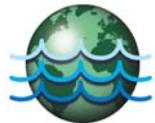


# P.W. GROSSER CONSULTING



May 31, 2013

Alicia Barraza  
New York State Department of Environmental Conservation  
Division of Environmental Remediation  
Remedial Bureau B, 12<sup>th</sup> Floor  
625 Broadway, Albany, New York 12233

**RE: Former Watermark Facility, Brooklyn, NY, Site # C224139  
Proposed Indoor Air IRM Work Plan**

Dear Ms. Barraza:

P.W. Grosser Consulting, Inc. (PWGC), on behalf of J&H Holding Company LLC, has prepared this Interim Remedial Measure Work Plan (IRMWP) in response to the New York State Department of Environmental Conservation's (NYSDEC) and New York State Department of Health's (NYSDOH) May 9, 2013 letter commenting on indoor air quality, for the site located at 491 Wortman Avenue in Brooklyn, New York.

NYSDOH stated that based on indoor air results, an IRM should be considered in order to mitigate the building. Based on indoor air data from 2011, and more recently from April 2013, NYSDEC and NYSDOH believe that there is sufficient information to justify an immediate IRM to mitigate the building, especially with the daily presence of workers in the office area.

To address the indoor air quality, as observed during the April 2013 indoor air sampling event, PWGC is proposing to install a temporary engineering control to mitigate the indoor air quality concerns and to implement a monitoring plan to measure and document indoor air quality. During implementation of the IRM, the Supplemental Remedial Investigation (SRI) can be completed and an appropriate Remedial Action Work Plan (RAWP) can be designed and implemented to provide a final remedial solution to the indoor air quality concerns.

## BACKGROUND

The subject site is located at 491 Wortman Avenue in Brooklyn, New York and is approximately 0.44 acres in area and is improved with a one-story slab-on-grade industrial concrete block, brick, and steel building with a partial basement. The building is 19,000 square feet and occupies the entire area of the property. The subject property is located in a manufacturing zoned area in Kings County, Brooklyn, New York. Wortman Avenue is the southern boundary of the subject property. The subject property is bordered to the east by Essex Street, to the west by Linwood Street, and to the north by a commercial and industrial property. No exposed soil or vegetation is present on the subject property.

The building is segregated into four main areas as illustrated in the attached **Figure 2**. The unoccupied warehouse area is approximately 9,500 ft<sup>2</sup> and is vacant and not utilized. The congregational area (approx. 5,000 ft<sup>2</sup>) and the additional congregational area (approx. 2,250 ft<sup>2</sup>) are utilized for church services for one to two hours a week and otherwise vacant and unoccupied. The office space (approx. 2,250 ft<sup>2</sup>) is used on a Monday through Friday basis during normal business hours for administrative use by a staff of up to eight people. The office space utilizes its own heating, ventilation and cooling system from the remainder of the building.

The site is currently enrolled in the NYSDEC Brownfield Cleanup Program (BCP), and a revised SRI Work Plan dated May 28, 2013, was recently submitted to the NYSDEC for review. Upon approval, additional soil, groundwater and soil vapor samples will be collected to delineate subsurface impact at the site. Following completion of the investigations, a RAWP will be designed and implemented to provide a final remediation of the site based upon the findings of the upcoming SRI.

### INDOOR AIR SAMPLING

On April 4, 2013, PWGC performed indoor air sampling at the Site as requested by the NYSDOH. A total of three (3) samples were collected at the Site, including two indoor air samples (OFFICE and CONGREGATION), and outdoor air sample (OA) collected upwind of the subject building. Sampling locations are illustrated on the attached **Figure 2**. The samplers were located in the rooms which are most frequently occupied in the building.

Sampling was conducted in accordance with the NYSDOH "Guidance for Evaluating Soil Vapor Intrusion in New York State," (NYSDOH Guidance) October 2006. Samples were collected into 6-liter Summa® vacuum canisters fitted with 8-hour flow controllers. The samplers were certified clean by Alpha Analytical Laboratories of Westborough, Massachusetts. The samples were submitted to Alpha Analytical Laboratories for analysis of volatile organic compounds (VOCs) by USEPA Method TO-15.

The samples were collected from a height representing the breathing zone (between 3 and 5 feet above the floor). The office area was occupied by employees during the sampling period.

The outdoor air sample was collected at an upwind location southwest of the subject building in order to determine the potential contribution of outdoor air quality on the indoor air. The sample was collected from a height of approximately three feet above the ground. Sampling personnel avoided lingering in the sampling area. The sample was collected concurrently with the indoor air samples.

During the sampling event, a building inspection was conducted for the subject building by PWGC to identify possible contributors to detected VOC concentrations. It was noted that some occupants regularly dry clean their clothing which may contribute to the detected TCE concentrations.

The outside temperature during the sampling event was approximately 50 degrees Fahrenheit, and the building's heating system was in operation prior to and during the sampling event. These conditions typically create a lower pressure within the building, increasing the potential intrusion of sub-slab vapors.

The analytical results were compared to the NYSDOH Guideline values. Analytical results are shown on **Table 1**. The laboratory Data Report is included as **Appendix A**.

Results indicated that TCE was detected in the OFFICE ( $83.3 \mu\text{g}/\text{m}^3$  or 15.5 ppb) and the CONGREGATION room ( $64.5 \mu\text{g}/\text{m}^3$  or 12.0 ppb) at concentrations exceeding the NYSDOH Guideline value of  $5 \mu\text{g}/\text{m}^3$ . Tetrachloroethene (PCE) was also detected in the OFFICE sample ( $6.98 \mu\text{g}/\text{m}^3$  or 1.03 ppb) and the CONGREGATION sample ( $3.80 \mu\text{g}/\text{m}^3$  or 0.561 ppb), but at concentrations well within the NYSDOH Guideline value of  $100 \mu\text{g}/\text{m}^3$ . It should be noted that none of these concentrations come close to exceeding United States Department of Labor's Occupational Safety & Health Administration (OSHA) permissible exposure limits (PELs). The OSHA PELs, have been established to protect workers against the health effects of exposure to hazardous substances and are regulatory limits, not guidance values. The PELs for PCE and TCE for general industry are 100,000 ppb for an eight hour time weighted average.

## **PROPOSED INTERIM REMEDIAL MEASURES**

Based upon the recent indoor air quality results, the layout and use of the building and the upcoming SRI and RAWP, PWGC proposes the installation of a heavy-duty filtration unit inside the occupied office space as a temporary engineering control measure and a temporary monitoring plan to document indoor air quality during the IRM, before the final remedial action is implemented.

Based upon the limited usage of the building areas, PWGC proposes to install and operate an AllerAir 6000DXVocard air filtration unit inside the office area to mitigate elevated VOCs in the indoor air in this area. The 6000DXVocard air filtration unit is designed for spaces where heavy concentrations of volatile organic compounds and other chemicals and odors are a primary concern. The unit features a special blend of carbon, suited for these VOCs, for superior absorption. The specifications of the 6000DXVocard air filtration unit are included in **Appendix B**. The 6000DXVocard unit was recommended by the manufacturer following a review of the site specific indoor air quality data.

The air filtration unit will be installed, operated, and maintained in the office space area on a continuous basis until the final remedial action is implemented, results of indoor air sampling determine PCE and TCE concentrations are within NYSDOH Air Guidance Levels, or NYSDEC and NYSDOH determine the air filtration is no longer warranted.

During the use of the indoor air filtration unit, PWGC will collect indoor air samples from within the office space area to determine the effectiveness of the engineering control. Sampling will be conducted in accordance with the NYSDOH Guidance. Samples will be collected into 6-liter Summa® vacuum canisters fitted with 8-hour flow controllers and submitted to a NYSDOH certified analytical laboratory for VOC analysis by USEPA Method TO-15. Within 10 days of receipt of the analytical data, a letter report, documenting findings will be submitted to the NYSDEC for review.

Initially, indoor air samples will be collected on a frequency of once a quarter (every 3 months). The sampling frequency may be adjusted based upon indoor air quality results following approval from NYSDEC.

Pending indoor air quality results and results of the upcoming SRI, this proposed IRM may be modified or discontinued following approval from NYSDEC.

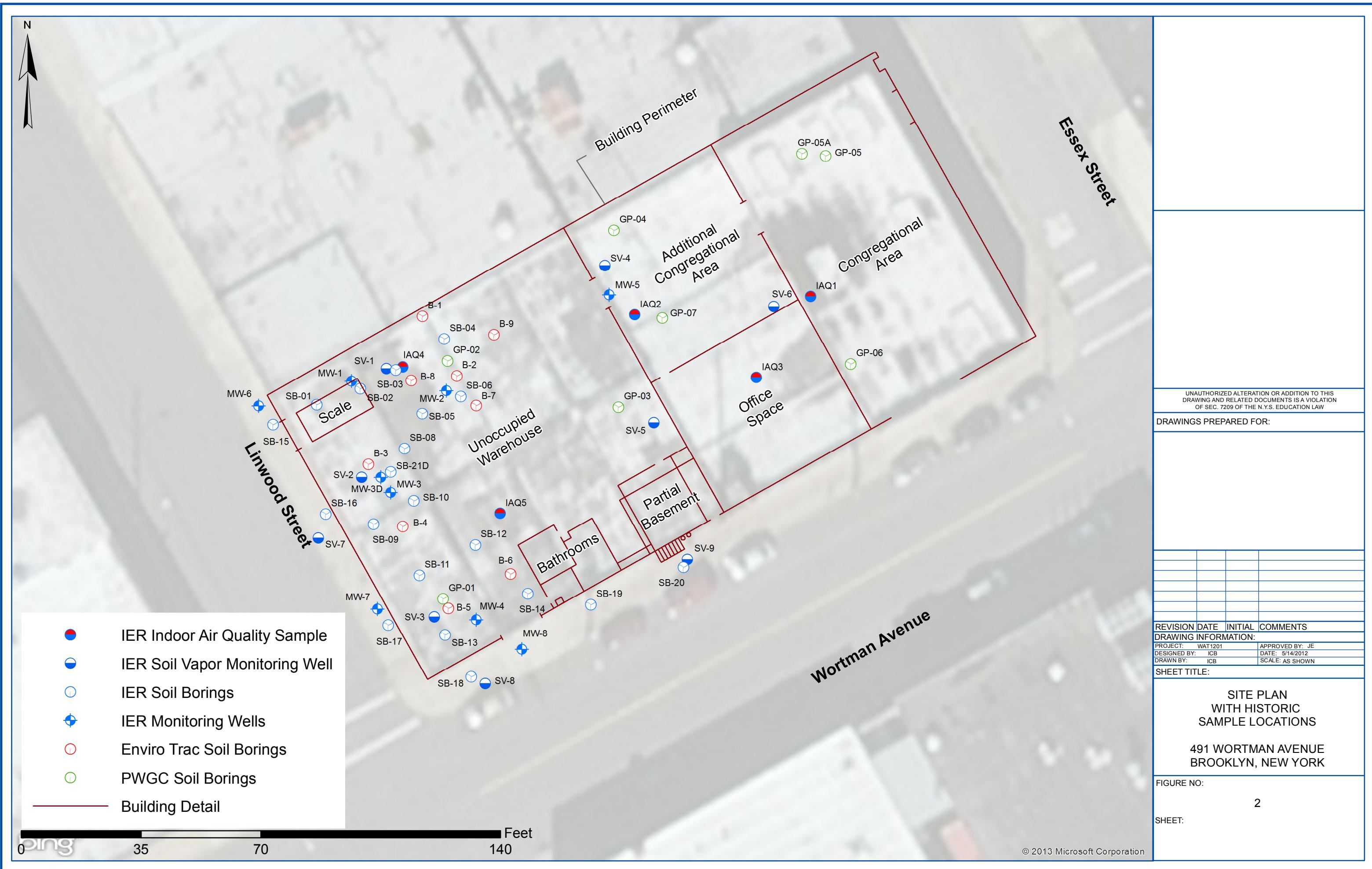
Please confirm that we are approved to implement this proposed IRM at the site. Upon notification, the equipment can be ordered and installed in a period of 15-30 days. If you have any questions, please do not hesitate to contact me.

Very truly yours,  
**P.W. Grosser Consulting**



Kris Almskog  
Vice President

Cc: Jack Abel  
Miriam Villani (Sahn Ward Coschignano & Baker, PLLC)



**Indoor Air Sampling Results**

491 Wortman Avenue Brooklyn, NY 4/4/2013 EPA TO-15-SIM	OSHA PEL*	Guideline Value	Indoor Air OFFICE	Indoor Air CONGREGATION	Outdoor Air OA
1,1 Dichloroethane	400,000	NS	ND	ND	ND
1,1 Dichloroethene	NS	NS	ND	ND	ND
1,2 Dibromoethane	NS	NS	ND	ND	ND
1,2 Dichlorobenzene (v)	300,000	NS	ND	ND	ND
1,2 Dichloroethane	NS	NS	0.17	0.14	ND
1,2 Dichloropropane	NS	NS	ND	ND	ND
1,2-Dichlorotetrafluoroethane	7,000,000	NS	ND	ND	ND
1,3 Butadiene	2,200	NS	0.09	0.09	0.09
1,3 Dichlorobenzene (v)	NS	NS	ND	ND	ND
1,4 Dichlorobenzene (v)	450,000	NS	0.22	0.15	0.14
1,4-Dioxane	360,000	NS	ND	ND	ND
111 Trichloroethane	NS	NS	0.26	0.21	ND
112 Trichloroethane	45,000	NS	ND	ND	ND
1122Tetrachloroethane	35,000	NS	ND	ND	ND
124-Trimethylbenzene	NS	NS	1.12	1.47	0.80
135-Trimethylbenzene	NS	NS	0.41	0.56	0.21
2,2,4-Trimethylpentane	NS	NS	ND	ND	ND
2-Hexanone	410,000	NS	ND	ND	ND
3-Chloropropene	NS	NS	ND	ND	ND
Acetone	2,400,000	NS	ND	ND	ND
Acrylonitrile	4,300	NS	ND	ND	ND
Benzene	3,200	NS	1.17	1.17	1.36
Benzyl Chloride	5,000	NS	ND	ND	ND
Bromodichloromethane	NS	NS	ND	ND	ND
Bromoform	5,000	NS	ND	ND	ND
Bromomethane	NS	NS	ND	ND	ND
c-1,2-Dichloroethene	790,000	NS	ND	ND	ND
c-1,3Dichloropropene	NS	NS	ND	ND	ND
Carbon disulfide	60,000	NS	ND	ND	ND
Carbon Tetrachloride	63,000	NS	0.41	0.38	0.40
Chlorobenzene	350,000	NS	ND	ND	ND
Chlorodibromomethane	NS	NS	ND	ND	ND
Chloroethane	NS	NS	ND	ND	ND
Chloroform	240,000	NS	0.53	0.38	0.13
Chloromethane	NS	NS	1.30	1.13	1.12
Cyclohexane	1,050,000	NS	ND	ND	ND
Dichlorodifluoromethane	4,950,000	NS	2.28	2.44	2.15
Ethyl Acetate	1,400,000	NS	ND	ND	ND
Ethyl alcohol	1,900,000	NS	ND	ND	ND
Ethyl Benzene	435,000	NS	0.76	0.79	0.86
Freon 113	NS	NS	ND	ND	ND
Heptane	2,000,000	NS	ND	ND	ND
Hexachlorobutadiene	NS	NS	ND	ND	ND
Hexane	1,800,000	NS	ND	ND	ND
Isopropyl Alcohol	980,000	NS	ND	ND	ND
m + p Xylene	435,000	NS	2.35	2.63	2.79
Methyl Ethyl Ketone	590,000	NS	ND	ND	ND
Methylene Chloride	87,000	60	ND	6.77	ND
Methylisobutylketone	NS	NS	ND	ND	ND
o Xylene	435,000	NS	0.77	0.88	1.03
p-Ethyltoluene	NS	NS	ND	ND	ND
Propylene	NS	NS	ND	ND	ND
Styrene	426,000	NS	0.15	0.09	ND
t-1,2-Dichloroethene	NS	NS	ND	ND	ND
t-1,3Dichloropropene	NS	NS	ND	ND	ND
ter. ButylMethylEther	NS	NS	ND	ND	ND
tert. Butyl Alcohol	300,000	NS	ND	ND	ND
Tetrachloroethene	678,000	100	6.98	3.80	0.42
Tetrahydrofuran	590,000	NS	ND	ND	ND
Toluene	754,000	NS	7.01	5.77	4.64
Trichloroethene	537,000	5	<b>83.30</b>	<b>64.50</b>	0.30
Trichlorofluoromethane	NS	NS	1.57	1.39	1.25
Vinyl Acetate	NS	NS	ND	ND	ND
Vinyl Bromide	NS	NS	ND	ND	ND
Vinyl Chloride	2,560	NS	ND	ND	ND

Note: This material is attorney/client work product; privileged and confidential.

Units are reported in µg/m³

\*OSHA PEL - Occupational Safety and Health Administration Permissible Exposure Limit

Bold values were detected above the method detection limit

NS - Not Specified

## APPENDIX A



## ANALYTICAL REPORT

Lab Number:	L1305999
Client:	P. W. Grosser 630 Johnson Avenue Suite 7 Bohemia, NY 11716
ATTN:	John Eichler
Phone:	(631) 589-6353
Project Name:	WATERMARK
Project Number:	WAT 1201
Report Date:	04/12/13

The original project report/data package is held by Alpha Analytical. This report/data package is paginated and should be reproduced only in its entirety. Alpha Analytical holds no responsibility for results and/or data that are not consistent with the original.

Certifications & Approvals: NY (11627), CT (PH-0141), NH (2206), NJ NELAP (MA015), RI (LAO00299), PA (68-02089), LA NELAP (03090), FL (E87814), TX (T104704419), WA (C954), DOD (L2217.01), USDA (Permit #P330-11-00109), US Army Corps of Engineers.

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320 Forbes Boulevard, Mansfield, MA 02048-1806  
508-822-9300 (Fax) 508-822-3288 800-624-9220 - [www.alphalab.com](http://www.alphalab.com)



**Project Name:** WATERMARK  
**Project Number:** WAT 1201

**Lab Number:** L1305999  
**Report Date:** 04/12/13

<b>Alpha Sample ID</b>	<b>Client ID</b>	<b>Sample Location</b>	<b>Collection Date/Time</b>
L1305999-01	CONGREGATION	491 WORTMAN AVE BROOKLYN, NY	04/04/13 17:35
L1305999-02	OFFICE	491 WORTMAN AVE BROOKLYN, NY	04/04/13 17:37
L1305999-03	OA	491 WORTMAN AVE BROOKLYN, NY	04/04/13 17:45

**Project Name:** WATERMARK  
**Project Number:** WAT 1201

**Lab Number:** L1305999  
**Report Date:** 04/12/13

### Case Narrative

The samples were received in accordance with the Chain of Custody and no significant deviations were encountered during the preparation or analysis unless otherwise noted. Sample Receipt, Container Information, and the Chain of Custody are located at the back of the report.

Results contained within this report relate only to the samples submitted under this Alpha Lab Number and meet all of the requirements of NELAC, for all NELAC accredited parameters. The data presented in this report is organized by parameter (i.e. VOC, SVOC, etc.). Sample specific Quality Control data (i.e. Surrogate Spike Recovery) is reported at the end of the target analyte list for each individual sample, followed by the Laboratory Batch Quality Control at the end of each parameter. If a sample was re-analyzed or re-extracted due to a required quality control corrective action and if both sets of data are reported, the Laboratory ID of the re-analysis or re-extraction is designated with an "R" or "RE", respectively. When multiple Batch Quality Control elements are reported (e.g. more than one LCS), the associated samples for each element are noted in the grey shaded header line of each data table. Any Laboratory Batch, Sample Specific % recovery or RPD value that is outside the listed Acceptance Criteria is bolded in the report. Performance criteria for CAM and RCP methods allow for some LCS compound failures to occur and still be within method compliance. In these instances, the specific failures are not narrated but are noted in the associated QC table. This information is also incorporated in the Data Usability format for our Data Merger tool where it can be reviewed along with any associated usability implications. Soil/sediments, solids and tissues are reported on a dry weight basis unless otherwise noted. Definitions of all data qualifiers and acronyms used in this report are provided in the Glossary located at the back of the report.

In reference to questions H (CAM) or 4 (RCP) when "NO" is checked, the performance criteria for CAM and RCP methods allow for some quality control failures to occur and still be within method compliance. In these instances the specific failure is not narrated but noted in the associated QC table. The information is also incorporated in the Data Usability format of our Data Merger tool where it can be reviewed along with any associated usability implications.

Please see the associated ADEX data file for a comparison of laboratory reporting limits that were achieved with the regulatory Numerical Standards requested on the Chain of Custody.

#### HOLD POLICY

For samples submitted on hold, Alpha's policy is to hold samples free of charge for 30 days from the date the project is completed. After 30 days, we will dispose of all samples submitted including those put on hold unless you have contacted your Client Service Representative and made arrangements for Alpha to continue to hold the samples.

Please contact Client Services at 800-624-9220 with any questions.

**Project Name:** WATERMARK  
**Project Number:** WAT 1201

**Lab Number:** L1305999  
**Report Date:** 04/12/13

**Case Narrative (continued)**

Volatile Organics in Air

Canisters were released from the laboratory on April 3, 2013. The canister certification results are provided as an addendum.

I, the undersigned, attest under the pains and penalties of perjury that, to the best of my knowledge and belief and based upon my personal inquiry of those responsible for providing the information contained in this analytical report, such information is accurate and complete. This certificate of analysis is not complete unless this page accompanies any and all pages of this report.

Authorized Signature:

*Gale Porta* Elizabeth Porta

Title: Technical Director/Representative

Date: 04/12/13

**AIR**



**Project Name:** WATERMARK  
**Project Number:** WAT 1201

**Lab Number:** L1305999  
**Report Date:** 04/12/13

### **SAMPLE RESULTS**

Lab ID:	L1305999-01	Date Collected:	04/04/13 17:35
Client ID:	CONGREGATION	Date Received:	04/05/13
Sample Location:	491 WORTMAN AVE BROOKLYN, NY	Field Prep:	Not Specified
Matrix:	Air		
Anaytical Method:	48,TO-15-SIM		
Analytical Date:	04/11/13 19:19		
Analyst:	RY		

Parameter	ppbV			ug/m3			Qualifier	Dilution Factor
	Results	RL	MDL	Results	RL	MDL		
<b>Volatile Organics in Air by SIM - Mansfield Lab</b>								
Dichlorodifluoromethane	0.493	0.050	--	2.44	0.247	--		1
Chloromethane	0.546	0.500	--	1.13	1.03	--		1
1,2-Dichloro-1,1,2,2-tetrafluoroethane	ND	0.050	--	ND	0.349	--		1
Vinyl chloride	ND	0.020	--	ND	0.051	--		1
1,3-Butadiene	0.039	0.020	--	0.086	0.044	--		1
Bromomethane	ND	0.020	--	ND	0.078	--		1
Chloroethane	ND	0.020	--	ND	0.053	--		1
Trichlorofluoromethane	0.248	0.050	--	1.39	0.281	--		1
1,1-Dichloroethene	ND	0.020	--	ND	0.079	--		1
Methylene chloride	1.95	1.00	--	6.77	3.47	--		1
1,1,2-Trichloro-1,2,2-Trifluoroethane	0.072	0.050	--	0.552	0.383	--		1
trans-1,2-Dichloroethene	ND	0.020	--	ND	0.079	--		1
1,1-Dichloroethane	ND	0.020	--	ND	0.081	--		1
Methyl tert butyl ether	ND	0.020	--	ND	0.072	--		1
cis-1,2-Dichloroethene	ND	0.020	--	ND	0.079	--		1
Chloroform	0.077	0.020	--	0.376	0.098	--		1
1,2-Dichloroethane	0.034	0.020	--	0.138	0.081	--		1
1,1,1-Trichloroethane	0.039	0.020	--	0.213	0.109	--		1
Benzene	0.366	0.100	--	1.17	0.319	--		1
Carbon tetrachloride	0.061	0.020	--	0.384	0.126	--		1
1,2-Dichloropropane	ND	0.020	--	ND	0.092	--		1
Bromodichloromethane	ND	0.020	--	ND	0.134	--		1
Trichloroethene	12.0	0.020	--	64.5	0.107	--		1
cis-1,3-Dichloropropene	ND	0.020	--	ND	0.091	--		1



**Project Name:** WATERMARK  
**Project Number:** WAT 1201

**Lab Number:** L1305999  
**Report Date:** 04/12/13

### SAMPLE RESULTS

Lab ID: L1305999-01 Date Collected: 04/04/13 17:35  
Client ID: CONGREGATION Date Received: 04/05/13  
Sample Location: 491 WORTMAN AVE BROOKLYN, NY Field Prep: Not Specified

Parameter	Results	ppbV		ug/m3		Dilution Factor	
		RL	MDL	Results	RL	MDL	
<b>Volatile Organics in Air by SIM - Mansfield Lab</b>							
trans-1,3-Dichloropropene	ND	0.020	--	ND	0.091	--	1
1,1,2-Trichloroethane	ND	0.020	--	ND	0.109	--	1
Toluene	1.53	0.050	--	5.77	0.188	--	1
Dibromochloromethane	ND	0.020	--	ND	0.170	--	1
1,2-Dibromoethane	ND	0.020	--	ND	0.154	--	1
Tetrachloroethene	0.561	0.020	--	3.80	0.136	--	1
1,1,1,2-Tetrachloroethane	ND	0.020	--	ND	0.137	--	1
Chlorobenzene	ND	0.020	--	ND	0.092	--	1
Ethylbenzene	0.181	0.020	--	0.786	0.087	--	1
p/m-Xylene	0.606	0.040	--	2.63	0.174	--	1
Bromoform	ND	0.020	--	ND	0.207	--	1
Styrene	0.021	0.020	--	0.089	0.085	--	1
1,1,2,2-Tetrachloroethane	ND	0.020	--	ND	0.137	--	1
o-Xylene	0.203	0.020	--	0.882	0.087	--	1
1,3,5-Trimethylbenzene	0.113	0.020	--	0.556	0.098	--	1
1,2,4-Trimethylbenzene	0.298	0.020	--	1.47	0.098	--	1
1,3-Dichlorobenzene	ND	0.020	--	ND	0.120	--	1
1,4-Dichlorobenzene	0.025	0.020	--	0.150	0.120	--	1
1,2-Dichlorobenzene	ND	0.020	--	ND	0.120	--	1
1,2,4-Trichlorobenzene	ND	0.050	--	ND	0.371	--	1
Hexachlorobutadiene	ND	0.050	--	ND	0.533	--	1

Internal Standard	% Recovery	Qualifier	Acceptance Criteria
1,4-difluorobenzene	103		60-140
bromochloromethane	104		60-140
chlorobenzene-d5	101		60-140



**Project Name:** WATERMARK  
**Project Number:** WAT 1201

**Lab Number:** L1305999  
**Report Date:** 04/12/13

### **SAMPLE RESULTS**

Lab ID:	L1305999-02	Date Collected:	04/04/13 17:37
Client ID:	OFFICE	Date Received:	04/05/13
Sample Location:	491 WORTMAN AVE BROOKLYN, NY	Field Prep:	Not Specified
Matrix:	Air		
Anaytical Method:	48,TO-15-SIM		
Analytical Date:	04/11/13 19:51		
Analyst:	RY		

Parameter	ppbV			ug/m3			Qualifier	Dilution Factor
	Results	RL	MDL	Results	RL	MDL		
<b>Volatile Organics in Air by SIM - Mansfield Lab</b>								
Dichlorodifluoromethane	0.461	0.050	--	2.28	0.247	--		1
Chloromethane	0.631	0.500	--	1.30	1.03	--		1
1,2-Dichloro-1,1,2,2-tetrafluoroethane	ND	0.050	--	ND	0.349	--		1
Vinyl chloride	ND	0.020	--	ND	0.051	--		1
1,3-Butadiene	0.040	0.020	--	0.089	0.044	--		1
Bromomethane	ND	0.020	--	ND	0.078	--		1
Chloroethane	ND	0.020	--	ND	0.053	--		1
Trichlorofluoromethane	0.280	0.050	--	1.57	0.281	--		1
1,1-Dichloroethene	ND	0.020	--	ND	0.079	--		1
Methylene chloride	ND	1.00	--	ND	3.47	--		1
1,1,2-Trichloro-1,2,2-Trifluoroethane	0.077	0.050	--	0.590	0.383	--		1
trans-1,2-Dichloroethene	ND	0.020	--	ND	0.079	--		1
1,1-Dichloroethane	ND	0.020	--	ND	0.081	--		1
Methyl tert butyl ether	ND	0.020	--	ND	0.072	--		1
cis-1,2-Dichloroethene	ND	0.020	--	ND	0.079	--		1
Chloroform	0.109	0.020	--	0.532	0.098	--		1
1,2-Dichloroethane	0.042	0.020	--	0.170	0.081	--		1
1,1,1-Trichloroethane	0.048	0.020	--	0.262	0.109	--		1
Benzene	0.365	0.100	--	1.17	0.319	--		1
Carbon tetrachloride	0.065	0.020	--	0.409	0.126	--		1
1,2-Dichloropropane	ND	0.020	--	ND	0.092	--		1
Bromodichloromethane	ND	0.020	--	ND	0.134	--		1
Trichloroethene	15.5	0.020	--	83.3	0.107	--		1
cis-1,3-Dichloropropene	ND	0.020	--	ND	0.091	--		1



**Project Name:** WATERMARK  
**Project Number:** WAT 1201

**Lab Number:** L1305999  
**Report Date:** 04/12/13

### SAMPLE RESULTS

Lab ID: L1305999-02 Date Collected: 04/04/13 17:37  
Client ID: OFFICE Date Received: 04/05/13  
Sample Location: 491 WORTMAN AVE BROOKLYN, NY Field Prep: Not Specified

Parameter	Results	ppbV		ug/m3		Dilution Factor	
		RL	MDL	Results	RL	MDL	
<b>Volatile Organics in Air by SIM - Mansfield Lab</b>							
trans-1,3-Dichloropropene	ND	0.020	--	ND	0.091	--	1
1,1,2-Trichloroethane	ND	0.020	--	ND	0.109	--	1
Toluene	1.86	0.050	--	7.01	0.188	--	1
Dibromochloromethane	ND	0.020	--	ND	0.170	--	1
1,2-Dibromoethane	ND	0.020	--	ND	0.154	--	1
Tetrachloroethene	1.03	0.020	--	6.98	0.136	--	1
1,1,1,2-Tetrachloroethane	ND	0.020	--	ND	0.137	--	1
Chlorobenzene	ND	0.020	--	ND	0.092	--	1
Ethylbenzene	0.175	0.020	--	0.760	0.087	--	1
p/m-Xylene	0.541	0.040	--	2.35	0.174	--	1
Bromoform	ND	0.020	--	ND	0.207	--	1
Styrene	0.036	0.020	--	0.153	0.085	--	1
1,1,2,2-Tetrachloroethane	ND	0.020	--	ND	0.137	--	1
o-Xylene	0.177	0.020	--	0.769	0.087	--	1
1,3,5-Trimethylbenzene	0.083	0.020	--	0.408	0.098	--	1
1,2,4-Trimethylbenzene	0.228	0.020	--	1.12	0.098	--	1
1,3-Dichlorobenzene	ND	0.020	--	ND	0.120	--	1
1,4-Dichlorobenzene	0.037	0.020	--	0.222	0.120	--	1
1,2-Dichlorobenzene	ND	0.020	--	ND	0.120	--	1
1,2,4-Trichlorobenzene	ND	0.050	--	ND	0.371	--	1
Hexachlorobutadiene	ND	0.050	--	ND	0.533	--	1

Internal Standard	% Recovery	Qualifier	Acceptance Criteria
1,4-difluorobenzene	94		60-140
bromochloromethane	95		60-140
chlorobenzene-d5	90		60-140



**Project Name:** WATERMARK  
**Project Number:** WAT 1201

**Lab Number:** L1305999  
**Report Date:** 04/12/13

### **SAMPLE RESULTS**

Lab ID:	L1305999-03	Date Collected:	04/04/13 17:45
Client ID:	OA	Date Received:	04/05/13
Sample Location:	491 WORTMAN AVE BROOKLYN, NY	Field Prep:	Not Specified
Matrix:	Air		
Anaytical Method:	48,TO-15-SIM		
Analytical Date:	04/11/13 20:54		
Analyst:	RY		

Parameter	ppbV			ug/m3			Qualifier	Dilution Factor
	Results	RL	MDL	Results	RL	MDL		
<b>Volatile Organics in Air by SIM - Mansfield Lab</b>								
Dichlorodifluoromethane	0.434	0.050	--	2.15	0.247	--		1
Chloromethane	0.543	0.500	--	1.12	1.03	--		1
1,2-Dichloro-1,1,2,2-tetrafluoroethane	ND	0.050	--	ND	0.349	--		1
Vinyl chloride	ND	0.020	--	ND	0.051	--		1
1,3-Butadiene	0.040	0.020	--	0.089	0.044	--		1
Bromomethane	ND	0.020	--	ND	0.078	--		1
Chloroethane	ND	0.020	--	ND	0.053	--		1
Trichlorofluoromethane	0.223	0.050	--	1.25	0.281	--		1
1,1-Dichloroethene	ND	0.020	--	ND	0.079	--		1
Methylene chloride	ND	1.00	--	ND	3.47	--		1
1,1,2-Trichloro-1,2,2-Trifluoroethane	0.068	0.050	--	0.521	0.383	--		1
trans-1,2-Dichloroethene	ND	0.020	--	ND	0.079	--		1
1,1-Dichloroethane	ND	0.020	--	ND	0.081	--		1
Methyl tert butyl ether	ND	0.020	--	ND	0.072	--		1
cis-1,2-Dichloroethene	ND	0.020	--	ND	0.079	--		1
Chloroform	0.027	0.020	--	0.132	0.098	--		1
1,2-Dichloroethane	ND	0.020	--	ND	0.081	--		1
1,1,1-Trichloroethane	ND	0.020	--	ND	0.109	--		1
Benzene	0.425	0.100	--	1.36	0.319	--		1
Carbon tetrachloride	0.064	0.020	--	0.403	0.126	--		1
1,2-Dichloropropane	ND	0.020	--	ND	0.092	--		1
Bromodichloromethane	ND	0.020	--	ND	0.134	--		1
Trichloroethene	0.056	0.020	--	0.301	0.107	--		1
cis-1,3-Dichloropropene	ND	0.020	--	ND	0.091	--		1



**Project Name:** WATERMARK  
**Project Number:** WAT 1201

**Lab Number:** L1305999  
**Report Date:** 04/12/13

### SAMPLE RESULTS

Lab ID: L1305999-03 Date Collected: 04/04/13 17:45  
Client ID: OA Date Received: 04/05/13  
Sample Location: 491 WORTMAN AVE BROOKLYN, NY Field Prep: Not Specified

Parameter	Results	ppbV		ug/m3		Dilution Factor	
		RL	MDL	Results	RL	MDL	
<b>Volatile Organics in Air by SIM - Mansfield Lab</b>							
trans-1,3-Dichloropropene	ND	0.020	--	ND	0.091	--	1
1,1,2-Trichloroethane	ND	0.020	--	ND	0.109	--	1
Toluene	1.23	0.050	--	4.64	0.188	--	1
Dibromochloromethane	ND	0.020	--	ND	0.170	--	1
1,2-Dibromoethane	ND	0.020	--	ND	0.154	--	1
Tetrachloroethene	0.062	0.020	--	0.420	0.136	--	1
1,1,1,2-Tetrachloroethane	ND	0.020	--	ND	0.137	--	1
Chlorobenzene	ND	0.020	--	ND	0.092	--	1
Ethylbenzene	0.197	0.020	--	0.856	0.087	--	1
p/m-Xylene	0.642	0.040	--	2.79	0.174	--	1
Bromoform	ND	0.020	--	ND	0.207	--	1
Styrene	ND	0.020	--	ND	0.085	--	1
1,1,2,2-Tetrachloroethane	ND	0.020	--	ND	0.137	--	1
o-Xylene	0.237	0.020	--	1.03	0.087	--	1
1,3,5-Trimethylbenzene	0.043	0.020	--	0.211	0.098	--	1
1,2,4-Trimethylbenzene	0.163	0.020	--	0.801	0.098	--	1
1,3-Dichlorobenzene	ND	0.020	--	ND	0.120	--	1
1,4-Dichlorobenzene	0.023	0.020	--	0.138	0.120	--	1
1,2-Dichlorobenzene	ND	0.020	--	ND	0.120	--	1
1,2,4-Trichlorobenzene	ND	0.050	--	ND	0.371	--	1
Hexachlorobutadiene	ND	0.050	--	ND	0.533	--	1

Internal Standard	% Recovery	Qualifier	Acceptance Criteria
1,4-difluorobenzene	95		60-140
bromochloromethane	108		60-140
chlorobenzene-d5	93		60-140



**Project Name:** WATERMARK  
**Project Number:** WAT 1201

**Lab Number:** L1305999  
**Report Date:** 04/12/13

## Method Blank Analysis Batch Quality Control

Analytical Method: 48,TO-15-SIM  
Analytical Date: 04/11/13 16:28

Parameter	ppbV			ug/m3			Dilution Factor
	Results	RL	MDL	Results	RL	MDL	
<b>Volatile Organics in Air by SIM - Mansfield Lab for sample(s): 01-03 Batch: WG601166-4</b>							
Dichlorodifluoromethane	ND	0.050	--	ND	0.247	--	1
Chloromethane	ND	0.500	--	ND	1.03	--	1
1,2-Dichloro-1,1,2,2-tetrafluoroethane	ND	0.050	--	ND	0.349	--	1
Vinyl chloride	ND	0.020	--	ND	0.051	--	1
1,3-Butadiene	ND	0.020	--	ND	0.044	--	1
Bromomethane	ND	0.020	--	ND	0.078	--	1
Chloroethane	ND	0.020	--	ND	0.053	--	1
Acetone	ND	2.00	--	ND	4.75	--	1
Trichlorofluoromethane	ND	0.050	--	ND	0.281	--	1
Acrylonitrile	ND	0.500	--	ND	1.09	--	1
1,1-Dichloroethene	ND	0.020	--	ND	0.079	--	1
Methylene chloride	ND	1.00	--	ND	3.47	--	1
1,1,2-Trichloro-1,2,2-Trifluoroethane	ND	0.050	--	ND	0.383	--	1
Halothane	ND	0.050	--	ND	0.404	--	1
trans-1,2-Dichloroethene	ND	0.020	--	ND	0.079	--	1
1,1-Dichloroethane	ND	0.020	--	ND	0.081	--	1
Methyl tert butyl ether	ND	0.020	--	ND	0.072	--	1
2-Butanone	ND	0.500	--	ND	1.47	--	1
cis-1,2-Dichloroethene	ND	0.020	--	ND	0.079	--	1
Chloroform	ND	0.020	--	ND	0.098	--	1
1,2-Dichloroethane	ND	0.020	--	ND	0.081	--	1
1,1,1-Trichloroethane	ND	0.020	--	ND	0.109	--	1
Benzene	ND	0.100	--	ND	0.319	--	1
Carbon tetrachloride	ND	0.020	--	ND	0.126	--	1
1,2-Dichloropropane	ND	0.020	--	ND	0.092	--	1



**Project Name:** WATERMARK  
**Project Number:** WAT 1201

**Lab Number:** L1305999  
**Report Date:** 04/12/13

### Method Blank Analysis Batch Quality Control

Analytical Method: 48,TO-15-SIM  
Analytical Date: 04/11/13 16:28

Parameter	ppbV			ug/m3			Dilution Factor
	Results	RL	MDL	Results	RL	MDL	
<b>Volatile Organics in Air by SIM - Mansfield Lab for sample(s): 01-03 Batch: WG601166-4</b>							
Bromodichloromethane	ND	0.020	--	ND	0.134	--	1
1,4-Dioxane	ND	0.100	--	ND	0.360	--	1
Trichloroethene	ND	0.020	--	ND	0.107	--	1
cis-1,3-Dichloropropene	ND	0.020	--	ND	0.091	--	1
4-Methyl-2-pentanone	ND	0.500	--	ND	2.05	--	1
trans-1,3-Dichloropropene	ND	0.020	--	ND	0.091	--	1
1,1,2-Trichloroethane	ND	0.020	--	ND	0.109	--	1
Toluene	ND	0.050	--	ND	0.188	--	1
Dibromochloromethane	ND	0.020	--	ND	0.170	--	1
1,2-Dibromoethane	ND	0.020	--	ND	0.154	--	1
Tetrachloroethene	ND	0.020	--	ND	0.136	--	1
1,1,1,2-Tetrachloroethane	ND	0.020	--	ND	0.137	--	1
Chlorobenzene	ND	0.020	--	ND	0.092	--	1
Ethylbenzene	ND	0.020	--	ND	0.087	--	1
p/m-Xylene	ND	0.040	--	ND	0.174	--	1
Bromoform	ND	0.020	--	ND	0.207	--	1
Styrene	ND	0.020	--	ND	0.085	--	1
1,1,2,2-Tetrachloroethane	ND	0.020	--	ND	0.137	--	1
o-Xylene	ND	0.020	--	ND	0.087	--	1
Isopropylbenzene	ND	0.500	--	ND	2.46	--	1
1,3,5-Trimethylbenzene	ND	0.020	--	ND	0.098	--	1
1,2,4-Trimethylbenzene	ND	0.020	--	ND	0.098	--	1
1,3-Dichlorobenzene	ND	0.020	--	ND	0.120	--	1
1,4-Dichlorobenzene	ND	0.020	--	ND	0.120	--	1
sec-Butylbenzene	ND	0.500	--	ND	2.74	--	1



**Project Name:** WATERMARK  
**Project Number:** WAT 1201

**Lab Number:** L1305999  
**Report Date:** 04/12/13

### Method Blank Analysis Batch Quality Control

Analytical Method: 48,TO-15-SIM  
Analytical Date: 04/11/13 16:28

Parameter	ppbV			ug/m3			Dilution Factor
	Results	RL	MDL	Results	RL	MDL	
<b>Volatile Organics in Air by SIM - Mansfield Lab for sample(s): 01-03 Batch: WG601166-4</b>							
p-Isopropyltoluene	ND	0.500	--	ND	2.74	--	1
1,2-Dichlorobenzene	ND	0.020	--	ND	0.120	--	1
n-Butylbenzene	ND	0.500	--	ND	2.74	--	1
1,2,4-Trichlorobenzene	ND	0.050	--	ND	0.371	--	1
Naphthalene	ND	0.050	--	ND	0.262	--	1
1,2,3-Trichlorobenzene	ND	0.050	--	ND	0.371	--	1
Hexachlorobutadiene	ND	0.050	--	ND	0.533	--	1



# Lab Control Sample Analysis

## Batch Quality Control

**Project Name:** WATERMARK  
**Project Number:** WAT 1201

**Lab Number:** L1305999  
**Report Date:** 04/12/13

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics in Air by SIM - Mansfield Lab Associated sample(s): 01-03 Batch: WG601166-3								
Dichlorodifluoromethane	101	-	-	-	70-130	-	-	25
Chloromethane	108	-	-	-	70-130	-	-	25
1,2-Dichloro-1,1,2,2-tetrafluoroethane	109	-	-	-	70-130	-	-	25
Vinyl chloride	109	-	-	-	70-130	-	-	25
1,3-Butadiene	115	-	-	-	70-130	-	-	25
Bromomethane	108	-	-	-	70-130	-	-	25
Chloroethane	106	-	-	-	70-130	-	-	25
Acetone	119	-	-	-	70-130	-	-	25
Trichlorofluoromethane	110	-	-	-	70-130	-	-	25
Acrylonitrile	108	-	-	-	70-130	-	-	25
1,1-Dichloroethene	110	-	-	-	70-130	-	-	25
Methylene chloride	115	-	-	-	70-130	-	-	25
1,1,2-Trichloro-1,2,2-Trifluoroethane	111	-	-	-	70-130	-	-	25
Halothane	107	-	-	-	70-130	-	-	25
trans-1,2-Dichloroethene	98	-	-	-	70-130	-	-	25
1,1-Dichloroethane	106	-	-	-	70-130	-	-	25
Methyl tert butyl ether	100	-	-	-	70-130	-	-	25
2-Butanone	98	-	-	-	70-130	-	-	25
cis-1,2-Dichloroethene	106	-	-	-	70-130	-	-	25
Chloroform	96	-	-	-	70-130	-	-	25
1,2-Dichloroethane	94	-	-	-	70-130	-	-	25

# Lab Control Sample Analysis

## Batch Quality Control

**Project Name:** WATERMARK  
**Project Number:** WAT 1201

**Lab Number:** L1305999  
**Report Date:** 04/12/13

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics in Air by SIM - Mansfield Lab Associated sample(s): 01-03 Batch: WG601166-3								
1,1,1-Trichloroethane	99	-	-	-	70-130	-	-	25
Benzene	98	-	-	-	70-130	-	-	25
Carbon tetrachloride	91	-	-	-	70-130	-	-	25
1,2-Dichloropropane	100	-	-	-	70-130	-	-	25
Bromodichloromethane	93	-	-	-	70-130	-	-	25
1,4-Dioxane	95	-	-	-	70-130	-	-	25
Trichloroethylene	97	-	-	-	70-130	-	-	25
cis-1,3-Dichloropropene	101	-	-	-	70-130	-	-	25
4-Methyl-2-pentanone	106	-	-	-	70-130	-	-	25
trans-1,3-Dichloropropene	86	-	-	-	70-130	-	-	25
1,1,2-Trichloroethane	105	-	-	-	70-130	-	-	25
Toluene	96	-	-	-	70-130	-	-	25
Dibromochloromethane	81	-	-	-	70-130	-	-	25
1,2-Dibromoethane	100	-	-	-	70-130	-	-	25
Tetrachloroethylene	94	-	-	-	70-130	-	-	25
1,1,1,2-Tetrachloroethane	85	-	-	-	70-130	-	-	25
Chlorobenzene	97	-	-	-	70-130	-	-	25
Ethylbenzene	99	-	-	-	70-130	-	-	25
p/m-Xylene	100	-	-	-	70-130	-	-	25
Bromoform	74	-	-	-	70-130	-	-	25
Styrene	99	-	-	-	70-130	-	-	25

# Lab Control Sample Analysis

## Batch Quality Control

**Project Name:** WATERMARK  
**Project Number:** WAT 1201

**Lab Number:** L1305999  
**Report Date:** 04/12/13

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics in Air by SIM - Mansfield Lab Associated sample(s): 01-03 Batch: WG601166-3								
1,1,2,2-Tetrachloroethane	104	-	-	-	70-130	-	-	25
o-Xylene	100	-	-	-	70-130	-	-	25
Isopropylbenzene	96	-	-	-	70-130	-	-	25
1,3,5-Trimethylbenzene	99	-	-	-	70-130	-	-	25
1,2,4-Trimethylbenzene	102	-	-	-	70-130	-	-	25
1,3-Dichlorobenzene	103	-	-	-	70-130	-	-	25
1,4-Dichlorobenzene	102	-	-	-	70-130	-	-	25
sec-Butylbenzene	95	-	-	-	70-130	-	-	25
p-Isopropyltoluene	89	-	-	-	70-130	-	-	25
1,2-Dichlorobenzene	102	-	-	-	70-130	-	-	25
n-Butylbenzene	102	-	-	-	70-130	-	-	25
1,2,4-Trichlorobenzene	116	-	-	-	70-130	-	-	25
Naphthalene	107	-	-	-	70-130	-	-	25
1,2,3-Trichlorobenzene	110	-	-	-	70-130	-	-	25
Hexachlorobutadiene	104	-	-	-	70-130	-	-	25

**Lab Duplicate Analysis**  
Batch Quality Control

**Project Name:** WATERMARK  
**Project Number:** WAT 1201

**Lab Number:** L1305999  
**Report Date:** 04/12/13

Parameter	Native Sample	Duplicate Sample	Units	RPD	Qual	RPD Limits
Volatile Organics in Air by SIM - Mansfield Lab Associated sample(s): 01-03 QC Batch ID: WG601166-5 QC Sample: L1305999-02 Client ID: OFFICE						
Dichlorodifluoromethane	0.461	0.442	ppbV	4		25
Chloromethane	0.631	0.578	ppbV	9		25
1,2-Dichloro-1,1,2,2-tetrafluoroethane	ND	ND	ppbV	NC		25
Vinyl chloride	ND	ND	ppbV	NC		25
1,3-Butadiene	0.040	0.038	ppbV	5		25
Bromomethane	ND	ND	ppbV	NC		25
Chloroethane	ND	ND	ppbV	NC		25
Trichlorofluoromethane	0.280	0.255	ppbV	9		25
1,1-Dichloroethene	ND	ND	ppbV	NC		25
Methylene chloride	ND	ND	ppbV	NC		25
1,1,2-Trichloro-1,2,2-Trifluoroethane	0.077	0.070	ppbV	10		25
trans-1,2-Dichloroethene	ND	ND	ppbV	NC		25
1,1-Dichloroethane	ND	ND	ppbV	NC		25
Methyl tert butyl ether	ND	ND	ppbV	NC		25
cis-1,2-Dichloroethene	ND	ND	ppbV	NC		25
Chloroform	0.109	0.113	ppbV	4		25
1,2-Dichloroethane	0.042	0.039	ppbV	7		25
1,1,1-Trichloroethane	0.048	0.048	ppbV	0		25
Benzene	0.365	0.366	ppbV	0		25

**Lab Duplicate Analysis**  
Batch Quality Control

**Project Name:** WATERMARK  
**Project Number:** WAT 1201

**Lab Number:** L1305999  
**Report Date:** 04/12/13

Parameter	Native Sample	Duplicate Sample	Units	RPD	RPD Limits
Volatile Organics in Air by SIM - Mansfield Lab Associated sample(s): 01-03 QC Batch ID: WG601166-5 QC Sample: L1305999-02 Client ID: OFFICE					
Carbon tetrachloride	0.065	0.066	ppbV	2	25
1,2-Dichloropropane	ND	ND	ppbV	NC	25
Bromodichloromethane	ND	ND	ppbV	NC	25
Trichloroethene	15.5	15.6	ppbV	1	25
cis-1,3-Dichloropropene	ND	ND	ppbV	NC	25
trans-1,3-Dichloropropene	ND	ND	ppbV	NC	25
1,1,2-Trichloroethane	ND	ND	ppbV	NC	25
Toluene	1.86	1.79	ppbV	4	25
Dibromochloromethane	ND	ND	ppbV	NC	25
1,2-Dibromoethane	ND	ND	ppbV	NC	25
Tetrachloroethene	1.03	1.01	ppbV	2	25
1,1,1,2-Tetrachloroethane	ND	ND	ppbV	NC	25
Chlorobenzene	ND	ND	ppbV	NC	25
Ethylbenzene	0.175	0.171	ppbV	2	25
p/m-Xylene	0.541	0.533	ppbV	1	25
Bromoform	ND	ND	ppbV	NC	25
Styrene	0.036	0.035	ppbV	3	25
1,1,2,2-Tetrachloroethane	ND	ND	ppbV	NC	25
o-Xylene	0.177	0.174	ppbV	2	25

**Lab Duplicate Analysis**  
Batch Quality Control

**Project Name:** WATERMARK  
**Project Number:** WAT 1201

**Lab Number:** L1305999  
**Report Date:** 04/12/13

Parameter	Native Sample	Duplicate Sample	Units	RPD	RPD Limits
Volatile Organics in Air by SIM - Mansfield Lab Associated sample(s): 01-03 QC Batch ID: WG601166-5 QC Sample: L1305999-02 Client ID: OFFICE					
1,3,5-Trimethylbenzene	0.083	0.080	ppbV	4	25
1,2,4-Trimethylbenzene	0.228	0.223	ppbV	2	25
1,3-Dichlorobenzene	ND	ND	ppbV	NC	25
1,4-Dichlorobenzene	0.037	0.036	ppbV	3	25
1,2-Dichlorobenzene	ND	ND	ppbV	NC	25
1,2,4-Trichlorobenzene	ND	ND	ppbV	NC	25
Hexachlorobutadiene	ND	ND	ppbV	NC	25

**Project Name:** WATERMARK

Serial\_No:04121315:22

**Project Number:** WAT 1201

**Lab Number:** L1305999

**Report Date:** 04/12/13

### Canister and Flow Controller Information

Samplenum	Client ID	Media ID	Media Type	Date Prepared	Bottle Order	Cleaning Batch ID	Can Leak Check	Initial Pressure (in. Hg)	Pressure on Receipt (in. Hg)	Flow Controller Leak Chk	Flow Out mL/min	Flow In mL/min	% RPD
L1305999-01	CONGREGATION	0100	#20 AMB	04/03/13	87151		-	-	-	Pass	10.0	12.2	20
L1305999-01	CONGREGATION	651	6.0L Can	04/03/13	87151	L1302557-02	Pass	-28.7	1.0	-	-	-	-
L1305999-02	OFFICE	0255	#20 AMB	04/03/13	87151		-	-	-	Pass	10.0	10.7	7
L1305999-02	OFFICE	767	6.0L Can	04/03/13	87151	L1302808-02	Pass	-29.5	-5.5	-	-	-	-
L1305999-03	OA	0290	#20 AMB	04/03/13	87151		-	-	-	Pass	10.0	10.8	8
L1305999-03	OA	1590	6.0L Can	04/03/13	87151	L1302557-02	Pass	-28.6	-1.0	-	-	-	-

Project Name: BATCH CANISTER CERTIFICATION

Lab Number: L1302557

Project Number: CANISTER QC BAT

Report Date: 04/12/13

## Air Canister Certification Results

Lab ID: L1302557-02 Date Collected: 02/13/13 10:03  
 Client ID: CAN 636 SHELF #57 Date Received: 02/13/13  
 Sample Location: Field Prep: Not Specified  
 Matrix: Air  
 Analytical Method: 48,TO-15  
 Analytical Date: 02/14/13 20:47  
 Analyst: RY

Parameter	ppbV			ug/m3			Qualifier	Dilution Factor
	Results	RL	MDL	Results	RL	MDL		
<b>Volatile Organics in Air - Mansfield Lab</b>								
Chlorodifluoromethane	ND	0.200	--	ND	0.707	--		1
Propylene	ND	0.500	--	ND	0.861	--		1
Dichlorodifluoromethane	ND	0.200	--	ND	0.989	--		1
Chloromethane	ND	0.200	--	ND	0.413	--		1
Freon-114	ND	0.200	--	ND	1.40	--		1
Vinyl chloride	ND	0.200	--	ND	0.511	--		1
1,3-Butadiene	ND	0.200	--	ND	0.442	--		1
Butane	ND	0.200	--	ND	0.475	--		1
Bromomethane	ND	0.200	--	ND	0.777	--		1
Chloroethane	ND	0.200	--	ND	0.528	--		1
Ethanol	ND	2.50	--	ND	4.71	--		1
Dichlorofluoromethane	ND	0.200	--	ND	0.842	--		1
Vinyl bromide	ND	0.200	--	ND	0.874	--		1
Acrolein	ND	0.500	--	ND	1.15	--		1
Acetone	ND	1.00	--	ND	2.38	--		1
Acetonitrile	ND	0.200	--	ND	0.336	--		1
Trichlorofluoromethane	ND	0.200	--	ND	1.12	--		1
Isopropanol	ND	0.500	--	ND	1.23	--		1
Acrylonitrile	ND	0.200	--	ND	0.434	--		1
Pentane	ND	0.200	--	ND	0.590	--		1
1,1-Dichloroethene	ND	0.200	--	ND	0.793	--		1
Tertiary butyl Alcohol	ND	0.500	--	ND	1.52	--		1
Methylene chloride	ND	1.00	--	ND	3.47	--		1
3-Chloropropene	ND	0.200	--	ND	0.626	--		1
Carbon disulfide	ND	0.200	--	ND	0.623	--		1



Project Name: BATCH CANISTER CERTIFICATION

Lab Number: L1302557

Project Number: CANISTER QC BAT

Report Date: 04/12/13

**Air Canister Certification Results**

Lab ID: L1302557-02 Date Collected: 02/13/13 10:03  
 Client ID: CAN 636 SHELF #57 Date Received: 02/13/13  
 Sample Location: Field Prep: Not Specified

Parameter	Results	ppbV		ug/m3		Qualifier	Dilution Factor
		RL	MDL	RL	MDL		
<b>Volatile Organics in Air - Mansfield Lab</b>							
Freon-113	ND	0.200	--	ND	1.53	--	1
trans-1,2-Dichloroethene	ND	0.200	--	ND	0.793	--	1
1,1-Dichloroethane	ND	0.200	--	ND	0.809	--	1
Methyl tert butyl ether	ND	0.200	--	ND	0.721	--	1
Vinyl acetate	ND	0.200	--	ND	0.704	--	1
2-Butanone	ND	0.200	--	ND	0.590	--	1
cis-1,2-Dichloroethene	ND	0.200	--	ND	0.793	--	1
Ethyl Acetate	ND	0.500	--	ND	1.80	--	1
Chloroform	ND	0.200	--	ND	0.977	--	1
Tetrahydrofuran	ND	0.200	--	ND	0.590	--	1
2,2-Dichloropropane	ND	0.200	--	ND	0.924	--	1
1,2-Dichloroethane	ND	0.200	--	ND	0.809	--	1
n-Hexane	ND	0.200	--	ND	0.705	--	1
Diisopropyl ether	ND	0.200	--	ND	0.836	--	1
tert-Butyl Ethyl Ether	ND	0.200	--	ND	0.836	--	1
1,1,1-Trichloroethane	ND	0.200	--	ND	1.09	--	1
1,1-Dichloropropene	ND	0.200	--	ND	0.908	--	1
Benzene	ND	0.200	--	ND	0.639	--	1
Carbon tetrachloride	ND	0.200	--	ND	1.26	--	1
Cyclohexane	ND	0.200	--	ND	0.688	--	1
tert-Amyl Methyl Ether	ND	0.200	--	ND	0.836	--	1
Dibromomethane	ND	0.200	--	ND	1.42	--	1
1,2-Dichloropropane	ND	0.200	--	ND	0.924	--	1
Bromodichloromethane	ND	0.200	--	ND	1.34	--	1
1,4-Dioxane	ND	0.200	--	ND	0.721	--	1
Trichloroethene	ND	0.200	--	ND	1.07	--	1
2,2,4-Trimethylpentane	ND	0.200	--	ND	0.934	--	1
Methyl Methacrylate	ND	0.500	--	ND	2.05	--	1



Project Name: BATCH CANISTER CERTIFICATION

Lab Number: L1302557

Project Number: CANISTER QC BAT

Report Date: 04/12/13

## Air Canister Certification Results

Lab ID: L1302557-02 Date Collected: 02/13/13 10:03  
 Client ID: CAN 636 SHELF #57 Date Received: 02/13/13  
 Sample Location: Field Prep: Not Specified

Parameter	Results	ppbV		ug/m3		Qualifier	Dilution Factor
		RL	MDL	RL	MDL		
<b>Volatile Organics in Air - Mansfield Lab</b>							
Heptane	ND	0.200	--	ND	0.820	--	1
cis-1,3-Dichloropropene	ND	0.200	--	ND	0.908	--	1
4-Methyl-2-pentanone	ND	0.200	--	ND	0.820	--	1
trans-1,3-Dichloropropene	ND	0.200	--	ND	0.908	--	1
1,1,2-Trichloroethane	ND	0.200	--	ND	1.09	--	1
Toluene	ND	0.200	--	ND	0.754	--	1
1,3-Dichloropropane	ND	0.200	--	ND	0.924	--	1
2-Hexanone	ND	0.200	--	ND	0.820	--	1
Dibromochloromethane	ND	0.200	--	ND	1.70	--	1
1,2-Dibromoethane	ND	0.200	--	ND	1.54	--	1
Butyl acetate	ND	0.500	--	ND	2.38	--	1
Octane	ND	0.200	--	ND	0.934	--	1
Tetrachloroethylene	ND	0.200	--	ND	1.36	--	1
1,1,1,2-Tetrachloroethane	ND	0.200	--	ND	1.37	--	1
Chlorobenzene	ND	0.200	--	ND	0.921	--	1
Ethylbenzene	ND	0.200	--	ND	0.869	--	1
p/m-Xylene	ND	0.400	--	ND	1.74	--	1
Bromoform	ND	0.200	--	ND	2.07	--	1
Styrene	ND	0.200	--	ND	0.852	--	1
1,1,2,2-Tetrachloroethane	ND	0.200	--	ND	1.37	--	1
o-Xylene	ND	0.200	--	ND	0.869	--	1
1,2,3-Trichloropropane	ND	0.200	--	ND	1.21	--	1
Nonane	ND	0.200	--	ND	1.05	--	1
Isopropylbenzene	ND	0.200	--	ND	0.983	--	1
Bromobenzene	ND	0.200	--	ND	0.793	--	1
2-Chlorotoluene	ND	0.200	--	ND	1.04	--	1
n-Propylbenzene	ND	0.200	--	ND	0.983	--	1
4-Chlorotoluene	ND	0.200	--	ND	1.04	--	1



Project Name: BATCH CANISTER CERTIFICATION

Lab Number: L1302557

Project Number: CANISTER QC BAT

Report Date: 04/12/13

## Air Canister Certification Results

Lab ID: L1302557-02 Date Collected: 02/13/13 10:03  
 Client ID: CAN 636 SHELF #57 Date Received: 02/13/13  
 Sample Location: Field Prep: Not Specified

Parameter	Results	ppbV		ug/m3		Qualifier	Dilution Factor
		RL	MDL	RL	MDL		
<b>Volatile Organics in Air - Mansfield Lab</b>							
4-Ethyltoluene	ND	0.200	--	0.983	--		1
1,3,5-Trimethylbenzene	ND	0.200	--	0.983	--		1
tert-Butylbenzene	ND	0.200	--	1.10	--		1
1,2,4-Trimethylbenzene	ND	0.200	--	0.983	--		1
Decane	ND	0.200	--	1.16	--		1
Benzyl chloride	ND	0.200	--	1.04	--		1
1,3-Dichlorobenzene	ND	0.200	--	1.20	--		1
1,4-Dichlorobenzene	ND	0.200	--	1.20	--		1
sec-Butylbenzene	ND	0.200	--	1.10	--		1
p-Isopropyltoluene	ND	0.200	--	1.10	--		1
1,2-Dichlorobenzene	ND	0.200	--	1.20	--		1
n-Butylbenzene	ND	0.200	--	1.10	--		1
1,2-Dibromo-3-chloropropane	ND	0.200	--	1.93	--		1
Undecane	ND	0.200	--	1.28	--		1
Dodecane	ND	0.200	--	1.39	--		1
1,2,4-Trichlorobenzene	ND	0.200	--	1.48	--		1
Naphthalene	ND	0.200	--	1.05	--		1
1,2,3-Trichlorobenzene	ND	0.200	--	1.48	--		1
Hexachlorobutadiene	ND	0.200	--	2.13	--		1

Internal Standard	% Recovery	Qualifier	Acceptance Criteria
1,4-Difluorobenzene	89		60-140
Bromochloromethane	92		60-140
chlorobenzene-d5	90		60-140



Project Name: BATCH CANISTER CERTIFICATION

Lab Number: L1302557

Project Number: CANISTER QC BAT

Report Date: 04/12/13

## Air Canister Certification Results

Lab ID: L1302557-02 Date Collected: 02/13/13 10:03  
 Client ID: CAN 636 SHELF #57 Date Received: 02/13/13  
 Sample Location: Field Prep: Not Specified  
 Matrix: Air  
 Analytical Method: 48,TO-15-SIM  
 Analytical Date: 02/14/13 20:47  
 Analyst: RY

Parameter	Results	ppbV		ug/m3		Qualifier	Dilution Factor
		RL	MDL	RL	MDL		
<b>Volatile Organics in Air by SIM - Mansfield Lab</b>							
Dichlorodifluoromethane	ND	0.050	--	ND	0.247	--	1
Chloromethane	ND	0.500	--	ND	1.03	--	1
Freon-114	ND	0.050	--	ND	0.349	--	1
Vinyl chloride	ND	0.020	--	ND	0.051	--	1
1,3-Butadiene	ND	0.020	--	ND	0.044	--	1
Bromomethane	ND	0.020	--	ND	0.078	--	1
Chloroethane	ND	0.020	--	ND	0.053	--	1
Acetone	ND	2.00	--	ND	4.75	--	1
Trichlorofluoromethane	ND	0.050	--	ND	0.281	--	1
Acrylonitrile	ND	0.500	--	ND	1.09	--	1
1,1-Dichloroethene	ND	0.020	--	ND	0.079	--	1
Methylene chloride	ND	1.00	--	ND	3.47	--	1
Freon-113	ND	0.050	--	ND	0.383	--	1
Halothane	ND	0.050	--	ND	0.404	--	1
trans-1,2-Dichloroethene	ND	0.020	--	ND	0.079	--	1
1,1-Dichloroethane	ND	0.020	--	ND	0.081	--	1
Methyl tert butyl ether	ND	0.020	--	ND	0.072	--	1
2-Butanone	ND	0.500	--	ND	1.47	--	1
cis-1,2-Dichloroethene	ND	0.020	--	ND	0.079	--	1
Chloroform	ND	0.020	--	ND	0.098	--	1
1,2-Dichloroethane	ND	0.020	--	ND	0.081	--	1
1,1,1-Trichloroethane	ND	0.020	--	ND	0.109	--	1
Benzene	ND	0.100	--	ND	0.319	--	1
Carbon tetrachloride	ND	0.020	--	ND	0.126	--	1
1,2-Dichloropropane	ND	0.020	--	ND	0.092	--	1



Project Name: BATCH CANISTER CERTIFICATION

Lab Number: L1302557

Project Number: CANISTER QC BAT

Report Date: 04/12/13

## Air Canister Certification Results

Lab ID: L1302557-02 Date Collected: 02/13/13 10:03  
 Client ID: CAN 636 SHELF #57 Date Received: 02/13/13  
 Sample Location: Field Prep: Not Specified

Parameter	Results	ppbV		ug/m3		Qualifier	Dilution Factor
		RL	MDL	RL	MDL		
<b>Volatile Organics in Air by SIM - Mansfield Lab</b>							
Bromodichloromethane	ND	0.020	--	0.134	--		1
1,4-Dioxane	ND	0.100	--	0.360	--		1
Trichloroethene	ND	0.020	--	0.107	--		1
cis-1,3-Dichloropropene	ND	0.020	--	0.091	--		1
4-Methyl-2-pentanone	ND	0.500	--	2.05	--		1
trans-1,3-Dichloropropene	ND	0.020	--	0.091	--		1
1,1,2-Trichloroethane	ND	0.020	--	0.109	--		1
Toluene	ND	0.050	--	0.188	--		1
Dibromochloromethane	ND	0.020	--	0.170	--		1
1,2-Dibromoethane	ND	0.020	--	0.154	--		1
Tetrachloroethene	ND	0.020	--	0.136	--		1
1,1,1,2-Tetrachloroethane	ND	0.020	--	0.137	--		1
Chlorobenzene	ND	0.020	--	0.092	--		1
Ethylbenzene	ND	0.020	--	0.087	--		1
p/m-Xylene	ND	0.040	--	0.174	--		1
Bromoform	ND	0.020	--	0.207	--		1
Styrene	ND	0.020	--	0.085	--		1
1,1,2,2-Tetrachloroethane	ND	0.020	--	0.137	--		1
o-Xylene	ND	0.020	--	0.087	--		1
Isopropylbenzene	ND	0.500	--	2.46	--		1
1,3,5-Trimethylbenzene	ND	0.020	--	0.098	--		1
1,2,4-Trimethylbenzene	ND	0.020	--	0.098	--		1
1,3-Dichlorobenzene	ND	0.020	--	0.120	--		1
1,4-Dichlorobenzene	ND	0.020	--	0.120	--		1
sec-Butylbenzene	ND	0.500	--	2.74	--		1
p-Isopropyltoluene	ND	0.500	--	2.74	--		1
1,2-Dichlorobenzene	ND	0.020	--	0.120	--		1
n-Butylbenzene	ND	0.500	--	2.74	--		1



Project Name: BATCH CANISTER CERTIFICATION

Lab Number: L1302557

Project Number: CANISTER QC BAT

Report Date: 04/12/13

## Air Canister Certification Results

Lab ID: L1302557-02 Date Collected: 02/13/13 10:03  
 Client ID: CAN 636 SHELF #57 Date Received: 02/13/13  
 Sample Location: Field Prep: Not Specified

Parameter	Results	ppbV		ug/m3		Qualifier	Dilution Factor
		RL	MDL	RL	MDL		
<b>Volatile Organics in Air by SIM - Mansfield Lab</b>							
1,2,4-Trichlorobenzene	ND	0.050	--	ND	0.371	--	1
Naphthalene	ND	0.050	--	ND	0.262	--	1
1,2,3-Trichlorobenzene	ND	0.050	--	ND	0.371	--	1
Hexachlorobutadiene	ND	0.050	--	ND	0.533	--	1

Internal Standard	% Recovery	Qualifier	Acceptance Criteria
1,4-difluorobenzene	91		60-140
bromochloromethane	94		60-140
chlorobenzene-d5	90		60-140

Project Name: BATCH CANISTER CERTIFICATION

Lab Number: L1302808

Project Number: CANISTER QC BAT

Report Date: 04/12/13

## Air Canister Certification Results

Lab ID: L1302808-02 Date Collected: 02/18/13 14:13  
 Client ID: CAN 782 SHELF 41 Date Received: 02/19/13  
 Sample Location: Field Prep: Not Specified  
 Matrix: Air  
 Analytical Method: 48,TO-15  
 Analytical Date: 02/19/13 19:29  
 Analyst: MB

Parameter	ppbV			ug/m3			Qualifier	Dilution Factor
	Results	RL	MDL	Results	RL	MDL		
<b>Volatile Organics in Air - Mansfield Lab</b>								
Chlorodifluoromethane	ND	0.200	--	ND	0.707	--		1
Propylene	ND	0.500	--	ND	0.861	--		1
Dichlorodifluoromethane	ND	0.200	--	ND	0.989	--		1
Chloromethane	ND	0.200	--	ND	0.413	--		1
Freon-114	ND	0.200	--	ND	1.40	--		1
Vinyl chloride	ND	0.200	--	ND	0.511	--		1
1,3-Butadiene	ND	0.200	--	ND	0.442	--		1
Butane	ND	0.200	--	ND	0.475	--		1
Bromomethane	ND	0.200	--	ND	0.777	--		1
Chloroethane	ND	0.200	--	ND	0.528	--		1
Ethanol	ND	2.50	--	ND	4.71	--		1
Dichlorofluoromethane	ND	0.200	--	ND	0.842	--		1
Vinyl bromide	ND	0.200	--	ND	0.874	--		1
Acrolein	ND	0.500	--	ND	1.15	--		1
Acetone	ND	1.00	--	ND	2.38	--		1
Acetonitrile	ND	0.200	--	ND	0.336	--		1
Trichlorofluoromethane	ND	0.200	--	ND	1.12	--		1
Isopropanol	ND	0.500	--	ND	1.23	--		1
Acrylonitrile	ND	0.200	--	ND	0.434	--		1
Pentane	ND	0.200	--	ND	0.590	--		1
1,1-Dichloroethene	ND	0.200	--	ND	0.793	--		1
Tertiary butyl Alcohol	ND	0.500	--	ND	1.52	--		1
Methylene chloride	ND	1.00	--	ND	3.47	--		1
3-Chloropropene	ND	0.200	--	ND	0.626	--		1
Carbon disulfide	ND	0.200	--	ND	0.623	--		1



Project Name: BATCH CANISTER CERTIFICATION

Lab Number: L1302808

Project Number: CANISTER QC BAT

Report Date: 04/12/13

## Air Canister Certification Results

Lab ID: L1302808-02 Date Collected: 02/18/13 14:13  
 Client ID: CAN 782 SHELF 41 Date Received: 02/19/13  
 Sample Location: Field Prep: Not Specified

Parameter	Results	ppbV		ug/m3		Qualifier	Dilution Factor
		RL	MDL	RL	MDL		
<b>Volatile Organics in Air - Mansfield Lab</b>							
Freon-113	ND	0.200	--	ND	1.53	--	1
trans-1,2-Dichloroethene	ND	0.200	--	ND	0.793	--	1
1,1-Dichloroethane	ND	0.200	--	ND	0.809	--	1
Methyl tert butyl ether	ND	0.200	--	ND	0.721	--	1
Vinyl acetate	ND	0.200	--	ND	0.704	--	1
2-Butanone	ND	0.200	--	ND	0.590	--	1
cis-1,2-Dichloroethene	ND	0.200	--	ND	0.793	--	1
Ethyl Acetate	ND	0.500	--	ND	1.80	--	1
Chloroform	ND	0.200	--	ND	0.977	--	1
Tetrahydrofuran	ND	0.200	--	ND	0.590	--	1
2,2-Dichloropropane	ND	0.200	--	ND	0.924	--	1
1,2-Dichloroethane	ND	0.200	--	ND	0.809	--	1
n-Hexane	ND	0.200	--	ND	0.705	--	1
Diisopropyl ether	ND	0.200	--	ND	0.836	--	1
tert-Butyl Ethyl Ether	ND	0.200	--	ND	0.836	--	1
1,1,1-Trichloroethane	ND	0.200	--	ND	1.09	--	1
1,1-Dichloropropene	ND	0.200	--	ND	0.908	--	1
Benzene	ND	0.200	--	ND	0.639	--	1
Carbon tetrachloride	ND	0.200	--	ND	1.26	--	1
Cyclohexane	ND	0.200	--	ND	0.688	--	1
tert-Amyl Methyl Ether	ND	0.200	--	ND	0.836	--	1
Dibromomethane	ND	0.200	--	ND	1.42	--	1
1,2-Dichloropropane	ND	0.200	--	ND	0.924	--	1
Bromodichloromethane	ND	0.200	--	ND	1.34	--	1
1,4-Dioxane	ND	0.200	--	ND	0.721	--	1
Trichloroethene	ND	0.200	--	ND	1.07	--	1
2,2,4-Trimethylpentane	ND	0.200	--	ND	0.934	--	1
Methyl Methacrylate	ND	0.500	--	ND	2.05	--	1



Project Name: BATCH CANISTER CERTIFICATION

Lab Number: L1302808

Project Number: CANISTER QC BAT

Report Date: 04/12/13

## Air Canister Certification Results

Lab ID: L1302808-02 Date Collected: 02/18/13 14:13  
 Client ID: CAN 782 SHELF 41 Date Received: 02/19/13  
 Sample Location: Field Prep: Not Specified

Parameter	Results	ppbV		ug/m3		Qualifier	Dilution Factor
		RL	MDL	RL	MDL		
<b>Volatile Organics in Air - Mansfield Lab</b>							
Heptane	ND	0.200	--	ND	0.820	--	1
cis-1,3-Dichloropropene	ND	0.200	--	ND	0.908	--	1
4-Methyl-2-pentanone	ND	0.200	--	ND	0.820	--	1
trans-1,3-Dichloropropene	ND	0.200	--	ND	0.908	--	1
1,1,2-Trichloroethane	ND	0.200	--	ND	1.09	--	1
Toluene	ND	0.200	--	ND	0.754	--	1
1,3-Dichloropropane	ND	0.200	--	ND	0.924	--	1
2-Hexanone	ND	0.200	--	ND	0.820	--	1
Dibromochloromethane	ND	0.200	--	ND	1.70	--	1
1,2-Dibromoethane	ND	0.200	--	ND	1.54	--	1
Butyl acetate	ND	0.500	--	ND	2.38	--	1
Octane	ND	0.200	--	ND	0.934	--	1
Tetrachloroethene	ND	0.200	--	ND	1.36	--	1
1,1,1,2-Tetrachloroethane	ND	0.200	--	ND	1.37	--	1
Chlorobenzene	ND	0.200	--	ND	0.921	--	1
Ethylbenzene	ND	0.200	--	ND	0.869	--	1
p/m-Xylene	ND	0.400	--	ND	1.74	--	1
Bromoform	ND	0.200	--	ND	2.07	--	1
Styrene	ND	0.200	--	ND	0.852	--	1
1,1,2,2-Tetrachloroethane	ND	0.200	--	ND	1.37	--	1
o-Xylene	ND	0.200	--	ND	0.869	--	1
1,2,3-Trichloropropane	ND	0.200	--	ND	1.21	--	1
Nonane	ND	0.200	--	ND	1.05	--	1
Isopropylbenzene	ND	0.200	--	ND	0.983	--	1
Bromobenzene	ND	0.200	--	ND	0.793	--	1
2-Chlorotoluene	ND	0.200	--	ND	1.04	--	1
n-Propylbenzene	ND	0.200	--	ND	0.983	--	1
4-Chlorotoluene	ND	0.200	--	ND	1.04	--	1



Project Name: BATCH CANISTER CERTIFICATION

Lab Number: L1302808

Project Number: CANISTER QC BAT

Report Date: 04/12/13

## Air Canister Certification Results

Lab ID: L1302808-02 Date Collected: 02/18/13 14:13  
 Client ID: CAN 782 SHELF 41 Date Received: 02/19/13  
 Sample Location: Field Prep: Not Specified

Parameter	Results	ppbV		ug/m3		Qualifier	Dilution Factor
		RL	MDL	Results	RL		
<b>Volatile Organics in Air - Mansfield Lab</b>							
4-Ethyltoluene	ND	0.200	--	ND	0.983	--	1
1,3,5-Trimethylbenzene	ND	0.200	--	ND	0.983	--	1
tert-Butylbenzene	ND	0.200	--	ND	1.10	--	1
1,2,4-Trimethylbenzene	ND	0.200	--	ND	0.983	--	1
Decane	ND	0.200	--	ND	1.16	--	1
Benzyl chloride	ND	0.200	--	ND	1.04	--	1
1,3-Dichlorobenzene	ND	0.200	--	ND	1.20	--	1
1,4-Dichlorobenzene	ND	0.200	--	ND	1.20	--	1
sec-Butylbenzene	ND	0.200	--	ND	1.10	--	1
p-Isopropyltoluene	ND	0.200	--	ND	1.10	--	1
1,2-Dichlorobenzene	ND	0.200	--	ND	1.20	--	1
n-Butylbenzene	ND	0.200	--	ND	1.10	--	1
1,2-Dibromo-3-chloropropane	ND	0.200	--	ND	1.93	--	1
Undecane	ND	0.200	--	ND	1.28	--	1
Dodecane	ND	0.200	--	ND	1.39	--	1
1,2,4-Trichlorobenzene	ND	0.200	--	ND	1.48	--	1
Naphthalene	ND	0.200	--	ND	1.05	--	1
1,2,3-Trichlorobenzene	ND	0.200	--	ND	1.48	--	1
Hexachlorobutadiene	ND	0.200	--	ND	2.13	--	1

Results	Qualifier	Units	RDL	Dilution Factor
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Tentatively Identified Compounds

No Tentatively Identified Compounds

Internal Standard	% Recovery	Qualifier	Acceptance Criteria
1,4-Difluorobenzene	92		60-140
Bromochloromethane	95		60-140
chlorobenzene-d5	94		60-140



Project Name: BATCH CANISTER CERTIFICATION

Lab Number: L1302808

Project Number: CANISTER QC BAT

Report Date: 04/12/13

## Air Canister Certification Results

Lab ID: L1302808-02 Date Collected: 02/18/13 14:13  
 Client ID: CAN 782 SHELF 41 Date Received: 02/19/13  
 Sample Location: Field Prep: Not Specified  
 Matrix: Air  
 Analytical Method: 48,TO-15-SIM  
 Analytical Date: 02/19/13 19:29  
 Analyst: MB

Parameter	Results	ppbV		ug/m3		Qualifier	Dilution Factor
		RL	MDL	RL	MDL		
<b>Volatile Organics in Air by SIM - Mansfield Lab</b>							
Dichlorodifluoromethane	ND	0.050	--	ND	0.247	--	1
Chloromethane	ND	0.500	--	ND	1.03	--	1
Freon-114	ND	0.050	--	ND	0.349	--	1
Vinyl chloride	ND	0.020	--	ND	0.051	--	1
1,3-Butadiene	ND	0.020	--	ND	0.044	--	1
Bromomethane	ND	0.020	--	ND	0.078	--	1
Chloroethane	ND	0.020	--	ND	0.053	--	1
Acetone	ND	2.00	--	ND	4.75	--	1
Trichlorofluoromethane	ND	0.050	--	ND	0.281	--	1
Acrylonitrile	ND	0.500	--	ND	1.09	--	1
1,1-Dichloroethene	ND	0.020	--	ND	0.079	--	1
Methylene chloride	ND	1.00	--	ND	3.47	--	1
Freon-113	ND	0.050	--	ND	0.383	--	1
Halothane	ND	0.050	--	ND	0.404	--	1
trans-1,2-Dichloroethene	ND	0.020	--	ND	0.079	--	1
1,1-Dichloroethane	ND	0.020	--	ND	0.081	--	1
Methyl tert butyl ether	ND	0.020	--	ND	0.072	--	1
2-Butanone	ND	0.500	--	ND	1.47	--	1
cis-1,2-Dichloroethene	ND	0.020	--	ND	0.079	--	1
Chloroform	ND	0.020	--	ND	0.098	--	1
1,2-Dichloroethane	ND	0.020	--	ND	0.081	--	1
1,1,1-Trichloroethane	ND	0.020	--	ND	0.109	--	1
Benzene	ND	0.100	--	ND	0.319	--	1
Carbon tetrachloride	ND	0.020	--	ND	0.126	--	1
1,2-Dichloropropane	ND	0.020	--	ND	0.092	--	1



Project Name: BATCH CANISTER CERTIFICATION

Lab Number: L1302808

Project Number: CANISTER QC BAT

Report Date: 04/12/13

## Air Canister Certification Results

Lab ID: L1302808-02 Date Collected: 02/18/13 14:13  
 Client ID: CAN 782 SHELF 41 Date Received: 02/19/13  
 Sample Location: Field Prep: Not Specified

Parameter	Results	ppbV		ug/m3		Qualifier	Dilution Factor
		RL	MDL	RL	MDL		
<b>Volatile Organics in Air by SIM - Mansfield Lab</b>							
Bromodichloromethane	ND	0.020	--	0.134	--		1
1,4-Dioxane	ND	0.100	--	0.360	--		1
Trichloroethene	ND	0.020	--	0.107	--		1
cis-1,3-Dichloropropene	ND	0.020	--	0.091	--		1
4-Methyl-2-pentanone	ND	0.500	--	2.05	--		1
trans-1,3-Dichloropropene	ND	0.020	--	0.091	--		1
1,1,2-Trichloroethane	ND	0.020	--	0.109	--		1
Toluene	ND	0.050	--	0.188	--		1
Dibromochloromethane	ND	0.020	--	0.170	--		1
1,2-Dibromoethane	ND	0.020	--	0.154	--		1
Tetrachloroethene	ND	0.020	--	0.136	--		1
1,1,1,2-Tetrachloroethane	ND	0.020	--	0.137	--		1
Chlorobenzene	ND	0.020	--	0.092	--		1
Ethylbenzene	ND	0.020	--	0.087	--		1
p/m-Xylene	ND	0.040	--	0.174	--		1
Bromoform	ND	0.020	--	0.207	--		1
Styrene	ND	0.020	--	0.085	--		1
1,1,2,2-Tetrachloroethane	ND	0.020	--	0.137	--		1
o-Xylene	ND	0.020	--	0.087	--		1
Isopropylbenzene	ND	0.500	--	2.46	--		1
1,3,5-Trimethylbenzene	ND	0.020	--	0.098	--		1
1,2,4-Trimethylbenzene	ND	0.020	--	0.098	--		1
1,3-Dichlorobenzene	ND	0.020	--	0.120	--		1
1,4-Dichlorobenzene	ND	0.020	--	0.120	--		1
sec-Butylbenzene	ND	0.500	--	2.74	--		1
p-Isopropyltoluene	ND	0.500	--	2.74	--		1
1,2-Dichlorobenzene	ND	0.020	--	0.120	--		1
n-Butylbenzene	ND	0.500	--	2.74	--		1



Project Name: BATCH CANISTER CERTIFICATION

Lab Number: L1302808

Project Number: CANISTER QC BAT

Report Date: 04/12/13

## Air Canister Certification Results

Lab ID: L1302808-02 Date Collected: 02/18/13 14:13  
 Client ID: CAN 782 SHELF 41 Date Received: 02/19/13  
 Sample Location: Field Prep: Not Specified

Parameter	Results	ppbV		ug/m3		Qualifier	Dilution Factor
		RL	MDL	RL	MDL		
<b>Volatile Organics in Air by SIM - Mansfield Lab</b>							
1,2,4-Trichlorobenzene	ND	0.050	--	ND	0.371	--	1
Naphthalene	ND	0.050	--	ND	0.262	--	1
1,2,3-Trichlorobenzene	ND	0.050	--	ND	0.371	--	1
Hexachlorobutadiene	ND	0.050	--	ND	0.533	--	1

Internal Standard	% Recovery	Qualifier	Acceptance Criteria
1,4-difluorobenzene	90		60-140
bromochloromethane	94		60-140
chlorobenzene-d5	91		60-140

**Project Name:** WATERMARK  
**Project Number:** WAT 1201

**Lab Number:** L1305999  
**Report Date:** 04/12/13

### Sample Receipt and Container Information

Were project specific reporting limits specified? YES

**Reagent H2O Preserved Vials Frozen on:** NA

#### **Cooler Information Custody Seal**

##### **Cooler**

N/A Present/Intact

#### **Container Information**

<b>Container ID</b>	<b>Container Type</b>	<b>Cooler</b>	<b>pH</b>	<b>Temp deg C</b>	<b>Pres</b>	<b>Seal</b>	<b>Analysis(*)</b>
L1305999-01A	Canister - 6 Liter	N/A	N/A		Y	Present/Intact	TO15-SIM(30)
L1305999-02A	Canister - 6 Liter	N/A	N/A		Y	Present/Intact	TO15-SIM(30)
L1305999-03A	Canister - 6 Liter	N/A	N/A		Y	Present/Intact	TO15-SIM(30)

\*Values in parentheses indicate holding time in days

**Project Name:** WATERMARK  
**Project Number:** WAT 1201

**Lab Number:** L1305999  
**Report Date:** 04/12/13

## GLOSSARY

### **Acronyms**

- EDL - Estimated Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the reporting limit (RL). The EDL includes any adjustments from dilutions, concentrations or moisture content, where applicable. The use of EDLs is specific to the analysis of PAHs using Solid-Phase Microextraction (SPME).
- EPA - Environmental Protection Agency.
- LCS - Laboratory Control Sample: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes.
- LCSD - Laboratory Control Sample Duplicate: Refer to LCS.
- LFB - Laboratory Fortified Blank: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes.
- MDL - Method Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the reporting limit (RL). The MDL includes any adjustments from dilutions, concentrations or moisture content, where applicable.
- MS - Matrix Spike Sample: A sample prepared by adding a known mass of target analyte to a specified amount of matrix sample for which an independent estimate of target analyte concentration is available.
- MSD - Matrix Spike Sample Duplicate: Refer to MS.
- NA - Not Applicable.
- NC - Not Calculated: Term is utilized when one or more of the results utilized in the calculation are non-detect at the parameter's reporting unit.
- NI - Not Ignitable.
- RL - Reporting Limit: The value at which an instrument can accurately measure an analyte at a specific concentration. The RL includes any adjustments from dilutions, concentrations or moisture content, where applicable.
- RPD - Relative Percent Difference: The results from matrix and/or matrix spike duplicates are primarily designed to assess the precision of analytical results in a given matrix and are expressed as relative percent difference (RPD). Values which are less than five times the reporting limit for any individual parameter are evaluated by utilizing the absolute difference between the values; although the RPD value will be provided in the report.
- SRM - Standard Reference Material: A reference sample of a known or certified value that is of the same or similar matrix as the associated field samples.

### **Footnotes**

- 1 - The reference for this analyte should be considered modified since this analyte is absent from the target analyte list of the original method.

### **Terms**

**Analytical Method:** Both the document from which the method originates and the analytical reference method. (Example: EPA 8260B is shown as 1,8260B.) The codes for the reference method documents are provided in the References section of the Addendum.

### **Data Qualifiers**

- A** - Spectra identified as "Aldol Condensation Product".
- B** - The analyte was detected above the reporting limit in the associated method blank. Flag only applies to associated field samples that have detectable concentrations of the analyte at less than five times (5x) the concentration found in the blank. For MCP-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For DOD-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank AND the analyte was detected above one-half the reporting limit (or above the reporting limit for common lab contaminants) in the associated method blank. For NJ-Air-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte above the reporting limit.
- C** - Co-elution: The target analyte co-elutes with a known lab standard (i.e. surrogate, internal standards, etc.) for co-extracted analyses.
- D** - Concentration of analyte was quantified from diluted analysis. Flag only applies to field samples that have detectable concentrations of the analyte.
- E** - Concentration of analyte exceeds the range of the calibration curve and/or linear range of the instrument.
- G** - The concentration may be biased high due to matrix interferences (i.e. co-elution) with non-target compound(s). The result should be considered estimated.
- H** - The analysis of pH was performed beyond the regulatory-required holding time of 15 minutes from the time of sample collection.
- I** - The RPD between the results for the two columns exceeds the method-specified criteria; however, the lower value has been reported

**Report Format:** Data Usability Report



**Project Name:** WATERMARK  
**Project Number:** WAT 1201

**Lab Number:** L1305999  
**Report Date:** 04/12/13

**Data Qualifiers**

- due to obvious interference.
- M** - Reporting Limit (RL) exceeds the MCP CAM Reporting Limit for this analyte.
- NJ** - Presumptive evidence of compound. This represents an estimated concentration for Tentatively Identified Compounds (TICs), where the identification is based on a mass spectral library search.
- P** - The RPD between the results for the two columns exceeds the method-specified criteria.
- Q** - The quality control sample exceeds the associated acceptance criteria. For DOD-related projects, LCS and/or Continuing Calibration Standard exceedences are also qualified on all associated sample results. Note: This flag is not applicable for matrix spike recoveries when the sample concentration is greater than 4x the spike added or for batch duplicate RPD when the sample concentrations are less than 5x the RL. (Metals only.)
- R** - Analytical results are from sample re-analysis.
- RE** - Analytical results are from sample re-extraction.
- J** - Estimated value. This represents an estimated concentration for Tentatively Identified Compounds (TICs).
- ND** - Not detected at the reporting limit (RL) for the sample.

*Report Format:* Data Usability Report



**Project Name:** WATERMARK  
**Project Number:** WAT 1201

**Lab Number:** L1305999  
**Report Date:** 04/12/13

## REFERENCES

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

## LIMITATION OF LIABILITIES

Alpha Analytical performs services with reasonable care and diligence normal to the analytical testing laboratory industry. In the event of an error, the sole and exclusive responsibility of Alpha Analytical shall be to re-perform the work at its own expense. In no event shall Alpha Analytical be held liable for any incidental, consequential or special damages, including but not limited to, damages in any way connected with the use of, interpretation of, information or analysis provided by Alpha Analytical.

We strongly urge our clients to comply with EPA protocol regarding sample volume, preservation, cooling, containers, sampling procedures, holding time and splitting of samples in the field.



## **Certificate/Approval Program Summary**

Last revised August 3, 2012 – Mansfield Facility

The following list includes only those analytes/methods for which certification/approval is currently held. For a complete listing of analytes for the referenced methods, please contact your Alpha Customer Service Representative.

**Connecticut Department of Public Health Certificate/Lab ID: PH-0141.**

**Wastewater/Non-Potable Water (Inorganic Parameters:** pH, Turbidity, Conductivity, Alkalinity, Aluminum, Antimony, Arsenic, Barium, Beryllium, Boron, Cadmium, Calcium, Chromium, Cobalt, Copper, Iron, Lead, Magnesium, Manganese, Mercury, Molybdenum, Nickel, Potassium, Selenium, Silver, Sodium, Strontium, Thallium, Tin, Titanium, Vanadium, Zinc, Total Residue (Solids), Total Suspended Solids (non-filterable).

**Organic Parameters:** PCBs, Organochlorine Pesticides, Technical Chlordane, Toxaphene, Acid Extractables, Benzidines, Phthalate Esters, Nitrosamines, Nitroaromatics & Isophorone, PAHs, Haloethers, Chlorinated Hydrocarbons, Volatile Organics.)

**Solid Waste/Soil (Inorganic Parameters:** pH, Aluminum, Antimony, Arsenic, Barium, Beryllium, Cadmium, Calcium, Chromium, Hexavalent Chromium, Cobalt, Copper, Iron, Lead, Magnesium, Manganese, Mercury, Molybdenum, Nickel, Potassium, Selenium, Silver, Sodium, Thallium, Titanium, Vanadium, Zinc, Total Organic Carbon, Corrosivity, TCLP 1311, SPLP 1312. **Organic Parameters:** PCBs, Organochlorine Pesticides, Technical Chlordane, Toxaphene, Volatile Organics, Acid Extractables, Benzidines, Phthalates, Nitrosamines, Nitroaromatics & Cyclic Ketones, PAHs, Haloethers, Chlorinated Hydrocarbons.)

**Florida Department of Health Certificate/Lab ID: E87814. **NELAP Accredited.****

**Non-Potable Water (Inorganic Parameters:** SM2320B, SM2540D, SM2540G.)

**Solid & Chemical Materials (Inorganic Parameters:** 6020, 7470, 7471, 9045. **Organic Parameters:** EPA 8260, 8270, 8082, 8081.)

**Air & Emissions (EPA TO-15.)**

**Louisiana Department of Environmental Quality Certificate/Lab ID: 03090. **NELAP Accredited.****

**Non-Potable Water (Inorganic Parameters:** EPA 180.1, 245.7, 1631E, 3020A, 6020A, 7470A, 9040, 9050A, SM2320B, 2540D, 2540G, 4500H-B, **Organic Parameters:** EPA 3510C, 3580A, 3630C, 3640A, 3660B, 3665A, 5030B, 8015D, 3570, 8081B, 8082A, 8260B, 8270C, 8270D.)

**Solid & Chemical Materials (Inorganic Parameters:** EPA 1311, 3050B, 3051A, 3060A, 6020A, 7196A, 7470A, 7471B, 7474, 9040B, 9045C, 9060. **Organic Parameters:** EPA 3540C, 3570, 3580A, 3630C, 3640A, 3660, 3665A, 5035, 8015D, 8081B, 8082A, 8260B, 8270C, 8270D.)

**Biological Tissue (Inorganic Parameters:** EPA 6020A. **Organic Parameters:** EPA 3570, 3510C, 3610B, 3630C, 3640A, 8270C, 8270D.)

**Air & Emissions (EPA TO-15.)**

**New Hampshire Department of Environmental Services Certificate/Lab ID: 2206. **NELAP Accredited.****

**Non-Potable Water (Inorganic Parameters:** EPA 180.1, 1631E, 6020A, 7470A, 9040B, 9050A, SM2540D, 2540G, 4500H+B, 2320B, 3020A, . **Organic Parameters:** EPA 3510C, 3630C, 3640A, 3660B, 8081B, 8082A, 8270C, 8270D, 8015D.)

**Solid & Chemical Materials (Inorganic Parameters:** SW-846 1311, 3050B, 3051A, 6020A, 7471B, 9040B, 9045C. **Organic Parameters:** SW-846 3540C, 3580A, 3630C, 3640A, 3660B, 3665A, 8270C, 8015D, 8082A, 8081B.)

**New Jersey Department of Environmental Protection Certificate/Lab ID: MA015. **NELAP Accredited.****

**Non-Potable Water (Inorganic Parameters:** SW-846 1312, 3020A, SM2320B, SM2540D, 2540G, 4500H-B, EPA 180.1, 1631E, SW-846 7470A, 9040C, 6020A, 9050A. **Organic Parameters:** SW-846 3510C, 3580A, 3630C, 3640A, 3660B, 3665A, 8015D, 8081B, 8082A, 8270C, 8270D)

**Solid & Chemical Materials** (Inorganic Parameters: SW-846 1311, 1312, 3050B, 3051A, 6020A, 7471B, 7474, 9040B, 9040C, 9045C, 9045D, 9060. Organic Parameters: SW-846 3540C, 3570, 3580A, 3630C, 3640A, 3660B, 3665A, 8081B, 8082A, 8270C, 8270D, 8015D.)

**Atmospheric Organic Parameters** (EPA 3C, TO-15, TO-10A, TO-13A-SIM.)

**Biological Tissue** (Inorganic Parameters: SW-846 6020A. Organic Parameters: SW-846 8270C, 8270D, 3510C, 3570, 3610C, 3630C, 3640A)

**New York Department of Health** Certificate/Lab ID: 11627. **NELAP Accredited**.

**Non-Potable Water** (Inorganic Parameters: SM2320B, SM2540D, 6020A, 1631E, 7470A, 9050A, EPA 180.1, 3020A. Organic Parameters: EPA 8270C, 8270D, 8081B, 8082A, 3510C.)

**Solid & Hazardous Waste** (Inorganic Parameters: EPA 6020A, 7471B, 7474, 9040C, 9045D. Organic Parameters: EPA 8270C, 8270D, 8081B, 8082A, 1311, 3050B, 3580A, 3570, 3051A.)

**Air & Emissions** (EPA TO-15, TO-10A.)

**Pennsylvania** Certificate/Lab ID: 68-02089      **NELAP Accredited**

**Non-Potable Water** (Inorganic Parameters: 1312, 1631E, 180.1, 3020A, 6020A, 7470A, 9040B, 9050A, 2320B, 2540D, 2540G, SM4500H+-B. Organic Parameters: 3510C, 3580A, 3630C, 3640A, 3660B, 3665A, 8015D, 8081B, 8082A, 8270C, 8270D . )

**Solid & Hazardous Waste** (Inorganic Parameters: EPA 1311, 3051A, 6020A, 7471B, 7474 9040B, 9045C, 9060. Organic Parameters: EPA3050B, 3540C, 3570, 3580A, 3630C, 3640A, 3660B, 3665A, 8270C, 8270D, 8081B, 8015D, 8082A.)

**Rhode Island Department of Health** Certificate/Lab ID: LAO00299. **NELAP Accredited via NJ-DEP**.

Refer to NJ-DEP Certificate for Non-Potable Water.

**Texas Commission of Environmental Quality** Certificate/Lab ID: T104704419-08-TX. **NELAP Accredited**.

**Solid & Chemical Materials** (Inorganic Parameters: EPA 6020, 7470, 7471, 1311, 9040, 9045, 9060. Organic Parameters: EPA 8015, 8270, 8081, 8082.)

**Air (Organic Parameters)**: EPA TO-15)

**Virginia Division of Consolidated Laboratory Services** Certificate/Lab ID:460194. **NELAP Accredited**.

**Non-Potable Water** (Inorganic Parameters:EPA 3020A, 6020A, 245.7, 9040B. Organic Parameters: EPA 3510C, 3640A, 3660B, 3665A, 8270C, 8270D, 8082A, 8081B, 8015D.)

**Solid & Chemical Materials** (Inorganic Parameters: EPA 6020A,7470A,7471B,9040B,9045C,3050B,3051, 9060. Organic Parameters: EPA 3540C, 3580A, 3630C, 3640A, 3660B, 3665A, 3570, 8270C, 8270D, 8081B, 8082A, 8015D.)

**Washington State Department of Ecology** Certificate/Lab ID: C954. **Non-Potable Water (Inorganic Parameters)**: SM2540D, 180.1, 1631E.)

**Solid & Chemical Materials** (Inorganic Parameters: EPA 6020, 7470, 7471, 7474, 9045C, 9050A, 9060. Organic Parameters: EPA 8081, 8082, 8015, 8270.)

**U.S. Army Corps of Engineers**

**Department of Defense, L-A-B** Certificate/Lab ID: L2217.01.

**Non-Potable Water** (Inorganic Parameters: EPA 6020A, SM4500H-B. Organic Parameters: 3020A, 3510C, 8270C, 8270D, 8270C-ALK-PAH, 8270D-ALK-PAH, 8082A, 8081B, 8015D-SHC, 8015D.)

**Solid & Hazardous Waste** (Inorganic Parameters: EPA 1311, 3050B, 6020A, 7471A, 9045C, 9060, SM 2540G, ASTM D422-63. Organic Parameters: EPA 3580A, 3570, 3540C, 8270C, 8270D, 8270C-ALK-PAH, 8270D-ALK-PAH 8082A, 8081B, 8015D-SHC, 8015D.)

**Air & Emissions** (EPA TO-15.)

**Analytes Not Accredited by NELAP**

Certification is not available by NELAP for the following analytes: **8270C:** Biphenyl. **TO-15:** Halothane, 2,4,4-Trimethyl-2-pentene, 2,4,4-Trimethyl-1-pentene, Thiophene, 2-Methylthiophene, 3-Methylthiophene, 2-Ethylthiophene, 1,2,3-Trimethylbenzene, Indan, Indene, 1,2,4,5-Tetramethylbenzene, Benzothiophene, 2-Methylnaphthalene, 1-Methylnaphthalene.



## APPENDIX B

# 6000DX Vocarb



## Heavy-Duty Air Filtration for Contaminated Environments

Designed for spaces where very heavy concentrations of volatile organic compounds and other chemicals and odors are the primary concern. This unit features a special VOC blend of carbon in an extra deep bed filter for superior adsorption of harmful toxins. A micro-HEPA for particles completes this powerful unit.

### ■ Why AllerAir Air Purifiers

Backed by unparalleled expertise in air quality control and a superior filtration system, AllerAir air cleaners are individually customized to target the airborne pollutants of concern in the environment. Our units offer more filtration media than any other manufacturer, with the deepest carbon bed filters for chemicals, gases and odors, and superior medical-grade HEPA filters for particle control.

### ■ Cleaner Indoor Air

Clean air is recognized as a vital component for overall comfort, workplace health and safety as well as productivity. According to research from leading organizations like the EPA, WHO and Health Canada, indoor air pollution may pose more of a public health risk in North America than outdoor air pollution.

### ■ Green Features



- All-metal housing
- Ozone-free filtration technology
- Energy efficient
- Refillable carbon canisters
- Styrofoam free
- North American sourced parts and materials
- North American assembly

### Technical Specifications

Carbon Filter	36 lb., 3.5" depth
HEPA Filter & Pre-filters	Micro-HEPA wrap, Pre-filter
Options	UV Light, Custom Carbon Blends, Photocatalytic
CFM	400 Free flow
Voltage	115V/60Hz or 230V/50Hz
Dimensions	23.5" (height) x 15" (diameter)
Shipping Weight	Approx. 66 lbs. 2 boxes
Available Colors	Black, White, Sandstone

**1.888.852.8247**  
[www.allerair.com](http://www.allerair.com)