineering Controls

Parcel	Engineering Control
151.02-1-14.1	Groundwater Treatment System
	Cover System
	Groundwater Containment
	Monitoring Wells
	Fencing/Access Control
	Leachate Collection

Remediation was completed in two phases consisting of Source Control Elements and Groundwater Control Elements. These elements are summarized as follows:

Source Control Elements:

1. Hot Spot Soils Removal.
2. Tributary Sediment Excavation/Disposal.
3. Site Soils Cover.
4. Soil Vapor Extraction. Passive state with one year evaluation starting January 2010. Passive state permanently approved on May 29, 2011.

Groundwater Control Elements:

1. Groundwater extraction from three extraction wells.
2. On-site groundwater treatment with discharge compliance monitoring.
2. Groundwater quality monitoring.

Groundwater intercept, extraction, treatment and discharge compliance monitoring. Periodic measuring of groundwater levels and plotting to develop groundwater contours and directional gradients. Annual groundwater quality monitoring to determine performance of remedy. Completion of site management activities above, to confirm that the remedy remains protective of public health and the environment.

Box 5

Periodic Review Report (PRR) Certification Statements

1. I certify by checking "YES" below that:

   a) the Periodic Review report and all attachments were prepared under the direction of, and reviewed by, the party making the certification;

   b) to the best of my knowledge and belief, the work and conclusions described in this certification are in accordance with the requirements of the site remedial program, and generally accepted engineering practices; and the information presented is accurate and compete.

YES	NO
☒	☐

2. If this site has an IC/EC Plan (or equivalent as required in the Decision Document), for each Institutional or Engineering control listed in Boxes 3 and/or 4, I certify by checking "YES" below that all of the following statements are true:

   (a) the Institutional Control and/or Engineering Control(s) employed at this site is unchanged since the date that the Control was put in-place, or was last approved by the Department;

   (b) nothing has occurred that would impair the ability of such Control, to protect public health and the environment;

   (c) access to the site will continue to be provided to the Department, to evaluate the remedy, including access to evaluate the continued maintenance of this Control;

   (d) nothing has occurred that would constitute a violation or failure to comply with the Site Management Plan for this Control; and

   (e) if a financial assurance mechanism is required by the oversight document for the site, the mechanism remains valid and sufficient for its intended purpose established in the document.

YES	NO
☒	☐

IF THE ANSWER TO QUESTION 2 IS NO, sign and date below and DO NOT COMPLETE THE REST OF THIS FORM. Otherwise continue.

A Corrective Measures Work Plan must be submitted along with this form to address these issues.

Signature of Owner, Remedial Party or Designated Representative	Date

IC CERTIFICATIONS
SITE NO. 915015

Box 6

SITE OWNER OR DESIGNATED REPRESENTATIVE SIGNATURE

I certify that all information and statements in Boxes 1,2, and 3 are true. I understand that a false statement made herein is punishable as a Class "A" misdemeanor, pursuant to Section 210.45 of the Penal Law.

I Chad Moose (print name) at 100 Brandywine Blvd, Suite 300, Newtown PA 18940 (print business address),

am certifying as Owner (Owner or Remedial Party)

for the Site named in the Site Details Section of this form.

Signature of Owner, Remedial Party, or Designated Representative Rendering Certification

Date 3/6/2019

Owner

IC/EC CERTIFICATIONS

Box 7

Professional Engineer Signature

I certify that all information in Boxes 4 and 5 are true. I understand that a false statement made herein is punishable as a Class "A" misdemeanor, pursuant to Section 210.45 of the Penal Law.

I Daniel T. Servetas (print name) at 40 British American Blvd., Latham, NY 12110 (print business address),

am certifying as a Professional Engineer for the Owner (Owner or Remedial Party)

March 8, 2019

Signature of Professional Engineer, for the Owner or Remedial Party, Rendering Certification	Stamp (Required for PE)	Date

Owner

ATTACHMENT B

2018 Annual Groundwater Sample Laboratory Report

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

ANALYTICAL REPORT

TestAmerica Laboratories, Inc.
TestAmerica Buffalo
10 Hazelwood Drive
Amherst, NY 14228-2298
Tel: (716)691-2600

TestAmerica Job ID: 480-144453-1
Client Project/Site: ChemTrol Site - Annual Groundwater
Sampling Event: ChemTrol Annual Groundwater

For:
Waste Management
4 Liberty Lane West
Hampton, New Hampshire 03842

Attn: Mark DeVine

Authorized for release by:
11/13/2018 3:16:53 PM
Anthony Strollo, Project Management Assistant I
anthony.strollo@testamericainc.com

Designee for

Ryan VanDette, Project Manager II
(716)504-9830
ryan.vandette@testamericainc.com

Table of Contents

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
¤	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
PQL	Practical Quantitation Limit
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)

Job ID: 480-144453-1

Laboratory: TestAmerica Buffalo

Narrative

Job Narrative
480-144453-1

Comments
No additional comments.

Receipt
The samples were received on 10/31/2018 9:35 AM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperature of the cooler at receipt was 3.2º C.

GC/MS VOA
Method(s) 8260C: The continuing calibration verification (CCV) associated with batch 480-444316 recovered above the upper control limit for Cyclohexane and Methylcyclohexane. The samples associated with this CCV were non-detects for the affected analytes; therefore, the data have been reported. The following samples are impacted: MW-13R (480-144453-2), MW-7R (480-144453-4), MW-8R (480-144453-5) and TB (480-144453-7).

Method(s) 8260C: The following sample was diluted to bring the concentration of target analytes within the calibration range: MW-13R (480-144453-2). Elevated reporting limits (RLs) are provided.

Method(s) 8260C: The analyte Methylene Chloride was detected in the dilution analysis of sample MW-13R (480-144453-2) . Additional manipulation of the sample is required to analyze a sample at a dilution, therefore, the sample detection for Methylene Chloride in the analysis may potentially be due to laboratory contamination and should be evaluated accordingly.

Method(s) 8260C: The continuing calibration verification (CCV) associated with batch 480-444315 recovered above the upper control limit for Isopropylbenzene, Trichlorofluoromethane, and 2-Butanone. The samples associated with this CCV were non-detects for the affected analytes; therefore, the data have been reported. The following sample is impacted: DUP (480-144453-1).

Method(s) 8260C: The following sample was diluted to bring the concentration of target analytes within the calibration range: MW-9R (480-144453-6). Elevated reporting limits (RLs) are provided.

Method(s) 8260C: The continuing calibration verification (CCV) associated with batch 480-444527 recovered above the upper control limit for 2-Hexanone, Cyclohexane, and 4-Methyl-2-pentanone (MIBK). The samples associated with this CCV were non-detects for the affected analytes; therefore, the data have been reported. The following sample is impacted: MW-9R (480-144453-6).

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

Detection Summary

Client: Waste Management
Project/Site: ChemTrol Site - Annual Groundwater

TestAmerica Job ID: 480-144453-1

Client Sample ID: DUP — Lab Sample ID: 480-144453-1

No Detections.

Client Sample ID: MW-13R — Lab Sample ID: 480-144453-2

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
1,1-Dichloroethane	27		15		ug/L	40		8260C	Total/NA
o-Chlorotoluene	2300		34		ug/L	40		8260C	Total/NA
Chloroethane	27		13		ug/L	40		8260C	Total/NA
Methylene Chloride	82		18		ug/L	40		8260C	Total/NA

Client Sample ID: MW-7R — Lab Sample ID: 480-144453-4

No Detections.

Client Sample ID: MW-8R — Lab Sample ID: 480-144453-5

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
o-Chlorotoluene	85		5.0		ug/L	1		8260C	Total/NA

Client Sample ID: MW-9R — Lab Sample ID: 480-144453-6

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
1,1,1-Trichloroethane	150		5.0		ug/L	4		8260C	Total/NA
1,1-Dichloroethane	130		5.0		ug/L	4		8260C	Total/NA
o-Chlorotoluene	40		5.0		ug/L	4		8260C	Total/NA
Chloroethane	25		5.0		ug/L	4		8260C	Total/NA

Client Sample ID: TB — Lab Sample ID: 480-144453-7

No Detections.

This Detection Summary does not include radiochemical test results.

Client Sample ID: DUP
Date Collected: 10/30/18 11:30
Date Received: 10/31/18 09:35

Lab Sample ID: 480-144453-1
Matrix: Water

Method: 8260C - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	ND		5.0		ug/L			11/08/18 12:16	1
1,1,2,2-Tetrachloroethane	ND		5.0		ug/L			11/08/18 12:16	1
1,1,2-Trichloro-1,2,2-trifluoroethane	ND		5.0		ug/L			11/08/18 12:16	1
1,1,2-Trichloroethane	ND		5.0		ug/L			11/08/18 12:16	1
1,1-Dichloroethane	ND		5.0		ug/L			11/08/18 12:16	1
1,2,4-Trichlorobenzene	ND		5.0		ug/L			11/08/18 12:16	1
1,2-Dibromo-3-Chloropropane	ND		5.0		ug/L			11/08/18 12:16	1
1,2-Dibromoethane	ND		5.0		ug/L			11/08/18 12:16	1
1,2-Dichlorobenzene	ND		5.0		ug/L			11/08/18 12:16	1
1,2-Dichloroethane	ND		5.0		ug/L			11/08/18 12:16	1
1,2-Dichloropropane	ND		5.0		ug/L			11/08/18 12:16	1
1,3-Dichlorobenzene	ND		5.0		ug/L			11/08/18 12:16	1
1,4-Dichlorobenzene	ND		5.0		ug/L			11/08/18 12:16	1
2-Butanone (MEK)	ND		25		ug/L			11/08/18 12:16	1
o-Chlorotoluene	ND		5.0		ug/L			11/08/18 12:16	1
2-Hexanone	ND		25		ug/L			11/08/18 12:16	1
4-Methyl-2-pentanone (MIBK)	ND		25		ug/L			11/08/18 12:16	1
Acetone	ND		25		ug/L			11/08/18 12:16	1
Benzene	ND		5.0		ug/L			11/08/18 12:16	1
Bromoform	ND		5.0		ug/L			11/08/18 12:16	1
Bromomethane	ND		5.0		ug/L			11/08/18 12:16	1
Carbon disulfide	ND		5.0		ug/L			11/08/18 12:16	1
Carbon tetrachloride	ND		5.0		ug/L			11/08/18 12:16	1
Chlorobenzene	ND		5.0		ug/L			11/08/18 12:16	1
Chlorodibromomethane	ND		5.0		ug/L			11/08/18 12:16	1
Chloroethane	ND		5.0		ug/L			11/08/18 12:16	1
Chloroform	ND		5.0		ug/L			11/08/18 12:16	1
Chloromethane	ND		5.0		ug/L			11/08/18 12:16	1
cis-1,2-Dichloroethene	ND		5.0		ug/L			11/08/18 12:16	1
cis-1,3-Dichloropropene	ND		5.0		ug/L			11/08/18 12:16	1
Cyclohexane	ND		5.0		ug/L			11/08/18 12:16	1
Bromodichloromethane	ND		5.0		ug/L			11/08/18 12:16	1
Dichlorofluoromethane	ND		5.0		ug/L			11/08/18 12:16	1
Ethylbenzene	ND		5.0		ug/L			11/08/18 12:16	1
Isopropylbenzene	ND		5.0		ug/L			11/08/18 12:16	1
Methyl acetate	ND		5.0		ug/L			11/08/18 12:16	1
Methyl tert-butyl ether	ND		5.0		ug/L			11/08/18 12:16	1
Methylcyclohexane	ND		5.0		ug/L			11/08/18 12:16	1
Methylene Chloride	ND		5.0		ug/L			11/08/18 12:16	1
Styrene	ND		5.0		ug/L			11/08/18 12:16	1
Tetrachloroethene	ND		5.0		ug/L			11/08/18 12:16	1
Toluene	ND		5.0		ug/L			11/08/18 12:16	1
trans-1,2-Dichloroethene	ND		5.0		ug/L			11/08/18 12:16	1
trans-1,3-Dichloropropene	ND		5.0		ug/L			11/08/18 12:16	1
Trichloroethene	ND		5.0		ug/L			11/08/18 12:16	1
Trichlorofluoromethane	ND		5.0		ug/L			11/08/18 12:16	1
Vinyl chloride	ND		5.0		ug/L			11/08/18 12:16	1
Xylenes, Total	ND		15		ug/L			11/08/18 12:16	1

Client Sample ID: DUP
Date Collected: 10/30/18 11:30
Date Received: 10/31/18 09:35

Lab Sample ID: 480-144453-1
Matrix: Water

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	102		77 - 120		11/08/18 12:16	1
Toluene-d8 (Surr)	98		80 - 120		11/08/18 12:16	1
4-Bromofluorobenzene (Surr)	104		73 - 120		11/08/18 12:16	1
Dibromofluoromethane (Surr)	100		75 - 123		11/08/18 12:16	1

Client Sample ID: MW-13R
Date Collected: 10/30/18 14:15
Date Received: 10/31/18 09:35

Lab Sample ID: 480-144453-2
Matrix: Water

Method: 8260C - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	ND		33		ug/L			11/08/18 17:09	40
1,1,2,2-Tetrachloroethane	ND		8.4		ug/L			11/08/18 17:09	40
1,1,2-Trichloro-1,2,2-trifluoroethane	ND		12		ug/L			11/08/18 17:09	40
1,1,2-Trichloroethane	ND		9.2		ug/L			11/08/18 17:09	40
1,1-Dichloroethane	**27**		15		ug/L			11/08/18 17:09	40
1,2,4-Trichlorobenzene	ND		16		ug/L			11/08/18 17:09	40
1,2-Dibromo-3-Chloropropane	ND		16		ug/L			11/08/18 17:09	40
1,2-Dibromoethane	ND		29		ug/L			11/08/18 17:09	40
1,2-Dichlorobenzene	ND		32		ug/L			11/08/18 17:09	40
1,2-Dichloroethane	ND		8.4		ug/L			11/08/18 17:09	40
1,2-Dichloropropane	ND		29		ug/L			11/08/18 17:09	40
1,3-Dichlorobenzene	ND		31		ug/L			11/08/18 17:09	40
1,4-Dichlorobenzene	ND		34		ug/L			11/08/18 17:09	40
2-Butanone (MEK)	ND		53		ug/L			11/08/18 17:09	40
o-Chlorotoluene	**2300**		34		ug/L			11/08/18 17:09	40
2-Hexanone	ND		50		ug/L			11/08/18 17:09	40
4-Methyl-2-pentanone (MIBK)	ND		84		ug/L			11/08/18 17:09	40
Acetone	ND		120		ug/L			11/08/18 17:09	40
Benzene	ND		16		ug/L			11/08/18 17:09	40
Bromoform	ND		10		ug/L			11/08/18 17:09	40
Bromomethane	ND		28		ug/L			11/08/18 17:09	40
Carbon disulfide	ND		7.6		ug/L			11/08/18 17:09	40
Carbon tetrachloride	ND		11		ug/L			11/08/18 17:09	40
Chlorobenzene	ND		30		ug/L			11/08/18 17:09	40
Chlorodibromomethane	ND		13		ug/L			11/08/18 17:09	40
Chloroethane	**27**		13		ug/L			11/08/18 17:09	40
Chloroform	ND		14		ug/L			11/08/18 17:09	40
Chloromethane	ND		14		ug/L			11/08/18 17:09	40
cis-1,2-Dichloroethene	ND		32		ug/L			11/08/18 17:09	40
cis-1,3-Dichloropropene	ND		14		ug/L			11/08/18 17:09	40
Cyclohexane	ND		7.2		ug/L			11/08/18 17:09	40
Bromodichloromethane	ND		16		ug/L			11/08/18 17:09	40
Dichlorofluoromethane	ND		14		ug/L			11/08/18 17:09	40
Ethylbenzene	ND		30		ug/L			11/08/18 17:09	40
Isopropylbenzene	ND		32		ug/L			11/08/18 17:09	40
Methyl acetate	ND		52		ug/L			11/08/18 17:09	40
Methyl tert-butyl ether	ND		6.4		ug/L			11/08/18 17:09	40
Methylcyclohexane	ND		6.4		ug/L			11/08/18 17:09	40
Methylene Chloride	**82**		18		ug/L			11/08/18 17:09	40
Styrene	ND		29		ug/L			11/08/18 17:09	40
Tetrachloroethene	ND		14		ug/L			11/08/18 17:09	40
Toluene	ND		20		ug/L			11/08/18 17:09	40
trans-1,2-Dichloroethene	ND		36		ug/L			11/08/18 17:09	40
trans-1,3-Dichloropropene	ND		15		ug/L			11/08/18 17:09	40
Trichloroethene	ND		18		ug/L			11/08/18 17:09	40
Trichlorofluoromethane	ND		35		ug/L			11/08/18 17:09	40
Vinyl chloride	ND		36		ug/L			11/08/18 17:09	40
Xylenes, Total	ND		26		ug/L			11/08/18 17:09	40

Client: Waste Management
Project/Site: ChemTrol Site - Annual Groundwater

TestAmerica Job ID: 480-144453-1

Client Sample ID: MW-13R
Date Collected: 10/30/18 14:15
Date Received: 10/31/18 09:35

Lab Sample ID: 480-144453-2
Matrix: Water

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	95		77 - 120		11/08/18 17:09	40
Toluene-d8 (Surr)	96		80 - 120		11/08/18 17:09	40
4-Bromofluorobenzene (Surr)	83		73 - 120		11/08/18 17:09	40
Dibromofluoromethane (Surr)	85		75 - 123		11/08/18 17:09	40

Client Sample ID: MW-7R
Date Collected: 10/30/18 11:30
Date Received: 10/31/18 09:35

Lab Sample ID: 480-144453-4
Matrix: Water

Method: 8260C - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	ND		5.0		ug/L			11/08/18 17:37	1
1,1,2,2-Tetrachloroethane	ND		5.0		ug/L			11/08/18 17:37	1
1,1,2-Trichloro-1,2,2-trifluoroethane	ND		5.0		ug/L			11/08/18 17:37	1
1,1,2-Trichloroethane	ND		5.0		ug/L			11/08/18 17:37	1
1,1-Dichloroethane	ND		5.0		ug/L			11/08/18 17:37	1
1,2,4-Trichlorobenzene	ND		5.0		ug/L			11/08/18 17:37	1
1,2-Dibromo-3-Chloropropane	ND		5.0		ug/L			11/08/18 17:37	1
1,2-Dibromoethane	ND		5.0		ug/L			11/08/18 17:37	1
1,2-Dichlorobenzene	ND		5.0		ug/L			11/08/18 17:37	1
1,2-Dichloroethane	ND		5.0		ug/L			11/08/18 17:37	1
1,2-Dichloropropane	ND		5.0		ug/L			11/08/18 17:37	1
1,3-Dichlorobenzene	ND		5.0		ug/L			11/08/18 17:37	1
1,4-Dichlorobenzene	ND		5.0		ug/L			11/08/18 17:37	1
2-Butanone (MEK)	ND		25		ug/L			11/08/18 17:37	1
o-Chlorotoluene	ND		5.0		ug/L			11/08/18 17:37	1
2-Hexanone	ND		25		ug/L			11/08/18 17:37	1
4-Methyl-2-pentanone (MIBK)	ND		25		ug/L			11/08/18 17:37	1
Acetone	ND		25		ug/L			11/08/18 17:37	1
Benzene	ND		5.0		ug/L			11/08/18 17:37	1
Bromoform	ND		5.0		ug/L			11/08/18 17:37	1
Bromomethane	ND		5.0		ug/L			11/08/18 17:37	1
Carbon disulfide	ND		5.0		ug/L			11/08/18 17:37	1
Carbon tetrachloride	ND		5.0		ug/L			11/08/18 17:37	1
Chlorobenzene	ND		5.0		ug/L			11/08/18 17:37	1
Chlorodibromomethane	ND		5.0		ug/L			11/08/18 17:37	1
Chloroethane	ND		5.0		ug/L			11/08/18 17:37	1
Chloroform	ND		5.0		ug/L			11/08/18 17:37	1
Chloromethane	ND		5.0		ug/L			11/08/18 17:37	1
cis-1,2-Dichloroethene	ND		5.0		ug/L			11/08/18 17:37	1
cis-1,3-Dichloropropene	ND		5.0		ug/L			11/08/18 17:37	1
Cyclohexane	ND		5.0		ug/L			11/08/18 17:37	1
Bromodichloromethane	ND		5.0		ug/L			11/08/18 17:37	1
Dichlorofluoromethane	ND		5.0		ug/L			11/08/18 17:37	1
Ethylbenzene	ND		5.0		ug/L			11/08/18 17:37	1
Isopropylbenzene	ND		5.0		ug/L			11/08/18 17:37	1
Methyl acetate	ND		5.0		ug/L			11/08/18 17:37	1
Methyl tert-butyl ether	ND		5.0		ug/L			11/08/18 17:37	1
Methylcyclohexane	ND		5.0		ug/L			11/08/18 17:37	1
Methylene Chloride	ND		5.0		ug/L			11/08/18 17:37	1
Styrene	ND		5.0		ug/L			11/08/18 17:37	1
Tetrachloroethene	ND		5.0		ug/L			11/08/18 17:37	1
Toluene	ND		5.0		ug/L			11/08/18 17:37	1
trans-1,2-Dichloroethene	ND		5.0		ug/L			11/08/18 17:37	1
trans-1,3-Dichloropropene	ND		5.0		ug/L			11/08/18 17:37	1
Trichloroethene	ND		5.0		ug/L			11/08/18 17:37	1
Trichlorofluoromethane	ND		5.0		ug/L			11/08/18 17:37	1
Vinyl chloride	ND		5.0		ug/L			11/08/18 17:37	1
Xylenes, Total	ND		15		ug/L			11/08/18 17:37	1

Client Sample ID: MW-7R
Date Collected: 10/30/18 11:30
Date Received: 10/31/18 09:35

Lab Sample ID: 480-144453-4
Matrix: Water

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	97		77 - 120		11/08/18 17:37	1
Toluene-d8 (Surr)	95		80 - 120		11/08/18 17:37	1
4-Bromofluorobenzene (Surr)	81		73 - 120		11/08/18 17:37	1
Dibromofluoromethane (Surr)	87		75 - 123		11/08/18 17:37	1

Client Sample ID: MW-8R
Date Collected: 10/30/18 12:00
Date Received: 10/31/18 09:35

Lab Sample ID: 480-144453-5
Matrix: Water

Method: 8260C - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	ND		5.0		ug/L			11/08/18 18:05	1
1,1,2,2-Tetrachloroethane	ND		5.0		ug/L			11/08/18 18:05	1
1,1,2-Trichloro-1,2,2-trifluoroethane	ND		5.0		ug/L			11/08/18 18:05	1
1,1,2-Trichloroethane	ND		5.0		ug/L			11/08/18 18:05	1
1,1-Dichloroethane	ND		5.0		ug/L			11/08/18 18:05	1
1,2,4-Trichlorobenzene	ND		5.0		ug/L			11/08/18 18:05	1
1,2-Dibromo-3-Chloropropane	ND		5.0		ug/L			11/08/18 18:05	1
1,2-Dibromoethane	ND		5.0		ug/L			11/08/18 18:05	1
1,2-Dichlorobenzene	ND		5.0		ug/L			11/08/18 18:05	1
1,2-Dichloroethane	ND		5.0		ug/L			11/08/18 18:05	1
1,2-Dichloropropane	ND		5.0		ug/L			11/08/18 18:05	1
1,3-Dichlorobenzene	ND		5.0		ug/L			11/08/18 18:05	1
1,4-Dichlorobenzene	ND		5.0		ug/L			11/08/18 18:05	1
2-Butanone (MEK)	ND		25		ug/L			11/08/18 18:05	1
o-Chlorotoluene	**85**		5.0		ug/L			11/08/18 18:05	1
2-Hexanone	ND		25		ug/L			11/08/18 18:05	1
4-Methyl-2-pentanone (MIBK)	ND		25		ug/L			11/08/18 18:05	1
Acetone	ND		25		ug/L			11/08/18 18:05	1
Benzene	ND		5.0		ug/L			11/08/18 18:05	1
Bromoform	ND		5.0		ug/L			11/08/18 18:05	1
Bromomethane	ND		5.0		ug/L			11/08/18 18:05	1
Carbon disulfide	ND		5.0		ug/L			11/08/18 18:05	1
Carbon tetrachloride	ND		5.0		ug/L			11/08/18 18:05	1
Chlorobenzene	ND		5.0		ug/L			11/08/18 18:05	1
Chlorodibromomethane	ND		5.0		ug/L			11/08/18 18:05	1
Chloroethane	ND		5.0		ug/L			11/08/18 18:05	1
Chloroform	ND		5.0		ug/L			11/08/18 18:05	1
Chloromethane	ND		5.0		ug/L			11/08/18 18:05	1
cis-1,2-Dichloroethene	ND		5.0		ug/L			11/08/18 18:05	1
cis-1,3-Dichloropropene	ND		5.0		ug/L			11/08/18 18:05	1
Cyclohexane	ND		5.0		ug/L			11/08/18 18:05	1
Bromodichloromethane	ND		5.0		ug/L			11/08/18 18:05	1
Dichlorofluoromethane	ND		5.0		ug/L			11/08/18 18:05	1
Ethylbenzene	ND		5.0		ug/L			11/08/18 18:05	1
Isopropylbenzene	ND		5.0		ug/L			11/08/18 18:05	1
Methyl acetate	ND		5.0		ug/L			11/08/18 18:05	1
Methyl tert-butyl ether	ND		5.0		ug/L			11/08/18 18:05	1
Methylcyclohexane	ND		5.0		ug/L			11/08/18 18:05	1
Methylene Chloride	ND		5.0		ug/L			11/08/18 18:05	1
Styrene	ND		5.0		ug/L			11/08/18 18:05	1
Tetrachloroethene	ND		5.0		ug/L			11/08/18 18:05	1
Toluene	ND		5.0		ug/L			11/08/18 18:05	1
trans-1,2-Dichloroethene	ND		5.0		ug/L			11/08/18 18:05	1
trans-1,3-Dichloropropene	ND		5.0		ug/L			11/08/18 18:05	1
Trichloroethene	ND		5.0		ug/L			11/08/18 18:05	1
Trichlorofluoromethane	ND		5.0		ug/L			11/08/18 18:05	1
Vinyl chloride	ND		5.0		ug/L			11/08/18 18:05	1
Xylenes, Total	ND		15		ug/L			11/08/18 18:05	1

Client Sample ID: MW-8R
Date Collected: 10/30/18 12:00
Date Received: 10/31/18 09:35

Lab Sample ID: 480-144453-5
Matrix: Water

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	101		77 - 120		11/08/18 18:05	1
Toluene-d8 (Surr)	97		80 - 120		11/08/18 18:05	1
4-Bromofluorobenzene (Surr)	85		73 - 120		11/08/18 18:05	1
Dibromofluoromethane (Surr)	87		75 - 123		11/08/18 18:05	1

Client Sample ID: MW-9R
Date Collected: 10/30/18 12:12
Date Received: 10/31/18 09:35

Lab Sample ID: 480-144453-6
Matrix: Water

Method: 8260C - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	**150**		5.0		ug/L			11/09/18 00:38	4
1,1,2,2-Tetrachloroethane	ND		5.0		ug/L			11/09/18 00:38	4
1,1,2-Trichloro-1,2,2-trifluoroethane	ND		5.0		ug/L			11/09/18 00:38	4
1,1,2-Trichloroethane	ND		5.0		ug/L			11/09/18 00:38	4
1,1-Dichloroethane	**130**		5.0		ug/L			11/09/18 00:38	4
1,2,4-Trichlorobenzene	ND		5.0		ug/L			11/09/18 00:38	4
1,2-Dibromo-3-Chloropropane	ND		5.0		ug/L			11/09/18 00:38	4
1,2-Dibromoethane	ND		5.0		ug/L			11/09/18 00:38	4
1,2-Dichlorobenzene	ND		5.0		ug/L			11/09/18 00:38	4
1,2-Dichloroethane	ND		5.0		ug/L			11/09/18 00:38	4
1,2-Dichloropropane	ND		5.0		ug/L			11/09/18 00:38	4
1,3-Dichlorobenzene	ND		5.0		ug/L			11/09/18 00:38	4
1,4-Dichlorobenzene	ND		5.0		ug/L			11/09/18 00:38	4
2-Butanone (MEK)	ND		25		ug/L			11/09/18 00:38	4
o-Chlorotoluene	**40**		5.0		ug/L			11/09/18 00:38	4
2-Hexanone	ND		25		ug/L			11/09/18 00:38	4
4-Methyl-2-pentanone (MIBK)	ND		25		ug/L			11/09/18 00:38	4
Acetone	ND		25		ug/L			11/09/18 00:38	4
Benzene	ND		5.0		ug/L			11/09/18 00:38	4
Bromoform	ND		5.0		ug/L			11/09/18 00:38	4
Bromomethane	ND		5.0		ug/L			11/09/18 00:38	4
Carbon disulfide	ND		5.0		ug/L			11/09/18 00:38	4
Carbon tetrachloride	ND		5.0		ug/L			11/09/18 00:38	4
Chlorobenzene	ND		5.0		ug/L			11/09/18 00:38	4
Chlorodibromomethane	ND		5.0		ug/L			11/09/18 00:38	4
Chloroethane	**25**		5.0		ug/L			11/09/18 00:38	4
Chloroform	ND		5.0		ug/L			11/09/18 00:38	4
Chloromethane	ND		5.0		ug/L			11/09/18 00:38	4
cis-1,2-Dichloroethene	ND		5.0		ug/L			11/09/18 00:38	4
cis-1,3-Dichloropropene	ND		5.0		ug/L			11/09/18 00:38	4
Cyclohexane	ND		5.0		ug/L			11/09/18 00:38	4
Bromodichloromethane	ND		5.0		ug/L			11/09/18 00:38	4
Dichlorofluoromethane	ND		5.0		ug/L			11/09/18 00:38	4
Ethylbenzene	ND		5.0		ug/L			11/09/18 00:38	4
Isopropylbenzene	ND		5.0		ug/L			11/09/18 00:38	4
Methyl acetate	ND		5.2		ug/L			11/09/18 00:38	4
Methyl tert-butyl ether	ND		5.0		ug/L			11/09/18 00:38	4
Methylcyclohexane	ND		5.0		ug/L			11/09/18 00:38	4
Methylene Chloride	ND		5.0		ug/L			11/09/18 00:38	4
Styrene	ND		5.0		ug/L			11/09/18 00:38	4
Tetrachloroethene	ND		5.0		ug/L			11/09/18 00:38	4
Toluene	ND		5.0		ug/L			11/09/18 00:38	4
trans-1,2-Dichloroethene	ND		5.0		ug/L			11/09/18 00:38	4
trans-1,3-Dichloropropene	ND		5.0		ug/L			11/09/18 00:38	4
Trichloroethene	ND		5.0		ug/L			11/09/18 00:38	4
Trichlorofluoromethane	ND		5.0		ug/L			11/09/18 00:38	4
Vinyl chloride	ND		5.0		ug/L			11/09/18 00:38	4
Xylenes, Total	ND		15		ug/L			11/09/18 00:38	4

Client Sample ID: MW-9R
Date Collected: 10/30/18 12:12
Date Received: 10/31/18 09:35

Lab Sample ID: 480-144453-6
Matrix: Water

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	97		77 - 120		11/09/18 00:38	4
Toluene-d8 (Surr)	97		80 - 120		11/09/18 00:38	4
4-Bromofluorobenzene (Surr)	85		73 - 120		11/09/18 00:38	4
Dibromofluoromethane (Surr)	86		75 - 123		11/09/18 00:38	4

Client: Waste Management
Project/Site: ChemTrol Site - Annual Groundwater

TestAmerica Job ID: 480-144453-1

Client Sample ID: TB
Date Collected: 10/30/18 09:00
Date Received: 10/31/18 09:35

Lab Sample ID: 480-144453-7
Matrix: Water

Method: 8260C - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	ND		5.0		ug/L			11/08/18 19:00	1
1,1,2,2-Tetrachloroethane	ND		5.0		ug/L			11/08/18 19:00	1
1,1,2-Trichloro-1,2,2-trifluoroethane	ND		5.0		ug/L			11/08/18 19:00	1
1,1,2-Trichloroethane	ND		5.0		ug/L			11/08/18 19:00	1
1,1-Dichloroethane	ND		5.0		ug/L			11/08/18 19:00	1
1,2,4-Trichlorobenzene	ND		5.0		ug/L			11/08/18 19:00	1
1,2-Dibromo-3-Chloropropane	ND		5.0		ug/L			11/08/18 19:00	1
1,2-Dibromoethane	ND		5.0		ug/L			11/08/18 19:00	1
1,2-Dichlorobenzene	ND		5.0		ug/L			11/08/18 19:00	1
1,2-Dichloroethane	ND		5.0		ug/L			11/08/18 19:00	1
1,2-Dichloropropane	ND		5.0		ug/L			11/08/18 19:00	1
1,3-Dichlorobenzene	ND		5.0		ug/L			11/08/18 19:00	1
1,4-Dichlorobenzene	ND		5.0		ug/L			11/08/18 19:00	1
2-Butanone (MEK)	ND		25		ug/L			11/08/18 19:00	1
o-Chlorotoluene	ND		5.0		ug/L			11/08/18 19:00	1
2-Hexanone	ND		25		ug/L			11/08/18 19:00	1
4-Methyl-2-pentanone (MIBK)	ND		25		ug/L			11/08/18 19:00	1
Acetone	ND		25		ug/L			11/08/18 19:00	1
Benzene	ND		5.0		ug/L			11/08/18 19:00	1
Bromoform	ND		5.0		ug/L			11/08/18 19:00	1
Bromomethane	ND		5.0		ug/L			11/08/18 19:00	1
Carbon disulfide	ND		5.0		ug/L			11/08/18 19:00	1
Carbon tetrachloride	ND		5.0		ug/L			11/08/18 19:00	1
Chlorobenzene	ND		5.0		ug/L			11/08/18 19:00	1
Chlorodibromomethane	ND		5.0		ug/L			11/08/18 19:00	1
Chloroethane	ND		5.0		ug/L			11/08/18 19:00	1
Chloroform	ND		5.0		ug/L			11/08/18 19:00	1
Chloromethane	ND		5.0		ug/L			11/08/18 19:00	1
cis-1,2-Dichloroethene	ND		5.0		ug/L			11/08/18 19:00	1
cis-1,3-Dichloropropene	ND		5.0		ug/L			11/08/18 19:00	1
Cyclohexane	ND		5.0		ug/L			11/08/18 19:00	1
Bromodichloromethane	ND		5.0		ug/L			11/08/18 19:00	1
Dichlorofluoromethane	ND		5.0		ug/L			11/08/18 19:00	1
Ethylbenzene	ND		5.0		ug/L			11/08/18 19:00	1
Isopropylbenzene	ND		5.0		ug/L			11/08/18 19:00	1
Methyl acetate	ND		5.0		ug/L			11/08/18 19:00	1
Methyl tert-butyl ether	ND		5.0		ug/L			11/08/18 19:00	1
Methylcyclohexane	ND		5.0		ug/L			11/08/18 19:00	1
Methylene Chloride	ND		5.0		ug/L			11/08/18 19:00	1
Styrene	ND		5.0		ug/L			11/08/18 19:00	1
Tetrachloroethene	ND		5.0		ug/L			11/08/18 19:00	1
Toluene	ND		5.0		ug/L			11/08/18 19:00	1
trans-1,2-Dichloroethene	ND		5.0		ug/L			11/08/18 19:00	1
trans-1,3-Dichloropropene	ND		5.0		ug/L			11/08/18 19:00	1
Trichloroethene	ND		5.0		ug/L			11/08/18 19:00	1
Trichlorofluoromethane	ND		5.0		ug/L			11/08/18 19:00	1
Vinyl chloride	ND		5.0		ug/L			11/08/18 19:00	1
Xylenes, Total	ND		15		ug/L			11/08/18 19:00	1

Client Sample Results

Client: Waste Management
Project/Site: ChemTrol Site - Annual Groundwater

TestAmerica Job ID: 480-144453-1

Client Sample ID: TB
Date Collected: 10/30/18 09:00
Date Received: 10/31/18 09:35

Lab Sample ID: 480-144453-7
Matrix: Water

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	97		77 - 120		11/08/18 19:00	1
Toluene-d8 (Surr)	98		80 - 120		11/08/18 19:00	1
4-Bromofluorobenzene (Surr)	82		73 - 120		11/08/18 19:00	1
Dibromofluoromethane (Surr)	89		75 - 123		11/08/18 19:00	1

Method: 8260C - Volatile Organic Compounds by GC/MS

Lab Sample ID: MB 480-444315/8
Matrix: Water
Analysis Batch: 444315

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	ND		5.0		ug/L			11/08/18 11:35	1
1,1,2,2-Tetrachloroethane	ND		5.0		ug/L			11/08/18 11:35	1
1,1,2-Trichloro-1,2,2-trifluoroethane	ND		5.0		ug/L			11/08/18 11:35	1
1,1,2-Trichloroethane	ND		5.0		ug/L			11/08/18 11:35	1
1,1-Dichloroethane	ND		5.0		ug/L			11/08/18 11:35	1
1,2,4-Trichlorobenzene	ND		5.0		ug/L			11/08/18 11:35	1
1,2-Dibromo-3-Chloropropane	ND		5.0		ug/L			11/08/18 11:35	1
1,2-Dibromoethane	ND		5.0		ug/L			11/08/18 11:35	1
1,2-Dichlorobenzene	ND		5.0		ug/L			11/08/18 11:35	1
1,2-Dichloroethane	ND		5.0		ug/L			11/08/18 11:35	1
1,2-Dichloropropane	ND		5.0		ug/L			11/08/18 11:35	1
1,3-Dichlorobenzene	ND		5.0		ug/L			11/08/18 11:35	1
1,4-Dichlorobenzene	ND		5.0		ug/L			11/08/18 11:35	1
2-Butanone (MEK)	ND		25		ug/L			11/08/18 11:35	1
o-Chlorotoluene	ND		5.0		ug/L			11/08/18 11:35	1
2-Hexanone	ND		25		ug/L			11/08/18 11:35	1
4-Methyl-2-pentanone (MIBK)	ND		25		ug/L			11/08/18 11:35	1
Acetone	ND		25		ug/L			11/08/18 11:35	1
Benzene	ND		5.0		ug/L			11/08/18 11:35	1
Bromoform	ND		5.0		ug/L			11/08/18 11:35	1
Bromomethane	ND		5.0		ug/L			11/08/18 11:35	1
Carbon disulfide	ND		5.0		ug/L			11/08/18 11:35	1
Carbon tetrachloride	ND		5.0		ug/L			11/08/18 11:35	1
Chlorobenzene	ND		5.0		ug/L			11/08/18 11:35	1
Chlorodibromomethane	ND		5.0		ug/L			11/08/18 11:35	1
Chloroethane	ND		5.0		ug/L			11/08/18 11:35	1
Chloroform	ND		5.0		ug/L			11/08/18 11:35	1
Chloromethane	ND		5.0		ug/L			11/08/18 11:35	1
cis-1,2-Dichloroethene	ND		5.0		ug/L			11/08/18 11:35	1
cis-1,3-Dichloropropene	ND		5.0		ug/L			11/08/18 11:35	1
Cyclohexane	ND		5.0		ug/L			11/08/18 11:35	1
Bromodichloromethane	ND		5.0		ug/L			11/08/18 11:35	1
Dichlorofluoromethane	ND		5.0		ug/L			11/08/18 11:35	1
Ethylbenzene	ND		5.0		ug/L			11/08/18 11:35	1
Isopropylbenzene	ND		5.0		ug/L			11/08/18 11:35	1
Methyl acetate	ND		5.0		ug/L			11/08/18 11:35	1
Methyl tert-butyl ether	ND		5.0		ug/L			11/08/18 11:35	1
Methylcyclohexane	ND		5.0		ug/L			11/08/18 11:35	1
Methylene Chloride	ND		5.0		ug/L			11/08/18 11:35	1
Styrene	ND		5.0		ug/L			11/08/18 11:35	1
Tetrachloroethene	ND		5.0		ug/L			11/08/18 11:35	1
Toluene	ND		5.0		ug/L			11/08/18 11:35	1
trans-1,2-Dichloroethene	ND		5.0		ug/L			11/08/18 11:35	1
trans-1,3-Dichloropropene	ND		5.0		ug/L			11/08/18 11:35	1
Trichloroethene	ND		5.0		ug/L			11/08/18 11:35	1
Trichlorofluoromethane	ND		5.0		ug/L			11/08/18 11:35	1
Vinyl chloride	ND		5.0		ug/L			11/08/18 11:35	1
Xylenes, Total	ND		15		ug/L			11/08/18 11:35	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	*102*		*77 - 120*		*11/08/18 11:35*	*1*
Toluene-d8 (Surr)	*98*		*80 - 120*		*11/08/18 11:35*	*1*
4-Bromofluorobenzene (Surr)	*105*		*73 - 120*		*11/08/18 11:35*	*1*
Dibromofluoromethane (Surr)	*103*		*75 - 123*		*11/08/18 11:35*	*1*

Lab Sample ID: LCS 480-444315/10
Matrix: Water
Analysis Batch: 444315

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
1,1,1-Trichloroethane	25.0	26.9		ug/L		108	73 - 126
1,1,2,2-Tetrachloroethane	25.0	23.1		ug/L		92	76 - 120
1,1,2-Trichloro-1,2,2-trifluoroethane	25.0	28.3		ug/L		113	61 - 148
1,1,2-Trichloroethane	25.0	25.4		ug/L		102	76 - 122
1,1-Dichloroethane	25.0	25.8		ug/L		103	77 - 120
1,2,4-Trichlorobenzene	25.0	24.7		ug/L		99	79 - 122
1,2-Dibromo-3-Chloropropane	25.0	21.2		ug/L		85	56 - 134
1,2-Dibromoethane	25.0	25.6		ug/L		102	77 - 120
1,2-Dichlorobenzene	25.0	25.4		ug/L		101	80 - 124
1,2-Dichloroethane	25.0	24.7		ug/L		99	75 - 120
1,2-Dichloropropane	25.0	26.8		ug/L		107	76 - 120
1,3-Dichlorobenzene	25.0	25.7		ug/L		103	77 - 120
1,4-Dichlorobenzene	25.0	26.2		ug/L		105	80 - 120
2-Butanone (MEK)	125	144		ug/L		115	57 - 140
o-Chlorotoluene	25.0	25.8		ug/L		103	76 - 121
2-Hexanone	125	142		ug/L		114	65 - 127
4-Methyl-2-pentanone (MIBK)	125	126		ug/L		101	71 - 125
Acetone	125	149		ug/L		119	56 - 142
Benzene	25.0	27.0		ug/L		108	71 - 124
Bromoform	25.0	23.9		ug/L		96	61 - 132
Bromomethane	25.0	22.3		ug/L		89	55 - 144
Carbon disulfide	25.0	26.4		ug/L		106	59 - 134
Carbon tetrachloride	25.0	27.4		ug/L		110	72 - 134
Chlorobenzene	25.0	26.0		ug/L		104	80 - 120
Chlorodibromomethane	25.0	25.0		ug/L		100	75 - 125
Chloroethane	25.0	22.7		ug/L		91	69 - 136
Chloroform	25.0	25.2		ug/L		101	73 - 127
Chloromethane	25.0	22.8		ug/L		91	68 - 124
cis-1,2-Dichloroethene	25.0	25.2		ug/L		101	74 - 124
cis-1,3-Dichloropropene	25.0	29.3		ug/L		117	74 - 124
Cyclohexane	25.0	29.1		ug/L		116	59 - 135
Bromodichloromethane	25.0	27.4		ug/L		110	80 - 122
Dichlorofluoromethane	25.0	23.0		ug/L		92	76 - 127
Ethylbenzene	25.0	26.3		ug/L		105	77 - 123
Isopropylbenzene	25.0	27.2		ug/L		109	77 - 122
Methyl acetate	50.0	45.6		ug/L		91	74 - 133
Methyl tert-butyl ether	25.0	25.0		ug/L		100	77 - 120
Methylcyclohexane	25.0	29.4		ug/L		118	68 - 134
Methylene Chloride	25.0	23.5		ug/L		94	75 - 124
Styrene	25.0	27.4		ug/L		110	80 - 120
Tetrachloroethene	25.0	28.4		ug/L		114	74 - 122
Toluene	25.0	25.3		ug/L		101	80 - 122
trans-1,2-Dichloroethene	25.0	24.6		ug/L		99	73 - 127

Method: 8260C - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: LCS 480-444315/10
Matrix: Water
Analysis Batch: 444315

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
trans-1,3-Dichloropropene	25.0	27.3		ug/L		109	80 - 120
Trichloroethene	25.0	27.0		ug/L		108	74 - 123
Trichlorofluoromethane	25.0	27.0		ug/L		108	62 - 150
Vinyl chloride	25.0	26.1		ug/L		104	65 - 133

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
1,2-Dichloroethane-d4 (Surr)	*98*		*77 - 120*
Toluene-d8 (Surr)	*98*		*80 - 120*
4-Bromofluorobenzene (Surr)	*102*		*73 - 120*
Dibromofluoromethane (Surr)	*97*		*75 - 123*

Lab Sample ID: MB 480-444316/7
Matrix: Water
Analysis Batch: 444316

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	ND		5.0		ug/L			11/08/18 11:26	1
1,1,2,2-Tetrachloroethane	ND		5.0		ug/L			11/08/18 11:26	1
1,1,2-Trichloro-1,2,2-trifluoroethane	ND		5.0		ug/L			11/08/18 11:26	1
1,1,2-Trichloroethane	ND		5.0		ug/L			11/08/18 11:26	1
1,1-Dichloroethane	ND		5.0		ug/L			11/08/18 11:26	1
1,2,4-Trichlorobenzene	ND		5.0		ug/L			11/08/18 11:26	1
1,2-Dibromo-3-Chloropropane	ND		5.0		ug/L			11/08/18 11:26	1
1,2-Dibromoethane	ND		5.0		ug/L			11/08/18 11:26	1
1,2-Dichlorobenzene	ND		5.0		ug/L			11/08/18 11:26	1
1,2-Dichloroethane	ND		5.0		ug/L			11/08/18 11:26	1
1,2-Dichloropropane	ND		5.0		ug/L			11/08/18 11:26	1
1,3-Dichlorobenzene	ND		5.0		ug/L			11/08/18 11:26	1
1,4-Dichlorobenzene	ND		5.0		ug/L			11/08/18 11:26	1
2-Butanone (MEK)	ND		25		ug/L			11/08/18 11:26	1
o-Chlorotoluene	ND		5.0		ug/L			11/08/18 11:26	1
2-Hexanone	ND		25		ug/L			11/08/18 11:26	1
4-Methyl-2-pentanone (MIBK)	ND		25		ug/L			11/08/18 11:26	1
Acetone	ND		25		ug/L			11/08/18 11:26	1
Benzene	ND		5.0		ug/L			11/08/18 11:26	1
Bromoform	ND		5.0		ug/L			11/08/18 11:26	1
Bromomethane	ND		5.0		ug/L			11/08/18 11:26	1
Carbon disulfide	ND		5.0		ug/L			11/08/18 11:26	1
Carbon tetrachloride	ND		5.0		ug/L			11/08/18 11:26	1
Chlorobenzene	ND		5.0		ug/L			11/08/18 11:26	1
Chlorodibromomethane	ND		5.0		ug/L			11/08/18 11:26	1
Chloroethane	ND		5.0		ug/L			11/08/18 11:26	1
Chloroform	ND		5.0		ug/L			11/08/18 11:26	1
Chloromethane	ND		5.0		ug/L			11/08/18 11:26	1
cis-1,2-Dichloroethene	ND		5.0		ug/L			11/08/18 11:26	1
cis-1,3-Dichloropropene	ND		5.0		ug/L			11/08/18 11:26	1
Cyclohexane	ND		5.0		ug/L			11/08/18 11:26	1
Bromodichloromethane	ND		5.0		ug/L			11/08/18 11:26	1

Method: 8260C - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: MB 480-444316/7
Matrix: Water
Analysis Batch: 444316

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dichlorofluoromethane	ND		5.0		ug/L			11/08/18 11:26	1
Ethylbenzene	ND		5.0		ug/L			11/08/18 11:26	1
Isopropylbenzene	ND		5.0		ug/L			11/08/18 11:26	1
Methyl acetate	ND		5.0		ug/L			11/08/18 11:26	1
Methyl tert-butyl ether	ND		5.0		ug/L			11/08/18 11:26	1
Methylcyclohexane	ND		5.0		ug/L			11/08/18 11:26	1
Methylene Chloride	ND		5.0		ug/L			11/08/18 11:26	1
Styrene	ND		5.0		ug/L			11/08/18 11:26	1
Tetrachloroethene	ND		5.0		ug/L			11/08/18 11:26	1
Toluene	ND		5.0		ug/L			11/08/18 11:26	1
trans-1,2-Dichloroethene	ND		5.0		ug/L			11/08/18 11:26	1
trans-1,3-Dichloropropene	ND		5.0		ug/L			11/08/18 11:26	1
Trichloroethene	ND		5.0		ug/L			11/08/18 11:26	1
Trichlorofluoromethane	ND		5.0		ug/L			11/08/18 11:26	1
Vinyl chloride	ND		5.0		ug/L			11/08/18 11:26	1
Xylenes, Total	ND		15		ug/L			11/08/18 11:26	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*96*		*77 - 120*		*11/08/18 11:26*	*1*
Toluene-d8 (Surr)	*96*		*80 - 120*		*11/08/18 11:26*	*1*
4-Bromofluorobenzene (Surr)	*81*		*73 - 120*		*11/08/18 11:26*	*1*
Dibromofluoromethane (Surr)	*84*		*75 - 123*		*11/08/18 11:26*	*1*

Lab Sample ID: LCS 480-444316/5
Matrix: Water
Analysis Batch: 444316

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
1,1,1-Trichloroethane	25.0	25.2		ug/L		101	73 - 126
1,1,2,2-Tetrachloroethane	25.0	27.7		ug/L		111	76 - 120
1,1,2-Trichloro-1,2,2-trifluoroethane	25.0	26.6		ug/L		106	61 - 148
1,1,2-Trichloroethane	25.0	24.6		ug/L		98	76 - 122
1,1-Dichloroethane	25.0	28.6		ug/L		114	77 - 120
1,2,4-Trichlorobenzene	25.0	24.8		ug/L		99	79 - 122
1,2-Dibromo-3-Chloropropane	25.0	25.6		ug/L		103	56 - 134
1,2-Dibromoethane	25.0	22.5		ug/L		90	77 - 120
1,2-Dichlorobenzene	25.0	25.9		ug/L		104	80 - 124
1,2-Dichloroethane	25.0	23.7		ug/L		95	75 - 120
1,2-Dichloropropane	25.0	28.7		ug/L		115	76 - 120
1,3-Dichlorobenzene	25.0	25.6		ug/L		102	77 - 120
1,4-Dichlorobenzene	25.0	25.5		ug/L		102	80 - 120
2-Butanone (MEK)	125	145		ug/L		116	57 - 140
o-Chlorotoluene	25.0	27.4		ug/L		110	76 - 121
2-Hexanone	125	150		ug/L		120	65 - 127
4-Methyl-2-pentanone (MIBK)	125	151		ug/L		121	71 - 125
Acetone	125	146		ug/L		117	56 - 142
Benzene	25.0	27.2		ug/L		109	71 - 124

Method: 8260C - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: LCS 480-444316/5
Matrix: Water
Analysis Batch: 444316

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Bromoform	25.0	21.1		ug/L		84	61 - 132
Bromomethane	25.0	22.5		ug/L		90	55 - 144
Carbon disulfide	25.0	27.9		ug/L		112	59 - 134
Carbon tetrachloride	25.0	23.4		ug/L		93	72 - 134
Chlorobenzene	25.0	24.3		ug/L		97	80 - 120
Chlorodibromomethane	25.0	22.7		ug/L		91	75 - 125
Chloroethane	25.0	27.5		ug/L		110	69 - 136
Chloroform	25.0	24.2		ug/L		97	73 - 127
Chloromethane	25.0	25.1		ug/L		101	68 - 124
cis-1,2-Dichloroethene	25.0	25.4		ug/L		102	74 - 124
cis-1,3-Dichloropropene	25.0	27.1		ug/L		108	74 - 124
Cyclohexane	25.0	33.6		ug/L		134	59 - 135
Bromodichloromethane	25.0	25.0		ug/L		100	80 - 122
Dichlorofluoromethane	25.0	24.2		ug/L		97	76 - 127
Ethylbenzene	25.0	27.8		ug/L		111	77 - 123
Isopropylbenzene	25.0	29.0		ug/L		116	77 - 122
Methyl acetate	50.0	57.8		ug/L		116	74 - 133
Methyl tert-butyl ether	25.0	23.9		ug/L		96	77 - 120
Methylcyclohexane	25.0	28.4		ug/L		114	68 - 134
Methylene Chloride	25.0	23.6		ug/L		94	75 - 124
Styrene	25.0	26.2		ug/L		105	80 - 120
Tetrachloroethene	25.0	23.7		ug/L		95	74 - 122
Toluene	25.0	27.0		ug/L		108	80 - 122
trans-1,2-Dichloroethene	25.0	25.4		ug/L		102	73 - 127
trans-1,3-Dichloropropene	25.0	26.3		ug/L		105	80 - 120
Trichloroethene	25.0	26.1		ug/L		104	74 - 123
Trichlorofluoromethane	25.0	21.2		ug/L		85	62 - 150
Vinyl chloride	25.0	23.0		ug/L		92	65 - 133

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
1,2-Dichloroethane-d4 (Surr)	*94*		*77 - 120*
Toluene-d8 (Surr)	*97*		*80 - 120*
4-Bromofluorobenzene (Surr)	*85*		*73 - 120*
Dibromofluoromethane (Surr)	*84*		*75 - 123*

Lab Sample ID: MB 480-444527/6
Matrix: Water
Analysis Batch: 444527

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	ND		5.0		ug/L			11/08/18 23:03	1
1,1,2,2-Tetrachloroethane	ND		5.0		ug/L			11/08/18 23:03	1
1,1,2-Trichloro-1,2,2-trifluoroethane	ND		5.0		ug/L			11/08/18 23:03	1
1,1,2-Trichloroethane	ND		5.0		ug/L			11/08/18 23:03	1
1,1-Dichloroethane	ND		5.0		ug/L			11/08/18 23:03	1
1,2,4-Trichlorobenzene	ND		5.0		ug/L			11/08/18 23:03	1
1,2-Dibromo-3-Chloropropane	ND		5.0		ug/L			11/08/18 23:03	1
1,2-Dibromoethane	ND		5.0		ug/L			11/08/18 23:03	1

Method: 8260C - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: MB 480-444527/6
Matrix: Water
Analysis Batch: 444527

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2-Dichlorobenzene	ND		5.0		ug/L			11/08/18 23:03	1
1,2-Dichloroethane	ND		5.0		ug/L			11/08/18 23:03	1
1,2-Dichloropropane	ND		5.0		ug/L			11/08/18 23:03	1
1,3-Dichlorobenzene	ND		5.0		ug/L			11/08/18 23:03	1
1,4-Dichlorobenzene	ND		5.0		ug/L			11/08/18 23:03	1
2-Butanone (MEK)	ND		25		ug/L			11/08/18 23:03	1
o-Chlorotoluene	ND		5.0		ug/L			11/08/18 23:03	1
2-Hexanone	ND		25		ug/L			11/08/18 23:03	1
4-Methyl-2-pentanone (MIBK)	ND		25		ug/L			11/08/18 23:03	1
Acetone	ND		25		ug/L			11/08/18 23:03	1
Benzene	ND		5.0		ug/L			11/08/18 23:03	1
Bromoform	ND		5.0		ug/L			11/08/18 23:03	1
Bromomethane	ND		5.0		ug/L			11/08/18 23:03	1
Carbon disulfide	ND		5.0		ug/L			11/08/18 23:03	1
Carbon tetrachloride	ND		5.0		ug/L			11/08/18 23:03	1
Chlorobenzene	ND		5.0		ug/L			11/08/18 23:03	1
Chlorodibromomethane	ND		5.0		ug/L			11/08/18 23:03	1
Chloroethane	ND		5.0		ug/L			11/08/18 23:03	1
Chloroform	ND		5.0		ug/L			11/08/18 23:03	1
Chloromethane	ND		5.0		ug/L			11/08/18 23:03	1
cis-1,2-Dichloroethene	ND		5.0		ug/L			11/08/18 23:03	1
cis-1,3-Dichloropropene	ND		5.0		ug/L			11/08/18 23:03	1
Cyclohexane	ND		5.0		ug/L			11/08/18 23:03	1
Bromodichloromethane	ND		5.0		ug/L			11/08/18 23:03	1
Dichlorofluoromethane	ND		5.0		ug/L			11/08/18 23:03	1
Ethylbenzene	ND		5.0		ug/L			11/08/18 23:03	1
Isopropylbenzene	ND		5.0		ug/L			11/08/18 23:03	1
Methyl acetate	ND		5.0		ug/L			11/08/18 23:03	1
Methyl tert-butyl ether	ND		5.0		ug/L			11/08/18 23:03	1
Methylcyclohexane	ND		5.0		ug/L			11/08/18 23:03	1
Methylene Chloride	ND		5.0		ug/L			11/08/18 23:03	1
Styrene	ND		5.0		ug/L			11/08/18 23:03	1
Tetrachloroethene	ND		5.0		ug/L			11/08/18 23:03	1
Toluene	ND		5.0		ug/L			11/08/18 23:03	1
trans-1,2-Dichloroethene	ND		5.0		ug/L			11/08/18 23:03	1
trans-1,3-Dichloropropene	ND		5.0		ug/L			11/08/18 23:03	1
Trichloroethene	ND		5.0		ug/L			11/08/18 23:03	1
Trichlorofluoromethane	ND		5.0		ug/L			11/08/18 23:03	1
Vinyl chloride	ND		5.0		ug/L			11/08/18 23:03	1
Xylenes, Total	ND		15		ug/L			11/08/18 23:03	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*97*		*77 - 120*		*11/08/18 23:03*	*1*
Toluene-d8 (Surr)	*95*		*80 - 120*		*11/08/18 23:03*	*1*
4-Bromofluorobenzene (Surr)	*83*		*73 - 120*		*11/08/18 23:03*	*1*
Dibromofluoromethane (Surr)	*84*		*75 - 123*		*11/08/18 23:03*	*1*

Method: 8260C - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: LCS 480-444527/4
Matrix: Water
Analysis Batch: 444527

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
1,1,1-Trichloroethane	25.0	24.6		ug/L		98	73 - 126
1,1,2,2-Tetrachloroethane	25.0	28.6		ug/L		114	76 - 120
1,1,2-Trichloro-1,2,2-trifluoroethane	25.0	24.7		ug/L		99	61 - 148
1,1,2-Trichloroethane	25.0	25.0		ug/L		100	76 - 122
1,1-Dichloroethane	25.0	27.4		ug/L		110	77 - 120
1,2,4-Trichlorobenzene	25.0	24.2		ug/L		97	79 - 122
1,2-Dibromo-3-Chloropropane	25.0	26.8		ug/L		107	56 - 134
1,2-Dibromoethane	25.0	22.8		ug/L		91	77 - 120
1,2-Dichlorobenzene	25.0	26.0		ug/L		104	80 - 124
1,2-Dichloroethane	25.0	23.5		ug/L		94	75 - 120
1,2-Dichloropropane	25.0	27.9		ug/L		112	76 - 120
1,3-Dichlorobenzene	25.0	26.3		ug/L		105	77 - 120
1,4-Dichlorobenzene	25.0	26.0		ug/L		104	80 - 120
2-Butanone (MEK)	125	149		ug/L		119	57 - 140
o-Chlorotoluene	25.0	27.3		ug/L		109	76 - 121
2-Hexanone	125	152		ug/L		122	65 - 127
4-Methyl-2-pentanone (MIBK)	125	153		ug/L		123	71 - 125
Acetone	125	140		ug/L		112	56 - 142
Benzene	25.0	26.4		ug/L		106	71 - 124
Bromoform	25.0	20.9		ug/L		84	61 - 132
Bromomethane	25.0	21.0		ug/L		84	55 - 144
Carbon disulfide	25.0	27.4		ug/L		109	59 - 134
Carbon tetrachloride	25.0	22.4		ug/L		90	72 - 134
Chlorobenzene	25.0	23.8		ug/L		95	80 - 120
Chlorodibromomethane	25.0	22.6		ug/L		90	75 - 125
Chloroethane	25.0	25.6		ug/L		103	69 - 136
Chloroform	25.0	23.5		ug/L		94	73 - 127
Chloromethane	25.0	23.7		ug/L		95	68 - 124
cis-1,2-Dichloroethene	25.0	24.8		ug/L		99	74 - 124
cis-1,3-Dichloropropene	25.0	25.6		ug/L		102	74 - 124
Cyclohexane	25.0	31.5		ug/L		126	59 - 135
Bromodichloromethane	25.0	24.1		ug/L		96	80 - 122
Dichlorofluoromethane	25.0	22.3		ug/L		89	76 - 127
Ethylbenzene	25.0	27.3		ug/L		109	77 - 123
Isopropylbenzene	25.0	29.0		ug/L		116	77 - 122
Methyl acetate	50.0	58.6		ug/L		117	74 - 133
Methyl tert-butyl ether	25.0	23.4		ug/L		94	77 - 120
Methylcyclohexane	25.0	27.6		ug/L		111	68 - 134
Methylene Chloride	25.0	23.5		ug/L		94	75 - 124
Styrene	25.0	26.1		ug/L		104	80 - 120
Tetrachloroethene	25.0	22.8		ug/L		91	74 - 122
Toluene	25.0	26.8		ug/L		107	80 - 122
trans-1,2-Dichloroethene	25.0	25.3		ug/L		101	73 - 127
trans-1,3-Dichloropropene	25.0	26.0		ug/L		104	80 - 120
Trichloroethene	25.0	25.3		ug/L		101	74 - 123
Trichlorofluoromethane	25.0	19.4		ug/L		78	62 - 150
Vinyl chloride	25.0	20.6		ug/L		82	65 - 133

Method: 8260C - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: LCS 480-444527/4
Matrix: Water
Analysis Batch: 444527

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Surrogate	LCS %Recovery	LCS Qualifier	Limits
1,2-Dichloroethane-d4 (Surr)	93		77 - 120
Toluene-d8 (Surr)	99		80 - 120
4-Bromofluorobenzene (Surr)	88		73 - 120
Dibromofluoromethane (Surr)	83		75 - 123

QC Association Summary

Client: Waste Management
Project/Site: ChemTrol Site - Annual Groundwater

TestAmerica Job ID: 480-144453-1

GC/MS VOA

Analysis Batch: 444315

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-144453-1	DUP	Total/NA	Water	8260C	
MB 480-444315/8	Method Blank	Total/NA	Water	8260C	
LCS 480-444315/10	Lab Control Sample	Total/NA	Water	8260C	

Analysis Batch: 444316

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-144453-2	MW-13R	Total/NA	Water	8260C	
480-144453-4	MW-7R	Total/NA	Water	8260C	
480-144453-5	MW-8R	Total/NA	Water	8260C	
480-144453-7	TB	Total/NA	Water	8260C	
MB 480-444316/7	Method Blank	Total/NA	Water	8260C	
LCS 480-444316/5	Lab Control Sample	Total/NA	Water	8260C	

Analysis Batch: 444527

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-144453-6	MW-9R	Total/NA	Water	8260C	
MB 480-444527/6	Method Blank	Total/NA	Water	8260C	
LCS 480-444527/4	Lab Control Sample	Total/NA	Water	8260C	

Lab Chronicle

Client: Waste Management
Project/Site: ChemTrol Site - Annual Groundwater

TestAmerica Job ID: 480-144453-1

Client Sample ID: DUP
Lab Sample ID: 480-144453-1
Date Collected: 10/30/18 11:30
Matrix: Water
Date Received: 10/31/18 09:35

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260C		1	444315	11/08/18 12:16	NMC	TAL BUF

Client Sample ID: MW-13R
Lab Sample ID: 480-144453-2
Date Collected: 10/30/18 14:15
Matrix: Water
Date Received: 10/31/18 09:35

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260C		40	444316	11/08/18 17:09	RLB	TAL BUF

Client Sample ID: MW-7R
Lab Sample ID: 480-144453-4
Date Collected: 10/30/18 11:30
Matrix: Water
Date Received: 10/31/18 09:35

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260C		1	444316	11/08/18 17:37	RLB	TAL BUF

Client Sample ID: MW-8R
Lab Sample ID: 480-144453-5
Date Collected: 10/30/18 12:00
Matrix: Water
Date Received: 10/31/18 09:35

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260C		1	444316	11/08/18 18:05	RLB	TAL BUF

Client Sample ID: MW-9R
Lab Sample ID: 480-144453-6
Date Collected: 10/30/18 12:12
Matrix: Water
Date Received: 10/31/18 09:35

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260C		4	444527	11/09/18 00:38	RJF	TAL BUF

Client Sample ID: TB
Lab Sample ID: 480-144453-7
Date Collected: 10/30/18 09:00
Matrix: Water
Date Received: 10/31/18 09:35

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260C		1	444316	11/08/18 19:00	RLB	TAL BUF

Laboratory References:
TAL BUF = TestAmerica Buffalo, 10 Hazelwood Drive, Amherst, NY 14228-2298, TEL (716)691-2600

Accreditation/Certification Summary

Client: Waste Management
Project/Site: ChemTrol Site - Annual Groundwater

TestAmerica Job ID: 480-144453-1

Laboratory: TestAmerica Buffalo

Unless otherwise noted, all analytes for this laboratory were covered under each accreditation/certification below.

Authority	Program	EPA Region	Identification Number	Expiration Date
New York	NELAP	2	10026	03-31-19

The following analytes are included in this report, but the laboratory is not certified by the governing authority. This list may include analytes for which the agency does not offer certification.

Analysis Method	Prep Method	Matrix	Analyte
8260C		Water	Dichlorofluoromethane

Method Summary

Client: Waste Management
Project/Site: ChemTrol Site - Annual Groundwater

TestAmerica Job ID: 480-144453-1

Method	Method Description	Protocol	Laboratory
8260C	Volatile Organic Compounds by GC/MS	SW846	TAL BUF
5030C	Purge and Trap	SW846	TAL BUF

Protocol References:

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

Laboratory References:

TAL BUF = TestAmerica Buffalo, 10 Hazelwood Drive, Amherst, NY 14228-2298, TEL (716)691-2600

Sample Summary

Client: Waste Management
Project/Site: ChemTrol Site - Annual Groundwater

TestAmerica Job ID: 480-144453-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
480-144453-1	DUP	Water	10/30/18 11:30	10/31/18 09:35
480-144453-2	MW-13R	Water	10/30/18 14:15	10/31/18 09:35
480-144453-4	MW-7R	Water	10/30/18 11:30	10/31/18 09:35
480-144453-5	MW-8R	Water	10/30/18 12:00	10/31/18 09:35
480-144453-6	MW-9R	Water	10/30/18 12:12	10/31/18 09:35
480-144453-7	TB	Water	10/30/18 09:00	10/31/18 09:35

TestAmerica Buffalo
10 Hazelwood Drive
Amherst, NY 14228-2298
Phone (716) 691-2600 Fax (716) 691-7991

Chain of Custody Record

TestAmerica
THE LEADER IN ENVIR

480-144453 COC

Client Information	Sampler: TB/NL	Lab PM: VanDette, Ryan T	Carrier Tracking No(s):	COC No: 480-119093-4273.1
Client Contact: Mr. Mark Snyder	Phone:	E-Mail: ryan.vandette@testamericainc.com		Page: Page 1 of 1
Company: Waste Management				Job #:
Address: 425 Perinton Parkway	Due Date Requested:			
City: Fairport	TAT Requested (days):			
State, Zip: NY, 14450				
Phone: 603-925-5436(Tel)	PO #: Purchase Order not requir			
Email: msnyder@wm.com	WO #:			
Project Name: ChemTrol Site/NY22 Event Desc: ChemTrol Annual Groundwate	Project #: 48002447			
Site: New Hampshire	SSOW#:			

Analysis Requested

Preservation Codes:

A - HCL	M - Hexane
B - NaOH	N - None
C - Zn Acetate	O - AsNaO2
D - Nitric Acid	P - Na2O4S
E - NaHSO4	Q - Na2SO3
F - MeOH	R - Na2S2O3
G - Amchlor	S - H2SO4
H - Ascorbic Acid	T - TSP Dodecahydrate
I - Ice	U - Acetone
J - DI Water	V - MCAA
K - EDTA	W - pH 4-5
L - EDA	Z - other (specify)

Other:

Sample Identification	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	8260B - (MOD) Local Method	Total Number of containers	Special Instructions/Note:
			Preservation Code:				A		
DUP	10-30-18	1130	G	Water			3	3	TAKEN @ MW-7R
MW-13R		1415		Water			3	3	
MW-15R				Water			3	3	→ COULD NOT LOCATE
MW-3S				Water			3	3	→ DRY - NOT SAMPLED
MW-7R		1130		Water			3	3	DUP TAKEN
MW-8R		1200		Water			3	3	
MW-9R		1212		Water			3	3	
TB	10-30-18	0900	G	Water			2	2	

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

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

Deliverable Requested: I, II, III, IV, Other (specify)

Special Instructions/QC Requirements:

Empty Kit Relinquished by:	Date:	Time:	Method of Shipment:

Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
	10-30-18/1540	TAL		10/31/18 0835	TAB
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company

Custody Seals Intact: Δ Yes Δ No	Custody Seal No.:	Cooler Temperature(s) °C and Other Remarks:	# 3.2

Ver: 08/04/2016

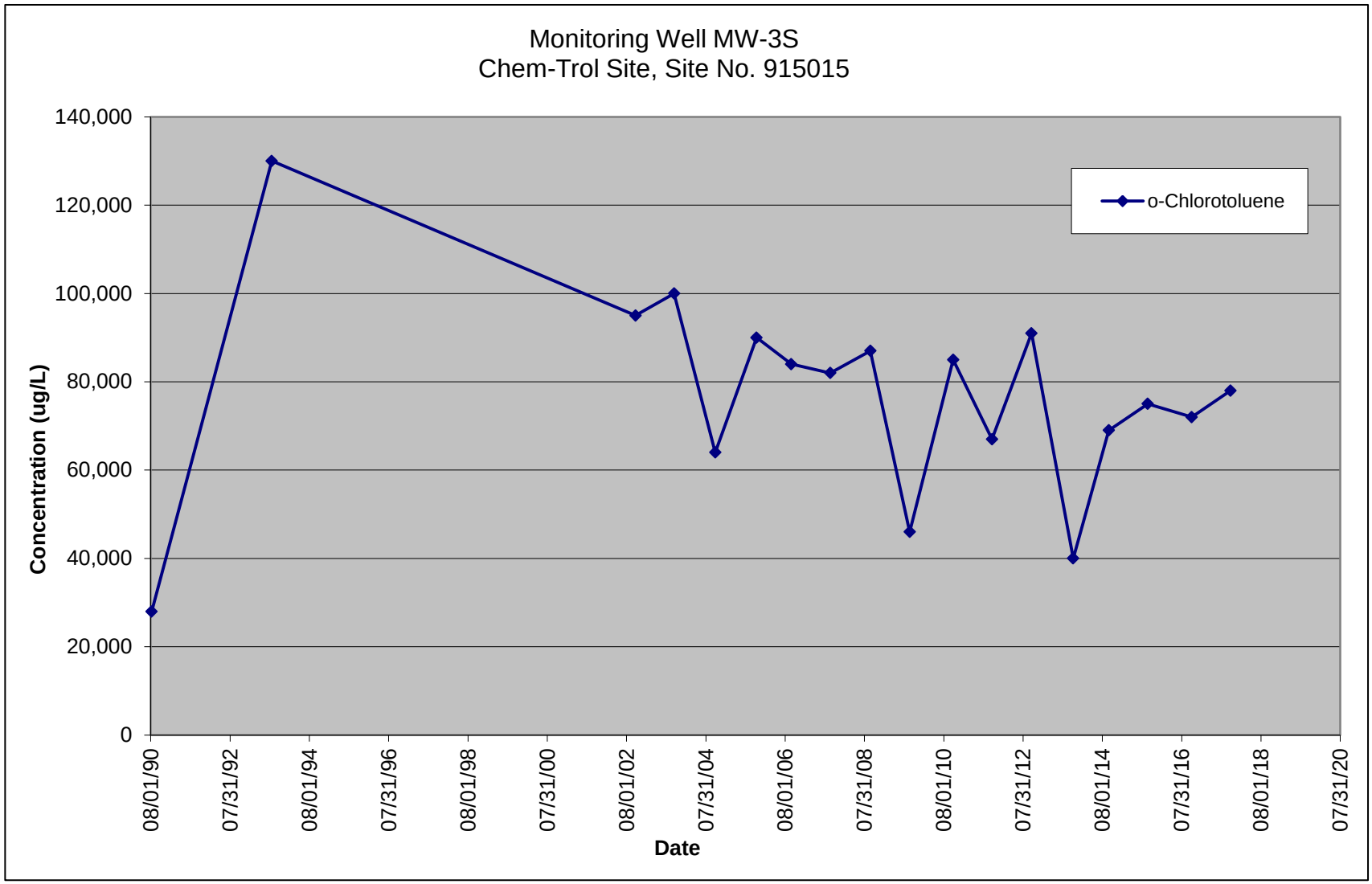
ATTACHMENT C

Historical Data Trend Plots

CHEM-TROL SITE

Groundwater Analytical Data for Well MW-3S (ug/L)

Date	o-Chlorotoluene
08/09/90	28,000
08/19/93	130,000
10/23/02	95,000
10/13/03	100,000
10/26/04	64,000
11/11/05	90,000
09/27/06	84,000
09/20/07	82,000
09/24/08	87,000
09/22/09	46,000
10/27/10	85,000
10/20/11	67,000
10/17/12	91,000
11/05/13	40,000
09/29/14	69,000
09/23/15	75,000
11/02/16	72,000
10/25/17	78,000
10/30/18	Dry

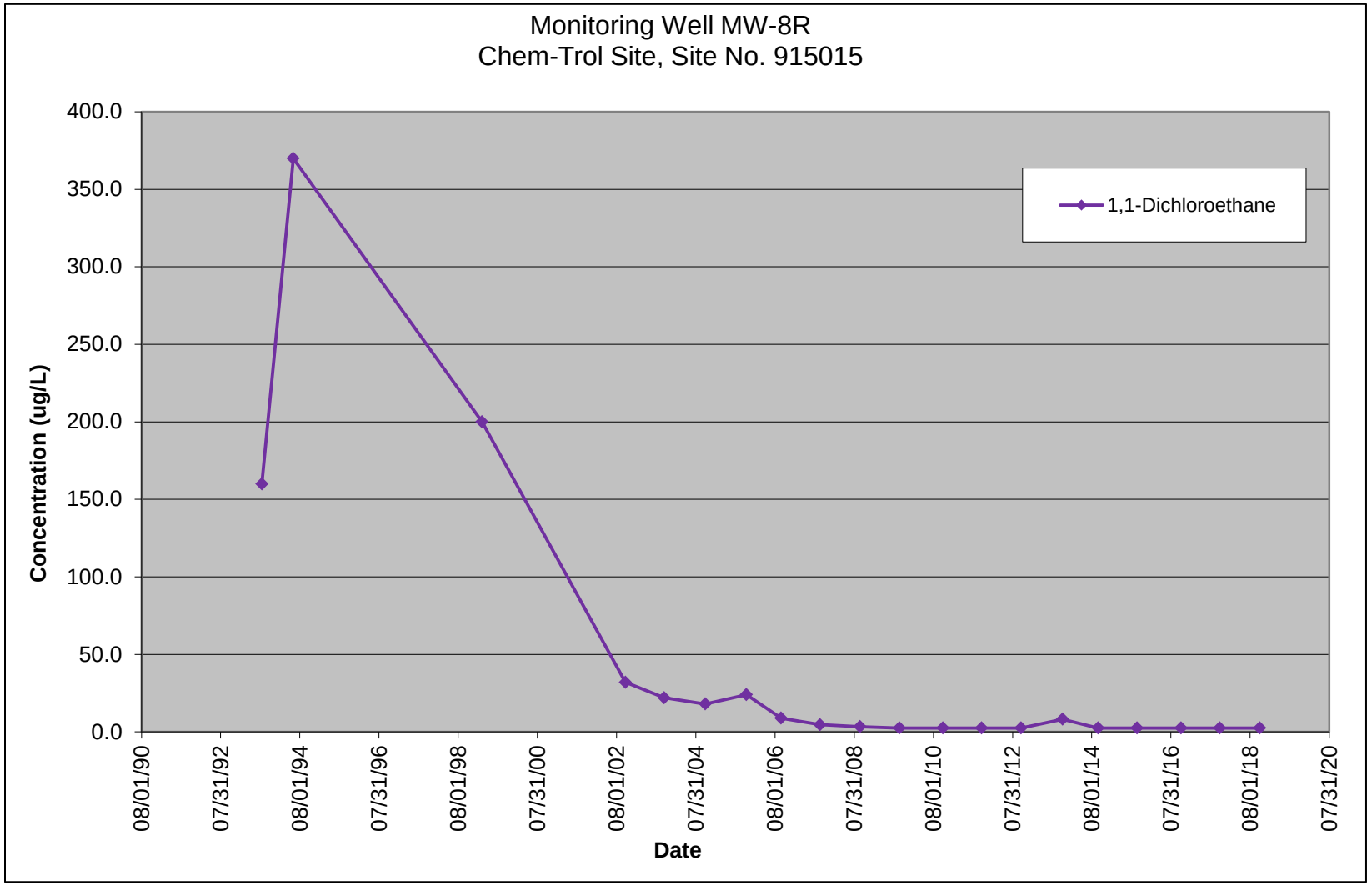

Monitoring Well MW-3S
Chem-Trol Site, Site No. 915015
Concentration (ug/L)
140,000
120,000
100,000
80,000
60,000
40,000
20,000
0
o-Chlorotoluene
08/01/90
07/31/92
08/01/94
07/31/96
08/01/98
07/31/00
08/01/02
07/31/04
08/01/06
07/31/08
08/01/10
07/31/12
08/01/14
07/31/16
08/01/18
07/31/20
Date

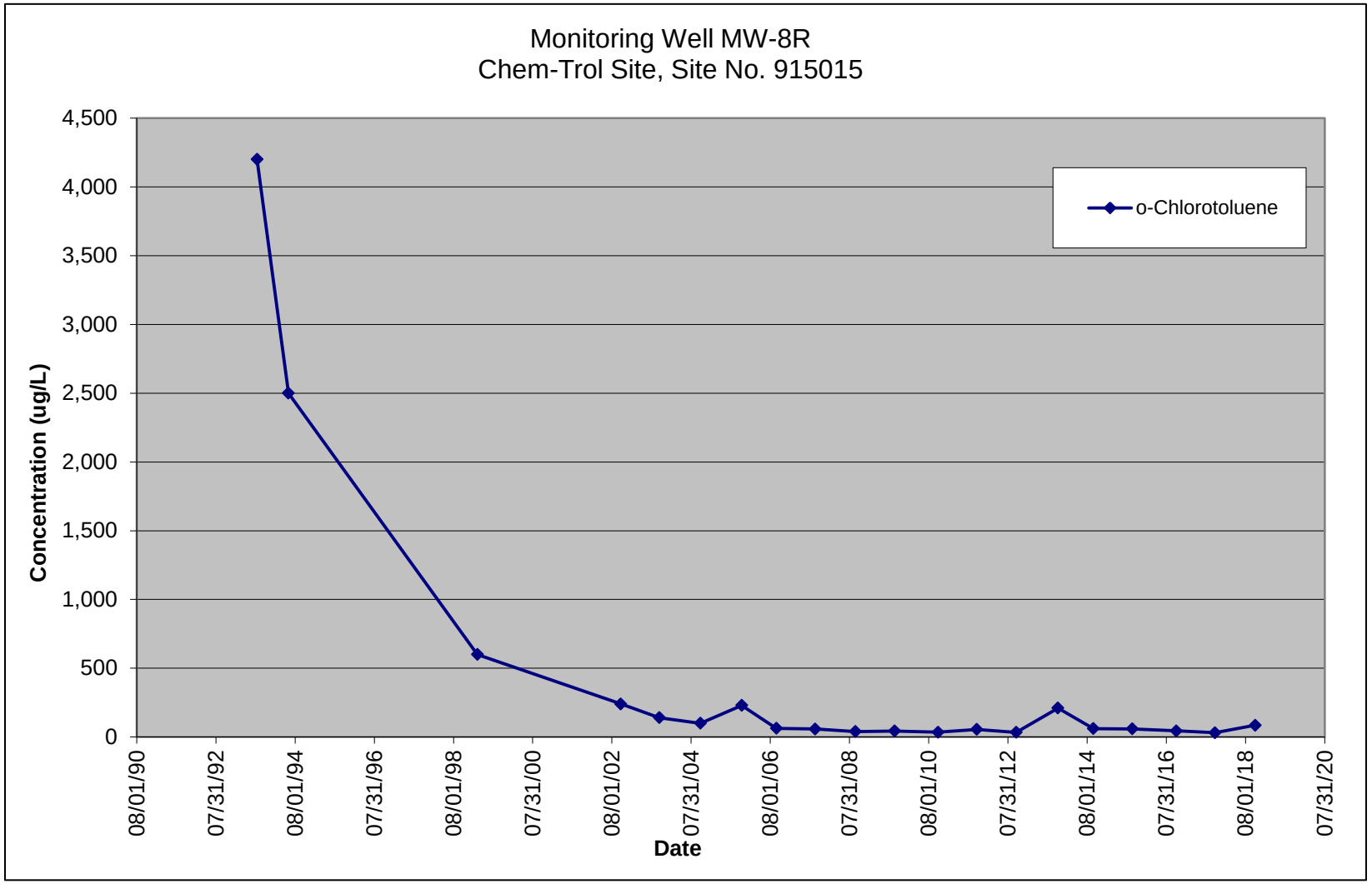
CHEM-TROL SITE

Groundwater Analytical Data for Well MW-8R (ug/L)

Date	1,1-Dichloroethane	o-Chlorotoluene
08/16/93	160.0	4,200
06/01/94	370.0	2,500
03/10/99	200.0	600.0
10/22/02	32.0	240.0
10/13/03	22.0	140.0
10/26/04	18.0	100.0
11/11/05	24.0	230.0
09/27/06	8.9	63.0
09/20/07	4.7	58.0
09/24/08	3.4	40.0
09/22/09	2.5	43.0
10/27/10	2.5	35.0
10/20/11	2.5	55.0
10/17/12	2.5	34.0
11/05/13	8.2	210.0
09/29/14	2.5	61.0
09/23/15	2.5	59.0
11/02/16	2.5	44.0
10/25/17	2.5	31.0
10/30/18	2.5	85.0

Value is equal to 1/2 the detection limit.


Monitoring Well MW-8R
Chem-Trol Site, Site No. 915015
Concentration (ug/L)
400.0
350.0
300.0
250.0
200.0
150.0
100.0
50.0
0.0
08/01/90
07/31/92
08/01/94
07/31/96
08/01/98
07/31/00
08/01/02
07/31/04
08/01/06
07/31/08
08/01/10
07/31/12
08/01/14
07/31/16
08/01/18
07/31/20
Date
1,1-Dichloroethane


Monitoring Well MW-8R
Chem-Trol Site, Site No. 915015
Concentration (ug/L)
4,500
4,000
3,500
3,000
2,500
2,000
1,500
1,000
500
0
o-Chlorotoluene
08/01/90
07/31/92
08/01/94
07/31/96
08/01/98
07/31/00
08/01/02
07/31/04
08/01/06
07/31/08
08/01/10
07/31/12
08/01/14
07/31/16
08/01/18
07/31/20
Date

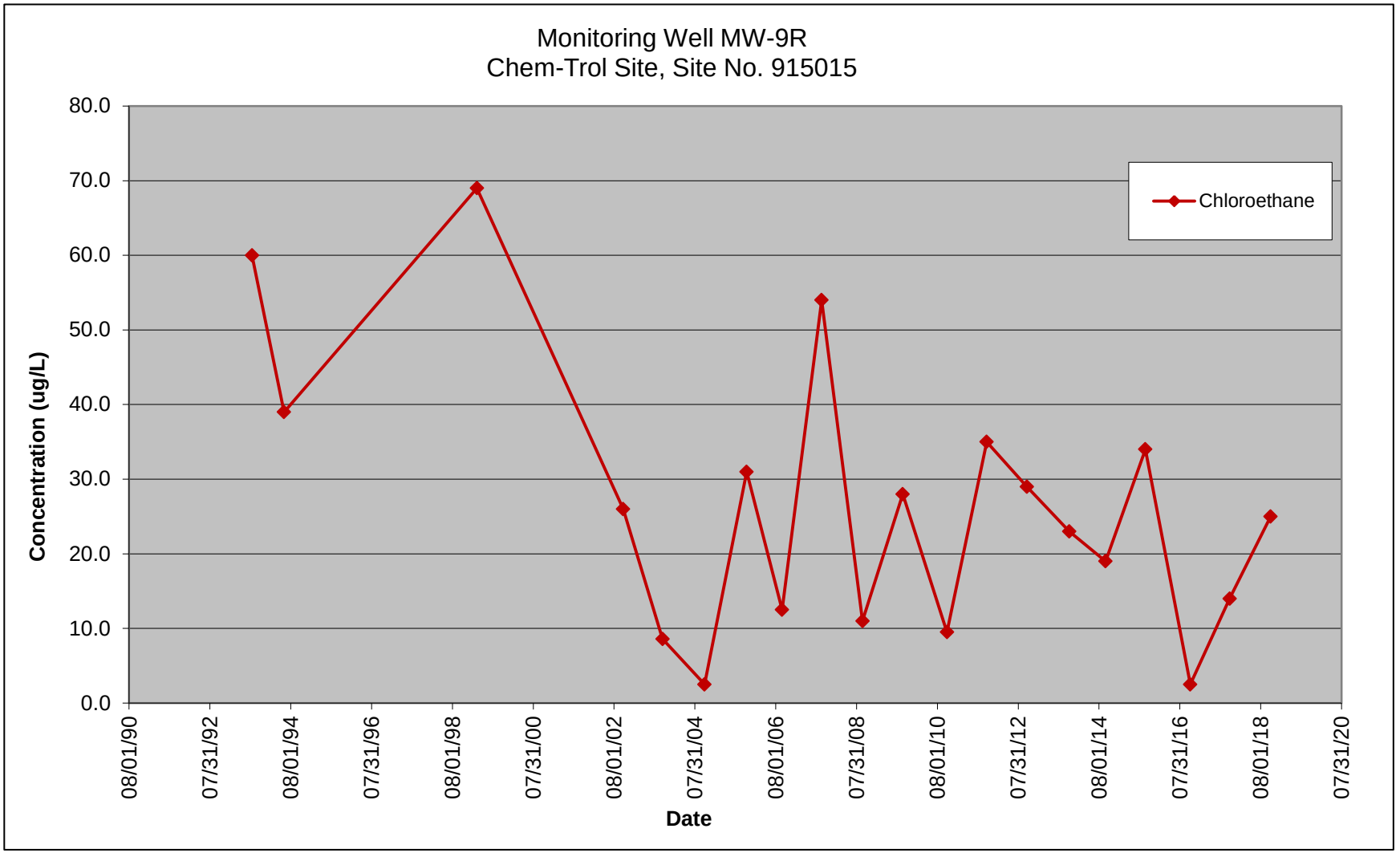
CHEM-TROL SITE

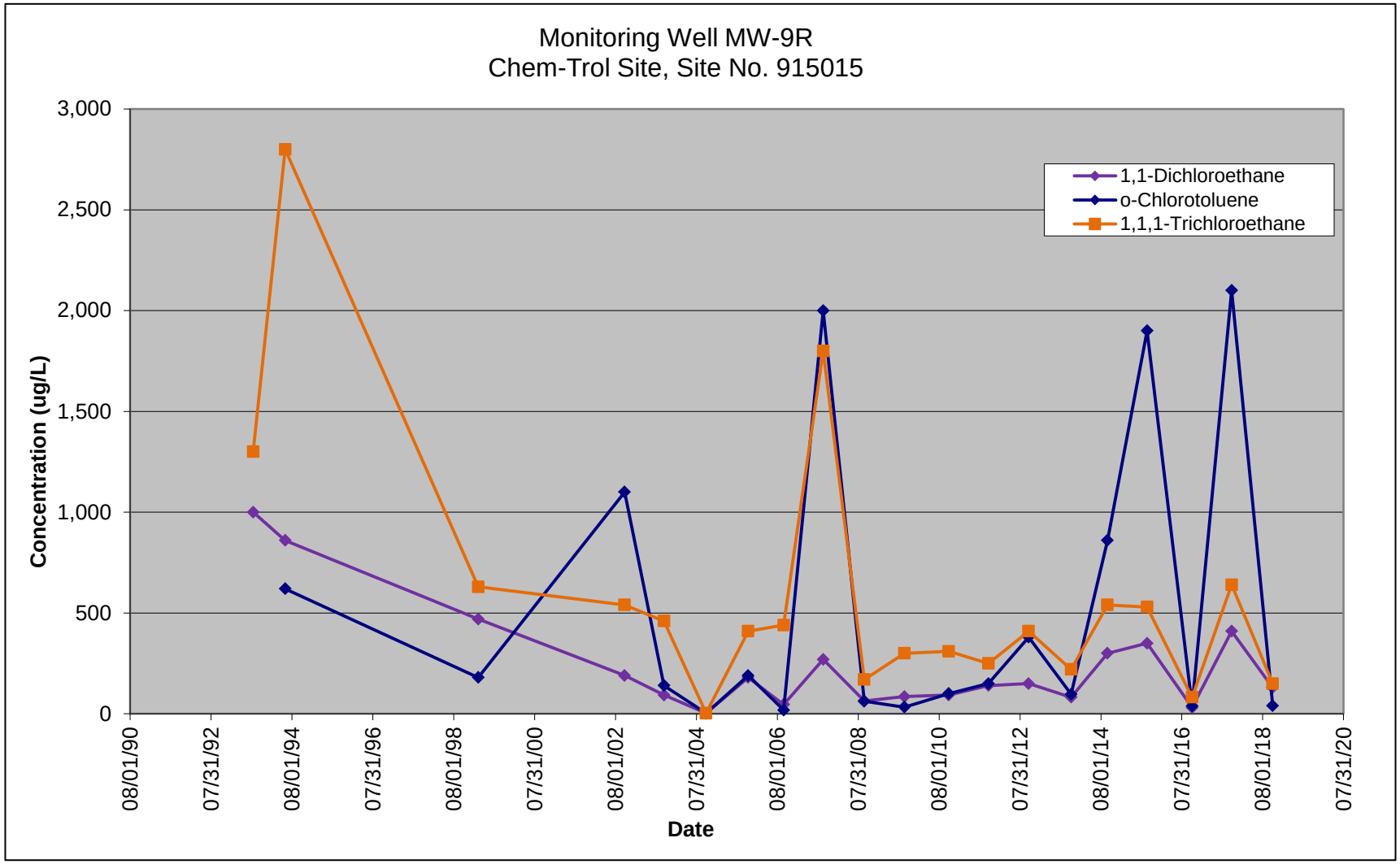
Groundwater Analytical Data for Well MW-9R (ug/L)

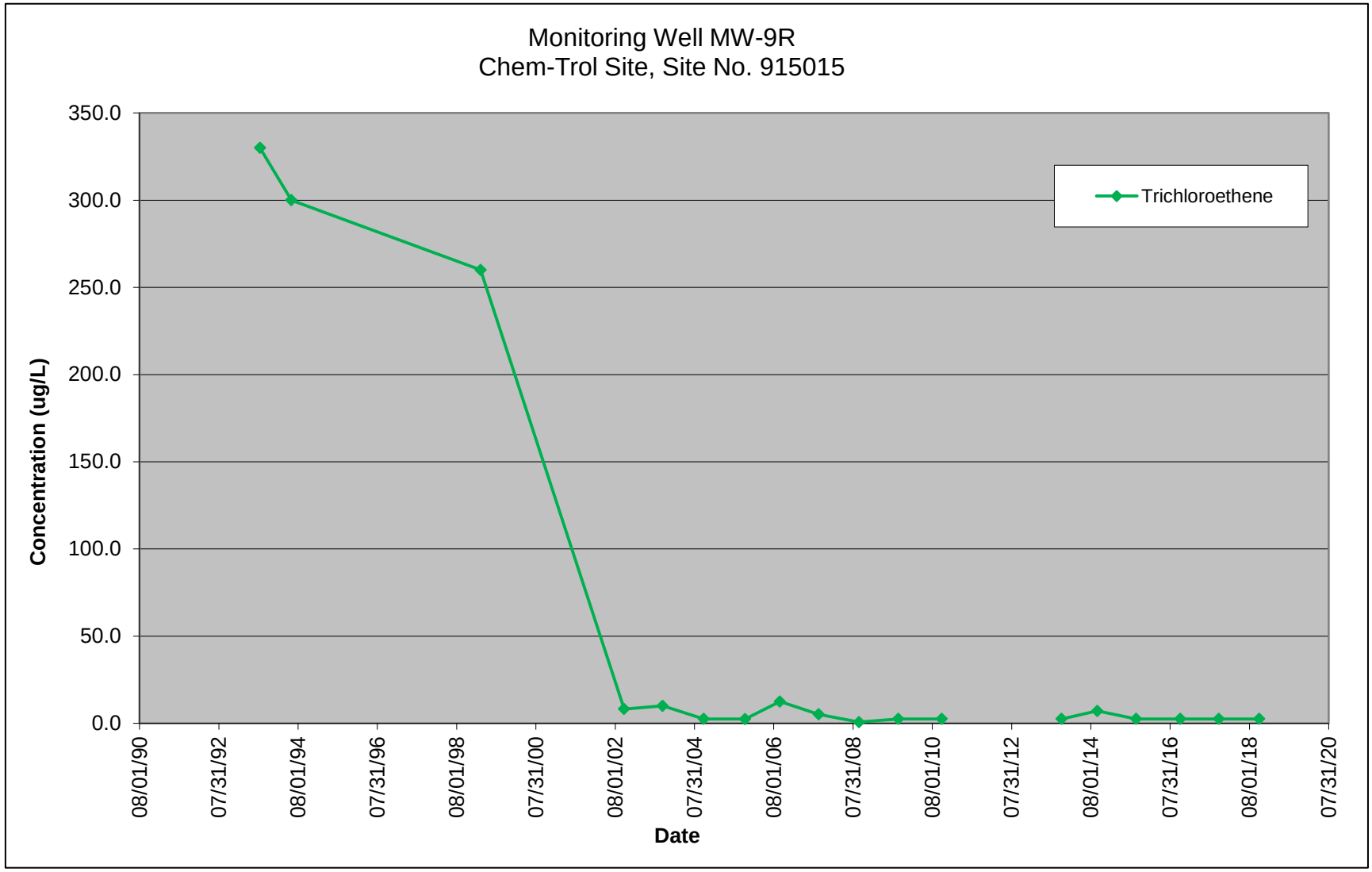
Date	Chloroethane	1,1-Dichloroethane	o-Chlorotoluene	1,1,1-Trichloroethane	Trichloroethene
08/16/93	60.0	1,000		1,300	330.0
06/01/94	39.0	860.0	620.0	2,800	300.0
03/10/99	69.0	470.0	180.0	630.0	260.0
10/22/02	26.0	190.0	1,100	540.0	8.2
10/13/03	8.6	93.0	140.0	460.0	10.0
10/26/04	2.5	2.5	2.5	2.5	2.5
11/11/05	31.0	180.0	190.0	410.0	2.4
09/27/06	12.5	46.0	18.0	440.0	12.5
09/20/07	54.0	270.0	2,000	1,800	5.1
09/24/08	11.0	64.0	62.0	170.0	0.68
09/22/09	28.0	85.0	33.0	300.0	2.5
10/27/10	9.5	93.0	100.0	310.0	2.5
10/20/11	35.0	140.0	150.0	250.0	
10/17/12	29.0	150.0	380.0	410.0	
11/05/13	23.0	82.0	97.0	220.0	2.5
09/29/14	19.0	300.0	860.0	540.0	7.1
09/23/15	34.0	350.0	1900.0	530.0	2.5
11/02/16	2.5	31.0	38.0	82.0	2.5
10/25/17	14.0	410.0	2100.0	640.0	2.5
10/30/18	25.0	130.0	40.0	150.0	2.5

Data not included due to 1/2 the detection limit being higher than the previous 3 years of positive results.

Value is equal to 1/2 the detection limit.


Monitoring Well MW-9R
Chem-Trol Site, Site No. 915015
Concentration (ug/L)
80.0
70.0
60.0
50.0
40.0
30.0
20.0
10.0
0.0
08/01/90
07/31/92
08/01/94
07/31/96
08/01/98
07/31/00
08/01/02
07/31/04
08/01/06
07/31/08
08/01/10
07/31/12
08/01/14
07/31/16
08/01/18
07/31/20
Date
Chloroethane


Monitoring Well MW-9R
Chem-Trol Site, Site No. 915015
Concentration (ug/L)
3,000
2,500
2,000
1,500
1,000
500
0
08/01/90
07/31/92
08/01/94
07/31/96
08/01/98
07/31/00
08/01/02
07/31/04
08/01/06
07/31/08
08/01/10
07/31/12
08/01/14
07/31/16
08/01/18
07/31/20
Date
1,1-Dichloroethane
o-Chlorotoluene
1,1,1-Trichloroethane


Monitoring Well MW-9R
Chem-Trol Site, Site No. 915015
Concentration (ug/L)
350.0
300.0
250.0
200.0
150.0
100.0
50.0
0.0
Trichloroethene
08/01/90
07/31/92
08/01/94
07/31/96
08/01/98
07/31/00
08/01/02
07/31/04
08/01/06
07/31/08
08/01/10
07/31/12
08/01/14
07/31/16
08/01/18
07/31/20
Date

CHEM-TROL SITE

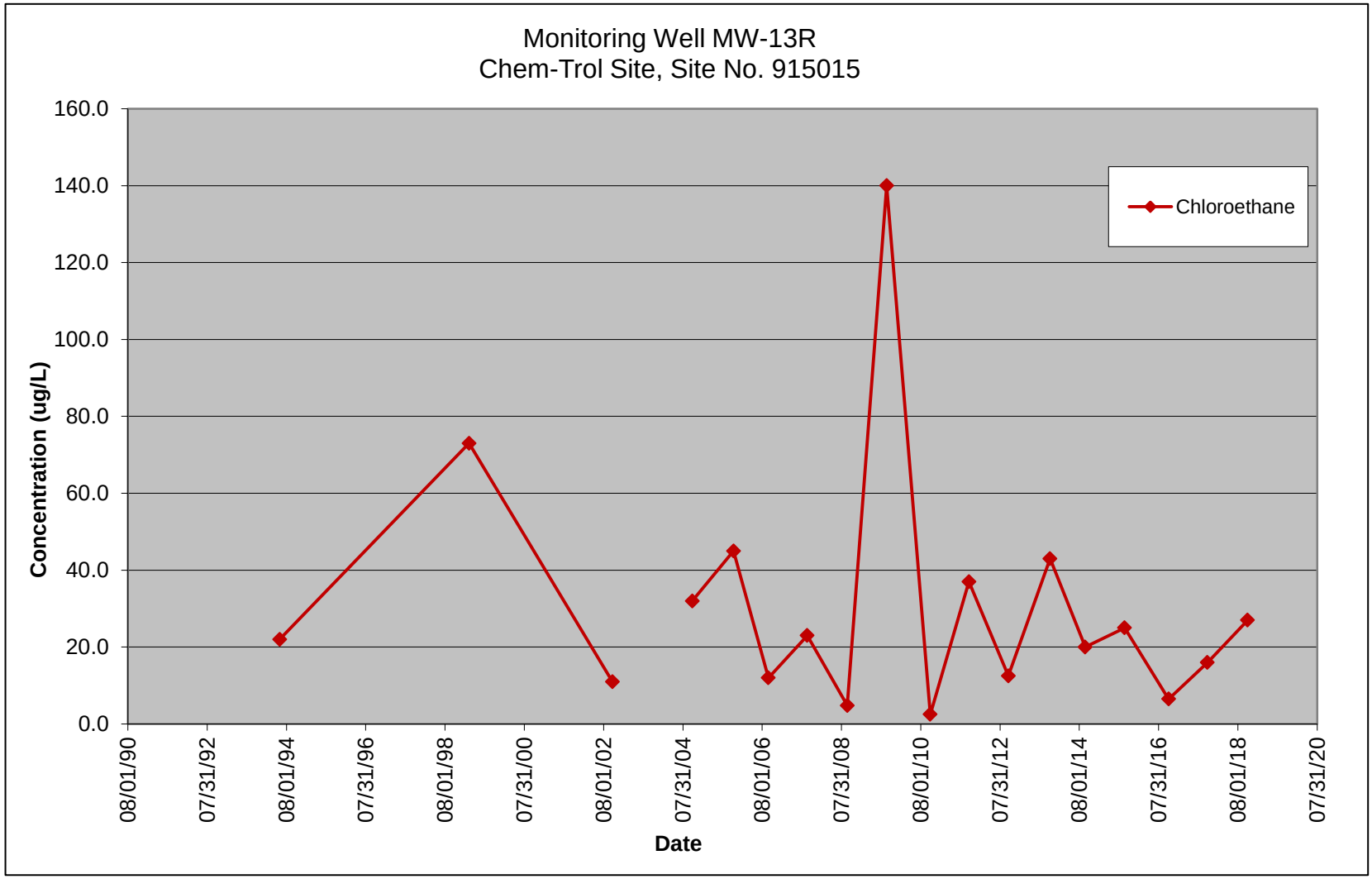
Groundwater Analytical Data for Well MW-13R (ug/L)

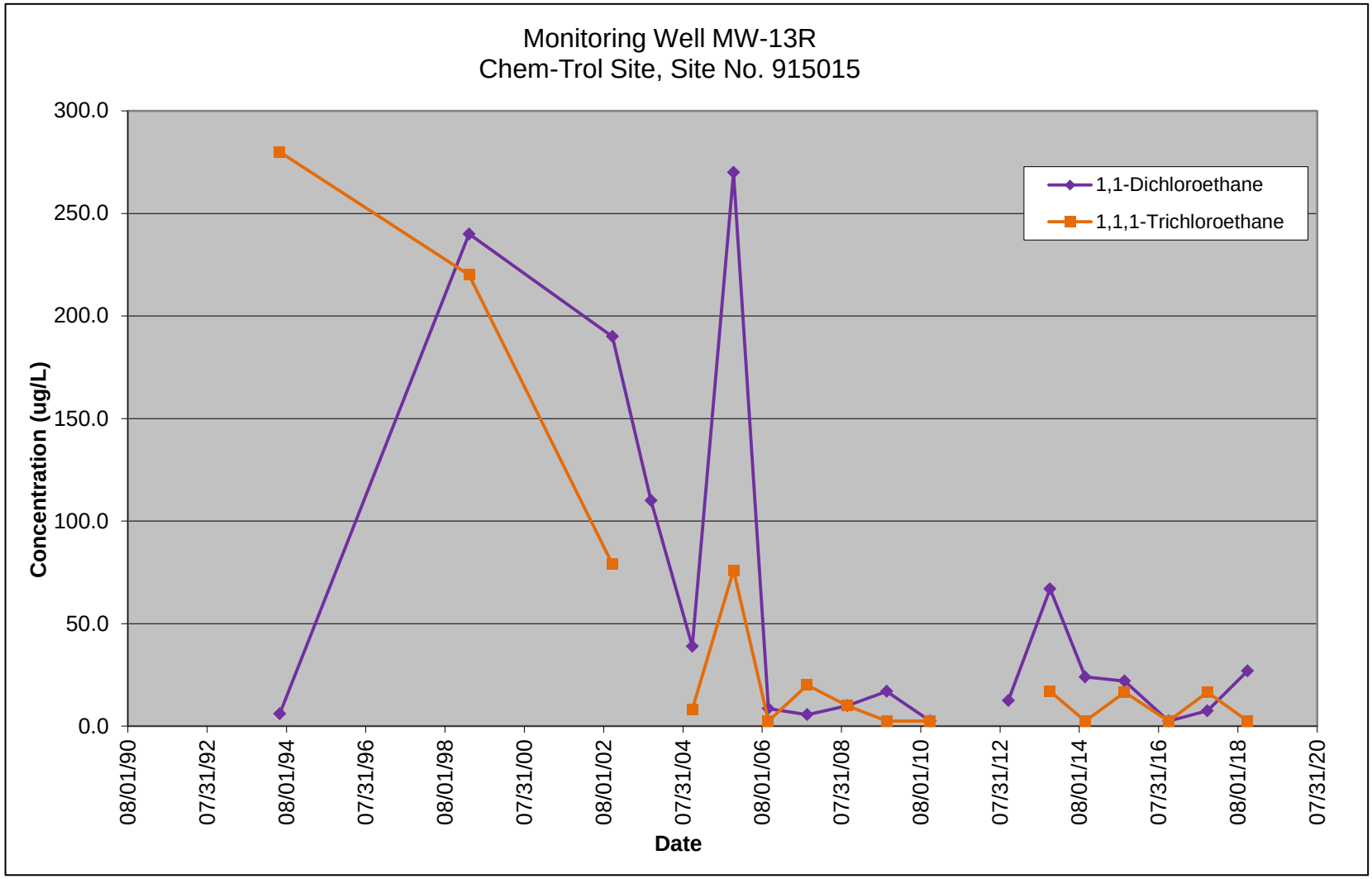
Date	Chloroethane	1,1-Dichloroethane	1,1,1-Trichloroethane	o-Chlorotoluene
05/31/94	22.0	6.0	280.0	1,700
03/11/99	73.0	240.0	220.0	
10/22/02	11.0	190.0	79.0	4,200
10/13/03		110.0		4,500
10/26/04	32.0	39.0	8.2	1,900
11/11/05	45.0	270.0	76.0	4,900
09/27/06	12.0	8.6	2.5	680.0
09/20/07	23.0	5.6	20.0	440.0
09/24/08	4.8	10.0	10.0	250.0
09/22/09	140.0	17.0	2.5	600.0
10/27/10	2.5	2.5	2.5	210.0
10/20/11	37.0			820.0
10/17/12	12.5	12.5		410.0
11/05/13	43.0	67.0	17.0	2,500
09/24/14	20.0	24.0	2.5	2,000
09/23/15	25.0	22.0	16.5	3200
11/02/16	6.5	2.5	2.5	1200
10/25/17	16.0	7.5	16.5	2000
10/30/18	27.0	27.0	2.5	2300

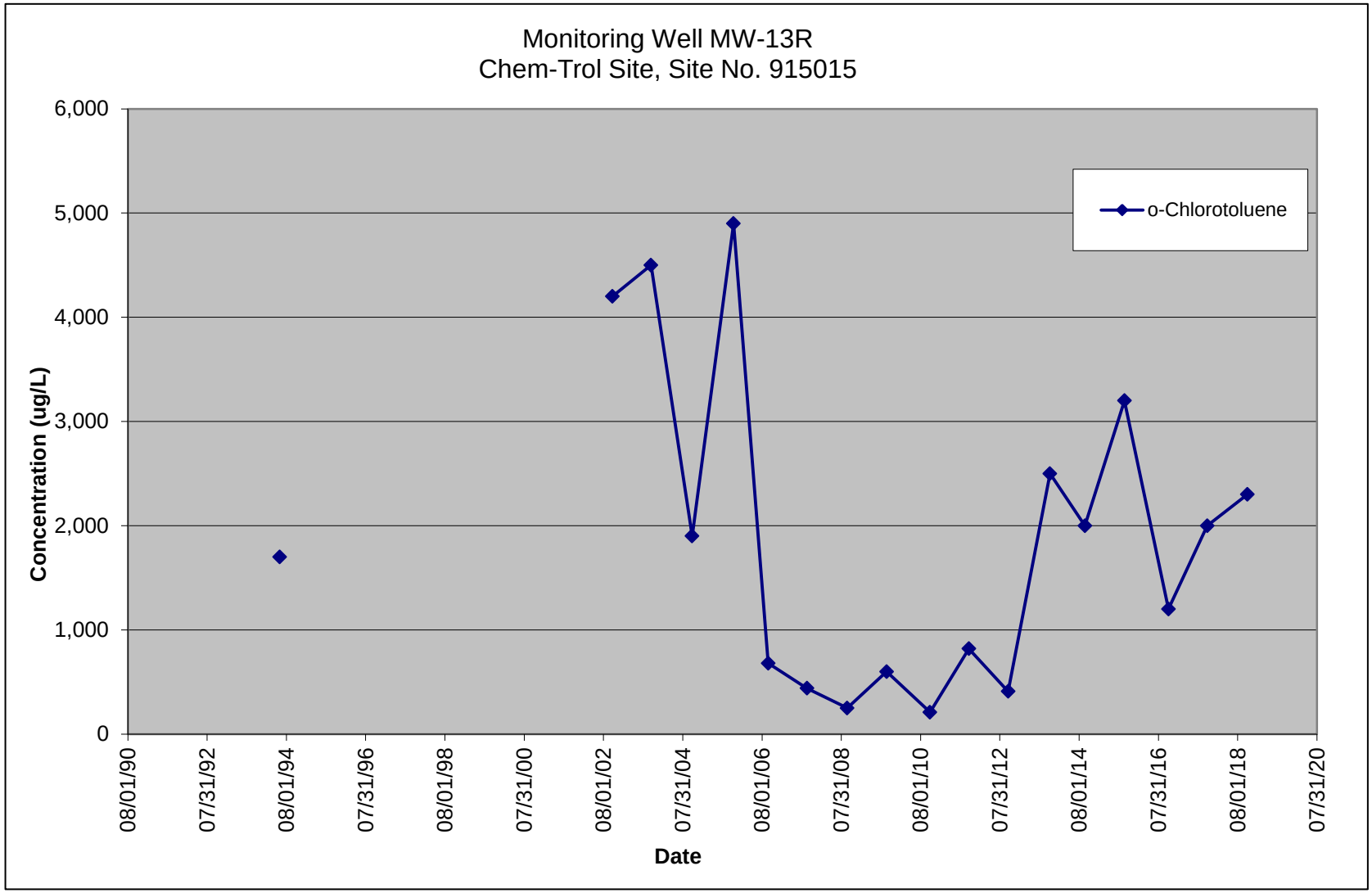
Data not included due to high detection limits for ND values: (1) 2003 - 200 ug/L except for Total Xylenes, which was 600 ug/L.

Data not included due to 1/2 the detection limit being higher than the previous 3 years of positive results.

Value is equal to 1/2 the detection limit.


Monitoring Well MW-13R
Chem-Trol Site, Site No. 915015
160.0
140.0
120.0
100.0
80.0
60.0
40.0
20.0
0.0
Concentration (ug/L)
Chloroethane
08/01/90
07/31/92
08/01/94
07/31/96
08/01/98
07/31/00
08/01/02
07/31/04
08/01/06
07/31/08
08/01/10
07/31/12
08/01/14
07/31/16
08/01/18
07/31/20
Date


Monitoring Well MW-13R
Chem-Trol Site, Site No. 915015
300.0
250.0
200.0
150.0
100.0
50.0
0.0
Concentration (ug/L)
1,1-Dichloroethane
1,1,1-Trichloroethane
08/01/90
07/31/92
08/01/94
07/31/96
08/01/98
07/31/00
08/01/02
07/31/04
08/01/06
07/31/08
08/01/10
07/31/12
08/01/14
07/31/16
08/01/18
07/31/20
Date


Monitoring Well MW-13R
Chem-Trol Site, Site No. 915015
6,000
5,000
4,000
3,000
2,000
1,000
0
Concentration (ug/L)
o-Chlorotoluene
08/01/90
07/31/92
08/01/94
07/31/96
08/01/98
07/31/00
08/01/02
07/31/04
08/01/06
07/31/08
08/01/10
07/31/12
08/01/14
07/31/16
08/01/18
07/31/20
Date