Aztech Technologies, Inc.

Site Characterization Report

for the

Former Ithaca Gun Factory - Offsite

121-125 Lake Street
Ithaca, Tompkins County, New York

NYSDEC Site No. C755019A
NYSDEC Callout No. 121885

February 3, 2014

Prepared for:
New York State Department of Environmental Conservation
Division of Environmental Remediation
Region 7

REMEDIATION SOLUTIONS

ENVIRONMENTAL CONSULTING

DRILLING APPLICATIONS

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1.0 INTRODUCTION

On June 24, 2013, the New York State Department of Environmental Conservation (NYSDEC) issued a call out (Callout No. 121885) to Aztech Technologies, Inc. (Aztech) for conducting a subsurface investigation and site characterization of the Former Ithaca Gun Factory – Offsite. This site encompasses an area to the west of the Brownfield Cleanup Program (BCP) site identified as the Former Ithaca Gun Factory (Site No.: C755019) located at 121-125 Lake Street in the City of Ithaca, Tompkins County, New York (**Figure 1 - Offsite Area**). The main focus of the offsite site characterization was to determine if volatile organic compounds (VOCs), including chlorinated solvents, associated with the former gun manufacturing operation had migrated to offsite groundwater and/or soil vapor. The area of the offsite study is predominantly composed of residential zones with a mix of commercial properties. The offsite area investigation activities were performed generally in the area from Lake Street to North Aurora Street and East Falls Street to King Street (Figure 1).

The initial investigation was conducted in July 2013 and included collection of groundwater and soil vapor samples using direct push technology from the area defined above. Following an initial review of results from the July 2013 investigation, NYSDEC Callout No. 121885 was amended on September 21, 2013 to include the installation of permanent groundwater monitoring wells, a professional survey, and a groundwater monitoring event. The second phase of the investigation effort which included the well installations and professional survey was conducted in October 2013. The groundwater monitoring event was conducted in November 2013 and included groundwater gauging, well development and sample collection.

1.1 SITE BACKGROUND

The Ithaca Gun Company operated from approximately 1885 through 1986 at a property located to the east and uphill from this off-site neighborhood area. The main operations included manufacture of firearms and munitions. Supporting manufacturing activities and site uses included spray pointing, drying gun stocks in ovens, firing ranges, metal plating, machine shop, and forging. Prior uses by the Ithaca Gun Company appear to have led to contamination of both on-site and near off-site areas.

From 1995 to 1998, following discovery of lead shot in the Fall Creek gorge area, soil sampling was conducted in on-site and off-site areas. In 2000, leaking transformers and associated PCB-contaminated soils were removed from the site. From 2000 to 2002, the USEPA conducted a removal assessment, limited building demolition, and soil removal activities mostly on adjacent off-site areas; however, some portions of the former Ithaca Gun Factory property were included. In 2001, an Environmental Site Assessment and a Site Investigation were completed for and funded by the owner at that time. In 2002, the former Ithaca Gun Factory property entered the Voluntary Cleanup Program (VCP), with the site identification of V00511. The original factory property has since been divided and is identified a two separate sites; the Ithaca Falls Overlook, Environmental Restoration Program (ERP) site owned by the City of Ithaca, and the Former Ithaca Gun Factory, BCP site owned by IFR Development, LLC.

Groundwater sampling conducted in 2012 through investigations for the ERP site, show presence of tetrachloroethene, trichloroethene, cis-1,2-dichloroethene, and vinyl chloride at monitoring wells hydraulically downgradient from the BCP site at concentrations exceeding respective groundwater standards.

In July 2013 the NYSDEC contracted Aztech to conduct a subsurface investigation and site characterization of an offsite area located topographically downgradient from the site. Details of all offsite work conducted by Aztech is documented in the following sections.

2.0 INITIAL OFFSITE CHARACTERIZATION

The initial scope of work for the site characterization was defined by the NYSDEC in the callout document to include: the advancement of ten (10) offsite soil borings into groundwater; collection of ten (10) groundwater samples; and, the collection of 12 soil vapor samples. The scope was also modified during the course of conducting the site characterization to the include installation of eight (8) permanent groundwater monitoring wells. Site characterization field activities were conducted between July, 2012 and November, 2013. Details are provided in the following sections.

2.1 SOIL BORING ADVANCEMENT

Between July 29 and August 1, 2013 Aztech, on behalf of NYSDEC advanced ten (10) soil borings (SB-1 through SB-10) offsite from the Former Ithaca Gun Factory property (**Figure 2**). All soil borings were installed within the green spaces (i.e., tree lawns) between the sidewalk and street curb and were located within City of Ithaca public property. Boring locations were selected by NYSDEC based on spatial distribution and proximity to on-site or off-site features, and the anticipated direction of groundwater flow and contaminant migration. The soil boring locations are presented on Figure 2.

A track mounted geoprobe® drill rig, equipped with direct push technology was utilized during the soil boring advancement, temporary vapor point and monitoring well installation and soil sampling activities. Each soil boring was advanced from the surface to approximately five (5) to nine (9) feet into the observed groundwater table. The terminal depths of each boring varied between 20 and 40 feet below grounds surface (bgs). During these activities, depth discrete soil samples were collected utilizing 5-foot macro-core acetate sleeves, two-inches in diameter. An Aztech geologist characterized the soil samples in the field for color, grain size, moisture content, and presence of petroleum or solvent impacts.

After the soil samples were characterized they were placed in re-sealable, airtight plastic bags and allowed to volatilize. The headspaces of samples were then screened for VOCs using a Minirae 2000 photoionization detector (PID) equipped with a 10.6 eV bulb and calibrated to a gasoline standard using 100 parts per million (ppm) isobutylene gas. No soil samples collected during the boring advancements exhibited elevated PID readings (i.e. >5.0 ppm). Due to the

lack of positive PID response, visual or olfactory evidence of impact in all soil samples recovered, soil samples were not submitted for laboratory analysis during the study. Details for each soil boring are presented in the soil boring and well completion logs (**Attachment A**).

2.1.1 GEOLOGY OF SOIL SAMPLES

Soil encountered during the boring program typically consisted of brown to gray fine to medium sand and fine gravel overlying gray highly fractured and weathered siltstone bedrock. Fragments of weathered siltstone intermixed in the overburden were commonly encountered and a thin layer of ash material (less than one (1)-inch) was observed just beneath the ground surface throughout a large portion of the study area. Some silt and clay was observed in layered bands within the sand and gravel overburden material. A layer of alluvial deposits consisting of rounded fine gravel were typically encountered just above the highly weathered bedrock material. Within this layer groundwater was commonly observed at depths ranging from 13.5 to 32 feet bgs. Boring refusal was not encountered during the boring program.

2.2 TEMPORARY WELL INSTALLATIONS

Following advancement of each soil boring (SB-1 through SB-10), a temporary monitoring well was inserted into the borehole to allow collection of groundwater samples. Each temporary monitoring well was constructed of an appropriate length of 1-inch inner diameter (ID) schedule 40 polyvinyl chloride (PVC) plastic 10-slot well screen and solid riser. The annular space between the monitoring well screen and borehole wall was filled with number 0 sand. Following the collection of groundwater samples, each temporary well was removed and the borehole was backfilled with number 0 sand and subsequently sealed with bentonite. Construction specifications for each temporary monitoring well are included in the soil boring and well completion logs (Attachment A).

2.2 .1 GROUNDWATER SAMPLING AND RESULTS

Between July 31 and August 1, 2013 a groundwater sample was collected from each of the temporary monitoring wells. To ensure the collection of representative samples, each temporary monitoring well was developed (purged of approximately ten well volumes of groundwater) using a disposable dedicated bailer. Following development, the monitoring wells were allowed to recharge prior to sample collection. Groundwater samples were then retrieved using a dedicated, disposable bailer and decanted into pre-preserved, laboratory-supplied sampling vials containing dilute hydrochloric acid. The groundwater samples were placed on ice and shipped under a chain of custody to Test America in Amherst, NY. The samples were analyzed for the NYSDEC full list of VOCs, including MtBE, using USEPA Method 8260B category B deliverables.

The groundwater laboratory analytical results for this sampling event are summarized in **Table 1**. A VOC distribution map of groundwater is presented as **Figure 3**. A copy of the groundwater laboratory analytical report is included in **Attachment B**.

The analytical results for the July 31 and August 1, 2013 groundwater sampling event are as follows:

- In general the analyte compounds detected in groundwater across the study area are chlorinated solvent derived (i.e. trichloroethene, chloroform). No petroleum range compounds including Methyl tertiary-Butyl Ether (MtBE) were detected in any of the groundwater samples submitted for laboratory analysis. A summary of detected compounds is presented below;

- Trichloroethene (TCE) was detected in seven (7) of the ten (10) groundwater samples collected (SB-1, SB-4, SB-5, SB-7, SB-8, SB-9, and SB-10). However, no detections were reported above the NYSDEC groundwater standard of 5.0 micrograms per liter (µg/l) as per NYSDEC Technical and Operational Guidance Series (TOGS) Memorandum 1.1.1, June 1998;

- Chloroform was detected in nine (9) groundwater samples collected (SB-1, SB-2, SB-4, SB-5, SB-6, SB-7, SB-8, SB-9, and SB-10). However, no detections were reported above the NYSDEC groundwater standard of 7.0 µg/l as per TOGS Memorandum 1.1.1, June 1998;

- Carbon Disulfide was detected in eight (8) groundwater samples collected (SB-1, SB-2, SB-3, SB-4, SB-5, SB-6, SB-7, and SB-10). No detections were reported above the NYSDEC groundwater standard of 50 µg/l as per TOGS Memorandum 1.1.1, June 1998;

- 2-Butanone was detected in six (6) groundwater samples collected (SB-1, SB-2, SB-3, SB-4, SB-5, SB6). However, no detections were detected above the NYSDEC groundwater standard of 50 µg/l as per TOGS Memorandum 1.1.1, June 1998;

- Acetone was detected below the NYSDEC groundwater standard of 50 µg/l in all groundwater samples collected. The consistent acetone detection may be attributed as laboratory artifact which may be a product of laboratory hygiene.

2.3 TEMPORARY VAPOR POINT INSTALLATIONS

A temporary soil vapor point was installed within three (3) feet of each soil boring advanced. A total of 12 temporary soil vapor points (VP-1 through VP-12) were installed between July 29 and August 1, 2013. Vapor points VP-1 through VP-10 corresponded directly to soil borings SB-1 through SB-10. Additional temporary soil vapor points VP-11 and VP-12 were installed within three (3) feet of existing monitoring wells MW-7 and MW-6, respectively. The location of each vapor point is presented on Figure 2.

Each temporary soil vapor sampling point was installed within a 2.0-inch diameter borehole advanced via direct push tooling. Soil vapor sampling points were constructed of a 6.0-inch length of ¼-inch diameter stainless steel wire mesh screen attached to ¼-inch diameter teflon-lined silicone tubing. The screened portion was vertically centered within approximately 12-inches of glass beads. The sampling point was placed to sample the soil vapor from the

subsurface within approximately 3.0-feet of the water table (as observed during the drilling program). The glass beads were sealed with hydrated bentonite to within 2.5-feet of grade. The annular space above the bentonite seal was backfilled with compacted native soil and number 0 sand. Upon completion of soil vapor sample collection each vapor point location was covered with native soil and an 8-inch nail was buried with the teflon tubing in-order to assist in finding the vapor point in the future with a metal detector. The construction specifications for the temporary soil vapor points are included in the soil boring and well completion logs (Attachment A).

2.3.1 SOIL VAPOR POINT SAMPLING AND RESULTS

Between July 30 and August 1, 2013 a total of twelve soil vapor samples were collected. To ensure ambient air from the surface was not drawn into the soil vapor probe the bentonite seal was tested at each vapor point location prior to sample collection. Testing of the seal was conducted by extending an appropriate length of teflon tubing from the vapor point through a tracer gas enclosure. The tubing was sealed to the tracer gas enclosure and the atmosphere within the enclosure was enriched with helium gas. Once the tracer gas enclosure was enriched with helium, the vapor point was purged of approximately three volumes at a flow rate of less than 0.2 liters per minute (lpm) using a purge pump. After purging was completed, a tedlar bag was filled with sub-slab vapor and the contents field screened with a PID for total VOC concentration and, percent helium in order to test the integrity of the seal between the soil vapor sampling point and the surface. Once the seal was confirmed via helium testing, sampling of the sub-slab vapor point commenced.

Soil vapor samples were collected using laboratory-supplied summa canisters and flow regulators at each location. Each flow regulator was laboratory-calibrated to obtain the soil vapor sample over a 1.0-hour duration. After collection, soil vapor samples were submitted via overnight courier to the Test Americas' Knoxville, Tennessee laboratory where they were analyzed via analytical method TO-15 for the full list of VOCs.

The soil vapor laboratory analytical results for this sampling event are summarized in **Table 2**. A VOC distribution map of soil vapor is presented as **Figure 4**. A copy of the soil vapor laboratory analytical report is included as **Attachment C**.

New York State currently does not have any standards, criteria or guidance values for concentrations of compounds in soil vapor per the New York State Department of Health (NYSDOH) Guidance for Evaluating Soil Vapor Intrusion in the State of New York – October, 2006. The following discussion presents a comparison of the soil vapor data collected between July 30 and August 1, 2013 using United States Environmental Protection Agency (USEPA) guidance values for target indoor air and shallow soil gas concentrations per Table 2A – OSWER Draft Guidance for Evaluating Intrusion to Indoor Air Pathway from Groundwater and Soils (OSWER) – November, 2002;

- In general when reviewing the soil vapor laboratory analytical data, detected analytes appear to be derived of both chlorinated solvent and petroleum range compounds.

- The analyte carbon tetrachloride was detected above the OSWER guidance value of 16 microgram per cubic meter ($\mu g/m^3$) in seven (7) soil vapor samples collected

- Elevated concentrations of chloroform were detect in soil vapor sample VP-1, VP-4, VP-5, VP-7, VP-8, VP-9, VP-10, VP-11 and VP-12;

- Tetrachloroethene (PCE) was detected in concentrations above 100 µg/m^3 in four (4) soil vapor samples collected (VP-1, VP-8, VP-11, and VP-12).

- Trichloroethene (TCE) was above the concentration of 5 µg/m^3 in eight (8) of the soil vapor samples collected (VP-1, VP-4, VP-5, VP-7, VP-8, VP-9, VP-10, and VP-11).

- Petroleum range compounds 1,2,4-trimethylbenzene and 1,3,5-trimethylbenzene were detected above OSWER guidance values in soil vapor samples VP-1, VP-10, VP-11, and VP-12.

3.0 SUPPLEMENTAL SOIL BORINGS AND MONITORING WELL INSTALLATIONS

The supplementary investigation was expanded slightly to the south and west. During this phase of the investigation between October 14 and October 16, 2013, Aztech advanced three (3) additional soil borings (SB-11 to SB-13) which were completed as permanent monitoring wells AZMW-1, AZMW-2, and AZMW-3, respectively. The soil borings and were installed by the same means and methods as described in the previous sections. Five (5) monitoring wells (AZMW-4 to AZMW-8) were installed within the vicinity of previously drilled boring locations during this time. Soil sampling was not conducted during the installation of monitoring wells AZMW-4 to AZMW-8. The location of all soil borings and monitoring wells are presented on **Figure 5**.

Soil borings SB-11 to SB-13 were advanced approximately five (5) feet into the observed water table. During the boring advancements soil samples were retrieved using macro-core sampling techniques and field screened with a PID as described in the previous sections. No elevated PID readings were observed in any of the field screened soils and subsequently no soil samples were submitted for laboratory analysis. The geology of soil borings SB-11 to SB-13 was consistent with the geology described in soil borings SB-1 to SB-10 and no major changes were observed. Details for each soil boring are presented in the soil boring and well completion logs (Attachment A).

Soil boring SB-11 was completed as monitoring well AZMW-1 and was constructed of an appropriate length of 1-inch ID schedule 40 PVC plastic 10-slot well screen and solid riser. The well screen was placed so that the upper portion of the screen extended approximately 3.0-feet above the water table (as observed in the borehole during drilling). The annular space around the well screen was backfilled with number 0 filter pack sand to extend above the screened interval. The sand filter pack was subsequently sealed with bentonite chips that were hydrated before completing the monitoring well installation. AZMW-1 was installed differently than all other wells installed (described below) due to refusal of the 3-inch diameter drill casing required to install the originally scoped 1.5-inch pre-packed wells.

Monitoring wells AZMW-2 to AZMW-8 were installed by advancing 3-inch diameter drilling casing equipped with a stainless steel disposable point to an appropriate depth. Each well was constructed of an appropriate length of 1.5-inch ID schedule 40 PVC plastic 10-slot pre-packed well screen and solid riser. The pre-packed well screen was placed fully submerged within the water table. The pre-packed well screen was backfilled with additional number 0 filter pack sand approximately two (2) feet above the screened interval. The sand filter pack was subsequently sealed with bentonite chips that were hydrated before completing the monitoring well installation. The drill casing was extracted and each monitoring well was finished flush to grade with a steel, bolt-down road box set in a concrete pad. Construction specifications for each temporary monitoring well are included in the soil boring completion logs (Attachment A).

3.1 OFFSITE SURVEY

On October 24, 2013 the location, ground elevation, and top of casing (TOC) elevation of monitoring wells AZMW-1 to AZMW-8 were surveyed by a professional surveyor licensed in the state of New York. The surveying activities were conducted by T.G Miller, P.C (Miller) of Ithaca, New York. Miller surveyed the elevations in mean sea level (MSL) and the locations using the North American Datum (NAD) of 1983. The location coordinates; ground and TOC elevation data is presented on **Table 3**.

3.2 MONITORING WELL GAUGING AND SAMPLING

Between November 4 and November 6, 2013 Aztech completed a groundwater gauging and sampling event at the eight (8) newly installed monitoring wells (AZMW-1 to AZMW-8) and two (2) existing monitoring wells MW-6 and MW-7.

Depth to groundwater measurements were collected using an electronic water level meter graduated in 0.01 feet intervals. All measurements were taken from the top of groundwater monitoring well casings. The water level meter was decontaminated between locations using acceptable industry practices and in accordance with the manufacturer.

The groundwater elevation data collected are presented on **Table 4**. The groundwater flow varied from flowing toward the northwest, nearest Fall Creek (MW-6 and AZMW-7) to the west-southwest over the residential area. This is consistent with the transition in geology from the exposed siltstone bedrock located on the actual site of the Former Ithaca Gun Factory to the alluvial deposits seen in the overburden material located offsite. However, the overall groundwater flow direction in the overburden beneath the study area was generally to the west-southwest based on the November 4, 2013 gauging data (**Figure 6**). The hydraulic gradient varied across the subject area particularly where the greatest change in topography occurs (between the natural area and Lake Street). In this general area the hydraulic gradient was 0.04 ft/ft on November 4, 2013. Between Lake street and North Aurora Street the hydraulic gradient was 0.001 ft/ft and is considerably level.

Following the groundwater gauging event, each newly installed well (AZMW-1 to AZMW-8) was developed by removing approximately ten well volumes of water using a peristaltic pump and dedicated polyethylene tubing. Groundwater samples from ten (10) wells (AZMW-1 to AZMW-8, MW-6 and MW-7) were retrieved using low flow sampling techniques. Groundwater samples were decanted into laboratory supplied glassware preserved with dilute hydrochloric acid,

placed on ice in a cooler, and transported under proper chain of custody to Test America in Amherst, NY. The samples were analyzed for the NYSDEC full list of VOCs, including MtBE, using USEPA Method 8260B category B deliverables.

The groundwater laboratory analytical results for this sampling event are summarized in **Table 5**. A VOC distribution map in groundwater is presented as **Figure 7**. A copy of the groundwater laboratory analytical report is included as **Attachment D**.

The analytical results for the November 4 to November 6, 2013 groundwater sampling event are summarized below:

- TCE was detected in five (5) of the ten (10) groundwater samples collected (AZMW-3, AZMW-4, AZMW-6, AZMW-7 and MW-7). However, no detections were reported above the NYSDEC groundwater standard of 5.0 µg/l as per TOGS Memorandum 1.1.1, June 1998;

- Chloroform also detected in seven (7) groundwater samples collected (AZMW-1, AZMW-3, AZMW-4, AZMW-5, AZMW-6, AZMW-8, and MW-7). However, no detections were reported above the NYSDEC groundwater standard of 7.0 µg/l as per TOGS Memorandum 1.1.1, June 1998;

- Carbon Disulfide as detected in AZMW-6 at a concentration of 0.3 µg/l on November 4, 2913. This was below the NYSDEC groundwater standard of 50 µg/l as per TOGS Memorandum 1.1.1, June 1998;

4.0 DATA USABILITY SUMMARY REPORT

A third party data usability summary report (DUSR) was completed after each groundwater and soil vapor sampling event conducted during the investigation between July 29 and November 6, 2013. Each DUSR was conducted by EnviroAnalytics of Utica, New York. The purpose of the DUSR is to ensure validation in the quality of data received from the groundwater sampling event. The DUSR executive summary indicates that the volatile organic analyses were determined to be usable for qualitative and quantitative purposes with minor qualification. Sample results for several compounds were qualified based on deviations from blank analysis, continuing calibration, field duplicate and matrix spike criteria. The DUSR for each sampling event is included in **Attachment E**.

FIGURES

FALL CREEK

EAST FALLS STREET

NORTH TIOGA STREET

EAST LINCOLN STREET

QUEEN STREET

NORTH AURORA STREET

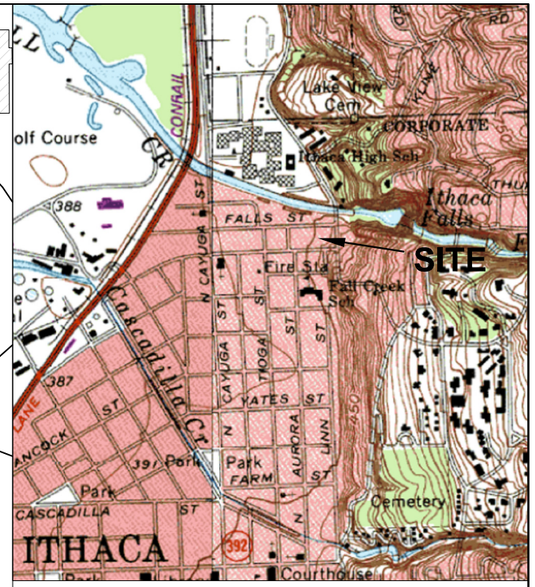
KING STREET

LINN STREET

LAKE STREET

PARK/NATURAL AREA

LOCATION OF FORMER ITHACA GUN FACTORY



LEGEND

- Brownfield Cleanup Program Site (BCP)
- Ithaca Falls Overlook, Environmental Restoration Program Site (ERP)

Former Ithaca Gun Factory - Offsite

NYSDEC Site #C755019A
Ithaca, New York

Figure 1

DATE: August, 2013 | Scale 1" = 150'

SITE MAP - (Area Overview)

Aztech Technologies, Inc.

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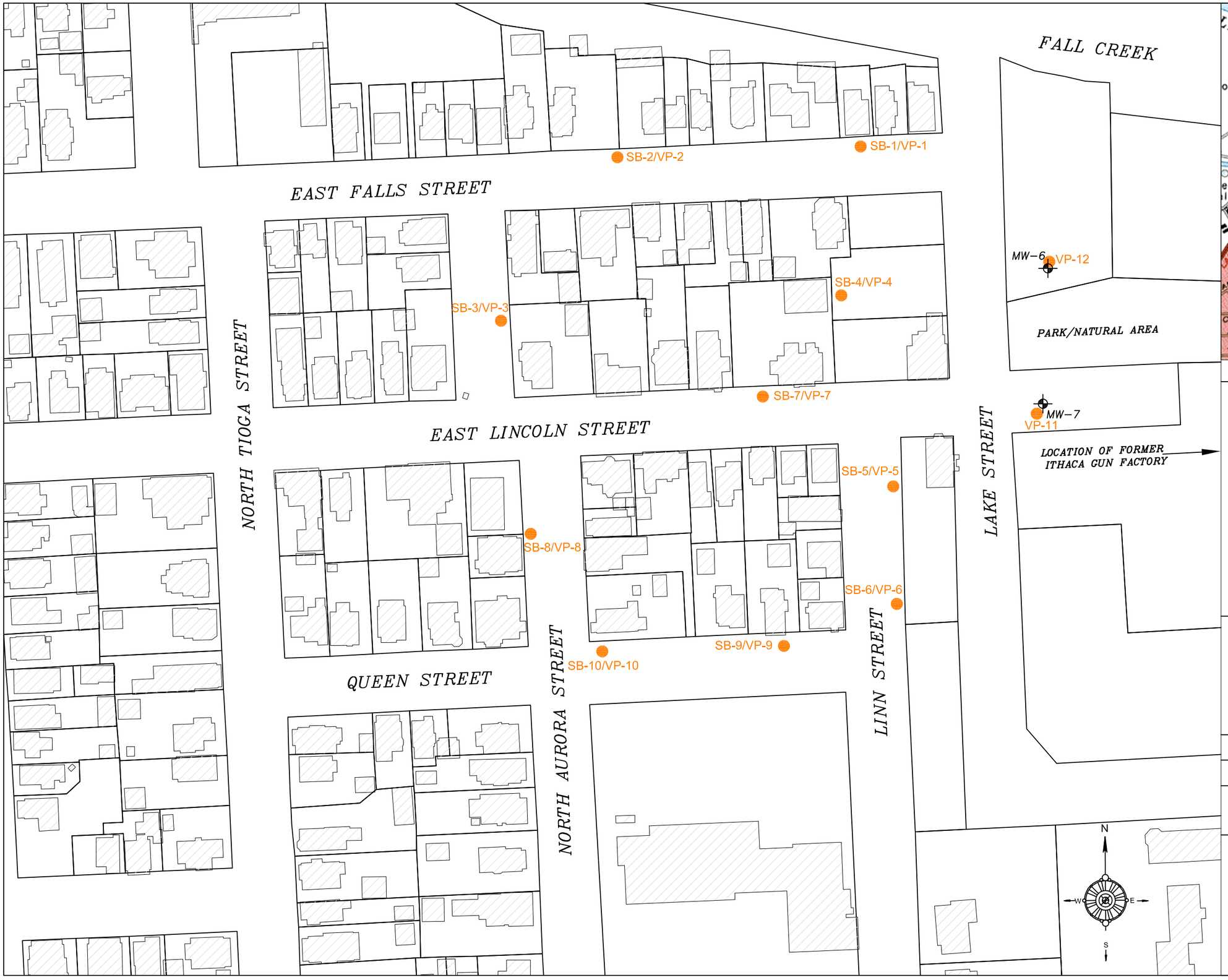

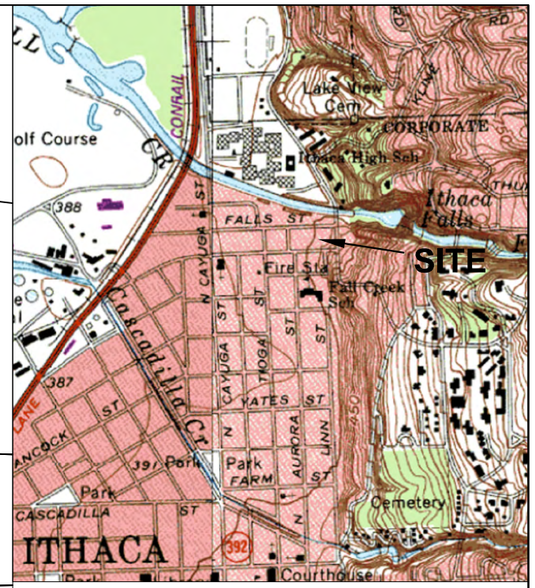

LEGEND

MW-7 Existing Monitoring Well

SB-1/VP-1 Soil Boring and/or Vapor Point Location

Former Ithaca Gun Factory - Offsite

NYSDEC Site #C755019A
Ithaca, New York

Figure 2

DATE: August, 2013 | Scale 1" = 100'

SOIL BORING LOCATION MAP

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EAST FALLS STREET

EAST LINCOLN STREET

QUEEN STREET

NORTH TIOGA STREET

NORTH AURORA STREET

LINN STREET

LAKE STREET

FALL CREEK

PARK/NATURAL AREA

LOCATION OF FORMER ITHACA GUN FACTORY

SB-1/VP-1

SB-1	
Parameter	(ug/L)
Acetone	12 J
Carbon Disulfide	0.4 JB
Chloroform	1.4
Trichloroethene	3.1 J
2-Butanone	2.4 J

SB-2/VP-2

SB-2	
Parameter	(ug/L)
Acetone	10 J
Carbon Disulfide	1.5
Chloroform	2.1
2-Butanone	1.8 J

SB-3/VP-3

SB-3	
Parameter	(ug/L)
Acetone	14 J
Carbon Disulfide	0.98 J
Methylene Chloride	0.55 J
2-Butanone	4.7 J

SB-4/VP-4

SB-4	
Parameter	(ug/L)
Acetone	17 J
Carbon Disulfide	0.88 J
Chloroform	1.0
Trichloroethene	1.7 J
2-Butanone	3.1 J

SB-5/VP-5

SB-5	
Parameter	(ug/L)
Acetone	20 J
Carbon Disulfide	0.75 J
Chloroform	3.0
Trichloroethene	1.4 J
2-Butanone	4.1 J

SB-6/VP-6

SB-6	
Parameter	(ug/L)
Acetone	13 J
Carbon Disulfide	0.65 JB
Chloroform	0.78 J
2-Butanone	2.5 J

SB-7/VP-7

SB-7	
Parameter	(ug/L)
Acetone	5.7 J
Carbon Disulfide	0.26 J
Chloroform	1.1
Trichloroethene	2.2 J

SB-8/VP-8

SB-8	
Parameter	(ug/L)
Acetone	4.6 J
Chloroform	4.4
Trichloroethene	4.8 J

SB-9/VP-9

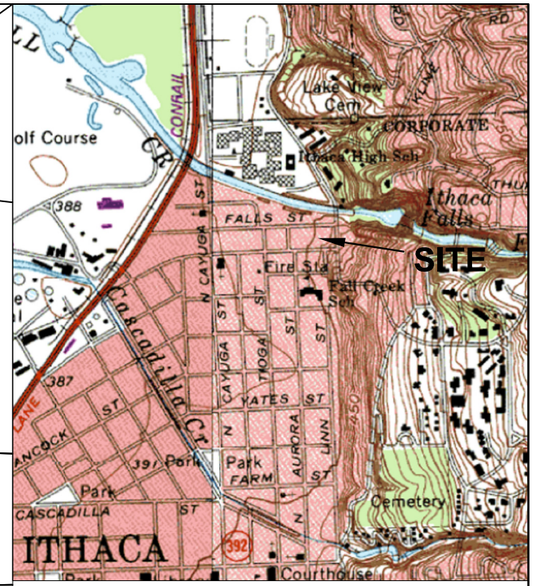
SB-9	
Parameter	(ug/L)
Acetone	7.4 J
Chloroform	1.3
Trichloroethene	2.1 J
1,2 Dichloroethane	1.1 J

SB-10/VP-10

SB-10	
Parameter	(ug/L)
Acetone	7.9 J
Carbon Disulfide	0.26 J
Chloroform	2.7
Trichloroethene	3.1 J

MW-6 VP-12

MW-7 VP-11



LEGEND

MW-7 Existing Monitoring Well

SB-1/VP-1 Soil Boring and/or Vapor Point Location

Former Ithaca Gun Factory - Offsite

NYSDEC Site #C755019A
Ithaca, New York

Figure 3

DATE: August, 2013 | Scale 1" = 100'

GROUNDWATER VOC DISTRIBUTION MAP

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EAST FALLS STREET

LINCOLN STREET

QUEEN STREET

NORTH TIOGA STREET

NORTH AURORA STREET

FALL CREEK

PARK/NATURAL AREA

SB-1/VP-1

VP-1	
Parameter	(ug/m3)
Benzene	5.9
Carbon Tetrachloride	83
Chloroform	520
Dichlorodifluoromethane	9.3
Ethylbenzene	21
M&P Xylene	72
N-Hexane	13
O-Xylene	30
Styrene	14
Tetrachloroethene	420
Toluene	55
Trichloroethene	910
1,1,1 Trichloroethane	150
1,2,4 Trimethylbenzene	42
1,3,5 Trimethylbenzene	10

SB-2/VP-2

VP-2	
Parameter	(ug/m3)
Benzene	3.5
Carbon Tetrachloride	3.1
Cyclohexane	16
Dichlorodifluoromethane	2.1
Ethanol	7.2
Ethylbenzene	0.95
M&P Xylene	4.7
N-Hexane	27
O-Xylene	1.7
Tetrachloroethene	1.9
Toluene	7.4
1,1,1 Trichloroethane	8.1
1,1,2 Trichlorotrifluoroethane	1.4
1,2,4 Trimethylbenzene	1.8
1,3,5 Trimethylbenzene	1.0
2-Butanone	3.4
4-Methyl-2-Pentanone (MIBK)	13

SB-3/VP-3

VP-3	
Parameter	(ug/m3)
Benzene	2.1
Carbon Tetrachloride	1.9
Chloroform	1.7
Cyclohexane	9.0
Ethanol	5.0
Ethylbenzene	1.0
Methylene Chloride	2.3
N-Hexane	7.7
Tetrachloroethene	0.57
Toluene	6.2
Trichloroethene	1.7
Trichlorofluoromethane	0.94
1,1,1 Trichloroethane	4.6
1,1,2 Trichlorotrifluoroethane	0.80
1,2 Dichloroethane	0.36
1,2,4 Trimethylbenzene	2.6
1,3,5 Trimethylbenzene	1.6
2-Butanone	5.1
4-Methyl-2-Pentanone (MIBK)	4.7

SB-4/VP-4

VP-4	
Parameter	(ug/m3)
Benzene	1.4
Carbon Tetrachloride	120
Chloroform	99
Cyclohexane	6.9
Dichlorodifluoromethane	45
Ethanol	12
M&P Xylene	2.4
N-Hexane	11
Toluene	3.2
Trichloroethene	57
Trichlorofluoromethane	6.2
1,1,1 Trichloroethane	170
4-Methyl-2-Pentanone (MIBK)	3.9

SB-5/VP-5

VP-5	
Parameter	(ug/m3)
Benzene	6.7
Carbon Tetrachloride	37
Chloroform	12
Cyclohexane	7.2
Dichlorodifluoromethane	27
Ethanol	11
Ethylbenzene	3.7
M&P Xylene	11
Methylene Chloride	0.75
O-Xylene	4.3
Styrene	2.2
Tetrachloroethene	6.7
Toluene	11
Trichloroethene	5.2
Trichlorofluoromethane	19
1,1,1 Trichloroethane	56
1,1,2 Trichlorotrifluoroethane	2.1
1,2,4 Trimethylbenzene	6.8
1,3,5 Trimethylbenzene	2.2
2,2,4-Trimethylpentane	2.1
2-Butanone	6.2
4-Methyl-2-Pentanone (MIBK)	37

SB-6/VP-6

VP-6	
Parameter	(ug/m3)
Benzene	2.2
Carbon Tetrachloride	38
Chloroform	0.84
Cyclohexane	16
Dichlorodifluoromethane	22
Ethanol	4.0
Ethylbenzene	2.2
M&P Xylene	10
Methylene Chloride	1.1
N-Hexane	36
O-Xylene	3.1
Styrene	0.55
Tetrachloroethene	1.3
Toluene	14
Trichlorofluoromethane	40
1,1,1 Trichloroethane	47
1,1,2 Trichlorotrifluoroethane	1.5
1,2,4 Trimethylbenzene	3.5
1,3,5 Trimethylbenzene	1.6
2,2,4-Trimethylpentane	1.0
2-Butanone	13
4-Methyl-2-Pentanone (MIBK)	6.2

SB-7/VP-7

VP-7	
Parameter	(ug/m3)
Carbon Tetrachloride	96
Chloroform	310
Dichlorodifluoromethane	34
N-Hexane	30
Tetrachloroethene	21
Trichloroethene	730
1,1,1 Trichloroethane	200

SB-8/VP-8

VP-8	
Parameter	(ug/m3)
Carbon Tetrachloride	47
Chloroform	500
Tetrachloroethene	150
Trichloroethene	1,400
1,1,1 Trichloroethane	110

SB-9/VP-9

VP-9	
Parameter	(ug/m3)
Benzene	4.9
Carbon Tetrachloride	7.9
Chloroform	320
Cyclohexane	12
Dichlorodifluoromethane	43
M&P Xylene	6.2
N-Hexane	25
Toluene	7.3
Trichloroethene	320
Trichlorofluoromethane	19
1,1,1 Trichloroethane	42

SB-10/VP-10

VP-10	
Parameter	(ug/m3)
Benzene	2.8
Carbon Tetrachloride	2.5
Chloroform	12
Chloromethane	1.3
Cyclohexane	4.4
Dichlorodifluoromethane	1.6
Ethanol	6.4
Ethylbenzene	0.94
M&P Xylene	3.4
N-Hexane	6.4
O-Xylene	1.2
Tetrachloroethene	16
Toluene	4.8
Trichloroethene	120
Trichlorofluoromethane	1.3
1,1,1 Trichloroethane	8.2
1,2,4 Trimethylbenzene	1.3
2-Butanone	5.7
4-Methyl-2-Pentanone (MIBK)	2.9

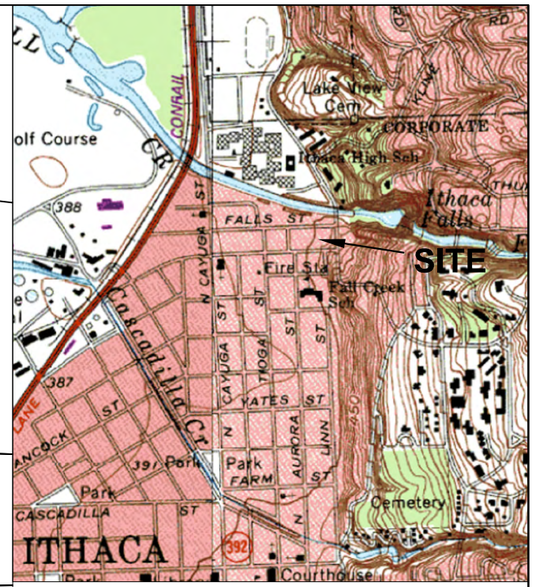
VP-12

VP-12	
Parameter	(ug/m3)
Benzene	7.4
Carbon Tetrachloride	5.8
Chloroform	33
Dichlorodifluoromethane	6.2
Ethanol	28
Ethylbenzene	25
M&P Xylene	86
N-Hexane	14
O-Xylene	35
Styrene	17
Tetrachloroethene	490
Toluene	64
Trichloroethene	3.6
1,1,1 Trichloroethane	17
1,2,4 Trimethylbenzene	55
1,3,5 Trimethylbenzene	14

MW-7

VP-11

VP-11	
Parameter	(ug/m3)
Benzene	10
Carbon Tetrachloride	75
Chloroform	430
Cyclohexane	22
Dichlorodifluoromethane	260
Ethanol	56
Ethylbenzene	26
M&P Xylene	84
N-Hexane	29
O-Xylene	34
Styrene	15
Tetrachloroethene	500
Toluene	72
Trichloroethene	130
Trichlorofluoromethane	28
1,1,1 Trichloroethane	210
1,2,4 Trimethylbenzene	32
1,3,5 Trimethylbenzene	11
2-Butanone	9.5
4-Methyl-2-Pentanone (MIBK)	9.7



LEGEND

MW-7 Existing Monitoring Well

SB-1/VP-1 Soil Boring and/or Vapor Point Location

Former Ithaca Gun Factory - Offsite

NYSDEC Site #C755019A
Ithaca, New York

Figure 4

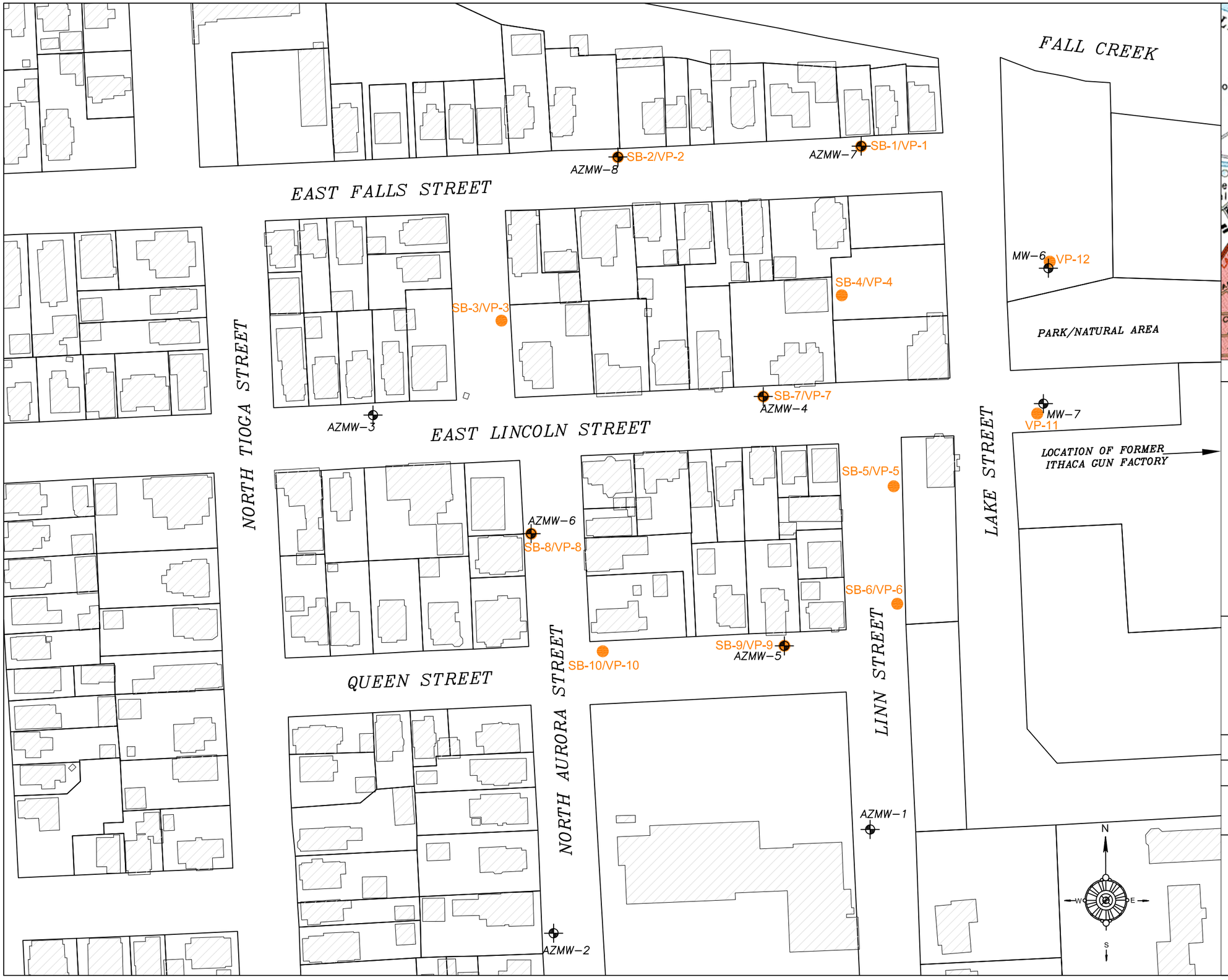
DATE: August, 2013 | Scale 1" = 100'

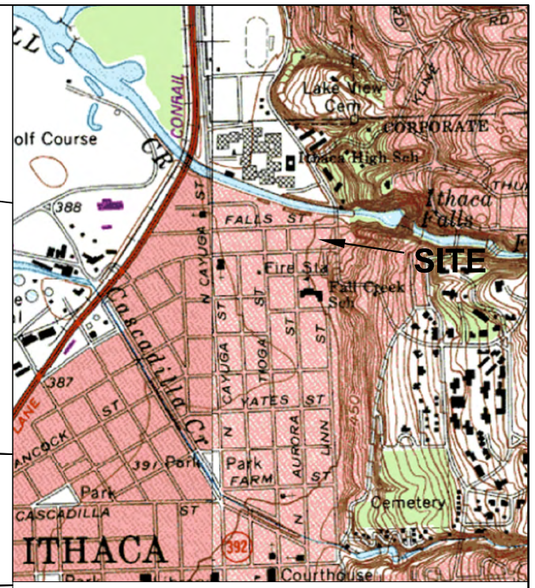
SOIL VAPOR VOC DISTRIBUTION MAP

Aztech Technologies, Inc.

5 McCrea Hill Road
Ballston Spa
New York 12020

Phone: 518-885-5383
Fax: 518-885-5385
www.aztechtech.com





LEGEND

- MW-7 — Monitoring Well
- SB-1/VP-1 — Soil Boring and/or Vapor Point Location

Former Ithaca Gun Factory - Offsite

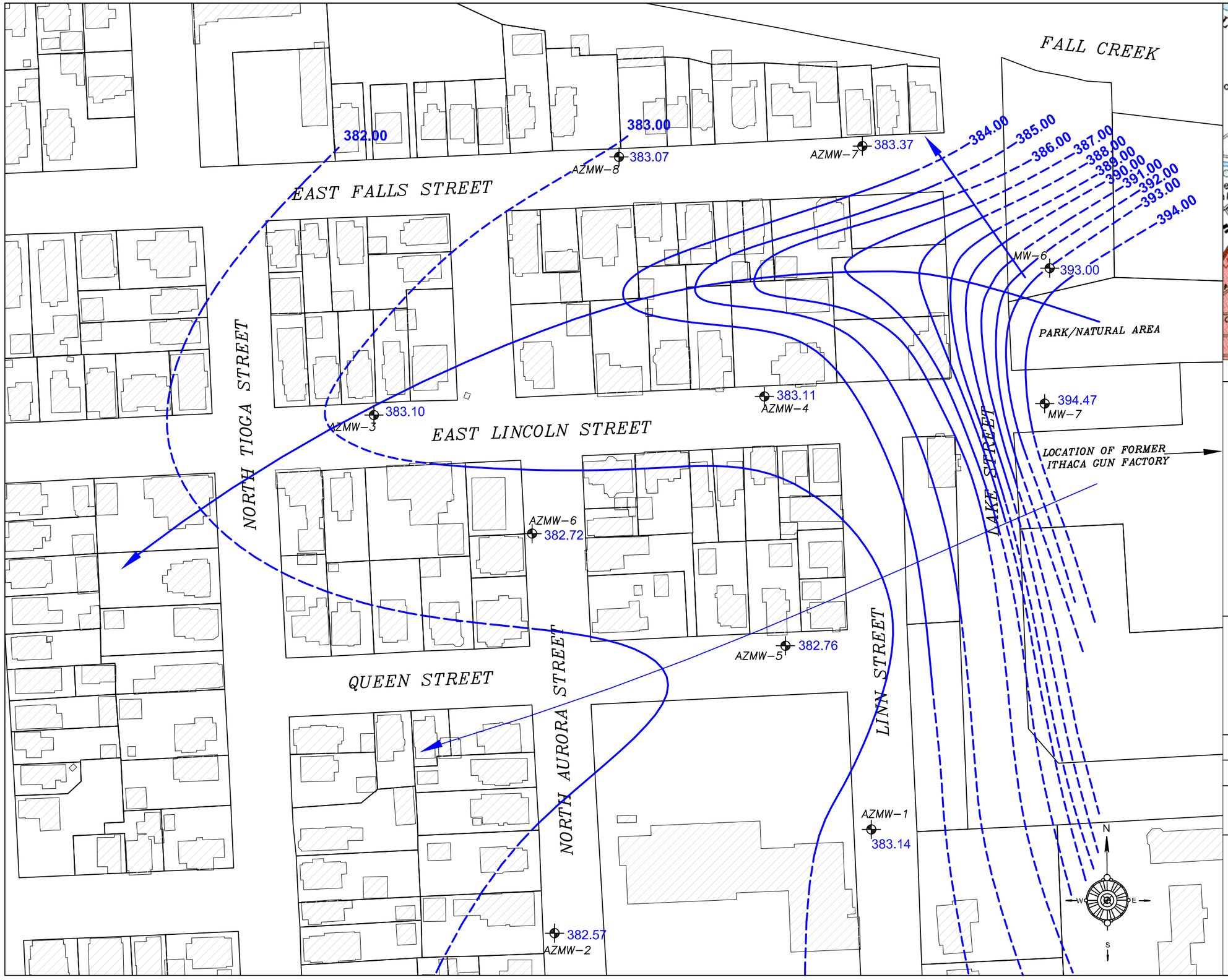
NYSDEC Site #C755019A
Ithaca, New York

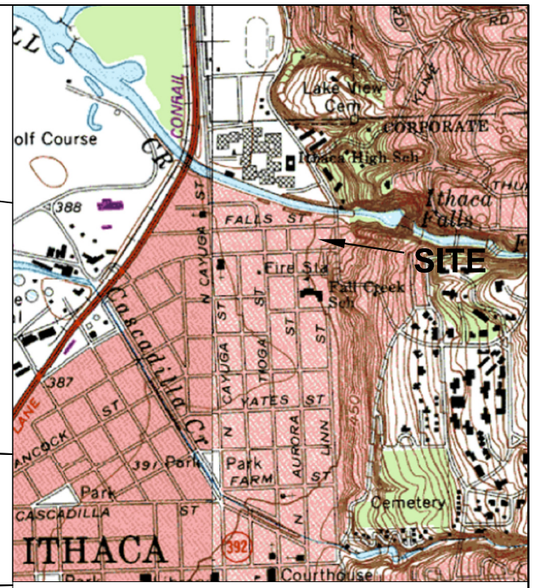
Figure 5

DATE: August, 2013 | Scale 1" = 100'

MONITORING WELL LOCATION MAP

Aztech Technologies, Inc.
5 McCrea Hill Road
Ballston Spa
New York 12020
Phone: 518-885-5383
Fax: 518-885-5385
www.aztechtech.com





LEGEND

- MW-7 — Monitoring Well
- Calculated Isopleth
- Inferred Isopleth
- 394.47 — Water Table Elevation (MSL)
- Generalized Direction of Groundwater Flow

Former Ithaca Gun Factory - Offsite

NYSDEC Site #C755019A
Ithaca, New York

Figure 6

DATE: November 4, 2013 | Scale 1" = 100'

GROUNDWATER COUNTOUR MAP

Aztech Technologies, Inc.

5 McCrea Hill Road
Ballston Spa
New York 12020

Phone: 518-885-5383
Fax: 518-885-5385
www.aztechtech.com

FALL CREEK

EAST FALLS STREET

AZMW–8

AZMW-8	
Parameter	(ug/L)
Chloroform	4.3

AZMW–7

AZMW-7	
Parameter	(ug/L)
Trichloroethene	0.82 J

MW–6

MW-6	
Parameter	(ug/L)
Carbon Disulfide	0.30 J

PARK/NATURAL AREA

NORTH TIOGA STREET

AZMW–3

AZMW-3	
Parameter	(ug/L)
Chloroform	3.6
Trichloroethene	2.6

EAST LINCOLN STREET

AZMW–4

AZMW-4	
Parameter	(ug/L)
Chloroform	0.98 J
Trichloroethene	1.8

MW–7

MW-7	
Parameter	(ug/L)
Chloroform	1.8
Trichloroethene	2.4

LOCATION OF FORMER ITHACA GUN FACTORY

LAKE STREET

AZMW–6

AZMW-6	
Parameter	(ug/L)
Chloroform	2.8
Trichloroethene	4.1

AZMW–5

AZMW-5	
Parameter	(ug/L)
Chloroform	4.1

QUEEN STREET

NORTH AURORA STREET

LINN STREET

AZMW–1

AZMW-1	
Parameter	(ug/L)
Chloroform	4.8

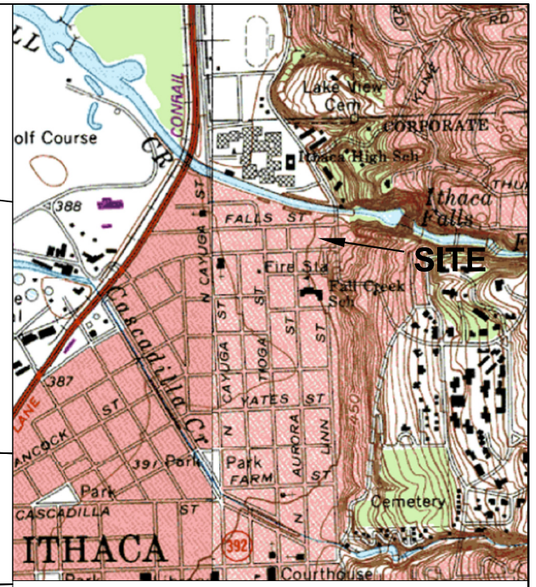
AZMW–2

AZMW-2	
Parameter	(ug/L)
ND	ND

N

W E

S



LEGEND

MW–7 Monitoring Well

Former Ithaca Gun Factory - Offsite

NYSDEC Site #C755019A
Ithaca, New York

Figure 7

DATE: November 4, 2013 | Scale 1" = 100'

GROUNDWATER VOC DISTRIBUTION MAP

Aztech Technologies, Inc.

5 McCrea Hill Road
Ballston Spa
New York 12020

Phone: 518-885-5383
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www.aztechtech.com

TABLES

TABLE 1
LABORATORY GROUNDWATER ANALYTICAL RESULTS - 7/31/2013 to 8/1/2013
Volatile Organic Compounds
Former Ithaca Gun Factory - (Offsite)
Ithaca, New York
DEC Site No. C755019A

COMPOUNDS LIST	TOGS Guidance/Standard	GROUNDWATER SAMPLES									
Sample ID		SB-1	SB-2	SB-3	SB-4	SB-5	SB-6	SB-7	SB-8	SB-9	SB-10
Date Sampled		31-Jul-13	31-Jul-13	31-Jul-13	31-Jul-13	31-Jul-13	31-Jul-13	1-Aug-13	1-Aug-13	1-Aug-13	1-Aug-13
8260 Full LIST	**ppb - (µg/L)**	**VOC Analytical Results (ppb)**									
1,1,1-Trichloroethane	5	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,1,2,2-Tetrachloroethane	5	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,1,2-Trichloroethane	5	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,1,2-Trichloro-1,2,2-trifluoroethane	5	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,1-Dichloroethane	5	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,1-Dichloroethene	5	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,2,4-Trichlorobenzene	10	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,2-Dibromo-3-Chloropropane	5	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,2-Dibromoethane	5	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,2-Dichlorobenzene	4.7	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,2-Dichloroethane	5	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,2-Dichloropropane	5	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,3-Dichlorobenzene	5	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,4-Dichlorobenzene	4.7	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
2-Hexanone	50	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
2-Butanone (MEK)	50	2.4 J	1.8 J	4.7 J	3.1 J	4.1 J	2.5 J	ND	ND	ND	ND
4-Methyl-2-pentanone (MIBK)	50	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Acetone	50	12 J	10 J	14 J	17 J	20 J	13 J	5.7 J	4.6 J	7.4 J	7.9 J
Benzene	1.0	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Bromodichloromethane	50	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Bromoform	50	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Bromomethane	5	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Carbon disulfide	50	0.4 JB	1.5	0.98 J	0.88 J	0.75 J	0.65 JB	0.26 J	ND	ND	0.26 J
Carbon tetrachloride	5	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Chlorobenzene	5	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Dibromochloromethane	50	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Chloroethane	5	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Chloroform	7	1.4	2.1	ND	1.0	3.0	0.78 J	1.1	4.4	1.3	2.7
Chloromethane	50	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
cis-1,2-Dichloroethene	5	ND	ND	ND	ND	ND	ND	ND	ND	1.1 J	ND
cis-1,3-Dichloropropene	5	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Cyclohexane	50	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Dichlorodifluoromethane	5	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Ethylbenzene	5	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Isopropylbenzene	5	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Methyl acetate	50	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
MtBE	10	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Methylcyclohexane	50	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Methylene Chloride	5	ND	ND	0.55 J	ND	ND	ND	ND	ND	ND	ND
Styrene	5	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Tetrachloroethene	5	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Toluene	5	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
trans-1,2-Dichloroethene	5	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
trans-1,3-Dichloropropene	5	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Trichloroethene	5	3.1 J	ND	ND	1.7 J	1.4 J	ND	2.2 J	4.8 J	2.1 J	3.1 J
Trichlorofluoromethane	5	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Vinyl chloride	2	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Xylenes, Total	5	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
		TOTAL CONCENTRATIONS (ppb)									
BTEX	-	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
***TOTAL VOCs**	-	19	15	20	24	29	17	9.3	14	12	14

Notes:

MtBE: Methyl tertiary-Butyl Ether

BOLD values indicate exceedance of applicable NYSDEC guidance values

ND: Not Detected Above Applicable Laboratory Detection Limits

TOGS: Technical and Operational Guidance Series

TOGS Standards and Guidance are determined by the NYSDEC Ambient Water Quality Standards and Guidance Values and Groundwater Effluent Limitiations, Technical and Operational Guidance Series, June 1998

All values are reported in parts per billion (ppb or µg/L)

J - Laboratory Qualifier (Result is less than the reporting limit, but greater than the method detection limit and the concentration is an approximate value)

B - Laboratory Qualifier (Compound was found in the blank and sample)

TABLE 2
LABORATORY SOIL VAPOR ANALYTICAL RESULTS - 7/30/2013 to 8/1/2013
Volatile Organic Compounds
Former Ithaca Gun Factory - (Offsite)
Ithaca, New York
DEC Site No. C755019A

COMPOUNDS LIST	USEPA/OSWER Vapor Intrusion Guidance NYSDOH Air Guidance	SOIL VAPOR SAMPLES											
Sample ID		VP-1	VP-2	VP-3	VP-4	VP-5	VP-6	VP-7	VP-8	VP-9	VP-10	VP-11	VP-12
Date Sampled		30-Jul-13	31-Jul-13	31-Jul-13	31-Jul-13	31-Jul-13	31-Jul-13	1-Aug-13	1-Aug-13	1-Aug-13	1-Aug-13	30-Jul-13	30-Jul-13
8260 Full LIST	**(ug/m3)**	**VOC Analytical Results (ug/m3)**											
Benzene	31	5.9	3.5	2.1	1.4	6.7	2.2	ND	ND	4.9	2.8	10	7.4
Benzyl Chloride	5	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Bromodichloromethane	14	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Bromoform	220	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Bromomethane	*	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
2-Butanone (MEK)	1,000	ND	3.4	5.1	ND	6.2	13	ND	ND	ND	5.7	9.5	ND
Tert-butyl alchohol	*	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Carbon tetrachloride	16	83	3.1	1.9	120	37	38	96	47	7.9	2.5	75	5.8
Chlorobenzne	60	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Dibromochloromethane	10	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Chloromethane	90	ND	ND	ND	ND	ND	ND	ND	ND	ND	1.3	ND	ND
Chloroform	11	520	ND	1.7	99	12	0.84	310	500	320	12	430	33
Cyclohexane	*	ND	16	9.0	6.9	7.2	16	ND	ND	12	4.4	22	ND
1,2-Dibromoethane	20	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,2-Dichlorobenzene	200	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,3-Dichlorobenzene	110	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,4-Dichlorobenzene	800	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Dichlorodifluoromethane	200	9.3	2.1	ND	45	27	22	34	ND	43	1.6	260	6.2
1,1-Dichloroethane	500	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,2-Dichloroethane	9	ND	ND	0.36	ND	ND	ND	ND	ND	ND	ND	ND	ND
Cis-1,2-Dichloroethene	35	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
trans-1,2-Dichloroethene	70	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,1-Dichloroethene	200	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,2-Dichloropropane	4	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
cis-1,3-Dichloropropene	*	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
trans-1,3-Dichloropropene	*	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,2-Dichloro-1,1,2,2-tetraflouroethane	*	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,4-Dioxane	*	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Ethanol	*	ND	7.2	5.0	12	11	4.0	ND	ND	ND	6.4	56	28
Ethylbenzene	220	21	0.95	1.0	ND	3.7	2.2	ND	ND	ND	0.94	26	25
Hexachlorobutadiene	11	ND	ND		ND	ND	ND	ND	ND	ND	ND	ND	ND
n-Hexane	200	13	27	7.7	11	ND	36	30	ND	25	6.4	29	14
Methylene chloride	60+	ND	ND	2.3	ND	0.75	1.1	ND	ND	ND	ND	ND	ND
4-Methyl-2-pentanone (MIBK)	80	ND	13	4.7	3.9	37	6.2	ND	ND	ND	2.9	9.7	ND
Methyl tert-butyl ether (MtBE)	3,000	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Styrene	1,000	14	ND	ND	ND	2.2	0.55	ND	ND	ND	ND	15	17
1,1,2,2-Tetrachloroethane	4.2	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Tetrachloroethene	100+	420	1.9	0.57	ND	6.7	1.3	21	150	ND	16	500	490
Toluene	400	55	7.4	6.2	3.2	11	14	ND	ND	7.3	4.8	72	64
1,2,4-Trichlorobenzene	200	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,1,1-Trichloroethane	2,200	150	8.1	4.6	170	56	47	200	110	42	8.2	210	17
1,1,2-Trichloroethane	150	ND	1.4	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Trichloroethene	5+	910	ND	1.7	57	5.2	ND	730	1,400	320	120	130	3.6
Trichlorofluoromethane	700	ND	ND	0.94	6.2	19	40	ND	ND	19	1.3	28	ND
1,1,2-Trichlorotrifluoroethane	30,000	ND	1.4	0.80	ND	2.1	1.5	ND	ND	ND	ND	ND	ND
1,2,4-Trimethylbenzene	6	42	1.8	2.6	ND	6.8	3.5	ND	ND	ND	8.2	32	55
1,3,5-Trimethylbenzene	6	10	1.0	1.6	ND	2.2	1.6	ND	ND	ND	ND	11	14
2,2,4-Trimethylpentane	*	ND	ND	ND	ND	ND	1.0	ND	ND	ND	ND	ND	ND
Vinyl Chloride	28	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
m,p-Xylene	7,000	72	4.7	ND	2.4	11	10	ND	ND	6.2	3.4	84	86
o-Xylene	7,000	30	1.7	ND	ND	4.3	3.1	ND	ND	ND	1.2	34	35
		TOTAL CONCENTRATIONS (ug/m3)											
***TOTAL VOCs**	-	2,355	106	60	538	275	265	1,421	2,207	807	210	2,043	901

Notes:

ND: Not Detected Above Applicable Laboratory Detection Limits

USEPA Vapor Intrusion Guidance = Target Indoor Air and Target Shallow Soil Gas concentrations per Table 2A - OSWER Draft Guidance for Evaluating Intrusion to Indoor Air Pathway from Groundwater and Soils (Subsurface Vapor Intrusion Guidance) – November, 2002.

+ indicates NYSDOH Air Guideline Value; Guidance for Evaluating Soil Vapor Intrusion in the State of New York (October, 2006).

* Indicates no Vapor Intrusion Guidance Value.

TABLE 3

T.G MILLER SURVEY DATA - October 24, 2013

Former Ithaca Gun Factory - (Offsite)

Ithaca, New York

DEC Site No. C755019A

MONITORING WELL LOCATION	TOC ELEV.	GROUND ELEV.	NORTHING	EASTING
AZMW-1	408.54'	408.29'	892983.22	844028.41
AZMW-2	394.60'	394.38'	892872.65	843690.65
AZMW-3	395.51'	395.28'	893425.07	843498.09
AZMW-4	402.67'	402.32'	893444.95	843914.37
AZMW-5	406.26'	406.06'	893179.09	843936.90
AZMW-6	396.88'	396.63'	893298.71	843666.73
AZMW-7	404.42'	403.95'	893711.85	844018.80
AZMW-8	398.32'	398.08'	893700.33	843759.36

Notes:

TOC Elev = Top of Well Casing

All elevation data is presented in Mean Sea Level (MSL)

TOC data from T. G. Miller survey conducted 10/24/2013

TABLE 4

GROUNDWATER ELEVATIONS

Former Ithaca Gun Factory - (Offsite)

Ithaca, New York

DEC Site No. C755019A

MONITORING WELL DESIGNATION		AZMW-1	AZMW-2	AZMW-3	AZMW-4	AZMW-5	AZMW-6	AZMW-7	AZMW-8	MW-6	MW-7
TOP OF CASING		408.29	394.38	395.28	402.32	406.06	396.63	403.95	398.08	423.69	432.38
Date		**GROUNDWATER ELEVATIONS**									
11/4/2013	DTW	25.15	11.81	12.18	19.21	23.30	13.91	20.58	15.01	30.69	37.91
	GW Elev	383.14	382.57	383.10	383.11	382.76	382.72	383.37	383.07	393.00	394.47

Notes:

GW Elev = Groundwater Elevation (ft.)

DTW = Depth to water (ft.)

TOC data from T. G. Miller survey conducted 10/24/2013

TABLE 5
LABORATORY GROUNDWATER ANALYTICAL RESULTS - 11/4/2013 TO 11/6/2013
Volatile Organic Compounds
Former Ithaca Gun Factory - (Offsite)
Ithaca, New York
DEC Site No. C755019A

COMPOUNDS LIST	TOGS Guidance/Standard	GROUNDWATER SAMPLES									
Sample ID		AZMW-1	AZMW-2	AZMW-3	AZMW-4	AZMW-5	AZMW-6	AZMW-7	AZMW-8	MW-6	MW-7
Date Sampled		6-Nov-13	5-Nov-13	5-Nov-13	5-Nov-13	5-Nov-13	5-Nov-13	5-Nov-13	5-Nov-13	4-Nov-13	4-Nov-13
8260 Full LIST	**ppb - (µg/L)**	**VOC Analytical Results (ppb)**									
1,1,1-Trichloroethane	5	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,1,2,2-Tetrachloroethane	5	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,1,2-Trichloroethane	5	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,1,2-Trichloro-1,2,2-trifluoroethane	5	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,1-Dichloroethane	5	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,1-Dichloroethene	5	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,2,4-Trichlorobenzene	10	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,2-Dibromo-3-Chloropropane	5	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,2-Dibromoethane	5	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,2-Dichlorobenzene	4.7	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,2-Dichloroethane	5	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,2-Dichloropropane	5	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,3-Dichlorobenzene	5	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,4-Dichlorobenzene	4.7	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
2-Hexanone	50	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
2-Butanone (MEK)	50	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
4-Methyl-2-pentanone (MIBK)	50	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Acetone	50	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Benzene	1.0	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Bromodichloromethane	50	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Bromoform	50	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Bromomethane	5	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Carbon disulfide	50	ND	ND	ND	ND	ND	ND	ND	ND	0.30 J	ND
Carbon tetrachloride	5	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Chlorobenzene	5	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Dibromochloromethane	50	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Chloroethane	5	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Chloroform	7	4.8	ND	3.6	0.98 J	4.1	2.8	ND	4.3	ND	1.8
Chloromethane	50	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
cis-1,2-Dichloroethene	5	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
cis-1,3-Dichloropropene	5	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Cyclohexane	50	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Dichlorodifluoromethane	5	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Ethylbenzene	5	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Isopropylbenzene	5	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Methyl acetate	50	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
MtBE	10	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Methylcyclohexane	50	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Methylene Chloride	5	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Styrene	5	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Tetrachloroethene	5	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Toluene	5	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
trans-1,2-Dichloroethene	5	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
trans-1,3-Dichloropropene	5	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Trichloroethene	5	ND	ND	2.6	1.8	ND	4.1	0.82 J	ND	ND	2.4
Trichlorofluoromethane	5	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Vinyl chloride	2	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Xylenes, Total	5	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
		TOTAL CONCENTRATIONS (ppb)									
BTEX	-	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TOTAL VOCs	-	4.8	ND	6.2	2.8	4.1	6.9	0.82	4.3	0.30	4.2

Notes:

MtBE: Methyl tertiary-Butyl Ether

BOLD values indicate exceedance of applicable NYSDEC guidance values

ND: Not Detected Above Applicable Laboratory Detection Limits

TOGS: Technical and Operational Guidance Series

TOGS Standards and Guidance are determined by the NYSDEC Ambient Water Quality Standards and Guidance Values and Groundwater Effluent Limitiations, Technical and Operational Guidance Series, June 1998

All values are reported in parts per billion (ppb or µg/L)

J - Laboratory Qualifier (Result is less than the reporting limit, but greater than the method detection limit and the concentration is an approximate value)

ATTACHMENT A

SOIL BORING AND WELL COMPLETION LOGS

Aztech Technologies, Inc.
5 McCrea Hill Rd.
Ballston Spa, New York 12020
Phone: (518) 885-5383 Fax: (518) 885-5385

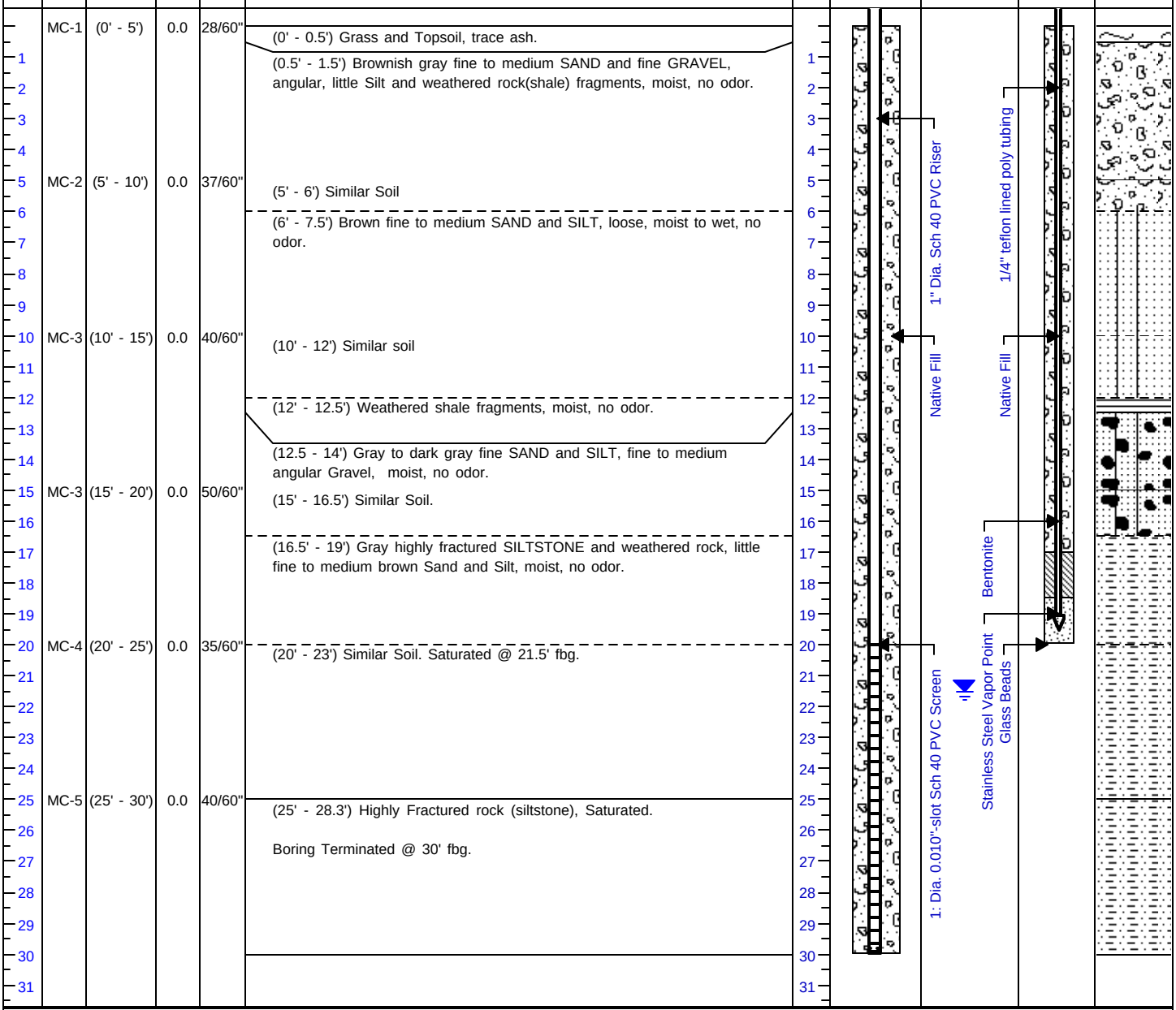
Boring Log: SB-1/VP-1

Client: NYSDEC
Project: Former Ithaca Ithaca Gun - Offsite
Street Address: East Falls Street
City / State: Ithaca, New York
Drilling Co.: Aztech Technologies, Inc.
Address: 5 McCrea Hill Road, Ballston Spa, New York
Driller: Ray Hammond

Drilling Method: Geoprobe(Direct Push)
Drilled Borehole Dia: 2.25"
Total Drilled Depth: 30'
Ground Elevation: NA
Depth to water: 20.5'

Start date and time: 7/29/2013
Finish date and time: 7/29/2013

Depth (Feet)	Sample ID	Sample Interval (feet)	Headspace PID	Recovery	Description
	MC-1	(0' - 5')	0.0	28/60"	(0' - 0.5') Grass and Topsoil, trace ash.
1					(0.5' - 1.5') Brownish gray fine to medium SAND and fine GRAVEL, angular, little Silt and weathered rock(shale) fragments, moist, no odor.
2					
3					
4					
5	MC-2	(5' - 10')	0.0	37/60"	(5' - 6') Similar Soil
6					(6' - 7.5') Brown fine to medium SAND and SILT, loose, moist to wet, no odor.
7					
8					
9					
10	MC-3	(10' - 15')	0.0	40/60"	(10' - 12') Similar soil
11					
12					(12' - 12.5') Weathered shale fragments, moist, no odor.
13					
14					(12.5 - 14') Gray to dark gray fine SAND and SILT, fine to medium angular Gravel, moist, no odor.
15	MC-3	(15' - 20')	0.0	50/60"	(15' - 16.5') Similar Soil.
16					
17					(16.5' - 19') Gray highly fractured SILTSTONE and weathered rock, little fine to medium brown Sand and Silt, moist, no odor.
18					
19					
20	MC-4	(20' - 25')	0.0	35/60"	(20' - 23') Similar Soil. Saturated @ 21.5' fbg.
21					
22					
23					
24					
25	MC-5	(25' - 30')	0.0	40/60"	(25' - 28.3') Highly Fractured rock (siltstone), Saturated.
26					Boring Terminated @ 30' fbg.
27					
28					
29					
30					
31					



Notes:
NA - Not Available
fbg - feet below grade
PID - Photoionization Detector
ppm - parts per million

Geologist: Thomas Giamichael

Aztech Technologies, Inc.
5 McCrea Hill Rd.
Ballston Spa, New York 12020
Phone: (518) 885-5383 Fax: (518) 885-5385

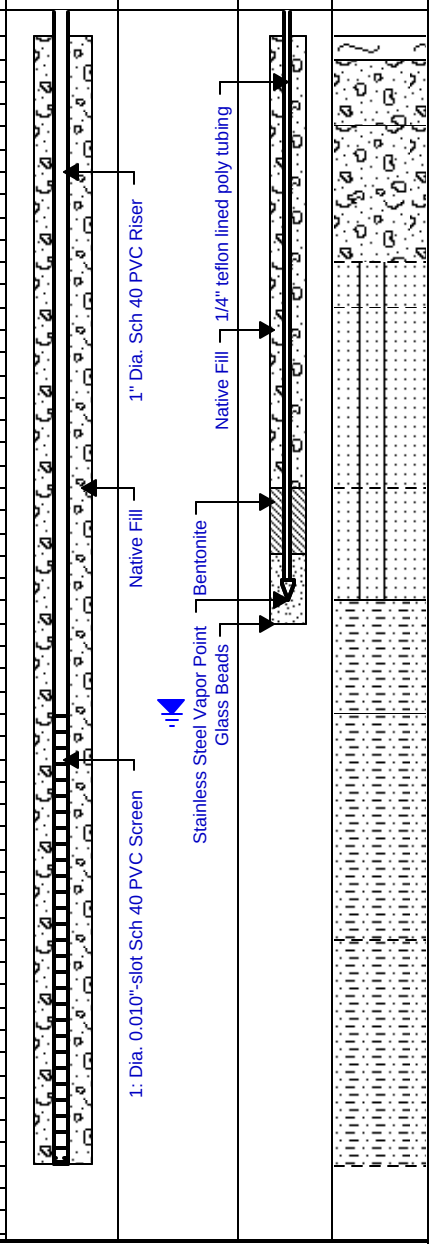
Boring Log: SB-2/VP-2

Client: NYSDEC
Project: Former Ithaca Gun Factory - Offsite
Street Address: East Falls Street
City / State: Ithaca, New York
Drilling Co.: Aztech Technologies, Inc.
Address: 5 McCrea Hill Road, Ballston Spa, New York
Driller: Ray Hammond

Drilling Method: Geoprobe(Direct Push)
Drilled Borehole Dia: 2.25"
Total Drilled Depth: 25'
Ground Elevation: NA
Depth to water: 15 fbg

Start date and time: 7/29/2013
Finish date and time: 7/29/2013

Depth (Feet)	Sample ID	Sample Interval (feet)	Headspace PID	Recovery	Description
	MC-1	(0' - 5')	0.0	48/60"	(0' - 0.5') Grass and Topsoil. (0.5' - 2') Dark brown to black fine SAND and SILT, some sub-angular fine Gravel, little Brick and Ash fragments, trace clay, moist. (2' - 4') Gray WEATHERED ROCK (SHALE) with SAND and SILT, moist, no odor.
5	MC-2	(5' - 10')	0.0	40/60"	(5' - 6') Gray fine SAND and SILT, little fine to medium rounded to sub-rounded Gravel, trace ash, moist to wet, no odor. (6' - 8.3') Gray highly horizontal fractured SILTSTONE, some fine Sand and SIlt, moist, no odor.
10	MC-3	(10' - 15')	0.0	49/60"	(10' - 12.5') Similar Soil, moist, no odor. (12.5 - 14') Gray horizontally fractured SILTSTONE, thinly bedded CLAY, some fine Sand, moist to wet, no odor.
15	MC-3	(15' - 20')	0.0	25/60"	(15' - 17') Gray weathered SILTSTONE, saturated, no odor. Water Table Observed @ 15' fbg.
20	MC-4	(20' - 25')	0.0	30/60"	(20' - 22.5') Similar Soil. Boring Terminated @ 25' fbg.



Notes:
NA - Not Available
fbg - feet below grade
PID - Photoionization Detector
ppm - parts per million

Geologist: Thomas Giamichael

Aztech Technologies, Inc.
5 McCrea Hill Rd.
Ballston Spa, New York 12020
Phone: (518) 885-5383 Fax: (518) 885-5385

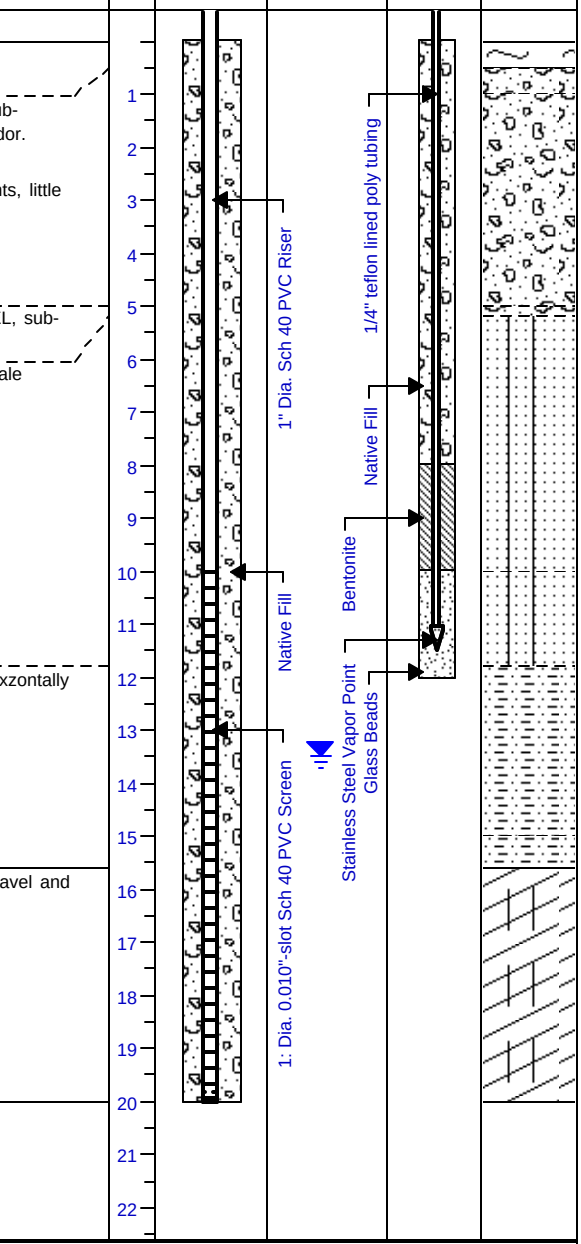
Boring Log: SB-3/VP-3

Client: NYSDEC
Project: Former Ithaca Gun Factory - Offsite
Street Address: East Falls Street
City / State: Ithaca, New York
Drilling Co.: Aztech Technologies, Inc.
Address: 5 McCrea Hill Road, Ballston Spa, New York
Driller: Ray Hammond

Drilling Method: Geoprobe(Direct Push)
Drilled Borehole Dia: 2.25"
Total Drilled Depth: 20'
Ground Elevation: NA
Depth to water: 13.5 fbg

Start date and time: 7/30/2013
Finish date and time: 7/30/2013

Depth (Feet)	Sample ID	Sample Interval (feet)	Headspace PID	Recovery	Description
	MC-1	(0' - 5')	0.0	26/60"	(0' - 0.5') Grass and Topsoil.
					(0.5' - 1') Dark gray to black fine SAND and SILT, some fine sub-rounded to sub-angular Gravel, trace clay and ash, moist. no odor.
					(1' - 2.2') Similar soil with a 3" layer of pulverized brick fragments, little fine Gravel, moist, no odor.
5	MC-2	(5' - 10')	0.0	40/60"	(5' - 5.2') Gray to brown fine SAND and fine to medium GRAVEL, sub-angular, little Silt, trace clay, moist, no odor.
					(5.2' - 8.5') Dark brown SILT and fine SAND, little weathered Shale fragments, moist to wet, no odor.
10	MC-3	(10' - 15')	0.0	39/60"	(10' - 11.8') Similar soil, moist, no odor.
					(11.8' - 13.5') Dark gray fine SAND and SILT, some highly horixzontally fractured weathered Siltstone, wet, no odor
					Water Table Observed @ 13.5' fbg.
15	MC-3	(15' - 20')	0.0	52/60"	(15 - 15.6') Similar soil, saturated, no odor.
					(15.6' - 19.6') Dark gray SILT and CLAY, some fine angular Gravel and weathered Siltstone, little fine sand, soft, saturated, no odor.
					Broing Terminated @ 20' fbg.



Notes:
NA - Not Available
fbg - feet below grade
PID - Photoionization Detector
ppm - parts per million

Geologist: Thomas Giamichael

Aztech Technologies, Inc.
5 McCrea Hill Rd.
Ballston Spa, New York 12020
Phone: (518) 885-5383 Fax: (518) 885-5385

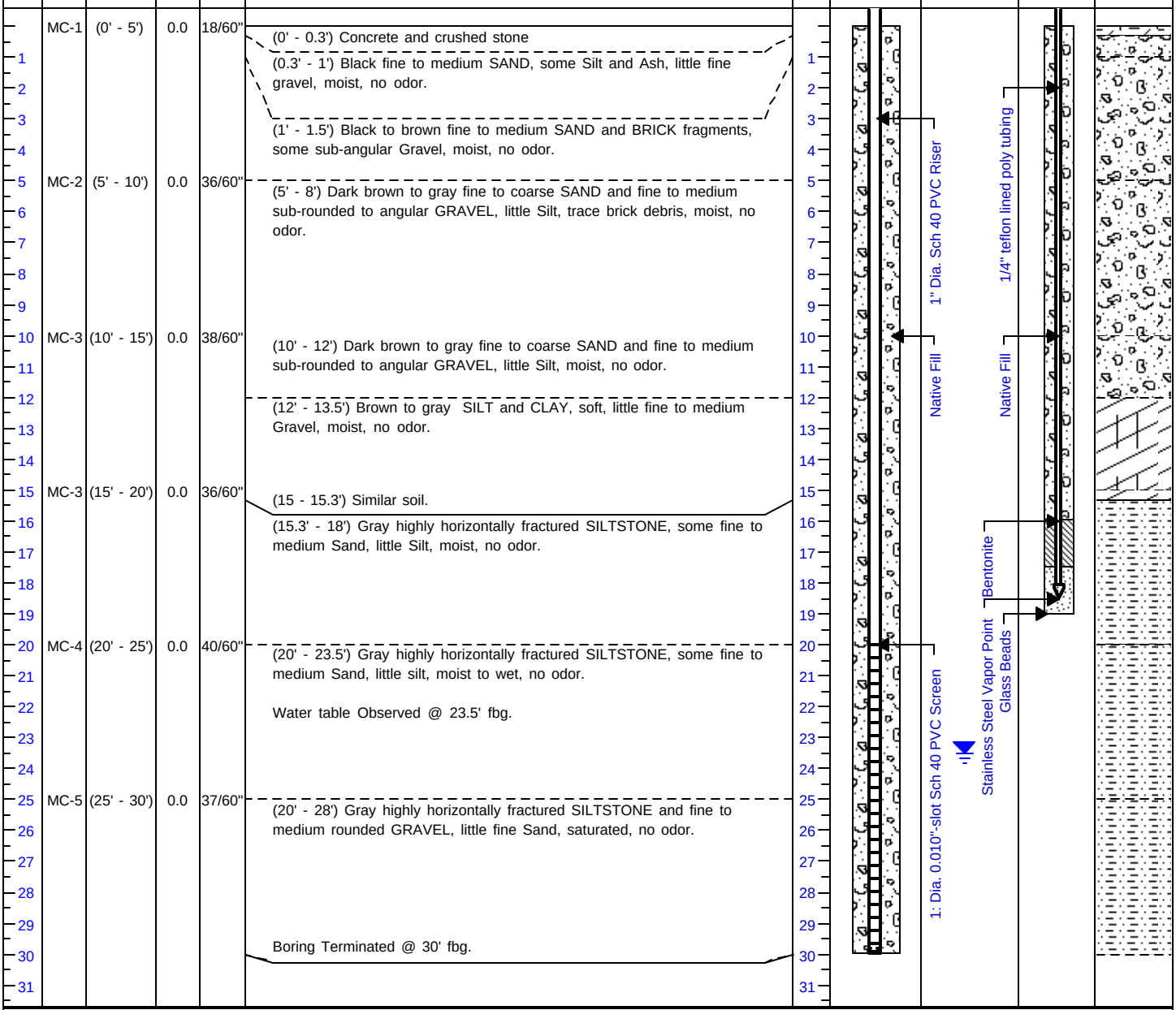
Boring Log: SB-4/VP-4

Client: NYSDEC
Project: Former Ithaca Gun Factory - Offsite
Street Address: East Falls Street
City / State: Ithaca, New York
Drilling Co.: Aztech Technologies, Inc.
Address: 5 McCrea Hill Road, Ballston Spa, New York
Driller: Ray Hammond

Drilling Method: Geoprobe(Direct Push)
Drilled Borehole Dia: 2.25"
Total Drilled Depth: 30'
Ground Elevation: NA
Depth to water: 23.5'

Start date and time: 7/30/2013
Finish date and time: 7/30/2013

Depth (Feet)	Sample ID	Sample Interval (feet)	Headspace PID	Recovery	Description
	MC-1	(0' - 5')	0.0	18/60"	(0' - 0.3') Concrete and crushed stone (0.3' - 1') Black fine to medium SAND, some Silt and Ash, little fine gravel, moist, no odor. (1' - 1.5') Black to brown fine to medium SAND and BRICK fragments, some sub-angular Gravel, moist, no odor.
5	MC-2	(5' - 10')	0.0	36/60"	(5' - 8') Dark brown to gray fine to coarse SAND and fine to medium sub-rounded to angular GRAVEL, little Silt, trace brick debris, moist, no odor.
10	MC-3	(10' - 15')	0.0	38/60"	(10' - 12') Dark brown to gray fine to coarse SAND and fine to medium sub-rounded to angular GRAVEL, little Silt, moist, no odor. (12' - 13.5') Brown to gray SILT and CLAY, soft, little fine to medium Gravel, moist, no odor.
15	MC-3	(15' - 20')	0.0	36/60"	(15 - 15.3') Similar soil. (15.3' - 18') Gray highly horizontally fractured SILTSTONE, some fine to medium Sand, little Silt, moist, no odor.
20	MC-4	(20' - 25')	0.0	40/60"	(20' - 23.5') Gray highly horizontally fractured SILTSTONE, some fine to medium Sand, little silt, moist to wet, no odor. Water table Observed @ 23.5' fbg.
25	MC-5	(25' - 30')	0.0	37/60"	(20' - 28') Gray highly horizontally fractured SILTSTONE and fine to medium rounded GRAVEL, little fine Sand, saturated, no odor.
30					Boring Terminated @ 30' fbg.



Notes:
NA - Not Available
fbg - feet below grade
PID - Photoionization Detector
ppm - parts per million

Geologist: Thomas Giamichael

Aztech Technologies, Inc.
5 McCrea Hill Rd.
Ballston Spa, New York 12020
Phone: (518) 885-5383 Fax: (518) 885-5385

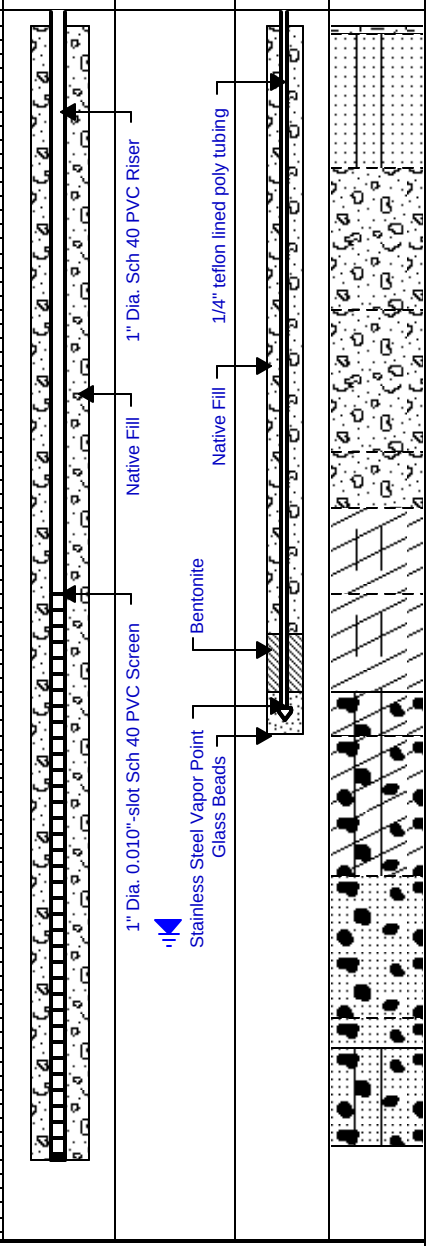
Boring Log: SB-5/VP-5

Client: NYSDEC
Project: Former Ithaca Gun Factory - Offsite
Street Address: East Falls Street
City / State: Ithaca, New York
Drilling Co.: Aztech Technologies, Inc.
Address: 5 McCrea Hill Road, Ballston Spa, New York
Driller: Ray Hammond

Drilling Method: Geoprobe(Direct Push)
Drilled Borehole Dia: 2.25"
Total Drilled Depth: 40'
Ground Elevation: NA
Depth to water: 28.8'

Start date and time: 7/30/2013
Finish date and time: 7/30/2013

Depth (Feet)	Sample ID	Sample Interval (feet)	Headspace PID	Recovery	Description
	MC-1	(0' - 5')	0.0	24/60"	(0' - 0.3') TOPSOIL and GRAVEL (0.3' - 2') Dark brown to gray SILT and fine SAND, some fine to mediu, Gravel, little Ash and Brick debris, trace clay, moist, no odor.
5	MC-2	(5' - 10')	0.0	38/60"	(5' - 8') Gray to brown fine to coarse SAND, some sub-angular Gravel, little Silt, loose, moist, no odor.
10	MC-3	(10' - 15')	0.0	42/60"	(10' -13.8') Gray brown fine to coarse SAND, some sub-angular Gravel and horizontal fractured Siltstone fragments, little Silt, moist, no odor. .
15	MC-3	(15' - 20')	0.0	48/60"	(15' - 17') Brown fine to medium SAND, some fine to medium sub-angular Siltstone fragments, trace silt, moist, no odor. (17' - 19') Brown SILT and CLAY, soft, litte fine Sand and rounded Gravel, moist to wet, no odor.
20	MC-4	(20' - 25')	0.0	50/60"	(20 - 23.5') Similar soil, very moist, no odor.
25	MC-5	(25' - 30')	0.0	40/60"	(23.5' - 24.2') Brown SILT and CLAY, varved, soft, some fine angular Gravel, moist to wet, no odor. (25' - 28.5') Similar soil, highly horizontally fractured SILTSTONE @ 24.5', very moist, no odor.
30	MC-6	(30 - 35')	0.0	36/60"	(30' - 33') Brown to gray fine to medium SAND and fine to medium sub-rounded GRAVEL, some fractured Siltstone, wet, no odor. Water Table Observed @ 32.0' fbg
35	MC-7	(35' - 40')	0.0	55/60"	(35' - 36') Similar soil, wet, no odor. (36' - 39.5') Brown SILT and fine SAND and Gray fine to medium rounded to sub-angular GRAVEL, some highly fractured Siltstone, loose, wet, no odor. Boring Terminated @ 40' fbg.



Notes:
NA - Not Available
fbg - feet below grade
PID - Photoionization Detector
ppm - parts per million

Geologist: Thomas Giamichael

Aztech Technologies, Inc.
5 McCrea Hill Rd.
Ballston Spa, New York 12020
Phone: (518) 885-5383 Fax: (518) 885-5385

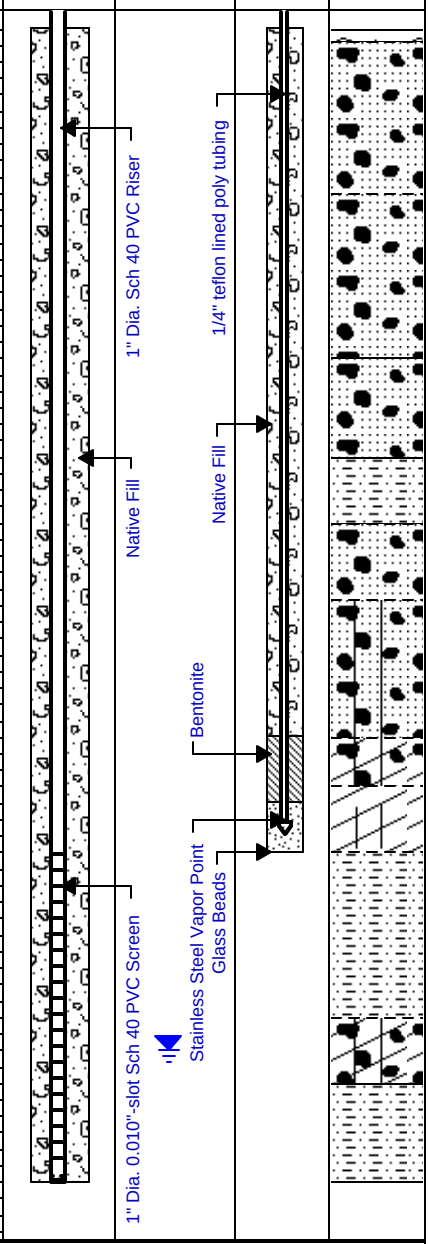
Boring Log: SB-6/VP-6

Client: NYSDEC
Project: Former Ithaca Gun Factory - Offisite
Street Address: East Falls Street
City / State: Ithaca, New York
Drilling Co.: Aztech Technologies, Inc.
Address: 5 McCrea Hill Road, Ballston Spa, New York
Driller: Ray Hammond

Drilling Method: Geoprobe(Direct Push)
Drilled Borehole Dia: 2.25"
Total Drilled Depth: 35'
Ground Elevation: NA
Depth to water: 31.0'

Start date and time: 7/31/2013
Finish date and time: 7/31/2013

Depth (Feet)	Sample ID	Sample Interval (feet)	Headspace PID	Recovery	Description
	MC-1	(0' - 5')	0.0	32/60"	(0' - 0.4') TOPSOIL and GRAVEL (0.4' - 2.9') Dark brown to gray fine to coarse SAND and fine to medium sub-rounded to angular GRAVEL, trace silt, loose, moist, no odor.
5	MC-2	(5' - 10')	0.0	40/60"	(5' - 8.5') Similar soil, little Organics, moist, no odor.
10	MC-3	(10' - 15')	0.0	42/60"	(10' -13') Brown to gray fine to coarse SAND and fine to medium GRAVEL, little Silt, moist, no odor. (13' - 13.5') Gray Horizontally fractured SILTSTONE, moist, no odor.
15	MC-3	(15' - 20')	0.0	50/60"	(15' - 17.3') Brown fine to coarse SAND and fine to medium GRAVEL, moist, no odor. (17.3 - 21.5') Dark gray SILT, little Sand and fine Gravel, firm, moist, no odor..
20	MC-4	(20' - 25')	0.0	50/60"	(21.5' - 23') Gray SILT and fine SAND, little Clay, soft, very moist to wet, no odor.. (23' - 24.1') Dark brown CLAY, some Silt, firm, little fractured Siltstone,moist, no odor.
25	MC-5	(25' - 30')	0.0	48/60"	(25' - 29') Brown to gray fine to medium SAND and fine to medium GRAVEL and weathered Siltstone, some Silt, very moist, no odor.
30	MC-6	(30 - 35')	0.0	45/60"	(30' - 32') Dark brown to gray fine to medium sub-rounded to angular GRAVEL, some Silt, trace clay, wet, no odor. Water Table Observed @ 31' fbg. (32' - 34') Gray highly horizontallt fractured SILTSTONE, some fine to medium Sand, wet, no odor. Boring Termintated @ 35' fbg.



Notes:
NA - Not Available
fbg - feet below grade
PID - Photoionization Detector
ppm - parts per million

Geologist: Thomas Giamichael

Aztech Technologies, Inc.
5 McCrea Hill Rd.
Ballston Spa, New York 12020
Phone: (518) 885-5383 Fax: (518) 885-5385

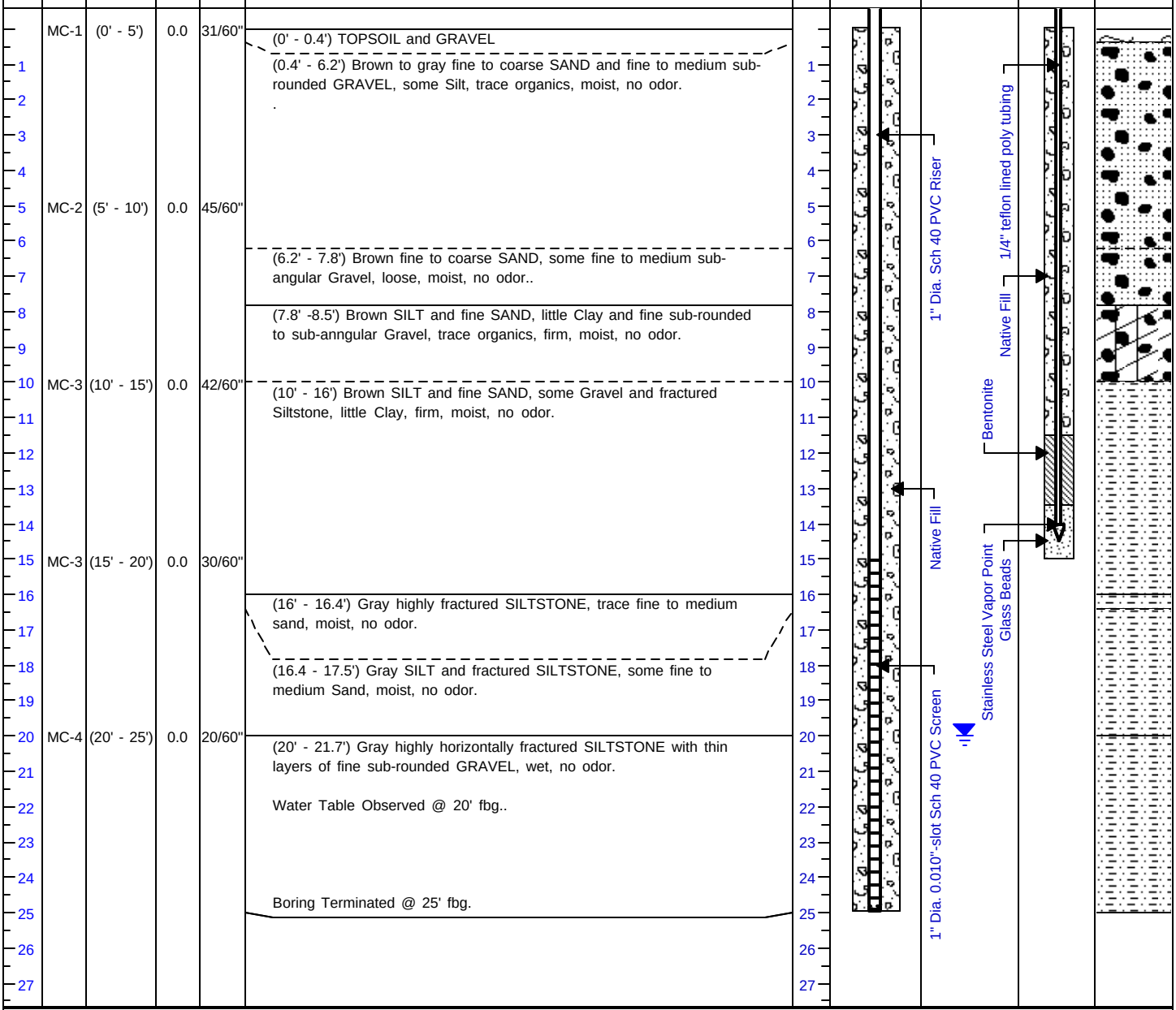
Boring Log: SB-7/VP-7

Client: NYSDEC
Project: Former Ithaca Gun Factory - Offisite
Street Address: East Falls Street
City / State: Ithaca, New York
Drilling Co.: Aztech Technologies, Inc.
Address: 5 McCrea Hill Road, Ballston Spa, New York
Driller: Ray Hammond

Drilling Method: Geoprobe(Direct Push)
Drilled Borehole Dia: 2.25"
Total Drilled Depth: 25'
Ground Elevation: NA
Depth to water: 20'

Start date and time: 7/31/2013
Finish date and time: 7/31/2013

Depth (Feet)	Sample ID	Sample Interval (feet)	Headspace PID	Recovery	Description
	MC-1	(0' - 5')	0.0	31/60"	(0' - 0.4') TOPSOIL and GRAVEL
					(0.4' - 6.2') Brown to gray fine to coarse SAND and fine to medium sub-rounded GRAVEL, some Silt, trace organics, moist, no odor. .
5	MC-2	(5' - 10')	0.0	45/60"	
					(6.2' - 7.8') Brown fine to coarse SAND, some fine to medium sub-angular Gravel, loose, moist, no odor..
					(7.8' -8.5') Brown SILT and fine SAND, little Clay and fine sub-rounded to sub-anngular Gravel, trace organics, firm, moist, no odor.
10	MC-3	(10' - 15')	0.0	42/60"	(10' - 16') Brown SILT and fine SAND, some Gravel and fractured Siltstone, little Clay, firm, moist, no odor.
15	MC-3	(15' - 20')	0.0	30/60"	
					(16' - 16.4') Gray highly fractured SILTSTONE, trace fine to medium sand, moist, no odor.
					(16.4 - 17.5') Gray SILT and fractured SILTSTONE, some fine to medium Sand, moist, no odor.
20	MC-4	(20' - 25')	0.0	20/60"	(20' - 21.7') Gray highly horizontally fractured SILTSTONE with thin layers of fine sub-rounded GRAVEL, wet, no odor.
					Water Table Observed @ 20' fbg..
					Boring Terminated @ 25' fbg.



Notes:
NA - Not Available
fbg - feet below grade
PID - Photoionization Detector
ppm - parts per million

Geologist: Thomas Giamichael

Aztech Technologies, Inc.
5 McCrea Hill Rd.
Ballston Spa, New York 12020
Phone: (518) 885-5383 Fax: (518) 885-5385

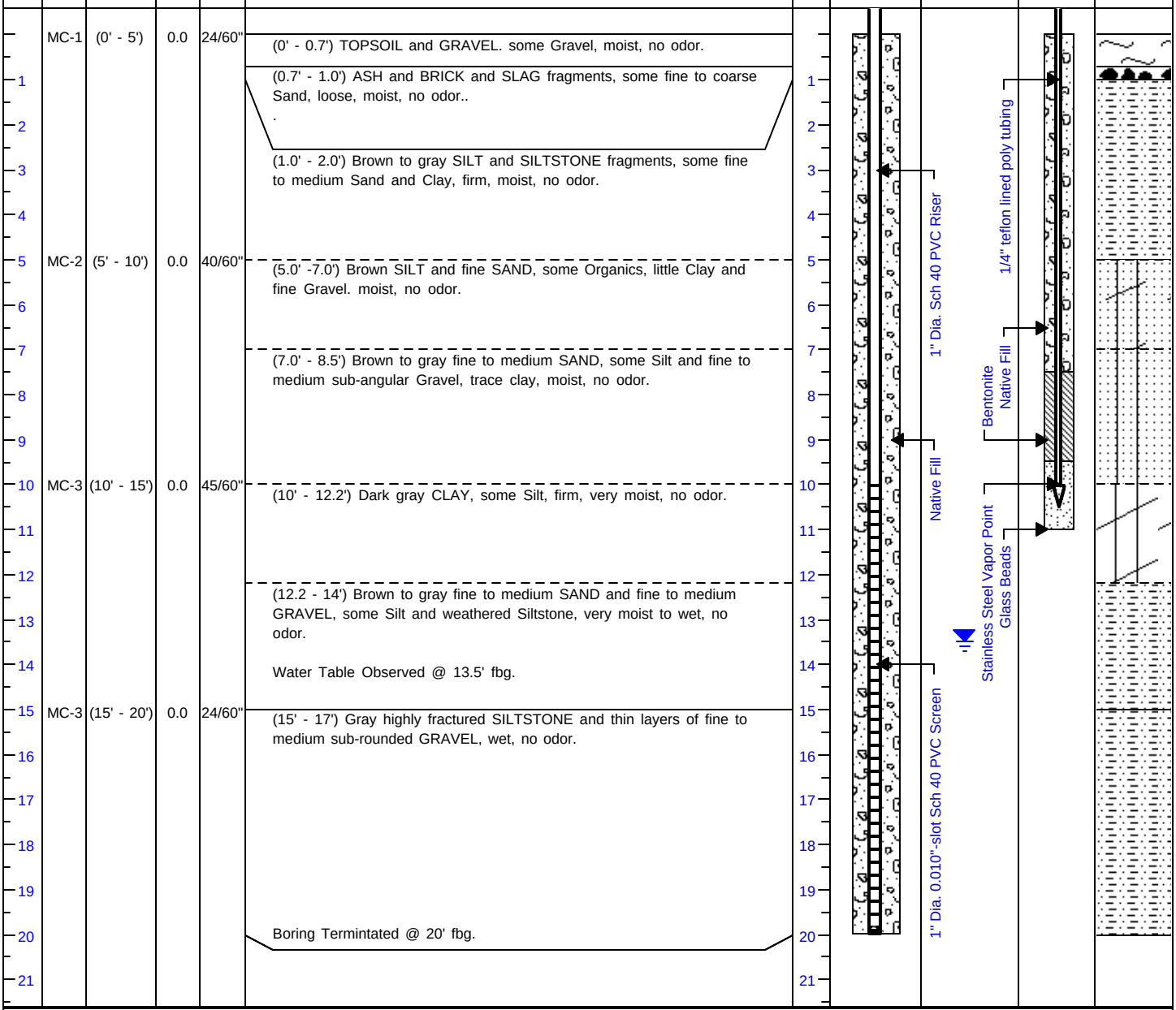
Boring Log: SB-8/VP-8

Client: NYSDEC
Project: Former Ithaca Gun Factory - Offisite
Street Address: East Falls Street
City / State: Ithaca, New York
Drilling Co.: Aztech Technologies, Inc.
Address: 5 McCrea Hill Road, Ballston Spa, New York
Driller: Ray Hammond

Drilling Method: Geoprobe(Direct Push)
Drilled Borehole Dia: 2.25"
Total Drilled Depth: 20'
Ground Elevation: NA
Depth to water: 13.5'

Start date and time: 7/31/2013
Finish date and time: 7/31/2013

Depth (Feet)	Sample ID	Sample Interval (feet)	Headspace PID	Recovery	Description
0	MC-1	(0' - 5')	0.0	24/60"	(0' - 0.7') TOPSOIL and GRAVEL. some Gravel, moist, no odor.
1					(0.7' - 1.0') ASH and BRICK and SLAG fragments, some fine to coarse Sand, loose, moist, no odor..
2					.
3					(1.0' - 2.0') Brown to gray SILT and SILTSTONE fragments, some fine to medium Sand and Clay, firm, moist, no odor.
4					
5	MC-2	(5' - 10')	0.0	40/60"	(5.0' -7.0') Brown SILT and fine SAND, some Organics, little Clay and fine Gravel. moist, no odor.
6					
7					(7.0' - 8.5') Brown to gray fine to medium SAND, some Silt and fine to medium sub-angular Gravel, trace clay, moist, no odor.
8					
9					
10	MC-3	(10' - 15')	0.0	45/60"	(10' - 12.2') Dark gray CLAY, some Silt, firm, very moist, no odor.
11					
12					(12.2 - 14') Brown to gray fine to medium SAND and fine to medium GRAVEL, some Silt and weathered Siltstone, very moist to wet, no odor.
13					
14					Water Table Observed @ 13.5' fbg.
15	MC-3	(15' - 20')	0.0	24/60"	(15' - 17') Gray highly fractured SILTSTONE and thin layers of fine to medium sub-rounded GRAVEL, wet, no odor.
16					
17					
18					
19					
20					Boring Termintated @ 20' fbg.
21					



Notes:
NA - Not Available
fbg - feet below grade
PID - Photoionization Detector
ppm - parts per million

Geologist: Thomas Giamichael

Aztech Technologies, Inc.
5 McCrea Hill Rd.
Ballston Spa, New York 12020
Phone: (518) 885-5383 Fax: (518) 885-5385

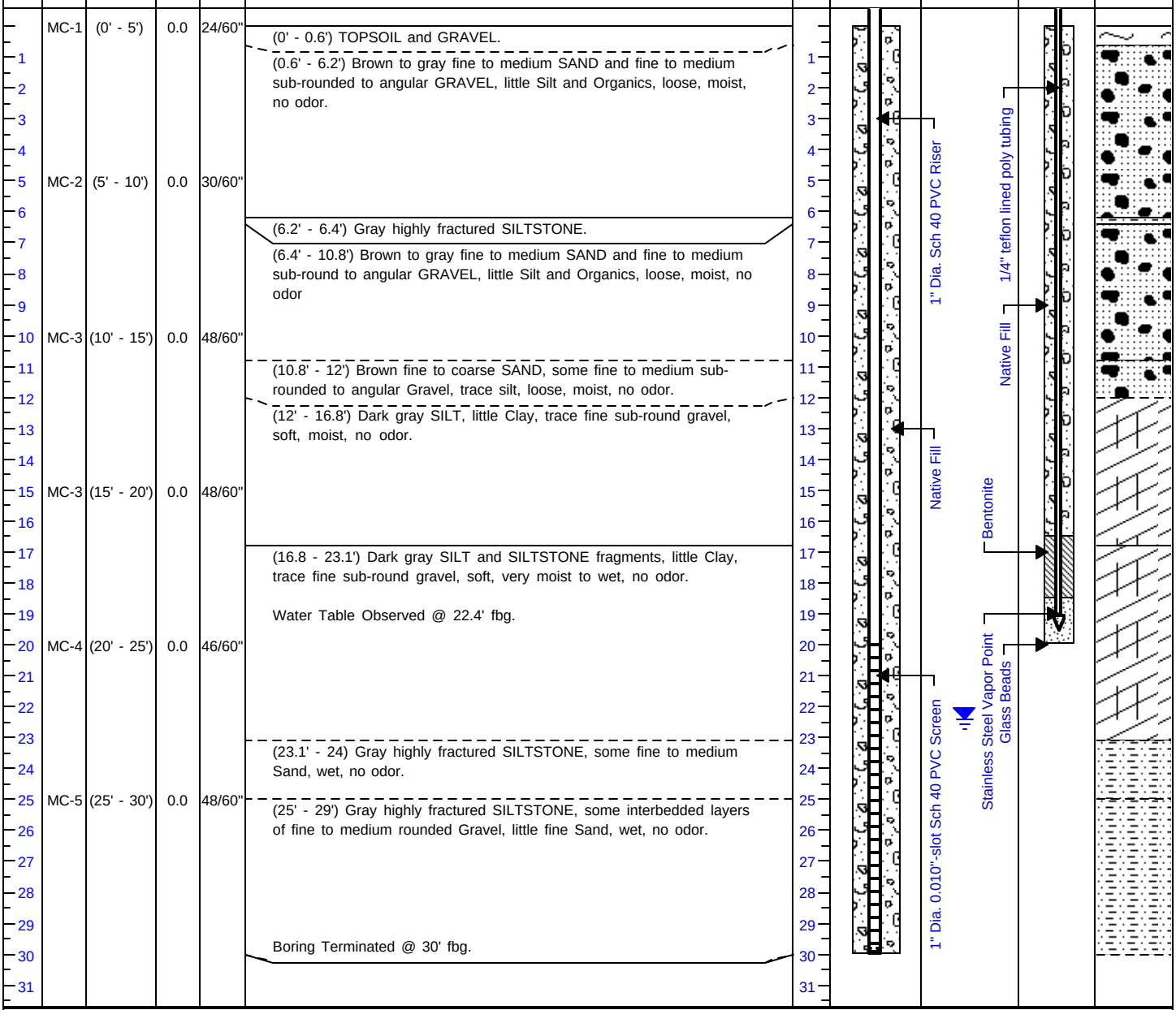
Boring Log: SB-9/VP-9

Client: NYSDEC
Project: Former Ithaca Gun Factory - Offisite
Street Address: East Falls Street
City / State: Ithaca, New York
Drilling Co.: Aztech Technologies, Inc.
Address: 5 McCrea Hill Road, Ballston Spa, New York
Driller: Ray Hammond

Drilling Method: Geoprobe(Direct Push)
Drilled Borehole Dia: 2.25"
Total Drilled Depth: 30'
Ground Elevation: NA
Depth to water: 22.4'

Start date and time: 8/1/2013
Finish date and time: 8/1/2013

Depth (Feet)	Sample ID	Sample Interval (feet)	Headspace PID	Recovery	Description
	MC-1	(0' - 5')	0.0	24/60"	(0' - 0.6') TOPSOIL and GRAVEL.
					(0.6' - 6.2') Brown to gray fine to medium SAND and fine to medium sub-rounded to angular GRAVEL, little Silt and Organics, loose, moist, no odor.
5	MC-2	(5' - 10')	0.0	30/60"	
					(6.2' - 6.4') Gray highly fractured SILTSTONE.
					(6.4' - 10.8') Brown to gray fine to medium SAND and fine to medium sub-round to angular GRAVEL, little Silt and Organics, loose, moist, no odor
10	MC-3	(10' - 15')	0.0	48/60"	
					(10.8' - 12') Brown fine to coarse SAND, some fine to medium sub-rounded to angular Gravel, trace silt, loose, moist, no odor.
					(12' - 16.8') Dark gray SILT, little Clay, trace fine sub-round gravel, soft, moist, no odor.
15	MC-3	(15' - 20')	0.0	48/60"	
					(16.8 - 23.1') Dark gray SILT and SILTSTONE fragments, little Clay, trace fine sub-round gravel, soft, very moist to wet, no odor.
					Water Table Observed @ 22.4' fbg.
20	MC-4	(20' - 25')	0.0	46/60"	
					(23.1' - 24) Gray highly fractured SILTSTONE, some fine to medium Sand, wet, no odor.
25	MC-5	(25' - 30')	0.0	48/60"	(25' - 29') Gray highly fractured SILTSTONE, some interbedded layers of fine to medium rounded Gravel, little fine Sand, wet, no odor.
					Boring Terminated @ 30' fbg.



Notes:
NA - Not Available
fbg - feet below grade
PID - Photoionization Detector
ppm - parts per million

Geologist: Thomas Giamichael

Aztech Technologies, Inc.
5 McCrea Hill Rd.
Ballston Spa, New York 12020
Phone: (518) 885-5383 Fax: (518) 885-5385

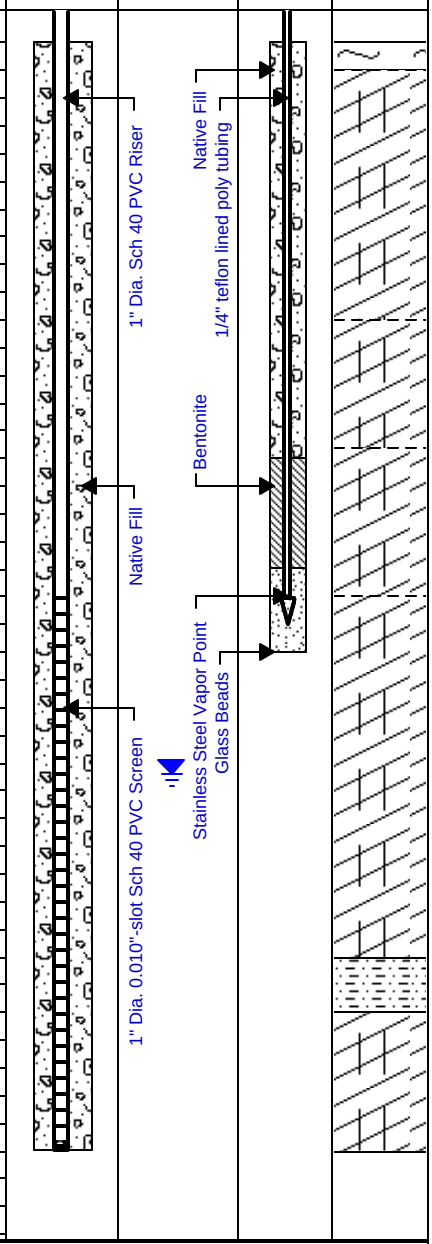
Boring Log: SB-10/VP-10

Client: NYSDEC
Project: Former Ithaca Gun Factory - Offisite
Street Address: East Falls Street
City / State: Ithaca, New York
Drilling Co.: Aztech Technologies, Inc.
Address: 5 McCrea Hill Road, Ballston Spa, New York
Driller: Ray Hammond

Drilling Method: Geoprobe(Direct Push)
Drilled Borehole Dia: 2.25"
Total Drilled Depth: 20'
Ground Elevation: NA
Depth to water: 13.2'

Start date and time: 8/1/2013
Finish date and time: 8/1/2013

Depth (Feet)	Sample ID	Sample Interval (feet)	Headspace PID	Recovery	Description
	MC-1	(0' - 5')	0.0	36/60"	(0' - 0.5') TOPSOIL and GRAVEL, some Ash @ 0.4 fbg.
					(0.5' - 3.0') Dark gray to brown SILT and CLAY, some fine sub-round Gravel and Organics, little fine Sand, moist, no odor.
5	MC-2	(5' - 10')	0.0	52/60"	(5.0' - 7.3') Dark gray SILT and CLAY, trace fine gravel, moist, no odor.
					(7.3' - 9.0') Brown SILT, some varved Clay, trace gravel, moist, no odor.
10	MC-3	(10' - 15')	0.0	48/60"	(10' - 16.5') Dark brown SILT and CLAY, little fine Sand, trace fine rounded gravel, moist to wet.
					Water Table Observed @ 13.2' fbg.
15	MC-3	(15' - 20')	0.0	55/60"	
					(16.5' - 17.5') Gray fractured SILTSTONE and fine to medium sub-rounded to rounded GRAVEL, some fine Sand, wet, no odor.
					(17.5 - 19') Dark gray SILT and CLAY, some fine to medium angular Gravel, wet, no odor.
20					Boring Terminated @ 20' fbg.



Notes:
NA - Not Available
fbg - feet below grade
PID - Photoionization Detector
ppm - parts per million

Geologist: Thomas Giamichael

Aztech Technologies, Inc.
5 McCrea Hill Rd.
Ballston Spa, New York 12020
Phone: (518) 885-5383 Fax: (518) 885-5385

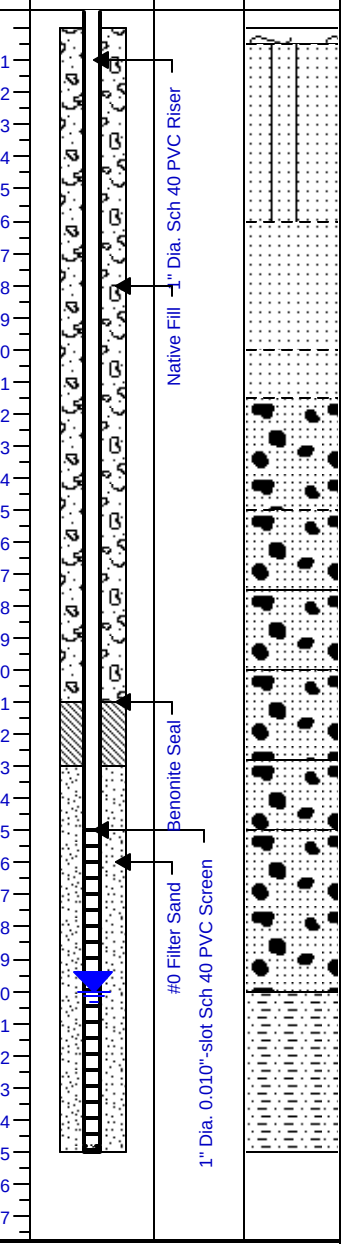
Boring Log: *SB-11/AZMW-1*

Client: NYSDEC
Project: Former Ithaca Gun Factory - Offisite
Street Address: East Falls Street
City / State: Ithaca, New York
Drilling Co.: Aztech Technologies, Inc.
Address: 5 McCrea Hill Road, Ballston Spa, New York
Driller: Ray Hammond

Drilling Method: Geoprobe(Direct Push)
Drill Fluid: NA
Drilled Borehole Dia: 2.25"
Total Drilled Depth: 35'
Ground Elevation: NA
Depth to water: 31'

Start date and time: 8/1/2013
Finish date and time: 8/1/2013

Depth (Feet)	Sample ID	Sample Interval (feet)	Headspace PID	Recovery	Description
	MC-1	(0' - 5')	0.0	60/60"	(0' - 0.5') TOPSOIL and GRASS. (0.5' - 6.0') Dark gray fine to medium SAND and SILT, some medium to coarse rounded Gravel, little bCobbles with miscellaneous fill, moist, no odor.
5	MC-2	(5' - 10')	0.0	24/60"	(6.0' - 7.0') Dark brown fine to medium SAND, some fractured angular Siltstone, little Silt, moist, no odor.
10	MC-3	(10' - 15')	0.0	36/60"	(10' - 11.5') Simliar soil, moist, no odor. (11.5' - 13') Brown fine to medium SAND, little fine rounded Gravel, loose, dry, no odor.
15	MC-3	(15' - 20')	0.0	48/60"	(15' - 17.5') Similar soil, moist, no odor. (17.5 - 19') Brown fine to medium SAND, some coarse rounded Gravel, trace silt, moist, no odor.
20	MC-4	(20' - 25')	0.0	50/60"	(20' - 22.8') Similar soil, moist, no odor. (22.8' - 24') Brown fine to medium SAND, trace fine gravel, moist, no odor.
25	MW-5	(25' - 30')	0.0	30/60"	(25 - 27.5) Similar soil, very moist, no odor.
30	MC-6	(30' - 35')	0.0	30/60"	(30' - 31') Brown fine to medium SAND, some gray horizontally fractured Siltstone, trace silt and clay, wet, no odor Water Table Observed @ 30' fbg. Boring Terminated @ 35' fbg.



Notes:
NA - Not Available
fbg - feet below grade
PID - Photoionization Detector
ppm - parts per million

Geologist: Thomas Giamichael

Aztech Technologies, Inc.
5 McCrea Hill Rd.
Ballston Spa, New York 12020
Phone: (518) 885-5383 Fax: (518) 885-5385

Boring Log: *SB-12/AZMW-2*

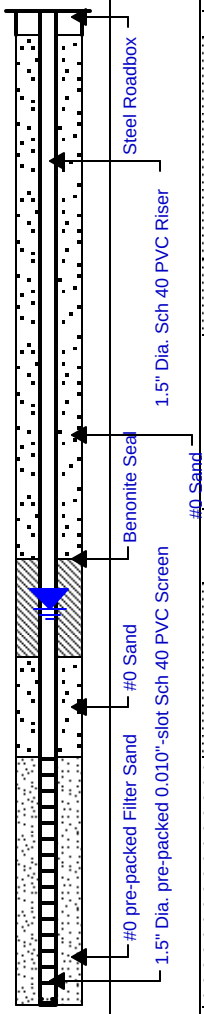
Client: NYSDEC
Project: Former Ithaca Gun Factory - Offisite
Street Address: East Falls Street
City / State: Ithaca, New York
Drilling Co.: Aztech Technologies, Inc.
Address: 5 McCrea Hill Road, Ballston Spa, New York
Driller: Ray Hammond

Drilling Method: Geoprobe(Direct Push)
Drill Fluid: NA
Drilled Borehole Dia: 2.25"
Total Drilled Depth: 20'
Ground Elevation: NA
Depth to water: 12'

Start date and time: 10/14/2013
Finish date and time: 10/14/2013

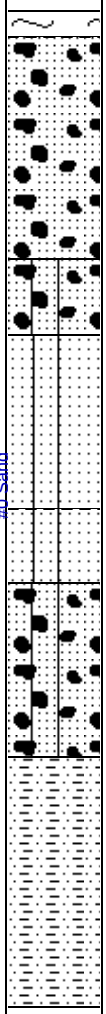
Depth (Feet)	Sample ID	Sample Interval (feet)	Headspace PID	Recovery	Description
	MC-1	(0' - 5')	0.0	24/60"	(0.5' - 2.0') Dark brown to gray fine to coarse SAND and fine to medium rounded GRAVEL, little Silt, dry, no odor.
5	MC-2	(5' - 10')	1.1	24/60"	(5.0' - 6.5') Brown fine to coarse SAND and fine sub-rounded GRAVEL, little Silt, moist, no odor. (6.5' - 7.0') Light brown fine to medium SAND and SILT, little fine rounded Gravel, trace fracted siltstone, moist, no odor.
10	MC-3	(10' - 15')	0.0	24/60"	(10' - 11.5') Similar soil, moist, no odor. (11.5' - 12') Gray medium to coarse rouned GRAVEL, little Silt and fine Sand, trace siltstone, wet, no odor. Water Table Observed @ 12' fbg.
15	MC-3	(15' - 20')	0.0	48/60"	(15' - 19') Gray highly fractured SILTSTONE and fine to medium SAND, some fine rouned Gravel, little silt, trace clay, wet, no odor. Boring Terminated @ 20' fbg.

Well Diagram



Well Notes:

Lithology



Notes:
NA - Not Available
fbg - feet below grade
PID - Photoionization Detector
ppm - parts per million

Geologist: Thomas Giamichael

Aztech Technologies, Inc.
5 McCrea Hill Rd.
Ballston Spa, New York 12020
Phone: (518) 885-5383 Fax: (518) 885-5385

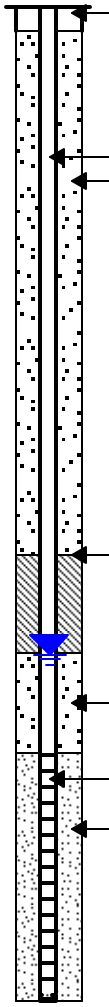
Boring Log: *SB-13/AZMW-3*

Client: NYSDEC
Project: Former Ithaca Gun Factory - Offisite
Street Address: East Falls Street
City / State: Ithaca, New York
Drilling Co.: Aztech Technologies, Inc.
Address: 5 McCrea Hill Road, Ballston Spa, New York
Driller: Ray Hammond

Drilling Method: Geoprobe(Direct Push)
Drill Fluid: NA
Drilled Borehole Dia: 2.25"
Total Drilled Depth: 20'
Ground Elevation: NA
Depth to water: 13'

Start date and time: 10/15/2013
Finish date and time: 10/15/2013

Depth (Feet)	Sample ID	Sample Interval (feet)	Headspace PID	Recovery	Description
0	MC-1	(0' - 5')	0.0	15/60"	(0' - 0.5') TOPSOIL and GRASS.
					(0.5' - 2.0') Dark gray fine SAND and SILT, some fine to medium angular Gravel, litte Ash and Organics, soft, moist, no odor.
5	MC-2	(5' - 10')	0.0	12/60"	(5.0' - 6.0') Dark gray fine SAND and SILT, some fine to medium angular Gravel, moist, no odor.
10	MC-3	(10' - 15')	0.0	36/60"	(10' - 11.2') Gray to brown SAND and SILT, some fine angular Gravel, little Slag and Ash, moist, no odor.
					(11.2' - 12') Brown fine to medium SAND and SILT, some fine to medium angular Gravel, moist, no odor.
					(12' - 13') Gray fine rounded to sub-angular GRAVEL and fine SAND, trace silt, wet, no odor..
					Water Table Observed @ 13' fbg.
15	MC-3	(15' - 20')	0.0	30/60"	(15' - 20') Gray fine rounded GRAVEL and fine SAND, some Silt, little clay, wet, no odor..
20					Boring Terminated @ 20' fbg.



Well Notes:
2" Dia. Sch 40 PVC Riser
1.5" Dia. pre-packed 0.010"-slot Sch 40 PVC Screen

Lithology

Notes:
NA - Not Available
fbg - feet below grade
PID - Photoionization Detector
ppm - parts per million

Geologist: Thomas Giamichael

Aztech Technologies, Inc.
5 McCrea Hill Rd.
Ballston Spa, New York 12020
Phone: (518) 885-5383 Fax: (518) 885-5385

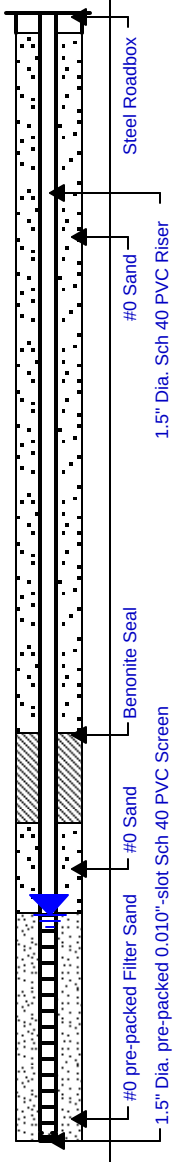
Boring Log: *AZMW-4*

Client: NYSDEC
Project: Former Ithaca Gun Factory - Offisite
Street Address: East Falls Street
City / State: Ithaca, New York
Drilling Co.: Aztech Technologies, Inc.
Address: 5 McCrea Hill Road, Ballston Spa, New York
Driller: Ray Hammond

Drilling Method: Geoprobe(Direct Push)
Drill Fluid: NA
Drilled Borehole Dia: 3"
Total Drilled Depth: 25'
Ground Elevation: NA
Depth to water: 20'

Start date and time: 10/15/2013
Finish date and time: 10/15/2013

Depth (Feet)	Sample ID	Sample Interval (feet)	Headspace PID	Recovery	Description
					(0.0' - 25') Borehole advanced with 3-inch casing to set well. No soil was sampled during the boring advancement.



Notes:
NA - Not Available
fbg - feet below grade
PID - Photoionization Detector
ppm - parts per million

Geologist: Thomas Giamichael

Aztech Technologies, Inc.
5 McCrea Hill Rd.
Ballston Spa, New York 12020
Phone: (518) 885-5383 Fax: (518) 885-5385

Boring Log: *AZMW-5*

Client: NYSDEC
Project: Former Ithaca Gun Factory - Offisite
Street Address: East Falls Street
City / State: Ithaca, New York
Drilling Co.: Aztech Technologies, Inc.
Address: 5 McCrea Hill Road, Ballston Spa, New York
Driller: Ray Hammond

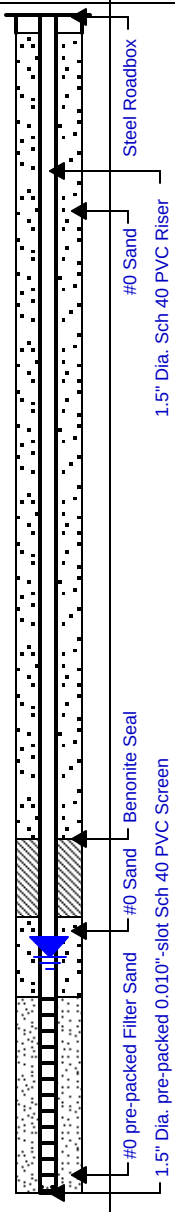
Drilling Method: Geoprobe(Direct Push)
Drill Fluid: NA
Drilled Borehole Dia: 3"
Total Drilled Depth: 30'
Ground Elevation: NA
Depth to water: 24'

Start date and time: 10/15/2013
Finish date and time: 10/15/2013

Depth (Feet)	Sample ID	Sample Interval (feet)	Headspace PID	Recovery	Description
					(0.0' - 30') Borehole advanced with 3-inch casing to set well. No soil was sampled during the boring advancement.

Depth (feet) 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30

Well Diagram



Well Notes:

Lithology

Notes:
NA - Not Available
fbg - feet below grade
PID - Photoionization Detector
ppm - parts per million

Geologist: Thomas Giamichael

Aztech Technologies, Inc.
5 McCrea Hill Rd.
Ballston Spa, New York 12020
Phone: (518) 885-5383 Fax: (518) 885-5385

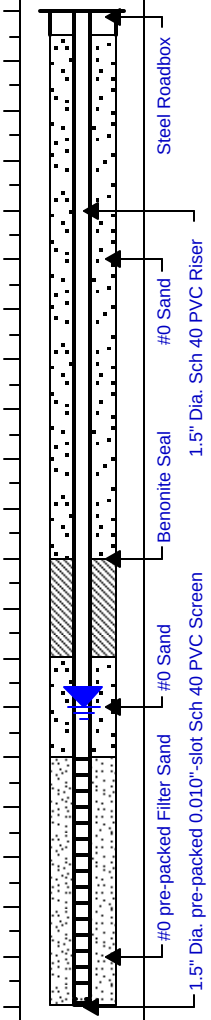
Boring Log: *AZMW-6*

Client: NYSDEC
Project: Former Ithaca Gun Factory - Offisite
Street Address: East Falls Street
City / State: Ithaca, New York
Drilling Co.: Aztech Technologies, Inc.
Address: 5 McCrea Hill Road, Ballston Spa, New York
Driller: Ray Hammond

Drilling Method: Geoprobe(Direct Push)
Drill Fluid: NA
Drilled Borehole Dia: 3"
Total Drilled Depth: 20'
Ground Elevation: NA
Depth to water: 14'

Start date and time: 10/15/2013
Finish date and time: 10/15/2013

Depth (Feet)	Sample ID	Sample Interval (feet)	Headspace PID	Recovery	Description
					(0.0' - 20') Borehole advanced with 3-inch casing to set well. No soil was sampled during the boring advancement.



Notes:
NA - Not Available
fbg - feet below grade
PID - Photoionization Detector
ppm - parts per million

Geologist: Thomas Giamichael

Aztech Technologies, Inc.
5 McCrea Hill Rd.
Ballston Spa, New York 12020
Phone: (518) 885-5383 Fax: (518) 885-5385

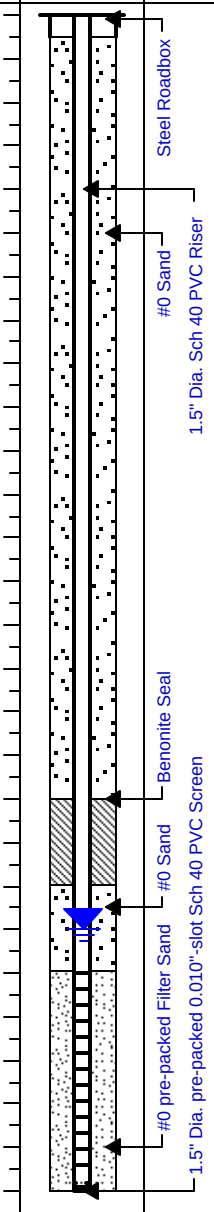
Boring Log: *AZMW-7*

Client: NYSDEC
Project: Former Ithaca Gun Factory - Offisite
Street Address: East Falls Street
City / State: Ithaca, New York
Drilling Co.: Aztech Technologies, Inc.
Address: 5 McCrea Hill Road, Ballston Spa, New York
Driller: Ray Hammond

Drilling Method: Geoprobe(Direct Push)
Drill Fluid: NA
Drilled Borehole Dia: 3"
Total Drilled Depth: 27'
Ground Elevation: NA
Depth to water: 21'

Start date and time: 10/15/2013
Finish date and time: 10/15/2013

Depth (Feet)	Sample ID	Sample Interval (feet)	Headspace PID	Recovery	Description
					(0.0' - 27') Borehole advanced with 3-inch casing to set well. No soil was sampled during the boring advancement.



Notes:
NA - Not Available
fbg - feet below grade
PID - Photoionization Detector
ppm - parts per million

Geologist: Thomas Giamichael

Aztech Technologies, Inc.
5 McCrea Hill Rd.
Ballston Spa, New York 12020
Phone: (518) 885-5383 Fax: (518) 885-5385

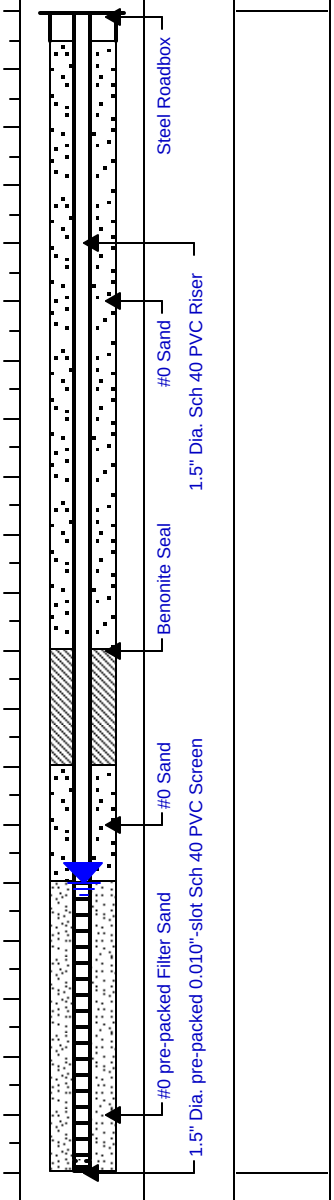
Boring Log: *AZMW-8*

Client: NYSDEC
Project: Former Ithaca Gun Factory - Offisite
Street Address: East Falls Street
City / State: Ithaca, New York
Drilling Co.: Aztech Technologies, Inc.
Address: 5 McCrea Hill Road, Ballston Spa, New York
Driller: Ray Hammond

Drilling Method: Geoprobe(Direct Push)
Drill Fluid: NA
Drilled Borehole Dia: 3"
Total Drilled Depth: 20'
Ground Elevation: NA
Depth to water: 15'

Start date and time: 10/15/2013
Finish date and time: 10/15/2013

Depth (Feet)	Sample ID	Sample Interval (feet)	Headspace PID	Recovery	Description
					(0.0' - 20') Borehole advanced with 3-inch casing to set well. No soil was sampled during the boring advancement.



Notes:
NA - Not Available
fbg - feet below grade
PID - Photoionization Detector
ppm - parts per million

Geologist: Thomas Giamichael

ATTACHMENT B

GROUNDWATER LABORATORY ANALYTICAL REPORT - JULY 31 TO AUGUST 1, 2013

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

ANALYTICAL REPORT

TestAmerica Laboratories, Inc.
TestAmerica Buffalo
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Tel: (716)691-2600

TestAmerica Job ID: 480-43132-1
Client Project/Site: Former Ithaca Gun Factory #C755019A

For:
New York State D.E.C.
615 Erie Blvd., West
Syracuse, New York 13204

Attn: Gary Priscott

Joseph V. Giacomazza

Authorized for release by:
8/12/2013 4:09:03 PM
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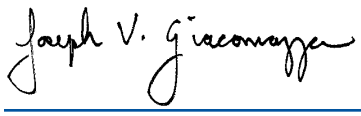
I certify that this data package is in compliance with the terms and conditions of the contract, both technically and for completeness, for other than the conditions detailed within the body of this report. Release of the data contained in this sample data package and in the electronic data deliverable has been authorized by the Laboratory Manager or his/her designee, as verified by the following signature.



Joe Giacomazza
Project Administrator
8/12/2013 4:09:03 PM

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Qualifiers

GC/MS VOA

Qualifier	Qualifier Description
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.
B	Compound was found in the blank and sample.
F	MS or MSD exceeds the control limits

GC/MS VOA TICs

Qualifier	Qualifier Description
J	Indicates an Estimated Value for TICs
N	Presumptive evidence of material.
T	Result is a tentatively identified compound (TIC) and an estimated value.
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

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
CNF	Contains no Free Liquid
DER	Duplicate error ratio (normalized absolute difference)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision level concentration
MDA	Minimum detectable activity
EDL	Estimated Detection Limit
MDC	Minimum detectable concentration
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
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: 480-43132-1

Laboratory: TestAmerica Buffalo

Narrative

Job Narrative
480-43132-1

Receipt
The samples were received on 8/3/2013 2:00 AM and 8/3/2013 9:00 AM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperatures of the 2 coolers at receipt time were 2.0º C and 4.2º C.

GC/MS VOA
Method(s) 8260B: The matrix spike / matrix spike duplicate (MS/MSD) recoveries for batch 132713 were outside control limits. The associated laboratory control sample (LCS) recovery met acceptance criteria.

Method(s) 8260B: The method blank for batch 132854 contained Carbon disulfide above the method detection limit. This target analyte concentration was less than the reporting limit (RL); therefore, re-extraction and/or re-analysis of samples was not performed.

No other analytical or quality issues were noted.

Detection Summary

Client: New York State D.E.C.
Project/Site: Former Ithaca Gun Factory #C755019A

TestAmerica Job ID: 480-43132-1

Client Sample ID: SB-7 — Lab Sample ID: 480-43132-1

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Acetone	5.7	J	10	3.0	ug/L	1		8260B	Total/NA
Carbon disulfide	0.26	J	1.0	0.19	ug/L	1		8260B	Total/NA
Chloroform	1.1		1.0	0.34	ug/L	1		8260B	Total/NA
Trichloroethene	2.2		1.0	0.46	ug/L	1		8260B	Total/NA

Client Sample ID: SB-8 — Lab Sample ID: 480-43132-2

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Acetone	4.6	J	10	3.0	ug/L	1		8260B	Total/NA
Chloroform	4.4		1.0	0.34	ug/L	1		8260B	Total/NA
Trichloroethene	4.8		1.0	0.46	ug/L	1		8260B	Total/NA

Client Sample ID: SB-9 — Lab Sample ID: 480-43132-3

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Acetone	7.4	J	10	3.0	ug/L	1		8260B	Total/NA
Chloroform	1.3		1.0	0.34	ug/L	1		8260B	Total/NA
cis-1,2-Dichloroethene	1.1		1.0	0.81	ug/L	1		8260B	Total/NA
Trichloroethene	2.1		1.0	0.46	ug/L	1		8260B	Total/NA

Client Sample ID: SB-10 — Lab Sample ID: 480-43132-4

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Acetone	7.9	J	10	3.0	ug/L	1		8260B	Total/NA
Carbon disulfide	0.26	J	1.0	0.19	ug/L	1		8260B	Total/NA
Chloroform	2.7		1.0	0.34	ug/L	1		8260B	Total/NA
Trichloroethene	3.1		1.0	0.46	ug/L	1		8260B	Total/NA

Client Sample ID: SB-1 — Lab Sample ID: 480-43159-1

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
2-Butanone (MEK)	2.4	J	10	1.3	ug/L	1		8260B	Total/NA
Acetone	12		10	3.0	ug/L	1		8260B	Total/NA
Carbon disulfide	0.40	J B	1.0	0.19	ug/L	1		8260B	Total/NA
Chloroform	1.4		1.0	0.34	ug/L	1		8260B	Total/NA
Trichloroethene	3.1		1.0	0.46	ug/L	1		8260B	Total/NA

Client Sample ID: SB-2 — Lab Sample ID: 480-43159-2

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
2-Butanone (MEK)	1.8	J	10	1.3	ug/L	1		8260B	Total/NA
Acetone	10		10	3.0	ug/L	1		8260B	Total/NA
Carbon disulfide	1.5		1.0	0.19	ug/L	1		8260B	Total/NA
Chloroform	2.1		1.0	0.34	ug/L	1		8260B	Total/NA

Client Sample ID: SB-3 — Lab Sample ID: 480-43159-3

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
2-Butanone (MEK)	4.7	J	10	1.3	ug/L	1		8260B	Total/NA
Acetone	14		10	3.0	ug/L	1		8260B	Total/NA

This Detection Summary does not include radiochemical test results.

Client Sample ID: SB-3 (Continued) — Lab Sample ID: 480-43159-3

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Carbon disulfide	0.98	J	1.0	0.19	ug/L	1		8260B	Total/NA
Methylene Chloride	0.55	J	1.0	0.44	ug/L	1		8260B	Total/NA

Client Sample ID: SB-4 — Lab Sample ID: 480-43159-4

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
2-Butanone (MEK)	3.1	J	10	1.3	ug/L	1		8260B	Total/NA
Acetone	17		10	3.0	ug/L	1		8260B	Total/NA
Carbon disulfide	0.88	J	1.0	0.19	ug/L	1		8260B	Total/NA
Chloroform	1.0		1.0	0.34	ug/L	1		8260B	Total/NA
Trichloroethene	1.7		1.0	0.46	ug/L	1		8260B	Total/NA

Client Sample ID: SB-5 — Lab Sample ID: 480-43159-5

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
2-Butanone (MEK)	4.1	J	10	1.3	ug/L	1		8260B	Total/NA
Acetone	20		10	3.0	ug/L	1		8260B	Total/NA
Carbon disulfide	0.75	J	1.0	0.19	ug/L	1		8260B	Total/NA
Chloroform	3.0		1.0	0.34	ug/L	1		8260B	Total/NA
Trichloroethene	1.4		1.0	0.46	ug/L	1		8260B	Total/NA

Client Sample ID: SB-6 — Lab Sample ID: 480-43159-6

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
2-Butanone (MEK)	2.5	J	10	1.3	ug/L	1		8260B	Total/NA
Acetone	13		10	3.0	ug/L	1		8260B	Total/NA
Carbon disulfide	0.65	J B	1.0	0.19	ug/L	1		8260B	Total/NA
Chloroform	0.78	J	1.0	0.34	ug/L	1		8260B	Total/NA

Client Sample ID: SB-XX DUP — Lab Sample ID: 480-43159-7

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
2-Butanone (MEK)	4.7	J	10	1.3	ug/L	1		8260B	Total/NA
Acetone	25		10	3.0	ug/L	1		8260B	Total/NA
Carbon disulfide	0.66	J B	1.0	0.19	ug/L	1		8260B	Total/NA
Chloroform	0.84	J	1.0	0.34	ug/L	1		8260B	Total/NA

Client Sample ID: TB — Lab Sample ID: 480-43159-8

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Acetone	4.2	J	10	3.0	ug/L	1		8260B	Total/NA
Methylene Chloride	0.96	J	1.0	0.44	ug/L	1		8260B	Total/NA

This Detection Summary does not include radiochemical test results.

Client: New York State D.E.C.
Project/Site: Former Ithaca Gun Factory #C755019A

TestAmerica Job ID: 480-43132-1

Client Sample ID: SB-7
Date Collected: 08/01/13 08:10
Date Received: 08/03/13 02:00

Lab Sample ID: 480-43132-1
Matrix: Water

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	ND		1.0	0.82	ug/L			08/08/13 09:00	1
1,1,2,2-Tetrachloroethane	ND		1.0	0.21	ug/L			08/08/13 09:00	1
1,1,2-Trichloroethane	ND		1.0	0.23	ug/L			08/08/13 09:00	1
1,1,2-Trichloro-1,2,2-trifluoroethane	ND		1.0	0.31	ug/L			08/08/13 09:00	1
1,1-Dichloroethane	ND		1.0	0.38	ug/L			08/08/13 09:00	1
1,1-Dichloroethene	ND		1.0	0.29	ug/L			08/08/13 09:00	1
1,2,4-Trichlorobenzene	ND		1.0	0.41	ug/L			08/08/13 09:00	1
1,2-Dibromo-3-Chloropropane	ND		1.0	0.39	ug/L			08/08/13 09:00	1
1,2-Dibromoethane	ND		1.0	0.73	ug/L			08/08/13 09:00	1
1,2-Dichlorobenzene	ND		1.0	0.79	ug/L			08/08/13 09:00	1
1,2-Dichloroethane	ND		1.0	0.21	ug/L			08/08/13 09:00	1
1,2-Dichloropropane	ND		1.0	0.72	ug/L			08/08/13 09:00	1
1,3-Dichlorobenzene	ND		1.0	0.78	ug/L			08/08/13 09:00	1
1,4-Dichlorobenzene	ND		1.0	0.84	ug/L			08/08/13 09:00	1
2-Hexanone	ND		5.0	1.2	ug/L			08/08/13 09:00	1
2-Butanone (MEK)	ND		10	1.3	ug/L			08/08/13 09:00	1
4-Methyl-2-pentanone (MIBK)	ND		5.0	2.1	ug/L			08/08/13 09:00	1
Acetone	**5.7**	**J**	10	3.0	ug/L			08/08/13 09:00	1
Benzene	ND		1.0	0.41	ug/L			08/08/13 09:00	1
Bromodichloromethane	ND		1.0	0.39	ug/L			08/08/13 09:00	1
Bromoform	ND		1.0	0.26	ug/L			08/08/13 09:00	1
Bromomethane	ND		1.0	0.69	ug/L			08/08/13 09:00	1
Carbon disulfide	**0.26**	**J**	1.0	0.19	ug/L			08/08/13 09:00	1
Carbon tetrachloride	ND		1.0	0.27	ug/L			08/08/13 09:00	1
Chlorobenzene	ND		1.0	0.75	ug/L			08/08/13 09:00	1
Dibromochloromethane	ND		1.0	0.32	ug/L			08/08/13 09:00	1
Chloroethane	ND		1.0	0.32	ug/L			08/08/13 09:00	1
Chloroform	**1.1**		1.0	0.34	ug/L			08/08/13 09:00	1
Chloromethane	ND		1.0	0.35	ug/L			08/08/13 09:00	1
cis-1,2-Dichloroethene	ND		1.0	0.81	ug/L			08/08/13 09:00	1
cis-1,3-Dichloropropene	ND		1.0	0.36	ug/L			08/08/13 09:00	1
Cyclohexane	ND		1.0	0.18	ug/L			08/08/13 09:00	1
Dichlorodifluoromethane	ND		1.0	0.68	ug/L			08/08/13 09:00	1
Ethylbenzene	ND		1.0	0.74	ug/L			08/08/13 09:00	1
Isopropylbenzene	ND		1.0	0.79	ug/L			08/08/13 09:00	1
Methyl acetate	ND		1.0	0.50	ug/L			08/08/13 09:00	1
Methyl tert-butyl ether	ND		1.0	0.16	ug/L			08/08/13 09:00	1
Methylcyclohexane	ND		1.0	0.16	ug/L			08/08/13 09:00	1
Methylene Chloride	ND		1.0	0.44	ug/L			08/08/13 09:00	1
Styrene	ND		1.0	0.73	ug/L			08/08/13 09:00	1
Tetrachloroethene	ND		1.0	0.36	ug/L			08/08/13 09:00	1
Toluene	ND		1.0	0.51	ug/L			08/08/13 09:00	1
trans-1,2-Dichloroethene	ND		1.0	0.90	ug/L			08/08/13 09:00	1
trans-1,3-Dichloropropene	ND		1.0	0.37	ug/L			08/08/13 09:00	1
Trichloroethene	**2.2**		1.0	0.46	ug/L			08/08/13 09:00	1
Trichlorofluoromethane	ND		1.0	0.88	ug/L			08/08/13 09:00	1
Vinyl chloride	ND		1.0	0.90	ug/L			08/08/13 09:00	1
Xylenes, Total	ND		2.0	0.66	ug/L			08/08/13 09:00	1

Client: New York State D.E.C.
Project/Site: Former Ithaca Gun Factory #C755019A

TestAmerica Job ID: 480-43132-1

Client Sample ID: SB-7

Lab Sample ID: 480-43132-1

Date Collected: 08/01/13 08:10

Matrix: Water

Date Received: 08/03/13 02:00

Tentatively Identified Compound	Est. Result	Qualifier	Unit	D	RT	CAS No.	Prepared	Analyzed	Dil Fac
Tentatively Identified Compound	None		ug/L					08/08/13 09:00	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	113		66 - 137		08/08/13 09:00	1
Toluene-d8 (Surr)	93		71 - 126		08/08/13 09:00	1
4-Bromofluorobenzene (Surr)	101		73 - 120		08/08/13 09:00	1

Client Sample ID: SB-8

Lab Sample ID: 480-43132-2

Date Collected: 08/01/13 09:25

Matrix: Water

Date Received: 08/03/13 02:00

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	ND		1.0	0.82	ug/L			08/08/13 09:24	1
1,1,2,2-Tetrachloroethane	ND		1.0	0.21	ug/L			08/08/13 09:24	1
1,1,2-Trichloroethane	ND		1.0	0.23	ug/L			08/08/13 09:24	1
1,1,2-Trichloro-1,2,2-trifluoroethane	ND		1.0	0.31	ug/L			08/08/13 09:24	1
1,1-Dichloroethane	ND		1.0	0.38	ug/L			08/08/13 09:24	1
1,1-Dichloroethene	ND		1.0	0.29	ug/L			08/08/13 09:24	1
1,2,4-Trichlorobenzene	ND		1.0	0.41	ug/L			08/08/13 09:24	1
1,2-Dibromo-3-Chloropropane	ND		1.0	0.39	ug/L			08/08/13 09:24	1
1,2-Dibromoethane	ND		1.0	0.73	ug/L			08/08/13 09:24	1
1,2-Dichlorobenzene	ND		1.0	0.79	ug/L			08/08/13 09:24	1
1,2-Dichloroethane	ND		1.0	0.21	ug/L			08/08/13 09:24	1
1,2-Dichloropropane	ND		1.0	0.72	ug/L			08/08/13 09:24	1
1,3-Dichlorobenzene	ND		1.0	0.78	ug/L			08/08/13 09:24	1
1,4-Dichlorobenzene	ND		1.0	0.84	ug/L			08/08/13 09:24	1
2-Hexanone	ND		5.0	1.2	ug/L			08/08/13 09:24	1
2-Butanone (MEK)	ND		10	1.3	ug/L			08/08/13 09:24	1
4-Methyl-2-pentanone (MIBK)	ND		5.0	2.1	ug/L			08/08/13 09:24	1
Acetone	**4.6**	**J**	10	3.0	ug/L			08/08/13 09:24	1
Benzene	ND		1.0	0.41	ug/L			08/08/13 09:24	1
Bromodichloromethane	ND		1.0	0.39	ug/L			08/08/13 09:24	1
Bromoform	ND		1.0	0.26	ug/L			08/08/13 09:24	1
Bromomethane	ND		1.0	0.69	ug/L			08/08/13 09:24	1
Carbon disulfide	ND		1.0	0.19	ug/L			08/08/13 09:24	1
Carbon tetrachloride	ND		1.0	0.27	ug/L			08/08/13 09:24	1
Chlorobenzene	ND		1.0	0.75	ug/L			08/08/13 09:24	1
Dibromochloromethane	ND		1.0	0.32	ug/L			08/08/13 09:24	1
Chloroethane	ND		1.0	0.32	ug/L			08/08/13 09:24	1
Chloroform	**4.4**		1.0	0.34	ug/L			08/08/13 09:24	1
Chloromethane	ND		1.0	0.35	ug/L			08/08/13 09:24	1
cis-1,2-Dichloroethene	ND		1.0	0.81	ug/L			08/08/13 09:24	1
cis-1,3-Dichloropropene	ND		1.0	0.36	ug/L			08/08/13 09:24	1
Cyclohexane	ND		1.0	0.18	ug/L			08/08/13 09:24	1
Dichlorodifluoromethane	ND		1.0	0.68	ug/L			08/08/13 09:24	1
Ethylbenzene	ND		1.0	0.74	ug/L			08/08/13 09:24	1
Isopropylbenzene	ND		1.0	0.79	ug/L			08/08/13 09:24	1
Methyl acetate	ND		1.0	0.50	ug/L			08/08/13 09:24	1
Methyl tert-butyl ether	ND		1.0	0.16	ug/L			08/08/13 09:24	1

Client Sample ID: SB-8

Lab Sample ID: 480-43132-2

Date Collected: 08/01/13 09:25

Matrix: Water

Date Received: 08/03/13 02:00

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Methylcyclohexane	ND		1.0	0.16	ug/L			08/08/13 09:24	1
Methylene Chloride	ND		1.0	0.44	ug/L			08/08/13 09:24	1
Styrene	ND		1.0	0.73	ug/L			08/08/13 09:24	1
Tetrachloroethene	ND		1.0	0.36	ug/L			08/08/13 09:24	1
Toluene	ND		1.0	0.51	ug/L			08/08/13 09:24	1
trans-1,2-Dichloroethene	ND		1.0	0.90	ug/L			08/08/13 09:24	1
trans-1,3-Dichloropropene	ND		1.0	0.37	ug/L			08/08/13 09:24	1
Trichloroethene	**4.8**		1.0	0.46	ug/L			08/08/13 09:24	1
Trichlorofluoromethane	ND		1.0	0.88	ug/L			08/08/13 09:24	1
Vinyl chloride	ND		1.0	0.90	ug/L			08/08/13 09:24	1
Xylenes, Total	ND		2.0	0.66	ug/L			08/08/13 09:24	1

Tentatively Identified Compound	*Est. Result*	*Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
Tentatively Identified Compound	*None*		*ug/L*					*08/08/13 09:24*	*1*

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*111*		*66 - 137*		*08/08/13 09:24*	*1*
Toluene-d8 (Surr)	*93*		*71 - 126*		*08/08/13 09:24*	*1*
4-Bromofluorobenzene (Surr)	*102*		*73 - 120*		*08/08/13 09:24*	*1*

Client Sample ID: SB-9

Lab Sample ID: 480-43132-3

Date Collected: 08/01/13 11:00

Matrix: Water

Date Received: 08/03/13 02:00

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	ND		1.0	0.82	ug/L			08/08/13 09:49	1
1,1,2,2-Tetrachloroethane	ND		1.0	0.21	ug/L			08/08/13 09:49	1
1,1,2-Trichloroethane	ND		1.0	0.23	ug/L			08/08/13 09:49	1
1,1,2-Trichloro-1,2,2-trifluoroethane	ND		1.0	0.31	ug/L			08/08/13 09:49	1
1,1-Dichloroethane	ND		1.0	0.38	ug/L			08/08/13 09:49	1
1,1-Dichloroethene	ND		1.0	0.29	ug/L			08/08/13 09:49	1
1,2,4-Trichlorobenzene	ND		1.0	0.41	ug/L			08/08/13 09:49	1
1,2-Dibromo-3-Chloropropane	ND		1.0	0.39	ug/L			08/08/13 09:49	1
1,2-Dibromoethane	ND		1.0	0.73	ug/L			08/08/13 09:49	1
1,2-Dichlorobenzene	ND		1.0	0.79	ug/L			08/08/13 09:49	1
1,2-Dichloroethane	ND		1.0	0.21	ug/L			08/08/13 09:49	1
1,2-Dichloropropane	ND		1.0	0.72	ug/L			08/08/13 09:49	1
1,3-Dichlorobenzene	ND		1.0	0.78	ug/L			08/08/13 09:49	1
1,4-Dichlorobenzene	ND		1.0	0.84	ug/L			08/08/13 09:49	1
2-Hexanone	ND		5.0	1.2	ug/L			08/08/13 09:49	1
2-Butanone (MEK)	ND		10	1.3	ug/L			08/08/13 09:49	1
4-Methyl-2-pentanone (MIBK)	ND		5.0	2.1	ug/L			08/08/13 09:49	1
Acetone	**7.4**	**J**	10	3.0	ug/L			08/08/13 09:49	1
Benzene	ND		1.0	0.41	ug/L			08/08/13 09:49	1
Bromodichloromethane	ND		1.0	0.39	ug/L			08/08/13 09:49	1
Bromoform	ND		1.0	0.26	ug/L			08/08/13 09:49	1
Bromomethane	ND		1.0	0.69	ug/L			08/08/13 09:49	1
Carbon disulfide	ND		1.0	0.19	ug/L			08/08/13 09:49	1
Carbon tetrachloride	ND		1.0	0.27	ug/L			08/08/13 09:49	1

Client Sample ID: SB-9

Lab Sample ID: 480-43132-3

Date Collected: 08/01/13 11:00

Matrix: Water

Date Received: 08/03/13 02:00

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chlorobenzene	ND		1.0	0.75	ug/L			08/08/13 09:49	1
Dibromochloromethane	ND		1.0	0.32	ug/L			08/08/13 09:49	1
Chloroethane	ND		1.0	0.32	ug/L			08/08/13 09:49	1
Chloroform	**1.3**		1.0	0.34	ug/L			08/08/13 09:49	1
Chloromethane	ND		1.0	0.35	ug/L			08/08/13 09:49	1
cis-1,2-Dichloroethene	**1.1**		1.0	0.81	ug/L			08/08/13 09:49	1
cis-1,3-Dichloropropene	ND		1.0	0.36	ug/L			08/08/13 09:49	1
Cyclohexane	ND		1.0	0.18	ug/L			08/08/13 09:49	1
Dichlorodifluoromethane	ND		1.0	0.68	ug/L			08/08/13 09:49	1
Ethylbenzene	ND		1.0	0.74	ug/L			08/08/13 09:49	1
Isopropylbenzene	ND		1.0	0.79	ug/L			08/08/13 09:49	1
Methyl acetate	ND		1.0	0.50	ug/L			08/08/13 09:49	1
Methyl tert-butyl ether	ND		1.0	0.16	ug/L			08/08/13 09:49	1
Methylcyclohexane	ND		1.0	0.16	ug/L			08/08/13 09:49	1
Methylene Chloride	ND		1.0	0.44	ug/L			08/08/13 09:49	1
Styrene	ND		1.0	0.73	ug/L			08/08/13 09:49	1
Tetrachloroethene	ND		1.0	0.36	ug/L			08/08/13 09:49	1
Toluene	ND		1.0	0.51	ug/L			08/08/13 09:49	1
trans-1,2-Dichloroethene	ND		1.0	0.90	ug/L			08/08/13 09:49	1
trans-1,3-Dichloropropene	ND		1.0	0.37	ug/L			08/08/13 09:49	1
Trichloroethene	**2.1**		1.0	0.46	ug/L			08/08/13 09:49	1
Trichlorofluoromethane	ND		1.0	0.88	ug/L			08/08/13 09:49	1
Vinyl chloride	ND		1.0	0.90	ug/L			08/08/13 09:49	1
Xylenes, Total	ND		2.0	0.66	ug/L			08/08/13 09:49	1

Tentatively Identified Compound	*Est. Result*	*Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
Tentatively Identified Compound	*None*		*ug/L*					*08/08/13 09:49*	*1*

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*114*		*66 - 137*		*08/08/13 09:49*	*1*
Toluene-d8 (Surr)	*92*		*71 - 126*		*08/08/13 09:49*	*1*
4-Bromofluorobenzene (Surr)	*102*		*73 - 120*		*08/08/13 09:49*	*1*

Client Sample ID: SB-10

Lab Sample ID: 480-43132-4

Date Collected: 08/01/13 12:39

Matrix: Water

Date Received: 08/03/13 02:00

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	ND		1.0	0.82	ug/L			08/08/13 10:14	1
1,1,2,2-Tetrachloroethane	ND		1.0	0.21	ug/L			08/08/13 10:14	1
1,1,2-Trichloroethane	ND		1.0	0.23	ug/L			08/08/13 10:14	1
1,1,2-Trichloro-1,2,2-trifluoroethane	ND		1.0	0.31	ug/L			08/08/13 10:14	1
1,1-Dichloroethane	ND		1.0	0.38	ug/L			08/08/13 10:14	1
1,1-Dichloroethene	ND		1.0	0.29	ug/L			08/08/13 10:14	1
1,2,4-Trichlorobenzene	ND		1.0	0.41	ug/L			08/08/13 10:14	1
1,2-Dibromo-3-Chloropropane	ND		1.0	0.39	ug/L			08/08/13 10:14	1
1,2-Dibromoethane	ND		1.0	0.73	ug/L			08/08/13 10:14	1
1,2-Dichlorobenzene	ND		1.0	0.79	ug/L			08/08/13 10:14	1
1,2-Dichloroethane	ND		1.0	0.21	ug/L			08/08/13 10:14	1

Client: New York State D.E.C.
Project/Site: Former Ithaca Gun Factory #C755019A

TestAmerica Job ID: 480-43132-1

Client Sample ID: SB-10
Date Collected: 08/01/13 12:39
Date Received: 08/03/13 02:00

Lab Sample ID: 480-43132-4
Matrix: Water

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2-Dichloropropane	ND		1.0	0.72	ug/L			08/08/13 10:14	1
1,3-Dichlorobenzene	ND		1.0	0.78	ug/L			08/08/13 10:14	1
1,4-Dichlorobenzene	ND		1.0	0.84	ug/L			08/08/13 10:14	1
2-Hexanone	ND		5.0	1.2	ug/L			08/08/13 10:14	1
2-Butanone (MEK)	ND		10	1.3	ug/L			08/08/13 10:14	1
4-Methyl-2-pentanone (MIBK)	ND		5.0	2.1	ug/L			08/08/13 10:14	1
Acetone	**7.9**	**J**	10	3.0	ug/L			08/08/13 10:14	1
Benzene	ND		1.0	0.41	ug/L			08/08/13 10:14	1
Bromodichloromethane	ND		1.0	0.39	ug/L			08/08/13 10:14	1
Bromoform	ND		1.0	0.26	ug/L			08/08/13 10:14	1
Bromomethane	ND		1.0	0.69	ug/L			08/08/13 10:14	1
Carbon disulfide	**0.26**	**J**	1.0	0.19	ug/L			08/08/13 10:14	1
Carbon tetrachloride	ND		1.0	0.27	ug/L			08/08/13 10:14	1
Chlorobenzene	ND		1.0	0.75	ug/L			08/08/13 10:14	1
Dibromochloromethane	ND		1.0	0.32	ug/L			08/08/13 10:14	1
Chloroethane	ND		1.0	0.32	ug/L			08/08/13 10:14	1
Chloroform	**2.7**		1.0	0.34	ug/L			08/08/13 10:14	1
Chloromethane	ND		1.0	0.35	ug/L			08/08/13 10:14	1
cis-1,2-Dichloroethene	ND		1.0	0.81	ug/L			08/08/13 10:14	1
cis-1,3-Dichloropropene	ND		1.0	0.36	ug/L			08/08/13 10:14	1
Cyclohexane	ND		1.0	0.18	ug/L			08/08/13 10:14	1
Dichlorodifluoromethane	ND		1.0	0.68	ug/L			08/08/13 10:14	1
Ethylbenzene	ND		1.0	0.74	ug/L			08/08/13 10:14	1
Isopropylbenzene	ND		1.0	0.79	ug/L			08/08/13 10:14	1
Methyl acetate	ND		1.0	0.50	ug/L			08/08/13 10:14	1
Methyl tert-butyl ether	ND		1.0	0.16	ug/L			08/08/13 10:14	1
Methylcyclohexane	ND		1.0	0.16	ug/L			08/08/13 10:14	1
Methylene Chloride	ND		1.0	0.44	ug/L			08/08/13 10:14	1
Styrene	ND		1.0	0.73	ug/L			08/08/13 10:14	1
Tetrachloroethene	ND		1.0	0.36	ug/L			08/08/13 10:14	1
Toluene	ND		1.0	0.51	ug/L			08/08/13 10:14	1
trans-1,2-Dichloroethene	ND		1.0	0.90	ug/L			08/08/13 10:14	1
trans-1,3-Dichloropropene	ND		1.0	0.37	ug/L			08/08/13 10:14	1
Trichloroethene	**3.1**		1.0	0.46	ug/L			08/08/13 10:14	1
Trichlorofluoromethane	ND		1.0	0.88	ug/L			08/08/13 10:14	1
Vinyl chloride	ND		1.0	0.90	ug/L			08/08/13 10:14	1
Xylenes, Total	ND		2.0	0.66	ug/L			08/08/13 10:14	1

Tentatively Identified Compound	*Est. Result*	*Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
Tentatively Identified Compound	*None*		*ug/L*					*08/08/13 10:14*	*1*

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*115*		*66 - 137*		*08/08/13 10:14*	*1*
Toluene-d8 (Surr)	*94*		*71 - 126*		*08/08/13 10:14*	*1*
4-Bromofluorobenzene (Surr)	*103*		*73 - 120*		*08/08/13 10:14*	*1*

Client: New York State D.E.C.
Project/Site: Former Ithaca Gun Factory #C755019A

TestAmerica Job ID: 480-43132-1

Client Sample ID: SB-1
Date Collected: 07/31/13 07:55
Date Received: 08/03/13 09:00

Lab Sample ID: 480-43159-1
Matrix: Water

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	ND		1.0	0.82	ug/L			08/08/13 03:37	1
1,1,2,2-Tetrachloroethane	ND		1.0	0.21	ug/L			08/08/13 03:37	1
1,1,2-Trichloroethane	ND		1.0	0.23	ug/L			08/08/13 03:37	1
1,1,2-Trichloro-1,2,2-trifluoroethane	ND		1.0	0.31	ug/L			08/08/13 03:37	1
1,1-Dichloroethane	ND		1.0	0.38	ug/L			08/08/13 03:37	1
1,1-Dichloroethene	ND		1.0	0.29	ug/L			08/08/13 03:37	1
1,2,4-Trichlorobenzene	ND		1.0	0.41	ug/L			08/08/13 03:37	1
1,2-Dibromo-3-Chloropropane	ND		1.0	0.39	ug/L			08/08/13 03:37	1
1,2-Dibromoethane	ND		1.0	0.73	ug/L			08/08/13 03:37	1
1,2-Dichlorobenzene	ND		1.0	0.79	ug/L			08/08/13 03:37	1
1,2-Dichloroethane	ND		1.0	0.21	ug/L			08/08/13 03:37	1
1,2-Dichloropropane	ND		1.0	0.72	ug/L			08/08/13 03:37	1
1,3-Dichlorobenzene	ND		1.0	0.78	ug/L			08/08/13 03:37	1
1,4-Dichlorobenzene	ND		1.0	0.84	ug/L			08/08/13 03:37	1
2-Hexanone	ND		5.0	1.2	ug/L			08/08/13 03:37	1
2-Butanone (MEK)	**2.4**	**J**	10	1.3	ug/L			08/08/13 03:37	1
4-Methyl-2-pentanone (MIBK)	ND		5.0	2.1	ug/L			08/08/13 03:37	1
Acetone	**12**		10	3.0	ug/L			08/08/13 03:37	1
Benzene	ND		1.0	0.41	ug/L			08/08/13 03:37	1
Bromodichloromethane	ND		1.0	0.39	ug/L			08/08/13 03:37	1
Bromoform	ND		1.0	0.26	ug/L			08/08/13 03:37	1
Bromomethane	ND		1.0	0.69	ug/L			08/08/13 03:37	1
Carbon disulfide	**0.40**	**J B**	1.0	0.19	ug/L			08/08/13 03:37	1
Carbon tetrachloride	ND		1.0	0.27	ug/L			08/08/13 03:37	1
Chlorobenzene	ND		1.0	0.75	ug/L			08/08/13 03:37	1
Dibromochloromethane	ND		1.0	0.32	ug/L			08/08/13 03:37	1
Chloroethane	ND		1.0	0.32	ug/L			08/08/13 03:37	1
Chloroform	**1.4**		1.0	0.34	ug/L			08/08/13 03:37	1
Chloromethane	ND		1.0	0.35	ug/L			08/08/13 03:37	1
cis-1,2-Dichloroethene	ND		1.0	0.81	ug/L			08/08/13 03:37	1
cis-1,3-Dichloropropene	ND		1.0	0.36	ug/L			08/08/13 03:37	1
Cyclohexane	ND		1.0	0.18	ug/L			08/08/13 03:37	1
Dichlorodifluoromethane	ND		1.0	0.68	ug/L			08/08/13 03:37	1
Ethylbenzene	ND		1.0	0.74	ug/L			08/08/13 03:37	1
Isopropylbenzene	ND		1.0	0.79	ug/L			08/08/13 03:37	1
Methyl acetate	ND		1.0	0.50	ug/L			08/08/13 03:37	1
Methyl tert-butyl ether	ND		1.0	0.16	ug/L			08/08/13 03:37	1
Methylcyclohexane	ND		1.0	0.16	ug/L			08/08/13 03:37	1
Methylene Chloride	ND		1.0	0.44	ug/L			08/08/13 03:37	1
Styrene	ND		1.0	0.73	ug/L			08/08/13 03:37	1
Tetrachloroethene	ND		1.0	0.36	ug/L			08/08/13 03:37	1
Toluene	ND		1.0	0.51	ug/L			08/08/13 03:37	1
trans-1,2-Dichloroethene	ND		1.0	0.90	ug/L			08/08/13 03:37	1
trans-1,3-Dichloropropene	ND		1.0	0.37	ug/L			08/08/13 03:37	1
Trichloroethene	**3.1**		1.0	0.46	ug/L			08/08/13 03:37	1
Trichlorofluoromethane	ND		1.0	0.88	ug/L			08/08/13 03:37	1
Vinyl chloride	ND		1.0	0.90	ug/L			08/08/13 03:37	1
Xylenes, Total	ND		2.0	0.66	ug/L			08/08/13 03:37	1

Client: New York State D.E.C.
Project/Site: Former Ithaca Gun Factory #C755019A

TestAmerica Job ID: 480-43132-1

Client Sample ID: SB-1

Lab Sample ID: 480-43159-1

Date Collected: 07/31/13 07:55

Matrix: Water

Date Received: 08/03/13 09:00

Tentatively Identified Compound	Est. Result	Qualifier	Unit	D	RT	CAS No.	Prepared	Analyzed	Dil Fac
Propene	3.1	T J N	ug/L		4.37	115-7-1		08/08/13 03:37	1
Silanol, trimethyl-	5.6	T J N	ug/L		8.22	1066-40-6		08/08/13 03:37	1
Tetrahydrofuran	1.7	J	ug/L		8.74	109-99-9		08/08/13 03:37	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	109		66 - 137		08/08/13 03:37	1
Toluene-d8 (Surr)	95		71 - 126		08/08/13 03:37	1
4-Bromofluorobenzene (Surr)	94		73 - 120		08/08/13 03:37	1

Client Sample ID: SB-2

Lab Sample ID: 480-43159-2

Date Collected: 07/31/13 08:25

Matrix: Water

Date Received: 08/03/13 09:00

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	ND		1.0	0.82	ug/L			08/07/13 19:08	1
1,1,2,2-Tetrachloroethane	ND		1.0	0.21	ug/L			08/07/13 19:08	1
1,1,2-Trichloroethane	ND		1.0	0.23	ug/L			08/07/13 19:08	1
1,1,2-Trichloro-1,2,2-trifluoroethane	ND		1.0	0.31	ug/L			08/07/13 19:08	1
1,1-Dichloroethane	ND		1.0	0.38	ug/L			08/07/13 19:08	1
1,1-Dichloroethene	ND		1.0	0.29	ug/L			08/07/13 19:08	1
1,2,4-Trichlorobenzene	ND		1.0	0.41	ug/L			08/07/13 19:08	1
1,2-Dibromo-3-Chloropropane	ND		1.0	0.39	ug/L			08/07/13 19:08	1
1,2-Dibromoethane	ND		1.0	0.73	ug/L			08/07/13 19:08	1
1,2-Dichlorobenzene	ND		1.0	0.79	ug/L			08/07/13 19:08	1
1,2-Dichloroethane	ND		1.0	0.21	ug/L			08/07/13 19:08	1
1,2-Dichloropropane	ND		1.0	0.72	ug/L			08/07/13 19:08	1
1,3-Dichlorobenzene	ND		1.0	0.78	ug/L			08/07/13 19:08	1
1,4-Dichlorobenzene	ND		1.0	0.84	ug/L			08/07/13 19:08	1
2-Hexanone	ND		5.0	1.2	ug/L			08/07/13 19:08	1
2-Butanone (MEK)	**1.8**	**J**	10	1.3	ug/L			08/07/13 19:08	1
4-Methyl-2-pentanone (MIBK)	ND		5.0	2.1	ug/L			08/07/13 19:08	1
Acetone	**10**		10	3.0	ug/L			08/07/13 19:08	1
Benzene	ND		1.0	0.41	ug/L			08/07/13 19:08	1
Bromodichloromethane	ND		1.0	0.39	ug/L			08/07/13 19:08	1
Bromoform	ND		1.0	0.26	ug/L			08/07/13 19:08	1
Bromomethane	ND		1.0	0.69	ug/L			08/07/13 19:08	1
Carbon disulfide	**1.5**		1.0	0.19	ug/L			08/07/13 19:08	1
Carbon tetrachloride	ND		1.0	0.27	ug/L			08/07/13 19:08	1
Chlorobenzene	ND		1.0	0.75	ug/L			08/07/13 19:08	1
Dibromochloromethane	ND		1.0	0.32	ug/L			08/07/13 19:08	1
Chloroethane	ND		1.0	0.32	ug/L			08/07/13 19:08	1
Chloroform	**2.1**		1.0	0.34	ug/L			08/07/13 19:08	1
Chloromethane	ND		1.0	0.35	ug/L			08/07/13 19:08	1
cis-1,2-Dichloroethene	ND		1.0	0.81	ug/L			08/07/13 19:08	1
cis-1,3-Dichloropropene	ND		1.0	0.36	ug/L			08/07/13 19:08	1
Cyclohexane	ND		1.0	0.18	ug/L			08/07/13 19:08	1
Dichlorodifluoromethane	ND		1.0	0.68	ug/L			08/07/13 19:08	1
Ethylbenzene	ND		1.0	0.74	ug/L			08/07/13 19:08	1
Isopropylbenzene	ND		1.0	0.79	ug/L			08/07/13 19:08	1

Client Sample ID: SB-2

Lab Sample ID: 480-43159-2

Date Collected: 07/31/13 08:25

Matrix: Water

Date Received: 08/03/13 09:00

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Methyl acetate	ND		1.0	0.50	ug/L			08/07/13 19:08	1
Methyl tert-butyl ether	ND		1.0	0.16	ug/L			08/07/13 19:08	1
Methylcyclohexane	ND		1.0	0.16	ug/L			08/07/13 19:08	1
Methylene Chloride	ND		1.0	0.44	ug/L			08/07/13 19:08	1
Styrene	ND		1.0	0.73	ug/L			08/07/13 19:08	1
Tetrachloroethene	ND		1.0	0.36	ug/L			08/07/13 19:08	1
Toluene	ND		1.0	0.51	ug/L			08/07/13 19:08	1
trans-1,2-Dichloroethene	ND		1.0	0.90	ug/L			08/07/13 19:08	1
trans-1,3-Dichloropropene	ND		1.0	0.37	ug/L			08/07/13 19:08	1
Trichloroethene	ND		1.0	0.46	ug/L			08/07/13 19:08	1
Trichlorofluoromethane	ND		1.0	0.88	ug/L			08/07/13 19:08	1
Vinyl chloride	ND		1.0	0.90	ug/L			08/07/13 19:08	1
Xylenes, Total	ND		2.0	0.66	ug/L			08/07/13 19:08	1

Tentatively Identified Compound	*Est. Result*	*Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
Tentatively Identified Compound	*None*		*ug/L*					*08/07/13 19:08*	*1*

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*110*		*66 - 137*		*08/07/13 19:08*	*1*
Toluene-d8 (Surr)	*96*		*71 - 126*		*08/07/13 19:08*	*1*
4-Bromofluorobenzene (Surr)	*96*		*73 - 120*		*08/07/13 19:08*	*1*

Client Sample ID: SB-3

Lab Sample ID: 480-43159-3

Date Collected: 07/31/13 09:18

Matrix: Water

Date Received: 08/03/13 09:00

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	ND		1.0	0.82	ug/L			08/07/13 19:33	1
1,1,2,2-Tetrachloroethane	ND		1.0	0.21	ug/L			08/07/13 19:33	1
1,1,2-Trichloroethane	ND		1.0	0.23	ug/L			08/07/13 19:33	1
1,1,2-Trichloro-1,2,2-trifluoroethane	ND		1.0	0.31	ug/L			08/07/13 19:33	1
1,1-Dichloroethane	ND		1.0	0.38	ug/L			08/07/13 19:33	1
1,1-Dichloroethene	ND		1.0	0.29	ug/L			08/07/13 19:33	1
1,2,4-Trichlorobenzene	ND		1.0	0.41	ug/L			08/07/13 19:33	1
1,2-Dibromo-3-Chloropropane	ND		1.0	0.39	ug/L			08/07/13 19:33	1
1,2-Dibromoethane	ND		1.0	0.73	ug/L			08/07/13 19:33	1
1,2-Dichlorobenzene	ND		1.0	0.79	ug/L			08/07/13 19:33	1
1,2-Dichloroethane	ND		1.0	0.21	ug/L			08/07/13 19:33	1
1,2-Dichloropropane	ND		1.0	0.72	ug/L			08/07/13 19:33	1
1,3-Dichlorobenzene	ND		1.0	0.78	ug/L			08/07/13 19:33	1
1,4-Dichlorobenzene	ND		1.0	0.84	ug/L			08/07/13 19:33	1
2-Hexanone	ND		5.0	1.2	ug/L			08/07/13 19:33	1
2-Butanone (MEK)	**4.7**	**J**	10	1.3	ug/L			08/07/13 19:33	1
4-Methyl-2-pentanone (MIBK)	ND		5.0	2.1	ug/L			08/07/13 19:33	1
Acetone	**14**		10	3.0	ug/L			08/07/13 19:33	1
Benzene	ND		1.0	0.41	ug/L			08/07/13 19:33	1
Bromodichloromethane	ND		1.0	0.39	ug/L			08/07/13 19:33	1
Bromoform	ND		1.0	0.26	ug/L			08/07/13 19:33	1
Bromomethane	ND		1.0	0.69	ug/L			08/07/13 19:33	1

Client Sample ID: SB-3

Lab Sample ID: 480-43159-3

Date Collected: 07/31/13 09:18

Matrix: Water

Date Received: 08/03/13 09:00

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Carbon disulfide	**0.98**	**J**	1.0	0.19	ug/L			08/07/13 19:33	1
Carbon tetrachloride	ND		1.0	0.27	ug/L			08/07/13 19:33	1
Chlorobenzene	ND		1.0	0.75	ug/L			08/07/13 19:33	1
Dibromochloromethane	ND		1.0	0.32	ug/L			08/07/13 19:33	1
Chloroethane	ND		1.0	0.32	ug/L			08/07/13 19:33	1
Chloroform	ND		1.0	0.34	ug/L			08/07/13 19:33	1
Chloromethane	ND		1.0	0.35	ug/L			08/07/13 19:33	1
cis-1,2-Dichloroethene	ND		1.0	0.81	ug/L			08/07/13 19:33	1
cis-1,3-Dichloropropene	ND		1.0	0.36	ug/L			08/07/13 19:33	1
Cyclohexane	ND		1.0	0.18	ug/L			08/07/13 19:33	1
Dichlorodifluoromethane	ND		1.0	0.68	ug/L			08/07/13 19:33	1
Ethylbenzene	ND		1.0	0.74	ug/L			08/07/13 19:33	1
Isopropylbenzene	ND		1.0	0.79	ug/L			08/07/13 19:33	1
Methyl acetate	ND		1.0	0.50	ug/L			08/07/13 19:33	1
Methyl tert-butyl ether	ND		1.0	0.16	ug/L			08/07/13 19:33	1
Methylcyclohexane	ND		1.0	0.16	ug/L			08/07/13 19:33	1
Methylene Chloride	**0.55**	**J**	1.0	0.44	ug/L			08/07/13 19:33	1
Styrene	ND		1.0	0.73	ug/L			08/07/13 19:33	1
Tetrachloroethene	ND		1.0	0.36	ug/L			08/07/13 19:33	1
Toluene	ND		1.0	0.51	ug/L			08/07/13 19:33	1
trans-1,2-Dichloroethene	ND		1.0	0.90	ug/L			08/07/13 19:33	1
trans-1,3-Dichloropropene	ND		1.0	0.37	ug/L			08/07/13 19:33	1
Trichloroethene	ND		1.0	0.46	ug/L			08/07/13 19:33	1
Trichlorofluoromethane	ND		1.0	0.88	ug/L			08/07/13 19:33	1
Vinyl chloride	ND		1.0	0.90	ug/L			08/07/13 19:33	1
Xylenes, Total	ND		2.0	0.66	ug/L			08/07/13 19:33	1

Tentatively Identified Compound	*Est. Result*	*Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
Silanol, trimethyl-	*4.2*	*T J N*	*ug/L*		*8.22*	*1066-40-6*		*08/07/13 19:33*	*1*
Tetrahydrofuran	*4.3*	*J*	*ug/L*		*8.73*	*109-99-9*		*08/07/13 19:33*	*1*

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*111*		*66 - 137*		*08/07/13 19:33*	*1*
Toluene-d8 (Surr)	*97*		*71 - 126*		*08/07/13 19:33*	*1*
4-Bromofluorobenzene (Surr)	*96*		*73 - 120*		*08/07/13 19:33*	*1*

Client Sample ID: SB-4

Lab Sample ID: 480-43159-4

Date Collected: 07/31/13 11:00

Matrix: Water

Date Received: 08/03/13 09:00

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	ND		1.0	0.82	ug/L			08/07/13 19:58	1
1,1,2,2-Tetrachloroethane	ND		1.0	0.21	ug/L			08/07/13 19:58	1
1,1,2-Trichloroethane	ND		1.0	0.23	ug/L			08/07/13 19:58	1
1,1,2-Trichloro-1,2,2-trifluoroethane	ND		1.0	0.31	ug/L			08/07/13 19:58	1
1,1-Dichloroethane	ND		1.0	0.38	ug/L			08/07/13 19:58	1
1,1-Dichloroethene	ND		1.0	0.29	ug/L			08/07/13 19:58	1
1,2,4-Trichlorobenzene	ND		1.0	0.41	ug/L			08/07/13 19:58	1
1,2-Dibromo-3-Chloropropane	ND		1.0	0.39	ug/L			08/07/13 19:58	1

Client: New York State D.E.C.
Project/Site: Former Ithaca Gun Factory #C755019A

TestAmerica Job ID: 480-43132-1

Client Sample ID: SB-4
Date Collected: 07/31/13 11:00
Date Received: 08/03/13 09:00

Lab Sample ID: 480-43159-4
Matrix: Water

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2-Dibromoethane	ND		1.0	0.73	ug/L			08/07/13 19:58	1
1,2-Dichlorobenzene	ND		1.0	0.79	ug/L			08/07/13 19:58	1
1,2-Dichloroethane	ND		1.0	0.21	ug/L			08/07/13 19:58	1
1,2-Dichloropropane	ND		1.0	0.72	ug/L			08/07/13 19:58	1
1,3-Dichlorobenzene	ND		1.0	0.78	ug/L			08/07/13 19:58	1
1,4-Dichlorobenzene	ND		1.0	0.84	ug/L			08/07/13 19:58	1
2-Hexanone	ND		5.0	1.2	ug/L			08/07/13 19:58	1
2-Butanone (MEK)	**3.1**	**J**	10	1.3	ug/L			08/07/13 19:58	1
4-Methyl-2-pentanone (MIBK)	ND		5.0	2.1	ug/L			08/07/13 19:58	1
Acetone	**17**		10	3.0	ug/L			08/07/13 19:58	1
Benzene	ND		1.0	0.41	ug/L			08/07/13 19:58	1
Bromodichloromethane	ND		1.0	0.39	ug/L			08/07/13 19:58	1
Bromoform	ND		1.0	0.26	ug/L			08/07/13 19:58	1
Bromomethane	ND		1.0	0.69	ug/L			08/07/13 19:58	1
Carbon disulfide	**0.88**	**J**	1.0	0.19	ug/L			08/07/13 19:58	1
Carbon tetrachloride	ND		1.0	0.27	ug/L			08/07/13 19:58	1
Chlorobenzene	ND		1.0	0.75	ug/L			08/07/13 19:58	1
Dibromochloromethane	ND		1.0	0.32	ug/L			08/07/13 19:58	1
Chloroethane	ND		1.0	0.32	ug/L			08/07/13 19:58	1
Chloroform	**1.0**		1.0	0.34	ug/L			08/07/13 19:58	1
Chloromethane	ND		1.0	0.35	ug/L			08/07/13 19:58	1
cis-1,2-Dichloroethene	ND		1.0	0.81	ug/L			08/07/13 19:58	1
cis-1,3-Dichloropropene	ND		1.0	0.36	ug/L			08/07/13 19:58	1
Cyclohexane	ND		1.0	0.18	ug/L			08/07/13 19:58	1
Dichlorodifluoromethane	ND		1.0	0.68	ug/L			08/07/13 19:58	1
Ethylbenzene	ND		1.0	0.74	ug/L			08/07/13 19:58	1
Isopropylbenzene	ND		1.0	0.79	ug/L			08/07/13 19:58	1
Methyl acetate	ND		1.0	0.50	ug/L			08/07/13 19:58	1
Methyl tert-butyl ether	ND		1.0	0.16	ug/L			08/07/13 19:58	1
Methylcyclohexane	ND		1.0	0.16	ug/L			08/07/13 19:58	1
Methylene Chloride	ND		1.0	0.44	ug/L			08/07/13 19:58	1
Styrene	ND		1.0	0.73	ug/L			08/07/13 19:58	1
Tetrachloroethene	ND		1.0	0.36	ug/L			08/07/13 19:58	1
Toluene	ND		1.0	0.51	ug/L			08/07/13 19:58	1
trans-1,2-Dichloroethene	ND		1.0	0.90	ug/L			08/07/13 19:58	1
trans-1,3-Dichloropropene	ND		1.0	0.37	ug/L			08/07/13 19:58	1
Trichloroethene	**1.7**		1.0	0.46	ug/L			08/07/13 19:58	1
Trichlorofluoromethane	ND		1.0	0.88	ug/L			08/07/13 19:58	1
Vinyl chloride	ND		1.0	0.90	ug/L			08/07/13 19:58	1
Xylenes, Total	ND		2.0	0.66	ug/L			08/07/13 19:58	1

Tentatively Identified Compound	*Est. Result*	*Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
Silanol, trimethyl-	*3.1*	*T J N*	*ug/L*		*8.22*	*1066-40-6*		*08/07/13 19:58*	*1*
Tetrahydrofuran	*2.2*	*J*	*ug/L*		*8.74*	*109-99-9*		*08/07/13 19:58*	*1*

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*106*		*66 - 137*		*08/07/13 19:58*	*1*
Toluene-d8 (Surr)	*92*		*71 - 126*		*08/07/13 19:58*	*1*
4-Bromofluorobenzene (Surr)	*92*		*73 - 120*		*08/07/13 19:58*	*1*

Client: New York State D.E.C.
Project/Site: Former Ithaca Gun Factory #C755019A

TestAmerica Job ID: 480-43132-1

Client Sample ID: SB-5
Date Collected: 07/31/13 13:10
Date Received: 08/03/13 09:00

Lab Sample ID: 480-43159-5
Matrix: Water

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	ND		1.0	0.82	ug/L			08/07/13 20:24	1
1,1,2,2-Tetrachloroethane	ND		1.0	0.21	ug/L			08/07/13 20:24	1
1,1,2-Trichloroethane	ND		1.0	0.23	ug/L			08/07/13 20:24	1
1,1,2-Trichloro-1,2,2-trifluoroethane	ND		1.0	0.31	ug/L			08/07/13 20:24	1
1,1-Dichloroethane	ND		1.0	0.38	ug/L			08/07/13 20:24	1
1,1-Dichloroethene	ND		1.0	0.29	ug/L			08/07/13 20:24	1
1,2,4-Trichlorobenzene	ND		1.0	0.41	ug/L			08/07/13 20:24	1
1,2-Dibromo-3-Chloropropane	ND		1.0	0.39	ug/L			08/07/13 20:24	1
1,2-Dibromoethane	ND		1.0	0.73	ug/L			08/07/13 20:24	1
1,2-Dichlorobenzene	ND		1.0	0.79	ug/L			08/07/13 20:24	1
1,2-Dichloroethane	ND		1.0	0.21	ug/L			08/07/13 20:24	1
1,2-Dichloropropane	ND		1.0	0.72	ug/L			08/07/13 20:24	1
1,3-Dichlorobenzene	ND		1.0	0.78	ug/L			08/07/13 20:24	1
1,4-Dichlorobenzene	ND		1.0	0.84	ug/L			08/07/13 20:24	1
2-Hexanone	ND		5.0	1.2	ug/L			08/07/13 20:24	1
2-Butanone (MEK)	**4.1**	**J**	10	1.3	ug/L			08/07/13 20:24	1
4-Methyl-2-pentanone (MIBK)	ND		5.0	2.1	ug/L			08/07/13 20:24	1
Acetone	**20**		10	3.0	ug/L			08/07/13 20:24	1
Benzene	ND		1.0	0.41	ug/L			08/07/13 20:24	1
Bromodichloromethane	ND		1.0	0.39	ug/L			08/07/13 20:24	1
Bromoform	ND		1.0	0.26	ug/L			08/07/13 20:24	1
Bromomethane	ND		1.0	0.69	ug/L			08/07/13 20:24	1
Carbon disulfide	**0.75**	**J**	1.0	0.19	ug/L			08/07/13 20:24	1
Carbon tetrachloride	ND		1.0	0.27	ug/L			08/07/13 20:24	1
Chlorobenzene	ND		1.0	0.75	ug/L			08/07/13 20:24	1
Dibromochloromethane	ND		1.0	0.32	ug/L			08/07/13 20:24	1
Chloroethane	ND		1.0	0.32	ug/L			08/07/13 20:24	1
Chloroform	**3.0**		1.0	0.34	ug/L			08/07/13 20:24	1
Chloromethane	ND		1.0	0.35	ug/L			08/07/13 20:24	1
cis-1,2-Dichloroethene	ND		1.0	0.81	ug/L			08/07/13 20:24	1
cis-1,3-Dichloropropene	ND		1.0	0.36	ug/L			08/07/13 20:24	1
Cyclohexane	ND		1.0	0.18	ug/L			08/07/13 20:24	1
Dichlorodifluoromethane	ND		1.0	0.68	ug/L			08/07/13 20:24	1
Ethylbenzene	ND		1.0	0.74	ug/L			08/07/13 20:24	1
Isopropylbenzene	ND		1.0	0.79	ug/L			08/07/13 20:24	1
Methyl acetate	ND		1.0	0.50	ug/L			08/07/13 20:24	1
Methyl tert-butyl ether	ND		1.0	0.16	ug/L			08/07/13 20:24	1
Methylcyclohexane	ND		1.0	0.16	ug/L			08/07/13 20:24	1
Methylene Chloride	ND		1.0	0.44	ug/L			08/07/13 20:24	1
Styrene	ND		1.0	0.73	ug/L			08/07/13 20:24	1
Tetrachloroethene	ND		1.0	0.36	ug/L			08/07/13 20:24	1
Toluene	ND		1.0	0.51	ug/L			08/07/13 20:24	1
trans-1,2-Dichloroethene	ND		1.0	0.90	ug/L			08/07/13 20:24	1
trans-1,3-Dichloropropene	ND		1.0	0.37	ug/L			08/07/13 20:24	1
Trichloroethene	**1.4**		1.0	0.46	ug/L			08/07/13 20:24	1
Trichlorofluoromethane	ND		1.0	0.88	ug/L			08/07/13 20:24	1
Vinyl chloride	ND		1.0	0.90	ug/L			08/07/13 20:24	1
Xylenes, Total	ND		2.0	0.66	ug/L			08/07/13 20:24	1

Client: New York State D.E.C.
Project/Site: Former Ithaca Gun Factory #C755019A

TestAmerica Job ID: 480-43132-1

Client Sample ID: SB-5

Lab Sample ID: 480-43159-5

Date Collected: 07/31/13 13:10

Matrix: Water

Date Received: 08/03/13 09:00

Tentatively Identified Compound	Est. Result	Qualifier	Unit	D	RT	CAS No.	Prepared	Analyzed	Dil Fac
Propene	5.2	T J N	ug/L		4.38	115-7-1		08/07/13 20:24	1
Silanol, trimethyl-	2.9	T J N	ug/L		8.22	1066-40-6		08/07/13 20:24	1
Tetrahydrofuran	2.5	J	ug/L		8.73	109-99-9		08/07/13 20:24	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	111		66 - 137		08/07/13 20:24	1
Toluene-d8 (Surr)	96		71 - 126		08/07/13 20:24	1
4-Bromofluorobenzene (Surr)	96		73 - 120		08/07/13 20:24	1

Client Sample ID: SB-6

Lab Sample ID: 480-43159-6

Date Collected: 07/31/13 13:35

Matrix: Water

Date Received: 08/03/13 09:00

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	ND		1.0	0.82	ug/L			08/08/13 04:02	1
1,1,2,2-Tetrachloroethane	ND		1.0	0.21	ug/L			08/08/13 04:02	1
1,1,2-Trichloroethane	ND		1.0	0.23	ug/L			08/08/13 04:02	1
1,1,2-Trichloro-1,2,2-trifluoroethane	ND		1.0	0.31	ug/L			08/08/13 04:02	1
1,1-Dichloroethane	ND		1.0	0.38	ug/L			08/08/13 04:02	1
1,1-Dichloroethene	ND		1.0	0.29	ug/L			08/08/13 04:02	1
1,2,4-Trichlorobenzene	ND		1.0	0.41	ug/L			08/08/13 04:02	1
1,2-Dibromo-3-Chloropropane	ND		1.0	0.39	ug/L			08/08/13 04:02	1
1,2-Dibromoethane	ND		1.0	0.73	ug/L			08/08/13 04:02	1
1,2-Dichlorobenzene	ND		1.0	0.79	ug/L			08/08/13 04:02	1
1,2-Dichloroethane	ND		1.0	0.21	ug/L			08/08/13 04:02	1
1,2-Dichloropropane	ND		1.0	0.72	ug/L			08/08/13 04:02	1
1,3-Dichlorobenzene	ND		1.0	0.78	ug/L			08/08/13 04:02	1
1,4-Dichlorobenzene	ND		1.0	0.84	ug/L			08/08/13 04:02	1
2-Hexanone	ND		5.0	1.2	ug/L			08/08/13 04:02	1
2-Butanone (MEK)	**2.5**	**J**	10	1.3	ug/L			08/08/13 04:02	1
4-Methyl-2-pentanone (MIBK)	ND		5.0	2.1	ug/L			08/08/13 04:02	1
Acetone	**13**		10	3.0	ug/L			08/08/13 04:02	1
Benzene	ND		1.0	0.41	ug/L			08/08/13 04:02	1
Bromodichloromethane	ND		1.0	0.39	ug/L			08/08/13 04:02	1
Bromoform	ND		1.0	0.26	ug/L			08/08/13 04:02	1
Bromomethane	ND		1.0	0.69	ug/L			08/08/13 04:02	1
Carbon disulfide	**0.65**	**J B**	1.0	0.19	ug/L			08/08/13 04:02	1
Carbon tetrachloride	ND		1.0	0.27	ug/L			08/08/13 04:02	1
Chlorobenzene	ND		1.0	0.75	ug/L			08/08/13 04:02	1
Dibromochloromethane	ND		1.0	0.32	ug/L			08/08/13 04:02	1
Chloroethane	ND		1.0	0.32	ug/L			08/08/13 04:02	1
Chloroform	**0.78**	**J**	1.0	0.34	ug/L			08/08/13 04:02	1
Chloromethane	ND		1.0	0.35	ug/L			08/08/13 04:02	1
cis-1,2-Dichloroethene	ND		1.0	0.81	ug/L			08/08/13 04:02	1
cis-1,3-Dichloropropene	ND		1.0	0.36	ug/L			08/08/13 04:02	1
Cyclohexane	ND		1.0	0.18	ug/L			08/08/13 04:02	1
Dichlorodifluoromethane	ND		1.0	0.68	ug/L			08/08/13 04:02	1
Ethylbenzene	ND		1.0	0.74	ug/L			08/08/13 04:02	1
Isopropylbenzene	ND		1.0	0.79	ug/L			08/08/13 04:02	1

Client Sample ID: SB-6

Lab Sample ID: 480-43159-6

Date Collected: 07/31/13 13:35

Matrix: Water

Date Received: 08/03/13 09:00

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Methyl acetate	ND		1.0	0.50	ug/L			08/08/13 04:02	1
Methyl tert-butyl ether	ND		1.0	0.16	ug/L			08/08/13 04:02	1
Methylcyclohexane	ND		1.0	0.16	ug/L			08/08/13 04:02	1
Methylene Chloride	ND		1.0	0.44	ug/L			08/08/13 04:02	1
Styrene	ND		1.0	0.73	ug/L			08/08/13 04:02	1
Tetrachloroethene	ND		1.0	0.36	ug/L			08/08/13 04:02	1
Toluene	ND		1.0	0.51	ug/L			08/08/13 04:02	1
trans-1,2-Dichloroethene	ND		1.0	0.90	ug/L			08/08/13 04:02	1
trans-1,3-Dichloropropene	ND		1.0	0.37	ug/L			08/08/13 04:02	1
Trichloroethene	ND		1.0	0.46	ug/L			08/08/13 04:02	1
Trichlorofluoromethane	ND		1.0	0.88	ug/L			08/08/13 04:02	1
Vinyl chloride	ND		1.0	0.90	ug/L			08/08/13 04:02	1
Xylenes, Total	ND		2.0	0.66	ug/L			08/08/13 04:02	1

Tentatively Identified Compound	*Est. Result*	*Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
Propene	*5.8*	*T J N*	*ug/L*		*4.37*	*115-7-1*		*08/08/13 04:02*	*1*

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*107*		*66 - 137*		*08/08/13 04:02*	*1*
Toluene-d8 (Surr)	*95*		*71 - 126*		*08/08/13 04:02*	*1*
4-Bromofluorobenzene (Surr)	*94*		*73 - 120*		*08/08/13 04:02*	*1*

Client Sample ID: SB-XX DUP

Lab Sample ID: 480-43159-7

Date Collected: 07/31/13 00:00

Matrix: Water

Date Received: 08/03/13 09:00

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	ND		1.0	0.82	ug/L			08/08/13 04:27	1
1,1,2,2-Tetrachloroethane	ND		1.0	0.21	ug/L			08/08/13 04:27	1
1,1,2-Trichloroethane	ND		1.0	0.23	ug/L			08/08/13 04:27	1
1,1,2-Trichloro-1,2,2-trifluoroethane	ND		1.0	0.31	ug/L			08/08/13 04:27	1
1,1-Dichloroethane	ND		1.0	0.38	ug/L			08/08/13 04:27	1
1,1-Dichloroethene	ND		1.0	0.29	ug/L			08/08/13 04:27	1
1,2,4-Trichlorobenzene	ND		1.0	0.41	ug/L			08/08/13 04:27	1
1,2-Dibromo-3-Chloropropane	ND		1.0	0.39	ug/L			08/08/13 04:27	1
1,2-Dibromoethane	ND		1.0	0.73	ug/L			08/08/13 04:27	1
1,2-Dichlorobenzene	ND		1.0	0.79	ug/L			08/08/13 04:27	1
1,2-Dichloroethane	ND		1.0	0.21	ug/L			08/08/13 04:27	1
1,2-Dichloropropane	ND		1.0	0.72	ug/L			08/08/13 04:27	1
1,3-Dichlorobenzene	ND		1.0	0.78	ug/L			08/08/13 04:27	1
1,4-Dichlorobenzene	ND		1.0	0.84	ug/L			08/08/13 04:27	1
2-Hexanone	ND		5.0	1.2	ug/L			08/08/13 04:27	1
2-Butanone (MEK)	**4.7**	**J**	10	1.3	ug/L			08/08/13 04:27	1
4-Methyl-2-pentanone (MIBK)	ND		5.0	2.1	ug/L			08/08/13 04:27	1
Acetone	**25**		10	3.0	ug/L			08/08/13 04:27	1
Benzene	ND		1.0	0.41	ug/L			08/08/13 04:27	1
Bromodichloromethane	ND		1.0	0.39	ug/L			08/08/13 04:27	1
Bromoform	ND		1.0	0.26	ug/L			08/08/13 04:27	1
Bromomethane	ND		1.0	0.69	ug/L			08/08/13 04:27	1

Client Sample ID: SB-XX DUP

Lab Sample ID: 480-43159-7

Date Collected: 07/31/13 00:00

Matrix: Water

Date Received: 08/03/13 09:00

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Carbon disulfide	**0.66**	**J B**	1.0	0.19	ug/L			08/08/13 04:27	1
Carbon tetrachloride	ND		1.0	0.27	ug/L			08/08/13 04:27	1
Chlorobenzene	ND		1.0	0.75	ug/L			08/08/13 04:27	1
Dibromochloromethane	ND		1.0	0.32	ug/L			08/08/13 04:27	1
Chloroethane	ND		1.0	0.32	ug/L			08/08/13 04:27	1
Chloroform	**0.84**	**J**	1.0	0.34	ug/L			08/08/13 04:27	1
Chloromethane	ND		1.0	0.35	ug/L			08/08/13 04:27	1
cis-1,2-Dichloroethene	ND		1.0	0.81	ug/L			08/08/13 04:27	1
cis-1,3-Dichloropropene	ND		1.0	0.36	ug/L			08/08/13 04:27	1
Cyclohexane	ND		1.0	0.18	ug/L			08/08/13 04:27	1
Dichlorodifluoromethane	ND		1.0	0.68	ug/L			08/08/13 04:27	1
Ethylbenzene	ND		1.0	0.74	ug/L			08/08/13 04:27	1
Isopropylbenzene	ND		1.0	0.79	ug/L			08/08/13 04:27	1
Methyl acetate	ND		1.0	0.50	ug/L			08/08/13 04:27	1
Methyl tert-butyl ether	ND		1.0	0.16	ug/L			08/08/13 04:27	1
Methylcyclohexane	ND		1.0	0.16	ug/L			08/08/13 04:27	1
Methylene Chloride	ND		1.0	0.44	ug/L			08/08/13 04:27	1
Styrene	ND		1.0	0.73	ug/L			08/08/13 04:27	1
Tetrachloroethene	ND		1.0	0.36	ug/L			08/08/13 04:27	1
Toluene	ND		1.0	0.51	ug/L			08/08/13 04:27	1
trans-1,2-Dichloroethene	ND		1.0	0.90	ug/L			08/08/13 04:27	1
trans-1,3-Dichloropropene	ND		1.0	0.37	ug/L			08/08/13 04:27	1
Trichloroethene	ND		1.0	0.46	ug/L			08/08/13 04:27	1
Trichlorofluoromethane	ND		1.0	0.88	ug/L			08/08/13 04:27	1
Vinyl chloride	ND		1.0	0.90	ug/L			08/08/13 04:27	1
Xylenes, Total	ND		2.0	0.66	ug/L			08/08/13 04:27	1

Tentatively Identified Compound	*Est. Result*	*Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
Propene	*7.5*	*T J N*	*ug/L*		*4.38*	*115-7-1*		*08/08/13 04:27*	*1*
tert-Butyldimethylsilanol	*5.4*	*T J N*	*ug/L*		*8.22*	*18173-64-3*		*08/08/13 04:27*	*1*
Tetrahydrofuran	*2.2*	*J*	*ug/L*		*8.74*	*109-99-9*		*08/08/13 04:27*	*1*

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*109*		*66 - 137*		*08/08/13 04:27*	*1*
Toluene-d8 (Surr)	*97*		*71 - 126*		*08/08/13 04:27*	*1*
4-Bromofluorobenzene (Surr)	*97*		*73 - 120*		*08/08/13 04:27*	*1*

Client Sample ID: TB

Lab Sample ID: 480-43159-8

Date Collected: 07/31/13 00:00

Matrix: Water

Date Received: 08/03/13 09:00

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	ND		1.0	0.82	ug/L			08/08/13 04:52	1
1,1,2,2-Tetrachloroethane	ND		1.0	0.21	ug/L			08/08/13 04:52	1
1,1,2-Trichloroethane	ND		1.0	0.23	ug/L			08/08/13 04:52	1
1,1,2-Trichloro-1,2,2-trifluoroethane	ND		1.0	0.31	ug/L			08/08/13 04:52	1
1,1-Dichloroethane	ND		1.0	0.38	ug/L			08/08/13 04:52	1
1,1-Dichloroethene	ND		1.0	0.29	ug/L			08/08/13 04:52	1
1,2,4-Trichlorobenzene	ND		1.0	0.41	ug/L			08/08/13 04:52	1

Client: New York State D.E.C.
Project/Site: Former Ithaca Gun Factory #C755019A

TestAmerica Job ID: 480-43132-1

Client Sample ID: TB
Date Collected: 07/31/13 00:00
Date Received: 08/03/13 09:00

Lab Sample ID: 480-43159-8
Matrix: Water

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2-Dibromo-3-Chloropropane	ND		1.0	0.39	ug/L			08/08/13 04:52	1
1,2-Dibromoethane	ND		1.0	0.73	ug/L			08/08/13 04:52	1
1,2-Dichlorobenzene	ND		1.0	0.79	ug/L			08/08/13 04:52	1
1,2-Dichloroethane	ND		1.0	0.21	ug/L			08/08/13 04:52	1
1,2-Dichloropropane	ND		1.0	0.72	ug/L			08/08/13 04:52	1
1,3-Dichlorobenzene	ND		1.0	0.78	ug/L			08/08/13 04:52	1
1,4-Dichlorobenzene	ND		1.0	0.84	ug/L			08/08/13 04:52	1
2-Hexanone	ND		5.0	1.2	ug/L			08/08/13 04:52	1
2-Butanone (MEK)	ND		10	1.3	ug/L			08/08/13 04:52	1
4-Methyl-2-pentanone (MIBK)	ND		5.0	2.1	ug/L			08/08/13 04:52	1
Acetone	**4.2**	**J**	10	3.0	ug/L			08/08/13 04:52	1
Benzene	ND		1.0	0.41	ug/L			08/08/13 04:52	1
Bromodichloromethane	ND		1.0	0.39	ug/L			08/08/13 04:52	1
Bromoform	ND		1.0	0.26	ug/L			08/08/13 04:52	1
Bromomethane	ND		1.0	0.69	ug/L			08/08/13 04:52	1
Carbon disulfide	ND		1.0	0.19	ug/L			08/08/13 04:52	1
Carbon tetrachloride	ND		1.0	0.27	ug/L			08/08/13 04:52	1
Chlorobenzene	ND		1.0	0.75	ug/L			08/08/13 04:52	1
Dibromochloromethane	ND		1.0	0.32	ug/L			08/08/13 04:52	1
Chloroethane	ND		1.0	0.32	ug/L			08/08/13 04:52	1
Chloroform	ND		1.0	0.34	ug/L			08/08/13 04:52	1
Chloromethane	ND		1.0	0.35	ug/L			08/08/13 04:52	1
cis-1,2-Dichloroethene	ND		1.0	0.81	ug/L			08/08/13 04:52	1
cis-1,3-Dichloropropene	ND		1.0	0.36	ug/L			08/08/13 04:52	1
Cyclohexane	ND		1.0	0.18	ug/L			08/08/13 04:52	1
Dichlorodifluoromethane	ND		1.0	0.68	ug/L			08/08/13 04:52	1
Ethylbenzene	ND		1.0	0.74	ug/L			08/08/13 04:52	1
Isopropylbenzene	ND		1.0	0.79	ug/L			08/08/13 04:52	1
Methyl acetate	ND		1.0	0.50	ug/L			08/08/13 04:52	1
Methyl tert-butyl ether	ND		1.0	0.16	ug/L			08/08/13 04:52	1
Methylcyclohexane	ND		1.0	0.16	ug/L			08/08/13 04:52	1
Methylene Chloride	**0.96**	**J**	1.0	0.44	ug/L			08/08/13 04:52	1
Styrene	ND		1.0	0.73	ug/L			08/08/13 04:52	1
Tetrachloroethene	ND		1.0	0.36	ug/L			08/08/13 04:52	1
Toluene	ND		1.0	0.51	ug/L			08/08/13 04:52	1
trans-1,2-Dichloroethene	ND		1.0	0.90	ug/L			08/08/13 04:52	1
trans-1,3-Dichloropropene	ND		1.0	0.37	ug/L			08/08/13 04:52	1
Trichloroethene	ND		1.0	0.46	ug/L			08/08/13 04:52	1
Trichlorofluoromethane	ND		1.0	0.88	ug/L			08/08/13 04:52	1
Vinyl chloride	ND		1.0	0.90	ug/L			08/08/13 04:52	1
Xylenes, Total	ND		2.0	0.66	ug/L			08/08/13 04:52	1

Tentatively Identified Compound	*Est. Result*	*Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
Tentatively Identified Compound	*None*		*ug/L*					*08/08/13 04:52*	*1*

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*108*		*66 - 137*		*08/08/13 04:52*	*1*
Toluene-d8 (Surr)	*95*		*71 - 126*		*08/08/13 04:52*	*1*
4-Bromofluorobenzene (Surr)	*96*		*73 - 120*		*08/08/13 04:52*	*1*

Surrogate Summary

Client: New York State D.E.C.
Project/Site: Former Ithaca Gun Factory #C755019A

TestAmerica Job ID: 480-43132-1

Method: 8260B - Volatile Organic Compounds (GC/MS)

Matrix: Water

Prep Type: Total/NA

		Percent Surrogate Recovery (Acceptance Limits)								
		12DCE	TOL	BFB						
Lab Sample ID	Client Sample ID	(66-137)	(71-126)	(73-120)						
480-43132-1	SB-7	113	93	101						
480-43132-2	SB-8	111	93	102						
480-43132-3	SB-9	114	92	102						
480-43132-4	SB-10	115	94	103						
480-43159-1	SB-1	109	95	94						
480-43159-2	SB-2	110	96	96						
480-43159-3	SB-3	111	97	96						
480-43159-4	SB-4	106	92	92						
480-43159-5	SB-5	111	96	96						
480-43159-5 MS	SB-5	105	98	97						
480-43159-5 MSD	SB-5	103	94	95						
480-43159-6	SB-6	107	95	94						
480-43159-7	SB-XX DUP	109	97	97						
480-43159-8	TB	108	95	96						
LCS 480-132713/5	Lab Control Sample	102	97	96						
LCS 480-132852/4	Lab Control Sample	95	96	104						
LCS 480-132854/4	Lab Control Sample	104	98	100						
LCSD 480-132852/5	Lab Control Sample Dup	98	97	104						
MB 480-132713/8	Method Blank	107	98	96						
MB 480-132852/6	Method Blank	98	97	101						
MB 480-132854/28	Method Blank	112	99	98						

Surrogate Legend

12DCE = 1,2-Dichloroethane-d4 (Surr)

TOL = Toluene-d8 (Surr)

BFB = 4-Bromofluorobenzene (Surr)

Client: New York State D.E.C.
Project/Site: Former Ithaca Gun Factory #C755019A

TestAmerica Job ID: 480-43132-1

Method: 8260B - Volatile Organic Compounds (GC/MS)

Lab Sample ID: MB 480-132713/8
Matrix: Water
Analysis Batch: 132713

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		1.0	0.82	ug/L			08/07/13 12:54	1
1,1,2,2-Tetrachloroethane	ND		1.0	0.21	ug/L			08/07/13 12:54	1
1,1,2-Trichloroethane	ND		1.0	0.23	ug/L			08/07/13 12:54	1
1,1,2-Trichloro-1,2,2-trifluoroethane	ND		1.0	0.31	ug/L			08/07/13 12:54	1
1,1-Dichloroethane	ND		1.0	0.38	ug/L			08/07/13 12:54	1
1,1-Dichloroethene	ND		1.0	0.29	ug/L			08/07/13 12:54	1
1,2,4-Trichlorobenzene	ND		1.0	0.41	ug/L			08/07/13 12:54	1
1,2-Dibromo-3-Chloropropane	ND		1.0	0.39	ug/L			08/07/13 12:54	1
1,2-Dibromoethane	ND		1.0	0.73	ug/L			08/07/13 12:54	1
1,2-Dichlorobenzene	ND		1.0	0.79	ug/L			08/07/13 12:54	1
1,2-Dichloroethane	ND		1.0	0.21	ug/L			08/07/13 12:54	1
1,2-Dichloropropane	ND		1.0	0.72	ug/L			08/07/13 12:54	1
1,3-Dichlorobenzene	ND		1.0	0.78	ug/L			08/07/13 12:54	1
1,4-Dichlorobenzene	ND		1.0	0.84	ug/L			08/07/13 12:54	1
2-Hexanone	ND		5.0	1.2	ug/L			08/07/13 12:54	1
2-Butanone (MEK)	ND		10	1.3	ug/L			08/07/13 12:54	1
4-Methyl-2-pentanone (MIBK)	ND		5.0	2.1	ug/L			08/07/13 12:54	1
Acetone	ND		10	3.0	ug/L			08/07/13 12:54	1
Benzene	ND		1.0	0.41	ug/L			08/07/13 12:54	1
Bromodichloromethane	ND		1.0	0.39	ug/L			08/07/13 12:54	1
Bromoform	ND		1.0	0.26	ug/L			08/07/13 12:54	1
Bromomethane	ND		1.0	0.69	ug/L			08/07/13 12:54	1
Carbon disulfide	ND		1.0	0.19	ug/L			08/07/13 12:54	1
Carbon tetrachloride	ND		1.0	0.27	ug/L			08/07/13 12:54	1
Chlorobenzene	ND		1.0	0.75	ug/L			08/07/13 12:54	1
Dibromochloromethane	ND		1.0	0.32	ug/L			08/07/13 12:54	1
Chloroethane	ND		1.0	0.32	ug/L			08/07/13 12:54	1
Chloroform	ND		1.0	0.34	ug/L			08/07/13 12:54	1
Chloromethane	ND		1.0	0.35	ug/L			08/07/13 12:54	1
cis-1,2-Dichloroethene	ND		1.0	0.81	ug/L			08/07/13 12:54	1
cis-1,3-Dichloropropene	ND		1.0	0.36	ug/L			08/07/13 12:54	1
Cyclohexane	ND		1.0	0.18	ug/L			08/07/13 12:54	1
Dichlorodifluoromethane	ND		1.0	0.68	ug/L			08/07/13 12:54	1
Ethylbenzene	ND		1.0	0.74	ug/L			08/07/13 12:54	1
Isopropylbenzene	ND		1.0	0.79	ug/L			08/07/13 12:54	1
Methyl acetate	ND		1.0	0.50	ug/L			08/07/13 12:54	1
Methyl tert-butyl ether	ND		1.0	0.16	ug/L			08/07/13 12:54	1
Methylcyclohexane	ND		1.0	0.16	ug/L			08/07/13 12:54	1
Methylene Chloride	ND		1.0	0.44	ug/L			08/07/13 12:54	1
Styrene	ND		1.0	0.73	ug/L			08/07/13 12:54	1
Tetrachloroethene	ND		1.0	0.36	ug/L			08/07/13 12:54	1
Toluene	ND		1.0	0.51	ug/L			08/07/13 12:54	1
trans-1,2-Dichloroethene	ND		1.0	0.90	ug/L			08/07/13 12:54	1
trans-1,3-Dichloropropene	ND		1.0	0.37	ug/L			08/07/13 12:54	1
Trichloroethene	ND		1.0	0.46	ug/L			08/07/13 12:54	1
Trichlorofluoromethane	ND		1.0	0.88	ug/L			08/07/13 12:54	1
Vinyl chloride	ND		1.0	0.90	ug/L			08/07/13 12:54	1
Xylenes, Total	ND		2.0	0.66	ug/L			08/07/13 12:54	1

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

Lab Sample ID: MB 480-132713/8
Matrix: Water
Analysis Batch: 132713

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

Tentatively Identified Compound	MB Est. Result	MB Qualifier	Unit	D	RT	CAS No.	Prepared	Analyzed	Dil Fac
Tentatively Identified Compound	None		ug/L					08/07/13 12:54	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	107		66 - 137		08/07/13 12:54	1
Toluene-d8 (Surr)	98		71 - 126		08/07/13 12:54	1
4-Bromofluorobenzene (Surr)	96		73 - 120		08/07/13 12:54	1

Lab Sample ID: LCS 480-132713/5
Matrix: Water
Analysis Batch: 132713

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
1,1-Dichloroethane	25.0	28.1		ug/L		113	71 - 129
1,1-Dichloroethene	25.0	27.9		ug/L		112	58 - 121
1,2-Dichlorobenzene	25.0	24.6		ug/L		98	80 - 124
1,2-Dichloroethane	25.0	26.4		ug/L		106	75 - 127
Benzene	25.0	28.8		ug/L		115	71 - 124
Chlorobenzene	25.0	25.9		ug/L		104	72 - 120
cis-1,2-Dichloroethene	25.0	28.1		ug/L		113	74 - 124
Ethylbenzene	25.0	25.8		ug/L		103	77 - 123
Methyl tert-butyl ether	25.0	26.4		ug/L		106	64 - 127
Tetrachloroethene	25.0	24.7		ug/L		99	74 - 122
Toluene	25.0	25.6		ug/L		102	80 - 122
trans-1,2-Dichloroethene	25.0	28.6		ug/L		115	73 - 127
Trichloroethene	25.0	27.6		ug/L		110	74 - 123

Surrogate	LCS %Recovery	LCS Qualifier	Limits
1,2-Dichloroethane-d4 (Surr)	102		66 - 137
Toluene-d8 (Surr)	97		71 - 126
4-Bromofluorobenzene (Surr)	96		73 - 120

Lab Sample ID: 480-43159-5 MS
Matrix: Water
Analysis Batch: 132713

Client Sample ID: SB-5
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
1,1-Dichloroethane	ND		25.0	30.8		ug/L		123	71 - 129
1,1-Dichloroethene	ND		25.0	31.4	F	ug/L		126	58 - 121
1,2-Dichlorobenzene	ND		25.0	24.9		ug/L		99	80 - 124
1,2-Dichloroethane	ND		25.0	27.7		ug/L		111	75 - 127
Benzene	ND		25.0	31.3	F	ug/L		125	71 - 124
Chlorobenzene	ND		25.0	27.6		ug/L		110	72 - 120
cis-1,2-Dichloroethene	ND		25.0	29.6		ug/L		118	74 - 124
Ethylbenzene	ND		25.0	26.8		ug/L		107	77 - 123
Methyl tert-butyl ether	ND		25.0	27.1		ug/L		108	64 - 127
Tetrachloroethene	ND		25.0	26.6		ug/L		106	74 - 122
Toluene	ND		25.0	27.0		ug/L		108	80 - 122

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

Lab Sample ID: 480-43159-5 MS
Matrix: Water
Analysis Batch: 132713

Client Sample ID: SB-5
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
trans-1,2-Dichloroethene	ND		25.0	31.2		ug/L		125	73 - 127
Trichloroethene	1.4		25.0	30.8		ug/L		118	74 - 123

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
1,2-Dichloroethane-d4 (Surr)	*105*		*66 - 137*
Toluene-d8 (Surr)	*98*		*71 - 126*
4-Bromofluorobenzene (Surr)	*97*		*73 - 120*

Lab Sample ID: 480-43159-5 MSD
Matrix: Water
Analysis Batch: 132713

Client Sample ID: SB-5
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
1,1-Dichloroethane	ND		25.0	31.9		ug/L		128	71 - 129	4	20
1,1-Dichloroethene	ND		25.0	32.7	F	ug/L		131	58 - 121	4	16
1,2-Dichlorobenzene	ND		25.0	26.4		ug/L		106	80 - 124	6	20
1,2-Dichloroethane	ND		25.0	28.5		ug/L		114	75 - 127	3	20
Benzene	ND		25.0	32.2	F	ug/L		129	71 - 124	3	13
Chlorobenzene	ND		25.0	28.5		ug/L		114	72 - 120	3	25
cis-1,2-Dichloroethene	ND		25.0	31.3	F	ug/L		125	74 - 124	5	15
Ethylbenzene	ND		25.0	28.5		ug/L		114	77 - 123	6	15
Methyl tert-butyl ether	ND		25.0	28.7		ug/L		115	64 - 127	6	37
Tetrachloroethene	ND		25.0	27.6		ug/L		111	74 - 122	4	20
Toluene	ND		25.0	28.2		ug/L		113	80 - 122	4	15
trans-1,2-Dichloroethene	ND		25.0	32.4	F	ug/L		129	73 - 127	4	20
Trichloroethene	1.4		25.0	32.3	F	ug/L		124	74 - 123	5	16

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
1,2-Dichloroethane-d4 (Surr)	*103*		*66 - 137*
Toluene-d8 (Surr)	*94*		*71 - 126*
4-Bromofluorobenzene (Surr)	*95*		*73 - 120*

Lab Sample ID: MB 480-132852/6
Matrix: Water
Analysis Batch: 132852

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		1.0	0.82	ug/L			08/08/13 00:33	1
1,1,2,2-Tetrachloroethane	ND		1.0	0.21	ug/L			08/08/13 00:33	1
1,1,2-Trichloroethane	ND		1.0	0.23	ug/L			08/08/13 00:33	1
1,1,2-Trichloro-1,2,2-trifluoroethane	ND		1.0	0.31	ug/L			08/08/13 00:33	1
1,1-Dichloroethane	ND		1.0	0.38	ug/L			08/08/13 00:33	1
1,1-Dichloroethene	ND		1.0	0.29	ug/L			08/08/13 00:33	1
1,2,4-Trichlorobenzene	ND		1.0	0.41	ug/L			08/08/13 00:33	1
1,2-Dibromo-3-Chloropropane	ND		1.0	0.39	ug/L			08/08/13 00:33	1
1,2-Dibromoethane	ND		1.0	0.73	ug/L			08/08/13 00:33	1
1,2-Dichlorobenzene	ND		1.0	0.79	ug/L			08/08/13 00:33	1
1,2-Dichloroethane	ND		1.0	0.21	ug/L			08/08/13 00:33	1

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

Lab Sample ID: MB 480-132852/6
Matrix: Water
Analysis Batch: 132852

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2-Dichloropropane	ND		1.0	0.72	ug/L			08/08/13 00:33	1
1,3-Dichlorobenzene	ND		1.0	0.78	ug/L			08/08/13 00:33	1
1,4-Dichlorobenzene	ND		1.0	0.84	ug/L			08/08/13 00:33	1
2-Hexanone	ND		5.0	1.2	ug/L			08/08/13 00:33	1
2-Butanone (MEK)	ND		10	1.3	ug/L			08/08/13 00:33	1
4-Methyl-2-pentanone (MIBK)	ND		5.0	2.1	ug/L			08/08/13 00:33	1
Acetone	ND		10	3.0	ug/L			08/08/13 00:33	1
Benzene	ND		1.0	0.41	ug/L			08/08/13 00:33	1
Bromodichloromethane	ND		1.0	0.39	ug/L			08/08/13 00:33	1
Bromoform	ND		1.0	0.26	ug/L			08/08/13 00:33	1
Bromomethane	ND		1.0	0.69	ug/L			08/08/13 00:33	1
Carbon disulfide	ND		1.0	0.19	ug/L			08/08/13 00:33	1
Carbon tetrachloride	ND		1.0	0.27	ug/L			08/08/13 00:33	1
Chlorobenzene	ND		1.0	0.75	ug/L			08/08/13 00:33	1
Dibromochloromethane	ND		1.0	0.32	ug/L			08/08/13 00:33	1
Chloroethane	ND		1.0	0.32	ug/L			08/08/13 00:33	1
Chloroform	ND		1.0	0.34	ug/L			08/08/13 00:33	1
Chloromethane	ND		1.0	0.35	ug/L			08/08/13 00:33	1
cis-1,2-Dichloroethene	ND		1.0	0.81	ug/L			08/08/13 00:33	1
cis-1,3-Dichloropropene	ND		1.0	0.36	ug/L			08/08/13 00:33	1
Cyclohexane	ND		1.0	0.18	ug/L			08/08/13 00:33	1
Dichlorodifluoromethane	ND		1.0	0.68	ug/L			08/08/13 00:33	1
Ethylbenzene	ND		1.0	0.74	ug/L			08/08/13 00:33	1
Isopropylbenzene	ND		1.0	0.79	ug/L			08/08/13 00:33	1
Methyl acetate	ND		1.0	0.50	ug/L			08/08/13 00:33	1
Methyl tert-butyl ether	ND		1.0	0.16	ug/L			08/08/13 00:33	1
Methylcyclohexane	ND		1.0	0.16	ug/L			08/08/13 00:33	1
Methylene Chloride	ND		1.0	0.44	ug/L			08/08/13 00:33	1
Styrene	ND		1.0	0.73	ug/L			08/08/13 00:33	1
Tetrachloroethene	ND		1.0	0.36	ug/L			08/08/13 00:33	1
Toluene	ND		1.0	0.51	ug/L			08/08/13 00:33	1
trans-1,2-Dichloroethene	ND		1.0	0.90	ug/L			08/08/13 00:33	1
trans-1,3-Dichloropropene	ND		1.0	0.37	ug/L			08/08/13 00:33	1
Trichloroethene	ND		1.0	0.46	ug/L			08/08/13 00:33	1
Trichlorofluoromethane	ND		1.0	0.88	ug/L			08/08/13 00:33	1
Vinyl chloride	ND		1.0	0.90	ug/L			08/08/13 00:33	1
Xylenes, Total	ND		2.0	0.66	ug/L			08/08/13 00:33	1

Tentatively Identified Compound	*MB Est. Result*	*MB Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
Tentatively Identified Compound	*None*		*ug/L*					*08/08/13 00:33*	*1*

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*98*		*66 - 137*		*08/08/13 00:33*	*1*
Toluene-d8 (Surr)	*97*		*71 - 126*		*08/08/13 00:33*	*1*
4-Bromofluorobenzene (Surr)	*101*		*73 - 120*		*08/08/13 00:33*	*1*

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

Lab Sample ID: LCS 480-132852/4
Matrix: Water
Analysis Batch: 132852

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
1,1-Dichloroethane	25.0	26.1		ug/L		104	71 - 129
1,1-Dichloroethene	25.0	22.7		ug/L		91	58 - 121
1,2-Dichlorobenzene	25.0	24.4		ug/L		98	80 - 124
1,2-Dichloroethane	25.0	25.1		ug/L		100	75 - 127
Benzene	25.0	27.3		ug/L		109	71 - 124
Chlorobenzene	25.0	26.5		ug/L		106	72 - 120
cis-1,2-Dichloroethene	25.0	26.9		ug/L		108	74 - 124
Ethylbenzene	25.0	26.6		ug/L		106	77 - 123
Methyl tert-butyl ether	25.0	25.4		ug/L		102	64 - 127
Tetrachloroethene	25.0	26.6		ug/L		106	74 - 122
Toluene	25.0	26.1		ug/L		104	80 - 122
trans-1,2-Dichloroethene	25.0	27.7		ug/L		111	73 - 127
Trichloroethene	25.0	26.3		ug/L		105	74 - 123

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
1,2-Dichloroethane-d4 (Surr)	*95*		*66 - 137*
Toluene-d8 (Surr)	*96*		*71 - 126*
4-Bromofluorobenzene (Surr)	*104*		*73 - 120*

Lab Sample ID: LCSD 480-132852/5
Matrix: Water
Analysis Batch: 132852

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

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
1,1-Dichloroethane	25.0	25.9		ug/L		104	71 - 129	1	20
1,1-Dichloroethene	25.0	22.3		ug/L		89	58 - 121	2	16
1,2-Dichlorobenzene	25.0	24.3		ug/L		97	80 - 124	1	20
1,2-Dichloroethane	25.0	25.1		ug/L		101	75 - 127	0	20
Benzene	25.0	26.8		ug/L		107	71 - 124	2	13
Chlorobenzene	25.0	26.0		ug/L		104	72 - 120	2	25
cis-1,2-Dichloroethene	25.0	26.7		ug/L		107	74 - 124	1	15
Ethylbenzene	25.0	26.0		ug/L		104	77 - 123	2	15
Methyl tert-butyl ether	25.0	25.5		ug/L		102	64 - 127	0	37
Tetrachloroethene	25.0	26.1		ug/L		104	74 - 122	2	20
Toluene	25.0	25.6		ug/L		102	80 - 122	2	15
trans-1,2-Dichloroethene	25.0	27.4		ug/L		110	73 - 127	1	20
Trichloroethene	25.0	25.8		ug/L		103	74 - 123	2	16

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
1,2-Dichloroethane-d4 (Surr)	*98*		*66 - 137*
Toluene-d8 (Surr)	*97*		*71 - 126*
4-Bromofluorobenzene (Surr)	*104*		*73 - 120*

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

Lab Sample ID: MB 480-132854/28
Matrix: Water
Analysis Batch: 132854

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		1.0	0.82	ug/L			08/08/13 00:24	1
1,1,2,2-Tetrachloroethane	ND		1.0	0.21	ug/L			08/08/13 00:24	1
1,1,2-Trichloroethane	ND		1.0	0.23	ug/L			08/08/13 00:24	1
1,1,2-Trichloro-1,2,2-trifluoroethane	ND		1.0	0.31	ug/L			08/08/13 00:24	1
1,1-Dichloroethane	ND		1.0	0.38	ug/L			08/08/13 00:24	1
1,1-Dichloroethene	ND		1.0	0.29	ug/L			08/08/13 00:24	1
1,2,4-Trichlorobenzene	ND		1.0	0.41	ug/L			08/08/13 00:24	1
1,2-Dibromo-3-Chloropropane	ND		1.0	0.39	ug/L			08/08/13 00:24	1
1,2-Dibromoethane	ND		1.0	0.73	ug/L			08/08/13 00:24	1
1,2-Dichlorobenzene	ND		1.0	0.79	ug/L			08/08/13 00:24	1
1,2-Dichloroethane	ND		1.0	0.21	ug/L			08/08/13 00:24	1
1,2-Dichloropropane	ND		1.0	0.72	ug/L			08/08/13 00:24	1
1,3-Dichlorobenzene	ND		1.0	0.78	ug/L			08/08/13 00:24	1
1,4-Dichlorobenzene	ND		1.0	0.84	ug/L			08/08/13 00:24	1
2-Hexanone	ND		5.0	1.2	ug/L			08/08/13 00:24	1
2-Butanone (MEK)	ND		10	1.3	ug/L			08/08/13 00:24	1
4-Methyl-2-pentanone (MIBK)	ND		5.0	2.1	ug/L			08/08/13 00:24	1
Acetone	ND		10	3.0	ug/L			08/08/13 00:24	1
Benzene	ND		1.0	0.41	ug/L			08/08/13 00:24	1
Bromodichloromethane	ND		1.0	0.39	ug/L			08/08/13 00:24	1
Bromoform	ND		1.0	0.26	ug/L			08/08/13 00:24	1
Bromomethane	ND		1.0	0.69	ug/L			08/08/13 00:24	1
Carbon disulfide	0.519	J	1.0	0.19	ug/L			08/08/13 00:24	1
Carbon tetrachloride	ND		1.0	0.27	ug/L			08/08/13 00:24	1
Chlorobenzene	ND		1.0	0.75	ug/L			08/08/13 00:24	1
Dibromochloromethane	ND		1.0	0.32	ug/L			08/08/13 00:24	1
Chloroethane	ND		1.0	0.32	ug/L			08/08/13 00:24	1
Chloroform	ND		1.0	0.34	ug/L			08/08/13 00:24	1
Chloromethane	ND		1.0	0.35	ug/L			08/08/13 00:24	1
cis-1,2-Dichloroethene	ND		1.0	0.81	ug/L			08/08/13 00:24	1
cis-1,3-Dichloropropene	ND		1.0	0.36	ug/L			08/08/13 00:24	1
Cyclohexane	ND		1.0	0.18	ug/L			08/08/13 00:24	1
Dichlorodifluoromethane	ND		1.0	0.68	ug/L			08/08/13 00:24	1
Ethylbenzene	ND		1.0	0.74	ug/L			08/08/13 00:24	1
Isopropylbenzene	ND		1.0	0.79	ug/L			08/08/13 00:24	1
Methyl acetate	ND		1.0	0.50	ug/L			08/08/13 00:24	1
Methyl tert-butyl ether	ND		1.0	0.16	ug/L			08/08/13 00:24	1
Methylcyclohexane	ND		1.0	0.16	ug/L			08/08/13 00:24	1
Methylene Chloride	ND		1.0	0.44	ug/L			08/08/13 00:24	1
Styrene	ND		1.0	0.73	ug/L			08/08/13 00:24	1
Tetrachloroethene	ND		1.0	0.36	ug/L			08/08/13 00:24	1
Toluene	ND		1.0	0.51	ug/L			08/08/13 00:24	1
trans-1,2-Dichloroethene	ND		1.0	0.90	ug/L			08/08/13 00:24	1
trans-1,3-Dichloropropene	ND		1.0	0.37	ug/L			08/08/13 00:24	1
Trichloroethene	ND		1.0	0.46	ug/L			08/08/13 00:24	1
Trichlorofluoromethane	ND		1.0	0.88	ug/L			08/08/13 00:24	1
Vinyl chloride	ND		1.0	0.90	ug/L			08/08/13 00:24	1
Xylenes, Total	ND		2.0	0.66	ug/L			08/08/13 00:24	1

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

Lab Sample ID: MB 480-132854/28
Matrix: Water
Analysis Batch: 132854

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

Tentatively Identified Compound	MB Est. Result	MB Qualifier	Unit	D	RT	CAS No.	Prepared	Analyzed	Dil Fac
Tentatively Identified Compound	None		ug/L					08/08/13 00:24	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	112		66 - 137		08/08/13 00:24	1
Toluene-d8 (Surr)	99		71 - 126		08/08/13 00:24	1
4-Bromofluorobenzene (Surr)	98		73 - 120		08/08/13 00:24	1

Lab Sample ID: LCS 480-132854/4
Matrix: Water
Analysis Batch: 132854

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
1,1-Dichloroethane	25.0	28.6		ug/L		114	71 - 129
1,1-Dichloroethene	25.0	27.3		ug/L		109	58 - 121
1,2-Dichlorobenzene	25.0	24.6		ug/L		99	80 - 124
1,2-Dichloroethane	25.0	26.5		ug/L		106	75 - 127
Benzene	25.0	28.8		ug/L		115	71 - 124
Chlorobenzene	25.0	26.1		ug/L		104	72 - 120
cis-1,2-Dichloroethene	25.0	27.5		ug/L		110	74 - 124
Ethylbenzene	25.0	25.6		ug/L		102	77 - 123
Methyl tert-butyl ether	25.0	26.9		ug/L		108	64 - 127
Tetrachloroethene	25.0	24.0		ug/L		96	74 - 122
Toluene	25.0	25.3		ug/L		101	80 - 122
trans-1,2-Dichloroethene	25.0	27.9		ug/L		112	73 - 127
Trichloroethene	25.0	27.0		ug/L		108	74 - 123

Surrogate	LCS %Recovery	LCS Qualifier	Limits
1,2-Dichloroethane-d4 (Surr)	104		66 - 137
Toluene-d8 (Surr)	98		71 - 126
4-Bromofluorobenzene (Surr)	100		73 - 120

QC Association Summary

Client: New York State D.E.C.
Project/Site: Former Ithaca Gun Factory #C755019A

TestAmerica Job ID: 480-43132-1

GC/MS VOA

Analysis Batch: 132713

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-43159-2	SB-2	Total/NA	Water	8260B	
480-43159-3	SB-3	Total/NA	Water	8260B	
480-43159-4	SB-4	Total/NA	Water	8260B	
480-43159-5	SB-5	Total/NA	Water	8260B	
480-43159-5 MS	SB-5	Total/NA	Water	8260B	
480-43159-5 MSD	SB-5	Total/NA	Water	8260B	
LCS 480-132713/5	Lab Control Sample	Total/NA	Water	8260B	
MB 480-132713/8	Method Blank	Total/NA	Water	8260B	

Analysis Batch: 132852

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-43132-1	SB-7	Total/NA	Water	8260B	
480-43132-2	SB-8	Total/NA	Water	8260B	
480-43132-3	SB-9	Total/NA	Water	8260B	
480-43132-4	SB-10	Total/NA	Water	8260B	
LCS 480-132852/4	Lab Control Sample	Total/NA	Water	8260B	
LCSD 480-132852/5	Lab Control Sample Dup	Total/NA	Water	8260B	
MB 480-132852/6	Method Blank	Total/NA	Water	8260B	

Analysis Batch: 132854

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-43159-1	SB-1	Total/NA	Water	8260B	
480-43159-6	SB-6	Total/NA	Water	8260B	
480-43159-7	SB-XX DUP	Total/NA	Water	8260B	
480-43159-8	TB	Total/NA	Water	8260B	
LCS 480-132854/4	Lab Control Sample	Total/NA	Water	8260B	
MB 480-132854/28	Method Blank	Total/NA	Water	8260B	

Lab Chronicle

Client: New York State D.E.C.
Project/Site: Former Ithaca Gun Factory #C755019A

TestAmerica Job ID: 480-43132-1

Client Sample ID: SB-7
Date Collected: 08/01/13 08:10
Date Received: 08/03/13 02:00

Lab Sample ID: 480-43132-1
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	132852	08/08/13 09:00	PJQ	TAL BUF

Client Sample ID: SB-8
Date Collected: 08/01/13 09:25
Date Received: 08/03/13 02:00

Lab Sample ID: 480-43132-2
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	132852	08/08/13 09:24	PJQ	TAL BUF

Client Sample ID: SB-9
Date Collected: 08/01/13 11:00
Date Received: 08/03/13 02:00

Lab Sample ID: 480-43132-3
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	132852	08/08/13 09:49	PJQ	TAL BUF

Client Sample ID: SB-10
Date Collected: 08/01/13 12:39
Date Received: 08/03/13 02:00

Lab Sample ID: 480-43132-4
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	132852	08/08/13 10:14	PJQ	TAL BUF

Client Sample ID: SB-1
Date Collected: 07/31/13 07:55
Date Received: 08/03/13 09:00

Lab Sample ID: 480-43159-1
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	132854	08/08/13 03:37	NQN	TAL BUF

Client Sample ID: SB-2
Date Collected: 07/31/13 08:25
Date Received: 08/03/13 09:00

Lab Sample ID: 480-43159-2
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	132713	08/07/13 19:08	RAL	TAL BUF

Lab Chronicle

Client: New York State D.E.C.
Project/Site: Former Ithaca Gun Factory #C755019A

TestAmerica Job ID: 480-43132-1

Client Sample ID: SB-3
Date Collected: 07/31/13 09:18
Date Received: 08/03/13 09:00

Lab Sample ID: 480-43159-3
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	132713	08/07/13 19:33	RAL	TAL BUF

Client Sample ID: SB-4
Date Collected: 07/31/13 11:00
Date Received: 08/03/13 09:00

Lab Sample ID: 480-43159-4
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	132713	08/07/13 19:58	RAL	TAL BUF

Client Sample ID: SB-5
Date Collected: 07/31/13 13:10
Date Received: 08/03/13 09:00

Lab Sample ID: 480-43159-5
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	132713	08/07/13 20:24	RAL	TAL BUF

Client Sample ID: SB-6
Date Collected: 07/31/13 13:35
Date Received: 08/03/13 09:00

Lab Sample ID: 480-43159-6
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	132854	08/08/13 04:02	NQN	TAL BUF

Client Sample ID: SB-XX DUP
Date Collected: 07/31/13 00:00
Date Received: 08/03/13 09:00

Lab Sample ID: 480-43159-7
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	132854	08/08/13 04:27	NQN	TAL BUF

Client Sample ID: TB
Date Collected: 07/31/13 00:00
Date Received: 08/03/13 09:00

Lab Sample ID: 480-43159-8
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	132854	08/08/13 04:52	NQN	TAL BUF

Laboratory References:

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

Certification Summary

Client: New York State D.E.C.
Project/Site: Former Ithaca Gun Factory #C755019A

TestAmerica Job ID: 480-43132-1

Laboratory: TestAmerica Buffalo

All certifications held by this laboratory are listed. Not all certifications are applicable to this report.

Authority	Program	EPA Region	Certification ID	Expiration Date
Arkansas DEQ	State Program	6	88-0686	07-06-13 *
California	NELAP	9	1169CA	09-30-13
Connecticut	State Program	1	PH-0568	09-30-14
Florida	NELAP	4	E87672	06-30-14
Georgia	State Program	4	N/A	03-31-14
Georgia	State Program	4	956	03-31-14
Illinois	NELAP	5	200003	09-30-13
Iowa	State Program	7	374	03-15-15
Kansas	NELAP	7	E-10187	01-31-14
Kentucky	State Program	4	90029	12-31-13
Kentucky (UST)	State Program	4	30	04-01-14
Louisiana	NELAP	6	02031	06-30-14
Maine	State Program	1	NY00044	12-04-13
Maryland	State Program	3	294	03-31-14
Massachusetts	State Program	1	M-NY044	06-30-14
Michigan	State Program	5	9937	04-01-14
Minnesota	NELAP	5	036-999-337	12-31-13
New Hampshire	NELAP	1	2973	09-11-13
New Hampshire	NELAP	1	2337	11-17-13
New Jersey	NELAP	2	NY455	06-30-14
New York	NELAP	2	10026	04-01-14
North Dakota	State Program	8	R-176	03-31-14
Oklahoma	State Program	6	9421	08-31-13 *
Oregon	NELAP	10	NY200003	06-09-14
Pennsylvania	NELAP	3	68-00281	07-31-14
Rhode Island	State Program	1	LAO00328	12-31-13
Tennessee	State Program	4	TN02970	04-01-14
Texas	NELAP	6	T104704412-11-2	07-31-14
USDA	Federal		P330-11-00386	11-22-14
Virginia	NELAP	3	460185	09-14-13
Washington	State Program	10	C784	02-10-14
West Virginia DEP	State Program	3	252	09-30-13
Wisconsin	State Program	5	998310390	08-31-13 *

* Expired certification is currently pending renewal and is considered valid.

Method Summary

Client: New York State D.E.C.
Project/Site: Former Ithaca Gun Factory #C755019A

TestAmerica Job ID: 480-43132-1

Method	Method Description	Protocol	Laboratory
8260B	Volatile Organic Compounds (GC/MS)	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: New York State D.E.C.
Project/Site: Former Ithaca Gun Factory #C755019A

TestAmerica Job ID: 480-43132-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
480-43132-1	SB-7	Water	08/01/13 08:10	08/03/13 02:00
480-43132-2	SB-8	Water	08/01/13 09:25	08/03/13 02:00
480-43132-3	SB-9	Water	08/01/13 11:00	08/03/13 02:00
480-43132-4	SB-10	Water	08/01/13 12:39	08/03/13 02:00
480-43159-1	SB-1	Water	07/31/13 07:55	08/03/13 09:00
480-43159-2	SB-2	Water	07/31/13 08:25	08/03/13 09:00
480-43159-3	SB-3	Water	07/31/13 09:18	08/03/13 09:00
480-43159-4	SB-4	Water	07/31/13 11:00	08/03/13 09:00
480-43159-5	SB-5	Water	07/31/13 13:10	08/03/13 09:00
480-43159-6	SB-6	Water	07/31/13 13:35	08/03/13 09:00
480-43159-7	SB-XX DUP	Water	07/31/13 00:00	08/03/13 09:00
480-43159-8	TB	Water	07/31/13 00:00	08/03/13 09:00

Nashville
2960 Foster Creighton Drive

Nashville, TN 37204
phone 615.726.0177 fax 615.726.3403

Buffalo

Chain of Custody Record

TestAmerica
THE LEADER IN ENVIRONMENTAL TE

TestAmerica Laboratories, Inc.

Client Contact	Project Manager: Gary Priscott	Site Contact: T. giamichael	Date:	COC No: 001
Gary Priscott - NYSDEC Region 7	Tel/Fax:	Lab Contact: Jennifer Huckaba	Carrier:	1 of 1 COCs
1679 Route 11	Analysis Turnaround Time			Job No.
Kirkwood, NY 13795	Calendar (C) or Work Days (W)			
	TAT if different from Below			SDG No.
Project Name: Former Ithaca Gun factory	2 weeks			
Site: Ithaca, NY	1 week			
P O # Site #C755019A 12/94)	2 days			
	1 day			

Sample Identification	Sample Date	Sample Time	Sample Type	Matrix	# of Cont.	EPA 8260	Sample Specific Notes:
SB-7	8-1-13	8:10	g	gw	3	X	
SB-8	8-1-13	9:25	g	gw	3	X	
SB-9	8-1-13	11:00	g	gw	3	X	
SB-10	8-1-13	12:35	g	gw	3	X	
			g	gw			
			g	gw			
			g	gw			
			g	gw			
			g	gw			
			g	gw			
			g	gw			
			g	gw			

Preservation Used: 1= Ice, 2= HCl; 3= H2SO4; 4=HNO3; 5=NaOH; 6= Other

Possible Hazard Identification
Non-Hazard *Flammable* *Skin Irritant* *Poison B* *Unknown*

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

Special Instructions/QC Requirements & Comments: Category B deliverables
email reports to: gwprisco@gw.dec.state.ny.us
btoran@aztechtech.com tgiamichael@aztechtech.com wshafer@aztechtech.com

Relinquished by:	Company:	Date/Time:	Received by:	Company:	Date/Time:
[signature]	~~TB~~ Aztech	8-2-1 9:00	[signature]	8-2-13	
Relinquished by: Reinlich, Syr	Company: 8-2-13	Date/Time: 1510	Received by: [signature]	Company:	Date/Time: 8/3/13 0720
Relinquished by:	Company:	Date/Time:	Received by:	Company:	Date/Time:

Form No. CA-C-WI-002, dated 04/07/2011

7,0 #1

Nashville
2960 Foster Creighton Drive
Nashville, TN 37204
phone 615.726.0177 fax 615.726.3403

Chain of Custody Record

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

TestAmerica Laboratories, Inc.

Client Contact	Project Manager: Gary Priscott	Site Contact: T. giamichael	Date:	COC No: 001
Gary Priscott - NYSDEC Region 7	Tel/Fax:	Lab Contact: Jennifer Huckaba	Carrier:	1 of 1 COCs
1679 Route 11	Analysis Turnaround Time			Job No.
Kirkwood, NY 13795	Calendar (C) or Work Days (W)			
	TAT if different from Below			SDG No.
Project Name: Former Ithaca Gun factory	2 weeks			
Site: Ithaca, NY	1 week			
P O # Site #C755019A 121941	2 days			
	1 day			

Sample Identification	Sample Date	Sample Time	Sample Type	Matrix	# of Cont.	Filtered Sample	EPA 8260	Sample Specific Notes:
SB-1	7-31-13	7:55	g	gw	3		X	
SB-2	7-31-13	8:25	g	gw	3		X	
SB-3	7-31-13	9:18	g	gw	3		X	
SB-4	7-31-13	11:00	g	gw	3		X	
SB-5	7-31-13	1:10	g	gw	3		X	
SB-5 MS	7-31-13	1:10	g	gw	3		X	
SB-5 MSD	7-31-13	1:10	g	gw	3		X	
SB-6	7-31-13	1:35	g	gw	3		X	
SB-XX Dup	7-31-13	—	g	gw	3		X	
			g	gw				
			g	gw				
			g	gw				

Preservation Used: 1= Ice, 2= HCl; 3= H2SO4; 4=HNO3; 5=NaOH; 6= Other 1, 2

Possible Hazard Identification
Non-Hazard *Flammable* *Skin Irritant* *Poison B* *Unknown*

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

Special Instructions/QC Requirements & Comments: Category B deliverables
email reports to: gwprisco@gw.dec.state.ny.us
btoran@aztechtech.com tgiamichael@aztechtech.com wshafer@aztechtech.com

4.2 Ice #1

Relinquished by	Company	Date/Time	Received by	Company	Date/Time
[signature]	Aztech	7-31-13 3:00	[signature]	TAES	7-31-13 1516
Relinquished by [signature]	Company SyR 7-31-13	Date/Time 1900	Received by [signature]	Company TAL 5.6	Date/Time 8/1/13 8:30
Relinquished by	Company	Date/Time	Received by [signature]	Company TA	Date/Time 8/3/13 0900

Form No. CA-C-WI-002, dated 04/07/2011

Login Sample Receipt Checklist

Client: New York State D.E.C.

Job Number: 480-43132-1

Login Number: 43132

List Source: TestAmerica Buffalo

List Number: 1

Creator: Janish, Carl M

Question	Answer	Comment
Radioactivity either was not measured or, if measured, is at or below background	True	
The cooler's custody seal, if present, is intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the sample IDs on the containers and the COC.	True	
Samples are received within Holding Time.	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
VOA sample vials do not have headspace or bubble is <6mm (1/4") in diameter.	True	
If necessary, staff have been informed of any short hold time or quick TAT needs	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Sampling Company provided.	True	aztech
Samples received within 48 hours of sampling.	True	
Samples requiring field filtration have been filtered in the field.	N/A	
Chlorine Residual checked.	N/A	

Login Sample Receipt Checklist

Client: New York State D.E.C.

Job Number: 480-43132-1

Login Number: 43159

List Source: TestAmerica Buffalo

List Number: 1

Creator: Stau, Brandon M

Question	Answer	Comment
Radioactivity either was not measured or, if measured, is at or below background	True	
The cooler's custody seal, if present, is intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the sample IDs on the containers and the COC.	True	
Samples are received within Holding Time.	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
VOA sample vials do not have headspace or bubble is <6mm (1/4") in diameter.	True	
If necessary, staff have been informed of any short hold time or quick TAT needs	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Sampling Company provided.	True	AZTECH
Samples received within 48 hours of sampling.	False	
Samples requiring field filtration have been filtered in the field.	N/A	
Chlorine Residual checked.	N/A	

ATTACHMENT C

SOIL VAPOR LABORATORY ANALYTICAL REPORT – JULY 30 TO AUGUST 1, 2013

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

TestAmerica Laboratories, Inc.

ANALYTICAL REPORT

PROJECT NO. C755019A

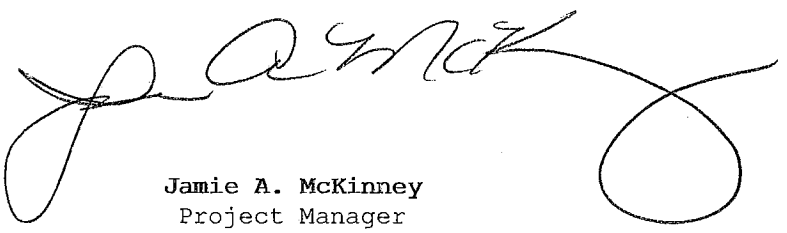
Former Ithaca Gun Factory

Lot #: H3H020401

Gary Priscott

New York State D.E.C.
Region 7
1679 Rte. 11
Kirkwood, NY 13795

TESTAMERICA LABORATORIES, INC.



Jamie A. McKinney
Project Manager

August 13, 2013

ANALYTICAL METHODS SUMMARY

H3H020401

PARAMETER	ANALYTICAL METHOD
Volátile Organics by TO15	EPA-2 TO-15

References:

EPA-2 "Compendium of Methods for the Determination of Toxic Organic Compounds in Ambient Air", EPA-625/R-96/010b, January 1999.

SAMPLE SUMMARY

H3H020401

WO #	SAMPLE#	CLIENT SAMPLE ID	SAMPLED DATE	SAMP TIME
M1H7R	001	VP-11	07/30/13	11:37
M1H7T	002	VP-12	07/30/13	13:54
M1H7V	003	VP-1	07/30/13	15:16
M1H7W	004	VP-2	07/31/13	08:38
M1H7X	005	VP-3	07/31/13	10:08
M1H70	006	VP-4	07/31/13	11:47
M1H71	007	VP-5	07/31/13	13:55

NOTE(S):

- The analytical results of the samples listed above are presented on the following pages.
- All calculations are performed before rounding to avoid round-off errors in calculated results.
- Results noted as "ND" were not detected at or above the stated limit.
- This report must not be reproduced, except in full, without the written approval of the laboratory.
- Results for the following parameters are never reported on a dry weight basis: color, corrosivity, density, flashpoint, ignitability, layers, odor, paint filter test, pH, porosity pressure, reactivity, redox potential, specific gravity, spot tests, solids, solubility, temperature, viscosity, and weight.

PROJECT NARRATIVE
H3H020401

The results reported herein are applicable to the samples submitted for analysis only. If you have any questions about this report, please call (865) 291-3000 to speak with the TestAmerica project manager listed on the cover page.

This report shall not be reproduced except in full, without the written approval of the laboratory.

The original chain of custody documentation is included with this report.

Sample Receipt

Custody seals were not present.

Quality Control and Data Interpretation

Unless otherwise noted, all holding times and QC criteria were met and the test results shown in this report meet all applicable NELAC requirements.

EPA methods TO-14A and TO-15 specify the use of humidified "zero air" as the blank reagent for canister cleaning, instrument calibration and sample analysis. Ultra-high purity humidified nitrogen from a cryogenic reservoir is used in place of "zero air" by TestAmerica Knoxville.

Quantitation for ethanol was based on a minimum 5-point calibration curve. The following interim criteria are being used until the method performance for this additional analyte is fully established:

- The initial calibration acceptance criteria is set at 40% RSD. Any compound greater than 40% RSD was changed to a linear or quadratic model with an r2 ≥ 0.990 acceptance criteria.
- There are no criteria for second source standard verification % D. The second source standard was independently prepared from the same parent mixture (as the primary source).
- The continuing calibration verification criteria are set at 50% D. Any compound greater than 50% D must pass the LCS criteria.
- The LCS recovery criteria are set at 20% to 180%.
- A method detection limit study has not been performed. The detection of the analyte is demonstrated by detection of the calibration standard at the reporting limit. No estimated results are reported below the reporting limit.

CERTIFICATION SUMMARY

Laboratory	Authority	Program	EPA Region	Certification ID
TestAmerica Knoxville	ACLASS	DoD ELAP		ADE-1434
TestAmerica Knoxville	Arkansas	State Program	6	88-0688
TestAmerica Knoxville	California	State Program	9	2423
TestAmerica Knoxville	Colorado	State Program	8	N/A
TestAmerica Knoxville	Connecticut	State Program	1	PH-0223
TestAmerica Knoxville	Florida	NELAC	4	E87177
TestAmerica Knoxville	Georgia	State Program	4	906
TestAmerica Knoxville	Hawaii	State Program	9	N/A
TestAmerica Knoxville	Indiana	State Program	5	C-TN-02
TestAmerica Knoxville	Iowa	State Program	7	375
TestAmerica Knoxville	Kansas	NELAC	7	E-10349
TestAmerica Knoxville	Kentucky	State Program	4	90101
TestAmerica Knoxville	Louisiana	NELAC	6	LA110001
TestAmerica Knoxville	Louisiana	NELAC	6	83979
TestAmerica Knoxville	Maryland	State Program	3	277
TestAmerica Knoxville	Michigan	State Program	5	9933
TestAmerica Knoxville	Minnesota	NELAC	5	047-999-429
TestAmerica Knoxville	Nevada	State Program	9	TN00009
TestAmerica Knoxville	New Jersey	NELAC	2	TN001
TestAmerica Knoxville	New York	NELAC	2	10781
TestAmerica Knoxville	North Carolina	North Carolina DENR	4	64
TestAmerica Knoxville	North Carolina	North Carolina PHL	4	21705
TestAmerica Knoxville	Ohio	OVAP	5	CL0059
TestAmerica Knoxville	Oklahoma	State Program	6	9415
TestAmerica Knoxville	Pennsylvania	NELAC	3	68-00576
TestAmerica Knoxville	South Carolina	State Program	4	84001
TestAmerica Knoxville	Tennessee	State Program	4	2014
TestAmerica Knoxville	Texas	NELAC	6	T104704380-TX
TestAmerica Knoxville	USDA	USDA		P330-11-00035
TestAmerica Knoxville	Utah	NELAC	8	QUAN3
TestAmerica Knoxville	Virginia	State Program	3	165
TestAmerica Knoxville	Washington	State Program	10	C593
TestAmerica Knoxville	West Virginia	West Virginia DEP	3	345
TestAmerica Knoxville	West Virginia	West Virginia DHHR (DW)	3	9955C
TestAmerica Knoxville	Wisconsin	State Program	5	998044300

Accreditation may not be offered or required for all methods and analytes reported in this package. Please contact your project manager for the laboratory's current list of certified methods and analytes.

Sample Data Summary

New York State D.E.C.

Client Sample ID: VP-11

GC/MS Volatiles

Lot-Sample #	H3H020401 - 001	**Work Order #**	M1H7R1AA	**Matrix.....:**	AIR
Date Sampled...:	07/30/2013	**Date Received..:**	08/01/2013		
Prep Date.....:	08/06/2013	**Analysis Date...**	08/06/2013		
Prep Batch #.....:	3219019				
Dilution Factor.:	10.05	**Method.....:**	TO-15		

PARAMETER	RESULTS (ppb(v/v))	REPORTING LIMIT (ppb(v/v))	RESULTS (ug/m3)	REPORTING LIMIT (ug/m3)
Benzene	**3.2**	**0.80**	**10**	**2.6**
Benzyl chloride	ND	1.6	ND	8.3
Bromodichloromethane	ND	0.80	ND	5.4
Bromoform	ND	0.80	ND	8.3
Bromomethane	ND	0.80	ND	3.1
2-Butanone (MEK)	**3.2**	**3.2**	**9.5**	**9.5**
tert-Butyl alcohol	ND	3.2	ND	9.7
Carbon tetrachloride	**12**	**0.40**	**75**	**2.5**
Chlorobenzene	ND	0.80	ND	3.7
Dibromochloromethane	ND	0.80	ND	6.8
Chloroethane	ND	0.80	ND	2.1
Chloroform	**88**	**0.80**	**430**	**3.9**
Chloromethane	ND	2.0	ND	4.2
Cyclohexane	**6.4**	**2.0**	**22**	**6.9**
1,2-Dibromoethane (EDB)	ND	0.80	ND	6.2
1,2-Dichlorobenzene	ND	0.80	ND	4.8
1,3-Dichlorobenzene	ND	0.80	ND	4.8
1,4-Dichlorobenzene	ND	0.80	ND	4.8
Dichlorodifluoromethane	**53**	**0.80**	**260**	**4.0**
1,1-Dichloroethane	ND	0.80	ND	3.3
1,2-Dichloroethane	ND	0.80	ND	3.3
cis-1,2-Dichloroethene	ND	0.80	ND	3.2
trans-1,2-Dichloroethene	ND	0.80	ND	3.2
1,1-Dichloroethene	ND	0.80	ND	3.2
1,2-Dichloropropane	ND	0.80	ND	3.7
cis-1,3-Dichloropropene	ND	0.80	ND	3.6
trans-1,3-Dichloropropene	ND	0.80	ND	3.6
1,2-Dichloro-1,1,2,2-tetrafluoroethane	ND	0.80	ND	5.6
1,4-Dioxane	ND	2.0	ND	7.2
Ethanol	**30**	**8.0**	**56**	**15**
Ethylbenzene	**6.0**	**0.80**	**26**	**3.5**
Hexachlorobutadiene	ND	0.80	ND	8.6
n-Hexane	**8.3**	**2.0**	**29**	**7.1**
Methylene chloride	ND	2.0	ND	7.0
4-Methyl-2-pentanone (MIBK)	**2.4**	**2.0**	**9.7**	**8.2**
Methyl tert-butyl ether	ND	1.6	ND	5.8
Styrene	**3.4**	**0.80**	**15**	**3.4**
1,1,2,2-Tetrachloroethane	ND	0.80	ND	5.5

New York State D.E.C.

Client Sample ID: VP-11

GC/MS Volatiles

Lot-Sample # H3H020401 - 001 **Work Order #** M1H7R1AA **Matrix.....:** AIR

PARAMETER	RESULTS (ppb(v/v))	REPORTING LIMIT (ppb(v/v))	RESULTS (ug/m3)	REPORTING LIMIT (ug/m3)
Tetrachloroethene	**74**	**0.80**	**500**	**5.5**
Toluene	**19**	**0.80**	**72**	**3.0**
1,2,4-Trichlorobenzene	ND	0.80	ND	6.0
1,1,1-Trichloroethane	**39**	**0.80**	**210**	**4.4**
1,1,2-Trichloroethane	ND	0.80	ND	4.4
Trichloroethene	**24**	**0.40**	**130**	**2.2**
Trichlorofluoromethane	**5.0**	**0.80**	**28**	**4.5**
1,1,2-Trichlorotrifluoroethane	ND	0.80	ND	6.2
1,2,4-Trimethylbenzene	**6.6**	**0.80**	**32**	**4.0**
1,3,5-Trimethylbenzene	**2.3**	**0.80**	**11**	**4.0**
2,2,4-Trimethylpentane	ND	2.0	ND	9.4
Vinyl chloride	ND	0.80	ND	2.1
m-Xylene & p-Xylene	**19**	**0.80**	**84**	**3.5**
o-Xylene	**7.8**	**0.80**	**34**	**3.5**

SURROGATE	PERCENT RECOVERY	LABORATORY CONTROL LIMITS (%)
4-Bromofluorobenzene	98	60 - 140

The 'Result' in ug/m3 is calculated using the following equation: Amount Found(before rounding)*(Molecular Weight/24.45)

The 'Reporting Limit' in ug/m3 is calculated using the following equation: (Reporting Limit(before rounding) * Dilution Factor) * (Molecular Weight/24.45)

New York State D.E.C.

Client Sample ID: VP-12

GC/MS Volatiles

Lot-Sample #	H3H020401 - 002	**Work Order #**	M1H7T1AA	**Matrix.....:**	AIR
Date Sampled...:	07/30/2013	**Date Received..:**	08/01/2013		
Prep Date.....:	08/06/2013	**Analysis Date...**	08/06/2013		
Prep Batch #.....:	3219019				
Dilution Factor.:	11.45	**Method.....:**	TO-15		

PARAMETER	RESULTS (ppb(v/v))	REPORTING LIMIT (ppb(v/v))	RESULTS (ug/m3)	REPORTING LIMIT (ug/m3)
Benzene	**2.3**	**0.92**	**7.4**	**2.9**
Benzyl chloride	ND	1.8	ND	9.5
Bromodichloromethane	ND	0.92	ND	6.1
Bromoform	ND	0.92	ND	9.5
Bromomethane	ND	0.92	ND	3.6
2-Butanone (MEK)	ND	3.7	ND	11
tert-Butyl alcohol	ND	3.7	ND	11
Carbon tetrachloride	**0.93**	**0.46**	**5.8**	**2.9**
Chlorobenzene	ND	0.92	ND	4.2
Dibromochloromethane	ND	0.92	ND	7.8
Chloroethane	ND	0.92	ND	2.4
Chloroform	**6.8**	**0.92**	**33**	**4.5**
Chloromethane	ND	2.3	ND	4.7
Cyclohexane	ND	2.3	ND	7.9
1,2-Dibromoethane (EDB)	ND	0.92	ND	7.0
1,2-Dichlorobenzene	ND	0.92	ND	5.5
1,3-Dichlorobenzene	ND	0.92	ND	5.5
1,4-Dichlorobenzene	ND	0.92	ND	5.5
Dichlorodifluoromethane	**1.2**	**0.92**	**6.2**	**4.5**
1,1-Dichloroethane	ND	0.92	ND	3.7
1,2-Dichloroethane	ND	0.92	ND	3.7
cis-1,2-Dichloroethene	ND	0.92	ND	3.6
trans-1,2-Dichloroethene	ND	0.92	ND	3.6
1,1-Dichloroethene	ND	0.92	ND	3.6
1,2-Dichloropropane	ND	0.92	ND	4.2
cis-1,3-Dichloropropene	ND	0.92	ND	4.2
trans-1,3-Dichloropropene	ND	0.92	ND	4.2
1,2-Dichloro-1,1,2,2-tetrafluoroethane	ND	0.92	ND	6.4
1,4-Dioxane	ND	2.3	ND	8.3
Ethanol	**15**	**9.2**	**28**	**17**
Ethylbenzene	**5.9**	**0.92**	**25**	**4.0**
Hexachlorobutadiene	ND	0.92	ND	9.8
n-Hexane	**3.9**	**2.3**	**14**	**8.1**
Methylene chloride	ND	2.3	ND	8.0
4-Methyl-2-pentanone (MIBK)	ND	2.3	ND	9.4
Methyl tert-butyl ether	ND	1.8	ND	6.6
Styrene	**4.1**	**0.92**	**17**	**3.9**
1,1,2,2-Tetrachloroethane	ND	0.92	ND	6.3

New York State D.E.C.

Client Sample ID: VP-12

GC/MS Volatiles

Lot-Sample # H3H020401 - 002 **Work Order #** M1H7T1AA **Matrix.....:** AIR

PARAMETER	RESULTS (ppb(v/v))	REPORTING LIMIT (ppb(v/v))	RESULTS (ug/m3)	REPORTING LIMIT (ug/m3)
Tetrachloroethene	**72**	**0.92**	**490**	**6.2**
Toluene	**17**	**0.92**	**64**	**3.5**
1,2,4-Trichlorobenzene	ND	0.92	ND	6.8
1,1,1-Trichloroethane	**3.1**	**0.92**	**17**	**5.0**
1,1,2-Trichloroethane	ND	0.92	ND	5.0
Trichloroethene	**0.67**	**0.46**	**3.6**	**2.5**
Trichlorofluoromethane	ND	0.92	ND	5.1
1,1,2-Trichlorotrifluoroethane	ND	0.92	ND	7.0
1,2,4-Trimethylbenzene	**11**	**0.92**	**55**	**4.5**
1,3,5-Trimethylbenzene	**2.8**	**0.92**	**14**	**4.5**
2,2,4-Trimethylpentane	ND	2.3	ND	11
Vinyl chloride	ND	0.92	ND	2.3
m-Xylene & p-Xylene	**20**	**0.92**	**86**	**4.0**
o-Xylene	**8.0**	**0.92**	**35**	**4.0**

SURROGATE	PERCENT RECOVERY	LABORATORY CONTROL LIMITS (%)
4-Bromofluorobenzene	95	60 - 140

The 'Result' in ug/m3 is calculated using the following equation: Amount Fouud(before rounding)*(Molecular Weight/24.45)

The 'Reporting Limit' in ug/m3 is calculated using the following equation: (Reporting Limit(before rounding) * Dilution Factor) * (Molecular Weight/24.45)

New York State D.E.C.

Client Sample ID: VP-1

GC/MS Volatiles

Lot-Sample #	H3H020401 - 003	**Work Order #**	M1H7V1AA	**Matrix.....:**	AIR
Date Sampled...:	07/30/2013	**Date Received..:**	08/01/2013		
Prep Date.....:	08/06/2013	**Analysis Date...**	08/06/2013		
Prep Batch #.....:	3219019				
Dilution Factor.:	13.69	**Method.....:**	TO-15		

PARAMETER	RESULTS (ppb(v/v))	REPORTING LIMIT (ppb(v/v))	RESULTS (ug/m3)	REPORTING LIMIT (ug/m3)
Benzene	**1.9**	**1.1**	**5.9**	**3.5**
Benzyl chloride	ND	2.2	ND	11
Bromodichloromethane	ND	1.1	ND	7.3
Bromoform	ND	1.1	ND	11
Bromomethane	ND	1.1	ND	4.3
2-Butanone (MEK)	ND	4.4	ND	13
tert-Butyl alcohol	ND	4.4	ND	13
Carbon tetrachloride	**13**	**0.55**	**83**	**3.4**
Chlorobenzene	ND	1.1	ND	5.0
Dibromochloromethane	ND	1.1	ND	9.3
Chloroethane	ND	1.1	ND	2.9
Chloroform	**110**	**1.1**	**520**	**5.3**
Chloromethane	ND	2.7	ND	5.7
Cyclohexane	ND	2.7	ND	9.4
1,2-Dibromoethane (EDB)	ND	1.1	ND	8.4
1,2-Dichlorobenzene	ND	1.1	ND	6.6
1,3-Dichlorobenzene	ND	1.1	ND	6.6
1,4-Dichlorobenzene	ND	1.1	ND	6.6
Dichlorodifluoromethane	**1.9**	**1.1**	**9.3**	**5.4**
1,1-Dichloroethane	ND	1.1	ND	4.4
1,2-Dichloroethane	ND	1.1	ND	4.4
cis-1,2-Dichloroethene	ND	1.1	ND	4.3
trans-1,2-Dichloroethene	ND	1.1	ND	4.3
1,1-Dichloroethene	ND	1.1	ND	4.3
1,2-Dichloropropane	ND	1.1	ND	5.1
cis-1,3-Dichloropropene	ND	1.1	ND	5.0
trans-1,3-Dichloropropene	ND	1.1	ND	5.0
1,2-Dichloro-1,1,2,2-tetrafluoroethane	ND	1.1	ND	7.7
1,4-Dioxane	ND	2.7	ND	9.9
Ethanol	ND	11	ND	21
Ethylbenzene	**4.8**	**1.1**	**21**	**4.8**
Hexachlorobutadiene	ND	1.1	ND	12
n-Hexane	**3.8**	**2.7**	**13**	**9.7**
Methylene chloride	ND	2.7	ND	9.5
4-Methyl-2-pentanone (MIBK)	ND	2.7	ND	11
Methyl tert-butyl ether	ND	2.2	ND	7.9
Styrene	**3.3**	**1.1**	**14**	**4.7**
1,1,2,2-Tetrachloroethane	ND	1.1	ND	7.5

New York State D.E.C.

Client Sample ID: VP-1

GC/MS Volatiles

Lot-Sample # H3H020401 - 003 **Work Order #** M1H7V1AA **Matrix.....:** AIR

PARAMETER	RESULTS (ppb(v/v))	REPORTING LIMIT (ppb(v/v))	RESULTS (ug/m3)	REPORTING LIMIT (ug/m3)
Tetrachloroethene	**62**	**1.1**	**420**	**7.4**
Toluene	**14**	**1.1**	**55**	**4.1**
1,2,4-Trichlorobenzene	ND	1.1	ND	8.1
1,1,1-Trichloroethane	**27**	**1.1**	**150**	**6.0**
1,1,2-Trichloroethane	ND	1.1	ND	6.0
Trichloroethene	**170**	**0.55**	**910**	**2.9**
Trichlorofluoromethane	ND	1.1	ND	6.2
1,1,2-Trichlorotrifluoroethane	ND	1.1	ND	8.4
1,2,4-Trimethylbenzene	**8.6**	**1.1**	**42**	**5.4**
1,3,5-Trimethylbenzene	**2.1**	**1.1**	**10**	**5.4**
2,2,4-Trimethylpentane	ND	2.7	ND	13
Vinyl chloride	ND	1.1	ND	2.8
m-Xylene & p-Xylene	**17**	**1.1**	**72**	**4.8**
o-Xylene	**6.8**	**1.1**	**30**	**4.8**

SURROGATE	PERCENT RECOVERY	LABORATORY CONTROL LIMITS (%)
4-Bromofluorobenzene	93	60 - 140

The 'Result' in ug/m3 is calculated using the following equation: Amount Found(before rounding)*(Molecular Weight/24.45)

The 'Reporting Limit' in ug/m3 is calculated using the following equation: (Reporting Limit(before rounding) * Dilution Factor) * (Molecular Weight/24.45)

New York State D.E.C.

Client Sample ID: VP-2

GC/MS Volatiles

Lot-Sample #	H3H020401 - 004	**Work Order #**	M1H7W1AA	**Matrix.....:**	AIR
Date Sampled...:	07/31/2013	**Date Received..:**	08/01/2013		
Prep Date.....:	08/06/2013	**Analysis Date...**	08/06/2013		
Prep Batch #.....:	3219019				
Dilution Factor.:	2.13	**Method.....:**	TO-15		

PARAMETER	RESULTS (ppb(v/v))	REPORTING LIMIT (ppb(v/v))	RESULTS (ug/m3)	REPORTING LIMIT (ug/m3)
Benzene	**1.1**	**0.17**	**3.5**	**0.54**
Benzyl chloride	ND	0.34	ND	1.8
Bromodichloromethane	ND	0.17	ND	1.1
Bromoform	ND	0.17	ND	1.8
Bromomethane	ND	0.17	ND	0.66
2-Butanone (MEK)	**1.1**	**0.68**	**3.4**	**2.0**
tert-Butyl alcohol	ND	0.68	ND	2.1
Carbon tetrachloride	**0.49**	**0.085**	**3.1**	**0.54**
Chlorobenzene	ND	0.17	ND	0.78
Dibromochloromethane	ND	0.17	ND	1.5
Chloroethane	ND	0.17	ND	0.45
Chloroform	ND	0.17	ND	0.83
Chloromethane	ND	0.43	ND	0.88
Cyclohexane	**4.8**	**0.43**	**16**	**1.5**
1,2-Dibromoethane (EDB)	ND	0.17	ND	1.3
1,2-Dichlorobenzene	ND	0.17	ND	1.0
1,3-Dichlorobenzene	ND	0.17	ND	1.0
1,4-Dichlorobenzene	ND	0.17	ND	1.0
Dichlorodifluoromethane	**0.42**	**0.17**	**2.1**	**0.84**
1,1-Dichloroethane	ND	0.17	ND	0.69
1,2-Dichloroethane	ND	0.17	ND	0.69
cis-1,2-Dichloroethene	ND	0.17	ND	0.68
trans-1,2-Dichloroethene	ND	0.17	ND	0.68
1,1-Dichloroethene	ND	0.17	ND	0.68
1,2-Dichloropropane	ND	0.17	ND	0.79
cis-1,3-Dichloropropene	ND	0.17	ND	0.77
trans-1,3-Dichloropropene	ND	0.17	ND	0.77
1,2-Dichloro-1,1,2,2-tetrafluoroethane	ND	0.17	ND	1.2
1,4-Dioxane	ND	0.43	ND	1.5
Ethanol	**3.8**	**1.7**	**7.2**	**3.2**
Ethylbenzene	**0.22**	**0.17**	**0.95**	**0.74**
Hexachlorobutadiene	ND	0.17	ND	1.8
n-Hexane	**7.6**	**0.43**	**27**	**1.5**
Methylene chloride	ND	0.43	ND	1.5
4-Methyl-2-pentanone (MIBK)	**3.1**	**0.43**	**13**	**1.7**
Methyl tert-butyl ether	ND	0.34	ND	1.2
Styrene	ND	0.17	ND	0.73
1,1,2,2-Tetrachloroethane	ND	0.17	ND	1.2

New York State D.E.C.

Client Sample ID: VP-2

GC/MS Volatiles

Lot-Sample # H3H020401 - 004 **Work Order #** M1H7W1AA **Matrix.....:** AIR

PARAMETER	RESULTS (ppb(v/v))	REPORTING LIMIT (ppb(v/v))	RESULTS (ug/m3)	REPORTING LIMIT (ug/m3)
Tetrachloroethene	**0.29**	**0.17**	**1.9**	**1.2**
Toluene	**2.0**	**0.17**	**7.4**	**0.64**
1,2,4-Trichlorobenzene	ND	0.17	ND	1.3
1,1,1-Trichloroethane	**1.5**	**0.17**	**8.1**	**0.93**
1,1,2-Trichloroethane	ND	0.17	ND	0.93
Trichloroethene	ND	0.085	ND	0.46
Trichlorofluoromethane	**0.24**	**0.17**	**1.4**	**0.96**
1,1,2-Trichlorotrifluoroethane	ND	0.17	ND	1.3
1,2,4-Trimethylbenzene	**0.37**	**0.17**	**1.8**	**0.84**
1,3,5-Trimethylbenzene	**0.21**	**0.17**	**1.0**	**0.84**
2,2,4-Trimethylpentane	ND	0.43	ND	2.0
Vinyl chloride	ND	0.17	ND	0.44
m-Xylene & p-Xylene	**1.1**	**0.17**	**4.7**	**0.74**
o-Xylene	**0.40**	**0.17**	**1.7**	**0.74**

SURROGATE	PERCENT RECOVERY	LABORATORY CONTROL LIMITS (%)
4-Bromofluorobenzene	92	60 - 140

The 'Result' in ug/m3 is calculated usiug the following equation: Amount Found(before rounding)*(Molecular Weight/24.45)

The 'Reporting Limit' iu ug/m3 is calculated using the following equation: (Reporting Limit(before rouuding) * Dilution Factor) * (Molecular Weight/24.45)

New York State D.E.C.

Client Sample ID: VP-3

GC/MS Volatiles

Lot-Sample #	H3H020401 - 005	**Work Order #**	M1H7X1AA	**Matrix.....:**	AIR
Date Sampled...:	07/31/2013	**Date Received..:**	08/01/2013		
Prep Date.....:	08/06/2013	**Analysis Date...**	08/07/2013		
Prep Batch #.....:	3219019				
Dilution Factor.:	1	**Method.....:**	TO-15		

PARAMETER	RESULTS (ppb(v/v))	REPORTING LIMIT (ppb(v/v))	RESULTS (ug/m3)	REPORTING LIMIT (ug/m3)
Benzene	**0.67**	**0.080**	**2.1**	**0.26**
Benzyl chloride	ND	0.16	ND	0.83
Bromodichloromethane	ND	0.080	ND	0.54
Bromoform	ND	0.080	ND	0.83
Bromomethane	ND	0.080	ND	0.31
2-Butanone (MEK)	**1.7**	**0.32**	**5.1**	**0.94**
tert-Butyl alcohol	ND	0.32	ND	0.97
Carbon tetrachloride	**0.31**	**0.040**	**1.9**	**0.25**
Chlorobenzene	ND	0.080	ND	0.37
Dibromochloromethane	ND	0.080	ND	0.68
Chloroethane	ND	0.080	ND	0.21
Chloroform	**0.35**	**0.080**	**1.7**	**0.39**
Chloromethane	ND	0.20	ND	0.41
Cyclohexane	**2.6**	**0.20**	**9.0**	**0.69**
1,2-Dibromoethane (EDB)	ND	0.080	ND	0.61
1,2-Dichlorobenzene	ND	0.080	ND	0.48
1,3-Dichlorobenzene	ND	0.080	ND	0.48
1,4-Dichlorobenzene	ND	0.080	ND	0.48
Dichlorodifluoromethane	ND	0.080	ND	0.40
1,1-Dichloroethane	ND	0.080	ND	0.32
1,2-Dichloroethane	ND	0.080	ND	0.32
cis-1,2-Dichloroethene	ND	0.080	ND	0.32
trans-1,2-Dichloroethene	**0.092**	**0.080**	**0.36**	**0.32**
1,1-Dichloroethene	ND	0.080	ND	0.32
1,2-Dichloropropane	ND	0.080	ND	0.37
cis-1,3-Dichloropropene	ND	0.080	ND	0.36
trans-1,3-Dichloropropene	ND	0.080	ND	0.36
1,2-Dichloro-1,1,2,2-tetrafluoroeth ane	ND	0.080	ND	0.56
1,4-Dioxane	ND	0.20	ND	0.72
Ethanol	**2.7**	**0.80**	**5.0**	**1.5**
Ethylbenzene	**0.24**	**0.080**	**1.0**	**0.35**
Hexachlorobutadiene	ND	0.080	ND	0.85
n-Hexane	**2.2**	**0.20**	**7.7**	**0.70**
Methylene chloride	**0.65**	**0.20**	**2.3**	**0.69**
4-Methyl-2-pentanone (MIBK)	**1.1**	**0.20**	**4.7**	**0.82**
Methyl tert-butyl ether	ND	0.16	ND	0.58
Styrene	ND	0.080	ND	0.34
1,1,2,2-Tetrachloroethane	ND	0.080	ND	0.55

New York State D.E.C.

Client Sample ID: VP-3

GC/MS Volatiles

Lot-Sample # H3H020401 - 005 **Work Order #** M1H7X1AA **Matrix.....:** AIR

PARAMETER	RESULTS (ppb(v/v))	REPORTING LIMIT (ppb(v/v))	RESULTS (ug/m3)	REPORTING LIMIT (ug/m3)
Tetrachloroethene	**0.084**	**0.080**	**0.57**	**0.54**
Toluene	**1.6**	**0.080**	**6.2**	**0.30**
1,2,4-Trichlorobenzene	ND	0.080	ND	0.59
1,1,1-Trichloroethane	**0.85**	**0.080**	**4.6**	**0.44**
1,1,2-Trichloroethane	ND	0.080	ND	0.44
Trichloroethene	**0.31**	**0.040**	**1.7**	**0.21**
Trichlorofluoromethane	**0.17**	**0.080**	**0.94**	**0.45**
1,1,2-Trichlorotrifluoroethane	**0.10**	**0.080**	**0.80**	**0.61**
1,2,4-Trimethylbenzene	**0.54**	**0.080**	**2.6**	**0.39**
1,3,5-Trimethylbenzene	**0.32**	**0.080**	**1.6**	**0.39**
2,2,4-Trimethylpentane	ND	0.20	ND	0.93
Vinyl chloride	ND	0.080	ND	0.20
m-Xylene & p-Xylene	**1.3**	**0.080**	**5.8**	**0.35**
o-Xylene	**0.50**	**0.080**	**2.2**	**0.35**

SURROGATE	PERCENT RECOVERY	LABORATORY CONTROL LIMITS (%)
4-Bromofluorobenzene	100	60 - 140

The 'Result' in ug/m3 is calculated using the following equation: Amount Found(before rounding)*(Molecular Weight/24.45)

The 'Reporting Limit' in ug/m3 is calculated using the followiug equation: (Reporting Limit(before rouuding) * Dilution Factor) * (Molecular Weight/24.45)

New York State D.E.C.

Client Sample ID: VP-4

GC/MS Volatiles

Lot-Sample #	H3H020401 - 006	**Work Order #**	M1H701AA	**Matrix.....:**	AIR
Date Sampled...:	07/31/2013	**Date Received..:**	08/01/2013		
Prep Date.....:	08/06/2013	**Analysis Date...**	08/07/2013		
Prep Batch #.....:	3219019				
Dilution Factor.:	4.44	**Method.....:**	TO-15		

PARAMETER	RESULTS (ppb(v/v))	REPORTING LIMIT (ppb(v/v))	RESULTS (ug/m3)	REPORTING LIMIT (ug/m3)
Benzene	**0.44**	**0.36**	**1.4**	**1.1**
Benzyl chloride	ND	0.71	ND	3.7
Bromodichloromethane	ND	0.36	ND	2.4
Bromoform	ND	0.36	ND	3.7
Bromomethane	ND	0.36	ND	1.4
2-Butanone (MEK)	ND	1.4	ND	4.2
tert-Butyl alcohol	ND	1.4	ND	4.3
Carbon tetrachloride	**20**	**0.18**	**120**	**1.1**
Chlorobenzene	ND	0.36	ND	1.6
Dibromochloromethane	ND	0.36	ND	3.0
Chloroethane	ND	0.36	ND	0.94
Chloroform	**20**	**0.36**	**99**	**1.7**
Chloromethane	ND	0.89	ND	1.8
Cyclohexane	**2.0**	**0.89**	**6.9**	**3.1**
1,2-Dibromoethane (EDB)	ND	0.36	ND	2.7
1,2-Dichlorobenzene	ND	0.36	ND	2.1
1,3-Dichlorobenzene	ND	0.36	ND	2.1
1,4-Dichlorobenzene	ND	0.36	ND	2.1
Dichlorodifluoromethane	**9.0**	**0.36**	**45**	**1.8**
1,1-Dichloroethane	ND	0.36	ND	1.4
1,2-Dichloroethane	ND	0.36	ND	1.4
cis-1,2-Dichloroethene	ND	0.36	ND	1.4
trans-1,2-Dichloroethene	ND	0.36	ND	1.4
1,1-Dichloroethene	ND	0.36	ND	1.4
1,2-Dichloropropane	ND	0.36	ND	1.6
cis-1,3-Dichloropropene	ND	0.36	ND	1.6
trans-1,3-Dichloropropene	ND	0.36	ND	1.6
1,2-Dichloro-1,1,2,2-tetrafluoroethane	ND	0.36	ND	2.5
1,4-Dioxane	ND	0.89	ND	3.2
Ethanol	**6.6**	**3.6**	**12**	**6.7**
Ethylbenzene	ND	0.36	ND	1.5
Hexachlorobutadiene	ND	0.36	ND	3.8
n-Hexane	**3.0**	**0.89**	**11**	**3.1**
Methylene chloride	ND	0.89	ND	3.1
4-Methyl-2-pentanone (MIBK)	**0.95**	**0.89**	**3.9**	**3.6**
Methyl tert-butyl ether	ND	0.71	ND	2.6
Styrene	ND	0.36	ND	1.5
1,1,2,2-Tetrachloroethane	ND	0.36	ND	2.4

New York State D.E.C.

Client Sample ID: VP-4

GC/MS Volatiles

Lot-Sample # H3H020401 - 006 **Work Order #** M1H701AA **Matrix.....:** AIR

PARAMETER	RESULTS (ppb(v/v))	REPORTING LIMIT (ppb(v/v))	RESULTS (ug/m3)	REPORTING LIMIT (ug/m3)
Tetrachloroethene	ND	0.36	ND	2.4
Toluene	**0.85**	**0.36**	**3.2**	**1.3**
1,2,4-Trichlorobenzene	ND	0.36	ND	2.6
1,1,1-Trichloroethane	**32**	**0.36**	**170**	**1.9**
1,1,2-Trichloroethane	ND	0.36	ND	1.9
Trichloroethene	**11**	**0.18**	**57**	**0.95**
Trichlorofluoromethane	**1.1**	**0.36**	**6.2**	**2.0**
1,1,2-Trichlorotrifluoroethane	ND	0.36	ND	2.7
1,2,4-Trimethylbenzene	ND	0.36	ND	1.7
1,3,5-Trimethylbenzene	ND	0.36	ND	1.7
2,2,4-Trimethylpentane	ND	0.89	ND	4.1
Vinyl chloride	ND	0.36	ND	0.91
m-Xylene & p-Xylene	**0.56**	**0.36**	**2.4**	**1.5**
o-Xylene	ND	0.36	ND	1.5

SURROGATE	PERCENT RECOVERY	LABORATORY CONTROL LIMITS (%)
4-Bromofluorobenzene	91	60 - 140

The 'Result' in ug/m3 is calculated using the followiug equation: Amount Found(before rounding)*(Molecular Weight/24.45)

The 'Reportiug Limit' in ug/m3 is calculated using the following equation: (Reporting Limit(before rounding) * Dilution Factor) * (Molecular Weight/24.45)

New York State D.E.C.

Client Sample ID: VP-5

GC/MS Volatiles

Lot-Sample #	H3H020401 - 007	**Work Order #**	M1H711AA	**Matrix.....:**	AIR
Date Sampled...:	07/31/2013	**Date Received..:**	08/01/2013		
Prep Date.....:	08/06/2013	**Analysis Date...**	08/07/2013		
Prep Batch #.....:	3219019				
Dilution Factor.:	1	**Method.....:**	TO-15		

PARAMETER	RESULTS (ppb(v/v))	REPORTING LIMIT (ppb(v/v))	RESULTS (ug/m3)	REPORTING LIMIT (ug/m3)
Benzene	**2.1**	**0.080**	**6.7**	**0.26**
Benzyl chloride	ND	0.16	ND	0.83
Bromodichloromethane	ND	0.080	ND	0.54
Bromoform	ND	0.080	ND	0.83
Bromomethane	ND	0.080	ND	0.31
2-Butanone (MEK)	**2.1**	**0.32**	**6.2**	**0.94**
tert-Butyl alcohol	ND	0.32	ND	0.97
Carbon tetrachloride	**5.9**	**0.040**	**37**	**0.25**
Chlorobenzene	ND	0.080	ND	0.37
Dibromochloromethane	ND	0.080	ND	0.68
Chloroethane	ND	0.080	ND	0.21
Chloroform	**2.5**	**0.080**	**12**	**0.39**
Chloromethane	**0.24**	**0.20**	**0.50**	**0.41**
Cyclohexane	**2.1**	**0.20**	**7.2**	**0.69**
1,2-Dibromoethane (EDB)	ND	0.080	ND	0.61
1,2-Dichlorobenzene	ND	0.080	ND	0.48
1,3-Dichlorobenzene	ND	0.080	ND	0.48
1,4-Dichlorobenzene	ND	0.080	ND	0.48
Dichlorodifluoromethane	**5.4**	**0.080**	**27**	**0.40**
1,1-Dichloroethane	ND	0.080	ND	0.32
1,2-Dichloroethane	ND	0.080	ND	0.32
cis-1,2-Dichloroethene	ND	0.080	ND	0.32
trans-1,2-Dichloroethene	ND	0.080	ND	0.32
1,1-Dichloroethene	ND	0.080	ND	0.32
1,2-Dichloropropane	ND	0.080	ND	0.37
cis-1,3-Dichloropropene	ND	0.080	ND	0.36
trans-1,3-Dichloropropene	ND	0.080	ND	0.36
1,2-Dichloro-1,1,2,2-tetrafluoroethane	ND	0.080	ND	0.56
1,4-Dioxane	ND	0.20	ND	0.72
Ethanol	**5.7**	**0.80**	**11**	**1.5**
Ethylbenzene	**0.85**	**0.080**	**3.7**	**0.35**
Hexachlorobutadiene	ND	0.080	ND	0.85
n-Hexane	**4.0**	**0.20**	**14**	**0.70**
Methylene chloride	**0.22**	**0.20**	**0.75**	**0.69**
4-Methyl-2-pentanone (MIBK)	**9.1**	**0.20**	**37**	**0.82**
Methyl tert-butyl ether	ND	0.16	ND	0.58
Styrene	**0.51**	**0.080**	**2.2**	**0.34**
1,1,2,2-Tetrachloroethane	ND	0.080	ND	0.55
Tetrachloroethene	**0.98**	**0.080**	**6.7**	**0.54**

New York State D.E.C.

Client Sample ID: VP-5

GC/MS Volatiles

Lot-Sample # H3H020401 - 007 **Work Order #** M1H711AA **Matrix.....:** AIR

PARAMETER	RESULTS (ppb(v/v))	REPORTING LIMIT (ppb(v/v))	RESULTS (ug/m3)	REPORTING LIMIT (ug/m3)
Toluene	**3.0**	**0.080**	**11**	**0.30**
1,2,4-Trichlorobenzene	ND	0.080	ND	0.59
1,1,1-Trichloroethane	**10**	**0.080**	**56**	**0.44**
1,1,2-Trichloroethane	ND	0.080	ND	0.44
Trichloroethene	**0.97**	**0.040**	**5.2**	**0.21**
Trichlorofluoromethane	**3.4**	**0.080**	**19**	**0.45**
1,1,2-Trichlorotrifluoroethane	**0.27**	**0.080**	**2.1**	**0.61**
1,2,4-Trimethylbenzene	**1.4**	**0.080**	**6.8**	**0.39**
1,3,5-Trimethylbenzene	**0.44**	**0.080**	**2.2**	**0.39**
2,2,4-Trimethylpentane	**0.44**	**0.20**	**2.1**	**0.93**
Vinyl chloride	ND	0.080	ND	0.20
m-Xylene & p-Xylene	**2.6**	**0.080**	**11**	**0.35**
o-Xylene	**1.0**	**0.080**	**4.3**	**0.35**

SURROGATE	PERCENT RECOVERY	LABORATORY CONTROL LIMITS (%)
4-Bromofluorobenzene	97	60 - 140

The 'Result' in ug/m3 is calculated using the following equation: Amount Found(before rounding)*(Molecular Weight/24.45)

The 'Reporting Limit' in ug/m3 is calculated using the following equation: (Reporting Limit(before rounding) * Dilution Factor) * (Molecular Weight/24.45)

New York State D.E.C.

Client Sample ID: INTRA-LAB BLANK

GC/MS Volatiles

Lot-Sample #	H3H070000 - 019B	**Work Order #**	M1KG01AA	**Matrix.....:**	AIR
	07/30/2013	**Date Received..:**	08/01/2013		
Prep Date.....:	08/06/2013	**Analysis Date...**	08/06/2013		
Prep Batch #.....:	3219019				
Dilution Factor.:	1	**Method.....:**	TO-15		

PARAMETER	RESULTS (ppb(v/v))	REPORTING LIMIT (ppb(v/v))	RESULTS (ug/m3)	REPORTING LIMIT (ug/m3)
Benzene	ND	0.080	ND	0.26
Benzyl chloride	ND	0.16	ND	0.83
Bromodichloromethane	ND	0.080	ND	0.54
Bromoform	ND	0.080	ND	0.83
Bromomethane	ND	0.080	ND	0.31
2-Butanone (MEK)	ND	0.32	ND	0.94
tert-Butyl alcohol	ND	0.32	ND	0.97
Carbon tetrachloride	ND	0.040	ND	0.25
Chlorobenzene	ND	0.080	ND	0.37
Dibromochloromethane	ND	0.080	ND	0.68
Chloroethane	ND	0.080	ND	0.21
Chloroform	ND	0.080	ND	0.39
Chloromethane	ND	0.20	ND	0.41
Cyclohexane	ND	0.20	ND	0.69
1,2-Dibromoethane (EDB)	ND	0.080	ND	0.61
1,2-Dichlorobenzene	ND	0.080	ND	0.48
1,3-Dichlorobenzene	ND	0.080	ND	0.48
1,4-Dichlorobenzene	ND	0.080	ND	0.48
Dichlorodifluoromethane	ND	0.080	ND	0.40
1,1-Dichloroethane	ND	0.080	ND	0.32
1,2-Dichloroethane	ND	0.080	ND	0.32
cis-1,2-Dichloroethene	ND	0.080	ND	0.32
trans-1,2-Dichloroethene	ND	0.080	ND	0.32
1,1-Dichloroethene	ND	0.080	ND	0.32
1,2-Dichloropropane	ND	0.080	ND	0.37
cis-1,3-Dichloropropene	ND	0.080	ND	0.36
trans-1,3-Dichloropropene	ND	0.080	ND	0.36
1,2-Dichloro-1,1,2,2-tetrafluoroethane	ND	0.080	ND	0.56
1,4-Dioxane	ND	0.20	ND	0.72
Ethanol	ND	0.80	ND	1.5
Ethylbenzene	ND	0.080	ND	0.35
Hexachlorobutadiene	ND	0.080	ND	0.85
n-Hexane	ND	0.20	ND	0.70
Methylene chloride	ND	0.20	ND	0.69
4-Methyl-2-pentanone (MIBK)	ND	0.20	ND	0.82
Methyl tert-butyl ether	ND	0.16	ND	0.58
Styrene	ND	0.080	ND	0.34

New York State D.E.C.

Client Sample ID: INTRA-LAB BLANK

GC/MS Volatiles

Lot-Sample # H3H070000 - 019B **Work Order #** M1KG01AA **Matrix.....:** AIR

PARAMETER	RESULTS (ppb(v/v))	REPORTING LIMIT (ppb(v/v))	RESULTS (ug/m3)	REPORTING LIMIT (ug/m3)
1,1,2,2-Tetrachloroethane	ND	0.080	ND	0.55
Tetrachloroethene	ND	0.080	ND	0.54
Toluene	ND	0.080	ND	0.30
1,2,4-Trichlorobenzene	ND	0.080	ND	0.59
1,1,1-Trichloroethane	ND	0.080	ND	0.44
1,1,2-Trichloroethane	ND	0.080	ND	0.44
Trichloroethene	ND	0.040	ND	0.21
Trichlorofluoromethane	ND	0.080	ND	0.45
1,1,2-Trichlorotrifluoroethane	ND	0.080	ND	0.61
1,2,4-Trimethylbenzene	ND	0.080	ND	0.39
1,3,5-Trimethylbenzene	ND	0.080	ND	0.39
2,2,4-Trimethylpentane	ND	0.20	ND	0.93
Vinyl chloride	ND	0.080	ND	0.20
m-Xylene & p-Xylene	ND	0.080	ND	0.35
o-Xylene	ND	0.080	ND	0.35

SURROGATE	PERCENT RECOVERY	LABORATORY CONTROL LIMITS (%)
4-Bromofluorobenzene	93	60 - 140

The 'Result' in ug/m3 is calculated using the following equation: Amount Found(before rounding)*(Molecular Weight/24.45)

The 'Reporting Limit' in ug/m3 is calculated using the following equation: (Reporting Limit(before rounding) * Dilution Factor) * (Molecular Weight/24.45)

New York State D.E.C.

Client Sample ID: CHECK SAMPLE

GC/MS Volatiles

Lot-Sample # H3H070000 - 019C **Work Order #** M1KG01AC **Matrix.....:** AIR

	07/30/2013	**Date Received..:**	08/01/2013
Prep Date.....:	08/06/2013	**Analysis Date...**	08/06/2013
Prep Batch #.....:	3219019		
Dilution Factor.:	1	**Method.....:**	TO-15

PARAMETER	SPIKE AMOUNT (ppb(v/v))	MEASURED AMOUNT (ppb(v/v))	SPIKE AMOUNT (ug/m3)	MEASURED AMOUNT (ug/m3)	PERCENT RECOVERY	RECOVERY LIMITS
Benzene	5.00	4.35	16	13.9	87	70 - 130
Benzyl chloride	5.00	5.18	26	26.8	104	70 - 130
Bromodichloromethane	5.00	4.88	34	32.7	98	70 - 130
Bromoform	5.00	6.22	52	64.3	124	60 - 140
Bromomethane	5.00	5.31	19	20.6	106	70 - 130
2-Butanone (MEK)	5.00	4.44	15	13.1	89	60 - 140
tert-Butyl alcohol	5.00	5.36	15	16.2	107	60 - 140
Carbon tetrachloride	5.00	5.55	31	34.9	111	70 - 130
Chlorobenzene	5.00	5.14	23	23.6	103	70 - 130
Dibromochloromethane	5.00	5.73	43	48.8	115	70 - 130
Chloroethane	5.00	4.64	13	12.3	93	70 - 130
Chloroform	5.00	4.53	24	22.1	91	70 - 130
Chloromethane	5.00	3.88	10	8.00	78	60 - 140
Cyclohexane	5.00	4.58	17	15.8	92	70 - 130
1,2-Dibromoethane (EDB)	5.00	5.26	38	40.4	105	70 - 130
1,2-Dichlorobenzene	5.00	5.70	30	34.3	114	70 - 130
1,3-Dichlorobenzene	5.00	5.69	30	34.2	114	70 - 130
1,4-Dichlorobenzene	5.00	5.74	30	34.5	115	70 - 130
Dichlorodifluoromethane	5.00	5.29	25	26.2	106	60 - 140
1,1-Dichloroethane	5.00	4.22	20	17.1	84	70 - 130
1,2-Dichloroethane	5.00	4.75	20	19.2	95	70 - 130
cis-1,2-Dichloroethene	5.00	4.82	20	19.1	96	70 - 130
trans-1,2-Dichloroethene	5.00	4.84	20	19.2	97	70 - 130
1,1-Dichloroethene	5.00	5.62	20	22.3	112	70 - 130
1,2-Dichloropropane	5.00	4.00	23	18.5	80	70 - 130
cis-1,3-Dichloropropene	5.00	4.78	23	21.7	96	70 - 130
trans-1,3-Dichloropropene	5.00	5.10	23	23.2	102	70 - 130
1,2-Dichloro-1,1,2,2-tetrafluoroethane	5.00	6.42	35	44.9	128	60 - 140
1,4-Dioxane	5.00	6.15	18	22.2	123	60 - 140
Ethanol	25.0	29.2	47	55.1	117	20 - 180
Ethylbenzene	5.00	5.16	22	22.4	103	70 - 130
Hexachlorobutadiene	5.00	6.13	53	65.3	123	60 - 140
n-Hexane	5.00	4.22	18	14.9	84	70 - 130
Methylene chloride	5.00	4.72	17	16.4	94	70 - 130
4-Methyl-2-pentanone (MIBK)	5.00	4.12	20	16.9	82	60 - 140
Methyl tert-butyl ether	5.00	4.94	18	17.8	99	60 - 140

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Client Sample ID: CHECK SAMPLE

GC/MS Volatiles

Lot-Sample # H3H070000 - 019C **Work Order #** M1KG01AC **Matrix.....:** AIR

PARAMETER	SPIKE AMOUNT (ppb(v/v))	MEASURED AMOUNT (ppb(v/v))	SPIKE AMOUNT (ug/m3)	MEASURED AMOUNT (ug/m3)	PERCENT RECOVERY	RECOVERY LIMITS
Styrene	5.00	5.59	21	23.8	112	70 - 130
1,1,2,2-Tetrachloroethane	5.00	5.02	34	34.4	100	70 - 130
Tetrachloroethene	5.00	5.10	34	34.6	102	70 - 130
Toluene	5.00	4.50	19	17.0	90	70 - 130
1,2,4-Trichlorobenzene	5.00	6.38	37	47.3	128	60 - 140
1,1,1-Trichloroethane	5.00	4.85	27	26.5	97	70 - 130
1,1,2-Trichloroethane	5.00	4.55	27	24.8	91	70 - 130
Trichloroethene	5.00	5.03	27	27.0	101	70 - 130
Trichlorofluoromethane	5.00	5.78	28	32.5	116	60 - 140
1,1,2-Trichlorotrifluoroethane	5.00	5.81	38	44.5	116	70 - 130
1,2,4-Trimethylbenzene	5.00	5.50	25	27.0	110	70 - 130
1,3,5-Trimethylbenzene	5.00	5.62	25	27.6	112	70 - 130
2,2,4-Trimethylpentane	5.00	4.09	23	19.1	82	70 - 130
Vinyl chloride	5.00	4.41	13	11.3	88	70 - 130
m-Xylene & p-Xylene	10.0	10.5	43	45.5	105	70 - 130
o-Xylene	5.00	5.16	22	22.4	103	70 - 130

SURROGATE	PERCENT RECOVERY	LABORATORY CONTROL LIMITS (%)
4-Bromofluorobenzene	104	60 - 140

The 'Result' in ug/m3 is calculated using the following equation: Amount Found(before rounding)*(Molecular Weight/24.45)

The 'Reporting Limit' in ug/m3 is calculated using the following equation: (Reporting Limit(before rounding) * Dilution Factor) * (Molecular Weight/24.45)

Sample Receipt Documentation

TAL Knoxville
5815 Middlebrook Pike
Knoxville, TN 37921
phone 865-291-3000 fax 865-584-4315

No custody seals. Fed Ex (2) 4744 8260 0170, 4744 8260 0180
431402407

Canister Samples Chain of Custody Record

TestAmerica assumes no liability with respect to the collection and shipment of these samples.

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

Client Contact Information	**Project Manager: Gary Priscott**	1 of 2 COCs
Company: NYSDEC	**Phone: 607-775-2545**	
Address: Region 7 Kirkwood, NY	**Site Contact:**	
City/State/Zip	**TAL Contact:**	
Phone:		
FAX:		
Project Name: Former Ithaca Gun Factory	**Analysis Turnaround Time**	
Site/location: Ithaca, NY	Standard (Specify)	
PO # Site #C755019A 121941	Rush (Specify)	

Sample Identification	Sample Date(s)	Time Start	Time Stop	Canister Vacuum in Field, "Hg (Start)	Canister Vacuum in Field, "Hg (Stop)	Flow Controller ID	Canister ID	TO-15	TO-14A	EPA 3C	EPA 25C	ASTM D-1946	Other (Please specify in notes section)	Sample Type	Indoor Air	Ambient Air	Soil Gas	Landfill Gas	Other (Please specify in notes section)
VP-11	7-30-13	10:37	11:37	-30	-11	K428	12209	x									X		
VP-12	7-30-13	12:54	1:54	-30	-11	K472	93244	x									X		
VP-1	7-30-13	2:16	3:16	-30	-11	K531	6356	x									X		
VP-2	7-31-13	7:38	8:38	-29	-10	K316	93268	x									X		
VP-3	7-31-13	9:08	10:08	-29	-9	K450	1370	x									X		
VP-4	7-31-13	10:47	11:47	-30	-10	K098	1116	x									X		

Sampled by :

Temperature (Fahrenheit)	Interior	Ambient	
Start			
Stop			

Pressure (inches of Hg)	Interior	Ambient	
Start			
Stop			

NO CUSTODY SEALS
RECEIVED AT AMBIENT TEMP
BKD 8-1-13
2 BOXES 4744 8260 0170
4744 8260 0180
7 CANS / 7 FLOWS

Special Instructions/QC Requirements & Comments: Category B
email report to:
gwprisco@gw.dec.state.ny.us btoran@aztechtech.com tgiamichael@aztechtech.com wshafer@aztechtech.com

Canisters Shipped by:	Date/Time:	Canisters Received by:
Samples Relinquished by:	Date/Time: 7-31-13 5:06	Received by: 7-31-13 15:09
Relinquished by:	Date/Time: 7-31-13, 1900 TASYA	Received by: 8-1-13 09:30

Lab Use Only **Shipper Name:** **Opened by:** **Condition:**

TAL Knoxville
5815 Middlebrook Pike
Knoxville, TN 37921
phone 865-291-3000 fax 865-584-4315

H317020401

Canister Samples Chain of Custody Record

TestAmerica assumes no liability with respect to the collection and shipment of these samples.

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

Client Contact Information	**Project Manager: Gary Priscott**	2 of 2 COCs
Company: NYSDEC	**Phone: 607-775-2545**	
Address: Region 7 Kirkwood, NY	**Site Contact:**	
City/State/Zip	**TAL Contact:**	
Phone:		
FAX:		
Project Name: Former Ithaca Gun Factory	**Analysis Turnaround Time**	
Site/location: Ithaca, NY	Standard (Specify)	
PO # Site #C755019A 121941	Rush (Specify)	

Sample Identification	Sample Date(s)	Time Start	Time Stop	Canister Vacuum in Field, "Hg (Start)	Canister Vacuum in Field, "Hg (Stop)	Flow Controller ID	Canister ID	TO-15	TO-14A	EPA 3C	EPA 25C	ASTM D-1946	Other (Please specify in notes section)	Sample Type	Indoor Air	Ambient Air	Soil Gas	Landfill Gas	Other (Please specify in notes section)
VP-5	7-31-13	12:55	1:55	-30	-6	K487	6390	x									X		
								x											
								x											
								x											
								x											
								x											

Sampled by :	Temperature (Fahrenheit)			
		Interior	Ambient	
	Start			
	Stop			

	Pressure (inches of Hg)			
		Interior	Ambient	
	Start			
	Stop			

Special Instructions/QC Requirements & Comments: Category B

email report to:
gwprisco@gw.dec.state.ny.us btoran@aztechtech.com tgiamichael@aztechtech.com wshafer@aztechtech.com

Canisters Shipped by:	Date/Time:	Canisters Received by:	
Samples Relinquished by:	Date/Time: 7-31-13 3:00	Received by:	7-31-13 15:00
Relinquished by:	Date/Time: 7-31-13, 1900	Received by:	8-1-13 09:30

Lab Use Only **Shipper Name:** **Opened by:** **Condition:**

TESTAMERICA KNOXVILLE SAMPLE RECEIPT/CONDITION UPON RECEIPT ANOMALY CHECKLIST

Lot Number: H3H020407

Review Items	Yes	No	NA	If No, what was the problem?	Comments/Actions Taken
1. Do sample container labels match COC? (IDs, Dates, Times)	✓			☐ **1a** Do not match COC ☐ **1b** Incomplete information ☐ **1c** Marking smeared ☐ **1d** Label torn ☐ **1e** No label ☐ **1f** COC not received ☐ **1g** Other:	NA
2. Is the cooler temperature within limits? (> freezing temp. of water to 6 °C, VOST: 10°C)			✓	☐ **2a** Temp Blank = _____ ☐ **2b** Cooler Temp = _____ ☐ **2c** Cooling initiated for recently collected samples, ice present.	
3. Were samples received with correct chemical preservative (excluding Encore)?			✓	☐ **3a** Sample preservative =	
4. Were custody seals present/intact on cooler and/or containers?			✓	☑ **4a** Not present ☐ **4b** Not intact ☐ **4c** Other:	
5. Were all of the samples listed on the COC received?	✓			☐ **5a** Samples received-not on COC ☐ **5b** Samples not received-on COC	
6. Were all of the sample containers received intact?	✓			☐ **6a** Leaking ☐ **6b** Broken	
7. Were VOA samples received without headspace?			✓	☐ **7a** Headspace (VOA only)	
8. Were samples received in appropriate containers?	✓			☐ **8a** Improper container	
9. Did you check for residual chlorine, if necessary? (e.g. 1613B, 1668)			✓	☐ **9a** Could not be determined due to matrix interference	
10. Were samples received within holding time?	✓			☐ **10a** Holding time expired	
11. For rad samples, was sample activity info. provided?			✓	☐ Incomplete information	
12. For 1613B water samples is pH<9?			✓	If no, was pH adjusted to pH 7 - 9 with sulfuric acid? _____	
13. Are the shipping containers intact?	✓			☐ **13a** Leaking ☐ **13b** Other:	
14. Was COC relinquished? (Signed/Dated/Timed)	✓			☐ **14a** Not relinquished	
15. Are tests/parameters listed for each sample?	✓			☐ **15a** Incomplete information	
16. Is the matrix of the samples noted?	✓			☐ **15a** Incomplete information	
17. Is the date/time of sample collection noted?	✓			☐ **15a** Incomplete information	
18. Is the client and project name/# identified?	✓			☐ **15a** Incomplete information	
19. Was the sampler identified on the COC?		✓		☐ **19a** Other	

Quote #: 91766 PM Instructions: NA

Sample Receiving Associate: _____ Date: 8-1-13

QA026R24.doc, 060413

Test America - Knoxville ---- Air Canister Dilution Log

Lot Number: *H3H020401*

Initial Can Pressure							Subsequent Dilutions											
Analyst/Date	Can or Tedlar bag prep Time	Baro ID 157 Pbarr (in)	Sample ID	Can #	Pres. upon receipt (-in or + psig)	Adj. Initial Pres. (-in or + psig)	Analyst/Date	I / S	Baro ID___ Pbarr (in)	Initial Pres. Pi (in)	Final Pres. Pf (psig)	First InCan Final Pres. Pf (psig)	Second In-can Final Pres. Pf (psig)	Third InCan Final Pres. Pf (psig)	Serial Dilution Can #	Vol (mL)	Final Pres. Pf (psig)	Comments
JM 8/5/13	14:13	28.78	M1H7R	12209	-10.1	4.3												10678
			M1H7T	93244	-10.8	6.1												10658
			M1H7V	6356	-10.6	5.4												10664
			M1H7W	93268	-10.6	4.9												↓
			M1H7X	1370	-9.3	3.7												10680
			M1H70	1116	-11.2	5.0												10679
↓	↓	↓	M1H71	6390	-6.4													↓

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

TestAmerica Laboratories, Inc.

ANALYTICAL REPORT

PROJECT NO. C755019A

Former Ithaca Gun Factory

Lot #: H3H060408

Gary Priscott

New York State D.E.C.
Region 7
1679 Rte. 11
Kirkwood, NY 13795

TESTAMERICA LABORATORIES, INC.

Jamie A. McKinney
Project Manager

August 15, 2013

ANALYTICAL METHODS SUMMARY

H3H060408

PARAMETER	ANALYTICAL METHOD
Volatile Organics by TO15	EPA-2 TO-15

References:

EPA-2 "Compendium of Methods for the Determination of Toxic Organic Compounds in Ambient Air", EPA-625/R-96/010b, January 1999.

SAMPLE SUMMARY

H3H060408

WO #	SAMPLE#	CLIENT SAMPLE ID	SAMPLED DATE	SAMP TIME
M1J68	001	VP-6	07/31/13	15:16
M1J7D	002	VP-7	08/01/13	08:56
M1J7E	003	VP-8	08/01/13	10:18
M1J7F	004	VP-9	08/01/13	11:47
M1J7G	005	VP-10	08/01/13	14:12
M1J7H	006	VP-XX DUP	08/01/13	

NOTE(S):

- The analytical results of the samples listed above are presented on the following pages.
- All calculations are performed before rounding to avoid round-off errors in calculated results.
- Results noted as "ND" were not detected at or above the stated limit.
- This report must not be reproduced, except in full, without the written approval of the laboratory.
- Results for the following parameters are never reported on a dry weight basis: color, corrosivity, density, flashpoint, ignitability, layers, odor, paint filter test, pH, porosity pressure, reactivity, redox potential, specific gravity, spot tests, solids, solubility, temperature, viscosity, and weight.

PROJECT NARRATIVE
H3H060408

The results reported herein are applicable to the samples submitted for analysis only. If you have any questions about this report, please call (865) 291-3000 to speak with the TestAmerica project manager listed on the cover page.

This report shall not be reproduced except in full, without the written approval of the laboratory.

The original chain of custody documentation is included with this report.

Sample Receipt

Custody seals were not present.

Quality Control and Data Interpretation

Unless otherwise noted, all holding times and QC criteria were met and the test results shown in this report meet all applicable NELAC requirements.

EPA methods TO-14A and TO-15 specify the use of humidified "zero air" as the blank reagent for canister cleaning, instrument calibration and sample analysis. Ultra-high purity humidified nitrogen from a cryogenic reservoir is used in place of "zero air" by TestAmerica Knoxville.

Quantitation for ethanol was previously based on a one-point calibration standard at the reporting limit. Ethanol was quantitated based on a minimum 5-point calibration curve. The following interim criteria are being used until the method performance for this additional analyte is fully established:

- The initial calibration acceptance criteria is set at 40% RSD. Any compound greater than 40% RSD was changed to a linear or quadratic model with an r2 ≥ 0.990 acceptance criteria.
- There are no criteria for second source standard verification % D. The second source standard was independently prepared from the same parent mixture (as the primary source).
- The continuing calibration verification criteria are set at 50% D. Any compound greater than 50% D must pass the LCS criteria.
- The LCS recovery criteria are set at 20% to 180%.
- A method detection limit study has not been performed. The detection of the analytes is demonstrated by detection of the calibration standard at the reporting limit. No estimated results are reported below the reporting limit.

CERTIFICATION SUMMARY

Laboratory	Authority	Program	EPA Region	Certification ID
TestAmerica Knoxville	ACLASS	DoD ELAP		ADE-1434
TestAmerica Knoxville	Arkansas	State Program	6	88-0688
TestAmerica Knoxville	California	State Program	9	2423
TestAmerica Knoxville	Colorado	State Program	8	N/A
TestAmerica Knoxville	Connecticut	State Program	1	PH-0223
TestAmerica Knoxville	Florida	NELAC	4	E87177
TestAmerica Knoxville	Georgia	State Program	4	906
TestAmerica Knoxville	Hawaii	State Program	9	N/A
TestAmerica Knoxville	Indiana	State Program	5	C-TN-02
TestAmerica Knoxville	Iowa	State Program	7	375
TestAmerica Knoxville	Kansas	NELAC	7	E-10349
TestAmerica Knoxville	Kentucky	State Program	4	90101
TestAmerica Knoxville	Louisiana	NELAC	6	LA110001
TestAmerica Knoxville	Louisiana	NELAC	6	83979
TestAmerica Knoxville	Maryland	State Program	3	277
TestAmerica Knoxville	Michigan	State Program	5	9933
TestAmerica Knoxville	Minnesota	NELAC	5	047-999-429
TestAmerica Knoxville	Nevada	State Program	9	TN00009
TestAmerica Knoxville	New Jersey	NELAC	2	TN001
TestAmerica Knoxville	New York	NELAC	2	10781
TestAmerica Knoxville	North Carolina	North Carolina DENR	4	64
TestAmerica Knoxville	North Carolina	North Carolina PHL	4	21705
TestAmerica Knoxville	Ohio	OVAP	5	CL0059
TestAmerica Knoxville	Oklahoma	State Program	6	9415
TestAmerica Knoxville	Pennsylvania	NELAC	3	68-00576
TestAmerica Knoxville	South Carolina	State Program	4	84001
TestAmerica Knoxville	Tennessee	State Program	4	2014
TestAmerica Knoxville	Texas	NELAC	6	T104704380-TX
TestAmerica Knoxville	USDA	USDA		P330-11-00035
TestAmerica Knoxville	Utah	NELAC	8	QUAN3
TestAmerica Knoxville	Virginia	State Program	3	165
TestAmerica Knoxville	Washington	State Program	10	C593
TestAmerica Knoxville	West Virginia	West Virginia DEP	3	345
TestAmerica Knoxville	West Virginia	West Virginia DHHR (DW)	3	9955C
TestAmerica Knoxville	Wisconsin	State Program	5	998044300

Accreditation may not be offered or required for all methods and analytes reported in this package. Please contact your project manager for the laboratory's current list of certified methods and analytes.

Sample Data Summary

New York State D.E.C.

Client Sample ID: VP-6

GC/MS Volatiles

Lot-Sample # H3H060408 - 001 **Work Order #** M1J681AA **Matrix.....:** AIR

Date Sampled...: 07/31/2013 **Date Received..:** 08/06/2013
Prep Date.....: 08/08/2013 **Analysis Date...** 08/08/2013
Prep Batch #.....: 3221027
Dilution Factor.: 1 **Method.....:** TO-15

PARAMETER	RESULTS (ppb(v/v))	REPORTING LIMIT (ppb(v/v))	RESULTS (ug/m3)	REPORTING LIMIT (ug/m3)
Benzene	**2.2**	**0.080**	**6.9**	**0.26**
Benzyl chloride	ND	0.16	ND	0.83
Bromodichloromethane	ND	0.080	ND	0.54
Bromoform	ND	0.080	ND	0.83
Bromomethane	ND	0.080	ND	0.31
2-Butanone (MEK)	**4.3**	**0.32**	**13**	**0.94**
tert-Butyl alcohol	ND	0.32	ND	0.97
Carbon tetrachloride	**6.0**	**0.040**	**38**	**0.25**
Chlorobenzene	ND	0.080	ND	0.37
Dibromochloromethane	ND	0.080	ND	0.68
Chloroethane	ND	0.080	ND	0.21
Chloroform	**0.17**	**0.080**	**0.84**	**0.39**
Chloromethane	ND	0.20	ND	0.41
Cyclohexane	**4.8**	**0.20**	**16**	**0.69**
1,2-Dibromoethane (EDB)	ND	0.080	ND	0.61
1,2-Dichlorobenzene	ND	0.080	ND	0.48
1,3-Dichlorobenzene	ND	0.080	ND	0.48
1,4-Dichlorobenzene	ND	0.080	ND	0.48
Dichlorodifluoromethane	**4.5**	**0.080**	**22**	**0.40**
1,1-Dichloroethane	ND	0.080	ND	0.32
1,2-Dichloroethane	ND	0.080	ND	0.32
cis-1,2-Dichloroethene	ND	0.080	ND	0.32
trans-1,2-Dichloroethene	ND	0.080	ND	0.32
1,1-Dichloroethene	ND	0.080	ND	0.32
1,2-Dichloropropane	ND	0.080	ND	0.37
cis-1,3-Dichloropropene	ND	0.080	ND	0.36
trans-1,3-Dichloropropene	ND	0.080	ND	0.36
1,2-Dichloro-1,1,2,2-tetrafluoroethane	ND	0.080	ND	0.56
1,4-Dioxane	ND	0.20	ND	0.72
Ethanol	**2.1**	**0.80**	**4.0**	**1.5**
Ethylbenzene	**0.50**	**0.080**	**2.2**	**0.35**
Hexachlorobutadiene	ND	0.080	ND	0.85
n-Hexane	**10**	**0.20**	**36**	**0.70**
Methylene chloride	**0.31**	**0.20**	**1.1**	**0.69**
4-Methyl-2-pentanone (MIBK)	**1.5**	**0.20**	**6.2**	**0.82**
Methyl tert-butyl ether	ND	0.16	ND	0.58
Styrene	**0.13**	**0.080**	**0.55**	**0.34**
1,1,2,2-Tetrachloroethane	ND	0.080	ND	0.55

New York State D.E.C.

Client Sample ID: VP-6

GC/MS Volatiles

Lot-Sample # H3H060408 - 001 **Work Order #** M1J681AA **Matrix.....:** AIR

PARAMETER	RESULTS (ppb(v/v))	REPORTING LIMIT (ppb(v/v))	RESULTS (ug/m3)	REPORTING LIMIT (ug/m3)
Tetrachloroethene	**0.19**	**0.080**	**1.3**	**0.54**
Toluene	**3.7**	**0.080**	**14**	**0.30**
1,2,4-Trichlorobenzene	ND	0.080	ND	0.59
1,1,1-Trichloroethane	**8.7**	**0.080**	**47**	**0.44**
1,1,2-Trichloroethane	ND	0.080	ND	0.44
Trichloroethene	ND	0.040	ND	0.21
Trichlorofluoromethane	**7.1**	**0.080**	**40**	**0.45**
1,1,2-Trichlorotrifluoroethane	**0.19**	**0.080**	**1.5**	**0.61**
1,2,4-Trimethylbenzene	**0.70**	**0.080**	**3.5**	**0.39**
1,3,5-Trimethylbenzene	**0.32**	**0.080**	**1.6**	**0.39**
2,2,4-Trimethylpentane	**0.22**	**0.20**	**1.0**	**0.93**
Vinyl chloride	ND	0.080	ND	0.20
m-Xylene & p-Xylene	**2.4**	**0.080**	**10**	**0.35**
o-Xylene	**0.72**	**0.080**	**3.1**	**0.35**

SURROGATE	PERCENT RECOVERY	LABORATORY CONTROL LIMITS (%)
4-Bromofluorobenzene	104	60 - 140

The 'Result' in ug/m3 is calculated using the following equation: Amount Found(before rounding)*(Molecular Weight/24.45)

The 'Reporting Limit' in ug/m3 is calculated using the following equation: (Reporting Limit(before rounding) * Dilution Factor) * (Molecular Weight/24.45)

New York State D.E.C.

Client Sample ID: VP-7

GC/MS Volatiles

Lot-Sample # H3H060408 - 002 **Work Order #** M1J7D1AA **Matrix.....:** AIR

Date Sampled...: 08/01/2013 **Date Received..:** 08/06/2013
Prep Date.....: 08/08/2013 **Analysis Date...** 08/08/2013
Prep Batch #.....: 3221027
Dilution Factor.: 23.13 **Method.....:** TO-15

PARAMETER	RESULTS (ppb(v/v))	REPORTING LIMIT (ppb(v/v))	RESULTS (ug/m3)	REPORTING LIMIT (ug/m3)
Benzene	ND	1.9	ND	5.9
Benzyl chloride	ND	3.7	ND	19
Bromodichloromethane	ND	1.9	ND	12
Bromoform	ND	1.9	ND	19
Bromomethane	ND	1.9	ND	7.2
2-Butanone (MEK)	ND	7.4	ND	22
tert-Butyl alcohol	ND	7.4	ND	22
Carbon tetrachloride	**15**	**0.93**	**96**	**5.8**
Chlorobenzene	ND	1.9	ND	8.5
Dibromochloromethane	ND	1.9	ND	16
Chloroethane	ND	1.9	ND	4.9
Chloroform	**63**	**1.9**	**310**	**9.0**
Chloromethane	ND	4.6	ND	9.6
Cyclohexane	ND	4.6	ND	16
1,2-Dibromoethane (EDB)	ND	1.9	ND	14
1,2-Dichlorobenzene	ND	1.9	ND	11
1,3-Dichlorobenzene	ND	1.9	ND	11
1,4-Dichlorobenzene	ND	1.9	ND	11
Dichlorodifluoromethane	**6.9**	**1.9**	**34**	**9.2**
1,1-Dichloroethane	ND	1.9	ND	7.5
1,2-Dichloroethane	ND	1.9	ND	7.5
cis-1,2-Dichloroethene	ND	1.9	ND	7.3
trans-1,2-Dichloroethene	ND	1.9	ND	7.3
1,1-Dichloroethene	ND	1.9	ND	7.3
1,2-Dichloropropane	ND	1.9	ND	8.6
cis-1,3-Dichloropropene	ND	1.9	ND	8.4
trans-1,3-Dichloropropene	ND	1.9	ND	8.4
1,2-Dichloro-1,1,2,2-tetrafluoroethane	ND	1.9	ND	13
1,4-Dioxane	ND	4.6	ND	17
Ethanol	ND	19	ND	35
Ethylbenzene	ND	1.9	ND	8.0
Hexachlorobutadiene	ND	1.9	ND	20
n-Hexane	**8.6**	**4.6**	**30**	**16**
Methylene chloride	ND	4.6	ND	16
4-Methyl-2-pentanone (MIBK)	ND	4.6	ND	19
Methyl tert-butyl ether	ND	3.7	ND	13
Styrene	ND	1.9	ND	7.9
1,1,2,2-Tetrachloroethane	ND	1.9	ND	13

New York State D.E.C.

Client Sample ID: VP-7

GC/MS Volatiles

Lot-Sample # H3H060408 - 002 **Work Order #** M1J7D1AA **Matrix.....:** AIR

PARAMETER	RESULTS (ppb(v/v))	REPORTING LIMIT (ppb(v/v))	RESULTS (ug/m3)	REPORTING LIMIT (ug/m3)
Tetrachloroethene	**3.1**	**1.9**	**21**	**13**
Toluene	ND	1.9	ND	7.0
1,2,4-Trichlorobenzene	ND	1.9	ND	14
1,1,1-Trichloroethane	**37**	**1.9**	**200**	**10**
1,1,2-Trichloroethane	ND	1.9	ND	10
Trichloroethene	**140**	**0.93**	**730**	**5.0**
Trichlorofluoromethane	ND	1.9	ND	10
1,1,2-Trichlorotrifluoroethane	ND	1.9	ND	14
1,2,4-Trimethylbenzene	ND	1.9	ND	9.1
1,3,5-Trimethylbenzene	ND	1.9	ND	9.1
2,2,4-Trimethylpentane	ND	4.6	ND	22
Vinyl chloride	ND	1.9	ND	4.7
m-Xylene & p-Xylene	ND	1.9	ND	8.0
o-Xylene	ND	1.9	ND	8.0

SURROGATE	PERCENT RECOVERY	LABORATORY CONTROL LIMITS (%)
4-Bromofluorobenzene	99	60 - 140

The 'Result' in ug/m3 is calculated using the following equation: Amount Found(before rounding)*(Molecular Weight/24.45)

The 'Reporting Limit' in ug/m3 is calculated using the following equation: (Reporting Limit(before rounding) * Dilution Factor) * (Molecular Weight/24.45)

New York State D.E.C.

Client Sample ID: VP-8

GC/MS Volatiles

Lot-Sample # H3H060408 - 003 **Work Order #** M1J7E1AA **Matrix.....:** AIR

Date Sampled...: 08/01/2013 **Date Received..:** 08/06/2013
Prep Date.....: 08/08/2013 **Analysis Date...** 08/08/2013
Prep Batch #.....: 3221027
Dilution Factor.: 48 **Method.....:** TO-15

PARAMETER	RESULTS (ppb(v/v))	REPORTING LIMIT (ppb(v/v))	RESULTS (ug/m3)	REPORTING LIMIT (ug/m3)
Benzene	ND	3.8	ND	12
Benzyl chloride	ND	7.7	ND	40
Bromodichloromethane	ND	3.8	ND	26
Bromoform	ND	3.8	ND	40
Bromomethane	ND	3.8	ND	15
2-Butanone (MEK)	ND	15	ND	45
tert-Butyl alcohol	ND	15	ND	47
Carbon tetrachloride	**7.5**	**1.9**	**47**	**12**
Chlorobenzene	ND	3.8	ND	18
Dibromochloromethane	ND	3.8	ND	33
Chloroethane	ND	3.8	ND	10
Chloroform	**100**	**3.8**	**500**	**19**
Chloromethane	ND	9.6	ND	20
Cyclohexane	ND	9.6	ND	33
1,2-Dibromoethane (EDB)	ND	3.8	ND	30
1,2-Dichlorobenzene	ND	3.8	ND	23
1,3-Dichlorobenzene	ND	3.8	ND	23
1,4-Dichlorobenzene	ND	3.8	ND	23
Dichlorodifluoromethane	ND	3.8	ND	19
1,1-Dichloroethane	ND	3.8	ND	16
1,2-Dichloroethane	ND	3.8	ND	16
cis-1,2-Dichloroethene	ND	3.8	ND	15
trans-1,2-Dichloroethene	ND	3.8	ND	15
1,1-Dichloroethene	ND	3.8	ND	15
1,2-Dichloropropane	ND	3.8	ND	18
cis-1,3-Dichloropropene	ND	3.8	ND	17
trans-1,3-Dichloropropene	ND	3.8	ND	17
1,2-Dichloro-1,1,2,2-tetrafluoroethane	ND	3.8	ND	27
1,4-Dioxane	ND	9.6	ND	35
Ethanol	ND	38	ND	72
Ethylbenzene	ND	3.8	ND	17
Hexachlorobutadiene	ND	3.8	ND	41
n-Hexane	ND	9.6	ND	34
Methylene chloride	ND	9.6	ND	33
4-Methyl-2-pentanone (MIBK)	ND	9.6	ND	39
Methyl tert-butyl ether	ND	7.7	ND	28
Styrene	ND	3.8	ND	16
1,1,2,2-Tetrachloroethane	ND	3.8	ND	26

New York State D.E.C.

Client Sample ID: VP-8

GC/MS Volatiles

Lot-Sample # H3H060408 - 003 **Work Order #** M1J7E1AA **Matrix.....:** AIR

PARAMETER	RESULTS (ppb(v/v))	REPORTING LIMIT (ppb(v/v))	RESULTS (ug/m3)	REPORTING LIMIT (ug/m3)
Tetrachloroethene	**23**	**3.8**	**150**	**26**
Toluene	ND	3.8	ND	14
1,2,4-Trichlorobenzene	ND	3.8	ND	28
1,1,1-Trichloroethane	**19**	**3.8**	**110**	**21**
1,1,2-Trichloroethane	ND	3.8	ND	21
Trichloroethene	**260**	**1.9**	**1400**	**10**
Trichlorofluoromethane	ND	3.8	ND	22
1,1,2-Trichlorotrifluoroethane	ND	3.8	ND	29
1,2,4-Trimethylbenzene	ND	3.8	ND	19
1,3,5-Trimethylbenzene	ND	3.8	ND	19
2,2,4-Trimethylpentane	ND	9.6	ND	45
Vinyl chloride	ND	3.8	ND	9.8
m-Xylene & p-Xylene	ND	3.8	ND	17
o-Xylene	ND	3.8	ND	17

SURROGATE	PERCENT RECOVERY	LABORATORY CONTROL LIMITS (%)
4-Bromofluorobenzene	97	60 - 140

The 'Result' in ug/m3 is calculated using the following equation: Amount Found(before rounding)*(Molecular Weight/24.45)

The 'Reporting Limit' in ug/m3 is calculated using the following equation: (Reporting Limit(before rounding) * Dilution Factor) * (Molecular Weight/24.45)

New York State D.E.C.

Client Sample ID: VP-9

GC/MS Volatiles

Lot-Sample #	H3H060408 - 004	**Work Order #**	M1J7F1AA	**Matrix.....:**	AIR
Date Sampled...:	08/01/2013	**Date Received..:**	08/06/2013		
Prep Date.....:	08/08/2013	**Analysis Date...**	08/08/2013		
Prep Batch #.....:	3221027				
Dilution Factor.:	8.95	**Method.....:**	TO-15		

PARAMETER	RESULTS (ppb(v/v))	REPORTING LIMIT (ppb(v/v))	RESULTS (ug/m3)	REPORTING LIMIT (ug/m3)
Benzene	**1.5**	**0.72**	**4.9**	**2.3**
Benzyl chloride	ND	1.4	ND	7.4
Bromodichloromethane	ND	0.72	ND	4.8
Bromoform	ND	0.72	ND	7.4
Bromomethane	ND	0.72	ND	2.8
2-Butanone (MEK)	ND	2.9	ND	8.4
tert-Butyl alcohol	ND	2.9	ND	8.7
Carbon tetrachloride	**1.3**	**0.36**	**7.9**	**2.3**
Chlorobenzene	ND	0.72	ND	3.3
Dibromochloromethane	ND	0.72	ND	6.1
Chloroethane	ND	0.72	ND	1.9
Chloroform	**65**	**0.72**	**320**	**3.5**
Chloromethane	ND	1.8	ND	3.7
Cyclohexane	**3.5**	**1.8**	**12**	**6.2**
1,2-Dibromoethane (EDB)	ND	0.72	ND	5.5
1,2-Dichlorobenzene	ND	0.72	ND	4.3
1,3-Dichlorobenzene	ND	0.72	ND	4.3
1,4-Dichlorobenzene	ND	0.72	ND	4.3
Dichlorodifluoromethane	**8.8**	**0.72**	**43**	**3.5**
1,1-Dichloroethane	ND	0.72	ND	2.9
1,2-Dichloroethane	ND	0.72	ND	2.9
cis-1,2-Dichloroethene	ND	0.72	ND	2.8
trans-1,2-Dichloroethene	ND	0.72	ND	2.8
1,1-Dichloroethene	ND	0.72	ND	2.8
1,2-Dichloropropane	ND	0.72	ND	3.3
cis-1,3-Dichloropropene	ND	0.72	ND	3.2
trans-1,3-Dichloropropene	ND	0.72	ND	3.2
1,2-Dichloro-1,1,2,2-tetrafluoroethane	ND	0.72	ND	5.0
1,4-Dioxane	ND	1.8	ND	6.5
Ethanol	ND	7.2	ND	13
Ethylbenzene	ND	0.72	ND	3.1
Hexachlorobutadiene	ND	0.72	ND	7.6
n-Hexane	**7.0**	**1.8**	**25**	**6.3**
Methylene chloride	ND	1.8	ND	6.2
4-Methyl-2-pentanone (MIBK)	ND	1.8	ND	7.3
Methyl tert-butyl ether	ND	1.4	ND	5.2
Styrene	ND	0.72	ND	3.0
1,1,2,2-Tetrachloroethane	ND	0.72	ND	4.9

New York State D.E.C.

Client Sample ID: VP-9

GC/MS Volatiles

Lot-Sample # H3H060408 - 004 **Work Order #** M1J7F1AA **Matrix.....:** AIR

PARAMETER	RESULTS (ppb(v/v))	REPORTING LIMIT (ppb(v/v))	RESULTS (ug/m3)	REPORTING LIMIT (ug/m3)
Tetrachloroethene	ND	0.72	ND	4.9
Toluene	**1.9**	**0.72**	**7.3**	**2.7**
1,2,4-Trichlorobenzene	ND	0.72	ND	5.3
1,1,1-Trichloroethane	**7.6**	**0.72**	**42**	**3.9**
1,1,2-Trichloroethane	ND	0.72	ND	3.9
Trichloroethene	**59**	**0.36**	**320**	**1.9**
Trichlorofluoromethane	**3.4**	**0.72**	**19**	**4.0**
1,1,2-Trichlorotrifluoroethane	ND	0.72	ND	5.5
1,2,4-Trimethylbenzene	ND	0.72	ND	3.5
1,3,5-Trimethylbenzene	ND	0.72	ND	3.5
2,2,4-Trimethylpentane	ND	1.8	ND	8.4
Vinyl chloride	ND	0.72	ND	1.8
m-Xylene & p-Xylene	**1.4**	**0.72**	**6.2**	**3.1**
o-Xylene	ND	0.72	ND	3.1

SURROGATE	PERCENT RECOVERY	LABORATORY CONTROL LIMITS (%)
4-Bromofluorobenzene	104	60 - 140

The 'Result' in ug/m3 is calculated using the following equation: Amount Found(before rounding)*(Molecular Weight/24.45)

The 'Reporting Limit' in ug/m3 is calculated using the following equation: (Reporting Limit(before rounding) * Dilution Factor) * (Molecular Weight/24.45)

New York State D.E.C.

Client Sample ID: VP-10

GC/MS Volatiles

Lot-Sample # H3H060408 - 005 **Work Order #** M1J7G1AA **Matrix.....:** AIR

Date Sampled...: 08/01/2013 **Date Received..:** 08/06/2013
Prep Date.....: 08/08/2013 **Analysis Date...** 08/08/2013
Prep Batch #.....: 3221027
Dilution Factor.: 2 **Method.....:** TO-15

PARAMETER	RESULTS (ppb(v/v))	REPORTING LIMIT (ppb(v/v))	RESULTS (ug/m3)	REPORTING LIMIT (ug/m3)
Benzene	**0.88**	**0.16**	**2.8**	**0.51**
Benzyl chloride	ND	0.32	ND	1.7
Bromodichloromethane	ND	0.16	ND	1.1
Bromoform	ND	0.16	ND	1.7
Bromomethane	ND	0.16	ND	0.62
2-Butanone (MEK)	**1.9**	**0.64**	**5.7**	**1.9**
tert-Butyl alcohol	ND	0.64	ND	1.9
Carbon tetrachloride	**0.40**	**0.080**	**2.5**	**0.50**
Chlorobenzene	ND	0.16	ND	0.74
Dibromochloromethane	ND	0.16	ND	1.4
Chloroethane	ND	0.16	ND	0.42
Chloroform	**2.4**	**0.16**	**12**	**0.78**
Chloromethane	**0.61**	**0.40**	**1.3**	**0.83**
Cyclohexane	**1.3**	**0.40**	**4.4**	**1.4**
1,2-Dibromoethane (EDB)	ND	0.16	ND	1.2
1,2-Dichlorobenzene	ND	0.16	ND	0.96
1,3-Dichlorobenzene	ND	0.16	ND	0.96
1,4-Dichlorobenzene	ND	0.16	ND	0.96
Dichlorodifluoromethane	**0.33**	**0.16**	**1.6**	**0.79**
1,1-Dichloroethane	ND	0.16	ND	0.65
1,2-Dichloroethane	ND	0.16	ND	0.65
cis-1,2-Dichloroethene	ND	0.16	ND	0.63
trans-1,2-Dichloroethene	ND	0.16	ND	0.63
1,1-Dichloroethene	ND	0.16	ND	0.63
1,2-Dichloropropane	ND	0.16	ND	0.74
cis-1,3-Dichloropropene	ND	0.16	ND	0.73
trans-1,3-Dichloropropene	ND	0.16	ND	0.73
1,2-Dichloro-1,1,2,2-tetrafluoroethane	ND	0.16	ND	1.1
1,4-Dioxane	ND	0.40	ND	1.4
Ethanol	**3.4**	**1.6**	**6.4**	**3.0**
Ethylbenzene	**0.22**	**0.16**	**0.94**	**0.69**
Hexachlorobutadiene	ND	0.16	ND	1.7
n-Hexane	**1.8**	**0.40**	**6.4**	**1.4**
Methylene chloride	ND	0.40	ND	1.4
4-Methyl-2-pentanone (MIBK)	**0.72**	**0.40**	**2.9**	**1.6**
Methyl tert-butyl ether	ND	0.32	ND	1.2
Styrene	ND	0.16	ND	0.68
1,1,2,2-Tetrachloroethane	ND	0.16	ND	1.1

New York State D.E.C.

Client Sample ID: VP-10

GC/MS Volatiles

Lot-Sample # H3H060408 - 005 **Work Order #** M1J7G1AA **Matrix.....:** AIR

PARAMETER	RESULTS (ppb(v/v))	REPORTING LIMIT (ppb(v/v))	RESULTS (ug/m3)	REPORTING LIMIT (ug/m3)
Tetrachloroethene	**2.4**	**0.16**	**16**	**1.1**
Toluene	**1.3**	**0.16**	**4.8**	**0.60**
1,2,4-Trichlorobenzene	ND	0.16	ND	1.2
1,1,1-Trichloroethane	**1.5**	**0.16**	**8.2**	**0.87**
1,1,2-Trichloroethane	ND	0.16	ND	0.87
Trichloroethene	**22**	**0.080**	**120**	**0.43**
Trichlorofluoromethane	**0.23**	**0.16**	**1.3**	**0.90**
1,1,2-Trichlorotrifluoroethane	ND	0.16	ND	1.2
1,2,4-Trimethylbenzene	**0.26**	**0.16**	**1.3**	**0.79**
1,3,5-Trimethylbenzene	ND	0.16	ND	0.79
2,2,4-Trimethylpentane	ND	0.40	ND	1.9
Vinyl chloride	ND	0.16	ND	0.41
m-Xylene & p-Xylene	**0.78**	**0.16**	**3.4**	**0.69**
o-Xylene	**0.28**	**0.16**	**1.2**	**0.69**

SURROGATE	PERCENT RECOVERY	LABORATORY CONTROL LIMITS (%)
4-Bromofluorobenzene	106	60 - 140

The 'Result' in ug/m3 is calculated using the following equation: Amount Found(before rounding)*(Molecular Weight/24.45)

The 'Reporting Limit' in ug/m3 is calculated using the following equation: (Reporting Limit(before rounding) * Dilution Factor) * (Molecular Weight/24.45)

New York State D.E.C.

Client Sample ID: VP-XX DUP

GC/MS Volatiles

Lot-Sample #	H3H060408 - 006	**Work Order #**	M1J7H1AA	**Matrix.....:**	AIR
Date Sampled...:	08/01/2013	**Date Received..:**	08/06/2013		
Prep Date.....:	08/08/2013	**Analysis Date...**	08/08/2013		
Prep Batch #.....:	3221027				
Dilution Factor.:	29.5	**Method.....:**	TO-15		

PARAMETER	RESULTS (ppb(v/v))	REPORTING LIMIT (ppb(v/v))	RESULTS (ug/m3)	REPORTING LIMIT (ug/m3)
Benzene	ND	2.4	ND	7.5
Benzyl chloride	ND	4.7	ND	24
Bromodichloromethane	ND	2.4	ND	16
Bromoform	ND	2.4	ND	24
Bromomethane	ND	2.4	ND	9.2
2-Butanone (MEK)	ND	9.4	ND	28
tert-Butyl alcohol	ND	9.4	ND	29
Carbon tetrachloride	**14**	**1.2**	**87**	**7.4**
Chlorobenzene	ND	2.4	ND	11
Dibromochloromethane	ND	2.4	ND	20
Chloroethane	ND	2.4	ND	6.2
Chloroform	**72**	**2.4**	**350**	**12**
Chloromethane	ND	5.9	ND	12
Cyclohexane	ND	5.9	ND	20
1,2-Dibromoethane (EDB)	ND	2.4	ND	18
1,2-Dichlorobenzene	ND	2.4	ND	14
1,3-Dichlorobenzene	ND	2.4	ND	14
1,4-Dichlorobenzene	ND	2.4	ND	14
Dichlorodifluoromethane	**5.8**	**2.4**	**29**	**12**
1,1-Dichloroethane	ND	2.4	ND	9.6
1,2-Dichloroethane	ND	2.4	ND	9.6
cis-1,2-Dichloroethene	ND	2.4	ND	9.4
trans-1,2-Dichloroethene	ND	2.4	ND	9.4
1,1-Dichloroethene	ND	2.4	ND	9.4
1,2-Dichloropropane	ND	2.4	ND	11
cis-1,3-Dichloropropene	ND	2.4	ND	11
trans-1,3-Dichloropropene	ND	2.4	ND	11
1,2-Dichloro-1,1,2,2-tetrafluoroethane	ND	2.4	ND	16
1,4-Dioxane	ND	5.9	ND	21
Ethanol	ND	24	ND	44
Ethylbenzene	ND	2.4	ND	10
Hexachlorobutadiene	ND	2.4	ND	25
n-Hexane	**7.8**	**5.9**	**28**	**21**
Methylene chloride	ND	5.9	ND	20
4-Methyl-2-pentanone (MIBK)	ND	5.9	ND	24
Methyl tert-butyl ether	ND	4.7	ND	17
Styrene	ND	2.4	ND	10
1,1,2,2-Tetrachloroethane	ND	2.4	ND	16

New York State D.E.C.

Client Sample ID: VP-XX DUP

GC/MS Volatiles

Lot-Sample # H3H060408 - 006 **Work Order #** M1J7H1AA **Matrix.....:** AIR

PARAMETER	RESULTS (ppb(v/v))	REPORTING LIMIT (ppb(v/v))	RESULTS (ug/m3)	REPORTING LIMIT (ug/m3)
Tetrachloroethene	**3.5**	**2.4**	**23**	**16**
Toluene	ND	2.4	ND	8.9
1,2,4-Trichlorobenzene	ND	2.4	ND	18
1,1,1-Trichloroethane	**37**	**2.4**	**200**	**13**
1,1,2-Trichloroethane	ND	2.4	ND	13
Trichloroethene	**150**	**1.2**	**790**	**6.3**
Trichlorofluoromethane	ND	2.4	ND	13
1,1,2-Trichlorotrifluoroethane	ND	2.4	ND	18
1,2,4-Trimethylbenzene	ND	2.4	ND	12
1,3,5-Trimethylbenzene	ND	2.4	ND	12
2,2,4-Trimethylpentane	ND	5.9	ND	28
Vinyl chloride	ND	2.4	ND	6.0
m-Xylene & p-Xylene	ND	2.4	ND	10
o-Xylene	ND	2.4	ND	10

SURROGATE	PERCENT RECOVERY	LABORATORY CONTROL LIMITS (%)
4-Bromofluorobenzene	104	60 - 140

The 'Result' in ug/m3 is calculated using the following equation: Amount Found(before rounding)*(Molecular Weight/24.45)

The 'Reporting Limit' in ug/m3 is calculated using the following equation: (Reporting Limit(before rounding) * Dilution Factor) * (Molecular Weight/24.45)

New York State D.E.C.

Client Sample ID: INTRA-LAB BLANK

GC/MS Volatiles

Lot-Sample #	H3H090000 - 027B	**Work Order #**	M1K991AA	**Matrix.....:**	AIR
	07/31/2013	**Date Received..:**	08/06/2013		
Prep Date.....:	08/08/2013	**Analysis Date...**	08/08/2013		
Prep Batch #.....:	3221027				
Dilution Factor.:	1	**Method.....:**	TO-15		

PARAMETER	RESULTS (ppb(v/v))	REPORTING LIMIT (ppb(v/v))	RESULTS (ug/m3)	REPORTING LIMIT (ug/m3)
Benzene	ND	0.080	ND	0.26
Benzyl chloride	ND	0.16	ND	0.83
Bromodichloromethane	ND	0.080	ND	0.54
Bromoform	ND	0.080	ND	0.83
Bromomethane	ND	0.080	ND	0.31
2-Butanone (MEK)	ND	0.32	ND	0.94
tert-Butyl alcohol	ND	0.32	ND	0.97
Carbon tetrachloride	ND	0.040	ND	0.25
Chlorobenzene	ND	0.080	ND	0.37
Dibromochloromethane	ND	0.080	ND	0.68
Chloroethane	ND	0.080	ND	0.21
Chloroform	ND	0.080	ND	0.39
Chloromethane	ND	0.20	ND	0.41
Cyclohexane	ND	0.20	ND	0.69
1,2-Dibromoethane (EDB)	ND	0.080	ND	0.61
1,2-Dichlorobenzene	ND	0.080	ND	0.48
1,3-Dichlorobenzene	ND	0.080	ND	0.48
1,4-Dichlorobenzene	ND	0.080	ND	0.48
Dichlorodifluoromethane	ND	0.080	ND	0.40
1,1-Dichloroethane	ND	0.080	ND	0.32
1,2-Dichloroethane	ND	0.080	ND	0.32
cis-1,2-Dichloroethene	ND	0.080	ND	0.32
trans-1,2-Dichloroethene	ND	0.080	ND	0.32
1,1-Dichloroethene	ND	0.080	ND	0.32
1,2-Dichloropropane	ND	0.080	ND	0.37
cis-1,3-Dichloropropene	ND	0.080	ND	0.36
trans-1,3-Dichloropropene	ND	0.080	ND	0.36
1,2-Dichloro-1,1,2,2-tetrafluoroethane	ND	0.080	ND	0.56
1,4-Dioxane	ND	0.20	ND	0.72
Ethanol	ND	0.80	ND	1.5
Ethylbenzene	ND	0.080	ND	0.35
Hexachlorobutadiene	ND	0.080	ND	0.85
n-Hexane	ND	0.20	ND	0.70
Methylene chloride	ND	0.20	ND	0.69
4-Methyl-2-pentanone (MIBK)	ND	0.20	ND	0.82
Methyl tert-butyl ether	ND	0.16	ND	0.58
Styrene	ND	0.080	ND	0.34

New York State D.E.C.

Client Sample ID: INTRA-LAB BLANK

GC/MS Volatiles

Lot-Sample # H3H090000 - 027B **Work Order #** M1K991AA **Matrix.....:** AIR

PARAMETER	RESULTS (ppb(v/v))	REPORTING LIMIT (ppb(v/v))	RESULTS (ug/m3)	REPORTING LIMIT (ug/m3)
1,1,2,2-Tetrachloroethane	ND	0.080	ND	0.55
Tetrachloroethene	ND	0.080	ND	0.54
Toluene	ND	0.080	ND	0.30
1,2,4-Trichlorobenzene	ND	0.080	ND	0.59
1,1,1-Trichloroethane	ND	0.080	ND	0.44
1,1,2-Trichloroethane	ND	0.080	ND	0.44
Trichloroethene	ND	0.040	ND	0.21
Trichlorofluoromethane	ND	0.080	ND	0.45
1,1,2-Trichlorotrifluoroethane	ND	0.080	ND	0.61
1,2,4-Trimethylbenzene	ND	0.080	ND	0.39
1,3,5-Trimethylbenzene	ND	0.080	ND	0.39
2,2,4-Trimethylpentane	ND	0.20	ND	0.93
Vinyl chloride	ND	0.080	ND	0.20
m-Xylene & p-Xylene	ND	0.080	ND	0.35
o-Xylene	ND	0.080	ND	0.35

SURROGATE	PERCENT RECOVERY	LABORATORY CONTROL LIMITS (%)
4-Bromofluorobenzene	100	60 - 140

The 'Result' in ug/m3 is calculated usiug the following equation: Amount Found(before rounding)*(Molecular Weight/24.45)

The 'Reporting Limit' in ug/m3 is calculated using the following equation: (Reportiug Limit(before rounding) * Dilution Factor) * (Molecular Weight/24.45)

New York State D.E.C.

Client Sample ID: CHECK SAMPLE

GC/MS Volatiles

Lot-Sample # H3H090000 - 027C **Work Order #** M1K991AC **Matrix.....:** AIR

	07/31/2013	**Date Received..:**	08/06/2013
Prep Date.....:	08/08/2013	**Analysis Date...**	08/08/2013
Prep Batch #.....:	3221027		
Dilution Factor.:	1	**Method.....:**	TO-15

PARAMETER	SPIKE AMOUNT (ppb(v/v))	MEASURED AMOUNT (ppb(v/v))	SPIKE AMOUNT (ug/m3)	MEASURED AMOUNT (ug/m3)	PERCENT RECOVERY	RECOVERY LIMITS
Benzene	5.00	4.43	16	14.2	89	70 - 130
Benzyl chloride	5.00	4.14	26	21.4	83	70 - 130
Bromodichloromethane	5.00	4.52	34	30.3	90	70 - 130
Bromoform	5.00	3.82	52	39.5	76	60 - 140
Bromomethane	5.00	5.41	19	21.0	108	70 - 130
2-Butanone (MEK)	5.00	4.05	15	11.9	81	60 - 140
tert-Butyl alcohol	5.00	4.66	15	14.1	93	60 - 140
Carbon tetrachloride	5.00	5.27	31	33.2	105	70 - 130
Chlorobenzene	5.00	4.15	23	19.1	83	70 - 130
Dibromochloromethane	5.00	4.45	43	37.9	89	70 - 130
Chloroethane	5.00	5.40	13	14.2	108	70 - 130
Chloroform	5.00	4.56	24	22.3	91	70 - 130
Chloromethane	5.00	5.14	10	10.6	103	60 - 140
Cyclohexane	5.00	4.75	17	16.4	95	70 - 130
1,2-Dibromoethane (EDB)	5.00	4.20	38	32.3	84	70 - 130
1,2-Dichlorobenzene	5.00	3.90	30	23.4	78	70 - 130
1,3-Dichlorobenzene	5.00	3.98	30	23.9	80	70 - 130
1,4-Dichlorobenzene	5.00	3.89	30	23.4	78	70 - 130
Dichlorodifluoromethane	5.00	5.24	25	25.9	105	60 - 140
1,1-Dichloroethane	5.00	4.73	20	19.1	95	70 - 130
1,2-Dichloroethane	5.00	4.54	20	18.4	91	70 - 130
cis-1,2-Dichloroethene	5.00	4.72	20	18.7	94	70 - 130
trans-1,2-Dichloroethene	5.00	4.96	20	19.7	99	70 - 130
1,1-Dichloroethene	5.00	5.18	20	20.5	104	70 - 130
1,2-Dichloropropane	5.00	4.53	23	20.9	91	70 - 130
cis-1,3-Dichloropropene	5.00	4.33	23	19.6	87	70 - 130
trans-1,3-Dichloropropene	5.00	4.28	23	19.4	86	70 - 130
1,2-Dichloro-1,1,2,2-tetrafluoroethane	5.00	5.52	35	38.6	110	60 - 140
1,4-Dioxane	5.00	4.02	18	14.5	80	60 - 140
Ethanol	25.0	20.6	47	38.7	82	20 - 180
Ethylbenzene	5.00	4.04	22	17.5	81	70 - 130
Hexachlorobutadiene	5.00	3.59	53	38.3	72	60 - 140
n-Hexane	5.00	4.65	18	16.4	93	70 - 130
Methylene chloride	5.00	4.97	17	17.3	99	70 - 130
4-Methyl-2-pentanone (MIBK)	5.00	3.84	20	15.7	77	60 - 140
Methyl tert-butyl ether	5.00	4.40	18	15.9	88	60 - 140

New York State D.E.C.

Client Sample ID: CHECK SAMPLE

GC/MS Volatiles

Lot-Sample # H3H090000 - 027C **Work Order #** M1K991AC **Matrix.....:** AIR

PARAMETER	SPIKE AMOUNT (ppb(v/v))	MEASURED AMOUNT (ppb(v/v))	SPIKE AMOUNT (ug/m3)	MEASURED AMOUNT (ug/m3)	PERCENT RECOVERY	RECOVERY LIMITS
Styrene	5.00	4.05	21	17.3	81	70 - 130
1,1,2,2-Tetrachloroethane	5.00	4.23	34	29.0	85	70 - 130
Tetrachloroethene	5.00	4.28	34	29.0	86	70 - 130
Toluene	5.00	4.01	19	15.1	80	70 - 130
1,2,4-Trichlorobenzene	5.00	3.92	37	29.1	78	60 - 140
1,1,1-Trichloroethane	5.00	4.68	27	25.6	94	70 - 130
1,1,2-Trichloroethane	5.00	4.26	27	23.3	85	70 - 130
Trichloroethene	5.00	4.52	27	24.3	90	70 - 130
Trichlorofluoromethane	5.00	5.27	28	29.6	105	60 - 140
1,1,2-Trichlorotrifluoroethane	5.00	5.14	38	39.4	103	70 - 130
1,2,4-Trimethylbenzene	5.00	4.12	25	20.2	82	70 - 130
1,3,5-Trimethylbenzene	5.00	4.05	25	19.9	81	70 - 130
2,2,4-Trimethylpentane	5.00	4.36	23	20.4	87	70 - 130
Vinyl chloride	5.00	5.26	13	13.5	105	70 - 130
m-Xylene & p-Xylene	10.0	8.02	43	34.8	80	70 - 130
o-Xylene	5.00	3.96	22	17.2	79	70 - 130

SURROGATE	PERCENT RECOVERY	LABORATORY CONTROL LIMITS (%)
4-Bromofluorobenzene	105	60 - 140

The 'Result' in ug/m3 is calculated using the following equation: Amount Found(before rounding)*(Molecular Weight/24.45)

The 'Reporting Limit' in ug/m3 is calculated using the followiug equation: (Reporting Limit(before rounding) * Dilution Factor) * (Molecular Weight/24.45)

Sample Receipt Documentation

No custody seal. Fed Ex 7963 4713 4626

TAL Knoxville
5815 Middlebrook Pike
Knoxville, TN 37921
phone 865-291-3000 fax 865-584-4315

A314DL04108

Canister Samples Chain of Custody Record

TestAmerica assumes no liability with respect to the collection and shipment of these samples.

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

Client Contact Information	**Project Manager: Gary Priscott**	1 of 1 COCs
Company: NYSDEC	**Phone: 607-775-2545**	
Address: Region 7 Kirkwood, NY	**Site Contact:**	
City/State/Zip	**TAL Contact:**	
Phone:		
FAX:		
Project Name: Former Ithaca Gun Factory	**Analysis Turnaround Time**	
Site/location: Ithaca, NY	Standard (Specify)	
PO # Site #C755019A 121941	Rush (Specify)	

Sample Identification	Sample Date(s)	Time Start	Time Stop	Canister Vacuum in Field, "Hg (Start)	Canister Vacuum in Field, 'Hg (Stop)	Flow Controller ID	Canister ID	TO-15	TO-14A	EPA 3C	EPA 25C	ASTM D-1946	Other (Please specify in notes section)	Sample Type	Indoor Air	Ambient Air	Soil Gas	Landfill Gas	Other (Please specify in notes section)
VP-6	7-31-13	2:16	3:16	-30	-10	K328	12829	x									X		
VP-7	8-1-13	7:56	8:56	-30	-10	K289	1340M	x									X		
VP-8	8-1-13	9:18	10:18	-28	-10	K378	6374	x									X		
VP-9	8-1-13	10:47	11:47	-30	-9	K269	04750	x									X		
VP-10	8-1-13	1:12	2:12	-30	-3.5	71	12647	x									X		
VP-XX Dup	8-1-13	—	—	-30	-17	K363	92051	x									X		

Sampled by :
Carl Barrett

Temperature (Fahrenheit)	Interior	Ambient	
Start			
Stop			

Pressure (inches of Hg)	Interior	Ambient	
Start			
Stop			

NO CUSTODY SEALS
RECEIVED AT AMBIENT TEMP
DFD 8-6-13
1 BOX FedEx # 7963 9713 4626
6 CANS / 5 FLOWS / 6 IQ1 / 2CC. / 1T
Ambient

Special Instructions/QC Requirements & Comments: Category B
email report to:
gwprisco@gw.dec.state.ny.us btoran@aztechtech.com tgiamichael@aztechtech.com wshafer@aztechtech.com FedEx 4744 8260 0239

Canisters Shipped by:	Date/Time:	Canisters Received by:	
Samples Relinquished by: Carl Barrett	Date/Time: 8-2-13 9:00	Received by:	
Relinquished by: FedEx Sys	Date/Time: 8-2-13 1900	Received by: RWM	8-2-13 10:55

Lab Use Only Shipper Name: Randy Wilk 8-5-13 500 Opened by: Condition:

TESTAMERICA KNOXVILLE SAMPLE RECEIPT/CONDITION UPON RECEIPT ANOMALY CHECKLIST

Lot Number: 193H 060408

Review Items	Yes	No	NA	If No, what was the problem?	Comments/Actions Taken
1. Do sample container labels match COC? (IDs, Dates, Times)	✓			☐ **1a** Do not match COC ☐ **1b** Incomplete information ☐ **1c** Marking smeared ☐ **1d** Label torn ☐ **1e** No label ☐ **1f** COC not received ☐ **1g** Other:	4A
2. Is the cooler temperature within limits? (> freezing temp. of water to 6 °C, VOST: 10°C)			✓	☐ **2a** Temp Blank = _____ ☐ **2b** Cooler Temp = _____ ☐ **2c** Cooling initiated for recently collected samples, ice present.	
3. Were samples received with correct chemical preservative (excluding Encore)?			✓	☐ **3a** Sample preservative =	
4. Were custody seals present/intact on cooler and/or containers?		✓		☑ **4a** Not present ☐ **4b** Not intact ☐ **4c** Other:	
5. Were all of the samples listed on the COC received?	✓			☐ **5a** Samples received-not on COC ☐ **5b** Samples not received-on COC	
6. Were all of the sample containers received intact?	✓			☐ **6a** Leaking ☐ **6b** Broken	
7. Were VOA samples received without headspace?	✓			☐ **7a** Headspace (VOA only)	
8. Were samples received in appropriate containers?	✓			☐ **8a** Improper container	
9. Did you check for residual chlorine, if necessary? (e.g. 1613B, 1668)	✓			☐ **9a** Could not be determined due to matrix interference	
10. Were samples received within holding time?	✓			☐ **10a** Holding time expired	
11. For rad samples, was sample activity info. provided?				☐ Incomplete information	
12. For 1613B water samples is pH<9?				If no, was pH adjusted to pH 7 - 9 with sulfuric acid? _____	
13. Are the shipping containers intact?	✓			☐ **13a** Leaking ☐ **13b** Other:	
14. Was COC relinquished? (Signed/Dated/Timed)	✓			☐ **14a** Not relinquished	
15. Are tests/parameters listed for each sample?	✓			☐ **15a** Incomplete information	
16. Is the matrix of the samples noted?	✓			☐ **15a** Incomplete information	
17. Is the date/time of sample collection noted?	✓			☐ **15a** Incomplete information	
18. Is the client and project name/# identified?	✓			☐ **15a** Incomplete information	
19. Was the sampler identified on the COC?	✓			☐ **19a** Other	

Quote #: 91464 PM Instructions: NA

Sample Receiving Associate: Mary Pearson Date: 8-6-13

QA026R24.doc, 060413

Test America - Knoxville ---- Air Canister Dilution Log

Lot Number: *H3H060408*

Initial Can Pressure							Subsequent Dilutions											
Analyst/Date	Can or Tedlar bag prep Time	Baro ID 152 Pbarr (in)	Sample ID	Can #	Pres. upon receipt (-in or + psig)	Adj. Initial Pres. (-in or + psig)	Analyst/Date	I / S	Baro ID___ Pbarr (in)	Initial Pres. Pi (in)	Final Pres. Pf (psig)	First InCan Final Pres. Pf (psig)	Second In-can Final Pres. Pf (psig)	Third InCan Final Pres. Pf (psig)	Serial Dilution Can #	Vol (mL)	Final Pres. Pf (psig)	Comments
8/6/13	1417	28.84	M1J68	12829	-9.9	4.2												10681
↓	↓	↓	M1J7D	1340N	-8.0	4.8												10664
			M1J7E	6374	-9.9	3.7												10673
			M1J7F	04750	-7.9	4.2												10676
			M1J7G	12647	-23													10712
↓	↓	↓	M1J7H	92051	-16.1	4.3												10658

ATTACHMENT D

GROUNDWATER LABORATORY ANALYTICAL REPORT - NOVEMBER 4 TO NOVEMBER 6, 2013

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: 480-49553-1
Client Project/Site: Former Ithaca Gun Factory #C755019A

For:
New York State D.E.C.
615 Erie Blvd., West
Syracuse, New York 13204

Attn: Gary Priscott

Joseph V. Giacomazza

Authorized for release by:
11/21/2013 12:12:38 PM
Joe Giacomazza, Project Management Assistant II
joe.giacomazza@testamericainc.com

Designee for

Judy Stone, Senior Project Manager
(610)337-0992
judy.stone@testamericainc.com

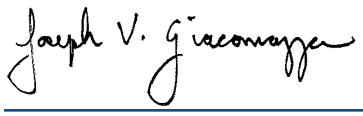
LINKS

Review your project results through TotalAccess

Have a Question? Ask The Expert

Visit us at: www.testamericainc.com

I certify that this data package is in compliance with the terms and conditions of the contract, both technically and for completeness, for other than the conditions detailed within the body of this report. Release of the data contained in this sample data package and in the electronic data deliverable has been authorized by the Laboratory Manager or his/her designee, as verified by the following signature.



Joe Giacomazza
Project Management Assistant II
11/21/2013 12:12:38 PM

Table of Contents

Qualifiers

GC/MS VOA

Qualifier	Qualifier Description
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.
F	MS/MSD Recovery and/or RPD exceeds the control limits

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
CNF	Contains no Free Liquid
DER	Duplicate error ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision level concentration
MDA	Minimum detectable activity
EDL	Estimated Detection Limit
MDC	Minimum detectable concentration
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
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: 480-49553-1

Laboratory: TestAmerica Buffalo

Narrative

Job Narrative
480-49553-1

Receipt
The samples were received on 11/7/2013 2:00 AM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperature of the cooler at receipt was 2.2º C.

GC/MS VOA
Method(s) 8260C: The large number of analytes included in the continuing calibration verification (CCV) in batch 151859 gives a high probability that one or more analytes will be outside acceptance criteria. As indicated in the reference method, analysis may proceed as long as no more than 20% of the analytes are outside the method-defined %D criteria.

Method(s) 8260C: The matrix spike duplicate (MSD) recoveries for batch 151859 were outside control limits. The associated laboratory control sample (LCS) recovery met acceptance criteria.

No other analytical or quality issues were noted.

Detection Summary

Client: New York State D.E.C.
Project/Site: Former Ithaca Gun Factory #C755019A

TestAmerica Job ID: 480-49553-1

Client Sample ID: MW-6 — Lab Sample ID: 480-49553-1

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Carbon disulfide	0.30	J	1.0	0.19	ug/L	1		8260C	Total/NA

Client Sample ID: MW-7 — Lab Sample ID: 480-49553-2

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chloroform	1.8		1.0	0.34	ug/L	1		8260C	Total/NA
Trichloroethene	2.4		1.0	0.46	ug/L	1		8260C	Total/NA

Client Sample ID: AZMW-7 — Lab Sample ID: 480-49553-3

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Trichloroethene	0.82	J	1.0	0.46	ug/L	1		8260C	Total/NA

Client Sample ID: AZMW-6 — Lab Sample ID: 480-49553-4

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chloroform	2.8		1.0	0.34	ug/L	1		8260C	Total/NA
Trichloroethene	4.1		1.0	0.46	ug/L	1		8260C	Total/NA

Client Sample ID: AZMW-3 — Lab Sample ID: 480-49553-5

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chloroform	3.6		1.0	0.34	ug/L	1		8260C	Total/NA
Trichloroethene	2.6		1.0	0.46	ug/L	1		8260C	Total/NA

Client Sample ID: AZMW-8 — Lab Sample ID: 480-49553-6

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chloroform	4.3		1.0	0.34	ug/L	1		8260C	Total/NA

Client Sample ID: AZMW-4 — Lab Sample ID: 480-49553-7

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chloroform	0.98	J	1.0	0.34	ug/L	1		8260C	Total/NA
Trichloroethene	1.8		1.0	0.46	ug/L	1		8260C	Total/NA

Client Sample ID: AZMW-2 — Lab Sample ID: 480-49553-8

No Detections.

Client Sample ID: AZMW-5 — Lab Sample ID: 480-49553-9

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chloroform	4.1		1.0	0.34	ug/L	1		8260C	Total/NA

Client Sample ID: AZMW-1 — Lab Sample ID: 480-49553-10

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chloroform	4.8		1.0	0.34	ug/L	1		8260C	Total/NA

This Detection Summary does not include radiochemical test results.

Detection Summary

Client: New York State D.E.C.
Project/Site: Former Ithaca Gun Factory #C755019A

TestAmerica Job ID: 480-49553-1

Client Sample ID: MW-X DUP1 — Lab Sample ID: 480-49553-11

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chloroform	0.90	J	1.0	0.34	ug/L	1		8260C	Total/NA
Trichloroethene	1.7		1.0	0.46	ug/L	1		8260C	Total/NA

Client Sample ID: MW-X2 DUP2 — Lab Sample ID: 480-49553-12

No Detections.

Client Sample ID: Trip Blank — Lab Sample ID: 480-49553-13

No Detections.

This Detection Summary does not include radiochemical test results.

Client: New York State D.E.C.
Project/Site: Former Ithaca Gun Factory #C755019A

TestAmerica Job ID: 480-49553-1

Client Sample ID: MW-6
Date Collected: 11/04/13 12:55
Date Received: 11/07/13 02:00

Lab Sample ID: 480-49553-1
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		1.0	0.82	ug/L			11/14/13 02:55	1
1,1,2,2-Tetrachloroethane	ND		1.0	0.21	ug/L			11/14/13 02:55	1
1,1,2-Trichloroethane	ND		1.0	0.23	ug/L			11/14/13 02:55	1
1,1,2-Trichloro-1,2,2-trifluoroethane	ND		1.0	0.31	ug/L			11/14/13 02:55	1
1,1-Dichloroethane	ND		1.0	0.38	ug/L			11/14/13 02:55	1
1,1-Dichloroethene	ND		1.0	0.29	ug/L			11/14/13 02:55	1
1,2,4-Trichlorobenzene	ND		1.0	0.41	ug/L			11/14/13 02:55	1
1,2-Dibromo-3-Chloropropane	ND		1.0	0.39	ug/L			11/14/13 02:55	1
1,2-Dibromoethane	ND		1.0	0.73	ug/L			11/14/13 02:55	1
1,2-Dichlorobenzene	ND		1.0	0.79	ug/L			11/14/13 02:55	1
1,2-Dichloroethane	ND		1.0	0.21	ug/L			11/14/13 02:55	1
1,2-Dichloropropane	ND		1.0	0.72	ug/L			11/14/13 02:55	1
1,3-Dichlorobenzene	ND		1.0	0.78	ug/L			11/14/13 02:55	1
1,4-Dichlorobenzene	ND		1.0	0.84	ug/L			11/14/13 02:55	1
2-Hexanone	ND		5.0	1.2	ug/L			11/14/13 02:55	1
2-Butanone (MEK)	ND		10	1.3	ug/L			11/14/13 02:55	1
4-Methyl-2-pentanone (MIBK)	ND		5.0	2.1	ug/L			11/14/13 02:55	1
Acetone	ND		10	3.0	ug/L			11/14/13 02:55	1
Benzene	ND		1.0	0.41	ug/L			11/14/13 02:55	1
Bromodichloromethane	ND		1.0	0.39	ug/L			11/14/13 02:55	1
Bromoform	ND		1.0	0.26	ug/L			11/14/13 02:55	1
Bromomethane	ND		1.0	0.69	ug/L			11/14/13 02:55	1
Carbon disulfide	**0.30**	**J**	1.0	0.19	ug/L			11/14/13 02:55	1
Carbon tetrachloride	ND		1.0	0.27	ug/L			11/14/13 02:55	1
Chlorobenzene	ND		1.0	0.75	ug/L			11/14/13 02:55	1
Dibromochloromethane	ND		1.0	0.32	ug/L			11/14/13 02:55	1
Chloroethane	ND		1.0	0.32	ug/L			11/14/13 02:55	1
Chloroform	ND		1.0	0.34	ug/L			11/14/13 02:55	1
Chloromethane	ND		1.0	0.35	ug/L			11/14/13 02:55	1
cis-1,2-Dichloroethene	ND		1.0	0.81	ug/L			11/14/13 02:55	1
cis-1,3-Dichloropropene	ND		1.0	0.36	ug/L			11/14/13 02:55	1
Cyclohexane	ND		1.0	0.18	ug/L			11/14/13 02:55	1
Dichlorodifluoromethane	ND		1.0	0.68	ug/L			11/14/13 02:55	1
Ethylbenzene	ND		1.0	0.74	ug/L			11/14/13 02:55	1
Isopropylbenzene	ND		1.0	0.79	ug/L			11/14/13 02:55	1
Methyl acetate	ND		1.0	0.50	ug/L			11/14/13 02:55	1
Methyl tert-butyl ether	ND		1.0	0.16	ug/L			11/14/13 02:55	1
Methylcyclohexane	ND		1.0	0.16	ug/L			11/14/13 02:55	1
Methylene Chloride	ND		1.0	0.44	ug/L			11/14/13 02:55	1
Styrene	ND		1.0	0.73	ug/L			11/14/13 02:55	1
Tetrachloroethene	ND		1.0	0.36	ug/L			11/14/13 02:55	1
Toluene	ND		1.0	0.51	ug/L			11/14/13 02:55	1
trans-1,2-Dichloroethene	ND		1.0	0.90	ug/L			11/14/13 02:55	1
trans-1,3-Dichloropropene	ND		1.0	0.37	ug/L			11/14/13 02:55	1
Trichloroethene	ND		1.0	0.46	ug/L			11/14/13 02:55	1
Trichlorofluoromethane	ND		1.0	0.88	ug/L			11/14/13 02:55	1
Vinyl chloride	ND		1.0	0.90	ug/L			11/14/13 02:55	1
Xylenes, Total	ND		2.0	0.66	ug/L			11/14/13 02:55	1

Client: New York State D.E.C.
Project/Site: Former Ithaca Gun Factory #C755019A

TestAmerica Job ID: 480-49553-1

Client Sample ID: MW-6

Lab Sample ID: 480-49553-1

Date Collected: 11/04/13 12:55

Matrix: Water

Date Received: 11/07/13 02:00

Tentatively Identified Compound	Est. Result	Qualifier	Unit	D	RT	CAS No.	Prepared	Analyzed	Dil Fac
Tentatively Identified Compound	None		ug/L					11/14/13 02:55	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	97		66 - 137		11/14/13 02:55	1
Toluene-d8 (Surr)	96		71 - 126		11/14/13 02:55	1
4-Bromofluorobenzene (Surr)	98		73 - 120		11/14/13 02:55	1

Client Sample ID: MW-7

Lab Sample ID: 480-49553-2

Date Collected: 11/04/13 15:00

Matrix: Water

Date Received: 11/07/13 02:00

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	ND		1.0	0.82	ug/L			11/14/13 03:18	1
1,1,2,2-Tetrachloroethane	ND		1.0	0.21	ug/L			11/14/13 03:18	1
1,1,2-Trichloroethane	ND		1.0	0.23	ug/L			11/14/13 03:18	1
1,1,2-Trichloro-1,2,2-trifluoroethane	ND		1.0	0.31	ug/L			11/14/13 03:18	1
1,1-Dichloroethane	ND		1.0	0.38	ug/L			11/14/13 03:18	1
1,1-Dichloroethene	ND		1.0	0.29	ug/L			11/14/13 03:18	1
1,2,4-Trichlorobenzene	ND		1.0	0.41	ug/L			11/14/13 03:18	1
1,2-Dibromo-3-Chloropropane	ND		1.0	0.39	ug/L			11/14/13 03:18	1
1,2-Dibromoethane	ND		1.0	0.73	ug/L			11/14/13 03:18	1
1,2-Dichlorobenzene	ND		1.0	0.79	ug/L			11/14/13 03:18	1
1,2-Dichloroethane	ND		1.0	0.21	ug/L			11/14/13 03:18	1
1,2-Dichloropropane	ND		1.0	0.72	ug/L			11/14/13 03:18	1
1,3-Dichlorobenzene	ND		1.0	0.78	ug/L			11/14/13 03:18	1
1,4-Dichlorobenzene	ND		1.0	0.84	ug/L			11/14/13 03:18	1
2-Hexanone	ND		5.0	1.2	ug/L			11/14/13 03:18	1
2-Butanone (MEK)	ND		10	1.3	ug/L			11/14/13 03:18	1
4-Methyl-2-pentanone (MIBK)	ND		5.0	2.1	ug/L			11/14/13 03:18	1
Acetone	ND		10	3.0	ug/L			11/14/13 03:18	1
Benzene	ND		1.0	0.41	ug/L			11/14/13 03:18	1
Bromodichloromethane	ND		1.0	0.39	ug/L			11/14/13 03:18	1
Bromoform	ND		1.0	0.26	ug/L			11/14/13 03:18	1
Bromomethane	ND		1.0	0.69	ug/L			11/14/13 03:18	1
Carbon disulfide	ND		1.0	0.19	ug/L			11/14/13 03:18	1
Carbon tetrachloride	ND		1.0	0.27	ug/L			11/14/13 03:18	1
Chlorobenzene	ND		1.0	0.75	ug/L			11/14/13 03:18	1
Dibromochloromethane	ND		1.0	0.32	ug/L			11/14/13 03:18	1
Chloroethane	ND		1.0	0.32	ug/L			11/14/13 03:18	1
Chloroform	**1.8**		1.0	0.34	ug/L			11/14/13 03:18	1
Chloromethane	ND		1.0	0.35	ug/L			11/14/13 03:18	1
cis-1,2-Dichloroethene	ND		1.0	0.81	ug/L			11/14/13 03:18	1
cis-1,3-Dichloropropene	ND		1.0	0.36	ug/L			11/14/13 03:18	1
Cyclohexane	ND		1.0	0.18	ug/L			11/14/13 03:18	1
Dichlorodifluoromethane	ND		1.0	0.68	ug/L			11/14/13 03:18	1
Ethylbenzene	ND		1.0	0.74	ug/L			11/14/13 03:18	1
Isopropylbenzene	ND		1.0	0.79	ug/L			11/14/13 03:18	1
Methyl acetate	ND		1.0	0.50	ug/L			11/14/13 03:18	1
Methyl tert-butyl ether	ND		1.0	0.16	ug/L			11/14/13 03:18	1

Client Sample ID: MW-7

Lab Sample ID: 480-49553-2

Date Collected: 11/04/13 15:00

Matrix: Water

Date Received: 11/07/13 02:00

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Methylcyclohexane	ND		1.0	0.16	ug/L			11/14/13 03:18	1
Methylene Chloride	ND		1.0	0.44	ug/L			11/14/13 03:18	1
Styrene	ND		1.0	0.73	ug/L			11/14/13 03:18	1
Tetrachloroethene	ND		1.0	0.36	ug/L			11/14/13 03:18	1
Toluene	ND		1.0	0.51	ug/L			11/14/13 03:18	1
trans-1,2-Dichloroethene	ND		1.0	0.90	ug/L			11/14/13 03:18	1
trans-1,3-Dichloropropene	ND		1.0	0.37	ug/L			11/14/13 03:18	1
Trichloroethene	**2.4**		1.0	0.46	ug/L			11/14/13 03:18	1
Trichlorofluoromethane	ND		1.0	0.88	ug/L			11/14/13 03:18	1
Vinyl chloride	ND		1.0	0.90	ug/L			11/14/13 03:18	1
Xylenes, Total	ND		2.0	0.66	ug/L			11/14/13 03:18	1

Tentatively Identified Compound	*Est. Result*	*Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
Tentatively Identified Compound	*None*		*ug/L*					*11/14/13 03:18*	*1*

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*98*		*66 - 137*		*11/14/13 03:18*	*1*
Toluene-d8 (Surr)	*96*		*71 - 126*		*11/14/13 03:18*	*1*
4-Bromofluorobenzene (Surr)	*97*		*73 - 120*		*11/14/13 03:18*	*1*

Client Sample ID: AZMW-7

Lab Sample ID: 480-49553-3

Date Collected: 11/05/13 11:30

Matrix: Water

Date Received: 11/07/13 02:00

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	ND		1.0	0.82	ug/L			11/14/13 03:42	1
1,1,2,2-Tetrachloroethane	ND		1.0	0.21	ug/L			11/14/13 03:42	1
1,1,2-Trichloroethane	ND		1.0	0.23	ug/L			11/14/13 03:42	1
1,1,2-Trichloro-1,2,2-trifluoroethane	ND		1.0	0.31	ug/L			11/14/13 03:42	1
1,1-Dichloroethane	ND		1.0	0.38	ug/L			11/14/13 03:42	1
1,1-Dichloroethene	ND		1.0	0.29	ug/L			11/14/13 03:42	1
1,2,4-Trichlorobenzene	ND		1.0	0.41	ug/L			11/14/13 03:42	1
1,2-Dibromo-3-Chloropropane	ND		1.0	0.39	ug/L			11/14/13 03:42	1
1,2-Dibromoethane	ND		1.0	0.73	ug/L			11/14/13 03:42	1
1,2-Dichlorobenzene	ND		1.0	0.79	ug/L			11/14/13 03:42	1
1,2-Dichloroethane	ND		1.0	0.21	ug/L			11/14/13 03:42	1
1,2-Dichloropropane	ND		1.0	0.72	ug/L			11/14/13 03:42	1
1,3-Dichlorobenzene	ND		1.0	0.78	ug/L			11/14/13 03:42	1
1,4-Dichlorobenzene	ND		1.0	0.84	ug/L			11/14/13 03:42	1
2-Hexanone	ND		5.0	1.2	ug/L			11/14/13 03:42	1
2-Butanone (MEK)	ND		10	1.3	ug/L			11/14/13 03:42	1
4-Methyl-2-pentanone (MIBK)	ND		5.0	2.1	ug/L			11/14/13 03:42	1
Acetone	ND		10	3.0	ug/L			11/14/13 03:42	1
Benzene	ND		1.0	0.41	ug/L			11/14/13 03:42	1
Bromodichloromethane	ND		1.0	0.39	ug/L			11/14/13 03:42	1
Bromoform	ND		1.0	0.26	ug/L			11/14/13 03:42	1
Bromomethane	ND		1.0	0.69	ug/L			11/14/13 03:42	1
Carbon disulfide	ND		1.0	0.19	ug/L			11/14/13 03:42	1
Carbon tetrachloride	ND		1.0	0.27	ug/L			11/14/13 03:42	1

Client: New York State D.E.C.
Project/Site: Former Ithaca Gun Factory #C755019A

TestAmerica Job ID: 480-49553-1

Client Sample ID: AZMW-7

Lab Sample ID: 480-49553-3

Date Collected: 11/05/13 11:30

Matrix: Water

Date Received: 11/07/13 02:00

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chlorobenzene	ND		1.0	0.75	ug/L			11/14/13 03:42	1
Dibromochloromethane	ND		1.0	0.32	ug/L			11/14/13 03:42	1
Chloroethane	ND		1.0	0.32	ug/L			11/14/13 03:42	1
Chloroform	ND		1.0	0.34	ug/L			11/14/13 03:42	1
Chloromethane	ND		1.0	0.35	ug/L			11/14/13 03:42	1
cis-1,2-Dichloroethene	ND		1.0	0.81	ug/L			11/14/13 03:42	1
cis-1,3-Dichloropropene	ND		1.0	0.36	ug/L			11/14/13 03:42	1
Cyclohexane	ND		1.0	0.18	ug/L			11/14/13 03:42	1
Dichlorodifluoromethane	ND		1.0	0.68	ug/L			11/14/13 03:42	1
Ethylbenzene	ND		1.0	0.74	ug/L			11/14/13 03:42	1
Isopropylbenzene	ND		1.0	0.79	ug/L			11/14/13 03:42	1
Methyl acetate	ND		1.0	0.50	ug/L			11/14/13 03:42	1
Methyl tert-butyl ether	ND		1.0	0.16	ug/L			11/14/13 03:42	1
Methylcyclohexane	ND		1.0	0.16	ug/L			11/14/13 03:42	1
Methylene Chloride	ND		1.0	0.44	ug/L			11/14/13 03:42	1
Styrene	ND		1.0	0.73	ug/L			11/14/13 03:42	1
Tetrachloroethene	ND		1.0	0.36	ug/L			11/14/13 03:42	1
Toluene	ND		1.0	0.51	ug/L			11/14/13 03:42	1
trans-1,2-Dichloroethene	ND		1.0	0.90	ug/L			11/14/13 03:42	1
trans-1,3-Dichloropropene	ND		1.0	0.37	ug/L			11/14/13 03:42	1
Trichloroethene	**0.82**	**J**	1.0	0.46	ug/L			11/14/13 03:42	1
Trichlorofluoromethane	ND		1.0	0.88	ug/L			11/14/13 03:42	1
Vinyl chloride	ND		1.0	0.90	ug/L			11/14/13 03:42	1
Xylenes, Total	ND		2.0	0.66	ug/L			11/14/13 03:42	1

Tentatively Identified Compound	*Est. Result*	*Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
Tentatively Identified Compound	*None*		*ug/L*					*11/14/13 03:42*	*1*

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*95*		*66 - 137*		*11/14/13 03:42*	*1*
Toluene-d8 (Surr)	*94*		*71 - 126*		*11/14/13 03:42*	*1*
4-Bromofluorobenzene (Surr)	*99*		*73 - 120*		*11/14/13 03:42*	*1*

Client Sample ID: AZMW-6

Lab Sample ID: 480-49553-4

Date Collected: 11/05/13 12:50

Matrix: Water

Date Received: 11/07/13 02:00

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	ND		1.0	0.82	ug/L			11/14/13 04:07	1
1,1,2,2-Tetrachloroethane	ND		1.0	0.21	ug/L			11/14/13 04:07	1
1,1,2-Trichloroethane	ND		1.0	0.23	ug/L			11/14/13 04:07	1
1,1,2-Trichloro-1,2,2-trifluoroethane	ND		1.0	0.31	ug/L			11/14/13 04:07	1
1,1-Dichloroethane	ND		1.0	0.38	ug/L			11/14/13 04:07	1
1,1-Dichloroethene	ND		1.0	0.29	ug/L			11/14/13 04:07	1
1,2,4-Trichlorobenzene	ND		1.0	0.41	ug/L			11/14/13 04:07	1
1,2-Dibromo-3-Chloropropane	ND		1.0	0.39	ug/L			11/14/13 04:07	1
1,2-Dibromoethane	ND		1.0	0.73	ug/L			11/14/13 04:07	1
1,2-Dichlorobenzene	ND		1.0	0.79	ug/L			11/14/13 04:07	1
1,2-Dichloroethane	ND		1.0	0.21	ug/L			11/14/13 04:07	1

Client: New York State D.E.C.
Project/Site: Former Ithaca Gun Factory #C755019A

TestAmerica Job ID: 480-49553-1

Client Sample ID: AZMW-6
Date Collected: 11/05/13 12:50
Date Received: 11/07/13 02:00

Lab Sample ID: 480-49553-4
Matrix: Water

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2-Dichloropropane	ND		1.0	0.72	ug/L			11/14/13 04:07	1
1,3-Dichlorobenzene	ND		1.0	0.78	ug/L			11/14/13 04:07	1
1,4-Dichlorobenzene	ND		1.0	0.84	ug/L			11/14/13 04:07	1
2-Hexanone	ND		5.0	1.2	ug/L			11/14/13 04:07	1
2-Butanone (MEK)	ND		10	1.3	ug/L			11/14/13 04:07	1
4-Methyl-2-pentanone (MIBK)	ND		5.0	2.1	ug/L			11/14/13 04:07	1
Acetone	ND		10	3.0	ug/L			11/14/13 04:07	1
Benzene	ND		1.0	0.41	ug/L			11/14/13 04:07	1
Bromodichloromethane	ND		1.0	0.39	ug/L			11/14/13 04:07	1
Bromoform	ND		1.0	0.26	ug/L			11/14/13 04:07	1
Bromomethane	ND		1.0	0.69	ug/L			11/14/13 04:07	1
Carbon disulfide	ND		1.0	0.19	ug/L			11/14/13 04:07	1
Carbon tetrachloride	ND		1.0	0.27	ug/L			11/14/13 04:07	1
Chlorobenzene	ND		1.0	0.75	ug/L			11/14/13 04:07	1
Dibromochloromethane	ND		1.0	0.32	ug/L			11/14/13 04:07	1
Chloroethane	ND		1.0	0.32	ug/L			11/14/13 04:07	1
Chloroform	**2.8**		1.0	0.34	ug/L			11/14/13 04:07	1
Chloromethane	ND		1.0	0.35	ug/L			11/14/13 04:07	1
cis-1,2-Dichloroethene	ND		1.0	0.81	ug/L			11/14/13 04:07	1
cis-1,3-Dichloropropene	ND		1.0	0.36	ug/L			11/14/13 04:07	1
Cyclohexane	ND		1.0	0.18	ug/L			11/14/13 04:07	1
Dichlorodifluoromethane	ND		1.0	0.68	ug/L			11/14/13 04:07	1
Ethylbenzene	ND		1.0	0.74	ug/L			11/14/13 04:07	1
Isopropylbenzene	ND		1.0	0.79	ug/L			11/14/13 04:07	1
Methyl acetate	ND		1.0	0.50	ug/L			11/14/13 04:07	1
Methyl tert-butyl ether	ND		1.0	0.16	ug/L			11/14/13 04:07	1
Methylcyclohexane	ND		1.0	0.16	ug/L			11/14/13 04:07	1
Methylene Chloride	ND		1.0	0.44	ug/L			11/14/13 04:07	1
Styrene	ND		1.0	0.73	ug/L			11/14/13 04:07	1
Tetrachloroethene	ND		1.0	0.36	ug/L			11/14/13 04:07	1
Toluene	ND		1.0	0.51	ug/L			11/14/13 04:07	1
trans-1,2-Dichloroethene	ND		1.0	0.90	ug/L			11/14/13 04:07	1
trans-1,3-Dichloropropene	ND		1.0	0.37	ug/L			11/14/13 04:07	1
Trichloroethene	**4.1**		1.0	0.46	ug/L			11/14/13 04:07	1
Trichlorofluoromethane	ND		1.0	0.88	ug/L			11/14/13 04:07	1
Vinyl chloride	ND		1.0	0.90	ug/L			11/14/13 04:07	1
Xylenes, Total	ND		2.0	0.66	ug/L			11/14/13 04:07	1

Tentatively Identified Compound	*Est. Result*	*Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
Tentatively Identified Compound	*None*		*ug/L*					*11/14/13 04:07*	*1*

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*97*		*66 - 137*		*11/14/13 04:07*	*1*
Toluene-d8 (Surr)	*95*		*71 - 126*		*11/14/13 04:07*	*1*
4-Bromofluorobenzene (Surr)	*96*		*73 - 120*		*11/14/13 04:07*	*1*

Client: New York State D.E.C.
Project/Site: Former Ithaca Gun Factory #C755019A

TestAmerica Job ID: 480-49553-1

Client Sample ID: AZMW-3
Date Collected: 11/05/13 14:40
Date Received: 11/07/13 02:00

Lab Sample ID: 480-49553-5
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		1.0	0.82	ug/L			11/14/13 04:31	1
1,1,2,2-Tetrachloroethane	ND		1.0	0.21	ug/L			11/14/13 04:31	1
1,1,2-Trichloroethane	ND		1.0	0.23	ug/L			11/14/13 04:31	1
1,1,2-Trichloro-1,2,2-trifluoroethane	ND		1.0	0.31	ug/L			11/14/13 04:31	1
1,1-Dichloroethane	ND		1.0	0.38	ug/L			11/14/13 04:31	1
1,1-Dichloroethene	ND		1.0	0.29	ug/L			11/14/13 04:31	1
1,2,4-Trichlorobenzene	ND		1.0	0.41	ug/L			11/14/13 04:31	1
1,2-Dibromo-3-Chloropropane	ND		1.0	0.39	ug/L			11/14/13 04:31	1
1,2-Dibromoethane	ND		1.0	0.73	ug/L			11/14/13 04:31	1
1,2-Dichlorobenzene	ND		1.0	0.79	ug/L			11/14/13 04:31	1
1,2-Dichloroethane	ND		1.0	0.21	ug/L			11/14/13 04:31	1
1,2-Dichloropropane	ND		1.0	0.72	ug/L			11/14/13 04:31	1
1,3-Dichlorobenzene	ND		1.0	0.78	ug/L			11/14/13 04:31	1
1,4-Dichlorobenzene	ND		1.0	0.84	ug/L			11/14/13 04:31	1
2-Hexanone	ND		5.0	1.2	ug/L			11/14/13 04:31	1
2-Butanone (MEK)	ND		10	1.3	ug/L			11/14/13 04:31	1
4-Methyl-2-pentanone (MIBK)	ND		5.0	2.1	ug/L			11/14/13 04:31	1
Acetone	ND		10	3.0	ug/L			11/14/13 04:31	1
Benzene	ND		1.0	0.41	ug/L			11/14/13 04:31	1
Bromodichloromethane	ND		1.0	0.39	ug/L			11/14/13 04:31	1
Bromoform	ND		1.0	0.26	ug/L			11/14/13 04:31	1
Bromomethane	ND		1.0	0.69	ug/L			11/14/13 04:31	1
Carbon disulfide	ND		1.0	0.19	ug/L			11/14/13 04:31	1
Carbon tetrachloride	ND		1.0	0.27	ug/L			11/14/13 04:31	1
Chlorobenzene	ND		1.0	0.75	ug/L			11/14/13 04:31	1
Dibromochloromethane	ND		1.0	0.32	ug/L			11/14/13 04:31	1
Chloroethane	ND		1.0	0.32	ug/L			11/14/13 04:31	1
Chloroform	**3.6**		1.0	0.34	ug/L			11/14/13 04:31	1
Chloromethane	ND		1.0	0.35	ug/L			11/14/13 04:31	1
cis-1,2-Dichloroethene	ND		1.0	0.81	ug/L			11/14/13 04:31	1
cis-1,3-Dichloropropene	ND		1.0	0.36	ug/L			11/14/13 04:31	1
Cyclohexane	ND		1.0	0.18	ug/L			11/14/13 04:31	1
Dichlorodifluoromethane	ND		1.0	0.68	ug/L			11/14/13 04:31	1
Ethylbenzene	ND		1.0	0.74	ug/L			11/14/13 04:31	1
Isopropylbenzene	ND		1.0	0.79	ug/L			11/14/13 04:31	1
Methyl acetate	ND		1.0	0.50	ug/L			11/14/13 04:31	1
Methyl tert-butyl ether	ND		1.0	0.16	ug/L			11/14/13 04:31	1
Methylcyclohexane	ND		1.0	0.16	ug/L			11/14/13 04:31	1
Methylene Chloride	ND		1.0	0.44	ug/L			11/14/13 04:31	1
Styrene	ND		1.0	0.73	ug/L			11/14/13 04:31	1
Tetrachloroethene	ND		1.0	0.36	ug/L			11/14/13 04:31	1
Toluene	ND		1.0	0.51	ug/L			11/14/13 04:31	1
trans-1,2-Dichloroethene	ND		1.0	0.90	ug/L			11/14/13 04:31	1
trans-1,3-Dichloropropene	ND		1.0	0.37	ug/L			11/14/13 04:31	1
Trichloroethene	**2.6**		1.0	0.46	ug/L			11/14/13 04:31	1
Trichlorofluoromethane	ND		1.0	0.88	ug/L			11/14/13 04:31	1
Vinyl chloride	ND		1.0	0.90	ug/L			11/14/13 04:31	1
Xylenes, Total	ND		2.0	0.66	ug/L			11/14/13 04:31	1

Client Sample ID: AZMW-3

Lab Sample ID: 480-49553-5

Date Collected: 11/05/13 14:40

Matrix: Water

Date Received: 11/07/13 02:00

Tentatively Identified Compound	Est. Result	Qualifier	Unit	D	RT	CAS No.	Prepared	Analyzed	Dil Fac
Tentatively Identified Compound	None		ug/L					11/14/13 04:31	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	96		66 - 137		11/14/13 04:31	1
Toluene-d8 (Surr)	96		71 - 126		11/14/13 04:31	1
4-Bromofluorobenzene (Surr)	98		73 - 120		11/14/13 04:31	1

Client Sample ID: AZMW-8

Lab Sample ID: 480-49553-6

Date Collected: 11/05/13 10:25

Matrix: Water

Date Received: 11/07/13 02:00

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	ND		1.0	0.82	ug/L			11/14/13 04:55	1
1,1,2,2-Tetrachloroethane	ND		1.0	0.21	ug/L			11/14/13 04:55	1
1,1,2-Trichloroethane	ND		1.0	0.23	ug/L			11/14/13 04:55	1
1,1,2-Trichloro-1,2,2-trifluoroethane	ND		1.0	0.31	ug/L			11/14/13 04:55	1
1,1-Dichloroethane	ND		1.0	0.38	ug/L			11/14/13 04:55	1
1,1-Dichloroethene	ND		1.0	0.29	ug/L			11/14/13 04:55	1
1,2,4-Trichlorobenzene	ND		1.0	0.41	ug/L			11/14/13 04:55	1
1,2-Dibromo-3-Chloropropane	ND		1.0	0.39	ug/L			11/14/13 04:55	1
1,2-Dibromoethane	ND		1.0	0.73	ug/L			11/14/13 04:55	1
1,2-Dichlorobenzene	ND		1.0	0.79	ug/L			11/14/13 04:55	1
1,2-Dichloroethane	ND		1.0	0.21	ug/L			11/14/13 04:55	1
1,2-Dichloropropane	ND		1.0	0.72	ug/L			11/14/13 04:55	1
1,3-Dichlorobenzene	ND		1.0	0.78	ug/L			11/14/13 04:55	1
1,4-Dichlorobenzene	ND		1.0	0.84	ug/L			11/14/13 04:55	1
2-Hexanone	ND		5.0	1.2	ug/L			11/14/13 04:55	1
2-Butanone (MEK)	ND		10	1.3	ug/L			11/14/13 04:55	1
4-Methyl-2-pentanone (MIBK)	ND		5.0	2.1	ug/L			11/14/13 04:55	1
Acetone	ND		10	3.0	ug/L			11/14/13 04:55	1
Benzene	ND		1.0	0.41	ug/L			11/14/13 04:55	1
Bromodichloromethane	ND		1.0	0.39	ug/L			11/14/13 04:55	1
Bromoform	ND		1.0	0.26	ug/L			11/14/13 04:55	1
Bromomethane	ND		1.0	0.69	ug/L			11/14/13 04:55	1
Carbon disulfide	ND		1.0	0.19	ug/L			11/14/13 04:55	1
Carbon tetrachloride	ND		1.0	0.27	ug/L			11/14/13 04:55	1
Chlorobenzene	ND		1.0	0.75	ug/L			11/14/13 04:55	1
Dibromochloromethane	ND		1.0	0.32	ug/L			11/14/13 04:55	1
Chloroethane	ND		1.0	0.32	ug/L			11/14/13 04:55	1
Chloroform	**4.3**		1.0	0.34	ug/L			11/14/13 04:55	1
Chloromethane	ND		1.0	0.35	ug/L			11/14/13 04:55	1
cis-1,2-Dichloroethene	ND		1.0	0.81	ug/L			11/14/13 04:55	1
cis-1,3-Dichloropropene	ND		1.0	0.36	ug/L			11/14/13 04:55	1
Cyclohexane	ND		1.0	0.18	ug/L			11/14/13 04:55	1
Dichlorodifluoromethane	ND		1.0	0.68	ug/L			11/14/13 04:55	1
Ethylbenzene	ND		1.0	0.74	ug/L			11/14/13 04:55	1
Isopropylbenzene	ND		1.0	0.79	ug/L			11/14/13 04:55	1
Methyl acetate	ND		1.0	0.50	ug/L			11/14/13 04:55	1
Methyl tert-butyl ether	ND		1.0	0.16	ug/L			11/14/13 04:55	1

Client Sample ID: AZMW-8

Lab Sample ID: 480-49553-6

Date Collected: 11/05/13 10:25

Matrix: Water

Date Received: 11/07/13 02:00

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Methylcyclohexane	ND		1.0	0.16	ug/L			11/14/13 04:55	1
Methylene Chloride	ND		1.0	0.44	ug/L			11/14/13 04:55	1
Styrene	ND		1.0	0.73	ug/L			11/14/13 04:55	1
Tetrachloroethene	ND		1.0	0.36	ug/L			11/14/13 04:55	1
Toluene	ND		1.0	0.51	ug/L			11/14/13 04:55	1
trans-1,2-Dichloroethene	ND		1.0	0.90	ug/L			11/14/13 04:55	1
trans-1,3-Dichloropropene	ND		1.0	0.37	ug/L			11/14/13 04:55	1
Trichloroethene	ND		1.0	0.46	ug/L			11/14/13 04:55	1
Trichlorofluoromethane	ND		1.0	0.88	ug/L			11/14/13 04:55	1
Vinyl chloride	ND		1.0	0.90	ug/L			11/14/13 04:55	1
Xylenes, Total	ND		2.0	0.66	ug/L			11/14/13 04:55	1

Tentatively Identified Compound	*Est. Result*	*Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
Tentatively Identified Compound	*None*		*ug/L*					*11/14/13 04:55*	*1*

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*98*		*66 - 137*		*11/14/13 04:55*	*1*
Toluene-d8 (Surr)	*96*		*71 - 126*		*11/14/13 04:55*	*1*
4-Bromofluorobenzene (Surr)	*96*		*73 - 120*		*11/14/13 04:55*	*1*

Client Sample ID: AZMW-4

Lab Sample ID: 480-49553-7

Date Collected: 11/05/13 11:30

Matrix: Water

Date Received: 11/07/13 02:00

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	ND		1.0	0.82	ug/L			11/14/13 05:19	1
1,1,2,2-Tetrachloroethane	ND		1.0	0.21	ug/L			11/14/13 05:19	1
1,1,2-Trichloroethane	ND		1.0	0.23	ug/L			11/14/13 05:19	1
1,1,2-Trichloro-1,2,2-trifluoroethane	ND		1.0	0.31	ug/L			11/14/13 05:19	1
1,1-Dichloroethane	ND		1.0	0.38	ug/L			11/14/13 05:19	1
1,1-Dichloroethene	ND		1.0	0.29	ug/L			11/14/13 05:19	1
1,2,4-Trichlorobenzene	ND		1.0	0.41	ug/L			11/14/13 05:19	1
1,2-Dibromo-3-Chloropropane	ND		1.0	0.39	ug/L			11/14/13 05:19	1
1,2-Dibromoethane	ND		1.0	0.73	ug/L			11/14/13 05:19	1
1,2-Dichlorobenzene	ND		1.0	0.79	ug/L			11/14/13 05:19	1
1,2-Dichloroethane	ND		1.0	0.21	ug/L			11/14/13 05:19	1
1,2-Dichloropropane	ND		1.0	0.72	ug/L			11/14/13 05:19	1
1,3-Dichlorobenzene	ND		1.0	0.78	ug/L			11/14/13 05:19	1
1,4-Dichlorobenzene	ND		1.0	0.84	ug/L			11/14/13 05:19	1
2-Hexanone	ND		5.0	1.2	ug/L			11/14/13 05:19	1
2-Butanone (MEK)	ND		10	1.3	ug/L			11/14/13 05:19	1
4-Methyl-2-pentanone (MIBK)	ND		5.0	2.1	ug/L			11/14/13 05:19	1
Acetone	ND		10	3.0	ug/L			11/14/13 05:19	1
Benzene	ND		1.0	0.41	ug/L			11/14/13 05:19	1
Bromodichloromethane	ND		1.0	0.39	ug/L			11/14/13 05:19	1
Bromoform	ND		1.0	0.26	ug/L			11/14/13 05:19	1
Bromomethane	ND		1.0	0.69	ug/L			11/14/13 05:19	1
Carbon disulfide	ND		1.0	0.19	ug/L			11/14/13 05:19	1
Carbon tetrachloride	ND		1.0	0.27	ug/L			11/14/13 05:19	1

Client Sample ID: AZMW-4

Lab Sample ID: 480-49553-7

Date Collected: 11/05/13 11:30

Matrix: Water

Date Received: 11/07/13 02:00

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chlorobenzene	ND		1.0	0.75	ug/L			11/14/13 05:19	1
Dibromochloromethane	ND		1.0	0.32	ug/L			11/14/13 05:19	1
Chloroethane	ND		1.0	0.32	ug/L			11/14/13 05:19	1
Chloroform	**0.98**	**J**	1.0	0.34	ug/L			11/14/13 05:19	1
Chloromethane	ND		1.0	0.35	ug/L			11/14/13 05:19	1
cis-1,2-Dichloroethene	ND		1.0	0.81	ug/L			11/14/13 05:19	1
cis-1,3-Dichloropropene	ND		1.0	0.36	ug/L			11/14/13 05:19	1
Cyclohexane	ND		1.0	0.18	ug/L			11/14/13 05:19	1
Dichlorodifluoromethane	ND		1.0	0.68	ug/L			11/14/13 05:19	1
Ethylbenzene	ND		1.0	0.74	ug/L			11/14/13 05:19	1
Isopropylbenzene	ND		1.0	0.79	ug/L			11/14/13 05:19	1
Methyl acetate	ND		1.0	0.50	ug/L			11/14/13 05:19	1
Methyl tert-butyl ether	ND		1.0	0.16	ug/L			11/14/13 05:19	1
Methylcyclohexane	ND		1.0	0.16	ug/L			11/14/13 05:19	1
Methylene Chloride	ND		1.0	0.44	ug/L			11/14/13 05:19	1
Styrene	ND		1.0	0.73	ug/L			11/14/13 05:19	1
Tetrachloroethene	ND		1.0	0.36	ug/L			11/14/13 05:19	1
Toluene	ND		1.0	0.51	ug/L			11/14/13 05:19	1
trans-1,2-Dichloroethene	ND		1.0	0.90	ug/L			11/14/13 05:19	1
trans-1,3-Dichloropropene	ND		1.0	0.37	ug/L			11/14/13 05:19	1
Trichloroethene	**1.8**		1.0	0.46	ug/L			11/14/13 05:19	1
Trichlorofluoromethane	ND		1.0	0.88	ug/L			11/14/13 05:19	1
Vinyl chloride	ND		1.0	0.90	ug/L			11/14/13 05:19	1
Xylenes, Total	ND		2.0	0.66	ug/L			11/14/13 05:19	1

Tentatively Identified Compound	*Est. Result*	*Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
Tentatively Identified Compound	*None*		*ug/L*					*11/14/13 05:19*	*1*

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*97*		*66 - 137*		*11/14/13 05:19*	*1*
Toluene-d8 (Surr)	*94*		*71 - 126*		*11/14/13 05:19*	*1*
4-Bromofluorobenzene (Surr)	*97*		*73 - 120*		*11/14/13 05:19*	*1*

Client Sample ID: AZMW-2

Lab Sample ID: 480-49553-8

Date Collected: 11/05/13 13:05

Matrix: Water

Date Received: 11/07/13 02:00

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	ND		1.0	0.82	ug/L			11/14/13 05:43	1
1,1,2,2-Tetrachloroethane	ND		1.0	0.21	ug/L			11/14/13 05:43	1
1,1,2-Trichloroethane	ND		1.0	0.23	ug/L			11/14/13 05:43	1
1,1,2-Trichloro-1,2,2-trifluoroethane	ND		1.0	0.31	ug/L			11/14/13 05:43	1
1,1-Dichloroethane	ND		1.0	0.38	ug/L			11/14/13 05:43	1
1,1-Dichloroethene	ND		1.0	0.29	ug/L			11/14/13 05:43	1
1,2,4-Trichlorobenzene	ND		1.0	0.41	ug/L			11/14/13 05:43	1
1,2-Dibromo-3-Chloropropane	ND		1.0	0.39	ug/L			11/14/13 05:43	1
1,2-Dibromoethane	ND		1.0	0.73	ug/L			11/14/13 05:43	1
1,2-Dichlorobenzene	ND		1.0	0.79	ug/L			11/14/13 05:43	1
1,2-Dichloroethane	ND		1.0	0.21	ug/L			11/14/13 05:43	1

Client: New York State D.E.C.
Project/Site: Former Ithaca Gun Factory #C755019A

TestAmerica Job ID: 480-49553-1

Client Sample ID: AZMW-2
Date Collected: 11/05/13 13:05
Date Received: 11/07/13 02:00

Lab Sample ID: 480-49553-8
Matrix: Water

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2-Dichloropropane	ND		1.0	0.72	ug/L			11/14/13 05:43	1
1,3-Dichlorobenzene	ND		1.0	0.78	ug/L			11/14/13 05:43	1
1,4-Dichlorobenzene	ND		1.0	0.84	ug/L			11/14/13 05:43	1
2-Hexanone	ND		5.0	1.2	ug/L			11/14/13 05:43	1
2-Butanone (MEK)	ND		10	1.3	ug/L			11/14/13 05:43	1
4-Methyl-2-pentanone (MIBK)	ND		5.0	2.1	ug/L			11/14/13 05:43	1
Acetone	ND		10	3.0	ug/L			11/14/13 05:43	1
Benzene	ND		1.0	0.41	ug/L			11/14/13 05:43	1
Bromodichloromethane	ND		1.0	0.39	ug/L			11/14/13 05:43	1
Bromoform	ND		1.0	0.26	ug/L			11/14/13 05:43	1
Bromomethane	ND		1.0	0.69	ug/L			11/14/13 05:43	1
Carbon disulfide	ND		1.0	0.19	ug/L			11/14/13 05:43	1
Carbon tetrachloride	ND		1.0	0.27	ug/L			11/14/13 05:43	1
Chlorobenzene	ND		1.0	0.75	ug/L			11/14/13 05:43	1
Dibromochloromethane	ND		1.0	0.32	ug/L			11/14/13 05:43	1
Chloroethane	ND		1.0	0.32	ug/L			11/14/13 05:43	1
Chloroform	ND		1.0	0.34	ug/L			11/14/13 05:43	1
Chloromethane	ND		1.0	0.35	ug/L			11/14/13 05:43	1
cis-1,2-Dichloroethene	ND		1.0	0.81	ug/L			11/14/13 05:43	1
cis-1,3-Dichloropropene	ND		1.0	0.36	ug/L			11/14/13 05:43	1
Cyclohexane	ND		1.0	0.18	ug/L			11/14/13 05:43	1
Dichlorodifluoromethane	ND		1.0	0.68	ug/L			11/14/13 05:43	1
Ethylbenzene	ND		1.0	0.74	ug/L			11/14/13 05:43	1
Isopropylbenzene	ND		1.0	0.79	ug/L			11/14/13 05:43	1
Methyl acetate	ND		1.0	0.50	ug/L			11/14/13 05:43	1
Methyl tert-butyl ether	ND		1.0	0.16	ug/L			11/14/13 05:43	1
Methylcyclohexane	ND		1.0	0.16	ug/L			11/14/13 05:43	1
Methylene Chloride	ND		1.0	0.44	ug/L			11/14/13 05:43	1
Styrene	ND		1.0	0.73	ug/L			11/14/13 05:43	1
Tetrachloroethene	ND		1.0	0.36	ug/L			11/14/13 05:43	1
Toluene	ND		1.0	0.51	ug/L			11/14/13 05:43	1
trans-1,2-Dichloroethene	ND		1.0	0.90	ug/L			11/14/13 05:43	1
trans-1,3-Dichloropropene	ND		1.0	0.37	ug/L			11/14/13 05:43	1
Trichloroethene	ND		1.0	0.46	ug/L			11/14/13 05:43	1
Trichlorofluoromethane	ND		1.0	0.88	ug/L			11/14/13 05:43	1
Vinyl chloride	ND		1.0	0.90	ug/L			11/14/13 05:43	1
Xylenes, Total	ND		2.0	0.66	ug/L			11/14/13 05:43	1

Tentatively Identified Compound	*Est. Result*	*Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
Tentatively Identified Compound	*None*		*ug/L*					*11/14/13 05:43*	*1*

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*98*		*66 - 137*		*11/14/13 05:43*	*1*
Toluene-d8 (Surr)	*95*		*71 - 126*		*11/14/13 05:43*	*1*
4-Bromofluorobenzene (Surr)	*97*		*73 - 120*		*11/14/13 05:43*	*1*

Client: New York State D.E.C.
Project/Site: Former Ithaca Gun Factory #C755019A

TestAmerica Job ID: 480-49553-1

Client Sample ID: AZMW-5
Date Collected: 11/05/13 14:45
Date Received: 11/07/13 02:00

Lab Sample ID: 480-49553-9
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		1.0	0.82	ug/L			11/14/13 06:08	1
1,1,2,2-Tetrachloroethane	ND		1.0	0.21	ug/L			11/14/13 06:08	1
1,1,2-Trichloroethane	ND		1.0	0.23	ug/L			11/14/13 06:08	1
1,1,2-Trichloro-1,2,2-trifluoroethane	ND		1.0	0.31	ug/L			11/14/13 06:08	1
1,1-Dichloroethane	ND		1.0	0.38	ug/L			11/14/13 06:08	1
1,1-Dichloroethene	ND		1.0	0.29	ug/L			11/14/13 06:08	1
1,2,4-Trichlorobenzene	ND		1.0	0.41	ug/L			11/14/13 06:08	1
1,2-Dibromo-3-Chloropropane	ND		1.0	0.39	ug/L			11/14/13 06:08	1
1,2-Dibromoethane	ND		1.0	0.73	ug/L			11/14/13 06:08	1
1,2-Dichlorobenzene	ND		1.0	0.79	ug/L			11/14/13 06:08	1
1,2-Dichloroethane	ND		1.0	0.21	ug/L			11/14/13 06:08	1
1,2-Dichloropropane	ND		1.0	0.72	ug/L			11/14/13 06:08	1
1,3-Dichlorobenzene	ND		1.0	0.78	ug/L			11/14/13 06:08	1
1,4-Dichlorobenzene	ND		1.0	0.84	ug/L			11/14/13 06:08	1
2-Hexanone	ND		5.0	1.2	ug/L			11/14/13 06:08	1
2-Butanone (MEK)	ND		10	1.3	ug/L			11/14/13 06:08	1
4-Methyl-2-pentanone (MIBK)	ND		5.0	2.1	ug/L			11/14/13 06:08	1
Acetone	ND		10	3.0	ug/L			11/14/13 06:08	1
Benzene	ND		1.0	0.41	ug/L			11/14/13 06:08	1
Bromodichloromethane	ND		1.0	0.39	ug/L			11/14/13 06:08	1
Bromoform	ND		1.0	0.26	ug/L			11/14/13 06:08	1
Bromomethane	ND		1.0	0.69	ug/L			11/14/13 06:08	1
Carbon disulfide	ND		1.0	0.19	ug/L			11/14/13 06:08	1
Carbon tetrachloride	ND		1.0	0.27	ug/L			11/14/13 06:08	1
Chlorobenzene	ND		1.0	0.75	ug/L			11/14/13 06:08	1
Dibromochloromethane	ND		1.0	0.32	ug/L			11/14/13 06:08	1
Chloroethane	ND		1.0	0.32	ug/L			11/14/13 06:08	1
Chloroform	**4.1**		1.0	0.34	ug/L			11/14/13 06:08	1
Chloromethane	ND		1.0	0.35	ug/L			11/14/13 06:08	1
cis-1,2-Dichloroethene	ND		1.0	0.81	ug/L			11/14/13 06:08	1
cis-1,3-Dichloropropene	ND		1.0	0.36	ug/L			11/14/13 06:08	1
Cyclohexane	ND		1.0	0.18	ug/L			11/14/13 06:08	1
Dichlorodifluoromethane	ND		1.0	0.68	ug/L			11/14/13 06:08	1
Ethylbenzene	ND		1.0	0.74	ug/L			11/14/13 06:08	1
Isopropylbenzene	ND		1.0	0.79	ug/L			11/14/13 06:08	1
Methyl acetate	ND		1.0	0.50	ug/L			11/14/13 06:08	1
Methyl tert-butyl ether	ND		1.0	0.16	ug/L			11/14/13 06:08	1
Methylcyclohexane	ND		1.0	0.16	ug/L			11/14/13 06:08	1
Methylene Chloride	ND		1.0	0.44	ug/L			11/14/13 06:08	1
Styrene	ND		1.0	0.73	ug/L			11/14/13 06:08	1
Tetrachloroethene	ND		1.0	0.36	ug/L			11/14/13 06:08	1
Toluene	ND		1.0	0.51	ug/L			11/14/13 06:08	1
trans-1,2-Dichloroethene	ND		1.0	0.90	ug/L			11/14/13 06:08	1
trans-1,3-Dichloropropene	ND		1.0	0.37	ug/L			11/14/13 06:08	1
Trichloroethene	ND		1.0	0.46	ug/L			11/14/13 06:08	1
Trichlorofluoromethane	ND		1.0	0.88	ug/L			11/14/13 06:08	1
Vinyl chloride	ND		1.0	0.90	ug/L			11/14/13 06:08	1
Xylenes, Total	ND		2.0	0.66	ug/L			11/14/13 06:08	1

Client: New York State D.E.C.
Project/Site: Former Ithaca Gun Factory #C755019A

TestAmerica Job ID: 480-49553-1

Client Sample ID: AZMW-5

Lab Sample ID: 480-49553-9

Date Collected: 11/05/13 14:45

Matrix: Water

Date Received: 11/07/13 02:00

Tentatively Identified Compound	Est. Result	Qualifier	Unit	D	RT	CAS No.	Prepared	Analyzed	Dil Fac
Tentatively Identified Compound	None		ug/L					11/14/13 06:08	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	97		66 - 137		11/14/13 06:08	1
Toluene-d8 (Surr)	97		71 - 126		11/14/13 06:08	1
4-Bromofluorobenzene (Surr)	97		73 - 120		11/14/13 06:08	1

Client Sample ID: AZMW-1

Lab Sample ID: 480-49553-10

Date Collected: 11/06/13 08:15

Matrix: Water

Date Received: 11/07/13 02:00

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	ND		1.0	0.82	ug/L			11/14/13 06:31	1
1,1,2,2-Tetrachloroethane	ND		1.0	0.21	ug/L			11/14/13 06:31	1
1,1,2-Trichloroethane	ND		1.0	0.23	ug/L			11/14/13 06:31	1
1,1,2-Trichloro-1,2,2-trifluoroethane	ND		1.0	0.31	ug/L			11/14/13 06:31	1
1,1-Dichloroethane	ND		1.0	0.38	ug/L			11/14/13 06:31	1
1,1-Dichloroethene	ND		1.0	0.29	ug/L			11/14/13 06:31	1
1,2,4-Trichlorobenzene	ND		1.0	0.41	ug/L			11/14/13 06:31	1
1,2-Dibromo-3-Chloropropane	ND		1.0	0.39	ug/L			11/14/13 06:31	1
1,2-Dibromoethane	ND		1.0	0.73	ug/L			11/14/13 06:31	1
1,2-Dichlorobenzene	ND		1.0	0.79	ug/L			11/14/13 06:31	1
1,2-Dichloroethane	ND		1.0	0.21	ug/L			11/14/13 06:31	1
1,2-Dichloropropane	ND		1.0	0.72	ug/L			11/14/13 06:31	1
1,3-Dichlorobenzene	ND		1.0	0.78	ug/L			11/14/13 06:31	1
1,4-Dichlorobenzene	ND		1.0	0.84	ug/L			11/14/13 06:31	1
2-Hexanone	ND		5.0	1.2	ug/L			11/14/13 06:31	1
2-Butanone (MEK)	ND		10	1.3	ug/L			11/14/13 06:31	1
4-Methyl-2-pentanone (MIBK)	ND		5.0	2.1	ug/L			11/14/13 06:31	1
Acetone	ND		10	3.0	ug/L			11/14/13 06:31	1
Benzene	ND		1.0	0.41	ug/L			11/14/13 06:31	1
Bromodichloromethane	ND		1.0	0.39	ug/L			11/14/13 06:31	1
Bromoform	ND		1.0	0.26	ug/L			11/14/13 06:31	1
Bromomethane	ND		1.0	0.69	ug/L			11/14/13 06:31	1
Carbon disulfide	ND		1.0	0.19	ug/L			11/14/13 06:31	1
Carbon tetrachloride	ND		1.0	0.27	ug/L			11/14/13 06:31	1
Chlorobenzene	ND		1.0	0.75	ug/L			11/14/13 06:31	1
Dibromochloromethane	ND		1.0	0.32	ug/L			11/14/13 06:31	1
Chloroethane	ND		1.0	0.32	ug/L			11/14/13 06:31	1
Chloroform	**4.8**		1.0	0.34	ug/L			11/14/13 06:31	1
Chloromethane	ND		1.0	0.35	ug/L			11/14/13 06:31	1
cis-1,2-Dichloroethene	ND		1.0	0.81	ug/L			11/14/13 06:31	1
cis-1,3-Dichloropropene	ND		1.0	0.36	ug/L			11/14/13 06:31	1
Cyclohexane	ND		1.0	0.18	ug/L			11/14/13 06:31	1
Dichlorodifluoromethane	ND		1.0	0.68	ug/L			11/14/13 06:31	1
Ethylbenzene	ND		1.0	0.74	ug/L			11/14/13 06:31	1
Isopropylbenzene	ND		1.0	0.79	ug/L			11/14/13 06:31	1
Methyl acetate	ND		1.0	0.50	ug/L			11/14/13 06:31	1
Methyl tert-butyl ether	ND		1.0	0.16	ug/L			11/14/13 06:31	1

Client Sample ID: AZMW-1

Lab Sample ID: 480-49553-10

Date Collected: 11/06/13 08:15

Matrix: Water

Date Received: 11/07/13 02:00

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Methylcyclohexane	ND		1.0	0.16	ug/L			11/14/13 06:31	1
Methylene Chloride	ND		1.0	0.44	ug/L			11/14/13 06:31	1
Styrene	ND		1.0	0.73	ug/L			11/14/13 06:31	1
Tetrachloroethene	ND		1.0	0.36	ug/L			11/14/13 06:31	1
Toluene	ND		1.0	0.51	ug/L			11/14/13 06:31	1
trans-1,2-Dichloroethene	ND		1.0	0.90	ug/L			11/14/13 06:31	1
trans-1,3-Dichloropropene	ND		1.0	0.37	ug/L			11/14/13 06:31	1
Trichloroethene	ND		1.0	0.46	ug/L			11/14/13 06:31	1
Trichlorofluoromethane	ND		1.0	0.88	ug/L			11/14/13 06:31	1
Vinyl chloride	ND		1.0	0.90	ug/L			11/14/13 06:31	1
Xylenes, Total	ND		2.0	0.66	ug/L			11/14/13 06:31	1

Tentatively Identified Compound	*Est. Result*	*Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
Tentatively Identified Compound	*None*		*ug/L*					*11/14/13 06:31*	*1*

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*98*		*66 - 137*		*11/14/13 06:31*	*1*
Toluene-d8 (Surr)	*96*		*71 - 126*		*11/14/13 06:31*	*1*
4-Bromofluorobenzene (Surr)	*97*		*73 - 120*		*11/14/13 06:31*	*1*

Client Sample ID: MW-X DUP1

Lab Sample ID: 480-49553-11

Date Collected: 11/05/13 00:00

Matrix: Water

Date Received: 11/07/13 02:00

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	ND		1.0	0.82	ug/L			11/14/13 06:56	1
1,1,2,2-Tetrachloroethane	ND		1.0	0.21	ug/L			11/14/13 06:56	1
1,1,2-Trichloroethane	ND		1.0	0.23	ug/L			11/14/13 06:56	1
1,1,2-Trichloro-1,2,2-trifluoroethane	ND		1.0	0.31	ug/L			11/14/13 06:56	1
1,1-Dichloroethane	ND		1.0	0.38	ug/L			11/14/13 06:56	1
1,1-Dichloroethene	ND		1.0	0.29	ug/L			11/14/13 06:56	1
1,2,4-Trichlorobenzene	ND		1.0	0.41	ug/L			11/14/13 06:56	1
1,2-Dibromo-3-Chloropropane	ND		1.0	0.39	ug/L			11/14/13 06:56	1
1,2-Dibromoethane	ND		1.0	0.73	ug/L			11/14/13 06:56	1
1,2-Dichlorobenzene	ND		1.0	0.79	ug/L			11/14/13 06:56	1
1,2-Dichloroethane	ND		1.0	0.21	ug/L			11/14/13 06:56	1
1,2-Dichloropropane	ND		1.0	0.72	ug/L			11/14/13 06:56	1
1,3-Dichlorobenzene	ND		1.0	0.78	ug/L			11/14/13 06:56	1
1,4-Dichlorobenzene	ND		1.0	0.84	ug/L			11/14/13 06:56	1
2-Hexanone	ND		5.0	1.2	ug/L			11/14/13 06:56	1
2-Butanone (MEK)	ND		10	1.3	ug/L			11/14/13 06:56	1
4-Methyl-2-pentanone (MIBK)	ND		5.0	2.1	ug/L			11/14/13 06:56	1
Acetone	ND		10	3.0	ug/L			11/14/13 06:56	1
Benzene	ND		1.0	0.41	ug/L			11/14/13 06:56	1
Bromodichloromethane	ND		1.0	0.39	ug/L			11/14/13 06:56	1
Bromoform	ND		1.0	0.26	ug/L			11/14/13 06:56	1
Bromomethane	ND		1.0	0.69	ug/L			11/14/13 06:56	1
Carbon disulfide	ND		1.0	0.19	ug/L			11/14/13 06:56	1
Carbon tetrachloride	ND		1.0	0.27	ug/L			11/14/13 06:56	1

Client: New York State D.E.C.
Project/Site: Former Ithaca Gun Factory #C755019A

TestAmerica Job ID: 480-49553-1

Client Sample ID: MW-X DUP1

Lab Sample ID: 480-49553-11

Date Collected: 11/05/13 00:00

Matrix: Water

Date Received: 11/07/13 02:00

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chlorobenzene	ND		1.0	0.75	ug/L			11/14/13 06:56	1
Dibromochloromethane	ND		1.0	0.32	ug/L			11/14/13 06:56	1
Chloroethane	ND		1.0	0.32	ug/L			11/14/13 06:56	1
Chloroform	**0.90**	**J**	1.0	0.34	ug/L			11/14/13 06:56	1
Chloromethane	ND		1.0	0.35	ug/L			11/14/13 06:56	1
cis-1,2-Dichloroethene	ND		1.0	0.81	ug/L			11/14/13 06:56	1
cis-1,3-Dichloropropene	ND		1.0	0.36	ug/L			11/14/13 06:56	1
Cyclohexane	ND		1.0	0.18	ug/L			11/14/13 06:56	1
Dichlorodifluoromethane	ND		1.0	0.68	ug/L			11/14/13 06:56	1
Ethylbenzene	ND		1.0	0.74	ug/L			11/14/13 06:56	1
Isopropylbenzene	ND		1.0	0.79	ug/L			11/14/13 06:56	1
Methyl acetate	ND		1.0	0.50	ug/L			11/14/13 06:56	1
Methyl tert-butyl ether	ND		1.0	0.16	ug/L			11/14/13 06:56	1
Methylcyclohexane	ND		1.0	0.16	ug/L			11/14/13 06:56	1
Methylene Chloride	ND		1.0	0.44	ug/L			11/14/13 06:56	1
Styrene	ND		1.0	0.73	ug/L			11/14/13 06:56	1
Tetrachloroethene	ND		1.0	0.36	ug/L			11/14/13 06:56	1
Toluene	ND		1.0	0.51	ug/L			11/14/13 06:56	1
trans-1,2-Dichloroethene	ND		1.0	0.90	ug/L			11/14/13 06:56	1
trans-1,3-Dichloropropene	ND		1.0	0.37	ug/L			11/14/13 06:56	1
Trichloroethene	**1.7**		1.0	0.46	ug/L			11/14/13 06:56	1
Trichlorofluoromethane	ND		1.0	0.88	ug/L			11/14/13 06:56	1
Vinyl chloride	ND		1.0	0.90	ug/L			11/14/13 06:56	1
Xylenes, Total	ND		2.0	0.66	ug/L			11/14/13 06:56	1

Tentatively Identified Compound	*Est. Result*	*Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
Tentatively Identified Compound	*None*		*ug/L*					*11/14/13 06:56*	*1*

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*97*		*66 - 137*		*11/14/13 06:56*	*1*
Toluene-d8 (Surr)	*95*		*71 - 126*		*11/14/13 06:56*	*1*
4-Bromofluorobenzene (Surr)	*99*		*73 - 120*		*11/14/13 06:56*	*1*

Client Sample ID: MW-X2 DUP2

Lab Sample ID: 480-49553-12

Date Collected: 11/05/13 00:00

Matrix: Water

Date Received: 11/07/13 02:00

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	ND		1.0	0.82	ug/L			11/14/13 07:20	1
1,1,2,2-Tetrachloroethane	ND		1.0	0.21	ug/L			11/14/13 07:20	1
1,1,2-Trichloroethane	ND		1.0	0.23	ug/L			11/14/13 07:20	1
1,1,2-Trichloro-1,2,2-trifluoroethane	ND		1.0	0.31	ug/L			11/14/13 07:20	1
1,1-Dichloroethane	ND		1.0	0.38	ug/L			11/14/13 07:20	1
1,1-Dichloroethene	ND		1.0	0.29	ug/L			11/14/13 07:20	1
1,2,4-Trichlorobenzene	ND		1.0	0.41	ug/L			11/14/13 07:20	1
1,2-Dibromo-3-Chloropropane	ND		1.0	0.39	ug/L			11/14/13 07:20	1
1,2-Dibromoethane	ND		1.0	0.73	ug/L			11/14/13 07:20	1
1,2-Dichlorobenzene	ND		1.0	0.79	ug/L			11/14/13 07:20	1
1,2-Dichloroethane	ND		1.0	0.21	ug/L			11/14/13 07:20	1

Client: New York State D.E.C.
Project/Site: Former Ithaca Gun Factory #C755019A

TestAmerica Job ID: 480-49553-1

Client Sample ID: MW-X2 DUP2
Date Collected: 11/05/13 00:00
Date Received: 11/07/13 02:00

Lab Sample ID: 480-49553-12
Matrix: Water

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2-Dichloropropane	ND		1.0	0.72	ug/L			11/14/13 07:20	1
1,3-Dichlorobenzene	ND		1.0	0.78	ug/L			11/14/13 07:20	1
1,4-Dichlorobenzene	ND		1.0	0.84	ug/L			11/14/13 07:20	1
2-Hexanone	ND		5.0	1.2	ug/L			11/14/13 07:20	1
2-Butanone (MEK)	ND		10	1.3	ug/L			11/14/13 07:20	1
4-Methyl-2-pentanone (MIBK)	ND		5.0	2.1	ug/L			11/14/13 07:20	1
Acetone	ND		10	3.0	ug/L			11/14/13 07:20	1
Benzene	ND		1.0	0.41	ug/L			11/14/13 07:20	1
Bromodichloromethane	ND		1.0	0.39	ug/L			11/14/13 07:20	1
Bromoform	ND		1.0	0.26	ug/L			11/14/13 07:20	1
Bromomethane	ND		1.0	0.69	ug/L			11/14/13 07:20	1
Carbon disulfide	ND		1.0	0.19	ug/L			11/14/13 07:20	1
Carbon tetrachloride	ND		1.0	0.27	ug/L			11/14/13 07:20	1
Chlorobenzene	ND		1.0	0.75	ug/L			11/14/13 07:20	1
Dibromochloromethane	ND		1.0	0.32	ug/L			11/14/13 07:20	1
Chloroethane	ND		1.0	0.32	ug/L			11/14/13 07:20	1
Chloroform	ND		1.0	0.34	ug/L			11/14/13 07:20	1
Chloromethane	ND		1.0	0.35	ug/L			11/14/13 07:20	1
cis-1,2-Dichloroethene	ND		1.0	0.81	ug/L			11/14/13 07:20	1
cis-1,3-Dichloropropene	ND		1.0	0.36	ug/L			11/14/13 07:20	1
Cyclohexane	ND		1.0	0.18	ug/L			11/14/13 07:20	1
Dichlorodifluoromethane	ND		1.0	0.68	ug/L			11/14/13 07:20	1
Ethylbenzene	ND		1.0	0.74	ug/L			11/14/13 07:20	1
Isopropylbenzene	ND		1.0	0.79	ug/L			11/14/13 07:20	1
Methyl acetate	ND		1.0	0.50	ug/L			11/14/13 07:20	1
Methyl tert-butyl ether	ND		1.0	0.16	ug/L			11/14/13 07:20	1
Methylcyclohexane	ND		1.0	0.16	ug/L			11/14/13 07:20	1
Methylene Chloride	ND		1.0	0.44	ug/L			11/14/13 07:20	1
Styrene	ND		1.0	0.73	ug/L			11/14/13 07:20	1
Tetrachloroethene	ND		1.0	0.36	ug/L			11/14/13 07:20	1
Toluene	ND		1.0	0.51	ug/L			11/14/13 07:20	1
trans-1,2-Dichloroethene	ND		1.0	0.90	ug/L			11/14/13 07:20	1
trans-1,3-Dichloropropene	ND		1.0	0.37	ug/L			11/14/13 07:20	1
Trichloroethene	ND		1.0	0.46	ug/L			11/14/13 07:20	1
Trichlorofluoromethane	ND		1.0	0.88	ug/L			11/14/13 07:20	1
Vinyl chloride	ND		1.0	0.90	ug/L			11/14/13 07:20	1
Xylenes, Total	ND		2.0	0.66	ug/L			11/14/13 07:20	1

Tentatively Identified Compound	*Est. Result*	*Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
Tentatively Identified Compound	*None*		*ug/L*					*11/14/13 07:20*	*1*

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*97*		*66 - 137*		*11/14/13 07:20*	*1*
Toluene-d8 (Surr)	*94*		*71 - 126*		*11/14/13 07:20*	*1*
4-Bromofluorobenzene (Surr)	*96*		*73 - 120*		*11/14/13 07:20*	*1*

Client: New York State D.E.C.
Project/Site: Former Ithaca Gun Factory #C755019A

TestAmerica Job ID: 480-49553-1

Client Sample ID: Trip Blank
Date Collected: 11/05/13 00:00
Date Received: 11/07/13 02:00

Lab Sample ID: 480-49553-13
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		1.0	0.82	ug/L			11/14/13 07:44	1
1,1,2,2-Tetrachloroethane	ND		1.0	0.21	ug/L			11/14/13 07:44	1
1,1,2-Trichloroethane	ND		1.0	0.23	ug/L			11/14/13 07:44	1
1,1,2-Trichloro-1,2,2-trifluoroethane	ND		1.0	0.31	ug/L			11/14/13 07:44	1
1,1-Dichloroethane	ND		1.0	0.38	ug/L			11/14/13 07:44	1
1,1-Dichloroethene	ND		1.0	0.29	ug/L			11/14/13 07:44	1
1,2,4-Trichlorobenzene	ND		1.0	0.41	ug/L			11/14/13 07:44	1
1,2-Dibromo-3-Chloropropane	ND		1.0	0.39	ug/L			11/14/13 07:44	1
1,2-Dibromoethane	ND		1.0	0.73	ug/L			11/14/13 07:44	1
1,2-Dichlorobenzene	ND		1.0	0.79	ug/L			11/14/13 07:44	1
1,2-Dichloroethane	ND		1.0	0.21	ug/L			11/14/13 07:44	1
1,2-Dichloropropane	ND		1.0	0.72	ug/L			11/14/13 07:44	1
1,3-Dichlorobenzene	ND		1.0	0.78	ug/L			11/14/13 07:44	1
1,4-Dichlorobenzene	ND		1.0	0.84	ug/L			11/14/13 07:44	1
2-Hexanone	ND		5.0	1.2	ug/L			11/14/13 07:44	1
2-Butanone (MEK)	ND		10	1.3	ug/L			11/14/13 07:44	1
4-Methyl-2-pentanone (MIBK)	ND		5.0	2.1	ug/L			11/14/13 07:44	1
Acetone	ND		10	3.0	ug/L			11/14/13 07:44	1
Benzene	ND		1.0	0.41	ug/L			11/14/13 07:44	1
Bromodichloromethane	ND		1.0	0.39	ug/L			11/14/13 07:44	1
Bromoform	ND		1.0	0.26	ug/L			11/14/13 07:44	1
Bromomethane	ND		1.0	0.69	ug/L			11/14/13 07:44	1
Carbon disulfide	ND		1.0	0.19	ug/L			11/14/13 07:44	1
Carbon tetrachloride	ND		1.0	0.27	ug/L			11/14/13 07:44	1
Chlorobenzene	ND		1.0	0.75	ug/L			11/14/13 07:44	1
Dibromochloromethane	ND		1.0	0.32	ug/L			11/14/13 07:44	1
Chloroethane	ND		1.0	0.32	ug/L			11/14/13 07:44	1
Chloroform	ND		1.0	0.34	ug/L			11/14/13 07:44	1
Chloromethane	ND		1.0	0.35	ug/L			11/14/13 07:44	1
cis-1,2-Dichloroethene	ND		1.0	0.81	ug/L			11/14/13 07:44	1
cis-1,3-Dichloropropene	ND		1.0	0.36	ug/L			11/14/13 07:44	1
Cyclohexane	ND		1.0	0.18	ug/L			11/14/13 07:44	1
Dichlorodifluoromethane	ND		1.0	0.68	ug/L			11/14/13 07:44	1
Ethylbenzene	ND		1.0	0.74	ug/L			11/14/13 07:44	1
Isopropylbenzene	ND		1.0	0.79	ug/L			11/14/13 07:44	1
Methyl acetate	ND		1.0	0.50	ug/L			11/14/13 07:44	1
Methyl tert-butyl ether	ND		1.0	0.16	ug/L			11/14/13 07:44	1
Methylcyclohexane	ND		1.0	0.16	ug/L			11/14/13 07:44	1
Methylene Chloride	ND		1.0	0.44	ug/L			11/14/13 07:44	1
Styrene	ND		1.0	0.73	ug/L			11/14/13 07:44	1
Tetrachloroethene	ND		1.0	0.36	ug/L			11/14/13 07:44	1
Toluene	ND		1.0	0.51	ug/L			11/14/13 07:44	1
trans-1,2-Dichloroethene	ND		1.0	0.90	ug/L			11/14/13 07:44	1
trans-1,3-Dichloropropene	ND		1.0	0.37	ug/L			11/14/13 07:44	1
Trichloroethene	ND		1.0	0.46	ug/L			11/14/13 07:44	1
Trichlorofluoromethane	ND		1.0	0.88	ug/L			11/14/13 07:44	1
Vinyl chloride	ND		1.0	0.90	ug/L			11/14/13 07:44	1
Xylenes, Total	ND		2.0	0.66	ug/L			11/14/13 07:44	1

Client: New York State D.E.C.
Project/Site: Former Ithaca Gun Factory #C755019A

TestAmerica Job ID: 480-49553-1

Client Sample ID: Trip Blank
Date Collected: 11/05/13 00:00
Date Received: 11/07/13 02:00

Lab Sample ID: 480-49553-13
Matrix: Water

Tentatively Identified Compound	Est. Result	Qualifier	Unit	D	RT	CAS No.	Prepared	Analyzed	Dil Fac
Tentatively Identified Compound	None		ug/L					11/14/13 07:44	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	97		66 - 137		11/14/13 07:44	1
Toluene-d8 (Surr)	94		71 - 126		11/14/13 07:44	1
4-Bromofluorobenzene (Surr)	98		73 - 120		11/14/13 07:44	1

Surrogate Summary

Client: New York State D.E.C.
Project/Site: Former Ithaca Gun Factory #C755019A

TestAmerica Job ID: 480-49553-1

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

Matrix: Water **Prep Type: Total/NA**

		Percent Surrogate Recovery (Acceptance Limits)								
		12DCE	TOL	BFB						
Lab Sample ID	Client Sample ID	(66-137)	(71-126)	(73-120)						
480-49553-1	MW-6	97	96	98						
480-49553-2	MW-7	98	96	97						
480-49553-3	AZMW-7	95	94	99						
480-49553-4	AZMW-6	97	95	96						
480-49553-5	AZMW-3	96	96	98						
480-49553-6	AZMW-8	98	96	96						
480-49553-6 MS	AZMW-8	98	94	98						
480-49553-6 MSD	AZMW-8	98	95	99						
480-49553-7	AZMW-4	97	94	97						
480-49553-8	AZMW-2	98	95	97						
480-49553-9	AZMW-5	97	97	97						
480-49553-10	AZMW-1	98	96	97						
480-49553-11	MW-X DUP1	97	95	99						
480-49553-12	MW-X2 DUP2	97	94	96						
480-49553-13	Trip Blank	97	94	98						
LCS 480-151859/4	Lab Control Sample	95	97	103						
MB 480-151859/7	Method Blank	97	96	98						

Surrogate Legend

12DCE = 1,2-Dichloroethane-d4 (Surr)

TOL = Toluene-d8 (Surr)

BFB = 4-Bromofluorobenzene (Surr)

Client: New York State D.E.C.
Project/Site: Former Ithaca Gun Factory #C755019A

TestAmerica Job ID: 480-49553-1

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

Lab Sample ID: MB 480-151859/7
Matrix: Water
Analysis Batch: 151859

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		1.0	0.82	ug/L			11/13/13 23:30	1
1,1,2,2-Tetrachloroethane	ND		1.0	0.21	ug/L			11/13/13 23:30	1
1,1,2-Trichloroethane	ND		1.0	0.23	ug/L			11/13/13 23:30	1
1,1,2-Trichloro-1,2,2-trifluoroethane	ND		1.0	0.31	ug/L			11/13/13 23:30	1
1,1-Dichloroethane	ND		1.0	0.38	ug/L			11/13/13 23:30	1
1,1-Dichloroethene	ND		1.0	0.29	ug/L			11/13/13 23:30	1
1,2,4-Trichlorobenzene	ND		1.0	0.41	ug/L			11/13/13 23:30	1
1,2-Dibromo-3-Chloropropane	ND		1.0	0.39	ug/L			11/13/13 23:30	1
1,2-Dibromoethane	ND		1.0	0.73	ug/L			11/13/13 23:30	1
1,2-Dichlorobenzene	ND		1.0	0.79	ug/L			11/13/13 23:30	1
1,2-Dichloroethane	ND		1.0	0.21	ug/L			11/13/13 23:30	1
1,2-Dichloropropane	ND		1.0	0.72	ug/L			11/13/13 23:30	1
1,3-Dichlorobenzene	ND		1.0	0.78	ug/L			11/13/13 23:30	1
1,4-Dichlorobenzene	ND		1.0	0.84	ug/L			11/13/13 23:30	1
2-Hexanone	ND		5.0	1.2	ug/L			11/13/13 23:30	1
2-Butanone (MEK)	ND		10	1.3	ug/L			11/13/13 23:30	1
4-Methyl-2-pentanone (MIBK)	ND		5.0	2.1	ug/L			11/13/13 23:30	1
Acetone	ND		10	3.0	ug/L			11/13/13 23:30	1
Benzene	ND		1.0	0.41	ug/L			11/13/13 23:30	1
Bromodichloromethane	ND		1.0	0.39	ug/L			11/13/13 23:30	1
Bromoform	ND		1.0	0.26	ug/L			11/13/13 23:30	1
Bromomethane	ND		1.0	0.69	ug/L			11/13/13 23:30	1
Carbon disulfide	ND		1.0	0.19	ug/L			11/13/13 23:30	1
Carbon tetrachloride	ND		1.0	0.27	ug/L			11/13/13 23:30	1
Chlorobenzene	ND		1.0	0.75	ug/L			11/13/13 23:30	1
Dibromochloromethane	ND		1.0	0.32	ug/L			11/13/13 23:30	1
Chloroethane	ND		1.0	0.32	ug/L			11/13/13 23:30	1
Chloroform	ND		1.0	0.34	ug/L			11/13/13 23:30	1
Chloromethane	ND		1.0	0.35	ug/L			11/13/13 23:30	1
cis-1,2-Dichloroethene	ND		1.0	0.81	ug/L			11/13/13 23:30	1
cis-1,3-Dichloropropene	ND		1.0	0.36	ug/L			11/13/13 23:30	1
Cyclohexane	ND		1.0	0.18	ug/L			11/13/13 23:30	1
Dichlorodifluoromethane	ND		1.0	0.68	ug/L			11/13/13 23:30	1
Ethylbenzene	ND		1.0	0.74	ug/L			11/13/13 23:30	1
Isopropylbenzene	ND		1.0	0.79	ug/L			11/13/13 23:30	1
Methyl acetate	ND		1.0	0.50	ug/L			11/13/13 23:30	1
Methyl tert-butyl ether	ND		1.0	0.16	ug/L			11/13/13 23:30	1
Methylcyclohexane	ND		1.0	0.16	ug/L			11/13/13 23:30	1
Methylene Chloride	ND		1.0	0.44	ug/L			11/13/13 23:30	1
Styrene	ND		1.0	0.73	ug/L			11/13/13 23:30	1
Tetrachloroethene	ND		1.0	0.36	ug/L			11/13/13 23:30	1
Toluene	ND		1.0	0.51	ug/L			11/13/13 23:30	1
trans-1,2-Dichloroethene	ND		1.0	0.90	ug/L			11/13/13 23:30	1
trans-1,3-Dichloropropene	ND		1.0	0.37	ug/L			11/13/13 23:30	1
Trichloroethene	ND		1.0	0.46	ug/L			11/13/13 23:30	1
Trichlorofluoromethane	ND		1.0	0.88	ug/L			11/13/13 23:30	1
Vinyl chloride	ND		1.0	0.90	ug/L			11/13/13 23:30	1
Xylenes, Total	ND		2.0	0.66	ug/L			11/13/13 23:30	1

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

Lab Sample ID: MB 480-151859/7
Matrix: Water
Analysis Batch: 151859

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

Tentatively Identified Compound	MB Est. Result	MB Qualifier	Unit	D	RT	CAS No.	Prepared	Analyzed	Dil Fac
Tentatively Identified Compound	None		ug/L					11/13/13 23:30	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	97		66 - 137		11/13/13 23:30	1
Toluene-d8 (Surr)	96		71 - 126		11/13/13 23:30	1
4-Bromofluorobenzene (Surr)	98		73 - 120		11/13/13 23:30	1

Lab Sample ID: LCS 480-151859/4
Matrix: Water
Analysis Batch: 151859

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
1,1-Dichloroethane	25.0	23.6		ug/L		94	71 - 129
1,1-Dichloroethene	25.0	22.8		ug/L		91	58 - 121
1,2-Dichlorobenzene	25.0	25.2		ug/L		101	80 - 124
1,2-Dichloroethane	25.0	24.7		ug/L		99	75 - 127
Benzene	25.0	23.7		ug/L		95	71 - 124
Chlorobenzene	25.0	26.0		ug/L		104	72 - 120
cis-1,2-Dichloroethene	25.0	24.6		ug/L		98	74 - 124
Ethylbenzene	25.0	24.8		ug/L		99	77 - 123
Methyl tert-butyl ether	25.0	23.5		ug/L		94	64 - 127
Tetrachloroethene	25.0	29.5		ug/L		118	74 - 122
Toluene	25.0	24.2		ug/L		97	80 - 122
trans-1,2-Dichloroethene	25.0	24.2		ug/L		97	73 - 127
Trichloroethene	25.0	26.4		ug/L		105	74 - 123

Surrogate	LCS %Recovery	LCS Qualifier	Limits
1,2-Dichloroethane-d4 (Surr)	95		66 - 137
Toluene-d8 (Surr)	97		71 - 126
4-Bromofluorobenzene (Surr)	103		73 - 120

Lab Sample ID: 480-49553-6 MS
Matrix: Water
Analysis Batch: 151859

Client Sample ID: AZMW-8
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
1,1-Dichloroethane	ND		25.0	26.8		ug/L		107	71 - 129
1,1-Dichloroethene	ND		25.0	26.7		ug/L		107	58 - 121
1,2-Dichlorobenzene	ND		25.0	26.5		ug/L		106	80 - 124
1,2-Dichloroethane	ND		25.0	26.9		ug/L		108	75 - 127
Benzene	ND		25.0	26.7		ug/L		107	71 - 124
Chlorobenzene	ND		25.0	27.5		ug/L		110	72 - 120
cis-1,2-Dichloroethene	ND		25.0	27.2		ug/L		109	74 - 124
Ethylbenzene	ND		25.0	26.9		ug/L		108	77 - 123
Methyl tert-butyl ether	ND		25.0	25.1		ug/L		100	64 - 127
Tetrachloroethene	ND		25.0	30.0		ug/L		120	74 - 122
Toluene	ND		25.0	25.8		ug/L		103	80 - 122

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

Lab Sample ID: 480-49553-6 MS
Matrix: Water
Analysis Batch: 151859

Client Sample ID: AZMW-8
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
trans-1,2-Dichloroethene	ND		25.0	27.0		ug/L		108	73 - 127
Trichloroethene	ND		25.0	28.9		ug/L		116	74 - 123

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
1,2-Dichloroethane-d4 (Surr)	*98*		*66 - 137*
Toluene-d8 (Surr)	*94*		*71 - 126*
4-Bromofluorobenzene (Surr)	*98*		*73 - 120*

Lab Sample ID: 480-49553-6 MSD
Matrix: Water
Analysis Batch: 151859

Client Sample ID: AZMW-8
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
1,1-Dichloroethane	ND		25.0	27.9		ug/L		112	71 - 129	4	20
1,1-Dichloroethene	ND		25.0	28.5		ug/L		114	58 - 121	6	16
1,2-Dichlorobenzene	ND		25.0	27.2		ug/L		109	80 - 124	3	20
1,2-Dichloroethane	ND		25.0	28.2		ug/L		113	75 - 127	5	20
Benzene	ND		25.0	27.6		ug/L		111	71 - 124	4	13
Chlorobenzene	ND		25.0	29.2		ug/L		117	72 - 120	6	25
cis-1,2-Dichloroethene	ND		25.0	28.8		ug/L		115	74 - 124	6	15
Ethylbenzene	ND		25.0	27.6		ug/L		111	77 - 123	3	15
Methyl tert-butyl ether	ND		25.0	26.1		ug/L		105	64 - 127	4	37
Tetrachloroethene	ND		25.0	31.5	F	ug/L		126	74 - 122	5	20
Toluene	ND		25.0	27.3		ug/L		109	80 - 122	6	15
trans-1,2-Dichloroethene	ND		25.0	29.0		ug/L		116	73 - 127	7	20
Trichloroethene	ND		25.0	29.9		ug/L		120	74 - 123	3	16

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
1,2-Dichloroethane-d4 (Surr)	*98*		*66 - 137*
Toluene-d8 (Surr)	*95*		*71 - 126*
4-Bromofluorobenzene (Surr)	*99*		*73 - 120*

QC Association Summary

Client: New York State D.E.C.
Project/Site: Former Ithaca Gun Factory #C755019A

TestAmerica Job ID: 480-49553-1

GC/MS VOA

Analysis Batch: 151859

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-49553-1	MW-6	Total/NA	Water	8260C	
480-49553-2	MW-7	Total/NA	Water	8260C	
480-49553-3	AZMW-7	Total/NA	Water	8260C	
480-49553-4	AZMW-6	Total/NA	Water	8260C	
480-49553-5	AZMW-3	Total/NA	Water	8260C	
480-49553-6	AZMW-8	Total/NA	Water	8260C	
480-49553-6 MS	AZMW-8	Total/NA	Water	8260C	
480-49553-6 MSD	AZMW-8	Total/NA	Water	8260C	
480-49553-7	AZMW-4	Total/NA	Water	8260C	
480-49553-8	AZMW-2	Total/NA	Water	8260C	
480-49553-9	AZMW-5	Total/NA	Water	8260C	
480-49553-10	AZMW-1	Total/NA	Water	8260C	
480-49553-11	MW-X DUP1	Total/NA	Water	8260C	
480-49553-12	MW-X2 DUP2	Total/NA	Water	8260C	
480-49553-13	Trip Blank	Total/NA	Water	8260C	
LCS 480-151859/4	Lab Control Sample	Total/NA	Water	8260C	
MB 480-151859/7	Method Blank	Total/NA	Water	8260C	

Lab Chronicle

Client: New York State D.E.C.
Project/Site: Former Ithaca Gun Factory #C755019A

TestAmerica Job ID: 480-49553-1

Client Sample ID: MW-6
Lab Sample ID: 480-49553-1
Date Collected: 11/04/13 12:55
Matrix: Water
Date Received: 11/07/13 02:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260C		1	151859	11/14/13 02:55	LCH	TAL BUF

Client Sample ID: MW-7
Lab Sample ID: 480-49553-2
Date Collected: 11/04/13 15:00
Matrix: Water
Date Received: 11/07/13 02:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260C		1	151859	11/14/13 03:18	LCH	TAL BUF

Client Sample ID: AZMW-7
Lab Sample ID: 480-49553-3
Date Collected: 11/05/13 11:30
Matrix: Water
Date Received: 11/07/13 02:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260C		1	151859	11/14/13 03:42	LCH	TAL BUF

Client Sample ID: AZMW-6
Lab Sample ID: 480-49553-4
Date Collected: 11/05/13 12:50
Matrix: Water
Date Received: 11/07/13 02:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260C		1	151859	11/14/13 04:07	LCH	TAL BUF

Client Sample ID: AZMW-3
Lab Sample ID: 480-49553-5
Date Collected: 11/05/13 14:40
Matrix: Water
Date Received: 11/07/13 02:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260C		1	151859	11/14/13 04:31	LCH	TAL BUF

Client Sample ID: AZMW-8
Lab Sample ID: 480-49553-6
Date Collected: 11/05/13 10:25
Matrix: Water
Date Received: 11/07/13 02:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260C		1	151859	11/14/13 04:55	LCH	TAL BUF

Lab Chronicle

Client: New York State D.E.C.
Project/Site: Former Ithaca Gun Factory #C755019A

TestAmerica Job ID: 480-49553-1

Client Sample ID: AZMW-4
Lab Sample ID: 480-49553-7
Date Collected: 11/05/13 11:30
Matrix: Water
Date Received: 11/07/13 02:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260C		1	151859	11/14/13 05:19	LCH	TAL BUF

Client Sample ID: AZMW-2
Lab Sample ID: 480-49553-8
Date Collected: 11/05/13 13:05
Matrix: Water
Date Received: 11/07/13 02:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260C		1	151859	11/14/13 05:43	LCH	TAL BUF

Client Sample ID: AZMW-5
Lab Sample ID: 480-49553-9
Date Collected: 11/05/13 14:45
Matrix: Water
Date Received: 11/07/13 02:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260C		1	151859	11/14/13 06:08	LCH	TAL BUF

Client Sample ID: AZMW-1
Lab Sample ID: 480-49553-10
Date Collected: 11/06/13 08:15
Matrix: Water
Date Received: 11/07/13 02:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260C		1	151859	11/14/13 06:31	LCH	TAL BUF

Client Sample ID: MW-X DUP1
Lab Sample ID: 480-49553-11
Date Collected: 11/05/13 00:00
Matrix: Water
Date Received: 11/07/13 02:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260C		1	151859	11/14/13 06:56	LCH	TAL BUF

Client Sample ID: MW-X2 DUP2
Lab Sample ID: 480-49553-12
Date Collected: 11/05/13 00:00
Matrix: Water
Date Received: 11/07/13 02:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260C		1	151859	11/14/13 07:20	LCH	TAL BUF

Lab Chronicle

Client: New York State D.E.C.
Project/Site: Former Ithaca Gun Factory #C755019A

TestAmerica Job ID: 480-49553-1

Client Sample ID: Trip Blank
Date Collected: 11/05/13 00:00
Date Received: 11/07/13 02:00

Lab Sample ID: 480-49553-13
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260C		1	151859	11/14/13 07:44	LCH	TAL BUF

Laboratory References:

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

Certification Summary

Client: New York State D.E.C.
Project/Site: Former Ithaca Gun Factory #C755019A

TestAmerica Job ID: 480-49553-1

Laboratory: TestAmerica Buffalo

All certifications held by this laboratory are listed. Not all certifications are applicable to this report.

Authority	Program	EPA Region	Certification ID	Expiration Date
Arkansas DEQ	State Program	6	88-0686	07-06-14
California	NELAP	9	1169CA	09-30-14
Connecticut	State Program	1	PH-0568	09-30-14
Florida	NELAP	4	E87672	06-30-14
Georgia	State Program	4	N/A	03-31-14
Illinois	NELAP	5	200003	09-30-14
Iowa	State Program	7	374	03-01-15
Kansas	NELAP	7	E-10187	01-31-14
Kentucky	State Program	4	90029	12-31-13 *
Kentucky (UST)	State Program	4	30	04-01-14
Louisiana	NELAP	6	02031	06-30-14
Maine	State Program	1	NY00044	12-04-14
Maryland	State Program	3	294	03-31-14
Massachusetts	State Program	1	M-NY044	06-30-14
Michigan	State Program	5	9937	04-01-14
Minnesota	NELAP	5	036-999-337	12-31-13 *
New Hampshire	NELAP	1	2973	09-11-14
New Jersey	NELAP	2	NY455	06-30-14
New York	NELAP	2	10026	04-01-14
North Dakota	State Program	8	R-176	03-31-14
Oklahoma	State Program	6	9421	08-31-14
Oregon	NELAP	10	NY200003	06-09-14
Pennsylvania	NELAP	3	68-00281	07-31-14
Rhode Island	State Program	1	LAO00328	12-31-13
Tennessee	State Program	4	TN02970	04-01-14
Texas	NELAP	6	T104704412-11-2	07-31-14
USDA	Federal		P330-11-00386	11-22-14
Virginia	NELAP	3	460185	09-14-14
Washington	State Program	10	C784	02-10-14
West Virginia DEP	State Program	3	252	12-31-13
Wisconsin	State Program	5	998310390	08-31-14

* Expired certification is currently pending renewal and is considered valid.

Method Summary

Client: New York State D.E.C.
Project/Site: Former Ithaca Gun Factory #C755019A

TestAmerica Job ID: 480-49553-1

Method	Method Description	Protocol	Laboratory
8260C	Volatile Organic Compounds by GC/MS	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: New York State D.E.C.
Project/Site: Former Ithaca Gun Factory #C755019A

TestAmerica Job ID: 480-49553-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
480-49553-1	MW-6	Water	11/04/13 12:55	11/07/13 02:00
480-49553-2	MW-7	Water	11/04/13 15:00	11/07/13 02:00
480-49553-3	AZMW-7	Water	11/05/13 11:30	11/07/13 02:00
480-49553-4	AZMW-6	Water	11/05/13 12:50	11/07/13 02:00
480-49553-5	AZMW-3	Water	11/05/13 14:40	11/07/13 02:00
480-49553-6	AZMW-8	Water	11/05/13 10:25	11/07/13 02:00
480-49553-7	AZMW-4	Water	11/05/13 11:30	11/07/13 02:00
480-49553-8	AZMW-2	Water	11/05/13 13:05	11/07/13 02:00
480-49553-9	AZMW-5	Water	11/05/13 14:45	11/07/13 02:00
480-49553-10	AZMW-1	Water	11/06/13 08:15	11/07/13 02:00
480-49553-11	MW-X DUP1	Water	11/05/13 00:00	11/07/13 02:00
480-49553-12	MW-X2 DUP2	Water	11/05/13 00:00	11/07/13 02:00
480-49553-13	Trip Blank	Water	11/05/13 00:00	11/07/13 02:00

TestAmerica Albany
25 Kraft Road
Albany, NY 12205

Chain of Custody Record

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

Client Information	Sampler: Garth Barrett	Lab PM: Hoffman, Sally J	Carrier Tracking No(s):	COC No: 480-41117-11082.1
Client Contact: Brian Baulsir	Phone:	E-Mail: sally.hoffman@testamericainc.com		Page: Page 1 of 2
Company: Aztech Technologies Inc		Analysis Requested		Job #:
Address: 5 McCrea Hill Road	Due Date Requested:			Preservation Codes: A - HCL, B - NaOH, M - Hexane, N - None, AsNaO2, Na2O4S, Na2SO3, Na2S2SO3, H2SO4, TSP Dodecahydrate, Acetone, MCAA, ph 4-5, other (specify)
City: Ballston Spa	TAT Requested (days):			
State, Zip: NY, 12020				
Phone:	PO #: CallOut ID 121941			
Email: BBAULSIR@AZTECHTECH.COM	WO #:			Other:
Project Name: Former Ithaca Gun Factory #C755019A	Project #: 48008223			
Site:	SSOW#:			

480-49553 Chain of Custody

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)	8260C - (MOD) TCL list OLM04.2	Total Number of cont.	Special Instructions/Note:
			Preservation Code:				A		
MW-6	11-4-13	12:55	G	Water	N		X	3	
MW-7	11-4-13	1500	G	Water	N		X	3	
AZMW-7	11-5-13	11:30	G	Water	N		X	3	
AZMW-6	11-5-13	12:50	G	Water	N		X	3	
AZMW-3	11-5-13	2:40	G	Water	N		X	3	
AZMW-8	11-5-13	10:25	G	Water	N	X	X	3	
AZMW-4	11-5-13	11:30	G	Water	N		X	3	
AZMW-2	11-5-13	1:05	G	Water	N		X	3	
AZMW-5	11-5-13	2:45	G	Water	N		X	3	
AZMW-1	11-6-13	8:15	G	Water	N		X	3	
MW-X DUP1	11-5-13	—	G	Water	N		X	3	

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
Garth Barrett	11-6-13 10:00	Aztech			
Relinquished by: 11-6-13	Date/Time: 19:00	Company	Received by:	Date/Time: 11-7-13 0200	Company TAL
Relinquished by:	Date/Time	Company	Received by:	Date/Time:	Company

Custody Seals Intact: ∆ Yes ∆ No	Custody Seal No.:	Cooler Temperature(s) °C and Other Remarks: 2.2 #1

TestAmerica Albany
25 Kraft Road
Albany, NY 12205

Chain of Custody Record

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

Client Information	Sampler: Carl Barrett	Lab PM: Hoffman, Sally J	Carrier Tracking No(s):	COC No: 480-41117-11082.2
Client Contact: Brian Baulsir	Phone:	E-Mail: sally.hoffman@testamericainc.com		Page: Page 2 of 2
Company: Aztech Technologies Inc				Job #:
Address: 5 McCrea Hill Road	Due Date Requested:			
City: Ballston Spa	TAT Requested (days):			
State, Zip: NY, 12020				
Phone:	PO #: CallOut ID 121941			
Email: BBAULSIR@AZTECHTECH.COM	WO #:			
Project Name: Former Ithaca Gun Factory #C755019A	Project #: 48008223			
Site:	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 - Na2S2SO3
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)	8260C - (MOD) TCL list OLM04.2	Total Number of containers	Special Instructions/Note:
			Preservation Code:		X	X	A	X	
AZMW-8 MS	11-5-13	10:25	G	Water			X	3	
AZMW-8 MSD	11-5-13	10:25	G	Water			X	3	
MW-X2 DUP2	11-5-13	—	C	Water			X	3	
				Water					

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
Carl Barrett	11-6-13 10:06	Aztech		11-6-13	TAL
Relinquished by: 11-6-13	Date/Time: 19:20	Company	Received by:	Date/Time: 11-7-13 0200	Company TAL
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: 2.2 #1

Login Sample Receipt Checklist

Client: New York State D.E.C.

Job Number: 480-49553-1

Login Number: 49553

List Source: TestAmerica Buffalo

List Number: 1

Creator: Wienke, Robert K

Question	Answer	Comment
Radioactivity either was not measured or, if measured, is at or below background	True	
The cooler's custody seal, if present, is intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the sample IDs on the containers and the COC.	True	
Samples are received within Holding Time.	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified	N/A	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
VOA sample vials do not have headspace or bubble is <6mm (1/4") in diameter.	True	
If necessary, staff have been informed of any short hold time or quick TAT needs	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Sampling Company provided.	True	Aztech
Samples received within 48 hours of sampling.	True	
Samples requiring field filtration have been filtered in the field.	N/A	
Chlorine Residual checked.	N/A	

ATTACHMENT E

DATA USABILITY SUMMARY REPORTS

Data Usability Summary Report

Former Ithaca Gun Factory Site #C755019A
Ithaca, New York

Groundwater Samples
Collected July and August 2013

September 2013

EnviroAnalytics
Data Management and Validation Service

2638 Sunset Avenue
Utica, New York 13502

Data Usability Summary Report

Groundwater Samples
Collected July and August 2013

Former Ithaca Gun Factory Site #C755019A
Ithaca, New York

Prepared By:

EnviroAnalytics
Data Management and Validation Service
2638 Sunset Avenue
Utica, New York 13502

EXECUTIVE SUMMARY

This report addresses data quality for groundwater samples collected at the Former Ithaca Gun Factory Site #C755019A located in Ithaca, New York. The samples were analyzed for volatile organics (VOCs) following New York State Department of Environmental Conservation (NYSDEC) Analytical Services Protocol (ASP) methodologies. Sample collection was performed by Aztech Technologies, Inc. located in Ballston Spa, New York. Analytical services were provided by TestAmerica Laboratories, Inc. located in Amherst, New York.

The volatile organic analyses data were determined to be usable for qualitative and quantitative purposes with minor qualification. Sample results for several compounds were qualified based on deviations from blank analysis, continuing calibration, field duplicate, and matrix spike criteria.

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Appendices

SECTION 1 - INTRODUCTION

1.1 Introduction

This report addresses data quality for groundwater samples collected at the Former Ithaca Gun Factory Site #C755019A located in Ithaca, New York. The samples were analyzed for volatile organics (VOCs) following New York State Department of Environmental Conservation (NYSDEC) Analytical Services Protocol (ASP) methodologies. Sample collection was performed by Aztech Technologies, Inc. located in Ballston Spa, New York. Analytical services were provided by TestAmerica Laboratories, Inc. located in Amherst, New York. The quantity and types of samples submitted for data validation are tabulated below.

Table 1: Introduction - Sample Summary Table

SDG#	Date Collected	Sample Matrix	Sample Identification	
			Client ID	Laboratory ID
480-43159-1	07/31/2013	Water	SB-1	480-43159-1
			SB-2	480-43159-2
			SB-3	480-43159-3
			SB-4	480-43159-4
			SB-5	480-43159-5
			SB-6	480-43159-6
			SB-XX DUP	480-43159-7
			TB	480-43159-8
480-43132-1	08/01/2013	Water	SB-7	480-43132-1
			SB-8	480-43132-2
			SB-9	480-43132-3
			SB-10	480-43132-4

1.2 Analytical Methods

The samples were analyzed for volatile organics (VOCs) following New York State Department of Environmental Conservation (NYSDEC) Analytical Services Protocol (ASP) methodologies (2005 update). Laboratory analyses were provided by TestAmerica Laboratories, Inc. located in Amherst, New York.

1.3 Validation Protocols

Data validation is a process that involves the evaluation of analytical data against prescribed quality control criteria to determine the usefulness of the data. The analytical data addressed in this report were evaluated utilizing the quality control criteria presented in the following documents:

- *USEPA Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review*, EPA-540-R-08-01, June 2008.
- *CLP Organics Data Review and Preliminary Review*, SOP No. HW-6 Revision #14, USEPA Region II, September 2006.

- *Validating Volatile Organic Compounds By Gas Chromatography/Mass Spectrometry SW-846 Method 8260B*, SOP No. HW-24 Revision #2, USEPA Hazardous Waste Support Branch, October 2006.

- *Exhibit E of New York State Department of Environmental Conservation Analytical Services Protocol (NYSDEC ASP)*, NYSDEC June 2005.

1.3.1 Organic Parameters

The validation of organic parameters for this project followed the requirements presented in the analytical methodology and the data validation guidelines presented above. The following QA/QC parameters were evaluated:

Volatile Organics Analysis

1. Holding Times
2. GC/MS Instrument Tuning Criteria
3. Calibration
   a. Initial Calibration
   b. Continuing Calibration
4. Blank Analysis
5. Surrogate Recovery
6. Matrix Spike / Matrix Spike Duplicate Analysis
7. Reference Standard Analysis
8. Internal Standards Recovery
9. Compound Identification and Quantification
10. Field Duplicate Analysis
11. System Performance
12. Documentation Completeness
13. Overall Data Assessment

1.4 Data Qualifiers

The following qualifiers as specified in the guidance documents presented in Section 1.3 of this report have been used for this data validation.

U Indicates that the compound was analyzed for, but was not detected. The sample quantification limit is presented and adjusted for dilution. This qualifier is also used to signify that the detection limit of an analyte was raised due to blank contamination.

J Indicates that the result should be considered approximate. This qualifier is used when the data validation procedure identifies a deficiency in the data generation process.

UJ Indicates that the detection limit for the analyte in this sample should be considered approximate. This qualifier is used when the data validation process identifies a deficiency in the data generation process.

R Indicates that the previously reported detection limit or sample result has been rejected due to a major deficiency in the data generation procedure. The data are considered to be unusable for both qualitative and quantitative purposes.

The following sections of this document present a summary of the data validation process. Section 2 discusses data compliance with established QA/QC criteria and qualifications performed on the sample data. A discussion of the Precision, Accuracy, Representativeness, Comparability, and Completeness (PARCC) of the data and data usability are discussed in Section 3. The USEPA Region II Data Validation Checklist is presented in Appendix A.

SECTION 2 - DATA VALIDATION SUMMARY

This section presents a discussion of QA/QC parameter compliance with established criteria and the qualification of data performed when QA/QC parameter deviations were identified. When several deviations from established QA/QC criteria were observed, the final qualifier assigned to the data was based on the cumulative effect of the deviations.

2.1 Volatile Organics Analysis

Data validation was performed for eleven groundwater samples and one trip blank sample. The QA/QC parameters presented in Section 1.3.1 of this report were found to be within specified limits with the exception of the following:

Blank Analysis

The method blanks contained detectable concentrations of several target compounds. Blank action levels were calculated at ten times the blank concentrations for the common laboratory contaminants and five times for other target compounds. Detected sample results, which were less than the blank action levels were qualified with a "U" in the associated samples. Results that were detected below the contract required detection limit (CRDL) were raised to the CRDL and qualified with a "U" qualifier. The "U" qualifier indicates that the volatile organic was analyzed for but was not detected above the CRDL. Samples qualified for blank contamination are tabulated below.

Table 2: Volatile Organics Analysis - Blank Analysis Deviations

Blank Matrix	Date Analyzed	Compound	Blank Action Level	Associated Samples	Qualified Sample Result
Water	08/08/2013	Carbon Disulfide	2.6 µg/L	SB-1 SB-6 SB-XX DUP	1.0 U µg/L 1.0 U µg/L 1.0 U µg/L

Continuing Calibration

The continuing calibration percent difference (%D) limit, which requires the %D to be less than 25 percent, was exceeded for several compounds. Sample qualification included the approximation (J, UJ) of results when %D criteria were exceeded, but were less than 90 percent. Samples requiring qualification due to these deviations are tabulated below.

Table 3: Volatile Organics Analysis - Continuing Calibration Deviations

Date Analyzed	Compound	%D	Qualifier	Affected Samples
08/07/2013 (22:41) HP5973P	Dichlorodifluoromethane	26.1 %	UJ	SB-7 SB-8 SB-9 SB-10

Matrix Spike Recovery

Matrix spike/matrix spike duplicate (MS/MSD) recovery criteria requiring compound recoveries to be within laboratory generated control limits were exceeded for several compounds. Qualification of sample results included the approximation of results when spike recoveries were greater than the upper limit, but less than 200 percent or less than the lower limit, but greater than 10 percent. Samples qualified due to MS/MSD recovery deviations are tabulated below.

Table 4: Volatile Organics Analysis - MS/MSD Analysis Deviations

MS/MSD Sample ID	Compound	Percent Recovery (MS/MSD)	Control Limits	Qualifier	Affected Samples
SB-5	cis-1,2-Dichloroethene	118 %/125 %	74 % to 124 %	J	SB-9
SB-5	Trichloroethene	118 %/124 %	74 % to 123 $	J	SB-1 SB-4 SB-5 SB-7 SB-8 SB-9 SB-10

Field Duplicate Analysis

Field duplicate criterion requires the relative percent difference (RPD) between duplicate analyses to be less than 50 percent. Qualification of sample results included the approximation of data for compounds with RPD values greater than 50 percent. Samples qualified due to laboratory duplicate analysis deviations are tabulated below.

Table 5: Volatile Organics Analysis - Field Duplicate Deviations

Duplicate Sample ID	Original Sample ID	Compound	RPD	Qualifier	Affected Samples
SB-XX DUP	SB-6	Acetone	63.2 %	J	SB-1 SB-2 SB-3 SB-4 SB-5 SB-6 SB-7 SB-8 SB-9 SB-10 SB-XX DUP

Overall Data Assessment

Overall, the laboratory performed volatile organic analyses in accordance with the requirements specified in the methods listed in Section 1.2. These data were determined to be usable for qualitative and quantitative purposes with minor qualification. Sample results for several compounds were qualified based on deviations from blank analysis, continuing calibration, field duplicate, and matrix spike criteria.

SECTION 3 - DATA USABILITY and PARCC EVALUATION

3.1 Data Usability

This section presents a summary of the usability of the analytical data and an evaluation of the PARCC parameters. Data usability was calculated as the percentage of data that was not qualified as rejected based on a significant deviation from established QA/QC criteria. Data usability which was calculated separately for each type of analysis is tabulated below.

Table 6: Data Usability and PARCC Evaluation - Data Usability

Parameter	Usability	Deviations
Volatile Organics	100 %	None resulting in the rejection of data.

3.2 PARCC Evaluation

The following sections provide an evaluation of the analytical data with respect to the precision, accuracy, representativeness, comparability, and completeness (PARCC) parameters.

3.2.1 Precision

Precision is measured through field duplicate samples, split samples, and laboratory duplicate samples. For this sampling program, none of the data were qualified for laboratory duplicate criteria deviations and 1.91 percent of the data were qualified for field duplicate criteria deviations.

3.2.2 Accuracy

Matrix spike sample, surrogate recovery, internal standard recovery, laboratory control samples, and calibration criteria indicate the accuracy of the data. For this sampling program, 1.39 percent of the analytical data were qualified for deviations from matrix spike recovery criteria; none of the data were qualified for surrogate recovery criteria deviations; none of the data were qualified for internal standard recovery criteria deviations; none of the data were qualified for laboratory control sample deviations; and 0.69 percent of the data were qualified for calibration criteria deviations.

3.2.3 Representativeness

Holding times, sample preservation, and blank analysis are indicators of the representativeness of the analytical data. For this investigation, none of the analytical data required qualification for holding time deviations and 0.52 percent of the analytical data required qualification for blank analysis deviations.

3.2.4 Comparability

Comparability is not compromised provided that the analytical methods did not change over time. A major component of comparability is the use of standard reference materials for calibration and QC. These standards are compared to other unknowns to verify their concentrations. Since standard analytical methods and reporting procedures were consistently used by the laboratory, the comparability criteria for the analytical data were met.

3.2.5 Completeness

The percent usability or completeness of the data was determined to be 100 percent.

APPENDIX A

DATA VALIDATION CHECKLISTS

Table of Contents

Data Validation Checklist - Part A: SW-846 Method 8260B VOA Analysis

No:	Parameter	YES	NO	N/A
1.0	**Traffic Reports and Laboratory Narrative**			
1.1	Are the traffic Report Forms present for all samples?	X		
1.2	Do the Traffic Reports or Lab Narrative indicate any problems with sample receipt, condition of samples, analytical problems or special circumstances affecting the quality of the data?		X	
2.0	**Holding Times**			
2.1	Have any VOA technical holding times, determined from date of collection to date of analysis, been exceeded?		X	
3.0	**System Monitoring Compound (SMC) Recovery (Form II)**			
3.1	Are the VOA SMC Recovery Summaries (FORM II) present for each of the following matrices:			
	a. Low Water	X		
	b. Low Soil			X
	c. Air			X
3.2	Are all the VOA samples listed on the appropriate System Monitoring Compound Recovery Summary for each of the following matrices:			
	a. Low Water	X		
	b. Low Soil			X
	c. Air			X
3.3	Were outliers marked correctly with an asterisk?			X
3.4	Was one or more VOA system monitoring compound recovery outside of contract specifications for any sample or method blank?		X	
	If yes, were samples re-analyzed?			X
	Were method blanks re-analyzed?			X
3.5	Are there any transcription/calculation errors between raw data and Form II?		X	
4.0	**Matrix Spikes (Form III)**			
4.1	Is the Matrix Spike/Matrix Spike Duplicate Recovery Form (Form III) present?		X	
4.2	Were matrix spikes analyzed at the required frequency for each of the following matrices?			
	a. Low Water	X		
	b. Low Soil			X
	c. Air			X
4.3	How many VOA spike recoveries are outside QC limits?			
	Water 2 out of 48 Soils 0 out of 48			
4.4	How many RPD's for matrix spike and matrix spike duplicate recoveries are outside QC limits?			
	Water 0 out of 48 Soils 0 out of 48			

Data Validation Checklist - Part A: SW-846 Method 8260B VOA Analysis

No:	Parameter	YES	NO	N/A
5.0	**Blanks (Form IV)**			
5.1	Is the Method Blank Summary (Form IV) present?	X		
5.2	Frequency of Analysis: for the analysis of VOA TCL compounds, has a reagent/method blank been analyzed for each SDG or every 20 samples of similar matrix (low water, low soil, medium soil), whichever is more frequent?	X		
5.3	Has a VOA method/instrument blank been analyzed at least once every twelve hours for each concentration level and GC/MS system used?	X		
5.4	Is the chromatographic performance (baseline stability) for each instrument acceptable for VOAs?	X		
6.0	**Contamination**			
6.1	Do any method/instrument/reagent blanks have positive results (TCL and/or TIC) for VOAs?	X		
6.2	Do any field/trip/rinse blanks have positive VOA results (TCL and/or TIC)?	X		
6.3	Are there field/rinse/equipment blanks associated with every sample?	X		
7.0	**GC/MS Instrument Performance Check (Form V)**			
7.1	Are the GC/MS Instrument Performance Check Forms (Form V) present for Bromofluorobenzene (BFB)?	X		
7.2	Are the enhanced bar graph spectrum and mass/charge (m/z) listing for the BFB provided for each twelve hour shift?	X		
7.3	Has an instrument performance compound been analyzed for every twelve hours of sample analysis per instrument?	X		
7.4	Have the ion abundances been normalized to m/z 95?	X		
7.5	Have the ion abundance criteria been met for each instrument used?	X		
7.6	Are there any transcription/calculation errors between mass lists and Form V's?		X	
7.7	Have the appropriate number of significant figures (two) been reported?	X		
7.8	Are the spectra of the mass calibration compound acceptable?	X		
8.0	**Target Compound List (TCL) Analytes**			
8.1	Are the Organic Analysis Data Sheets (Form I VOA) present with required header information on each page, for each of the following:			
	a. Sample and/or fractions as appropriate?	X		
	b. Matrix spikes and matrix spike duplicates?	X		
	c. Blanks?	X		
8.2	Are the VOA Reconstructed Ion Chromatograms, the mass spectra for the identified compounds, and the data system printouts (Quant Reports) included in the sample package for each of the following?			
	a. Samples and/or fractions as appropriate?	X		
	b. Matrix spikes and matrix spike duplicates (Mass spectra not required)?	X		
	c. Blanks?	X		
8.3	Are the response factors shown in the Quant Report?	X		

No:	Parameter	YES	NO	N/A
8.4	Is the chromatographic performance acceptable with respect to:			
	Baseline stability?	X		
	Resolution?	X		
	Peak shape?	X		
	Full-scale graph (attenuation)?	X		
	Other:			X
8.5	Are the lab-generated standard mass spectra of the identified VOA compounds present for each sample?	X		
8.6	Is the RRT of each reported compound within 0.06 RRT units of the standard RRT in the continuing calibration?	X		
8.7	Are all ions in the standard mass spectrum at a relative intensity greater than 10% also present in the sample mass spectrum?	X		
8.8	Do sample and standard relative ion intensities agree within 20%?	X		
9.0	**Tentatively Identified Compounds (TIC)**			
9.1	Are all Tentatively Identified Compound Forms (Form I Part B) present; and do listed TICs include scan number or retention time, estimated concentration and "JN" qualifier?	X		
9.2	Are the mass spectra for the tentatively identified compounds and associated "best match" spectra included in the sample package for each of the following:			
	a. Samples and/or fractions as appropriate?	X		
	b. Blanks?	X		
9.3	Are any TCL compounds (from any fraction) listed as TIC compounds?		X	
9.4	Are all ions present in the reference mass spectrum with a relative intensity greater than 10% also present in the sample mass spectrum?	X		
9.5	Do TIC and "best match" standard relative ion intensities agree within 20%?	X		
10.0	**Compound Quantitation and Reported Detection Limits**			
10.1	Are there any transcription/calculation errors in Form I results?		X	
10.2	Are the CRQLs adjusted to reflect sample dilutions and, for soils, sample moisture?	X		
11.0	**Standards Data (GC/MS)**			
11.1	Are the Reconstructed Ion Chromatograms, and data system printouts present for initial and continuing calibration?	X		
12.0	**GC/MS Initial Calibration (Form VI)**			
12.1	Are the Initial Calibration Forms (Form VI) present and complete for the volatile fraction at concentrations of 10, 20, 50, 100, 200 ug/L? Are there separate calibrations for low/med soils and low soil samples?	X		
12.2	Were all low level soil standards, blanks, and samples analyzed by heated purge?			X
12.3	Are the response factors stable for VOA's over the concentration range of the calibration (%Relative Standard Deviation (%RSD) <30%)	X		
12.4	Are the RRFs above 0.01?	X		
12.5	Are there any transcription/calculation errors in the reporting of average response factors (RRF) or %RSD?		X	

Data Validation Checklist - Part A: SW-846 Method 8260B VOA Analysis

No:	Parameter	YES	NO	N/A
13.0	**GC/MS Continuing Calibration (Form VII)**			
13.1	Are the Continuing Calibration Forms (Form VII) present and complete for the volatile fraction?	X		
13.2	Has a continuing calibration standard been analyzed for every twelve hours of sample analysis per instrument?	X		
13.3	Do any volatile compounds have a %Difference (%D) between the initial and continuing RRF which exceeds the +/- 25% criteria?	X		
13.4	Do any volatile compounds have a RRF <0.01?		X	
13.5	Are there any transcription/calculation errors in the reporting of average response factor (RRF) or %difference (%D) between initial and continuing RRFs?		X	
14.0	**Internal Standard (Form VIII)**			
14.1	Are the internal standard areas (Form VIII) of every sample and blank within the upper and lower limits (-50% to +100%) for each continuing calibration?	X		
14.2	Are the retention times of the internal standards within 30 seconds of the associated calibration standard?	X		
15.0	**Field Duplicates**			
15.1	Were any field duplicates submitted for VOA analysis?	X		

Data Usability Summary Report

Former Ithaca Gun Factory
Ithaca, New York

Soil Vapor Samples
Lot # H3H020401
Lot # H3H060408

September 2013

EnviroAnalytics
Data Management and Validation Service

2638 Sunset Avenue
Utica, New York 13502

Data Usability Summary Report

Soil Vapor Samples
Lot # H3H020401
Lot # H3H060408

Former Ithaca Gun Factory
Ithaca, New York

Prepared By:

EnviroAnalytics
Data Management and Validation Service
2638 Sunset Avenue
Utica, New York 13502

EXECUTIVE SUMMARY

This report addresses data quality for air samples collected at the former Ithaca Gun Factory located in Ithaca, New York. The samples were analyzed for TO-15 volatile organics (VOCs) following New York State Department of Environmental Conservation (NYSDEC) Analytical Services Protocol (ASP) methodologies. Sample collection was performed by Aztech Technologies, Inc. located in Ballston Spa, New York. Analytical services were provided by TestAmerica Laboratories, Inc. located in Knoxville, Tennessee.

The TO-15 volatile organic analyses data were determined to be usable for qualitative and quantitative purposes as presented by the laboratory.

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SECTION 1 - INTRODUCTION

1.1 Introduction

This report addresses data quality for air samples collected at the former Ithaca Gun Factory located in Ithaca, New York. The samples were analyzed for TO-15 volatile organics (VOCs) following New York State Department of Environmental Conservation (NYSDEC) Analytical Services Protocol (ASP) methodologies. Sample collection was performed by Aztech Technologies, Inc. located in Ballston Spa, New York. Analytical services were provided by TestAmerica Laboratories, Inc. located in Knoxville, Tennessee. The quantity and type of samples submitted for data validation are tabulated below.

Table 1: Introduction - Sample Summary Table

SDG#	Date Collected	Sample Matrix	Sample Identification	
			Client ID	Laboratory ID
H3H020401	07/30/2013 – 07/31/2013	Soil Vapor	VP-11	M1H7R
			VP-12	M1H7T
			VP-1	M1H7V
			VP-2	M1H7W
			VP-3	M1H7X
			VP-4	M1H70
			VP-5	M1H71
H3H060408	07/31/2013 – 08/01/2013	Soil Vapor	VP-6	M1J68
			VP-7	M1J7D
			VP-8	M1J7E
			VP-9	M1J7F
			VP-10	M1J7G
			VP-XX DUP	M1J7H

1.2 Analytical Methods

The samples were analyzed for TO-15 volatile organics (VOCs) following New York State Department of Environmental Conservation (NYSDEC) Analytical Services Protocol (ASP) methodologies (2005 update). Laboratory analyses were provided by TestAmerica Laboratories, Inc. located in Knoxville, Tennessee.

1.3 Validation Protocols

Data validation is a process that involves the evaluation of analytical data against prescribed quality control criteria to determine the usefulness of the data. The analytical data addressed in this report were evaluated utilizing the quality control criteria presented in the following documents:

- *USEPA Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review*, EPA-540-R-08-01, June 2008.
- *CLP Organics Data Review and Preliminary Review*, SOP No. HW-6 Revision #14, USEPA Region II, September 2006.
- *Validating Volatile Organic Compounds By Gas Chromatography/Mass Spectrometry SW-846 Method 8260B*, SOP No. HW-24 Revision #2, USEPA Hazardous Waste Support Branch, October 2006.

- *Validating Air Samples Volatile Organic Analysis of Ambient Air in Canister by Method TO-15*, SOP No. HW-31 Revision #4, USEPA Hazardous Waste Support Branch, October 2006.

- *Exhibit E of New York State Department of Environmental Conservation Analytical Services Protocol (NYSDEC ASP)*, NYSDEC June 2005.

1.3.1 Organic Parameters

The validation of organic parameters for this project followed the requirements presented in the analytical methodology and the data validation guidelines presented above. The following QA/QC parameters were evaluated:

TO-15 Volatile Organics Analyses

1. Holding Times
2. GC/MS Instrument Tuning Criteria
3. Calibration
   a. Initial Calibration
   b. Continuing Calibration
4. Blank Analysis
5. Surrogate Recovery
6. Matrix Spike / Matrix Spike Duplicate Analysis
7. Reference Standard Analysis
8. Internal Standards Recovery
9. Compound Identification and Quantification
10. Field Duplicate Analysis
11. System Performance
12. Documentation Completeness
13. Overall Data Assessment

1.4 Data Qualifiers

The following qualifiers as specified in the guidance documents presented in Section 1.3 of this report have been used for this data validation.

U Indicates that the compound was analyzed for, but was not detected. The sample quantification limit is presented and adjusted for dilution. This qualifier is also used to signify that the detection limit of an analyte was raised due to blank contamination.

J Indicates that the result should be considered approximate. This qualifier is used when the data validation procedure identifies a deficiency in the data generation process.

UJ Indicates that the detection limit for the analyte in this sample should be considered approximate. This qualifier is used when the data validation process identifies a deficiency in the data generation process.

R Indicates that the previously reported detection limit or sample result has been rejected due to a major deficiency in the data generation procedure. The data are considered to be unusable for both qualitative and quantitative purposes.

The following sections of this document present a summary of the data validation process. Section 2 discusses data compliance with established QA/QC criteria and qualifications performed on the sample data. A discussion of the Precision, Accuracy, Representativeness, Comparability, and Completeness (PARCC) of the data and data usability are discussed in Section 3. The USEPA Region II Data Validation Checklist is presented in Appendix A.

SECTION 2 - DATA VALIDATION SUMMARY

This section presents a discussion of QA/QC parameter compliance with established criteria and the qualification of data performed when QA/QC parameter deviations were identified. When several deviations from established QA/QC criteria were observed, the final qualifier assigned to the data was based on the cumulative effect of the deviations.

2.1 Volatile Organics Analysis

Data validation was performed for thirteen soil vapor samples. The QA/QC parameters presented in Section 1.3.1 of this report were found to be within specified limits. The overall data assessment is presented below.

Overall Data Assessment

Overall, the laboratory performed TO-15 volatile organic analyses in accordance with the requirements specified in the methods listed in Section 1.2. These data were determined to be usable for qualitative and quantitative purposes as presented by the laboratory.

SECTION 3 - DATA USABILITY and PARCC EVALUATION

3.1 Data Usability

This section presents a summary of the usability of the analytical data and an evaluation of the PARCC parameters. Data usability was calculated as the percentage of data that was not qualified as rejected based on a significant deviation from established QA/QC criteria. Data usability which was calculated separately for each type of analysis is tabulated below.

Table 2: Data Usability and PARCC Evaluation - Data Usability

Parameter	Usability	Deviations
TO-15 Volatile Organics	100 %	None resulting in the rejection of data.

3.2 PARCC Evaluation

The following sections provide an evaluation of the analytical data with respect to the precision, accuracy, representativeness, comparability, and completeness (PARCC) parameters.

3.2.1 Precision

Precision is measured through field duplicate samples, split samples, and laboratory duplicate samples. For this sampling program, none of the data were qualified for laboratory duplicate criteria deviations and none of the data were qualified for field duplicate criteria deviations.

3.2.2 Accuracy

Matrix spike sample, surrogate recovery, internal standard recovery, laboratory control samples, and calibration criteria indicate the accuracy of the data. For this sampling program, none of the analytical data were qualified for deviations from matrix spike recovery criteria; none of the data were qualified for surrogate recovery criteria deviations; none of the data were qualified for internal standard recovery criteria deviations; none of the data were qualified for laboratory control sample deviations; and none of the data were qualified for calibration criteria deviations.

3.2.3 Representativeness

Holding times, sample preservation, and blank analysis are indicators of the representativeness of the analytical data. For this investigation, none of the analytical data required qualification for holding time deviations and none of the analytical data required qualification for blank analysis deviations.

3.2.4 Comparability

Comparability is not compromised provided that the analytical methods did not change over time. A major component of comparability is the use of standard reference materials for calibration and QC. These standards are compared to other unknowns to verify their

concentrations. Since standard analytical methods and reporting procedures were consistently used by the laboratory, the comparability criteria for the analytical data were met.

3.2.5 Completeness

The percent usability or completeness of the data was determined to be 100 percent.

APPENDIX A

DATA VALIDATION CHECKLISTS

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Data Validation Checklist - Part A: TO-15 VOA Analyses

No:	Parameter	YES	NO	N/A
1.0	**Data Completeness and Deliverables**			
1.1	Have any missing deliverables been received and added to the data package?		X	
2.0	**Cover Letter, Narrative, and Data Reporting Forms**			
2.1	Is the Lab. Narrative and Cover Page Present?	X		
2.2	Is Case Number contained in the Narrative?	X		
2.3	Are the following Data Reporting Forms present?			
	Analysis Data Sheet [Form I/Equivalent]	X		
	Tentatively Identified Compounds [Form I-TIC]	X		
	Blank Summary [Form IV/Equivalent]	X		
	Laboratory Control Sample Data Sheet [Form III/Equivalent]	X		
	GC/MS Instrument Performance Check and Mass Calibration [Form V/Equivalent]	X		
	Initial Calibration [Form VI/Equivalent]	X		
	Continuing Calibration [Form VII/Equivalent]	X		
	Internal Standard Area and RT Summary [Form VIII/Equivalent]	X		
	Canister Certification [Form IX/Equivalent]	X		
3.0	**Canister Receipt/Log-in Sheet**			
3.1	Do all info items agree with each sample?	X		
4.0	**Traffic Reports and Laboratory Narrative**			
4.1	Are the Traffic Report Forms present for all samples?	X		
5.0	**Holding Times**			
5.1	Have any VOA technical holding times of 30 days, determined from the date of sample collection to the date of analysis, been exceeded?		X	
6.0	**Leak Test Evaluation**			
6.1	Did the pressure test not vary by more than ± 13.8 kPa (± 2 psi) over the 24 hours period?	X		
7.0	**Canister Certification Form IX/Equivalent**			
7.1	Blank Analysis			
	Were the target analytes < the required detection limits specified in the task order?	X		
7.2	Is the canister certification form provided, and the associated canister sample identification included? When contamination, included contamination detected (all raw data), analyte and reference mass spectra.	X		

Data Validation Checklist - Part A: TO-15 VOA Analyses

No:	Parameter	YES	NO	N/A
8.0	**Laboratory Control Samples**			
8.1	Is an LCS Data Sheet [Form III/Equivalent] present and complete for each LCS?	X		
8.2	Was an LCS prepared (10 ppbv total scan, 0.1 ppbv SIM) and analyzed at the required frequency (once per 24 hour analytical sequence, and concurrently with the samples in the SDG)?	X		
8.3	Are there any transcription/calculation errors between the raw data and Form III/Equivalent?		X	
8.4	Is the % recovery within 70 – 130 % for each LCS target compound reported on Form III/Equivalent?	X		
8.5	Is the RT of each reported LCS compound within the windows established during the most recent valid calibration?	X		
8.6	Do the Internal Standards meet the requirements specified in Sections 18.1 and 18.2?	X		
9.0	**GC/MS Instrument Performance Check**			
9.1	Are the GC/MS Instrument Performance Check Forms [Form V/Equivalent] present for Bromofluorobenzene (BFB)?	X		
9.2	Are the enhanced bar graph spectrum and mass/charge (m/z) listing for the 50 ng BFB provided for each twenty-four hour shift?	X		
9.3	Has the instrument performance compound been analyzed for every twenty-four hours of sample analysis per instrument?	X		
9.4	Have the ion abundances been normalized to m/z 95?	X		
9.5	Have the ion abundance criteria been met for each instrument used?	X		
9.6	Are there any transcription/calculation errors between mass lists and Form Vs?		X	
9.7	Have the appropriate number of significant figures (two) been reported?	X		
9.8	Are the spectra of the mass calibration compound acceptable?	X		
10.0	**Performance Evaluation Sample (Optional)**			
10.1	Was a PE sample submitted from the Agency with each SDG?			X
10.2	Do the Internal Standards meet the requirements specified in Section 18.1 and 18.2?			X
11.0	**Laboratory Method Blanks**			
11.1	Is an Analysis Data Sheet [Form IV/Equivalent] present and complete for each method blank?	X		
11.2	Frequency of Analysis:			
	Has a method blank analysis been reported per instrument for each 24-hour analytical sequence?	X		
	Has a method blank been analyzed after the initial calibration or a valid calibration check standard, and before the LCS, prior to sample analysis?	X		
11.3	Is the chromatographic performance (baseline stability) for each instrument acceptable?	X		
11.4	Was the area response of each Internal Standard (IS) in the blank within ± 40 % of the mean area response of the IS of the most recent valid calibration?	X		

Data Validation Checklist - Part A: TO-15 VOA Analyses

No:	Parameter	YES	NO	N/A
11.5	Were the RTs of each IS within ± 0.33 min (20 sec.) between blanks and most recent valid calibration?	X		
12.0	**Blank Contamination**			
12.1	Do any method blanks have positive target and non-target VOA results?		X	
13.0	**Target Compound Analytes**			
13.1	Are the Organic Analysis Data Sheets [Form I/Equivalent], VOA chromatograms, and data system printouts present and complete with required header information for each of the following:			
	a. Samples?	X		
	b. Method blanks?	X		
	c. Laboratory Control Sample (LCS)?	X		
	d. Performance Evaluation Sample (PES)?	X		
13.2	Is the chromatographic performance acceptable with respect to:			
	a. Baseline stability?	X		
	b. Resolution?	X		
	c. Peak shape?	X		
	d. Full-scale graph (attenuation)?	X		
	e. Other?			X
13.3	Were any electropositive displacement (negative peaks) or unusual peaks seen?		X	
13.4	Is the sample component relative retention time (RRT) within ± 0.06 RRT units of the RRT of the standard component from the most recent continuing calibration?	X		
13.5	Was Nafion dryer used?			X
14.0	**Tentatively Identified Compounds (TIC)**			
14.1	Are all Tentatively Identified Compound Forms [Form I-TIC] present and are retention time, estimated concentration and "JN" qualifier listed corresponding to each TIC?			X
14.2	Are the mass spectra for the tentatively identified compounds and associated "best match" spectra included in the sample package for each of the following?			
	a. Samples			X
	b. Blanks			X
14.3	Are all ions present in the reference mass spectrum with a relative intensity greater than 10 % also present in the sample mass spectrum?			X
14.4	Do TIC and "best match" standard relative ion intensities agree within 20 %?			X
15.0	**Initial Calibration and System Performance [Form VI/Equivalent]**			
15.1	Were each GC/MS system calibrated at 5 concentrations that span the monitoring range of the interest in an initial calibration sequence to determine the sensitivity and the linearity of the GC/MS response for the target compounds?	X		
15.2	Was the same volume introduced into the trap consistently for all field and QC-sample analyses?	X		

No:	Parameter	YES	NO	N/A
15.3	Was the area response (Y) at each calibration level within ± 40 % of the mean area response (mean Y) over the initial calibration range for each Internal Standard?	X		
	Did the laboratory tabulate the area response (Y) of the primary ions and the corresponding concentration for each compound and Internal Standard?	X		
15.4	Are the relative retention times (RRTs) for each of the target compounds at each calibration level within ± 0.06 RRT units of the mean relative retention time for the compound?	X		
15.5	Are all individual RRF and average RRFs ≥ 0.050?	X		
15.6	Are the response factors (RF) stable i.e., % Relative Standard Deviation (%RSD) ≤ 40.0 %?	X		
15.7	Are there any transcription/calculation errors in the reporting of average response factors (RRFs) or %RSDs?		X	
15.8	Are the RT shift for each Internal Standard (IS) at each calibration level within 20 seconds of the mean RT over the initial calibration range of each IS?	X		
16.0	**Daily Calibration (Form VII/Equivalent)**			
16.1	Are the daily Calibration Forms [Form VII/Equivalent] present and complete for the volatile fraction?	X		
16.2	Has the daily calibration standard (20 ppbv total scan, 0.1 ppbv SIM) been analyzed for every twenty-four hours of sample analysis per instrument after the BFB tuning analysis?	X		
16.3	Do any volatile compounds have a % Difference (%D) between the initial and daily RRFs which exceed the ± 30 % criteria?		X	
16.4	Are there any transcription/calculation errors in the reporting of the average response factors (RRF) or % difference (%D) between initial and daily RRFs?		X	
17.0	**Compound Quantitation and Reported Detection Limits**			
17.1	Are there any transcription/calculations errors in Form I results?		X	
17.2	Are the reported detection limits adjusted to reflect sample dilutions?	X		
17.3	Have any target compound concentrations exceeded the calibration range of the GC?		X	
17.4	Was more than one method of quantitation used to calculate sample results within a batch or 24-hour analytical sequence?		X	
17.5	Did the lab report the target compounds below CRQLs with the suffix "J"?			X
18.0	**Internal Standards (Form VIII/Equivalent)**			
18.1	Are the 3 internal standard areas [Form VIII] of every sample, LCS, PE, and blank within the upper and lower limits (+ 40 % to – 40 %) for each continuing calibration or 10 ppbv level of initial calibration?	X		
18.2	Are the internal standard retention times in each sample, LCS, PE, and blank within 20 seconds of the corresponding retention times in the associated calibration standard?	X		
19.0	**Mass Spectral Interpretation/Identification**			
19.1	Are the Organic Analysis Data Sheets present with required header information on each page, for each of the following:			
	a. Samples and/or fractions as appropriate?	X		

Data Validation Checklist - Part A: TO-15 VOA Analyses

No:	Parameter	YES	NO	N/A
	b. Laboratory Control Samples?	X		
	c. Blanks?	X		
19.2	Are the VOA Reconstructed Ion Chromatograms, the mass spectra for the identified compounds, and the data system printouts (quant reports) included in the sample package for each of the following:			
	a. Samples and/or fractions as appropriate?	X		
	b. Laboratory Control Samples?	X		
	c. Blanks?	X		
19.3	Is chromatographic performance acceptable with respect to:			
	a. Baseline stability?	X		
	b. Resolution?	X		
	c. Peak shape?	X		
	d. Full-scale graph (attenuation)?	X		
	e. Other:			X
19.4	Are the lab-generated standard mass spectra of the identified compounds present for each sample?	X		
19.5	Is the RRT of each reported compound within 0.06 RRT units of the standard RRT in the continuing calibration?	X		
19.6	Are all ions present in the reference standard mass spectrum at a relative intensity greater than 10 % also present in the sample mass spectrum?	X		
19.7	Do sample and reference standard relative ion intensities agree within ± 20 %?	X		
20.0	**Field Duplicates**			
15.1	Were any field duplicates submitted for VOA analysis?	X		

Data Usability Summary Report

Former Ithaca Gun Factory Site #C755019A
Ithaca, New York

Groundwater Samples
Collected November 2013

February 2014

EnviroAnalytics
Data Management and Validation Service

2638 Sunset Avenue
Utica, New York 13502

Data Usability Summary Report

Groundwater Samples
Collected November 2013

Former Ithaca Gun Factory Site #C755019A
Ithaca, New York

Prepared By:

EnviroAnalytics
Data Management and Validation Service
2638 Sunset Avenue
Utica, New York 13502

EXECUTIVE SUMMARY

This report addresses data quality for groundwater samples collected at the Former Ithaca Gun Factory Site #C755019A located in Ithaca, New York. The samples were analyzed for volatile organics (VOCs) following New York State Department of Environmental Conservation (NYSDEC) Analytical Services Protocol (ASP) methodologies. Sample collection was performed by Aztech Technologies, Inc. located in Ballston Spa, New York. Analytical services were provided by TestAmerica Laboratories, Inc. located in Amherst, New York.

The volatile organic analyses data were determined to be usable for qualitative and quantitative purposes as reported by the laboratory.

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Appendices

SECTION 1 - INTRODUCTION

1.1 Introduction

This report addresses data quality for groundwater samples collected at the Former Ithaca Gun Factory Site #C755019A located in Ithaca, New York. The samples were analyzed for volatile organics (VOCs) following New York State Department of Environmental Conservation (NYSDEC) Analytical Services Protocol (ASP) methodologies. Sample collection was performed by Aztech Technologies, Inc. located in Ballston Spa, New York. Analytical services were provided by TestAmerica Laboratories, Inc. located in Amherst, New York. The quantity and types of samples submitted for data validation are tabulated below.

Table 1: Introduction - Sample Summary Table

SDG#	Date Collected	Sample Matrix	Sample Identification	
			Client ID	Laboratory ID
480-49553-1	11/4/2013	Water	MW-6	480-49553-1
			MW-7	480-49553-2
	11/5/2013	Water	AZMW-7	480-49553-3
			AZMW-6	480-49553-4
			AZMW-3	480-49553-5
			AZMW-8	480-49553-6
			AZMW-4	480-49553-7
			AZMW-2	480-49553-8
			AZMW-5	480-49553-9
			MW-X DUP1	480-49553-11
			MW-X2 DUP2	480-49553-12
			Trip Blank	480-49553-13TB
	11/6/2013	Water	AZMW-1	480-49553-10

1.2 Analytical Methods

The samples were analyzed for volatile organics (VOCs) following New York State Department of Environmental Conservation (NYSDEC) Analytical Services Protocol (ASP) methodologies (2005 update). Laboratory analyses were provided by TestAmerica Laboratories, Inc. located in Amherst, New York.

1.3 Validation Protocols

Data validation is a process that involves the evaluation of analytical data against prescribed quality control criteria to determine the usefulness of the data. The analytical data addressed in this report were evaluated utilizing the quality control criteria presented in the following documents:

- *USEPA Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review*, EPA-540-R-08-01, June 2008.
- *CLP Organics Data Review and Preliminary Review*, SOP No. HW-6 Revision #14, USEPA Region II, September 2006.

- *Validating Volatile Organic Compounds By Gas Chromatography/Mass Spectrometry SW-846 Method 8260B*, SOP No. HW-24 Revision #2, USEPA Hazardous Waste Support Branch, October 2006.

- *Exhibit E of New York State Department of Environmental Conservation Analytical Services Protocol (NYSDEC ASP)*, NYSDEC June 2005.

1.3.1 Organic Parameters

The validation of organic parameters for this project followed the requirements presented in the analytical methodology and the data validation guidelines presented above. The following QA/QC parameters were evaluated:

Volatile Organics Analysis

1. Holding Times
2. GC/MS Instrument Tuning Criteria
3. Calibration
   a. Initial Calibration
   b. Continuing Calibration
4. Blank Analysis
5. Surrogate Recovery
6. Matrix Spike / Matrix Spike Duplicate Analysis
7. Reference Standard Analysis
8. Internal Standards Recovery
9. Compound Identification and Quantification
10. Field Duplicate Analysis
11. System Performance
12. Documentation Completeness
13. Overall Data Assessment

1.4 Data Qualifiers

The following qualifiers as specified in the guidance documents presented in Section 1.3 of this report have been used for this data validation.

U Indicates that the compound was analyzed for, but was not detected. The sample quantification limit is presented and adjusted for dilution. This qualifier is also used to signify that the detection limit of an analyte was raised due to blank contamination.

J Indicates that the result should be considered approximate. This qualifier is used when the data validation procedure identifies a deficiency in the data generation process.

UJ Indicates that the detection limit for the analyte in this sample should be considered approximate. This qualifier is used when the data validation process identifies a deficiency in the data generation process.

R Indicates that the previously reported detection limit or sample result has been rejected due to a major deficiency in the data generation procedure. The data are considered to be unusable for both qualitative and quantitative purposes.

The following sections of this document present a summary of the data validation process. Section 2 discusses data compliance with established QA/QC criteria and qualifications performed on the sample data. A discussion of the Precision, Accuracy, Representativeness, Comparability, and Completeness (PARCC) of the data and data usability are discussed in Section 3. The USEPA Region II Data Validation Checklist is presented in Appendix A.

SECTION 2 - DATA VALIDATION SUMMARY

This section presents a discussion of QA/QC parameter compliance with established criteria and the qualification of data performed when QA/QC parameter deviations were identified. When several deviations from established QA/QC criteria were observed, the final qualifier assigned to the data was based on the cumulative effect of the deviations.

2.1 Volatile Organics Analysis

Data validation was performed for twelve groundwater samples and one trip blank sample. The QA/QC parameters presented in Section 1.3.1 of this report were found to be within specified limits without exception. The overall data assessment is summarized below.

Overall Data Assessment

Overall, the laboratory performed volatile organic analyses in accordance with the requirements specified in the methods listed in Section 1.2. These data were determined to be usable for qualitative and quantitative purposes as reported by the laboratory.

SECTION 3 - DATA USABILITY and PARCC EVALUATION

3.1 Data Usability

This section presents a summary of the usability of the analytical data and an evaluation of the PARCC parameters. Data usability was calculated as the percentage of data that was not qualified as rejected based on a significant deviation from established QA/QC criteria. Data usability which was calculated separately for each type of analysis is tabulated below.

Table 2: Data Usability and PARCC Evaluation - Data Usability

Parameter	Usability	Deviations
Volatile Organics	100 %	None resulting in the qualification of data

3.2 PARCC Evaluation

The following sections provide an evaluation of the analytical data with respect to the precision, accuracy, representativeness, comparability, and completeness (PARCC) parameters.

3.2.1 Precision

Precision is measured through field duplicate samples, split samples, and laboratory duplicate samples. For this sampling program, none of the data were qualified for laboratory duplicate criteria deviations and none of the data were qualified for field duplicate criteria deviations.

3.2.2 Accuracy

Matrix spike sample, surrogate recovery, internal standard recovery, laboratory control samples, and calibration criteria indicate the accuracy of the data. For this sampling program, none of the analytical data were qualified for deviations from matrix spike recovery criteria; none of the data were qualified for surrogate recovery criteria deviations; none of the data were qualified for internal standard recovery criteria deviations; none of the data were qualified for laboratory control sample deviations; and none of the data were qualified for calibration criteria deviations.

3.2.3 Representativeness

Holding times, sample preservation, and blank analysis are indicators of the representativeness of the analytical data. For this investigation, none of the analytical data required qualification for holding time deviations and none of the analytical data required qualification for blank analysis deviations.

3.2.4 Comparability

Comparability is not compromised provided that the analytical methods did not change over time. A major component of comparability is the use of standard reference materials for calibration and QC. These standards are compared to other unknowns to verify their concentrations. Since standard analytical methods and reporting procedures

were consistently used by the laboratory, the comparability criteria for the analytical data were met.

3.2.5 Completeness

The percent usability or completeness of the data was determined to be 100 percent.

APPENDIX A

DATA VALIDATION CHECKLISTS

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Data Validation Checklist - Part A: SW-846 Method 8260B VOA Analysis

No:	Parameter	YES	NO	N/A
1.0	**Traffic Reports and Laboratory Narrative**			
1.1	Are the traffic Report Forms present for all samples?	X		
1.2	Do the Traffic Reports or Lab Narrative indicate any problems with sample receipt, condition of samples, analytical problems or special circumstances affecting the quality of the data?		X	
2.0	**Holding Times**			
2.1	Have any VOA technical holding times, determined from date of collection to date of analysis, been exceeded?		X	
3.0	**System Monitoring Compound (SMC) Recovery (Form II)**			
3.1	Are the VOA SMC Recovery Summaries (FORM II) present for each of the following matrices:			
	a. Low Water	X		
	b. Low Soil			X
	c. Air			X
3.2	Are all the VOA samples listed on the appropriate System Monitoring Compound Recovery Summary for each of the following matrices:			
	a. Low Water	X		
	b. Low Soil			X
	c. Air			X
3.3	Were outliers marked correctly with an asterisk?			X
3.4	Was one or more VOA system monitoring compound recovery outside of contract specifications for any sample or method blank?		X	
	If yes, were samples re-analyzed?			X
	Were method blanks re-analyzed?			X
3.5	Are there any transcription/calculation errors between raw data and Form II?		X	
4.0	**Matrix Spikes (Form III)**			
4.1	Is the Matrix Spike/Matrix Spike Duplicate Recovery Form (Form III) present?	X		
4.2	Were matrix spikes analyzed at the required frequency for each of the following matrices?			
	a. Low Water	X		
	b. Low Soil			X
	c. Air			X
4.3	How many VOA spike recoveries are outside QC limits?			
	Water 0 out of 26 Soils 0 out of 0			
4.4	How many RPD's for matrix spike and matrix spike duplicate recoveries are outside QC limits?			

Data Validation Checklist - Part A: SW-846 Method 8260B VOA Analysis

No:	Parameter	YES	NO	N/A
	Water 0 out of 13 Soils 0 out of 0			
5.0	**Blanks (Form IV)**			
5.1	Is the Method Blank Summary (Form IV) present?	X		
5.2	Frequency of Analysis: for the analysis of VOA TCL compounds, has a reagent/method blank been analyzed for each SDG or every 20 samples of similar matrix (low water, low soil, medium soil), whichever is more frequent?	X		
5.3	Has a VOA method/instrument blank been analyzed at least once every twelve hours for each concentration level and GC/MS system used?	X		
5.4	Is the chromatographic performance (baseline stability) for each instrument acceptable for VOAs?	X		
6.0	**Contamination**			
6.1	Do any method/instrument/reagent blanks have positive results (TCL and/or TIC) for VOAs?		X	
6.2	Do any field/trip/rinse blanks have positive VOA results (TCL and/or TIC)?		X	
6.3	Are there field/rinse/equipment blanks associated with every sample?		X	
7.0	**GC/MS Instrument Performance Check (Form V)**			
7.1	Are the GC/MS Instrument Performance Check Forms (Form V) present for Bromofluorobenzene (BFB)?	X		
7.2	Are the enhanced bar graph spectrum and mass/charge (m/z) listing for the BFB provided for each twelve hour shift?	X		
7.3	Has an instrument performance compound been analyzed for every twelve hours of sample analysis per instrument?	X		
7.4	Have the ion abundances been normalized to m/z 95?	X		
7.5	Have the ion abundance criteria been met for each instrument used?	X		
7.6	Are there any transcription/calculation errors between mass lists and Form V's?		X	
7.7	Have the appropriate number of significant figures (two) been reported?	X		
7.8	Are the spectra of the mass calibration compound acceptable?	X		
8.0	**Target Compound List (TCL) Analytes**			
8.1	Are the Organic Analysis Data Sheets (Form I VOA) present with required header information on each page, for each of the following:			
	a. Sample and/or fractions as appropriate?	X		
	b. Matrix spikes and matrix spike duplicates?			X
	c. Blanks?	X		
8.2	Are the VOA Reconstructed Ion Chromatograms, the mass spectra for the identified compounds, and the data system printouts (Quant Reports) included in the sample package for each of the following?			
	a. Samples and/or fractions as appropriate?	X		
	b. Matrix spikes and matrix spike duplicates (Mass spectra not required)?			X
	c. Blanks?	X		

Data Validation Checklist - Part A: SW-846 Method 8260B VOA Analysis

No:	Parameter	YES	NO	N/A
8.3	Are the response factors shown in the Quant Report?	X		
8.4	Is the chromatographic performance acceptable with respect to:			
	Baseline stability?	X		
	Resolution?	X		
	Peak shape?	X		
	Full-scale graph (attenuation)?	X		
	Other:			
8.5	Are the lab-generated standard mass spectra of the identified VOA compounds present for each sample?	X		
8.6	Is the RRT of each reported compound within 0.06 RRT units of the standard RRT in the continuing calibration?	X		
8.7	Are all ions in the standard mass spectrum at a relative intensity greater than 10% also present in the sample mass spectrum?	X		
8.8	Do sample and standard relative ion intensities agree within 20%?	X		
9.0	**Tentatively Identified Compounds (TIC)**			
9.1	Are all Tentatively Identified Compound Forms (Form I Part B) present; and do listed TICs include scan number or retention time, estimated concentration and "JN" qualifier?			X
9.2	Are the mass spectra for the tentatively identified compounds and associated "best match" spectra included in the sample package for each of the following:			
	a. Samples and/or fractions as appropriate?			X
	b. Blanks?			X
9.3	Are any TCL compounds (from any fraction) listed as TIC compounds?			X
9.4	Are all ions present in the reference mass spectrum with a relative intensity greater than 10% also present in the sample mass spectrum?			X
9.5	Do TIC and "best match" standard relative ion intensities agree within 20%?			X
10.0	**Compound Quantitation and Reported Detection Limits**			
10.1	Are there any transcription/calculation errors in Form I results?		X	
10.2	Are the CRQLs adjusted to reflect sample dilutions and, for soils, sample moisture?	X		
11.0	**Standards Data (GC/MS)**			
11.1	Are the Reconstructed Ion Chromatograms, and data system printouts present for initial and continuing calibration?	X		
12.0	**GC/MS Initial Calibration (Form VI)**			
12.1	Are the Initial Calibration Forms (Form VI) present and complete for the volatile fraction at concentrations of 10, 20, 50, 100, 200 ug/L? Are there separate calibrations for low/med soils and low soil samples?	X		
12.2	Were all low level soil standards, blanks, and samples analyzed by heated purge?			X
12.3	Are the response factors stable for VOA's over the concentration range of the calibration (%Relative Standard Deviation (%RSD) <30%)	X		

Data Validation Checklist - Part A: SW-846 Method 8260B VOA Analysis

No:	Parameter	YES	NO	N/A
12.4	Are the RRFs above 0.01?	X		
12.5	Are there any transcription/calculation errors in the reporting of average response factors (RRF) or %RSD?		X	
13.0	**GC/MS Continuing Calibration (Form VII)**			
13.1	Are the Continuing Calibration Forms (Form VII) present and complete for the volatile fraction?	X		
13.2	Has a continuing calibration standard been analyzed for every twelve hours of sample analysis per instrument?	X		
13.3	Do any volatile compounds have a %Difference (%D) between the initial and continuing RRF which exceeds the +/- 25% criteria?		X	
13.4	Do any volatile compounds have a RRF <0.01?		X	
13.5	Are there any transcription/calculation errors in the reporting of average response factor (RRF) or %difference (%D) between initial and continuing RRFs?		X	
14.0	**Internal Standard (Form VIII)**			
14.1	Are the internal standard areas (Form VIII) of every sample and blank within the upper and lower limits (-50% to +100%) for each continuing calibration?	X		
14.2	Are the retention times of the internal standards within 30 seconds of the associated calibration standard?	X		
15.0	**Field Duplicates**			
15.1	Were any field duplicates submitted for VOA analysis?	X		