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May 9, 2018

Division of Environmental Remediation
Remedial Bureau E, 12th Floor
New York State Department of
Environmental Conservation
625 Broadway
Albany, New York 12233-7016

Attention: Mr. David Chiusano, Project Manager

Subject: **March 2018 Soil Vapor Intrusion Evaluation Report**
Hidden Valley Electronics Remedial Investigation – Site Number 704029
MACTEC Engineering and Consulting, P.C. Project No. 3612122247

Dear Mr. Chiusano:

MACTEC Engineering and Consulting, P.C., (MACTEC), under contract to the New York State Department of Environmental Conservation (NYSDEC) (Work Assignment No. D007619-15) is pleased to present this report documenting the March 2018 soil vapor intrusion (SVI) activities and findings associated with the Hidden Valley Electronics site (Site), NYSDEC Site number 704029. The Site is currently listed by the NYSDEC as a Class 2 site which is defined as a significant threat to the public health or environment.

This SVI evaluation report presents the results of sampling conducted in March 2018 at residential structures. The SVI sampling was accomplished as discussed in the Site Field Activities Plan (MACTEC, 2016). SVI sampling consisted of collecting sub-slab soil vapor, basement air, and outdoor ambient air samples, as well as completing a product inventory and a building questionnaire.

MACTEC Engineering and Consulting, P.C.
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BACKGROUND

The Site is located in the Town of Vestal, Broome County, New York (Figure 1). The Site property was used by a small electronics manufacturer from the late 1950s to the mid-1990s. During that time the use of solvents, including the chlorinated solvents 1,1,1-trichloroethane and trichloroethene, was included in the cleaning process. Solvents and their breakdown products have been detected in groundwater at and downgradient of the Site, including groundwater located in the Twin Orchards neighborhood of Vestal.

Volatile organic compounds (VOCs), including chlorinated solvents, can partition from groundwater to soil vapor and then migrate through the soil column. Soil vapor can then be drawn into buildings through seams and cracks in foundations and floor slabs. The purpose of the SVI sampling is to determine if the VOCs detected in groundwater are partitioning from groundwater to soil vapor and potentially to indoor air (i.e., evaluate the soil vapor intrusion pathway).

MARCH 2018 SOIL VAPOR INTRUSION SAMPLING

The March 2018 SVI sampling was conducted near the Site to evaluate potential for soil vapor intrusion to nearby structures. MACTEC sampled one residential structure (309 Maple Street). Sampling included the collection of one basement indoor air sample, one sub-slab soil vapor sample, and one exterior ambient air sample. The three samples were collected at the residence at 309 Maple Street.

A soil vapor sample was collected from below the concrete slab through a permanent sample point in the basement. A ¼-inch diameter piece of Teflon tubing was inserted in to the 3/8-inch permanent sample port tubing and secured with zip ties. One 60 cubic centimeter volume of air was purged from the tubing with a polyethylene syringe. The syringe was capped and the air released outside the building so as to not interfere with the indoor air sample collection. A 6-liter SUMMA®-type canister with a 24-hour flow valve was connected to the tubing with a 9/16-inch Swagelok fitting, and the sample was collected. Upon completion of the sub-slab sampling, the permanent sample port tubing was curled up and secured within the sample vault.

The indoor air sample was collected over the same 24-hour interval in a 6-liter SUMMA®-type canister from the vicinity of the sub-slab vapor sample collection point. The outdoor ambient air sample was collected over the same 24-hour interval in a 6-liter SUMMA®-type canister outside of the residence at 309 Maple Street.

The soil vapor, indoor air, and ambient air samples were shipped to TestAmerica in Knoxville, Tennessee for analysis of VOCs by United States Environmental Protection Agency Method TO-15.

Table 1 presents identification for the location sampled, including the physical address and sample ID. SVI sample results are presented in Table 2. The Indoor Air Sampling Record, Structure Sampling Questionnaire and Building Inventory, and Photographic Log are provided in Attachment 1. These documents in Attachment 1 show that a crack observed in 2017 in the concrete floor of the 309 Maple Street residence has been patched. The Data Usability Summary Report and laboratory analytical reports are provided in Attachment 2.

If you have questions or concerns, please feel free to contact us at 207-775-5401.

Sincerely,

MACTEC Engineering and Consulting, P.C.

Rebecca Brosnan

Submitted by:
Rebecca Brosnan
Senior Scientist

Mark Stelmack

Reviewed by:
Mark Stelmack, P.E.
Project Manager

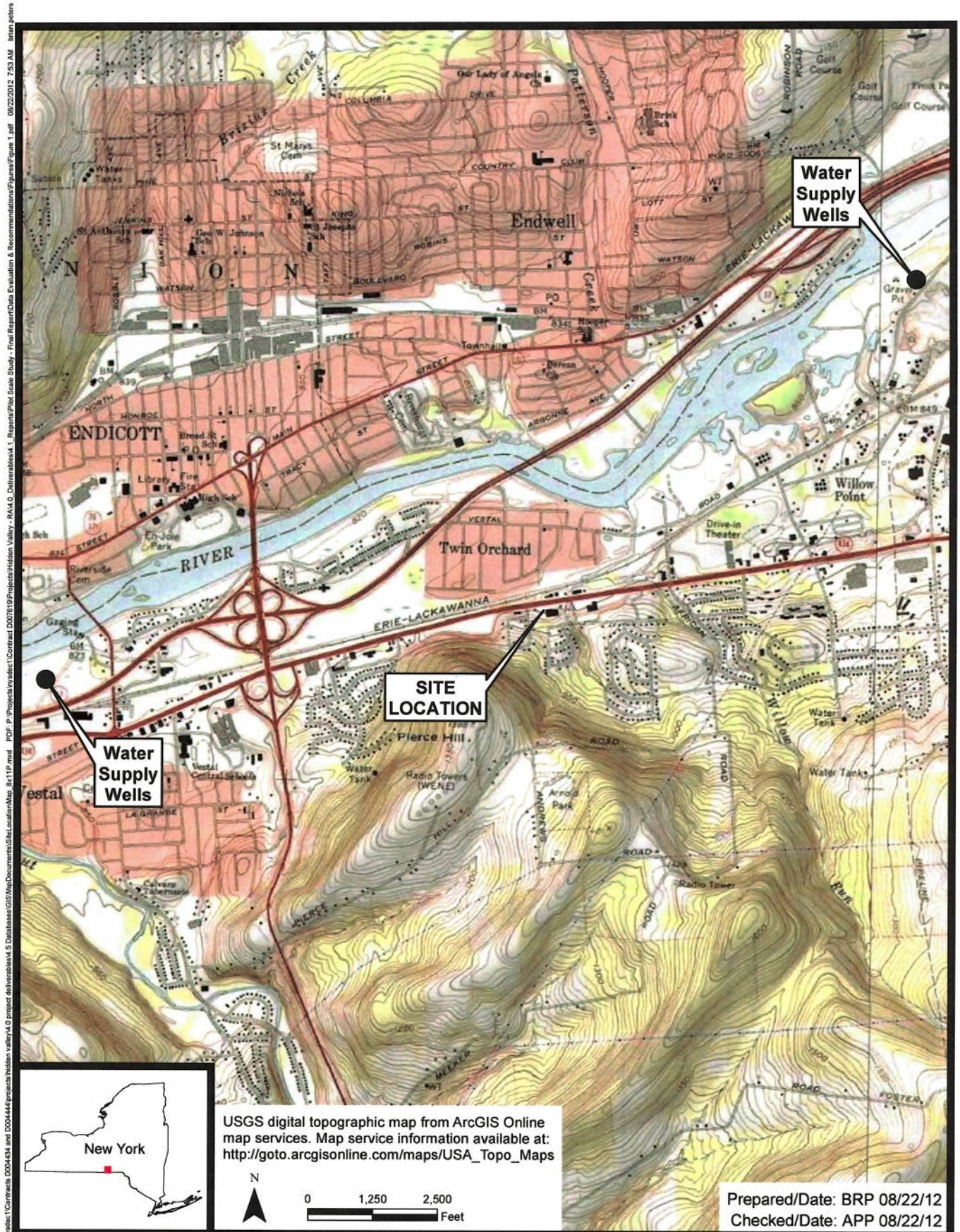
Enclosures (2)

Attachment 1: March 2018 Indoor Air Sampling Records, Structure Sampling Questionnaire and Building Inventory, and Photographic Log

Attachment 2: Data Usability Summary Report and Laboratory Analytical Results

REFERENCES

MACTEC Engineering and Consulting, P.C., 2016. Field Activities Plan: January 2017 Indoor Air Sampling. Prepared for New York State Department of Environmental Conservation, Albany, New York. December 2016.



HIDDEN VALLEY ELECTRONICS SITE

VESTAL, NEW YORK

MACTEC

SITE LOCATION
1808 VESTAL PARKWAY EAST
Project 3612122247 Figure 1

Table 1: Sample Identification and Analyses

Site Type	Media	Site ID	Location ID	Sample ID	VOCs TO15
Residential Sub-slab/Indoor Air					
Residence	Sub-slab	309 Maple Street	SV-MA-002	HV20180306SS	1
Residence	Basement indoor air	309 Maple Street	BA-MA-002	HV20180306IA	1
Outdoor Ambient Air	Outdoor Ambient Air	Outdoor Ambient Air	AA-MA-002	HV20180306BG	1
TOTAL SAMPLES					3

Notes:
Sample ID = 12-digit unique sample identifier.
Volatile organic compounds (VOCs) by USEPA Method TO-15.
Location ID: AA = Ambient Air; BA = Basement Air;
SV = Soil Vapor; MA = Maple Street
1 = number of VOC samples

Prepared by: BJS 4/11/2018
Checked by: RMB 4/23/18

Table 2: Sub-Slab and Indoor Air Detected VOC Results - March 2018

Address	Outdoor Ambient Air		309 Maple Street		309 Maple Street	
Location	AA-MA-002		BA-MA-002		SV-MA-002	
Sample Date	3/7/2018		3/7/2018		3/7/2018	
Sample ID	HV20180306BG		HV20180306IA		HV20180306SS	
Qc Code	FS		FS		FS	
Parameter	Result	Qualifier	Result	Qualifier	Result	Qualifier
1,1,1-Trichloroethane	0.44	U	**0.44**		**4.8**	
1,1,2-Trichloro-1,2,2-Trifluoroethane	0.61	U	0.61	U	**1**	
1,2,4-Trimethylbenzene	0.39	U	**0.67**		0.39	U
2-Butanone	0.94	U	**2.2**		**2.5**	
4-Methyl-2-pentanone	0.82	U	**1**		**1.4**	
Benzene	**0.46**		**0.66**		**0.72**	
Carbon tetrachloride	**1**		**0.66**		**0.85**	
Chloromethane	**1.2**		**1.1**		**0.57**	
Dichlorodifluoromethane	**2.8**		**2.5**		**2.9**	
Ethanol	3.8	U	**300**		**150**	
Ethylbenzene	0.35	U	**1.3**		**1**	
Methylene chloride	**0.93**		**1.2**		**1.1**	
t-Butyl alcohol	0.97	U	0.97	U	**3.2**	
Tetrachloroethene	0.54	U	**1.1**		**9.1**	
Toluene	**0.55**		**10**		**8.5**	
Trichloroethene	0.19	U	**0.59**		**0.68**	
Trichlorofluoromethane	**1.5**		**1.4**		**2.4**	
Xylene, o	0.35	U	**1.2**		**0.66**	
Xylenes (m&p)	0.35	U	**4.5**		**2.7**	

Notes:
Samples analyzed for VOCs by USEPA Method TO-15.
Only detected compounds are reported.
Location Name: AA = Ambient Air; SV = Soil Vapor; BA = Basement Air
Results in microgram per cubic meter ($\mu g/m^3$)
QC Code:
FS = Field Sample
Qualifiers:
U = Not detected at a concentration greater than the RL
Detected compounds are indicated in BOLD

Prepared by: BJS 4/11/2018
Checked by: RMB 4/23/18

ATTACHMENT 1

MARCH 2018 INDOOR AIR SAMPLING RECORD, STRUCTURE SAMPLING QUESTIONNAIRE AND BUILDING INVENTORY, AND PHOTOGRAPHIC LOG

INDOOR AIR SAMPLING RECORD

PROJECT NAME: HIDDEN VALLEY ELECTRONICS
LOCATION ID: 309 MAPLE
DATE: 3/6/2018
PROJECT NO./TASK NO.: 3612122247.03.****
CLIENT: NYSDEC
PROJECT LOCATION: VESTAL, NY
SAMPLER NAME: ALEX KLEIN / KATIE AMANN
WEATHER CONDITIONS (AM): START: MOSTLY SUNNY, 29°F
SAMPLER SIGNATURE:
WEATHER CONDITIONS (PM): END: OVERCAST, 33°F
CHECKED BY: K.A
DATE: 3/7/18

SUMMA Canister Record Information

SUB-SLAB SOIL VAPOR SAMPLE		BASEMENT INDOOR AIR SAMPLE		FIRST FLOOR AIR SAMPLE		AMBIENT AIR SAMPLE	
Flow Regulator Number:	11489	Flow Regulator Number:	10352	Flow Regulator Number:		Flow Regulator Number:	10595
Flow Rate (mL/min):	24 hr	Flow Rate (mL/min):	24 hr	Flow Rate (mL/min):		Flow Rate (mL/min):	24 hr
Canister Serial Number:	10081	Canister Serial Number:	11192	Canister Serial Number:		Canister Serial Number:	10037
Start Date/Time	3/6/18 0927	Start Date/Time	3/6/18 0932	Start Date/Time		Start Date/Time	3/6/18 0900
Start Pressure ("Hg):	-28	Start Pressure ("Hg):	-28	Start Pressure ("Hg):		Start Pressure ("Hg):	-28
Stop Date/Time	3/7/18 0822	Stop Date/Time	3/7/18 0834	Stop Date/Time		Stop Date/Time	3/7/18 0815
Stop Pressure ("Hg):	-5	Stop Pressure ("Hg):	-5	Stop Pressure ("Hg):		Stop Pressure ("Hg):	-3
Sample ID:	HV20180306SS	Sample ID:	HV20180306IA	Sample ID:		Sample ID:	HV20180306BG

Other Sampling Information:

Finished Basement, Crawl Space, Unfinished Basement	UNfinished	Story/Level:	Basement	Story/Level:		Direction from Building	SE CORNER
Floor Slab Thickness:	~4"	Room:	BASEMENT	Room:		Distance from Building:	~1 ft.
Potential Vapor Entry Points:	DRY WELL FLOOR, WALL CRACKS	Potential Vapor Entry Points:	DRY WELL FLOOR, WALL CRACKS	Potential Vapor Entry Points:		Distance from Roadway:	~40 ft.
Floor Surface:	Concrete	Floor Surface:	CONCRETE	Floor Surface:		Ground Surface:	CONCRETE
Noticable Odor:	NO	Noticable Odor:	NO	Noticable Odor:		Noticable Odor:	NO ODOR
PID Reading (ppm):	0.1	PID Reading (ppm):	0.02 0.002	PID Reading (ppb):		PID Reading (ppm):	0.0
Intake Depth/Height:	~5"	Intake Height:	5 ft.	Intake Height:		Intake Height above Ground Surface:	~2 ft.
Helium Test Conducted? Breakthrough %:	NA	Indoor Air Temp	65°F	Indoor Air Temp		Intake tubing?	NONE

Comments/Location Sketch:

MACTEC
511 Congress Street, Portland, ME 04101

FIGURE 4.19
INDOOR AIR SAMPLING RECORD
NYSDEC QUALITY ASSURANCE PROJECT PLAN

\\PLD2-FS1\Project\Projects\nysdec1\Contract D007619\Projects\Hidden Valley - RA\3.0_Site_Data\3.2_Field_Notes\2018 SV\Figure 4.19 Indoor Air Sampling form.xls

Structure Sampling Questionnaire and Building Inventory

New York State Department of Environmental Conservation

Site Name: HIDDEN VALLEY ELECTRONICS Site Code: 704029 Operable Unit:

Building Code: Building Name: MATTIOLE RESIDENCE

Address: 309 MAPLE STREET Apt/Suite No: N/A

City: VESTAL State: NY Zip: 13850 County: Broome

Contact Information

Preparer's Name: JULIE PALLOZZI Phone No: 207-775-5401

Preparer's Affiliation: AMEC FOSTER WHEELER Company Code:

Purpose of Investigation: SOIL VAPOR INTRUSION Date of Inspection: 3/6/2018

Contact Name: JOHN MATTIOLE Affiliation: OWNER

Phone No: 607-786-0861 Alt. Phone No: 607-723-0839 Email:

Number of Occupants (total): 2 Number of Children: 0

☐ Occupant Interviewed? ☒ Owner Occupied? ☒ Owner Interviewed?

Owner Name (If different): N/A Owner Phone: N/A

Owner Mailing Address: N/A

Building Details

Bldg Type (Res/Com/Ind/Mixed): RESIDENTIAL Bldg Size (S/M/L): S

If Commercial or Industrial Facility, Select Operations:

If Residential Select Structure Type: SINGLE FAMILY RES

Number of Floors: 1 1/2 Approx. Year Construction: 1930s ☒ Building Insulated? ☐ Attached Garage?

Describe Overall Building 'Tightness' and Airflows(e.g., results of smoke tests):

Average

Foundation Description

Foundation Type: Concrete Basement Foundation Depth (bgs): ~7 Unit: FEET

Foundation Floor Material: Poured Concrete Foundation Floor Thickness: ~4

Foundation Wall Material: Poured Concrete Foundation Wall Thickness: NA Unit: INCHES

☒ Floor penetrations? Describe Floor Penetrations: Drywell drain, sewer, water

☒ Wall penetrations? Describe Wall Penetrations: Utility

Basement is: Dry Basement is: Unfinished ☐ Sumps/Drains? Water In Sump?: NA

Describe Foundation Condition (cracks, seepage, etc.): Small Cracks

☐ Radon Mitigation System Installed? ☐ VOC Mitigation System Installed? ☐ Mitigation System On?

Heating/Cooling/Ventilation Systems

Heating System: Gas forced hot air / woodstove Heat Fuel Type: Nat Gas ☐ Central A/C Present?

Vented Appliances

Water Heater Fuel Type: Natural Gas Clothes Dryer Fuel Type: Electric

Water Htr Vent Location: External Dryer Vent Location: Upstairs to South

Structure Sampling Questionnaire and Building Inventory

New York State Department of Environmental Conservation

PRODUCT INVENTORY

Building Name: MATTIOLI RESIDENCE Bldg Code: Date: 3/6/2018

Bldg Address: 309 MAPLE STREET Apt/Suite No: N/A

Bldg City/State/Zip: VESTAL, NY, 13850

Make and Model of PID: ppbRAE 3000 (type), PGM 7340 (model No.), Date of Calibration: 3/6/2018

Location	Product Name/Description	Size (oz)	Condition *	Chemical Ingredients	PID Reading ppm	COC Y/N?
BASEMENT EAST WALL	BLEACH	96 fl oz.	U	SODIUM HYPOCHLORITE 6.0% OTHER INGREDIENTS 94.0%	0.04	N
	d-CON/RAT KILLER	12 oz.	U	BRODIFACOUM-3	0.05	
SOUTH WALL	GS 121 GUTTER & SEAM SEALANT	5 fl oz.	U	XYLENE, ETHYLBENZENE	0.05	
WEST WALL	GUTTER SEALER	N/A	U	XYLENE	0.06	
	ACRYLIC LATEX CAULK	10.1 fl oz	U	PHTHALATE ESTERS, ETHYLENE GLYCOL	0.1	
SOUTH WALL STAIRCASE	2 ACRYLIC LATEX CAULK	10.1 fl oz	1. U 2. UO	PHTHALATE ESTERS, ETHYLENE GLYCOL	0.1	
	HEAVY DUTY CONSTRUCTION ADHESIVE	10.2 fl oz	UO	TOLUENE, NAPHTHA, ETHANOL	0.1	
	WINDEX	32 fl oz	U	AMMONIA	0.1	
	DECK WASH	1 gal.	U	BLEACHING AGENTS	0.1	
	WOOD GLUE	8 fl oz.	U	N/A	0.1	
	WOOD PUTTY	3.75 oz.	UO	N/A	0.1	
	OLD ENGLISH SCRATCH COVER	8 fl oz.	UO	PETROLEUM DISTILLATES	0.1	
WEST WALL	TURTLE WAX TIRE SHINE	23 fl oz.	U	N/A	0.1	
	TURTLE WAX SPRAY WAX	23 fl oz	U	N/A	0.1	
	INTERIOR PROTECTANT (FOR VEHICLE)	16 fl oz	U	N/A	0.1	
	CRYLON SPRAY PAINT	11 fl oz.	U	ACETONE, ALIPHATIC HYDROCARBONS, PROPANE, XYLENE, TOLUENE	0.1	

* Describe the condition of the product containers as **Unopened (UO)**, **Used (U)**, or **Deteriorated (D)**

** Photographs of the **front and back** of product containers can replace the handwritten list of chemical ingredients. However, the photographs must be of good quality and ingredient labels must be legible.

Product Inventory Complete? Y Were there any elevated PID readings taken on site? N ☐ Products with COC?

→

PRODUCT INVENTORY CONTINUED

3/6/2018

Mathiole Residence, 309 Maple St. Vestal, NY 13850

PAGE 2 OF 2

LOCATION	PRODUCT NAME/ DESCRIPTION	SIZE	CONDITION	CHEMICAL INGREDIENTS	PID (ppm)
WEST	PLASTIC WOOD FILLER	4 oz.	U O	~~ACETA-~~ ACETONE, N-BUTYL ACETATE ISOPROPYL ALCOHOL	0.1
	5 gal. yellow CONTAINER	5-gal	N/A-Unknown		
	POTTING SOIL CONTAINING FERTILIZER	2 cubic ft 40 lb.	U	CONTENTS UNKNOWN, SEALED SHUT	0.1
				TOTAL NITROGEN 0.09% -AMMONIACAL 0.05% -NITRATE 0.04% PHOSPHATE, SOLUBLE POTASH	0.1
NORTH WALL	PIPE COMPOUND (FOR SEALING)	8 fl. oz	U	N/A	
	PROPANE	16.4 oz.	U	PROPANE	0.1
					0.1
STAIRS	WINDOW CLEANER	64 fl oz	U	AMMONIA	0.01
	MIRACLE GRO PLANT FOOD	5 lb	U	NITROGEN, PHOSPHATE, POTASH (SOLUBLE)	0.01
	AUTO GLASS CLEANER	22 fl oz	U	N/A	0.01