Quarterly Operations Report
Third Quarter 2013

Soil Vapor Extraction Containment System
Site 1, Former Drum Marshalling Yard
Naval Weapons Industrial Reserve Plant
Bethpage, New York

Contract No. N40085-10-D-9409
Contract Task Order No. 0005

February 2014

Prepared for:

Naval Facilities Engineering Command Mid-Atlantic
9742 Maryland Avenue
Norfolk, VA 23511

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2/14/14

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Acronyms and Abbreviations

bgs	below ground surface
CTO	Contract Task Order
DAR	Division of Air Resources
DoD	Department of Defense
ELAP	Environmental Laboratory Accreditation Program
FMS	Flow Monitoring Station
GOCO	Government Owned Contractor Operated
H&S	H&S Environmental, Inc.
i.w.	inches of water column
NAVFAC	Naval Facilities Engineering Command Mid-Atlantic
NELAC	National Environmental Accreditation Conference
NG	Northrop Grumman
NWIRP	Naval Weapons Industrial Reserve Plant
NYSDEC	New York State Department of Environmental Conservation
NYSDOH	New York State Department of Health
O&M	Operation and Maintenance
PCB	polychlorinated biphenyls
PCE	tetrachloroethene
PID	photoionization detector
scfm	standard cubic feet per minute
SVECS	soil vapor extraction containment system
SVEW	soil vapor extraction well
SVOC	semi-volatile organic compound
SVPM	soil vapor pressure monitor
TCA	trichloroethane
TCE	trichloroethene
TCL	target compound list
TtEC	Tetra Tech EC, Inc.
TtNUS	Tetra Tech NUS, Inc.
VGAC	vapor–phase granular activated carbon
VOC	volatile organic compound

1.0 INTRODUCTION

H&S Environmental, Inc. (H&S) has prepared this Quarterly Operations Report for the Third Quarter 2013 for the Soil Vapor Extraction Containment System (SVECS) at Site 1, Former Drum Marshalling Area, at the Naval Weapons Industrial Reserve Plant (NWIRP) in Bethpage, New York. This report has been prepared for the U.S. Department of the Navy (Navy), Naval Facilities Engineering Command (NAVFAC), Mid-Atlantic, under Contract No. N40085-10-D-9409, Contract Task Order (CTO) No. 0005. This Third Quarter 2013 Operations Report details activities that occurred from July 2013 to September 2013. Data was collected and operational activities were performed by H&S in accordance with the following documents:

- *Final Operation & Maintenance Plan for Soil Vapor Extraction Containment System Site 1, Former Drum Marshalling Yard at Naval Weapons Industrial Reserve Plant Bethpage, New York* prepared by Tetra Tech EC, Inc. (TtEC) in 2010, hereafter referred to as the "O&M Manual."

- *Final Supplemental Offsite Soil Vapor Intrusion Monitoring Plan for the Soil Vapor Extraction Containment System, Site 1, Former Drum Marshalling Yard at Naval Weapons Industrial Reserve Plant, Bethpage, New York* prepared by Tetra Tech NUS, Inc. (TtNUS) in 2012.

1.1 Site Location

NWIRP Bethpage is located in east central Nassau County, Long Island, New York, approximately 30 miles east of New York City. The Navy's property totaled approximately 109.5 acres and was formerly a Government Owned Contractor-Operated (GOCO) facility that was operated by Northrop Grumman (NG) until September 1998. NWIRP Bethpage is bordered on the north, west, and south by property owned, or formerly owned, by NG that covered approximately 520 acres, and on the east by a residential neighborhood. Site 1 lies within the fenced area of NWIRP Bethpage and is located east of Plant No. 3, west of 11th Street, and north of Plant 17 South (**Figures 1 and 2**).

1.2 Background

NWIRP Bethpage was established in 1943. Since inception, the primary mission of the facility has been the research, prototyping, testing, design engineering, fabrication, and primary assembly of military aircraft. Historical operations that resulted in hazardous material generation at the facility included metal finishing processes, maintenance operations, painting of aircraft and components, and other activities that involve aircraft manufacturing. Wastes generated by plant operations were disposed of directly into drainage sumps, dry wells, and/or on the ground surface, resulting in the disposal of a number of hazardous wastes, including volatile organic compounds (VOCs), semi-volatile organic compounds (SVOCs), polychlorinated biphenyls (PCBs), and inorganic analytes (chromium and cadmium) at the site. Some of these contaminants have migrated from the source area to surrounding areas, including the soils at these sites and the groundwater beneath and downgradient of the NWIRP Bethpage property. NWIRP Bethpage is currently listed by the New York State Department of Environmental Conservation (NYSDEC) as an "inactive hazardous waste site" (#1-30-003B).

Soils at Site 1 consist mainly of unconsolidated sediments that overlie crystalline bedrock. A clay unit is present near the groundwater table (50 feet below ground surface [bgs]) at the southeast corner of the site. This clay unit is suspected to be a source of chlorinated solvents that are migrating into the overlying soil gas and the source of off-site VOCs in soil vapor (TtEC 2010).

Chlorinated solvents including trichloroethene (TCE), tetrachloroethene (PCE), and 1,1,1-trichloroethane (TCA) have been identified as the VOCs of interest in soil gas at the site. Concentrations greater than 1,000 $\mu g/m^3$ (micrograms per cubic meter) of soil vapor have been directly associated with Site 1 activities and historical environmental data, and based on preliminary screening, exceed guidelines established by the New York State Department of Health (NYSDOH) for sub-slab soil vapor concentrations. Of these compounds, TCE is the primary VOC of concern. Mitigation of TCE contamination in accordance with NYSDOH guidance is expected to remediate other VOCs associated with the site. PCBs, cadmium, and chromium have also been identified in site soils at concentrations requiring remediation. The majority of these chemicals has been detected in the central portion of Site 1 and will be addressed via a separate remediation (TtEC 2010).

Prior to implementation of the SVECS, the mean concentrations of VOCs in soil gas samples collected along the eastern fence-line were 41,128 $\mu g/m^3$ of TCE, 381 $\mu g/m^3$ of PCE, and 20,634 $\mu g/m^3$ of 1,1,1-TCA. The maximum concentrations of VOCs in the soil gas samples were 180,000 $\mu g/m^3$ of TCE, 1,200 $\mu g/m^3$ of PCE, and 90,000 $\mu g/m^3$ of 1,1,1-TCA (TtEC 2010).

1.3 Project Overview and Objective

The remedial objective for this project is to use an on-site soil vapor extraction system to prevent further off-site migration of VOC contaminated soil vapor and to the extent practical, capture contaminated soil vapor with a TCE concentration greater than 250 $\mu g/m^3$. A secondary objective of this project is to address soil vapor with a TCE concentration greater than 5 $\mu g/m^3$. The SVECS is an interim action intended to address migration of VOCs in contaminated soil vapors and has been designed for a four-year operational life; it is expected to operate continuously 24 hours/day, seven days/week, with the exception of maintenance and adjustment periods (TtEC 2010).

1.4 SVECS Overview

The SVECS consists of soil vapor extraction, soil vapor monitoring, and soil vapor treatment. Twelve SVE wells (SVEWs) are located along the eastern boundary of Site 1 in six clusters, each consisting of one intermediate well and one deep well. Intermediate wells SVE-101I, SVE-102I, SVE-103I, SVE-104I, SVE-105I, and SVE-106I have a screened interval between 25 and 35 ft bgs. Deep wells SVE-101D, SVE-102D, SVE-103D, SVE-104D, SVE-105D, and SVE-106D have a screened interval between 40 and 60 ft bgs. The groundwater table fluctuates between approximately 50 and 55 feet bgs. Each SVEW is operated at a flow rate such that the combined total flow rate is approximately 400 standard cubic feet per minute (scfm) of soil vapor. Each intermediate depth SVEW requires an approximate vacuum of 4 inches of water column (i.w.) and each deep SVEW requires an approximate vacuum of 20 i.w. in order to extract the targeted flow rates. These twelve SVEWs have been piped below the ground to the Flow Monitoring Station (FMS), where flow, vacuum, and vapor quality are monitored. Within the FMS, the

discharges from the individual SVEWs have been equipped with a 2-inch flow control butterfly valve, a vacuum gauge, and a sampling port. The sampling port is utilized to measure the flow rate from an individual well using a portable velocity meter and to collect vapor samples. All the SVE lines collect into a single manifold within the FMS and from this location a single underground pipeline has been routed approximately 1,400 linear feet to the Treatment Building (Building 03-35). Five additional SVEWs (SV-107D, SV-108D, SV-109D, SV-110D, and SV-11D) were installed in October 2011 to address potential VOCs under Plant No. 3 and the South Warehouse. A site plan depicting well locations is included as **Figure 3**.

The SVECS is housed within the Treatment Building, an existing and unoccupied building also known as Building 03-35. The treatment system consists of a moisture separator, two SVE blowers, and a 5,000-lb vapor-phase granular activated carbon (VGAC) unit for removal of chlorinated VOCs from the off-gas. Soil vapor that enters the Treatment Building first passes through the moisture separator tank where any condensate is separated. To date, no condensate has formed in this tank. The vapor is then passed through an air filter and SVE blower and then treated in the VGAC unit. The treated vapor is discharged from the VGAC via an exhaust stack. The SVECS has a control panel comprised of mechanical interlocks and relays for local operation. A System Layout Plan is presented in **Figure 4**, which also illustrates the design flow rates through the soil vapor extraction and treatment process.

The off-gas from the SVECS is monitored for chlorinated VOCs as identified in the NYSDEC Division of Air Resources (DAR) permit equivalent effluent limitations (**Appendix A**) and monitoring requirements (TtEC 2010). Samples are submitted to a National Environmental Laboratory Accreditation Conference (NELAC)-accredited, Department of Defense (DoD) Environmental Laboratory Accreditation Program (ELAP)-certified laboratory, Air Toxics, Inc. located in Folsom, CA, for analysis of target compound list (TCL) VOCs, including PCE, 1,1,1-TCA, and TCE , by modified method TO-15.

A total of 18 soil vapor pressure monitor (SVPM) / soil gas monitoring points have been installed in the neighborhood east of Site 1 at NWIRP Bethpage (**Figure 3**). These off-site monitoring points consist of eight previously existing SVPMs as well as 10 SVPMs installed in September 2012. Pressure readings from the SVPMs are collected quarterly and used to evaluate the SVECS vacuum field. In addition, analytical results of vapor samples collected annually from these locations and the pressure readings are used to further evaluate the SVECS operation and the potential for vapor intrusion.

2.0 SVECS OPERATION AND MAINTENANCE

While designed to run autonomously, the SVECS requires regular visits by an operator to record and adjust operational parameters and to perform scheduled maintenance. The SVECS is equipped with telemetry that will alert an on-call operator in the event of a plant shutdown.

2.1 Routine Maintenance Activities

Routine maintenance activities at the SVECS were performed during the operator's weekly visits during this reporting period. These activities include general site inspections (of the grounds, buildings, doors and locks), collection of operational data (vapor flowrates, pressures, vacuums, temperature and photoionization detector [PID] readings), adjustment of system valves, collection of vapor samples (on a monthly and quarterly basis), collection/disposal of condensate if needed, cleaning of filters, switching of lead/lag blower assignments, and preventive maintenance of system equipment.

2.2 Non-routine Maintenance / Site Activities

No non-routine activities or repair items of note were performed during this quarterly reporting period.

3.0 SVECS MONITORING

Several process vapor samples are collected on a monthly basis to monitor the SVECS operation. These samples consist of an influent sample (as well as a duplicate sample), located immediately prior to the VGAC unit, and an effluent sample, located after the VGAC unit and before the exhaust stack. Vapor samples are also collected from the 12 original SVEWs on a quarterly basis to monitor the capture of the contaminated soil vapor by the SVEWs. In addition, quarterly pressure measurements are collected from the SVEWs and SVPMs to monitor the SVECS vacuum field, and soil gas sampling for SVPMs is conducted annually (generally in the winter time-frame) to evaluate the effectiveness of the SVECS.

3.1 Monthly Air Quality Monitoring

Analysis of influent and effluent vapor sample locations is performed to evaluate VOC mass removal and the effectiveness of the VGAC adsorption unit. Time-integrated vapor samples are collected using 6-L summa canisters with 30-minute flow regulators.

Treated off-gas discharged at the exhaust stack is subject to emissions limitations and associated calculations approved by the NYSDEC DAR in February 2010. A copy of the NYSDEC approved calculations is presented in the Air Permit Equivalent included as **Appendix A**.

A summary of monthly vapor sampling results collected in July, August, and September (Third Quarter) is presented in **Tables 1, 2, and 3**, respectively. Emission rate calculations for both the influent stream (prior to VGAC treatment) and effluent stream (following VGAC treatment) and estimated monthly mass recoveries are also presented. Emission rates of the influent stream are calculated to monitor progress and determine when influent concentrations have reached levels at which vapor treatment via carbon adsorption is no longer required. The data presented in **Tables 1, 2, and 3** demonstrate that all constituents were within the effluent emission rates (**Appendix A**). Raw analytical data is provided under a separate cover.

3.2 Quarterly Air Quality Monitoring of SVEWs

Time-integrated vapor samples are collected quarterly using 6-L summa canisters with 30-minute flow regulators at six intermediate and six deep SVE wells. The samples are collected for the purpose of tracking and documenting the performance of the SVECS (TtEC 2010).

Quarterly vapor samples were collected on 27 August from the 12 SVEWs. A summary of detected compounds is included as **Table 4**. Analytical results of select VOCs (1,1,1-TCA, PCE, and TCE) detected at the 12 SVEWs during the Third Quarter monitoring event are presented graphically as **Figure 5**. Raw analytical data is provided under a separate cover. Historical analytical results of quarterly vapor samples collected from December 2009 through the Third Quarter 2013 are presented in **Table 5**.

3.3 Quarterly Vapor Monitoring of SVEWs and Off-site SVPMs

Pressure readings are collected quarterly from the 12 SVEWs and 18 SVPMs in order to monitor the SVECS vacuum field. Valve positions of the SVEWs are also recorded at this time. Pressure readings from the 18 SVPMs were collected on 27 August. Results of the Third Quarter vapor monitoring are presented in **Table 6**. As indicated, vacuum/soil vapor pressure measurements ranged from (+) 0.02 to (-) 0.18 i.w. during the Third Quarter monitoring event. Pressure readings from the 18 SVPMs are presented graphically as **Figure 6**.

Historical results of quarterly vapor monitoring from Third Quarter 2012 through Third Quarter 2013 are presented in **Table 7**.

3.4 Annual Vapor Quality Monitoring of Off-site SVPMs

Time-integrated vapor samples are collected annually using 6-L summa canisters with 30-minute flow regulators at 18 SVPM locations. As stated previously, annual soil gas sampling for SVPMs is peformed in the winter time-frame; therefore, no soil gas samples were collected from the SVPMs during the Third Quarter. The next annual sample collection is scheduled to occur in January 2014.

3.5 Soil Vapor Quality Concentration Trends

Historical vapor analytical results for the 12 SVEWs through the Third Quarter are presented in **Table 5**. In addition, concentration trends of select VOCs over time for the SVECS combined influent (1,1,1-TCA, PCE, TCE, and total VOCs) and each of the 12 SVEWs (1,1,1-TCA, PCE, and TCE) are presented in **Appendix B**.

Concentration trends observed in the 12 SVEWs through the Third Quarter are discussed below. In general, unless otherwise indicated, concentrations of 1,1,1-TCA, PCE, and TCE exhibited similar trends at each given location.

- Combined Influent: Overall VOC concentrations in the combined influent increased slightly throughout the Third Quarter, with total VOC concentrations of 2,054 $\mu g/m^3$, 1,690 $\mu g/m^3$, and 2,484 $\mu g/m^3$ in July, August, and September, respectively. Overall concentrations remain well below baseline concentrations observed in December 2009 when a total VOC concentration of 63,650 $\mu g/m^3$ was observed.

- SV-101I: Concentrations observed at this location increased slightly in the Third Quarter from concentrations observed in the Second Quarter, with concentrations of 5,400 $\mu g/m^3$ TCE, 79 $\mu g/m^3$ PCE, and 2,200 $\mu g/m^3$ 1,1,1-TCA. All concentrations remain well below baseline concentrations observed in December 2009 (180,000 $\mu g/m^3$ TCE, 1,700 $\mu g/m^3$ PCE, and 51,000 $\mu g/m^3$ 1,1,1-TCA), which were also peak concentrations observed to date.

- SV-101D: Concentrations observed at this location increased in the Third Quarter from concentrations observed in the Second Quarter, with concentrations of 56 $\mu g/m^3$ TCE, 73 $\mu g/m^3$ PCE, and 5.6 $\mu g/m^3$ 1,1,1-TCA. All concentrations remain well below baseline concentrations

observed in December 2009 (100,000 µg/m^3 TCE, 3,200 µg/m^3 PCE, and 26,000 µg/m^3 1,1,1-TCA), which were also peak concentrations observed to date.

- SV-102I: Concentrations observed at this location increased in the Third Quarter from concentrations observed in the Second Quarter, with concentrations of 49 µg/m^3 TCE, 3.3 µg/m^3 PCE, and 4.6 µg/m^3 1,1,1-TCA. Though Third Quarter concentrations are above baseline concentrations observed in December 2009 (5.6 µg/m^3 TCE, 2.4 µg/m^3 PCE, and non-detectable 1,1,1-TCA), the concentrations are well below peak concentrations observed in June 2010 (300 µg/m^3 TCE, 17 µg/m^3 PCE, and 13 µg/m^3 1,1,1-TCA).

- SV-102D: Concentrations observed at this location increased in the Third Quarter from concentrations observed in the Second Quarter, with concentrations of 88 µg/m^3 TCE, 14 µg/m^3 PCE, and 2.3 µg/m^3 1,1,1-TCA. Concentrations remain well below baseline concentrations observed in December 2009 for TCE and 1,1,1-TCA (440 µg/m^3 TCE, 10 µg/m^3 PCE, and 130 µg/m^3 1,1,1-TCA), and also well below peak concentrations observed in December 2009 and October 2011.

- SV-103I: Concentrations observed at this location increased in the Third Quarter from concentrations observed in the Second Quarter, with concentrations of 95 µg/m^3 TCE, 220 µg/m^3 PCE, and 4.7 µg/m^3 1,1,1-TCA. Concentrations remain well below baseline concentrations observed in December 2009 (900 µg/m^3 TCE, 580 µg/m^3 PCE, and 900 µg/m^3 1,1,1-TCA), and also well below peak concentrations observed in December 2009 and October 2011.

- SV-103D: Concentrations observed at this location increased in the Third Quarter from concentrations observed in the Second Quarter, with concentrations of 660 µg/m^3 TCE, 4,900 µg/m^3 PCE, and 170 µg/m^3 1,1,1-TCA. Concentrations remain well below baseline concentrations observed in December 2009 (3,100 µg/m^3 TCE, 20,000 µg/m^3 PCE, and 3,000 µg/m^3 1,1,1-TCA), and also well below peak concentrations observed in December 2009 and March 2010.

- SV-104I: Concentrations observed at this location increased in the Third Quarter from concentrations observed in the Second Quarter, with concentrations of 30 µg/m^3 TCE, 30 µg/m^3 PCE, and 3.1 µg/m^3 1,1,1-TCA. All concentrations remain well below baseline concentrations observed in December 2009 (710 µg/m^3 TCE, 3,100 µg/m^3 PCE, and 730 µg/m^3 1,1,1-TCA) which were also peak concentrations observed to date.

- SV-104D: Concentrations observed at this location in the Third Quarter increased from those observed in the Second Quarter, with concentrations of 1,200 µg/m^3 TCE, 2,600 µg/m^3 PCE, and 500 µg/m^3 1,1,1-TCA. All concentrations remain below baseline concentrations observed in December 2009 (4,600 µg/m^3 TCE, 20,000 µg/m^3 PCE, and 3,600 µg/m^3 1,1,1-TCA) and also well below peak concentrations observed in December 2009 and March 2010.

- SV-105I: Concentrations observed at this location in the Third Quarter increased from those observed in the Second Quarter, with concentrations of 220 µg/m^3 TCE, 91 µg/m^3 PCE, and 24 µg/m^3 1,1,1-TCA. Though these concentrations are above baseline concentrations observed in

December 2009 (76 µg/m^3 TCE, 70 µg/m^3 PCE, and 9.9 µg/m^3 1,1,1-TCA), they are below peak concentrations observed in June 2010 (370 µg/m^3 TCE, 240 µg/m^3 PCE, and 29 µg/m^3 1,1,1-TCA).

- SV-105D: Concentrations observed at this location in the Third Quarter decreased somewhat from concentrations observed in the Second Quarter, with concentrations of 900 µg/m^3 TCE, 140 µg/m^3 PCE, and 110 µg/m^3 1,1,1-TCA. These concentrations are below baseline concentrations observed in December 2009 (1,700 µg/m^3 TCE, 2,100 µg/m^3 PCE, and 550 µg/m^3 1,1,1-TCA), and also below peak concentrations observed for all three analytes.

- SV-106I: Concentrations observed at this location in the Third Quarter were similar, though slightly decreased, from those observed in the Second Quarter, with non-detectable levels of all three analytes. All concentrations remain well below baseline concentrations observed in December 2009 (1,900 µg/m^3 TCE, 390 µg/m^3 PCE, and 220 µg/m^3 1,1,1-TCA), which were also peak concentrations observed to date.

- SV-106D: Concentrations observed at this location in the Third Quarter increased from those observed in the Second Quarter, with concentrations of 460 µg/m^3 TCE, 50 µg/m^3 PCE, and 27 µg/m^3 1,1,1-TCA. These concentrations are well below baseline concentrations observed in December 2009 (3,400 µg/m^3 TCE, 720 µg/m^3 PCE, and 340 µg/m^3 1,1,1-TCA), which were also peak concentrations observed to date.

4.0 CONCLUSIONS AND RECOMMENDATIONS

As stated previously, the intent of the Site 1 SVECS is to prevent further off-site migration of VOC contaminated soil vapor and to the extent practical, capture soil vapor with elevated TCE concentrations. Based on the presence of a vacuum field and the reduction of VOC concentrations to less than the screening values in the off-property area, the SVECS is functioning as designed. Influent vapor analytical data with concentrations of TCE consistently greater than 250 µg/L indicate that the SVECS should continue to be operated on a full-time basis to achieve continued capture of contaminated soil vapor. Monthly monitoring of the combined influent and effluent as well as quarterly monitoring of individual SVEWs should continue. Quarterly and annual monitoring of the SVPMs should also continue in order to ensure that a measurable vacuum field is being established and that the area is being effectively treated. Ongoing optimization activities should be performed in order to improve system performance.

5.0 REFERENCES

Tetra Tech EC, Inc. (TtEC). 2010. *Final Operation & Maintenance Plan for Soil Vapor Extraction Containment System, Site 1, Former Drum Marshalling Yard at Naval Weapons Industrial Reserve Plant, Bethpage, New York.* June.

Tetra Tech NUS, Inc. (TtNUS). 2012. *Final Supplemental Offsite Soil Vapor Intrusion Monitoring Plan for the Soil Vapor Extraction Containment System, Site 1, Former Drum Marshalling Yard at Naval Weapons Industrial Reserve Plant, Bethpage, New York.* February.

TABLES

Table 1
Soil Vapor Extraction Containment System
Site 1, Former Drum Marshalling Yard
Naval Weapons Industrial Reserve Plant - Bethpage, NY
Vapor Monitoring Results
July 2013

Compound	Concentration (ug/m^3)				Emission Rate[1][2]				Monthly Mass Recovery[3]
					Prior to Treatment		Following Treatment		
	Influent #1	Influent #2	Average	Effluent	(lbs/hr)	(lbs/yr)	(lbs/hr)	(lbs/yr)	(lbs)
Acetone	12 J	5.6 J	8.8 J	14 J	0.0000	0.1049	0.0000	0.1668	0.0089
2-Butanone	4.4 J	3.2 J	3.8 J	3.2 J	0.0000	0.0453	0.0000	0.0381	0.0038
Carbon Disulfide	1.8 J	1.6 J	1.7 J	1.4 J	0.0000	0.0203	0.0000	0.0167	0.0017
Carbon Tetrachloride	2.0 J	1.7 J	1.9 J	0	0.0000	0.0220	0.0000	0.0000	0.0019
Chlorobenzene	1.6 J	1.2 J	1.4 J	1.2 J	0.0000	0.0167	0.0000	0.0143	0.0014
Chloroform	8.5	6.8	7.7	5.0	0.0000	0.0912	0.0000	0.0596	0.0077
Cumene	18	0	9.0	7.1	0.0000	0.1072	0.0000	0.0846	0.0091
1,3-Dichlorobenzene	0.92 J	0	0.46 J	0	0.0000	0.0055	0.0000	0.0000	0.0005
1,1-Dichloroethane	14	14	14	41	0.0000	0.1668	0.0001	0.4886	0.0142
1,2-Dichloroethane	1.1 J	1.0 J	1.1 J	0	0.0000	0.0125	0.0000	0.0000	0.0011
1,1-Dichloroethene	2.3 J	2.7 J	2.5 J	7.5	0.0000	0.0298	0.0000	0.0894	0.0025
cis-1,2-Dichloroethene	160	160	160	420	0.0002	1.9066	0.0006	5.0049	0.1619
trans-1,2-Dichloroethene	2.1 J	2.4 J	2.3 J	6.0	0.0000	0.0268	0.0000	0.0715	0.0023
Freon 11	5.7	5.8	5.8	12	0.0000	0.0685	0.0000	0.1430	0.0058
Freon12	2.7 J	3.1 J	2.9 J	3.9	0.0000	0.0346	0.0000	0.0465	0.0029
Freon 113	54	62	58	81	0.0001	0.6911	0.0001	0.9652	0.0587
Heptane	3.4	2.9 J	3.2 J	0	0.0000	0.0375	0.0000	0.0000	0.0032
Hexane	11	11	11	0	0.0000	0.1311	0.0000	0.0000	0.0111
2-Hexanone	2.1 J	0	1.1 J	0	0.0000	0.0125	0.0000	0.0000	0.0011
Methylene Chloride	1.0 J	0	0.50 J	0	0.0000	0.0060	0.0000	0.0000	0.0005
Styrene	0.40 J	0	0.20 J	0	0.0000	0.0024	0.0000	0.0000	0.0002
Tetrachloroethene	560	590	575	1.7 J	0.0008	6.8519	0.0000	0.0203	0.5819
Toluene	1.3 J	0.68 J	1.0 J	0	0.0000	0.0118	0.0000	0.0000	0.0010
1,1,1-Trichloroethane	290	290	290	130	0.0004	3.4557	0.0002	1.5491	0.2935
Trichloroethene	790	860	825	46	0.0011	9.8310	0.0001	0.5482	0.8350
1,2,4-Trimethylbenzene	0.97 J	0	0.49 J	0	0.0000	0.0058	0.0000	0.0000	0.0005
2,2,4-Trimethylpentane	66	64	65	0	0.0001	0.7746	0.0000	0.0000	0.0658
m,p-Xylene	0.91 J	0	0.46 J	0	0.0000	0.0054	0.0000	0.0000	0.0005
o-Xylene	0.93 J	0	0.47 J	0	0.0000	0.0055	0.0000	0.0000	0.0005
Total VOCs	2019	2090	2054	781	0.0028	24.4810	0.0011	9.3067	2.0792

Notes:

All samples were analyzed for full list VOCs by modified method TO-15. Only detected analytes are presented above.

Average Monthly Vapor Temp (°F) =	117
Average Monthly Flowrate (cfm) =	397
Average Monthly Flowrate (scfm) =	363
Operational Hours for the month =	744

(1) Emissions (lbs/hr) = Concentration (ug/m^3)*(lb/454000000ug)*(0.3048^3m^3/ft^3)*exhaust flow (scfm)*(60min/hour)
(2) Emissions (lbs/yr) = Emissions (lbs/hour)*(8760hours/yr)
(3) Monthly Mass Removal = AVERAGE FLOWRATE (scfm) * 0.3048^3m^3/ft^3 * INF AVG CONC (ug/m^3) * (lb/454000000ug) * 60 min/hr * OPERATIONAL TIME (hr)

Table 2
Soil Vapor Extraction Containment System
Site 1, Former Drum Marshalling Yard
Naval Weapons Industrial Reserve Plant - Bethpage, NY
Vapor Monitoring Results
August 2013

Compound	Concentration (ug/m^3)				Emission Rate [1],[2]				Monthly Mass Recovery [3]
					Prior to Treatment		Following Treatment		
	Influent #1	Influent #2	Average	Effluent	(lbs/hr)	(lbs/yr)	(lbs/hr)	(lbs/yr)	(lbs)
Acetone	13 J	5.6 J	9.3 J	5.6 J	0.0000	0.1120	0.0000	0.0674	0.0095
alpha-Chlorotoluene	0.54 J	0.50 J	0.52 J	0	0.0000	0.0063	0.0000	0.0000	0.0005
Benzene	0.55 J	1.1 J	0.83 J	0	0.0000	0.0099	0.0000	0.0000	0.0008
Bromomethane	1.5 J	0	0.75 J	0	0.0000	0.0090	0.0000	0.0000	0.0008
2-Butanone	2.2 J	3.4 J	2.8 J	0	0.0000	0.0337	0.0000	0.0000	0.0029
Carbon Disulfide	1.7 J	1.6 J	1.7 J	1.4 J	0.0000	0.0199	0.0000	0.0169	0.0017
Carbon Tetrachloride	0.88 J	1.6 J	1.2 J	0	0.0000	0.0149	0.0000	0.0000	0.0013
Chlorobenzene	1.5 J	1.5 J	1.5 J	1.3 J	0.0000	0.0181	0.0000	0.0157	0.0015
Chloroform	3.3	7.1	5.2	4.4	0.0000	0.0626	0.0000	0.0530	0.0053
Cumene	27	9.6	18	4.2	0.0000	0.2204	0.0000	0.0506	0.0187
Cyclohexane	0	0	0	4.6	0.0000	0.0000	0.0000	0.0554	0.0000
1,2-Dichlorobenzene	0.91 J	0	0.46 J	0	0.0000	0.0055	0.0000	0.0000	0.0005
1,3-Dichlorobenzene	0.90 J	0	0.45 J	0	0.0000	0.0054	0.0000	0.0000	0.0005
1,4-Dichlorobenzene	1.0 J	0	0.50 J	0	0.0000	0.0060	0.0000	0.0000	0.0005
1,1-Dichloroethane	5.2	11	8.1	31	0.0000	0.0975	0.0000	0.3733	0.0083
1,2-Dichloroethane	0.74 J	0.81 J	0.78 J	0	0.0000	0.0093	0.0000	0.0000	0.0008
1,1-Dichloroethene	1.8 J	2.4 J	2.1 J	7.2	0.0000	0.0253	0.0000	0.0867	0.0021
cis-1,2-Dichloroethene	85	160	123	390	0.0002	1.4753	0.0005	4.6967	0.1253
trans-1,2-Dichloroethene	1.1 J	2.4 J	1.8 J	4.2	0.0000	0.0211	0.0000	0.0506	0.0018
trans-1,3-Dichloropropene	0.67 J	0	0.34 J	0	0.0000	0.0040	0.0000	0.0000	0.0003
Ethanol	3.0 J	9.8	6.4 J	0	0.0000	0.0771	0.0000	0.0000	0.0065
4-Ethyltoluene	0.31 J	0.72 J	0.52 J	0	0.0000	0.0062	0.0000	0.0000	0.0005
Freon 11	2.8 J	3.5 J	3.2 J	4.8	0.0000	0.0379	0.0000	0.0578	0.0032
Freon 12	2.9 J	2.8 J	2.9 J	2.5 J	0.0000	0.0343	0.0000	0.0301	0.0029
Freon 113	35	65	50	85	0.0001	0.6021	0.0001	1.0236	0.0511
Hexane	0	1.2 J	0.60 J	0	0.0000	0.0072	0.0000	0.0000	0.0006
Methyl-tert-Butyl-Ether	0	0.96 J	0.48 J	0	0.0000	0.0058	0.0000	0.0000	0.0005
Methylene Chloride	0.80 J	1.2 J	1.0 J	0	0.0000	0.0120	0.0000	0.0000	0.0010
2-Propanol	0	1.8 J	0.90 J	0	0.0000	0.0108	0.0000	0.0000	0.0009
Tetrachloroethene	340	690	515	1.8 J	0.0007	6.2021	0.0000	0.0217	0.5268
Tetrahydrofuran	2.0	4.6	3.3	5.1	0.0000	0.0397	0.0000	0.0614	0.0034
Toluene	4.6	13	8.8	0.55 J	0.0000	0.1060	0.0000	0.0066	0.0090
1,1,1-Trichloroethane	120	250	185	140	0.0003	2.2279	0.0002	1.6860	0.1892
Trichloroethene	490	970	730	76	0.0010	8.7913	0.0001	0.9153	0.7467
2,2,4-Trimethylpentane	0.60 J	0.92 J	0.76 J	0	0.0000	0.0092	0.0000	0.0000	0.0008
m,p-Xylene	1.1 J	1.6 J	1.4 J	0	0.0000	0.0163	0.0000	0.0000	0.0014
o-Xylene	0.50 J	0.65 J	0.58 J	0	0.0000	0.0069	0.0000	0.0000	0.0006
Total VOCs	1153	2226	1690	770	0.0023	20.3492	0.0011	9.2688	1.7283

Notes:

All samples were analyzed for full list VOCs by modified method TO-15. Only detected analytes are presented above.

Average Monthly Vapor Temp (°F) =	110
Average Monthly Flowrate (cfm) =	397
Average Monthly Flowrate (scfm) =	367
Operational Hours for the month =	744

(1) Emissions (lbs/hr) = Concentration (ug/m^3)*(lb/454000000ug)*(0.3048^3m^3/ft^3)*exhaust flow (scfm)*(60min/hour)
(2) Emissions (lbs/yr) = Emissions (lbs/hour)*(6760hours/yr)
(3) Monthly Mass Removal = AVERAGE FLOWRATE (scfm) * 0.3048^3m^3/ft^3 * INF AVG CONC (ug/m^3) * (lb/454000000ug) * 60 min/hr * OPERATIONAL TIME (hr)

Table 3
Soil Vapor Extraction Containment System
Site 1, Former Drum Marshalling Yard
Naval Weapons Industrial Reserve Plant - Bethpage, NY
Vapor Monitoring Results
September 2013

Compound	Concentration (ug/m^3)				Emission Rate [1][2]				Monthly Mass Recovery [3]
					Prior to Treatment		Following Treatment		
	Influent #1	Influent #2	Average	Effluent	(lbs/hr)	(lbs/yr)	(lbs/hr)	(lbs/yr)	(lbs)
Acetone	9.0 J	2.8 J	5.9 J	7.5 J	0.0000	0.0712	0.0000	0.0906	0.0058
2-Butanone	3.6 J	0	1.8 J	0	0.0000	0.0217	0.0000	0.0000	0.0018
Carbon Tetrachloride	1.4 J	1.2 J	1.3 J	0	0.0000	0.0157	0.0000	0.0000	0.0013
Chloroform	7.3	7.2	7.3	3.8 J	0.0000	0.0875	0.0000	0.0459	0.0071
Cumene	11	0	5.5	6.3	0.0000	0.0664	0.0000	0.0761	0.0054
1,1-Dichloroethane	14	13	14	32	0.0000	0.1630	0.0000	0.3864	0.0132
1,2-Dichloroethane	0.85 J	0.78 J	0.82 J	0.40 J	0.0000	0.0098	0.0000	0.0048	0.0008
1,1-Dichloroethene	1.6 J	2.2 J	1.9 J	4.9	0.0000	0.0229	0.0000	0.0592	0.0019
cis-1,2-Dichloroethene	210	210	210	370	0.0003	2.5358	0.0005	4.4678	0.2049
trans-1,2-Dichloroethene	3.1 J	3.8	3.5 J	5.2	0.0000	0.0417	0.0000	0.0628	0.0034
Freon 11	3.5 J	3.6 J	3.6 J	5.0	0.0000	0.0429	0.0000	0.0604	0.0035
Freon 12	2.4 J	2.5 J	2.5 J	2.5 J	0.0000	0.0296	0.0000	0.0302	0.0024
Freon 113	81	80	81	69	0.0001	0.9721	0.0001	0.8332	0.0786
Tetrachloroethene	850	860	855	0	0.0012	10.3244	0.0000	0.0000	0.8344
Tetrahydrofuran	4.3	3.9	4.1	6.1	0.0000	0.0495	0.0000	0.0737	0.0040
Toluene	0.69 J	0.46 J	0.58 J	0	0.0000	0.0069	0.0000	0.0000	0.0006
1,2,4-Trichlorobenzene	0	0	0	0	0.0000	0.0000	0.0000	0.0000	0.0000
1,1,1-Trichloroethane	290	290	290	130	0.0004	3.5018	0.0002	1.5698	0.2830
Trichloroethene	990	1000	995	77	0.0014	12.0149	0.0001	0.9298	0.9711
1,2,4-Trimethylbenzene	0.86 J	0	0.43 J	0	0.0000	0.0052	0.0000	0.0000	0.0004
Vinyl Chloride	0	0.52 J	0.26 J	0.41 J	0.0000	0.0031	0.0000	0.0050	0.0003
m,p-Xylene	0.72 J	0	0.36	0	0.0000	0.0043	0.0000	0.0000	0.0004
Total VOCs	2485	2482	2484	720	0.0034	29.9506	0.0010	8.6955	2.4239

Notes:

All samples were analyzed for full list VOCs by modified method TO-15. Only detected analytes are presented above

Average Monthly Vapor Temp (°F) =	100
Average Monthly Flowrate (cfm) =	391
Average Monthly Flowrate (scfm) =	368
Operational Hours for the month =	706

(1) Emissions (lbs/hr) = Concentration (ug/m^3)*(lb/454000000ug)*(0.3048^3m^3/ft^3)*exhaust flow (scfm)*(60min/hour)
(2) Emissions (lbs/yr) = Emissions (lbs/hour)*(8760hours/yr)
(3) Monthly Mass Removal = AVERAGE FLOWRATE (scfm) * 0.3048^3m^3/ft^3 * INF AVG CONC (ug/m^3) * (lb/454000000ug) * 60 min/hr * OPERATIONAL TIME (hr)

Table 4
Soil Vapor Extraction Containment System
Site 1, Former Drum Marshalling Yard
Naval Weapons Industrial Reserve Plant - Bethpage, NY
Third Quarter 2013 Vapor Analytical Results Summary of SVE Wells

Sample ID	SVE 101I	SVE 101D	SVE 102I	SVE 102D	SVE 103I	SVE 103D	SVE 104I	SVE 104D	SVE 105I	SVE 105D	SVE 106I	SVE 106D
Sample Date	08/27/13	08/27/13	08/27/13	08/27/13	08/27/13	08/27/13	08/27/13	08/27/13	08/27/13	08/27/13	08/27/13	08/27/13
Analysis by TO-15 ($\mu g/m^3$)												
1,1,1-Trichloroethane	2200	5.6	1.6 J	2.3 J	4.7 J	170	3.1 J	500	24	110	ND	27
1,1-Dichloroethane	36	ND	ND	ND	1.5 J	10 J	ND	95	8.0	45	ND	4.9
1,1-Dichloroethene	8.9 J	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,2,4-Trimethylbenzene	ND	1.3 J	1.0 J	ND	1.5 J	ND	ND	ND	1.1 J	1.0 J	0.97 J	0.77 J
1,2-Dichloroethane	8.6 J	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
4-ethyltoluene	ND	0.90 J	0.66 J	ND	0.86 J	ND	ND	ND	0.73 J	0.64 J	0.82 J	ND
Acetone	ND	30	9.7 J	3.4 J	11 J	ND	12 J	6.4 J	10 J	11 J	23	5.1 J
Benzene	ND	0.48 J	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Carbon Tetrachloride	ND	ND	ND	ND	ND	ND	ND	ND	ND	7.2	ND	6.1
Chloroform	ND	1.2 J	3.7 J	21	ND	ND	ND	12	3.1 J	3.9	ND	4.1
Chloromethane	ND	1.6 J	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
cis-1,2-Dichloroethene	11 J	ND	ND	ND	11	700	3.3	2000	14	76	ND	10
Ethanol	ND	64	ND	ND	ND	ND	ND	ND	ND	9.6	ND	ND
Freon 11	ND	3.0 J	2.1 J	4.4 J	1.7 J	ND	1.0 J	ND	1.3 J	1.4 J	1.0 J	1.8 J
Freon 113	ND	2.8 J	ND	ND	ND	35	2.3 J	1000	4.2 J	21	ND	13
Freon 12	ND	2.3 J	2.4 J	2.3 J	2.3 J	ND	2.4 J	2.6 J	2.4 J	2.5 J	2.1 J	3.9 J
m,p-Xylene	ND	1.1 J	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Tetrachloroethene	79	73	3.3 J	14	220	4900	30	2600	91	140	ND	50
Tetrahydrofuran	ND	1.4 J	ND	ND	0.75 J	ND	0.74 J	ND	ND	1.8 J	ND	1.4 J
trans-1,2 Dichloroethene	ND	ND	ND	ND	ND	8.8 J	ND	24	ND	2.4 J	ND	ND
Trichloroethene	5400	56	49	88	95	660	30	1200	220	900	ND	460

Notes:
All samples were analyzed for full list VOCs by modified method TO-15. Only detected analytes are presented above
$\mu g/m^3$ = micrograms per cubic meter
ND = Not detected above method detection limit
Bolded value indicates detected analyte

Soil Vapor Extraction Containment System
Site 1, Former Drum Marshalling Yard
Naval Weapons Industrial Reserve Plant - Bethpage, NY
Quarterly Vapor Monitoring Results of SVE Wells
Through Third Quarter 2013

Sample ID	SVE 1DU															
Sample Date	12/21/09	03/31/10	06/09/10	09/16/10	12/08/10	03/30/11	06/28/11	09/08/11	10/14/11	02/10/12	05/11/12	09/11/12	12/05/12	01/15/13	05/16/12	08/27/13
Analysis by TO-15 (µg/m³)																
1,1,1-Trichloroethane	51000	3900	2600	450	850	300	1	0.7 J	0.7 J	1500	1500	3200	4400	3400	1900	2200
1,1,2,2-Tetrachloroethane	NR	NR	NR	ND	ND	ND	1 J	0.7 J	0.8 J	ND	ND	ND	ND	ND	ND	ND
1,1,2-Trichloroethane	NR	NR	NR	3	5	ND	1 J	0.6 J	0.6 J	4.0 J	ND	ND	ND	ND	ND	ND
1,1-Dichloroethane	1200	65	34	14	31	5	0.81	0.4 J	0.4 J	28	28	61	76	62	35	36
1,1-Dichloroethene	250	ND	ND	4	8	ND	0.7 J	0.4 J	0.5 J	7.6 J	10	ND	15 J	ND	12 J	8.9 J
1,2,3-Trichloropropane	NR	NR	NR	ND	ND	ND	1 J	0.6 J	0.8 J	NR	NR	NR	NR	NR	NR	NR
1,2,3-Trimethylbenzene	NR	NR	NR	6	2	ND	0.6 J	ND	0.5 J	NR	NR	NR	NR	NR	NR	NR
1,2,4-Trichlorobenzene	NR	NR	NR	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,2,4-Trimethylbenzene	NR	NR	NR	15	5	2	1	ND	0.7 J	ND	3.2 J	5.1 J	ND	ND	ND	ND
1,2-Dibromoethane	NR	NR	NR	ND	ND	ND	ND	ND	0.8 J	ND	ND	ND	ND	ND	ND	ND
1,2-Dichlorobenzene	NR	NR	NR	ND	ND	ND	0.6	ND	0.6 J	ND	ND	ND	ND	ND	ND	ND
1,2-Dichloroethane	NR	30	ND	6	8	ND	0.9	0.5 J	0.5 J	6.9 J	6.4 J	11 J	14 J	12 J	10 J	8.6 J
1,2-Dichloropropane	NR	NR	NR	ND	ND	ND	ND	0.6 J	0.6 J	ND	ND	ND	ND	ND	ND	ND
1,3,5-Trimethylbenzene	NR	NR	NR	4	ND	ND	0.6 J	ND	0.5 J	ND	ND	ND	ND	ND	ND	ND
1,3-Butadiene	NR	NR	NR	ND	ND	ND	0.7	0.4 J	0.4 J	ND	ND	ND	ND	ND	ND	ND
1,3-Dichlorobenzene	NR	NR	NR	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,4-Dichlorobenzene	NR	NR	NR	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,4-Dioxane	NR	NR	NR	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
2,2,4-Trimethylpentane	NR	NR	NR	NR	NR	NR	NR	NR	NR	ND	ND	6.7 J	ND	ND	ND	ND
2-Butanone	NR	NR	NR	3	1	ND	3	1	1	ND	ND	ND	ND	ND	ND	ND
2-Hexanone	NR	NR	NR	ND	ND	ND	ND	0.5 J	0.5 J	ND	ND	ND	ND	ND	ND	ND
2-Propanol	NR	NR	NR	NR	NR	NR	NR	NR	NR	ND	ND	ND	ND	ND	ND	ND
3-Chloro-1-propene	NR	NR	NR	ND	ND	ND	ND	0.4 J	ND	ND	ND	ND	ND	ND	ND	ND
4-Ethyltoluene	NR	NR	NR	3	ND	ND	0.7 J	ND	ND	ND	1.7 J	ND	ND	ND	ND	ND
4-Methyl-2-pentanone	NR	NR	NR	NR	NR	NR	NR	NR	NR	ND	ND	ND	ND	ND	ND	ND
Acetone	NR	NR	NR	9	5	9	22	16	8	22 J	10 J	ND	ND	ND	5.6 J	ND
alpha-Chlorotoluene	NR	NR	NR	ND	ND	ND	ND	ND	0.5 J	ND	ND	ND	ND	ND	ND	ND
Acrylonitrile	NR	NR	NR	ND	ND	ND	ND	0.4 J	ND	NR	NR	NR	NR	NR	NR	NR
Benzene	NR	NR	NR	1	ND	ND	1	0.4 J	0.6 J	ND	ND	6.7 J	ND	ND	ND	ND
Benzyl Chloride	NR	NR	NR	ND	ND	ND	ND	ND	ND	NR	NR	NR	NR	NR	NR	NR
Bromodichloromethane	NR	NR	NR	23	ND	ND	1	0.8 J	0.8 J	ND	ND	ND	ND	ND	ND	ND
Bromoform	NR	NR	NR	ND	ND	ND	ND	ND	1 J	ND	ND	ND	ND	ND	ND	ND
Bromomethane	NR	NR	NR	ND	ND	ND	0.8	0.6 J	0.5 J	ND	ND	ND	ND	ND	ND	ND
Carbon Disulfide	NR	NR	NR	ND	ND	ND	0.9	0.5 J	0.4 J	ND	ND	11 J	ND	ND	4.6 J	ND
Carbon Tetrachloride	NR	NR	NR	2	ND	ND	2	1 J	1 J	ND	ND	ND	ND	ND	ND	ND
Chlorobenzene	NR	NR	NR	ND	ND	ND	ND	ND	0.5 J	ND	ND	20 J, B	ND	ND	ND	ND
Chlorodibromomethane	NR	NR	NR	ND	ND	ND	ND	ND	0.9 J	NR	NR	NR	NR	NR	NR	NR
Chloroethane	NR	NR	NR	ND	ND	ND	0.6	0.4 J	0.4 J	ND	ND	ND	ND	ND	ND	ND
Chloroform	NR	NR	NR	2	1	ND	1	0.8 J	0.6 J	ND	ND	ND	ND	ND	ND	ND
Chloromethane	NR	NR	NR	1	0.5	ND	1	1	1	2.1 J	ND	ND	ND	ND	ND	ND
cis-1,2-Dichloroethene	480	59	ND	9	15	3	0.7 J	ND	0.4 J	7.1 J	7.4 J	20 J	22 J	14 J	6.2 J	3.1 J
cis-1,3-Dichloropropene	NR	NR	NR	ND	ND	ND	0.7 J	ND	ND	ND	ND	ND	ND	ND	ND	ND
Cumene	NR	NR	NR	NR	NR	NR	NR	NR	NR	ND	ND	ND	ND	ND	ND	ND
Cyclohexane	NR	NR	NR	ND	ND	ND	0.9	0.7	0.3 J	ND	ND	ND	ND	ND	ND	ND
Dichlorodifluoromethane	NR	NR	NA	3	2	ND	3	2	3	ND	ND	ND	ND	ND	ND	ND
Diisopropyl ether	NR	NR	NR	ND	ND	ND	ND	ND	ND	NR	NR	NR	NR	NR	NR	NR
Ethanol	NR	NR	NR	5	4	2	10	7	3	6.9 J	5.3 J	19 J	47 J	ND	ND	ND
Ethyl Acetate	NR	NR	NR	ND	ND	ND	ND	ND	ND	NR	NR	NR	NR	NR	NR	NR
Ethyl tert-butyl ether	NR	NR	NR	ND	ND	ND	0.7 J	ND	ND	NR	NR	NR	NR	NR	NR	NR
Ethylbenzene	NR	NR	NR	3	ND	ND	1	ND	0.5 J	ND	ND	4.7 J	ND	ND	ND	ND
Freon 11	NR	NR	NR	NR	NR	NR	NR	NR	NR	ND	ND	ND	ND	ND	2.3 J	ND
Freon 113	NR	NR	NR	ND	ND	ND	2	2.1	1 J	ND	ND	ND	ND	ND	ND	ND
Freon 114	NR	NR	NR	ND	ND	ND	2	1 J	0.9 J	ND	ND	ND	ND	ND	ND	ND
Freon 12	NR	NR	NR	NR	NR	NR	NR	NR	NR	ND	ND	ND	ND	ND	ND	ND
Heptane	NR	NR	NR	ND	ND	ND	2	ND	0.5 J	ND	ND	ND	ND	ND	ND	ND
Hexachlorobutadiene	NR	NR	NR	ND	ND	ND	2 J	ND	1 J	ND	ND	ND	ND	ND	ND	ND
Hexane	NR	NR	NR	1	ND	ND	3	3	0.7	ND	ND	3.1 J	ND	ND	ND	ND
Iso-Octane	NR	NR	NR	2	ND	ND	4	ND	0.6 J	NR	NR	NR	NR	NR	NR	NR
Isopropylbenzene	NR	NR	NR	ND	ND	ND	0.8 J	ND	0.6 J	NR	NR	NR	NR	NR	NR	NR
Isopropyl alcohol	NR	NR	NR	ND	0.8	0.8	2	3	0.7	NR	NR	NR	NR	NR	NR	NR
m,p-Xylene	NR	NR	NR	NR	NR	NR	NR	NR	NR	ND	1.8 J	12 J	ND	ND	ND	ND
Methyl Methacrylate	NR	NR	NR	ND	ND	ND	0.6 J	ND	0.4 J	NR	NR	NR	NR	NR	NR	NR
Methyl-tert-Butyl-Ether	NR	NR	NR	ND	ND	ND	1	1	0.4 J	ND	ND	ND	ND	ND	ND	ND
Methylene Chloride	NR	NR	NR	ND	1	4	8	17	2	2.3 J	ND	ND	10 J	ND	ND	ND
MIBK	NR	NR	NR	ND	ND	ND	1	ND	0.4 J	NR	NR	NR	NR	NR	NR	NR
Naphthalene	NR	NR	NR	4	5	5	ND	ND	ND	NR	NR	NR	NR	NR	NR	NR
n-Butane	NR	NR	NR	0.8	0.7	ND	2	0.7	0.8	NR	NR	NR	NR	NR	NR	NR
o-Xylene	NR	NR	NR	NR	NR	NR	NR	NR	NR	ND	ND	5.3 J	ND	ND	ND	ND
p-Isopropyltoluene	NR	NR	NR	ND	ND	ND	0.6 J	ND	ND	NR	NR	NR	NR	NR	NR	NR
n-Propylbenzene	NR	NR	NR	2	ND	ND	0.7 J	ND	ND	ND	ND	ND	ND	ND	ND	ND
Propylene	NR	NR	NR	ND	2	2	ND	ND	0.5	NR	NR	NR	NR	NR	NR	NR
Styrene	NR	NR	NR	ND	ND	ND	0.7 J	ND	ND	ND	ND	ND	ND	ND	ND	ND
tert-Amyl methyl ether	NR	NR	NR	ND	ND	ND	ND	ND	0.5 J	NR	NR	NR	NR	NR	NR	NR
tert-Butyl Alcohol	NR	NR	NR	ND	ND	ND	0.7	0.4 J	0.4 J	NR	NR	NR	NR	NR	NR	NR
Tetrachloroethene	1700	410	260	36	63	10	1	ND	2	45	46	93	120	80	49	79
Tetrahydrofuran	NR	NR	NR	4	2	2	1	1	0.5 J	ND	ND	ND	ND	ND	ND	ND
Toluene	NR	NR	NR	3	ND	ND	3	0.4 J	0.8	ND	ND	26	ND	ND	ND	ND
Total Xylenes	NR	NR	NR	13	ND	ND	4	ND	2 J	NR	NR	NR	NR	NR	NR	NR
trans-1,2-Dichloroethene	ND	ND	ND	ND	ND	ND	0.7 J	0.4 J	0.4 J	ND	ND	ND	ND	ND	ND	ND
trans-1,3-Dichloropropene	NR	NR	NR	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Trichloroethene	180000	18000	14000	1200	2600	560	1	0.6 J	0.6 J	4200	4300	7200	12000	8100	5200	5400
Trichlorofluoromethane	NR	NR	NR	2	1	ND	2	2	2	NR	NR	NR	NR	NR	NR	NR
Vinyl Acetate	NR	NR	NR	1	ND	ND	ND	0.7 J	ND	NR	NR	NR	NR	NR	NR	NR
Vinyl Bromide	NR	NR	NR	ND	ND	ND	1	0.6 J	0.6 J	NR	NR	NR	NR	NR	NR	NR
Vinyl Chloride	ND	ND	ND	ND	ND	ND	0.5 J	0.3 J	0.3 J	ND	ND	ND	ND	ND	ND	ND

Notes:
µg/m³ = micrograms per cubic meter
NR = Not Recorded
NA = Data not available
ND = Not detected above method detection limit

Soil Vapor Extraction Containment System
Site 1, Former Drum Marshalling Yard
Naval Weapons Industrial Reserve Plant - Bethpage, NY
Quarterly Vapor Monitoring Results of SVE Wells
Through Third Quarter 2013

Sample ID	SVE 1010															
Sample Date	12/21/09	03/31/10	06/09/10	09/16/10	12/22/10	03/30/11	06/28/11	09/06/11	12/16/11	03/10/12	06/11/12	09/11/12	12/09/12	03/13/13	06/16/13	09/27/13
Analysis by TO-15 (µg/m³)																
1,1,1-Trichloroethane	25000	130	53	ND	ND	ND	3	8	0.8 J	ND	3.1 J	99	11	ND	ND	5.6
1,1,2,2-Tetrachloroethane	NR	NR	NR	ND	ND	ND	3	0.9 J	1 J	ND	ND	ND	ND	ND	ND	ND
1,1,2-Trichloroethane	NR	NR	NR	ND	ND	ND	2	0.6 J	0.7 J	ND	ND	ND	ND	ND	ND	ND
1,1-Dichloroethane	660	3.9	ND	ND	ND	ND	2	0.9 J	0.5 J	ND	ND	1.0 J	1.1 J	1.1 J	ND	ND
1,1-Dichloroethene	180	2	ND	ND	ND	ND	ND	0.7 J	0.4 J	ND	ND	ND	ND	ND	ND	ND
1,2,3-Trichloropropane	NR	NR	NR	ND	ND	ND	2	0.8 J	0.8 J	NR	NR	NR	NR	NR	NR	NR
1,2,3-Trimethylbenzene	NR	NR	NR	ND	ND	ND	4	1	1	NR	NR	NR	NR	NR	NR	NR
1,2,4-Trichlorobenzene	NR	NR	NR	ND	ND	ND	2 J	ND	ND	ND	3.2 J	ND	2.7 J	ND	1.6 J	ND
1,2,4-Trimethylbenzene	NR	NR	NR	ND	ND	ND	10	3	3	ND	2.7 J	2.9 J	1.8 J	ND	0.85 J	1.3 J
1,2-Dibromoethane	NR	NR	NR	ND	ND	ND	3	ND	0.9 J	ND	0.72 J	ND	ND	ND	ND	ND
1,2-Dichlorobenzene	NR	NR	NR	ND	ND	ND	2 J	ND	0.7 J	ND	ND	ND	ND	ND	ND	ND
1,2-Dichloroethane	NR	0.5	ND	ND	ND	ND	2	0.5 J	0.5 J	ND	ND	ND	ND	ND	ND	ND
1,2-Dichloropropane	NR	NR	NR	ND	ND	ND	2	0.6 J	0.5 J	ND	ND	ND	ND	ND	ND	ND
1,3,5-Trimethylbenzene	NR	NR	NR	ND	ND	ND	3	0.9 J	1	ND	ND	0.68 J	ND	ND	ND	ND
1,3-Butadiene	NR	NR	NR	ND	ND	ND	ND	0.4 J	0.5 J	ND	ND	ND	ND	ND	ND	ND
1,3-Dichlorobenzene	NR	NR	NR	ND	ND	ND	1 J	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,4-Dichlorobenzene	NR	NR	NR	ND	ND	ND	1 J	ND	ND	ND	ND	ND	0.89 J	0.34 J	ND	ND
1,4-Dioxane	NR	NR	NR	ND	ND	ND	1	ND	ND	ND	ND	ND	ND	ND	ND	ND
2,2,4-Trimethylpentane	NR	NR	NR	NR	NR	NR	NR	NR	NR	ND	ND	0.99 J	1.2 J	ND	ND	ND
2-Butanone	NR	NR	NR	ND	1	2	8	1	1	ND	ND	2.2 J	2.2 J	ND	ND	ND
2-Hexanone	NR	NR	NR	ND	ND	ND	2	0.7 J	0.5 J	ND	ND	ND	ND	ND	ND	ND
2-Propanol	NR	NR	NR	NR	NR	NR	NR	NR	NR	ND	ND	ND	ND	ND	5.5 J	ND
3-Chloro-1-propene	NR	NR	NR	ND	ND	ND	ND	0.4 J	0.4 J	ND	ND	ND	ND	ND	ND	ND
4-Ethyltoluene	NR	NR	NR	ND	ND	ND	3	0.8 J	1	ND	1.3 J	1.9 J	1.1 J	ND	0.46 J	0.90 J
4-Methyl- 2-pentanone	NR	NR	NR	NR	NR	NR	NR	NR	NR	ND	ND	ND	ND	ND	ND	ND
Acetone	NR	NR	NR	19	10	10	36	4	9	4.4 J	14 J	3.5 J	13 J	6.9 J	21	30
alpha-Chlorotoluene	NR	NR	NR	ND	ND	ND	2 J	ND	0.5 J	ND	ND	ND	0.49 J	ND	ND	ND
Acrylonitrile	NR	NR	NR	ND	ND	ND	ND	0.4 J	ND	NR	NR	NR	NR	NR	NR	NR
Benzene	NR	NR	NR	ND	1	ND	4	0.5 J	0.5 J	0.59 J	ND	0.59 J	ND	0.41 J	1.2 J	0.48 J
Benzyl Chloride	NR	NR	NR	ND	ND	ND	ND	ND	ND	NR	NR	NR	NR	NR	NR	NR
Bromodichloromethane	NR	NR	NR	ND	ND	ND	3	0.9 J	0.8 J	ND	ND	ND	ND	ND	ND	ND
Bromoform	NR	NR	NR	ND	ND	ND	3 J	ND	1 J	ND	ND	ND	ND	ND	ND	ND
Bromomethane	NR	NR	NR	ND	ND	ND	2	0.6 J	0.5 J	ND	ND	ND	ND	1.9 J	ND	ND
Carbon Disulfide	NR	NR	NR	ND	ND	ND	2	0.8	0.5 J	ND	ND	1.9 J	1.4 J	ND	1.5 J	ND
Carbon Tetrachloride	NR	NR	NR	ND	ND	ND	4	1 J	1	ND	ND	ND	ND	ND	ND	ND
Chlorobenzene	NR	NR	NR	ND	ND	ND	2	0.5 J	0.6 J	ND	ND	2.5 J, B	ND	ND	ND	ND
Chlorodibromomethane	NR	NR	NR	ND	ND	ND	3	0.9 J	1 J	NR	NR	NR	NR	NR	NR	NR
Chloroethane	NR	NR	NR	ND	ND	ND	ND	0.4 J	0.4 J	ND	ND	ND	ND	ND	ND	ND
Chloroform	NR	NR	NR	ND	ND	ND	2	7	0.7 J	ND	0.91 J	5.4	2.4 J	ND	ND	1.2 J
Chloromethane	NR	NR	NR	1	2	ND	3	0.4	1	ND	ND	ND	ND	ND	ND	1.6 J
cis-1, 2-Dichloroethene	220	8.5	7.5	ND	3	ND	2	2	0.5 J	ND	ND	2.1 J	3.2	ND	ND	ND
cis-1,3-Dichloropropene	NR	NR	NR	ND	ND	ND	2	0.5 J	ND	ND	ND	ND	ND	ND	ND	ND
Cumene	NR	NR	NR	NR	NR	NR	NR	NR	NR	ND	ND	ND	ND	ND	ND	ND
Cyclohexane	NR	NR	NR	ND	ND	ND	2	0.4 J	0.4 J	ND	ND	ND	ND	ND	ND	ND
Dichlorodifluoromethane	NR	NR	NR	2	3	ND	5	3	3	ND	ND	ND	ND	ND	ND	ND
Diisopropyl ether	NR	NR	NR	14	ND	ND	ND	ND	ND	NR	NR	NR	NR	NR	NR	NR
Ethanol	NR	NR	NR	7	5	11	29	1	3	2.4 J	3.2 J	2.9 J	4.6 J	2.7 J	6.4	64
Ethyl Acetate	NR	NR	NR	12	ND	ND	ND	ND	0.5 J	NR	NR	NR	NR	NR	NR	NR
Ethyl tert-butyl ether	NR	NR	NR	ND	ND	ND	1	0.5 J	ND	NR	NR	NR	NR	NR	NR	NR
Ethylbenzene	NR	NR	NR	ND	ND	ND	4	0.8 J	0.9	ND	ND	1.5 J	ND	ND	ND	ND
Freon 11	NR	NR	NR	NR	NR	NR	NR	NR	NR	1.2 J	1.7 J	1.5 J	2.2 J	2.2 J	1.4 J	3.0 J
Freon 113	NR	NR	NR	4	2	ND	4	7	1 J	ND	ND	3.4 J	4.4 J	3.7 J	ND	2.8 J
Freon 114	NR	NR	NR	ND	ND	ND	3	1 J	1 J	ND	ND	ND	ND	ND	ND	ND
Freon 12	NR	NR	NR	NR	NR	NR	NR	NR	NR	1.4 J	2.6 J	2.6 J	2.6 J	2.5 J	2.5 J	2.3 J
Heptane	NR	NR	NR	ND	ND	ND	3	0.4 J	0.5 J	ND	ND	ND	ND	ND	ND	ND
Hexachlorobutadiene	NR	NR	NR	ND	ND	ND	ND	1 J	1 J	ND	ND	ND	ND	ND	ND	ND
Hexane	NR	NR	NR	30	2	2	18	2	0.8	ND	ND	ND	ND	ND	0.84 J	ND
Iso-Octane	NR	NR	NR	ND	ND	ND	4	0.7 J	0.6 J	NR	NR	NR	NR	NR	NR	NR
Isopropylbenzene	NR	NR	NR	ND	ND	ND	2	0.5 J	0.6 J	NR	NR	NR	NR	NR	NR	NR
Isopryl alcohol	NR	NR	NR	9	1	4	9	1	0.9	NR	NR	NR	NR	NR	NR	NR
m,p-Xylene	NR	NR	NR	NR	NR	NR	NR	NR	NR	ND	1.4 J	1.7 J	1.2 J	ND	1.4 J	1.1 J
Methyl Methacrylate	NR	NR	NR	ND	ND	ND	2	0.4 J	3	NR	NR	NR	NR	NR	NR	NR
Methyl-tert-Butyl Ether	NR	NR	NR	4	ND	ND	5	0.7	0.4 J	ND	ND	ND	ND	ND	ND	ND
Methylene Chloride	NR	NR	NR	150	7	4	84	8	2	0.54 J	1.4 J	2.0 J	0.42 J	ND	ND	ND
MIBK	NR	NR	NR	ND	ND	ND	4	0.5 J	0.5 J	NR	NR	NR	NR	NR	NR	NR
Naphthalene	NR	NR	NR	ND	ND	ND	3	0.8 J	0.9 J	NR	NR	NR	NR	NR	NR	NR
n-Butane	NR	NR	NR	ND	20	7	8	0.6	ND	NR	NR	NR	NR	NR	NR	NR
o-Xylene	NR	NR	NR	NR	NR	NR	NR	NR	NR	ND	0.77 J	1.8 J	ND	ND	0.61 J	ND
o-Isopropyltoluene	NR	NR	NR	ND	ND	ND	2 J	0.6 J	ND	NR	NR	NR	NR	NR	NR	NR
n-Propylbenzene	NR	NR	NR	ND	ND	ND	2	0.7 J	0.8 J	ND	0.32 J	0.61 J	ND	ND	ND	ND
Propylene	NR	NR	NR	ND	ND	ND	ND	ND	0.4	NR	NR	NR	NR	NR	NR	NR
Styrene	NR	NR	NR	ND	ND	ND	1	ND	ND	ND	ND	ND	ND	ND	ND	ND
tert-Amyl methyl ether	NR	NR	NR	ND	ND	ND	2	0.5 J	0.5 J	NR	NR	NR	NR	NR	NR	NR
tert-Butyl Alcohol	NR	NR	NR	ND	ND	ND	2	0.5 J	0.5 J	NR	NR	NR	NR	NR	NR	NR
Tetrachloroethene	3200	1200	1200	ND	4	ND	26	210	2	ND	79	150	170	130	0.92 J	73
Tetrahydrofuran	NR	NR	NR	ND	ND	ND	7	1	1	ND	0.53 J	3.2	3.2	1.0 J	ND	1.4 J
Toluene	NR	NR	NR	ND	2	3	12	0.9	1	0.82 J	ND	0.98 J	0.53 J	0.41 J	4.2	ND
Total Xylenes	NR	NR	NR	ND	ND	ND	18	3	4	NR	NR	NR	NR	NR	NR	NR
trans-1,2-Dichloroethene	ND	ND	ND	ND	ND	ND	2	0.6 J	0.4 J	ND	ND	ND	ND	ND	ND	ND
trans-1,3-Dichloropropene	NR	NR	NR	ND	ND	ND	2	ND	ND	ND	ND	ND	ND	ND	ND	ND
Trichloroethene	180000	1600	310	3	1	ND	3	120	1 J	ND	200	400	350	120	ND	56
Trichlorofluoromethane	NR	NR	NR	ND	2	ND	4	3	2	NR	NR	NR	NR	NR	NR	NR
Vinyl Acetate	NR	NR	NR	ND	1	ND	ND	0.6 J	ND	NR	NR	NR	NR	NR	NR	NR
V. Vinylbromide	NR	NR	NR	ND	ND	ND	2	0.6 J	0.6 J	NR	NR	NR	NR	NR	NR	NR
Vinyl Chloride	ND	ND	ND	ND	ND	ND	1	0.4 J	0.3 J	ND	ND	ND	ND	ND	ND	ND

Notes:

µg/m³ = micrograms per cubic meter
NR = Not Recorded
NA = Data not available
ND = Not detected above method detection limit

Soil Vapor Extraction Containment System
Site 1, Former Drum Marshalling Yard
Naval Weapons Industrial Reserve Plant - Bethpage, NY
Quarterly Vapor Monitoring Results of SVE Wells
Through Third Quarter 2013

Sample ID	SVE 1021															
Sample Date	12/21/09	03/31/10	06/09/10	09/16/10	12/22/10	03/30/11	06/28/11	09/06/11	10/14/11	02/10/12	05/11/12	09/11/13	12/05/12	01/15/13	05/16/13	08/27/13
Analysis by TO-15 (µg/m³)																
1,1,1-Trichloroethane	ND	ND	13	3	ND	NA	2	3	2	ND	0.60 J	3.3 J	ND	ND	ND	1.6 J
1,1,2,2-Tetrachloroethane	NR	NR	NR	ND	ND	NA	1 J	0.8 J	0.8 J	ND	ND	ND	ND	ND	ND	ND
1,1,2-Trichloroethane	NR	NR	NR	ND	ND	NA	1 J	0.6 J	0.6 J	ND	ND	ND	ND	ND	ND	ND
1,1-Dichloroethane	ND	ND	ND	ND	ND	NA	0.8 J	0.5 J	0.5 J	ND	ND	ND	ND	ND	ND	ND
1,1-Dichloroethene	ND	ND	ND	ND	ND	NA	0.7 J	0.4 J	0.4 J	ND	ND	ND	ND	ND	ND	ND
1,2,3-Trichloropropane	NR	NR	NR	ND	ND	NA	1 J	0.6 J	0.8 J	NR	NR	NR	NR	NR	NR	NR
1,2,4-Trimethylbenzene	NR	NR	NR	10	ND	NA	5	1	2	NR	NR	NR	NR	NR	NR	NR
1,2,4-Trichlorobenzene	NR	NR	NR	ND	ND	NA	1 J	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,2,4-Trimethylbenzene	NR	NR	NR	35	1	NA	18	3	5	0.77 J	1.5 J	2.3 J	ND	0.96 J	1.2 J	1.0 J
1,2-Dibromoethane	NR	NR	NR	ND	ND	NA	1 J	ND	0.8 J	ND	ND	ND	ND	ND	ND	ND
1,2-Dichlorobenzene	NR	NR	NR	ND	ND	NA	0.8 J	ND	ND	ND	ND	1.0 J	ND	ND	ND	ND
1,2-Dichloroethane	NR	ND	ND	ND	ND	NA	0.8	0.4 J	0.4 J	ND	ND	ND	ND	ND	ND	ND
1,2-Dichloropropane	NR	NR	NR	ND	ND	NA	0.9 J	0.6 J	0.6 J	ND	ND	ND	ND	ND	ND	ND
1,3,5-Trimethylbenzene	NR	NR	NR	7	ND	NA	4	0.8 J	1	ND	ND	0.89 J	ND	ND	ND	ND
1,3-Butadiene	NR	NR	NR	ND	ND	NA	NA	0.3 J	ND	ND	ND	ND	ND	ND	ND	ND
1,3-Dichlorobenzene	NR	NR	NR	ND	ND	NA	0.7 J	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,4-Dichlorobenzene	NR	NR	NR	ND	ND	NA	0.6 J	ND	ND	ND	ND	1.2 J	0.78 J	ND	ND	ND
1,4-Dioxane	NR	NR	NR	ND	ND	NA	0.8	ND	0.4 J	ND	ND	ND	ND	ND	ND	ND
2,2,4-Trimethylpentane	NR	NR	NR	NR	NR	NR	NR	NR	NR	ND	ND	ND	ND	ND	ND	ND
2-Butanone	NR	NR	NR	ND	1	NA	4	1	2	ND	ND	ND	ND	ND	4.7 J	ND
2-Hexanone	NR	NR	NR	ND	ND	NA	0.9	0.6 J	0.5 J	ND	ND	ND	ND	ND	ND	ND
2-Propanol	NR	NR	NR	NR	NR	NR	NR	NR	NR	ND	ND	ND	ND	ND	1.5 J	ND
3-Chloro-1-propene	NR	NR	NR	ND	ND	NA	0.6 J	ND	ND	ND	ND	ND	ND	ND	ND	ND
4-Ethyltoluene	NR	NR	NR	5	ND	NA	4	0.8 J	1	0.64 J	0.72 J	3.2 J	ND	ND	0.41 J	0.66 J
4-Methyl-2-pentanone	NR	NR	NR	NR	NR	NR	NR	NR	NR	ND	ND	ND	ND	ND	ND	ND
Acetone	NR	NR	NR	6	5	NA	14	4	7	7.8	9.9 J	7.2 J	12 J	8.7 J	21	9.7 J
alpha-Chlorotoluene	NR	NR	NR	ND	ND	NA	0.7 J	ND	ND	ND	ND	ND	0.41 J	ND	ND	ND
Acrylonitrile	NR	NR	NR	ND	ND	NA	0.5	0.4 J	ND	NR	NR	NR	NR	NR	NR	NR
Benzene	NR	NR	NR	ND	ND	NA	1	0.4 J	0.5 J	ND	ND	ND	ND	0.45 J	1.2 J	ND
Benzyl Chloride	NR	NR	NR	ND	ND	NA	ND	ND	ND	NR	NR	NR	NR	NR	NR	NR
Bromodichloromethane	NR	NR	NR	ND	ND	NA	2	0.8 J	0.7 J	ND	ND	ND	ND	ND	ND	ND
Bromoform	NR	NR	NR	ND	ND	NA	1 J	ND	1 J	ND	ND	ND	ND	ND	ND	ND
Bromomethane	NR	NR	NR	ND	ND	NA	0.8	0.5 J	0.5 J	ND	ND	ND	ND	ND	ND	ND
Carbon Disulfide	NR	NR	NR	ND	ND	NA	0.7	0.5 J	0.4 J	ND	ND	1.8 J	1.5 J	ND	10	ND
Carbon Tetrachloride	NR	NR	NR	ND	ND	NA	2	1 J	1 J	ND	ND	ND	ND	ND	ND	ND
Chlorobenzene	NR	NR	NR	ND	ND	NA	0.9	ND	0.5 J	ND	ND	2.7 J, B	ND	ND	ND	ND
Chlorodibromomethane	NR	NR	NR	ND	ND	NA	1 J	ND	0.9 J	NR	NR	NR	NR	NR	NR	NR
Chloroethane	NR	NR	NR	ND	ND	NA	0.6	0.4 J	0.3 J	ND	ND	ND	ND	ND	ND	ND
Chloroform	NR	NR	NR	4	ND	NA	3	5	4	0.75 J	1.4 J	6.6	ND	ND	1.4 J	3.7 J
Chloromethane	NR	NR	NR	ND	0.5	NA	1	0.4	0.4	ND	ND	ND	ND	ND	ND	ND
cis-1,2-Dichloroethene	ND	ND	ND	ND	ND	NA	0.7 J	0.5 J	0.5 J	ND	ND	ND	ND	ND	ND	ND
cis-1,3-Dichloropropene	NR	NR	NR	ND	ND	NA	0.7 J	ND	ND	ND	ND	ND	ND	ND	ND	ND
Cumene	NR	NR	NR	NR	NR	NR	NR	NR	NR	ND	ND	ND	ND	ND	ND	ND
Cyclohexane	NR	NR	NR	ND	ND	NA	0.6 J	ND	0.4 J	ND	ND	ND	ND	ND	ND	ND
Dichlorodifluoromethane	NR	NR	NR	ND	2	NA	3	2	2	ND	ND	ND	ND	ND	ND	ND
Diisopropyl ether	NR	NR	NR	ND	ND	NA	NA	ND	ND	NR	NR	NR	NR	NR	NR	NR
Ethanol	NR	NR	NR	2	3	NA	8	2	4	3.0 J	ND	ND	ND	3.6 J	5.5	ND
Ethyl Acetate	NR	NR	NR	ND	ND	NA	NA	ND	ND	NR	NR	NR	NR	NR	NR	NR
Ethyl tert-butyl ether	NR	NR	NR	ND	ND	NA	0.7 J	ND	ND	NR	NR	NR	NR	NR	NR	NR
Ethylbenzene	NR	NR	NR	3	ND	NA	4	0.8 J	1	ND	ND	1.4 J	ND	ND	0.70 J	ND
Freon 11	NR	NR	NR	NR	NR	NR	NR	NR	NR	1.1 J	2.0 J	2.5 J	1.4 J	1.4 J	1.8 J	2.1 J
Freon 113	NR	NR	NR	ND	ND	NA	2	1 J	1 J	ND	ND	ND	ND	ND	ND	ND
Freon 114	NR	NR	NR	ND	ND	NA	2	1 J	1 J	ND	ND	ND	ND	ND	ND	ND
Freon 12	NR	NR	NR	NR	NR	NR	NR	NR	NR	1.9 J	2.4 J	2.6 J	2.3 J	2.4 J	2.5 J	2.4 J
Heptane	NR	NR	NR	ND	ND	NA	1	ND	0.5 J	ND	ND	0.83 J	ND	ND	ND	ND
Hexachlorobutadiene	NR	NR	NR	ND	ND	NA	3	1 J	1 J	ND	ND	ND	ND	ND	ND	ND
Hexane	NR	NR	NR	ND	1	NA	1	0.8	0.8	ND	ND	0.36 J	ND	ND	1.7 J	ND
Iso-Octane	NR	NR	NR	ND	ND	NA	1	0.6 J	0.6 J	NR	NR	NR	NR	NR	NR	NR
Isopropylbenzene	NR	NR	NR	ND	ND	NA	1	ND	0.6 J	NR	NR	NR	NR	NR	NR	NR
Isopropyl alcohol	NR	NR	NR	ND	0.6	NA	2	1	0.8	NR	NR	NR	NR	NR	NR	NR
m,p-Xylene	NR	NR	NR	NR	NR	NA	NR	NR	NR	0.63 J	0.97 J	2.8 J	ND	1.1 J	2.5 J	ND
Methyl Methacrylate	NR	NR	NR	ND	ND	NA	0.6 J	ND	ND	NR	NR	NR	NR	NR	NR	NR
Methyl-tert-Butyl-Ether	NR	NR	NR	ND	ND	NA	0.7	0.5 J	0.4 J	ND	ND	ND	ND	0.54 J	ND	ND
Methylene Chloride	NR	NR	NR	ND	6	NA	4	3	3	1.3 J	1.0 J	ND	ND	1.8 J	3.1 J	ND
MIBK	NR	NR	NR	ND	ND	NA	0.8 J	ND	ND	NR	NR	NR	NR	NR	NR	NR
Naphthalene	NR	NR	NR	3	ND	NA	5	0.8 J	1	NR	NR	NR	NR	NR	NR	NR
n-Butane	NR	NR	NR	4	2	NA	1	0.4 J	ND	NR	NR	NR	NR	NR	NR	NR
o-Xylene	NR	NR	NR	NR	NR	NA	NR	NR	NR	ND	ND	1.6 J	ND	ND	0.68 J	ND
p-Isopropyltoluene	NR	NR	NR	ND	ND	NA	1 J	ND	ND	NR	NR	NR	NR	NR	NR	NR
n-Propylbenzene	NR	NR	NR	3	ND	NA	2	0.6 J	0.9 J	ND	ND	0.90 J	ND	ND	ND	ND
Propylene	NR	NR	NR	ND	ND	NA	ND	ND	ND	NR	NR	NR	NR	NR	NR	NR
Styrene	NR	NR	NR	ND	ND	NA	0.7 J	ND	ND	ND	ND	ND	ND	ND	ND	ND
tert-Amyl methyl ether	NR	NR	NR	ND	ND	NA	0.7 J	ND	0.4 J	NR	NR	NR	NR	NR	NR	NR
tert-Butyl Alcohol	NR	NR	NR	ND	ND	NA	1	0.5 J	0.5 J	NR	NR	NR	NR	NR	NR	NR
Tetrachloroethene	2.4	1.4	17	6	NR	NA	3	6	6	ND	1.6 J	6.4	1.5 J	2.4 J	1.4 J	3.3 J
Tetrahydrofuran	NR	NR	NR	6	0.6	NA	5	1	1	ND	ND	ND	ND	ND	ND	ND
Toluene	NR	NR	NR	3	1	NA	4	0.8	1	0.66 J	ND	1.3 J	ND	3.8	4.8	ND
Total Xylenes	NR	NR	NR	22	ND	NA	20	3	6	NR	NR	NR	NR	NR	NR	NR
trans-1,2-Dichloroethene	ND	ND	ND	ND	ND	NA	0.7 J	0.4 J	0.4 J	ND	ND	ND	ND	ND	ND	ND
trans-1,3-Dichloropropene	NR	NR	NR	ND	ND	NA	0.7 J	ND	ND	ND	ND	ND	ND	ND	ND	ND
Trichloroethene	5.6	3.8	300	88	3	NA	34	76	52	10	26	99	10	10	15	49
Trichlorofluoromethane	NR	NR	NR	ND	1	NA	2	2	2	NR	NR	NR	NR	NR	NR	NR
Vinyl Acetate	NR	NR	NR	ND	ND	NA	ND	0.6 J	ND	NR	NR	NR	NR	NR	NR	NR
Vinyl Bromide	NR	NR	NR	ND	ND	NA	1	0.6 J	0.6 J	NR	NR	NR	NR	NR	NR	NR
Vinyl Chloride	ND	ND	ND	ND	ND	NA	0.5 J	0.4 J	0.3 J	ND	ND	ND	ND	ND	ND	ND

Notes:
µg/m³ = micrograms per cubic meter
NR = Not Recorded
NA = Data not available
ND = Not detected above method detection limit

Soil Vapor Extraction Containment System
Site 1, Former Drum Marshalling Yard
Naval Weapons Industrial Reserve Plant - Bethpage, NY
Quarterly Vapor Monitoring Results of SVE Wells
Through Third Quarter 2013

Sample ID	SVE 1&2D															
Sample Date	12/21/09	03/31/10	06/09/10	09/16/10	13/08/10	03/30/11	06/28/11	09/06/11	10/14/11	02/10/12	05/11/12	09/11/12	12/05/12	01/15/13	05/16/13	08/27/13
Analysis by TO-15 (ug/m³)																
1,1,1-Trichloroethane	130	53	14	7	2	2	6	4	5	1.4 J	1.2 J	3.9 J	ND	ND	ND	2.3 J
1,1,2,2-Tetrachloroethane	NR	NR	NR	ND	ND	ND	1 J	0.9 J	1 J	ND	ND	ND	ND	ND	ND	ND
1,1,2-Trichloroethane	NR	NR	NR	ND	ND	ND	1 J	0.6 J	0.8 J	ND	ND	ND	ND	ND	ND	ND
1,1-Dichloroethane	ND	2.7	ND	ND	ND	ND	1	0.6 J	0.7 J	ND	ND	0.51 J	0.95 J	ND	ND	ND
1,1-Dichloroethene	ND	ND	ND	ND	ND	ND	1	0.6 J	0.6 J	ND	ND	ND	ND	ND	ND	ND
1,2,3-Trichloropropane	NR	NR	NR	ND	ND	ND	ND	0.7 J	0.9 J	NR	NR	NR	NR	NR	NR	NR
1,2,3-Trimethylbenzene	NR	NR	NR	5	ND	ND	7	1	2	NR	NR	NR	NR	NR	NR	NR
1,2,4-Trichlorobenzene	NR	NR	NR	ND	ND	ND	2 J	ND	0.8 J	ND	ND	ND	ND	ND	ND	ND
1,2,4-Trimethylbenzene	NR	NR	NR	18	2	2	22	4	6	ND	2.3 J	2.8 J	0.79 J	ND	ND	ND
1,2-Dibromoethane	NR	NR	NR	ND	ND	ND	1 J	ND	1 J	ND	ND	ND	ND	ND	ND	ND
1,2-Dichlorobenzene	NR	NR	NR	ND	ND	ND	1 J	ND	0.8 J	ND	ND	ND	ND	ND	ND	ND
1,2-Dichloroethane	NR	ND	ND	ND	ND	ND	0.9	0.5 J	0.5 J	ND	ND	ND	ND	ND	ND	ND
1,2-Dichloropropane	NR	NR	NR	ND	ND	ND	1	0.6 J	0.5 J	ND	ND	ND	ND	ND	ND	ND
1,3,5-Trimethylbenzene	NR	NR	NR	4	ND	ND	4	ND	1	ND	ND	ND	ND	ND	ND	ND
1,3-Butadiene	NR	NR	NR	1	ND	ND	ND	0.3 J	0.4 J	ND	ND	ND	ND	ND	ND	ND
1,3-Dichlorobenzene	NR	NR	NR	ND	ND	ND	0.8 J	ND	0.7 J	ND	ND	1.2 J	ND	ND	ND	ND
1,4-Dichlorobenzene	NR	NR	NR	ND	ND	ND	0.8 J	ND	0.6 J	ND	ND	1.3 J	0.60 J	ND	ND	ND
1,4-Dioxane	NR	NR	NR	ND	ND	ND	1	ND	0.6 J	ND	ND	ND	ND	ND	ND	ND
2,2,4-Trimethylpentane	NR	NR	NR	NR	NR	NR	NR	NR	NR	ND	ND	0.53 J	0.35 J	ND	1.2 J	ND
2-Butanone	NR	NR	NR	4	0.5	0.7	5	1	1	ND	ND	3.7 J	ND	ND	ND	ND
2-Hexanone	NR	NR	NR	ND	ND	ND	0.9 J	0.6 J	0.6 J	ND	ND	ND	ND	ND	ND	ND
2-Propanol	NR	NR	NR	NR	NR	NR	NR	NR	NR	ND	ND	ND	ND	ND	ND	ND
3-Chloro-1-propene	NR	NR	NR	ND	ND	ND	0.7 J	0.4 J	ND	ND	ND	ND	ND	ND	ND	ND
4-Ethyltoluene	NR	NR	NR	3	ND	ND	4	1	1	0.36 J	1.0 J	2.1 J	ND	ND	0.67 J	ND
4-Methyl-2-pentanone	NR	NR	NR	NR	NR	NR	NR	NR	NR	ND	ND	ND	ND	ND	ND	ND
Acetone	NR	NR	NR	10	8	6	12	4	4	8.4	6.0 J	7.1 J	5.7 J	4.6 J	21	3.4 J
alpha-Chlorotoluene	NR	NR	NR	ND	ND	ND	0.9 J	ND	0.6 J	ND	ND	0.78 J	ND	ND	ND	ND
Acrylonitrile	NR	NR	NR	ND	ND	ND	0.5	0.4 J	ND	NR	NR	NR	NR	NR	NR	NR
Benzene	NR	NR	NR	ND	ND	ND	1	0.5 J	0.9	ND	ND	ND	ND	0.55 J	1.2 J	ND
Benzyl Chloride	NR	NR	NR	ND	ND	ND	ND	ND	ND	NR	NR	NR	NR	NR	NR	NR
Bromodichloromethane	NR	NR	NR	ND	ND	ND	2	0.9 J	1 J	ND	ND	ND	ND	ND	ND	ND
Bromoform	NR	NR	NR	ND	ND	ND	2 J	ND	1 J	ND	ND	ND	ND	ND	ND	ND
Bromomethane	NR	NR	NR	ND	ND	ND	1	0.6 J	0.5 J	ND	ND	ND	ND	2.0 J	ND	ND
Carbon Disulfide	NR	NR	NR	ND	ND	ND	0.9	0.5 J	0.5 J	ND	ND	2.0 J	2.5 J	ND	1.4 J	ND
Carbon Tetrachloride	NR	NR	NR	ND	ND	ND	2	2	2	ND	ND	ND	ND	ND	ND	ND
Chlorobenzene	NR	NR	NR	ND	ND	ND	1 J	ND	0.7 J	ND	ND	3.3 J,E	ND	ND	ND	ND
Chlorodibromomethane	NR	NR	NR	ND	ND	ND	2 J	0.9 J	1 J	NR	NR	NR	NR	NR	NR	NR
Chloroethane	NR	NR	NR	ND	ND	ND	0.7	0.4 J	0.4 J	ND	ND	ND	ND	ND	ND	ND
Chloroform	NR	NR	NR	11	2	3	9	14	17	19	15	28	11	ND	ND	21
Chloromethane	NR	NR	NR	ND	1	0.6	1	0.4	0.4	ND	ND	ND	ND	ND	ND	ND
cis-1,2-Dichloroethene	ND	1.4	ND	ND	0.9	ND	1	0.5 J	0.9	ND	ND	1.1 J	4.1	ND	ND	ND
cis-1,3-Dichloropropene	NR	NR	NR	ND	ND	ND	0.9 J	ND	0.6 J	ND	ND	0.69 J	ND	ND	ND	ND
Cumene	NR	NR	NR	NR	NR	NR	NR	NR	NR	ND	ND	ND	ND	ND	ND	ND
Cyclohexane	NR	NR	NR	ND	ND	ND	0.7 J	0.5 J	0.4 J	ND	ND	ND	ND	ND	ND	ND
Dichlorodifluoromethane	NR	NR	NR	2	3	2	4	3	3	ND	ND	ND	ND	ND	ND	ND
Diisopropyl ether	NR	NR	NR	ND	ND	ND	ND	ND	ND	NR	NR	NR	NR	NR	NR	NR
Ethanol	NR	NR	NR	5	3	6	3	1	1	ND	ND	ND	ND	5.5 J	ND	ND
Ethyl Acetate	NR	NR	NR	ND	ND	ND	ND	ND	ND	NR	NR	NR	NR	NR	NR	NR
Ethyl tert-butyl ether	NR	NR	NR	ND	ND	ND	0.8 J	0.4 J	0.5 J	NR	NR	NR	NR	NR	NR	NR
Ethylbenzene	NR	NR	NR	3	ND	ND	4	ND	1	ND	ND	0.65 J	ND	ND	ND	ND
Freon 11	NR	NR	NR	NR	NR	NR	NR	NR	NR	4.8	5.8	11	6.6	1.5 J	1.4 J	4.4 J
Freon 113	NR	NR	NR	ND	ND	ND	3	2	2	ND	ND	ND	1.9 J	ND	ND	ND
Freon 114	NR	NR	NR	ND	ND	ND	2	1 J	1 J	ND	ND	ND	ND	ND	ND	ND
Freon 12	NR	NR	NR	NR	NR	NR	NR	NR	NR	2.6 J	2.1 J	2.1 J	2.2 J	2.6 J	2.1 J	2.3 J
Heptane	NR	NR	NR	ND	ND	ND	1	0.4 J	0.6 J	ND	ND	ND	ND	ND	ND	ND
Hexachlorobutadiene	NR	NR	NR	ND	ND	ND	3	1 J	2 J	ND	ND	ND	ND	ND	ND	ND
Hexane	NR	NR	NR	1	ND	ND	1	0.8	0.5 J	ND	ND	ND	ND	ND	0.94 J	ND
Iso-Octane	NR	NR	NR	ND	ND	ND	1	1	0.7 J	NR	NR	NR	NR	NR	NR	NR
Isopropylbenzene	NR	NR	NR	ND	ND	ND	1	0.5 J	0.8 J	NR	NR	NR	NR	NR	NR	NR
Isopropyl alcohol	NR	NR	NR	1	ND	ND	2	1	1	NR	NR	NR	NR	NR	NR	NR
m,p-Xylene	NR	NR	NR	NR	NR	NR	NR	NR	NR	ND	1.4 J	2.2 J	0.65 J	ND	1.7 J	ND
Methyl Methacrylate	NR	NR	NR	ND	ND	ND	0.8 J	0.4 J	0.4 J	NR	NR	NR	NR	NR	NR	NR
Methyl-tert-Butyl-Ether	NR	NR	NR	ND	ND	ND	0.9	0.5 J	0.4 J	ND	ND	ND	ND	ND	ND	ND
Methylene Chloride	NR	NR	NR	7	2	ND	4	2	0.9	1.0 J	ND	0.36 J	ND	1.0 J	1.4 J	ND
MIBK	NR	NR	NR	ND	ND	ND	1	0.4 J	0.4 J	NR	NR	NR	NR	NR	NR	NR
Naphthalene	NR	NR	NR	3	ND	ND	6	3	2	NR	NR	NR	NR	NR	NR	NR
n-Butane	NR	NR	NR	ND	2	ND	2	2	ND	NR	NR	NR	NR	NR	NR	NR
o-Xylene	NR	NR	NR	NR	NR	NR	NR	NR	NR	ND	ND	1.4 J	ND	ND	ND	ND
p-Isopropyltoluene	NR	NR	NR	ND	ND	ND	1	ND	0.7 J	NR	NR	NR	NR	NR	NR	NR
n-Propylbenzene	NR	NR	NR	ND	ND	ND	3	0.7 J	1	ND	ND	0.97 J	ND	ND	ND	ND
Propylene	NR	NR	NR	ND	ND	ND	ND	ND	ND	NR	NR	NR	NR	NR	NR	NR
Styrene	NR	NR	NR	ND	ND	ND	0.8 J	ND	0.5 J	ND	ND	ND	ND	ND	ND	ND
tert-Amyl methyl ether	NR	NR	NR	ND	ND	ND	0.9 J	0.5 J	0.5 J	NR	NR	NR	NR	NR	NR	NR
tert-Butyl Alcohol	NR	NR	NR	ND	ND	ND	1	0.4 J	0.6	NR	NR	NR	NR	NR	NR	NR
Tetrachloroethene	10	31	31	19	3	9	25	23	39	5.9	6.5	24	25	0.96 J	1.4 J	14
Tetrahydrofuran	NR	NR	NR	36	7	3	6	1	1	0.54 J	0.74 J	4.8	ND	ND	ND	ND
Toluene	NR	NR	NR	3	ND	ND	4	0.8	2	0.49 J	0.99 J	0.86 J	0.58 J	0.58 J	4.4	ND
Total Xylenes	NR	NR	NR	15	ND	ND	22	2 J	7	NR	NR	NR	NR	NR	NR	NR
trans-1,2-Dichloroethene	ND	ND	ND	ND	ND	ND	1	0.5 J	0.5 J	ND	ND	ND	ND	ND	ND	ND
trans-1,3-Dichloropropene	NR	NR	NR	ND	ND	ND	0.8 J	ND	0.5 J	ND	ND	ND	ND	ND	ND	ND
Trichloroethene	440	390	190	110	17	21	89	81	87	34	58	170	140	6.5	ND	88
Trichlorofluoromethane	NR	NR	NR	5	2	6	9	12	13	NR	NR	NR	NR	NR	NR	NR
Vinyl Acetate	NR	NR	NR	ND	ND	ND	2	ND	ND	NR	NR	NR	NR	NR	NR	NR
Vinyl Bromide	NR	NR	NR	ND	ND	ND	1	0.6 J	0.6 J	NR	NR	NR	NR	NR	NR	NR
Vinyl Chloride	ND	ND	ND	ND	ND	ND	0.6	0.4 J	0.3 J	ND	ND	ND	ND	ND	ND	ND

Notes:
$\mu g/m^3$ = micrograms per cubic meter
NR = Not Recorded
NA = Data not available
ND = Not detected above method detection limit

Soil Vapor Extraction Containment System
Site 1, Former Drum Marshalling Yard
Naval Weapons Industrial Reserve Plant - Bethpage, NY
Quarterly Vapor Monitoring Results of SVE Wells
Through Third Quarter 2013

Sample ID	SVE 103I															
Sample Date	12/21/09	03/31/10	06/09/10	09/16/10	12/08/10	03/30/11	06/28/11	09/06/11	10/14/11	02/10/12	05/11/12	09/11/12	12/05/12	01/15/13	05/16/13	08/27/13
Analysis by TO-15 (µg/m³)																
1,1,1-Trichloroethane	900	ND	ND	ND	ND	ND	0.9 J	6	6	ND	1.6 J	9.2	ND	ND	1.4 J	4.7 J
1,1,2,2-Tetrachloroethane	NR	NR	NR	ND	ND	ND	1 J	0.9 J	ND	ND	ND	ND	ND	ND	ND	ND
1,1,2-Trichloroethane	NR	NR	NR	ND	ND	ND	0.7 J	0.7 J	ND	ND	ND	ND	ND	ND	ND	ND
1,1-Dichloroethane	26	ND	ND	ND	ND	ND	0.6 J	2	2	ND	0.75 J	1.5 J	0.77 J	ND	ND	1.5 J
1,1-Dichloroethene	ND	ND	ND	ND	ND	ND	0.6 J	0.6 J	ND	ND	ND	ND	ND	ND	ND	ND
1,2,3-Trichloropropane	NR	NR	NR	ND	ND	ND	0.9 J	0.8 J	0.6 J	NR	NR	NR	NR	NR	NR	NR
1,2,3-Trimethylbenzene	NR	NR	NR	ND	ND	ND	4	1	2	NR	NR	NR	NR	NR	NR	NR
1,2,4-Trichlorobenzene	NR	NR	NR	ND	ND	ND	1 J	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,2,4-Trimethylbenzene	NR	NR	NR	2	ND	1	14	3	5	2.2 J	3.3 J	3.3 J	0.55 J	ND	ND	1.5 J
1,2-Dibromoethane	NR	NR	NR	ND	ND	ND	0.9 J	0.8 J	ND	ND	ND	ND	ND	ND	ND	ND
1,2-Dichlorobenzene	NR	NR	NR	ND	ND	ND	0.7 J	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,2-Dichloroethane	NR	ND	ND	ND	ND	ND	0.7 J	0.5 J	ND	ND	ND	ND	ND	ND	ND	ND
1,2-Dichloropropane	NR	NR	NR	ND	ND	ND	0.7 J	0.6 J	ND	ND	ND	ND	ND	ND	ND	ND
1,3,5-Trimethylbenzene	NR	NR	NR	ND	ND	ND	2	0.9 J	1	ND	ND	0.92 J	ND	ND	ND	ND
1,3-Butadiene	NR	NR	NR	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.43 J	ND
1,3-Dichlorobenzene	NR	NR	NR	ND	ND	ND	ND	ND	ND	1.1 J	ND	1.1 J	ND	ND	ND	ND
1,4-Dichlorobenzene	NR	NR	NR	ND	ND	ND	ND	ND	ND	ND	ND	0.95 J	0.66 J	ND	ND	ND
1,4-Dioxane	NR	NR	NR	ND	ND	ND	0.5 J	0.6 J	0.4 J	ND	ND	ND	ND	ND	ND	ND
2,2,4-Trimethylpentane	NR	NR	NR	NR	NR	NR	NR	NR	NR	ND	ND	0.83 J	ND	ND	ND	ND
2-Butanone	NR	NR	NR	2	ND	ND	4	1	1	4.7 J	5.2 J	ND	ND	ND	ND	ND
2-Hexanone	NR	NR	NR	ND	ND	ND	0.6 J	0.5 J	ND	ND	0.24 J	ND	ND	ND	ND	ND
2-Propanol	NR	NR	NR	NR	NR	NR	NR	NR	NR	ND	ND	ND	ND	ND	ND	ND
3-Chloro-1-propene	NR	NR	NR	ND	ND	ND	0.4 J	0.4 J	ND	ND	ND	ND	ND	ND	ND	ND
4-Ethyltoluene	NR	NR	NR	ND	ND	ND	3	0.8 J	1	1.5 J	1.4 J	2.2 J	ND	ND	0.36 J	0.86 J
4-Methyl-2-pentanone	NR	NR	NR	NR	NR	NR	NR	NR	NR	ND	ND	ND	ND	ND	ND	ND
Acetone	NR	NR	NR	13	6	6	17	4	3	65	27	84 J	8.6 J	6.1 J	12 J	11 J
alpha-Chlorotoluene	NR	NR	NR	ND	ND	ND	0.6 J	ND	ND	ND	ND	ND	ND	ND	ND	ND
Acrylonitrile	NR	NR	NR	ND	ND	ND	0.4 J	0.4 J	ND	NR	NR	NR	NR	NR	NR	NR
Benzene	NR	NR	NR	2	ND	ND	1	0.6 J	0.5 J	ND	ND	0.97 J	ND	ND	ND	ND
Benzyl Chloride	NR	NR	NR	ND	ND	ND	ND	ND	ND	NR	NR	NR	NR	NR	NR	NR
Bromodichloromethane	NR	NR	NR	ND	ND	ND	1 J	0.8 J	ND	ND	ND	ND	ND	ND	ND	ND
Bromoform	NR	NR	NR	ND	ND	ND	1 J	1 J	ND	ND	ND	ND	ND	ND	ND	ND
Bromomethane	NR	NR	NR	ND	ND	ND	0.6 J	0.6 J	0.4 J	ND	ND	ND	ND	ND	ND	ND
Carbon Disulfide	NR	NR	NR	ND	ND	ND	0.6 J	0.6 J	0.5 J	ND	ND	1.9 J	ND	ND	1.4 J	ND
Carbon Tetrachloride	NR	NR	NR	ND	ND	ND	1	1 J	0.9 J	ND	ND	ND	ND	ND	ND	ND
Chlorobenzene	NR	NR	NR	ND	ND	ND	0.6 J	0.5 J	0.5 J	ND	ND	2.8 J, B	ND	ND	ND	ND
Chlorodibromomethane	NR	NR	NR	ND	ND	ND	1 J	0.9 J	ND	NR	NR	NR	NR	NR	NR	NR
Chloroethane	NR	NR	NR	ND	ND	ND	0.5 J	0.5 J	0.3 J	ND	ND	ND	ND	ND	ND	ND
Chloroform	NR	NR	NR	ND	ND	ND	0.8 J	3	2	19	1.1 J	2.3 J	ND	ND	1.3 J	ND
Chloromethane	NR	NR	NR	1	1	1	1	0.4	0.4 J	ND	ND	ND	ND	ND	ND	ND
cis-1,2-Dichloroethene	58	ND	ND	1	ND	1	0.5 J	16	12	18	16	19	6.0	2.4 J	5.0	11
cis-1,3-Dichloropropene	NR	NR	NR	ND	ND	ND	0.5 J	ND	ND	ND	ND	ND	ND	ND	ND	ND
Cumene	NR	NR	NR	NR	NR	NR	NR	NR	NR	ND	ND	ND	ND	ND	ND	ND
Cyclohexane	NR	NR	NR	1	ND	ND	0.8	0.5 J	ND	ND	ND	0.47 J	ND	ND	ND	ND
Dichlorodifluoromethane	NR	NR	NR	3	2	2	3	2	2	ND	ND	ND	ND	ND	ND	ND
Diisopropyl ether	NR	NR	NR	3	ND	ND	ND	ND	ND	NR	NR	NR	NR	NR	NR	NR
Ethanol	NR	NR	NR	17	3	6	14	2	1	ND	5.9 J	3.6 J	ND	2.6 J	3.4 J	ND
Ethyl Acetate	NR	NR	NR	3	ND	ND	ND	ND	ND	NR	NR	NR	NR	NR	NR	NR
Ethyl tert-butyl ether	NR	NR	NR	ND	ND	ND	0.6 J	0.5 J	ND	NR	NR	NR	NR	NR	NR	NR
Ethylbenzene	NR	NR	NR	1	ND	ND	3	0.8 J	1	ND	ND	2.2 J	ND	ND	ND	ND
Freon 11	NR	NR	NR	NR	NR	NR	NR	NR	NR	ND	1.2 J	2.4 J	1.3 J	1.4 J	1.8 J	1.7 J
Freon 113	NR	NR	NR	ND	ND	ND	2	2	1 J	ND	ND	1.1 J	ND	ND	ND	ND
Freon 114	NR	NR	NR	ND	ND	ND	1 J	1 J	0.8 J	ND	ND	ND	ND	ND	ND	ND
Freon 12	NR	NR	NR	NR	NR	NR	NR	NR	NR	2.0 J	2.5 J	2.3 J	2.2 J	2.5 J	2.3 J	2.3 J
Heptane	NR	NR	NR	2	ND	ND	1	0.5 J	ND	ND	ND	ND	ND	ND	ND	ND
Hexachlorobutadiene	NR	NR	NR	ND	ND	ND	2 J	1 J	1 J	ND	ND	ND	ND	ND	ND	ND
Hexane	NR	NR	NR	6	ND	ND	3	1	0.6 J	ND	ND	0.84 J	ND	ND	ND	ND
Iso-Octane	NR	NR	NR	2	ND	ND	1	0.7 J	0.5 J	NR	NR	NR	NR	NR	NR	NR
Isopropylbenzene	NR	NR	NR	ND	ND	ND	0.8 J	0.6 J	ND	NR	NR	NR	NR	NR	NR	NR
Isopropyl alcohol	NR	NR	NR	4	ND	3	2	1	0.5 J	NR	NR	NR	NR	NR	NR	NR
m,p-Xylene	NR	NR	NR	NR	NR	NR	NR	NR	NR	1.8 J	1.6 J	3.5	ND	ND	ND	ND
Methyl Methacrylate	NR	NR	NR	ND	ND	ND	0.5 J	0.4 J	ND	NR	NR	NR	NR	NR	NR	NR
Methyl-tert-Butyl-Ether	NR	NR	NR	1	ND	ND	0.7 J	0.7 J	0.6 J	ND	ND	ND	ND	ND	ND	ND
Methylene Chloride	NR	NR	NR	29	ND	2	8	4	1	9.0	1.0 J	0.99 J	ND	0.51 J	ND	ND
MIBK	NR	NR	NR	ND	ND	ND	ND	0.5 J	ND	NR	NR	NR	NR	NR	NR	NR
Naphthalene	NR	NR	NR	ND	ND	ND	7	0.9 J	2	NR	NR	NR	NR	NR	NR	NR
n-Butane	NR	NR	NR	3	1	1	3	0.6	ND	NR	NR	NR	NR	NR	NR	NR
o-Xylene	NR	NR	NR	NR	NR	NR	NR	NR	NR	ND	1.2 J	2.1 J	ND	ND	ND	ND
p-Isopropyltoluene	NR	NR	NR	ND	ND	ND	0.9 J	0.6 J	ND	NR	NR	NR	NR	NR	NR	NR
n-Propylbenzene	NR	NR	NR	ND	ND	ND	2	0.7 J	0.9 J	ND	0.45 J	0.80 J	ND	ND	ND	ND
Propylene	NR	NR	NR	ND	ND	ND	2	ND	ND	NR	NR	NR	NR	NR	NR	NR
Styrene	NR	NR	NR	ND	ND	ND	0.6 J	ND	ND	ND	ND	ND	ND	ND	ND	ND
tert-Amyl methyl ether	NR	NR	NR	ND	ND	ND	0.6 J	0.5 J	ND	NR	NR	NR	NR	NR	NR	NR
tert-Butyl Alcohol	NR	NR	NR	ND	ND	ND	0.8	0.7	0.5	NR	NR	NR	NR	NR	NR	NR
Tetrachloroethene	580	ND	ND	ND	ND	2	1 J	420	590	140	200	430	120	40	78	220
Tetrahydrofuran	NR	NR	NR	1	ND	ND	4	1	1	3.4 J	2.9	3.6	0.71 J	1.1 J	ND	0.75 J
Toluene	NR	NR	NR	6	ND	1	6	0.9	1	ND	0.65 J	7.1	0.45 J	0.58 J	0.51 J	ND
Total Xylenes	NR	NR	NR	6	ND	ND	15	3	5	NR	NR	NR	NR	NR	NR	NR
trans-1,2-Dichloroethene	580	ND	ND	ND	ND	ND	0.6 J	1	1	ND	ND	ND	ND	ND	ND	ND
trans-1,3-Dichloropropene	NR	NR	NR	ND	ND	ND	0.5 J	ND	ND	ND	ND	ND	ND	ND	ND	ND
Trichloroethene	900	0.9	ND	ND	ND	ND	0.9 J	100	97	29	47	130	48	16	35	95
Trichlorofluoromethane	NR	NR	NR	2	ND	1	2	2	2	NR	NR	NR	NR	NR	NR	NR
Vinyl Acetate	NR	NR	NR	3	ND	ND	ND	ND	ND	NR	NR	NR	NR	NR	NR	NR
Vinyl Bromide	NR	NR	NR	ND	ND	ND	0.7 J	0.7 J	ND	NR	NR	NR	NR	NR	NR	NR
Vinyl Chloride	ND	ND	ND	ND	ND	ND	0.4 J	0.4 J	0.3 J	ND	ND	ND	ND	ND	ND	ND

Notes:
µg/m³ = micrograms per cubic meter
NR = Not Recorded
NA = Data not available
ND = Not detected above method detection limit

Soil Vapor Extraction & Containment System
Site 1, Former Drum Marshalling Yard
Naval Weapons Industrial Reserve Plant - Bethpage, NY
Quarterly Vapor Monitoring Results of SVE Wells
Through Third Quarter 2013

Sample ID	SVE 1030															
Sample Date	12/21/09	03/31/10	06/09/10	09/16/10	12/08/10	03/30/11	06/28/11	09/06/11	10/14/12	02/10/12	05/11/12	09/11/12	12/05/12	01/15/13	05/16/13	08/27/13
Analysis by TO-15 (µg/m³)																
1,1,1-Trichloroethane	3000	1100	230	ND	13	ND	2 J	20	31	7.4 J	6.9 J	22	190	ND	150	170
1,1,2,2-Tetrachloroethane	NR	NR	NR	ND	ND	ND	2 J	2 J	12 J	ND	ND	ND	ND	ND	ND	ND
1,1,2-Trichloroethane	NR	NR	NR	ND	ND	ND	1 J	2 J	10 J	ND	ND	ND	ND	ND	ND	ND
1,1-Dichloroethane	82	69	ND	ND	2	2	1 J	4	9	1.6 J	1.5 J	1.9 J	10 J	ND	10	10 J
1,1-Dichloroethene	ND	ND	ND	ND	ND	ND	1 J	2	6 J	ND	ND	ND	ND	ND	ND	ND
1,2,3-Trichloropropane	NR	NR	NR	ND	ND	ND	2 J	2 J	11 J	NR	NR	NR	NR	NR	NR	NR
1,2,3-Trimethylbenzene	NR	NR	NR	5	ND	2	4	ND	7 J	NR	NR	NR	NR	NR	NR	NR
1,2,4-Trichlorobenzene	NR	NR	NR	ND	ND	ND	ND	ND	9 J	ND	ND	ND	ND	ND	3.2 J	ND
1,2,4-Trimethylbenzene	NR	NR	NR	8	2	7	12	ND	9 J	ND	2.4 J	3.2 J	ND	ND	ND	ND
1,2-Dibromoethane	NR	NR	NR	ND	ND	ND	2 J	2 J	11 J	ND	ND	ND	ND	ND	ND	ND
1,2-Dichlorobenzene	NR	NR	NR	ND	ND	ND	ND	ND	9 J	ND	ND	ND	ND	ND	ND	ND
1,2-Dichloroethane	NR	ND	ND	ND	ND	ND	1 J	1 J	6 J	ND	ND	ND	ND	ND	ND	ND
1,2-Dichloropropane	NR	NR	NR	ND	ND	ND	1 J	1 J	8 J	ND	ND	ND	ND	ND	ND	ND
1,3,5-Trimethylbenzene	NR	NR	NR	ND	ND	2	3	ND	8 J	ND	ND	ND	ND	ND	ND	ND
1,3-Butadiene	NR	NR	NR	ND	ND	ND	1	0.8 J	ND	ND	ND	ND	ND	ND	ND	ND
1,3-Dichlorobenzene	NR	NR	NR	ND	ND	ND	ND	ND	8 J	ND	ND	ND	ND	ND	ND	ND
1,4-Dichlorobenzene	NR	NR	NR	ND	ND	ND	ND	ND	8 J	ND	ND	2.6 J	ND	ND	ND	ND
1,4-Dioxane	NR	NR	NR	ND	ND	ND	0.8 J	1	6 J	ND	ND	ND	ND	ND	ND	ND
2,2,4-Trimethylpentane	NR	NR	NR	NR	NR	NR	NR	NR	NR	ND	ND	2.1 J	ND	ND	ND	ND
2-Butanone	NR	NR	NR	4	1	4	5	2	6 J	ND	ND	ND	ND	ND	ND	ND
2-Hexanone	NR	NR	NR	ND	ND	ND	1 J	1 J	5 J	ND	ND	ND	ND	ND	ND	ND
2-Propanol	NR	NR	NR	NR	NR	NR	NR	NR	NR	ND	ND	5.5 J	ND	ND	ND	ND
3-Chloro-1-propene	NR	NR	NR	ND	ND	ND	0.8 J	1 J	4 J	ND	ND	ND	ND	ND	ND	ND
4-Ethyltoluene	NR	NR	NR	ND	ND	ND	3	ND	8 J	ND	1.2 J	ND	ND	ND	ND	ND
4-Methyl-2-pentanone	NR	NR	NR	NR	NR	NR	NR	NR	NR	ND	ND	ND	ND	ND	ND	ND
Acetone	NR	NR	NR	10	6	21	19	9	10	13 J	11 J	10 J	7.0 J	8.0 J	12 J	ND
alpha-Chlorotoluene	NR	NR	NR	ND	ND	ND	ND	ND	8 J	ND	ND	ND	ND	ND	ND	ND
Acrylonitrile	NR	NR	NR	ND	ND	ND	0.5 J	0.8 J	ND	NR	NR	NR	NR	NR	NR	NR
Benzene	NR	NR	NR	ND	ND	12	1	1 J	6 J	ND	ND	ND	ND	0.76 J	ND	ND
Benzyl Chloride	NR	NR	NR	ND	ND	ND	ND	ND	ND	NR	NR	NR	NR	NR	NR	NR
Bromodichloromethane	NR	NR	NR	ND	ND	ND	2 J	2 J	ND	ND	ND	ND	ND	ND	ND	ND
Bromoform	NR	NR	NR	ND	ND	ND	ND	2 J	13 J	ND	ND	ND	ND	ND	ND	ND
Bromomethane	NR	NR	NR	ND	ND	ND	1 J	1 J	6 J	ND	ND	ND	ND	ND	ND	ND
Carbon Disulfide	NR	NR	NR	ND	ND	ND	1 J	1 J	6 J	ND	ND	5.4 J	ND	ND	2.4 J	ND
Carbon Tetrachloride	NR	NR	NR	ND	ND	ND	2 J	2 J	12 J	ND	ND	ND	ND	ND	ND	ND
Chlorobenzene	NR	NR	NR	ND	ND	ND	1 J	1 J	8 J	ND	ND	11 J, B	ND	ND	ND	ND
Chlorodibromomethane	NR	NR	NR	ND	ND	ND	2 J	2 J	14 J	NR	NR	NR	NR	NR	NR	NR
Chloroethane	NR	NR	NR	ND	ND	ND	0.9 J	1 J	5 J	ND	ND	ND	ND	ND	ND	ND
Chloroform	NR	NR	NR	ND	1	ND	1 J	6	29	3.6 J	1.6	9.3 J	ND	ND	1.7 J	ND
Chloromethane	NR	NR	NR	3	0.7	1	2	0.5	4 J	ND	ND	ND	ND	ND	ND	ND
cis-1,2-Dichloroethene	420	1500	370	ND	92	ND	1 J	360	160	290	230	380	750	ND	550	700
cis-1,3-Dichloropropene	NR	NR	NR	ND	ND	ND	ND	1 J	6 J	ND	ND	ND	ND	ND	ND	ND
Cumene	NR	NR	NR	NR	NR	NR	NR	NR	NR	ND	ND	ND	ND	ND	ND	ND
Cyclohexane	NR	NR	NR	ND	ND	5	1 J	0.9 J	5 J	ND	ND	ND	ND	ND	ND	ND
Dichlorodifluoromethane	NR	NR	NR	6	2	2	4	3	10	ND	ND	ND	ND	ND	ND	ND
Diisopropyl ether	NR	NR	NR	5	ND	ND	ND	1 J	6 J	NR	NR	NR	NR	NR	NR	NR
Ethanol	NR	NR	NR	6	5	56	10	2	9	5.5 J	ND	ND	ND	3.8 J	ND	ND
Ethyl Acetate	NR	NR	NR	5	ND	ND	ND	ND	ND	NR	NR	NR	NR	NR	NR	NR
Ethyl tert-butyl ether	NR	NR	NR	ND	ND	ND	1 J	1 J	5 J	NR	NR	NR	NR	NR	NR	NR
Ethylbenzene	NR	NR	NR	ND	ND	8	3	0.9 J	7 J	ND	ND	2.3 J	ND	ND	ND	ND
Freon 11	NR	NR	NR	NR	NR	NR	NR	NR	NR	ND	ND	3.1 J	ND	1.1 J	1.4 J	ND
Freon 113	NR	NR	NR	ND	10	10	3 J	12	20	ND	ND	ND	68	ND	39	35
Freon 114	NR	NR	NR	ND	ND	ND	2 J	2 J	12 J	ND	ND	ND	ND	ND	ND	ND
Freon 12	NR	NR	NR	NR	NR	NR	NR	NR	NR	ND	ND	2.9 J	ND	2.7 J	2.6 J	ND
Heptane	NR	NR	NR	ND	ND	8	1 J	1 J	5 J	ND	ND	ND	ND	ND	ND	ND
Hexachlorobutadiene	NR	NR	NR	ND	ND	ND	4 J	3 J	18 J	ND	ND	ND	ND	ND	ND	ND
Hexane	NR	NR	NR	3	1	20	2	3	6 J	ND	ND	ND	ND	ND	ND	ND
Iso-Octane	NR	NR	NR	ND	ND	ND	1 J	1 J	8 J	NR	NR	NR	NR	NR	NR	NR
Isopropylbenzene	NR	NR	NR	ND	ND	ND	1 J	1 J	8 J	NR	NR	NR	NR	NR	NR	NR
Isopropyl alcohol	NR	NR	NR	5	ND	5	2	2	5 J	NR	NR	NR	NR	NR	NR	NR
m,p-Xylene	NR	NR	NR	NR	NR	NR	NR	NR	NR	ND	1.3 J	5.8 J	ND	ND	ND	ND
Methyl Methacrylate	NR	NR	NR	ND	ND	ND	1 J	1 J	5 J	NR	NR	NR	NR	NR	NR	NR
Methyl-tert-Butyl-Ether	NR	NR	NR	ND	ND	ND	1 J	2	6 J	ND	ND	ND	ND	ND	ND	ND
Methylene Chloride	NR	NR	NR	7	3	4	4	19	11	ND	ND	ND	ND	2.0 J	ND	ND
MIBK	NR	NR	NR	ND	ND	ND	1 J	1 J	6 J	NR	NR	NR	NR	NR	NR	NR
Naphthalene	NR	NR	NR	ND	ND	ND	3	ND	5 J	NR	NR	NR	NR	NR	NR	NR
n-Butane	NR	NR	NR	2	2	67	2	2	ND	NR	NR	NR	NR	NR	NR	NR
o-Xylene	NR	NR	NR	NR	NR	NR	NR	NR	NR	ND	ND	ND	ND	ND	ND	ND
p-Isopropyltoluene	NR	NR	NR	ND	ND	ND	1 J	ND	7 J	NR	NR	NR	NR	NR	NR	NR
n-Propylbenzene	NR	NR	NR	ND	ND	1	2	ND	6 J	ND	ND	ND	ND	ND	ND	ND
Propylene	NR	NR	NR	ND	ND	9	2	ND	ND	NR	NR	NR	NR	NR	NR	NR
Styrene	NR	NR	NR	ND	ND	ND	ND	ND	5 J	ND	ND	ND	ND	ND	ND	ND
tert-Amyl methyl ether	NR	NR	NR	ND	ND	ND	1 J	1 J	6 J	NR	NR	NR	NR	NR	NR	NR
tert-Butyl Alcohol	NR	NR	NR	3	ND	ND	1 J	0.9 J	5 J	NR	NR	NR	NR	NR	NR	NR
Tetrachloroethene	20000	28000	16000	9	1500	ND	3	1600	6700	3800	3200	4700	4600	1.6 J	3300	4900
Tetrahydrofuran	NR	NR	NR	4	1	ND	6	2	6	2.0 J	ND	ND	ND	ND	ND	ND
Toluene	NR	NR	NR	4	2	40	4	0.9 J	6 J	ND	ND	4.7 J	ND	3.8	ND	ND
Total Xylenes	NR	NR	NR	ND	ND	34	16	3 J	21 J	NR	NR	NR	NR	NR	NR	NR
trans-1,2-Dichloroethene	ND	24	ND	ND	1	ND	1 J	3	7 J	ND	ND	ND	8.8 J	ND	5.7 J	8.8 J
trans-1,3-Dichloropropene	NR	NR	NR	ND	ND	ND	ND	ND	5 J	ND	ND	ND	ND	ND	ND	ND
Trichloroethene	3100	1600	640	7	92	ND	2 J	290	240	180	200	480	440	6.0	360	660
Trichlorofluoromethane	NR	NR	NR	6	1	3	3	3	11	NR	NR	NR	NR	NR	NR	NR
Vinyl Acetate	NR	NR	NR	4	ND	ND	ND	ND	ND	NR	NR	NR	NR	NR	NR	NR
Vinyl Bromide	NR	NR	NR	ND	ND	ND	2 J	1 J	5 J	NR	NR	NR	NR	NR	NR	NR
Vinyl Chloride	ND	5.9	ND	ND	2	ND	0.8 J	4	5 J	ND	ND	ND	ND	ND	1.9 J	ND

Notes:
µg/m³ = micrograms per cubic meter
NR = Not Recorded
NA = Data not available
ND = Not detected above method detection limit

Soil Vapor Extraction Containment System
Site 1, Former Drum Marshalling Yard
Naval Weapons Industrial Reserve Plant - Bethpage, NY
Quarterly Vapor Monitoring Results of SVE Wells
Through Third Quarter 2013

Sample ID	SVE 104I															
Sample Date	12/21/09	03/31/10	06/09/10	09/16/10	12/08/10	03/30/11	06/28/11	09/06/11	10/14/11	02/10/12	05/11/12	09/11/12	12/06/12	01/15/13	05/16/13	08/27/13
Analysis by TO-15 (µg/m³)																
1,1,1-Trichloroethane	730	4.2	ND	4	NR	NA	2 J	4	2	ND	ND	8.3	ND	ND	ND	3.1 J
1,1,2,2-Tetrachloroethane	NR	NR	NR	ND	ND	NA	1 J	0.7 J	ND	ND	ND	ND	ND	ND	ND	ND
1,1,2-Trichloroethane	NR	NR	NR	ND	ND	NA	1 J	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,1-Dichloroethane	24	0.54	ND	ND	ND	NA	1 J	0.6 J	0.5 J	ND	ND	ND	ND	ND	ND	ND
1,1-Dichloroethene	ND	ND	ND	ND	ND	NA	1 J	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,2,3-Trichloropropane	NR	NR	NR	ND	ND	NA	1 J	ND	ND	NR	NR	NR	NR	NR	NR	NR
1,2,3-Trimethylbenzene	NR	NR	NR	4	ND	NA	ND	ND	0.7 J	NR	NR	NR	NR	NR	NR	NR
1,2,4-Trichlorobenzene	NR	NR	NR	ND	ND	NA	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,2,4-Trimethylbenzene	NR	NR	NR	12	1	NA	ND	ND	2	ND	ND	2.2 J	ND	ND	ND	ND
1,2-Dibromoethane	NR	NR	NR	ND	ND	NA	2 J	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,2-Dichlorobenzene	NR	NR	NR	ND	ND	NA	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,2-Dichloroethane	NR	ND	ND	ND	ND	NA	1 J	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,2-Dichloropropane	NR	NR	NR	ND	ND	NA	1 J	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,3,5-Trimethylbenzene	NR	NR	NR	3	ND	NA	ND	ND	0.5 J	ND	ND	0.75 J	ND	ND	ND	ND
1,3-Butadiene	NR	NR	NR	ND	ND	NA	1	0.4 J	ND	ND	ND	ND	ND	ND	ND	ND
1,3-Dichlorobenzene	NR	NR	NR	ND	ND	NA	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,4-Dichlorobenzene	NR	NR	NR	ND	ND	NA	ND	ND	ND	ND	ND	ND	0.41 J	0.48 J	ND	ND
1,4-Dioxane	NR	NR	NR	ND	ND	NA	0.8 J	0.4 J	ND	ND	ND	ND	ND	ND	ND	ND
2,2,4-Trimethylpentane	NR	NR	NR	NR	NR	NR	NR	NR	NR	ND	ND	ND	ND	ND	1.1 J	ND
2-Butanone	NR	NR	NR	3	0.6	NA	3	1	0.8	ND	ND	ND	ND	ND	ND	ND
2-Hexanone	NR	NR	NR	ND	ND	NA	0.9 J	ND	ND	ND	ND	ND	ND	ND	ND	ND
2-Propanol	NR	NR	NR	NR	NR	NR	NR	NR	NR	ND	ND	ND	ND	ND	1.9 J	ND
3-Chloro-1-propene	NR	NR	NR	ND	ND	NA	0.9	0.3 J	ND	ND	ND	ND	ND	ND	ND	ND
4-Ethyltoluene	NR	NR	NR	2	ND	NA	ND	ND	ND	ND	ND	1.9 J	ND	ND	0.43 J	ND
4-Methyl-2-pentanone	NR	NR	NR	NR	NR	NR	NR	NR	NR	ND	ND	ND	ND	ND	ND	ND
Acetone	NR	NR	NR	11	3	NA	21	5	5	4.8 J	6.5 J	6.5 J	8.4 J	5.9 J	13 J	12 J
alpha-Chlorotoluene	NR	NR	NR	ND	ND	NA	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Acrylonitrile	NR	NR	NR	ND	ND	NA	0.6 J	0.3 J	ND	NR	NR	NR	NR	NR	NR	NR
Benzene	NR	NR	NR	1	ND	NA	1 J	0.4 J	0.4 J	ND	ND	ND	0.66 J	0.53 J	1.1 J	ND
Benzyl Chloride	NR	NR	NR	ND	ND	NA	ND	ND	ND	NR	NR	NR	NR	NR	NR	NR
Bromodichloromethane	NR	NR	NR	ND	ND	NA	2 J	0.8 J	ND	ND	ND	ND	ND	ND	ND	ND
Bromoform	NR	NR	NR	ND	ND	NA	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Bromomethane	NR	NR	NR	ND	ND	NA	1 J	0.4 J	ND	ND	ND	ND	ND	1.9 J	ND	ND
Carbon Disulfide	NR	NR	NR	ND	ND	NA	1 J	0.5 J	0.5 J	ND	ND	5.2 J	ND	ND	1.1 J	ND
Carbon Tetrachloride	NR	NR	NR	ND	ND	NA	2 J	1 J	1 J	ND	ND	ND	ND	ND	ND	ND
Chlorobenzene	NR	NR	NR	ND	ND	NA	1 J	0.5 J	ND	ND	ND	2.3 J, E	ND	ND	ND	ND
Chlorodibromomethane	NR	NR	NR	ND	ND	NA	2 J	ND	ND	NR	NR	NR	NR	NR	NR	NR
Chloroethane	NR	NR	NR	ND	ND	NA	0.9 J	0.3 J	ND	ND	ND	ND	ND	ND	ND	ND
Chloroform	NR	NR	NR	2	ND	NA	1 J	3	1	ND	ND	2.8 J	ND	ND	ND	ND
Chloromethane	NR	NR	NR	ND	0.5	NA	2	0.5	0.8	ND	ND	ND	ND	ND	ND	ND
cis-1,2-Dichloroethene	110	14	ND	2	0.8	NA	0.9 J	2	3	0.90 J	ND	5.0	ND	2.7 J	ND	3.3
cis-1,3-Dichloropropene	NR	NR	NR	ND	ND	NA	1 J	ND	ND	ND	ND	ND	ND	ND	ND	ND
Cumene	NR	NR	NR	NR	NR	NR	NR	NR	NR	ND	ND	ND	ND	ND	ND	ND
Cyclohexane	NR	NR	NR	0.8	ND	NA	1 J	ND	ND	ND	ND	ND	ND	ND	ND	ND
Dichlorodifluoromethane	NR	NR	NR	2	2	NA	3	2	2	ND	ND	ND	ND	ND	ND	ND
Diisopropyl ether	NR	NR	NR	5	ND	NA	ND	ND	ND	NR	NR	NR	NR	NR	NR	NR
Ethanol	NR	NR	NR	19	1	NA	12	2	3	ND	1.2 J	ND	4.2 J	ND	7.0	ND
Ethyl Acetate	NR	NR	NR	5	ND	NA	ND	ND	ND	NR	NR	NR	NR	NR	NR	NR
Ethyl tert-butyl ether	NR	NR	NR	ND	ND	NA	1 J	ND	ND	NR	NR	NR	NR	NR	NR	NR
Ethylbenzene	NR	NR	NR	2	ND	NA	1 J	0.6 J	0.6 J	ND	ND	0.89 J	ND	ND	ND	ND
Freon 11	NR	NR	NR	NR	NR	NR	NR	NR	NR	1.2 J	1.0 J	1.6 J	1.3 J	1.2 J	1.6 J	1.0 J
Freon 113	NR	NR	NR	ND	ND	NA	3 J	2	2	ND	ND	3.0 J	ND	3.6 J	ND	2.3 J
Freon 114	NR	NR	NR	ND	ND	NA	2 J	0.9 J	0.7 J	ND	ND	ND	ND	ND	ND	ND
Freon 12	NR	NR	NR	NR	NR	NR	NR	NR	NR	2.4 J	2.1 J	2.6 J	2.5 J	2.6 J	2.9 J	2.4 J
Heptane	NR	NR	NR	1	ND	NA	1 J	ND	ND	ND	ND	ND	2.6 J	ND	ND	ND
Hexachlorobutadiene	NR	NR	NR	ND	ND	NA	2 J	ND	ND	ND	ND	ND	ND	ND	ND	ND
Hexane	NR	NR	NR	10	ND	NA	12	0.5 J	0.4 J	0.82 J	ND	ND	3.4	ND	0.89 J	ND
Iso-Octane	NR	NR	NR	ND	ND	NA	1 J	0.5 J	0.5 J	NR	NR	NR	NR	NR	NR	NR
Isopropylbenzene	NR	NR	NR	ND	ND	NA	1 J	ND	ND	NR	NR	NR	NR	NR	NR	NR
Isopropyl alcohol	NR	NR	NR	6	ND	NA	7	0.7	0.5	NR	NR	NR	NR	NR	NR	NR
m,p-Xylene	NR	NR	NR	NR	NR	NA	NR	NR	NR	ND	ND	2.4 J	ND	3.1 J	1.8 J	ND
Methyl Methacrylate	NR	NR	NR	ND	ND	NA	0.9 J	ND	ND	NR	NR	NR	NR	NR	NR	NR
Methyl-tert-Butyl-Ether	NR	NR	NR	1	ND	NA	4	ND	ND	ND	ND	ND	ND	ND	ND	ND
Methylene Chloride	NR	NR	NR	51	ND	NA	65	1	0.9	2.6	NO	ND	0.57 J	0.43 J	ND	ND
MIBK	NR	NR	NR	ND	ND	NA	1 J	ND	ND	NR	NR	NR	NR	NR	NR	NR
Naphthalene	NR	NR	NR	ND	ND	NA	ND	ND	0.7 J	NR	NR	NR	NR	NR	NR	NR
n-Butane	NR	NR	NR	2	0.6	NA	2	0.5 J	ND	NR	NR	NR	NR	NR	NR	NR
o-Xylene	NR	NR	NR	NR	NR	NA	NR	NR	NR	ND	ND	1.2 J	ND	ND	NO	ND
p-Isopropyltoluene	NR	NR	NR	ND	ND	NA	ND	ND	ND	NR	NR	NR	NR	NR	NR	NR
n-Propylbenzene	NR	NR	NR	1	ND	NA	ND	ND	ND	ND	ND	0.60 J	ND	ND	ND	ND
Propylene	NR	NR	NR	ND	ND	NA	ND	ND	0.4	NR	NR	NR	NR	NR	NR	NR
Styrene	NR	NR	NR	ND	ND	NA	ND	ND	ND	ND	ND	ND	ND	ND	NO	ND
tert-Amyl methyl ether	NR	NR	NR	ND	ND	NA	1 J	ND	ND	NR	NR	NR	NR	NR	NR	NR
tert-Butyl Alcohol	NR	NR	NR	ND	ND	NA	0.9 J	0.3 J	0.3 J	NR	NR	NR	NR	NR	NR	NR
Tetrachloroethene	3100	210	68	96	16	NA	2 J	54	33	12	ND	86	1.6 J	4.8 J	2.3 J	30
Tetrahydrofuran	NR	NR	NR	4	1	NA	1	1	0.8	0.58 J	ND	1.4 J	ND	ND	ND	0.74 J
Toluene	NR	NR	NR	7	ND	NA	2	1	0.6 J	0.59 J	ND	0.68 J	1.5 J	0.54 J	5.1	ND
Total Xylenes	NR	NR	NR	12	ND	NA	3 J	3	2 J	NR	NR	NR	NR	NR	NR	NR
trans-1,2-Dichloroethene	15	ND	ND	ND	ND	NA	1 J	0.5 J	0.4 J	ND	ND	ND	ND	ND	ND	ND
trans-1,3-Dichloropropene	NR	NR	NR	ND	ND	NA	NO	NO	ND	ND	ND	ND	ND	ND	ND	ND
Trichloroethene	710	44	60	72	12	NA	2 J	44	25	9.6	ND	73	ND	3.1 J	ND	30
Trichlorofluoromethane	NR	NR	NR	2	ND	NA	3	2	2	NR	NR	NR	NR	NR	NR	NR
Vinyl Acetate	NR	NR	NR	2	ND	NA	ND	ND	0.5 J	NR	NR	NR	NR	NR	NR	NR
Vinyl Bromide	NR	NR	NR	ND	ND	NA	1 J	0.5 J	ND	NR	NR	NR	NR	NR	NR	NR
Vinyl Chloride	ND	0.47	ND	ND	ND	NA	0.7 J	0.3 J	0.3 J	ND	ND	ND	ND	ND	ND	ND

Notes:
µg/m³ = micrograms per cubic meter
NR = Not Recorded
NA = Data not available
ND = Not detected above method detection limit

Soil Vapor Extraction Containment System
Site 1, Former Drum Marshalling Yard
Naval Weapons Industrial Reserve Plant - Bethpage, NY
Quarterly Vapor Monitoring Results of SVE Wells
Through Third Quarter 2013

Sample ID	SVE 1D4D															
Sample Date	12/21/09	03/31/10	06/09/10	09/16/10	12/22/10	03/30/11	06/28/11	09/06/11	10/14/11	02/10/12	05/11/12	08/11/12	12/05/12	01/15/13	05/16/13	08/27/13
Analysis by TO-15 (µg/m³)																
1,1,1-Trichloroethane	3600	3000	860	ND	270	ND	370	820	440	520	580	620	920	820	0.89 J	500
1,1,2,2-Tetrachloroethane	NR	NR	NR	ND	ND	ND	1 J	ND	9 J	ND	ND	ND	ND	ND	ND	ND
1,1,2-Trichloroethane	NR	NR	NR	ND	ND	ND	2 J	7 J	7 J	ND	ND	ND	ND	ND	ND	ND
1,1-Dichloroethane	290	350	140	ND	65	ND	56	110	77	87	95	100	190	160	ND	95
1,1-Dichloroethene	ND	ND	ND	ND	ND	ND	3	7 J	7 J	3.0 J	5.0 J	ND	11 J	ND	ND	ND
1,2,3-Trichloropropane	NR	NR	NR	ND	ND	ND	2 J	7 J	7 J	NR	NR	NR	NR	NR	NR	NR
1,2,3-Trimethylbenzene	NR	NR	NR	ND	ND	ND	7	ND	6 J	NR	NR	NR	NR	NR	NR	NR
1,2,4-Trichlorobenzene	NR	NR	NR	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	1.7 J	ND
1,2,4-Trimethylbenzene	NR	NR	NR	3	ND	ND	21	ND	7 J	ND	4.0 J	2.5 J	ND	ND	1.3 J	ND
1,2-Dibromoethane	NR	NR	NR	ND	ND	ND	2 J	ND	9 J	ND	ND	ND	ND	ND	ND	ND
1,2-Dichlorobenzene	NR	NR	NR	ND	ND	ND	1 J	ND	7 J	ND	ND	ND	ND	ND	ND	ND
1,2-Dichloroethane	NR	ND	ND	ND	ND	ND	1 J	5 J	5 J	ND	ND	ND	ND	ND	ND	ND
1,2-DichloroPropane	NR	NR	NR	ND	ND	ND	2 J	6 J	5 J	ND	ND	ND	ND	ND	ND	ND
1,3,5-Trimethylbenzene	NR	NR	NR	ND	ND	ND	4	ND	5 J	ND	ND	ND	ND	ND	ND	ND
1,3-Butadiene	NR	NR	NR	ND	ND	ND	ND	3 J	ND	ND	ND	ND	ND	ND	ND	ND
1,3-Dichlorobenzene	NR	NR	NR	ND	ND	ND	1 J	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,4-Dichlorobenzene	NR	NR	NR	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.87 J	ND
1,4-Dioxane	NR	NR	NR	ND	ND	ND	2	9	4 J	ND	ND	ND	ND	ND	ND	ND
2,2,4-Trimethylpentane	NR	NR	NR	NR	NR	NR	NR	NR	NR	ND	ND	ND	ND	ND	ND	ND
2-Butanone	NR	NR	NR	ND	ND	ND	7	5 J	3 J	ND	ND	ND	ND	ND	3.1 J	ND
2-Hexanone	NR	NR	NR	ND	ND	ND	1 J	8	ND	ND	ND	ND	ND	ND	ND	ND
2-Propanol	NR	NR	NR	NR	NR	NR	NR	NR	NR	ND	ND	ND	ND	ND	ND	ND
3-Chloro-1-propene	NR	NR	NR	ND	ND	ND	1 J	4 J	ND	ND	ND	ND	ND	ND	ND	ND
4-Ethyltoluene	NR	NR	NR	ND	ND	ND	4	ND	5 J	ND	1.7 J	ND	ND	ND	1.0 J	ND
4-Methyl-2-pentanone	NR	NR	NR	NR	NR	NR	NR	NR	NR	ND	ND	ND	ND	ND	ND	ND
Acetone	NR	NR	NR	10	ND	6	26	10	8	46	12 J	ND	7.4 J	ND	30	5.4 J
alpha-Chlorotoluene	NR	NR	NR	ND	ND	ND	1 J	ND	5 J	ND	ND	ND	ND	ND	ND	ND
Acrylonitrile	NR	NR	NR	ND	ND	ND	0.8 J	4	ND	NR	NR	NR	NR	NR	NR	NR
Benzene	NR	NR	NR	ND	ND	ND	2	4 J	4 J	ND	ND	1.5 J	ND	ND	1.2 J	ND
Benzyl Chloride	NR	NR	NR	ND	ND	ND	1 J	ND	ND	NR	NR	NR	NR	NR	NR	NR
Bromodichloromethane	NR	NR	NR	ND	ND	ND	2 J	8 J	7 J	ND	ND	ND	ND	ND	ND	ND
Bromoform	NR	NR	NR	ND	ND	ND	3 J	ND	11 J	ND	ND	ND	ND	ND	ND	ND
Bromomethane	NR	NR	NR	ND	ND	ND	1 J	6 J	5 J	ND	ND	ND	ND	ND	ND	ND
Carbon Disulfide	NR	NR	NR	ND	ND	ND	1	5 J	4 J	ND	ND	6.3 J	ND	ND	1.2 J	ND
Carbon Tetrachloride	NR	NR	NR	ND	ND	ND	3	9 J	8 J	ND	ND	ND	ND	ND	ND	ND
Chlorobenzene	NR	NR	NR	ND	ND	ND	1 J	ND	5 J	ND	ND	10 J, B	ND	ND	ND	ND
Chlorodibromomethane	NR	NR	NR	ND	ND	ND	2 J	9 J	10 J	NR	NR	NR	NR	NR	NR	NR
Chloroethane	NR	NR	NR	ND	ND	ND	1 J	4 J	4 J	ND	ND	ND	ND	ND	ND	ND
Chloroform	NR	NR	NR	ND	ND	ND	3	10	9 J	ND	2.2 J	5.8 J	ND	ND	ND	12
Chloromethane	NR	NR	NR	0.9	ND	ND	2	3 J	3 J	ND	ND	ND	ND	ND	ND	ND
cis-1,2-Dichloroethene	2400	6600	3500	ND	1200	ND	1000	3600	2100	2200	2800 J	2200	4200	3700	8.6	2000
cis-1,3-Dichloropropene	NR	NR	NR	ND	ND	ND	1 J	ND	ND	ND	ND	ND	ND	ND	ND	ND
Cumene	NR	NR	NR	NR	NR	NR	NR	NR	NR	ND	ND	ND	ND	ND	ND	ND
Cyclohexane	NR	NR	NR	ND	ND	ND	2	4 J	ND	ND	ND	ND	ND	ND	ND	ND
Dichlorodifluoromethane	NR	NR	NR	2	ND	ND	4	9 J	8 J	ND	ND	ND	ND	ND	ND	ND
Diisopropyl ether	NR	NR	NR	ND	ND	ND	ND	ND	ND	NR	NR	NR	NR	NR	NR	NR
Ethanol	NR	NR	NR	4	4	6	20	10	ND	11 J	2.2 J	ND	ND	ND	6.9	ND
Ethyl Acetate	NR	NR	NR	ND	ND	ND	ND	6 J	ND	NR	NR	NR	NR	NR	NR	NR
Ethyl tert-butyl ether	NR	NR	NR	ND	ND	ND	1 J	4 J	ND	NR	NR	NR	NR	NR	NR	NR
Ethylbenzene	NR	NR	NR	ND	ND	ND	4	ND	5 J	ND	ND	2.3 J	ND	ND	0.64 J	ND
Freon 11	NR	NR	NR	NR	NR	NR	NR	NR	NR	ND	ND	ND	ND	ND	0.95 J	ND
Freon 113	NR	NR	NR	ND	560	560	280	260	550	720	980	880	1900	1500	ND	1000
Freon 114	NR	NR	NR	ND	ND	ND	2 J	10 J	9 J	ND	ND	ND	ND	ND	ND	ND
Freon 12	NR	NR	NR	NR	NR	NR	NR	NR	NR	ND	ND	2.7 J	ND	3.2 J	2.2 J	2.6 J
Heptane	NR	NR	NR	ND	ND	ND	2	5 J	5 J	ND	ND	ND	ND	ND	0.76 J	ND
Hexachlorobutadiene	NR	NR	NR	ND	ND	ND	5	ND	14 J	ND	ND	ND	ND	ND	ND	ND
Hexane	NR	NR	NR	2	ND	2	7	5 J	4 J	ND	ND	ND	ND	ND	1.6 J	ND
Iso-Octane	NR	NR	NR	ND	ND	ND	3	7 J	6 J	NR	NR	NR	NR	NR	NR	NR
Isopropylbenzene	NR	NR	NR	ND	ND	ND	2 J	ND	6 J	NR	NR	NR	NR	NR	NR	NR
Isopropyl alcohol	NR	NR	NR	1	ND	ND	7	6	4 J	NR	NR	NR	NR	NR	NR	NR
m,p-Xylene	NR	NR	NR	NR	NR	NR	NR	NR	NR	ND	1.1 J	3.8 J	ND	ND	1.9 J	ND
Methyl Methacrylate	NR	NR	NR	ND	ND	ND	1 J	4 J	ND	NR	NR	NR	NR	NR	NR	NR
Methyl-tert-Butyl-Ether	NR	NR	NR	ND	ND	ND	3	4 J	4 J	ND	ND	ND	ND	ND	ND	ND
Methylene Chloride	NR	NR	NR	6	ND	14	28	9	6 J	ND	ND	ND	ND	ND	1.2 J	ND
MIBK	NR	NR	NR	ND	ND	ND	1 J	5 J	ND	NR	NR	NR	NR	NR	NR	NR
Naphthalene	NR	NR	NR	ND	ND	ND	7	ND	5 J	NR	NR	NR	NR	NR	NR	NR
n-Butane	NR	NR	NR	ND	ND	3	5	4 J	ND	NR	NR	NR	NR	NR	NR	NR
o-Xylene	NR	NR	NR	NR	NR	NR	NR	NR	NR	ND	ND	ND	ND	ND	0.92 J	ND
p-Isopropyltoluene	NR	NR	NR	ND	ND	ND	2 J	ND	ND	NR	NR	NR	NR	NR	NR	NR
n-Propylbenzene	NR	NR	NR	ND	ND	ND	3	ND	ND	ND	ND	ND	ND	ND	ND	ND
Propylene	NR	NR	NR	ND	ND	ND	ND	ND	3 J	NR	NR	NR	NR	NR	NR	NR
Styrene	NR	NR	NR	ND	ND	ND	1 J	ND	ND	ND	ND	ND	ND	ND	ND	ND
tert-Amyl methyl ether	NR	NR	NR	ND	ND	ND	1 J	5 J	4 J	NR	NR	NR	NR	NR	NR	NR
tert-Butyl Alcohol	NR	NR	NR	ND	ND	ND	2	4 J	3 J	NR	NR	NR	NR	NR	NR	NR
Tetrachloroethene	20000	39000	21000	ND	2400	ND	1400	5800	6300	3800	4300	4600	4500	4200	59	2600
Tetrahydrofuran	NR	NR	NR	ND	ND	ND	7	4 J	3 J	2.8 J	ND	8.2 J	ND	ND	ND	ND
Toluene	NR	NR	NR	ND	ND	ND	8	4 J	4 J	ND	ND	2.5 J	ND	ND	4.7	ND
Total Xylenes	NR	NR	NR	ND	ND	ND	20	ND	14 J	NR	NR	NR	NR	NR	NR	NR
trans-1,2-Dichloroethene	130	70	30	ND	13	ND	14	25	22	26	31	27	55	40	ND	24
trans-1,3-Dichloropropene	NR	NR	NR	ND	ND	ND	1 J	ND	ND	ND	ND	ND	ND	ND	0.94 J	ND
Trichloroethene	4600	6000	2400	ND	470	ND	420	1600	1300	1400	1400	1700	2300	2100	14	1200
Trichlorofluoromethane	NR	NR	NR	ND	ND	ND	3	9 J	7 J	NR	NR	NR	NR	NR	NR	NR
Vinyl Acetate	NR	NR	NR	ND	ND	ND	ND	5 J	4 J	NR	NR	NR	NR	NR	NR	NR
Vinyl Bromide	NR	NR	NR	ND	ND	ND	2 J	6 J	ND	NR	NR	NR	NR	NR	NR	NR
Vinyl Chloride	ND	12	ND	ND	ND	ND	2	5	5 J	ND	ND	ND	ND	ND	ND	ND

Notes:
µg/m³ = micrograms per cubic meter
NR = Not Recorded
NA = Data not available
ND = Not detected above method detection limit

Soil Vapor Extraction Containment System
Site 1, Former Drum Marshalling Yard
Naval Weapons Industrial Reserve Plant - Bethpage, NY
Quarterly Vapor Monitoring Results of SVE Wells
Through Third Quarter 2013

Sample ID	SVE 105I															
Sample Date	12/21/09	03/31/10	06/09/10	09/16/10	12/08/10	03/30/11	06/28/11	09/06/11	10/14/11	02/10/12	05/11/12	09/11/12	12/05/12	03/15/13	05/16/13	08/27/13
Analysis by TO-15 (µg/m³)																
1,1,1-Trichloroethane	9.9	11	29	ND	24	1	1 J	21	31	11	13	26	22	22	11	24
1,1,2,2-Tetrachloroethane	NR	NR	NR	ND	ND	ND	0.8 J	1 J	0.9 J	ND	ND	ND	ND	ND	ND	ND
1,1,2-Trichloroethane	NR	NR	NR	ND	ND	ND	0.7 J	0.8 J	0.9 J	ND	ND	ND	ND	ND	ND	ND
1,1-Dichloroethane	ND	5.7	13	ND	6	ND	0.6 J	5	7	4.2	5.6	5.6	10	12	8.8	8.0
1,1-Dichloroethene	ND	ND	ND	ND	ND	ND	0.6 J	0.6 J	0.5 J	ND	ND	ND	ND	ND	ND	ND
1,2,3-Trichloropropane	NR	NR	NR	ND	ND	ND	0.7 J	0.8 J	0.9 J	NR	NR	NR	NR	NR	NR	NR
1,2,3-Trimethylbenzene	NR	NR	NR	14	ND	1	0.7 J	1	2	NR	NR	NR	NR	NR	NR	NR
1,2,4-Trichlorobenzene	NR	NR	NR	ND	ND	ND	ND	ND	1 J	ND	ND	ND	ND	ND	ND	ND
1,2,4-Trimethylbenzene	NR	NR	NR	44	3	4	1	3	7	1.4 J	1.7 J	2.8 J	1.9 J	ND	1.2 J	1.1 J
1,2-Dibromoethane	NR	NR	NR	ND	ND	ND	0.9 J	ND	0.8 J	ND	ND	ND	ND	ND	ND	ND
1,2-Dichlorobenzene	NR	NR	NR	ND	ND	ND	0.9 J	ND	0.8 J	ND	ND	ND	ND	ND	ND	ND
1,2-Dichloroethane	NR	ND	ND	ND	ND	ND	0.7 J	0.6 J	0.5 J	ND	ND	NO	ND	ND	ND	ND
1,2-Dichloropropane	NR	NR	NR	ND	ND	ND	0.7 J	0.5 J	0.6 J	ND	ND	ND	ND	ND	ND	ND
1,3,5-Trimethylbenzene	NR	NR	NR	10	ND	1	2	0.9 J	1	0.48 J	ND	0.92 J	ND	ND	ND	ND
1,3-Butadiene	NR	NR	NR	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,3-Dichlorobenzene	NR	NR	NR	ND	ND	ND	ND	ND	0.7 J	ND	ND	ND	ND	ND	ND	ND
1,4-Dichlorobenzene	NR	NR	NR	ND	ND	ND	ND	ND	0.7 J	ND	ND	0.81 J	0.41 J	ND	0.73 J	ND
1,4-Dioxane	NR	NR	NR	ND	ND	ND	0.7 J	0.7 J	0.6 J	ND	ND	ND	ND	ND	ND	ND
2,2,4-Trimethylpentane	NR	NR	NR	NR	NR	NR	NR	NR	NR	ND	ND	NO	0.97 J	ND	ND	ND
2-Butanone	NR	NR	NR	4	1	6	6	2	1	3.6 J	ND	ND	3.3 J	ND	2.4 J	ND
2-Hexanone	NR	NR	NR	ND	ND	ND	0.7 J	0.6 J	0.4 J	ND	ND	ND	ND	ND	ND	NO
2-Propanol	NR	NR	NR	NR	NR	NR	NR	NR	NR	ND	ND	ND	ND	ND	ND	ND
3-Chloro-1-propene	NR	NR	NR	ND	ND	ND	0.4 J	ND	ND	ND	ND	ND	ND	ND	ND	ND
4-Ethyltoluene	NR	NR	NR	7	ND	ND	3	0.8 J	1	0.94 J	0.53 J	1.3 J	1.6 J	ND	0.40 J	0.73 J
4-Methyl-2-pentanone	NR	NR	NR	NR	NR	NR	NR	NR	NR	ND	ND	ND	ND	ND	ND	ND
Acetone	NR	NR	NR	11	3	15	27	9	9	25	4.7 J	7.8 J	17 J	6.2 J	30	10 J
alpha-Chlorotoluene	NR	NR	NR	ND	ND	ND	0.5 J	ND	0.7 J	ND	ND	ND	ND	ND	ND	ND
Acrylonitrile	NR	NR	NR	ND	ND	ND	0.3 J	0.4 J	ND	NR	NR	NR	NR	NR	NR	NR
Benzene	NR	NR	NR	ND	ND	4	1	0.6 J	0.6 J	ND	ND	0.63 J	1.0 J	ND	ND	ND
Benzyl Chloride	NR	NR	NR	ND	ND	ND	ND	ND	ND	NR	NR	NR	NR	NR	NR	NR
Bromodichloromethane	NR	NR	NR	ND	ND	ND	1 J	1 J	0.9 J	ND	ND	ND	ND	ND	ND	ND
Bromoform	NR	NR	NR	ND	ND	ND	1 J	1 J	1 J	ND	ND	ND	ND	ND	ND	ND
Bromomethane	NR	NR	NR	ND	ND	ND	0.8	0.6 J	0.5 J	ND	ND	ND	ND	ND	ND	ND
Carbon Disulfide	NR	NR	NR	ND	ND	ND	0.9	0.6 J	0.6 J	ND	ND	1.8 J	6.9 J	ND	3.7 J	ND
Carbon Tetrachloride	NR	NR	NR	ND	ND	ND	1	1 J	1	NO	ND	ND	ND	ND	ND	ND
Chlorobenzene	NR	NR	NR	NO	ND	ND	0.6 J	0.5 J	0.6 J	ND	ND	2.9 J, B	ND	ND	ND	ND
Chlorodibromomethane	NR	NR	NR	ND	ND	ND	1 J	0.9 J	1 J	NR	NR	NR	NR	NR	NR	NR
Chloroethane	NR	NR	NR	ND	ND	ND	0.7	0.4 J	0.4 J	ND	ND	ND	ND	ND	ND	ND
Chloroform	NR	NR	NR	ND	2	ND	0.9 J	4	3	0.78 J	1.0 J	3.2 J	ND	ND	1.9 J	3.1 J
Chloromethane	NR	NR	NR	0.9	ND	ND	3	0.5	0.4	ND	NO	ND	ND	ND	ND	ND
cis-1,2-Dichloroethene	ND	6.6	20	ND	ND	ND	1	10	16	8.1	9.7	13	16	13	14	14
cis-1,3-Dichloropropene	NR	NR	NR	ND	13	ND	0.5 J	NO	0.5 J	ND	ND	ND	ND	NO	ND	ND
Cumene	NR	NR	NR	NR	NR	NR	NR	NR	NR	ND	ND	ND	ND	ND	ND	ND
Cyclohexane	NR	NR	NR	ND	ND	3	0.7 J	0.6 J	0.5 J	ND	ND	NO	0.91 J	ND	ND	ND
Dichlorodifluoromethane	NR	NR	NR	2	2	2	3	2	3	ND	ND	ND	ND	ND	NO	ND
Diisopropyl ether	NR	NR	NR	ND	ND	ND	ND	0.6 J	ND	NR	NR	NR	NR	NR	NR	NR
Ethanol	NR	NR	NR	5	1	37	19	3	2	15	1.1 J	2.8 J	15	ND	ND	ND
Ethyl Acetate	NR	NR	NR	ND	ND	2	ND	ND	ND	NR	NR	NR	NR	NR	NR	NR
Ethyl tert-butyl ether	NR	NR	NR	ND	ND	ND	0.5 J	0.5 J	0.4 J	NR	NR	NR	NR	NR	NR	NR
Ethylbenzene	NR	NR	NR	4	ND	3	3	0.9	1	ND	ND	ND	ND	ND	NO	ND
Freon 11	NR	NR	NR	NR	NR	NR	NR	NR	NR	1.1 J	0.87 J	1.5 J	1.6 J	1.6 J	1.2 J	1.3 J
Freon 113	NR	NR	NR	ND	2	NO	2	3	3	1.8 J	5.5 J	3.2 J	11	8.1	3.7 J	4.2 J
Freon 114	NR	NR	NR	ND	ND	ND	1 J	1 J	1 J	ND	ND	ND	ND	ND	ND	ND
Freon 12	NR	NR	NR	NR	NR	NR	NR	NR	NR	2.3 J	1.8 J	2.0 J	2.7 J	3.1 J	2.4 J	2.4 J
Heptane	NR	NR	NR	NO	ND	3	3	0.5 J	0.5 J	ND	ND	ND	1.2 J	ND	ND	ND
Hexachlorobutadiene	NR	NR	NR	NO	ND	ND	2 J	1 J	2 J	ND	ND	ND	ND	ND	ND	ND
Hexane	NR	NR	NR	2	ND	11	2	1	0.5 J	ND	ND	ND	2.5 J	ND	ND	ND
Iso-Octane	NR	NR	NR	ND	ND	4	1	0.7 J	0.7 J	NR	NR	NR	NR	NR	NR	NR
Isopropylbenzene	NR	NR	NR	ND	ND	ND	0.8 J	0.6 J	0.8 J	NR	NR	NR	NR	NR	NR	NR
Isopropyl alcohol	NR	NR	NR	ND	ND	6	9	2	7	NR	NR	NR	NR	NR	NR	NR
m,p-Xylene	NR	NR	NR	NR	NR	NR	NR	NR	NR	0.91 J	1.0 J	2.0 J	3.1 J	ND	0.77 J	ND
Methyl Methacrylate	NR	NR	NR	NO	ND	ND	0.6 J	0.5 J	0.4 J	NR	NR	NR	NR	NR	NR	NR
Methyl tert-Butyl Ether	NR	NR	NR	ND	NO	1	0.7 J	0.7 J	0.4 J	ND	ND	ND	ND	ND	ND	ND
Methylene Chloride	NR	NR	NR	6	0.8	48	7	5	1	0.94 J	ND	ND	1.0 J	ND	ND	ND
MIBK	NR	NR	NR	ND	ND	NO	0.8 J	0.6 J	0.5 J	NR	NR	NR	NR	NR	NR	NR
Naphthalene	NR	NR	NR	3	ND	1	6	0.8 J	8	NR	NR	NR	NR	NR	NR	NR
n-Butane	NR	NR	NR	0.5	NO	23	2	0.6	ND	NR	NR	NR	NR	NR	NR	NR
o-Xylene	NR	NR	NR	NR	NR	NR	NR	NR	NR	0.49 J	ND	ND	1.0 J	ND	0.56 J	ND
p-isopropyltoluene	NR	NR	NR	ND	ND	ND	0.9 J	0.6 J	0.7 J	NR	NR	NR	NR	NR	NR	NR
n-Propylbenzene	NR	NR	NR	4	ND	ND	2	0.7 J	1	ND	ND	0.68 J	ND	ND	ND	ND
Propylene	NR	NR	NR	NO	ND	ND	ND	ND	ND	NR	NR	NR	NR	NR	NR	NR
Styrene	NR	NR	NR	NO	ND	ND	0.5 J	ND	0.5 J	ND	NO	ND	ND	ND	ND	ND
tert-Amyl methyl ether	NR	NR	NR	NO	ND	ND	0.5 J	0.5 J	0.5 J	NR	NR	NA	NR	NR	NR	NR
tert-Butyl Alcohol	NR	NR	NR	1	ND	ND	4	0.6 J	0.4 J	NR	NR	NR	NR	NR	NR	NR
Tetrachloroethene	70	9.1	240	ND	55	5	2	95	100	31	43	100	77	66	38	91
Tetrahydrofuran	NR	NR	NR	5	2	ND	4	2	2	1.0 J	0.99 J	ND	3.1	2.0 J	ND	ND
Toluene	NR	NR	NR	4	ND	14	5	2	1	0.60 J	ND	0.79 J	6.6	ND	1.2 J	ND
Total Xylenes	NR	NR	NR	28	ND	11	17	4	6	NR	NR	NR	NR	NR	NR	NR
trans-1,2-Dichloroethene	ND	NO	1.6	ND	ND	ND	0.5 J	1	1	ND	ND	1.5 J	ND	ND	ND	ND
trans-1,3-Dichloropropene	NR	NR	NR	ND	ND	ND	0.5 J	ND	0.5 J	ND	ND	ND	ND	ND	ND	NO
Trichloroethene	76	6.3	370	ND	120	7	1	170	200	110	140	260	180	150	94	220
Trichlorofluoromethane	NR	NR	NR	1	1	2	2	2	2	NR	NR	NR	NR	NR	NR	NR
Vinyl Acetate	NR	NR	NR	ND	ND	ND	3	ND	ND	NR	NR	NR	NR	NR	NR	NR
Vinyl Bromide	NR	NR	NR	ND	ND	ND	0.7 J	ND	0.6 J	NR	NR	NR	NR	NR	NR	NR
Vinyl Chloride	ND	NO	ND	ND	ND	ND	0.4 J	0.4 J	0.3 J	ND	ND	ND	ND	ND	ND	ND

Notes:
µg/m³ = micrograms per cubic meter
NR = Not Recorded
NA = Data not available
ND = Not detected above method detection limit

Soil Vapor Extraction Containment System
Site 1, Former Drum Marshalling Yard
Naval Weapons Industrial Reserve Plant - Bethpage, NY
Quarterly Vapor Monitoring Results of SVE Wells
Through Third Quarter 2013

Sample ID	SVE 1050															
Sample Date	12/21/09	03/31/10	06/09/10	09/16/10	12/08/10	03/30/11	06/28/11	09/06/11	12/02/11	02/10/12	05/11/12	09/13/12	12/05/12	01/15/13	05/16/13	08/27/13
Analysis by TO-15 (µg/m³)																
1,1,1-Trichloroethane	550	47	320	1000	590	ND	1 J	490	930	350	320	270	380	430	160	110
1,1,2,2-Tetrachloroethane	NR	NR	NR	ND	ND	ND	0.9 J	8 J	ND	ND	ND	ND	ND	ND	ND	ND
1,1,2-Trichloroethane	NR	NR	NR	ND	ND	ND	0.8 J	6 J	ND	ND	ND	ND	ND	ND	ND	ND
1,1-Dichloroethane	300	28	270	250	ND	ND	0.6 J	74	150	69	78	72	110	110	46	45
1,1-Dichloroethene	3.9	ND	ND	2	4	4	0.6 J	6 J	ND	ND	ND	ND	ND	ND	ND	ND
1,2,3-Trichloropropane	NR	NR	NR	ND	ND	ND	0.9 J	7 J	ND	NR	NR	NR	NR	NR	NR	NR
1,2,3-Trimethylbenzene	NR	NR	NR	8	ND	ND	3	ND	ND	NR	NR	NR	NR	NR	NR	NR
1,2,4-Trichlorobenzene	NR	NR	NR	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,2,4-Trimethylbenzene	NR	NR	NR	30	4	2	8	ND	ND	ND	3.4 J	2.8 J	ND	ND	ND	1.0 J
1,2-Dibromoethane	NR	NR	NR	ND	ND	ND	1 J	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,2-Dichlorobenzene	NR	NR	NR	ND	ND	ND	4	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,2-Dichloroethane	NR	ND	ND	ND	ND	ND	4	5 J	ND	ND	ND	ND	ND	ND	ND	ND
1,2-Dichloropropane	NR	NR	NR	ND	ND	ND	0.7 J	5 J	ND	ND	ND	ND	ND	ND	ND	ND
1,3,5-Trimethylbenzene	NR	NR	NR	6	ND	ND	2	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,3-Butadiene	NR	NR	NR	ND	ND	ND	0.4	3 J	ND	ND	ND	ND	ND	ND	ND	ND
1,3-Dichlorobenzene	NR	NR	NR	ND	ND	ND	0.6 J	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,4-Dichlorobenzene	NR	NR	NR	ND	ND	ND	0.7 J	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,4-Dioxane	NR	NR	NR	ND	ND	ND	0.8	ND	ND	ND	ND	ND	ND	ND	ND	ND
2,2,4-Trimethylpentane	NR	NR	NR	NR	NR	NR	NR	NR	NR	ND	ND	ND	ND	ND	ND	ND
2-Butanone	NR	NR	NR	7	2	2	4	6 J	ND	ND	ND	ND	ND	ND	ND	ND
2-Hexanone	NR	NR	NR	ND	ND	ND	0.7 J	7 J	ND	ND	ND	ND	ND	ND	ND	ND
2-Propanol	NR	NR	NR	NR	NR	NR	NR	NR	NR	ND	ND	ND	ND	ND	7.9	ND
3-Chloro-1-propene	NR	NR	NR	ND	ND	ND	0.5 J	3 J	ND	ND	ND	ND	ND	ND	ND	ND
4-Ethyltoluene	NR	NR	NR	5	ND	ND	2	ND	ND	ND	ND	ND	ND	ND	0.33 J	0.64 J
4-Methyl-2-pentanone	NR	NR	NR	NR	NR	NR	NR	NR	NR	ND	ND	ND	ND	ND	ND	ND
Acetone	NR	NR	NR	35	5	11	22	10	5	ND	15 J	10 J	5.3 J	ND	10 J	11 J
alpha-Chlorotoluene	NR	NR	NR	ND	ND	ND	0.7 J	ND	ND	ND	ND	ND	ND	ND	ND	ND
Acrylonitrile	NR	NR	NR	ND	ND	ND	0.4 J	4 J	ND	NR	NR	NR	NR	NR	NR	NR
Benzene	NR	NR	NR	ND	1	3	1	4 J	ND	ND	ND	ND	ND	ND	ND	ND
Benzyl Chloride	NR	NR	NR	ND	ND	ND	ND	ND	ND	NR	NR	NR	NR	NR	NR	NR
Bromodichloromethane	NR	NR	NR	6	ND	ND	1 J	8 J	ND	ND	ND	ND	ND	ND	ND	ND
Bromoform	NR	NR	NR	ND	ND	ND	1 J	ND	ND	ND	ND	ND	ND	ND	ND	ND
Bromomethane	NR	NR	NR	ND	ND	ND	0.6 J	6 J	ND	ND	ND	ND	ND	ND	ND	ND
Carbon Disulfide	NR	NR	NR	ND	ND	ND	0.8	4 J	ND	ND	ND	3.9 J	ND	ND	1.6 J	ND
Carbon Tetrachloride	NR	NR	NR	3	6	ND	1	10 J	ND	4.0 J	8.1 J	ND	ND	6.3 J	14	7.2
Chlorobenzene	NR	NR	NR	ND	ND	ND	1	ND	ND	ND	ND	5.9 J, B	ND	ND	ND	ND
Chlorodibromomethane	NR	NR	NR	ND	ND	ND	1 J	9 J	ND	NR	NR	NR	NR	NR	NR	NR
Chloroethane	NR	NR	NR	1	1	ND	0.5 J	4 J	ND	ND	ND	ND	ND	ND	ND	ND
Chloroform	NR	NR	NR	ND	4	ND	0.8 J	10 J	3 J	ND	2.7 J	3.8 J	ND	ND	1.9 J	3.9
Chloromethane	NR	NR	NR	1	ND	ND	2	3 J	ND	ND	ND	ND	ND	ND	ND	ND
cis-1,2-Dichloroethene	61	36	85	300	ND	ND	0.7 J	150	380	190	220	150	210	200	73	76
cis-1,3-Dichloropropene	NR	NR	NR	ND	ND	ND	0.6 J	ND	ND	ND	ND	ND	ND	ND	ND	ND
Cumene	NR	NR	NR	NR	NR	NR	NR	NR	NR	ND	ND	ND	ND	ND	ND	ND
Cyclohexane	NR	NR	NR	ND	ND	1	0.8	ND	ND	ND	ND	ND	ND	ND	4.6	ND
Dichlorodifluoromethane	NR	NR	NR	2	5	2	3	9 J	3 J	ND	ND	ND	ND	ND	ND	ND
Diisopropyl ether	NR	NR	NR	2	ND	ND	ND	ND	ND	NR	NR	NR	NR	NR	NR	NR
Ethanol	NR	NR	NR	8	2	26	12	10	10	5.2 J	ND	ND	ND	ND	5.2 J	9.6
Ethyl Acetate	NR	NR	NR	2	ND	ND	ND	ND	ND	NR	NR	NR	NR	NR	NR	NR
Ethyl tert-butyl ether	NR	NR	NR	ND	ND	ND	0.6 J	4 J	ND	NR	NR	NR	NR	NR	NR	NR
Ethylbenzene	NR	NR	NR	4	ND	2	3	ND	ND	ND	ND	ND	ND	ND	0.60 J	ND
Freon 11	NR	NR	NR	NR	NR	NR	NR	NR	NR	ND	ND	ND	ND	ND	1.4 J	1.4 J
Freon 113	NR	NR	NR	81	85	ND	2	62	40	18 J	43	37	64	58	19	21
Freon 114	NR	NR	NR	ND	ND	ND	1 J	10 J	ND	ND	ND	ND	ND	ND	ND	ND
Freon 12	NR	NR	NR	NR	NR	NR	NR	NR	NR	ND	ND	2.9 J	ND	4.4 J	3.8	2.5 J
Heptane	NR	NR	NR	ND	ND	1	0.9	5 J	ND	ND	ND	ND	ND	ND	ND	ND
Hexachlorobutadiene	NR	NR	NR	ND	ND	ND	2 J	ND	ND	ND	ND	ND	ND	ND	ND	ND
Hexane	NR	NR	NR	5	2	5	2	4 J	ND	ND	ND	ND	ND	ND	1.5 J	ND
Iso-Octane	NR	NR	NR	ND	ND	2	1	7 J	ND	NR	NR	NR	NR	NR	NR	NR
Isopropylbenzene	NR	NR	NR	ND	ND	ND	0.8 J	ND	ND	NR	NR	NR	NR	NR	NR	NR
Isopropyl alcohol	NR	NR	NR	2	ND	2	2	6	ND	NR	NR	NR	NR	NR	NR	NR
m,p-Xylene	NR	NR	NR	NR	NR	NR	NR	NR	NR	ND	1.9 J	3.1 J	ND	ND	1.8 J	ND
Methyl Methacrylate	NR	NR	NR	ND	ND	ND	0.7 J	4 J	ND	NR	NR	NR	NR	NR	NR	NR
Methyl-tert-Butyl-Ether	NR	NR	NR	ND	ND	ND	0.7 J	4 J	ND	ND	ND	ND	ND	ND	ND	ND
Methylene Chloride	NR	NR	NR	16	5	2	6	8	3 J	8.4 J	ND	ND	ND	ND	18 J	ND
MIBK	NR	NR	NR	ND	ND	ND	0.8 J	5 J	ND	NR	NR	NR	NR	NR	NR	NR
Naphthalene	NR	NR	NR	9	ND	ND	4	ND	ND	NR	NR	NR	NR	NR	NR	NR
n-Butane	NR	NR	NR	ND	2	13	2	4 J	ND	NR	NR	NR	NR	NR	NR	NR
o-Xylene	NR	NR	NR	NR	NR	NR	NR	NR	NR	ND	ND	ND	ND	ND	0.56 J	ND
p-Isopropyltoluene	NR	NR	NR	ND	ND	ND	0.8 J	ND	ND	NR	NR	NR	NR	NR	NR	NR
n-Propylbenzene	NR	NR	NR	3	ND	ND	1	ND	ND	ND	ND	ND	ND	ND	ND	ND
Propylene	NR	NR	NR	2	ND	1	ND	ND	ND	NR	NR	NR	NR	NR	NR	NR
Styrene	NR	NR	NR	ND	ND	ND	0.7 J	ND	ND	ND	ND	ND	ND	ND	ND	ND
tert-Amyl methyl ether	NR	NR	NR	ND	ND	ND	0.6 J	5 J	ND	NR	NR	NR	NR	NR	NR	NR
tert-Butyl Alcohol	NR	NR	NR	3	ND	ND	0.9	4 J	ND	NR	NR	NR	NR	NR	NR	NR
Tetrachloroethene	2100	1.1	650	270	420	ND	2	240	330	140	220	270	350	330	100	140
Tetrahydrofuran	NR	NR	NR	5	3	2	3	5 J	2 J	ND	1.6 J	1.3 J	ND	ND	ND	1.8 J
Toluene	NR	NR	NR	3	2	8	14	4 J	ND	ND	ND	ND	ND	ND	17	ND
Total Xylenes	NR	NR	NR	22	ND	10	20	ND	ND	NR	NR	NR	NR	NR	NR	NR
trans-1,2-Dichloroethene	19	1.1	3.1	3	ND	ND	0.6 J	7 J	3 J	ND	ND	ND	ND	ND	1.4 J	2.4 J
trans-1,3-Dichloropropene	NR	NR	NR	ND	ND	ND	0.5 J	ND	ND	ND	ND	ND	ND	ND	ND	ND
Trichloroethene	1700	68	200	1100	1400	1	2	3000	7000	3600	4500	2200	3800	3800	1400	900
Trichlorofluoromethane	NR	NR	NR	ND	3	1	2	9 J	ND	NR	NR	NR	NR	NR	NR	NR
Vinyl Acetate	NR	NR	NR	2	ND	ND	ND	4 J	ND	NR	NR	NR	NR	NR	NR	NR
Vinyl Bromide	NR	NR	NR	ND	ND	ND	0.8 J	6 J	ND	NR	NR	NR	NR	NR	NR	NR
Vinyl Chloride	ND	ND	ND	ND	ND	ND	0.4 J	4 J	ND	ND	ND	ND	ND	ND	ND	ND

Notes:
µg/m³ = micrograms per cubic meter
NR = Not Recorded
NA = Data not available
ND = Not detected above method detection limit

Soil Vapor Extraction Containment System
Site 1, Former Drum Marshalling Yard
Naval Weapons Industrial Reserve Plant - Bethpage, NY
Quarterly Vapor Monitoring Results of SVE Wells
Through Third Quarter 2013

Sample ID	SVE 1061															
Sample Date	12/21/09	03/31/10	06/09/10	09/16/10	12/08/10	03/30/11	06/28/11	09/06/11	10/14/11	02/10/12	05/11/12	09/11/12	12/05/12	01/13/13	05/16/13	08/27/13
Analysis by TO-15 (µg/m³)																
1,1,1-Trichloroethane	220	8.6	ND	4	ND	NA	6	3	7	1.0 J	2.2 J	11	ND	ND	ND	ND
1,1,2,2-Tetrachloroetnane	NR	NR	NR	ND	ND	NA	1 J	0.8 J	1 J	ND	ND	ND	ND	ND	ND	ND
1,1,2-Trichloroethane	NR	NR	NR	ND	ND	NA	0.7 J	0.6 J	0.8 J	ND	ND	ND	ND	ND	ND	ND
1,1-Dichloroethane	120	ND	ND	1	ND	NA	1	0.5 J	1	0.62 J	0.70 J	1.6 J	2.5 J	1.9 J	NO	ND
1,1-Dichloroethene	ND	ND	ND	ND	ND	NA	0.6 J	2	0.6 J	NO	ND	ND	ND	ND	ND	ND
1,2,3-Trichloropropane	NR	NR	NR	ND	ND	NA	0.9 J	0.6 J	0.9 J	NR	NR	NR	NR	NR	NR	NR
1,2,3-Trimethylbenzene	NR	NR	NR	9	ND	NA	9	1	2	NR	NR	NR	NR	NR	NR	NR
1,2,4-Trichlorobenzene	NR	NR	NR	2	ND	NA	2	ND	0.8 J	NO	ND	ND	ND	ND	ND	ND
1,2,4-Trimethylbenzene	NR	NR	NR	29	ND	NA	29	3	6	1.1 J	2.2 J	3.2 J	1.2 J	ND	ND	0.97 J
1,2-Dibromoethane	NR	NR	NR	ND	ND	NA	1 J	ND	1 J	NO	ND	ND	ND	ND	NO	ND
1,2-Dichlorobenzene	NR	NR	NR	1	ND	NA	0.7 J	ND	0.9 J	NO	ND	NO	ND	ND	NO	ND
1,2-Dichloroethane	NR	ND	ND	0.8	ND	NA	0.6 J	0.5 J	0.6 J	NO	ND	NO	ND	ND	ND	ND
1,2-Dichloropropane	NR	NR	NR	ND	ND	NA	0.7 J	ND	0.7 J	NO	ND	ND	ND	ND	NO	ND
1,3,5-Trimethylbenzene	NR	NR	NR	6	ND	NA	5	0.9 J	1	NO	ND	0.84 J	ND	ND	ND	ND
1,3-Butadiene	NR	NR	NR	1	ND	NA	ND	2	0.6	ND	0.87 J	NO	ND	ND	ND	ND
1,3-Dichlorobenzene	NR	NR	NR	ND	ND	NA	ND	ND	0.7 J	ND	ND	ND	ND	ND	NO	ND
1,4-Dichlorobenzene	NR	NR	NR	ND	ND	NA	0.7 J	2	0.7 J	ND	ND	0.74 J	0.36 J	ND	ND	ND
1,4-Dioxane	NR	NR	NR	ND	ND	NA	0.7	0.5 J	0.6 J	NO	ND	ND	ND	ND	ND	ND
2,2,4-Trimethylpentane	NR	NR	NR	NR	NR	NR	NR	NR	NR	NO	120	ND	ND	620	ND	ND
2-Butanone	NR	NR	NR	4	ND	NA	7	0.5 J	2	0.70 J	ND	ND	ND	ND	ND	ND
2-Hexanone	NR	NR	NR	ND	ND	NA	1	0.6 J	0.5 J	ND	ND	ND	ND	ND	ND	ND
2-Propanol	NR	NR	NR	NR	NR	NR	NR	NR	NR	NO	ND	ND	ND	2.1 J	5.5 J	ND
3-Chloro-1-propene	NR	NR	NR	NO	ND	NA	0.4 J	0.5 J	0.4 J	ND	ND	ND	ND	ND	ND	ND
4-Ethyltoluene	NR	NR	NR	5	ND	NA	5	1	1	0.37 J	2.0 J	2.5 J	0.93 J	ND	ND	0.82 J
4-Methyl-2-pentanone	NR	NR	NR	NR	NR	NR	NR	NR	NR	ND	ND	ND	ND	ND	NO	ND
Acetone	NR	NR	NR	5	5	NA	22	11	9	5.6 J	9.5 J	3.7 J	7.5 J	8.6 J	16 J	23
alPha-Chlorotoluene	NR	NR	NR	ND	ND	NA	0.6 J	ND	0.7 J	ND	ND	ND	ND	ND	ND	ND
Acrylonitrile	NR	NR	NR	0.4	ND	NA	0.4 J	0.4 J	ND	NR	NR	NR	NR	NR	NR	NR
Benzene	NR	NR	NR	0.8	ND	NA	0.9	0.9	0.6 J	ND	ND	ND	ND	3.7	0.94 J	ND
Benzyl Chloride	NR	NR	NR	1	ND	NA	0.7 J	ND	ND	NR	NR	NR	NR	NR	NR	NR
Bromodichloromethane	NR	NR	NR	ND	ND	NA	0.8 J	0.5 J	1 J	ND	ND	ND	ND	ND	NO	ND
Bromoform	NR	NR	NR	ND	ND	NA	1 J	0.3 J	2 J	ND	ND	ND	ND	ND	NO	ND
Bromomethane	NR	NR	NR	0.9	ND	NA	0.6 J	2	0.6 J	ND	ND	ND	ND	ND	ND	NO
Carbon Disulfide	NR	NR	NR	0.8	ND	NA	0.8	0.5 J	0.6	ND	ND	2.2 J	ND	ND	6.3 J	ND
Carbon Tetrachloride	NR	NR	NR	2	ND	NA	1	ND	3	0.91 J	0.55 J	ND	2.9 J	2.0 J	NO	ND
Chlorobenzene	NR	NR	NR	ND	ND	NA	0.7 J	0.3 J	0.7 J	ND	ND	2.5 J, 8	ND	ND	ND	ND
Chlorodibromomethane	NR	NR	NR	ND	ND	NA	1 J	1	1 J	NR	NR	NR	NR	NR	NR	NR
Chloroethane	NR	NR	NR	0.6	ND	NA	0.7	0.8	0.5 J	ND	ND	ND	ND	ND	ND	ND
Chloroform	NR	NR	NR	1	NO	NA	2	0.4 J	2	ND	1.4 J	1.5 J	ND	ND	ND	ND
Chloromethane	NR	NR	NR	0.8	0.8	NA	2	ND	0.4	ND	ND	ND	ND	ND	NO	ND
cis-1,2-Dichloroethene	46	ND	ND	4	ND	NA	6	0.5 J	4	1.6 J	2.3 J	7.5	5.4	3.7	NO	ND
cis-1,3-Dichloropropene	NR	NR	NR	ND	ND	NA	0.6 J	ND	0.5 J	ND	ND	ND	ND	ND	ND	ND
Cumene	NR	NR	NR	NR	NR	NR	NR	NR	NR	ND	ND	ND	ND	ND	NO	ND
Cyclohexane	NR	NR	NR	ND	ND	NA	0.6 J	ND	0.4 J	ND	2.9	ND	ND	ND	1.1 J	ND
Dichlorodifluoromethane	NR	NR	NR	3	2	NA	3	0.8 J	3	ND	ND	ND	ND	ND	ND	ND
Diisopropyl ether	NR	NR	NR	ND	ND	NA	ND	ND	ND	NR	NR	NR	NR	NR	NR	NR
Ethanol	NR	NR	NR	3	2	NA	15	9	1	1.6 J	ND	ND	ND	3.4 J	8.8	ND
Ethyl Acetate	NR	NR	NR	ND	NO	NA	ND	ND	ND	NR	NR	NR	NR	NR	NR	NR
Ethyl tert-butyl ether	NR	NR	NR	ND	ND	NA	0.6 J	0.4 J	0.5 J	NR	NR	NR	NR	NR	NR	NR
Ethylbenzene	NR	NR	NR	3	ND	NA	4	2	1	ND	3.6	1.4 J	ND	ND	NO	ND
Freon 11	NR	NR	NR	NR	NR	NR	NR	NR	NR	1.2 J	0.96 J	1.5 J	1.3 J	1.4 J	1.6 J	1.0 J
Freon 113	NR	NR	NR	4	ND	NA	5	4	12	12	6.5	3.0 J	13	22	ND	ND
Freon 114	NR	NR	NR	2	ND	NA	1 J	0.9 J	1 J	ND	ND	NO	ND	ND	ND	ND
Freon 12	NR	NR	NR	NR	NR	NR	NR	NR	NR	2.1 J	2.2 J	2.9 J	2.7 J	3.0 J	2.4 J	2.1 J
Heptane	NR	NR	NR	NO	ND	NA	0.8 J	0.7 J	0.5 J	ND	7.6	ND	ND	29	1.0 J	ND
Hexachlorobutadiene	NR	NR	NR	2	ND	NA	2 J	1 J	2 J	ND	ND	ND	ND	ND	NO	ND
Hexane	NR	NR	NR	0.8	ND	NA	1	1	1	ND	ND	NO	NO	7.4	1.6 J	ND
Iso-Octane	NR	NR	NR	1	ND	NA	19	0.9 J	0.8 J	NR	NR	NR	NR	NR	NR	NR
Isopropylbenzene	NR	NR	NR	1	ND	NA	1	0.5 J	0.7 J	NR	NR	NR	NR	NR	NR	NR
Isopropyl alcohol	NR	NR	NR	1	ND	NA	13	1	1	NR	NR	NR	NR	NR	NR	NR
m,p-Xylene	NR	NR	NR	NR	NR	NA	NR	NR	NR	0.80 J	1.5	2.6 J	1.0 J	0.90 J	0.82 J	ND
Methyl Methacrylate	NR	NR	NR	NO	ND	NA	0.5 J	ND	0.5 J	NR	NR	NR	NR	NR	NR	NR
Methyl-tert-Butyl Ether	NR	NR	NR	ND	ND	NA	0.7 J	0.5 J	0.7	ND	ND	NO	ND	ND	ND	ND
Methylene Chloride	NR	NR	NR	2	0.8	NA	6	2	5	0.71 J	2.0 J	ND	ND	1.2 J	7.8 J	NO
MIBK	NR	NR	NR	NO	ND	NA	0.8 J	0.4 J	0.5 J	NR	NR	NR	NR	NR	NR	NR
Naphthalene	NR	NR	NR	6	ND	NA	26	1	2	NR	NR	NR	NR	NR	NR	NR
n-Butane	NR	NR	NR	0.8	0.5	NA	1	0.5 J	ND	NR	NR	NR	NR	NR	NR	NR
o-Xylene	NR	NR	NR	NR	NR	NA	NR	NR	NR	ND	5.9	0.93 J	ND	ND	ND	ND
p-isoPropyltoluene	NR	NR	NR	2	ND	NA	1	NO	0.8 J	NR	NR	NR	NR	NR	NR	NR
n-Propylbenzene	NR	NR	NR	3	ND	NA	3	0.7 J	0.9 J	ND	0.48 J	0.54 J	ND	ND	ND	ND
Propylene	NR	NR	NR	ND	ND	NA	ND	ND	ND	NR	NR	NR	NR	NR	NR	NR
Styrene	NR	NR	NR	ND	ND	NA	0.7 J	ND	0.5 J	ND	ND	ND	ND	ND	ND	ND
tert-Amyl methyl ether	NR	NR	NR	ND	ND	NA	0.6 J	0.4 J	0.6 J	NR	NR	NR	NR	NR	NR	NR
tert-Butyl Alcohol	NR	NR	NR	0.9	ND	NA	2	1 J	0.8	NR	NR	NR	NR	NR	NR	NR
Tetrachloroethene	590	35	ND	15	ND	NA	15	7	19	4.3 J	7.2	27	14	7.0	0.73 J	ND
Tetrahydrofuran	NR	NR	NR	6	NO	NA	8	2	2	0.87 J	1.2 J	ND	2.5	ND	ND	ND
Toluene	NR	NR	NR	2	NO	NA	5	3	1	0.44 J	3.4	0.93 J	0.73 J	4.8	7.5	ND
Total Xylenes	NR	NR	NR	17	ND	NA	22	8	6	NR	NR	NR	NR	NR	NR	NR
trans-1,2-Dichloroethene	7.9	ND	3.1	0.9	ND	NA	0.8	0.5 J	0.7 J	ND	ND	ND	ND	ND	ND	ND
trans-1,3-Dichloropropene	NR	NR	NR	ND	ND	NA	0.6 J	ND	ND	ND	ND	ND	ND	ND	ND	ND
Trichloroethene	1900	41	ND	140	10	NA	210	92	190	69	110	260	180	110	5.5	ND
Trichlorofluoromethane	NR	NR	NR	2	1	NA	2	2	2	NR	NR	NR	NR	NR	NR	NR
Vinyl Acetate	NR	NR	NR	1	ND	NA	3	NO	NO	NR	NR	NR	NR	NR	NR	NR
Vinyl Bromide	NR	NR	NR	0.9	NO	NA	0.7 J	0.5 J	0.7 J	NR	NR	NR	NR	NR	NR	NR
Vinyl Chloride	ND	ND	ND	0.5	ND	NA	0.4 J	0.3 J	0.4 J	ND	ND	ND	ND	ND	ND	ND

Notes:
µg/m³ = micrograms per cubic meter
NR = Not Recorded
NA = Data not available
ND = Not detected above method detection limit

Soil Vapor Extraction and Containment System
Site 1, Former Drum Marshalling Yard
Naval Weapons Industrial Reserve Plant - Bethpage, NY
Quarterly Vapor Monitoring Results of SVE Wells
Through Third Quarter 2013

Sample ID	SVE 106D															
Sample Date	12/21/09	03/31/10	06/09/10	09/16/10	12/08/10	03/30/11	06/28/11	09/06/11	10/14/11	02/10/12	05/11/12	08/11/12	12/05/12	01/15/13	05/16/13	08/27/13
Analysis by TO-15 (µg/m³)																
1,1,1-Trichloroethane	340	32	30	20	12	9	20	23	29	ND	11	26	18	ND	ND	27
1,1,2,2-Tetrachloroethane	NR	NR	NR	NO	ND	ND	ND	0.9 J	1 J	ND	ND	ND	ND	ND	ND	ND
1,1,2-Trichloroethane	NR	NR	NR	ND	ND	ND	ND	0.7 J	0.9 J	ND	ND	ND	ND	ND	ND	ND
1,1-Dichloroethane	250	6.3	ND	5	2	5	4	3	3	ND	3.0	4.3	5.8	ND	ND	4.9
1,1-Dichloroethene	ND	ND	ND	ND	ND	ND	0.5 J	0.7 J	0.8	ND	ND	ND	NO	ND	ND	ND
1,2,3-Trichloropropane	NR	NR	NR	ND	ND	ND	ND	0.7 J	1 J	NR	NR	NR	NR	NR	NR	NR
1,2,3-Trimethlbenzene	NR	NR	NR	8	ND	ND	6	ND	2	NR	NR	NR	NR	NR	NR	NR
1,2,4-Trichlorobenzene	NR	NR	NR	NR	NO	ND	1 J	ND	0.9 J	ND	1.9 J	ND	NO	ND	ND	ND
1,2,4-Trimethylbenzene	NR	NR	NR	17	2	2	23	ND	4	ND	ND	3.6 J	1.3 J	ND	ND	0.77 J
1,2-Dibromoethane	NR	NR	NR	ND	ND	NO	ND	ND	1 J	ND	ND	ND	ND	ND	ND	ND
1,2-Dichlorobenzene	NR	NR	NR	ND	NO	ND	ND	ND	1 J	ND	ND	ND	ND	ND	ND	NO
1,2-Dichloroethane	NR	ND	ND	ND	ND	ND	ND	0.6 J	0.7 J	NO	ND	ND	ND	ND	ND	ND
1,2-Dichloropropane	NR	NR	NR	ND	ND	NO	NO	0.6 J	0.8 J	ND	ND	ND	NO	ND	ND	ND
1,3,5-Trimethylbenzene	NR	NR	NR	6	ND	ND	4	ND	1	NO	2.3 J	0.97 J	ND	ND	ND	ND
1,3-Butadiene	NR	NR	NR	ND	NO	ND	ND	0.3 J	ND	ND	ND	ND	NO	ND	ND	ND
1,3-Dichlorobenzene	NR	NR	NR	ND	ND	NO	ND	ND	0.8 J	ND	ND	ND	NO	ND	ND	ND
1,4-Dichlorobenzene	NR	NR	NR	ND	ND	NO	NO	ND	0.8 J	NO	ND	0.87 J	ND	ND	ND	ND
1,4-Dioxane	NR	NR	NR	ND	ND	NO	0.5 J	0.7 J	0.7 J	NO	ND	ND	NO	ND	ND	NO
2,2,4-Trimethylpentane	NR	NR	NR	NR	NR	NR	NR	NR	NR	ND	390	1.2 J	ND	0.76 J	ND	ND
2-Butanone	NR	NR	NR	8	2	0.8	5	1	2	ND	NO	4.0 J	ND	ND	ND	NO
2-Hexanone	NR	NR	NR	NO	ND	NO	ND	0.5 J	0.8 J	NO	NO	ND	ND	ND	ND	ND
2-Propanol	NR	NR	NR	NR	NR	NR	NR	NR	NR	ND	ND	ND	NO	ND	1.8 J	ND
3-Chloro-1propene	NR	NR	NR	NO	ND	ND	ND	0.4 J	0.4 J	ND	ND	ND	ND	ND	ND	ND
4-Ethyltoluene	NR	NR	NR	6	ND	NO	4	ND	1	ND	2.8 J	2.9 J	ND	ND	0.47 J	NO
4-Methyl-2-pentanone	NR	NR	NR	NR	NR	NR	NR	NR	NR	ND	ND	ND	ND	ND	ND	ND
Acetone	NR	NR	NR	25	9	5	11	6	6	4.8 J	13 J	11 J	5.8 J	5.4 J	10 J	5.1 J
alpha-Chlorotoluene	NR	NR	NR	ND	ND	ND	ND	ND	0.9 J	NO	NO	ND	ND	ND	ND	ND
Acrylonitrile	NR	NR	NR	ND	ND	ND	0.4 J	0.4 J	ND	NR	NR	NR	NR	NR	NR	NR
Benzene	NR	NR	NR	ND	ND	ND	2	0.5 J	0.6 J	0.58 J	1.5 J	1.1 J	ND	0.66 J	1.1 J	ND
Benzyl Chloride	NR	NR	NR	NO	ND	ND	ND	ND	0.6 J	NR	NR	NR	NR	NR	NR	NR
Bromodichloromethane	NR	NR	NR	ND	ND	ND	ND	0.9 J	1 J	ND	ND	ND	ND	NO	ND	ND
Bromoform	NR	NR	NR	ND	ND	ND	ND	ND	2 J	ND	ND	ND	ND	ND	ND	ND
Bromomethane	NR	NR	NR	ND	ND	ND	ND	0.6 J	0.7 J	ND	NO	ND	ND	ND	ND	ND
Carbon Disulfide	NR	NR	NR	ND	ND	ND	0.6 J	0.6 J	0.6	ND	NO	ND	8.1 J	ND	1.3 J	ND
Carbon Tetrachloride	NR	NR	NR	8	26	17	9	6	16	ND	18	5.6	19	ND	ND	6.1
Chlorobenzene	NR	NR	NR	ND	ND	ND	NO	0.5 J	0.8 J	ND	ND	3.1 J, B	1.0 J	ND	ND	ND
Chlorodibromomethane	NR	NR	NR	ND	ND	ND	ND	1 J	1 J	NR	NR	NR	NR	NR	NR	NR
Chloroethane	NR	NR	NR	ND	ND	ND	0.4 J	0.4 J	0.4 J	ND	ND	ND	ND	NO	ND	ND
Chloroform	NR	NR	NR	ND	2	2	5	5	5	ND	6.4	6.9	6.6	ND	ND	4.1
Chloromethane	NR	NR	NR	3	1	0.5	0.7	0.5	0.6	1.2 J	ND	ND	ND	ND	ND	ND
cis-1,2-Dichloroethene	79	13	11	13	2	11	11	5	4	ND	4.1	7.1	8.2	NO	ND	10
cis-1,3-Dichloropropene	NR	NR	NR	ND	ND	ND	ND	ND	0.7 J	ND	ND	ND	ND	NO	ND	ND
Cumene	NR	NR	NR	NR	NR	NR	NR	NR	NR	ND	1.4 J	ND	ND	ND	ND	ND
Cyclohexane	NR	NR	NR	ND	ND	ND	1	0.4 J	0.4 J	ND	7.0	ND	0.83 J	ND	ND	NO
Dichlorodifluoromethane	NR	NR	NR	6	3	3	4	2	3	ND	ND	ND	ND	ND	ND	ND
Diisopropyl ether	NR	NR	NR	ND	ND	ND	ND	ND	1 J	NR	NR	NR	NR	NR	NR	NR
Ethanol	NR	NR	NR	8	3	2	17	4	NO	2.3 J	ND	8.8	2.3 J	3.7 J	7.7	ND
Ethyl Acetate	NR	NR	NR	ND	ND	ND	ND	ND	ND	NR	NR	NR	NR	NR	NR	NR
Ethyl tert-butyl ether	NR	NR	NR	ND	ND	ND	ND	0.6 J	0.6 J	NR	NR	NR	NR	NR	NR	NR
Ethylbenzene	NR	NR	NR	5	ND	ND	5	NO	1	ND	6.3	1.2 J	ND	ND	ND	ND
Freon 11	NR	NR	NR	NR	NR	NR	NR	NR	NR	1.2 J	1.3 J	2.7 J	2.0 J	1.4 J	1.3 J	1.8 J
Freon 113	NR	NR	NR	ND	18	30	16	25	25	ND	15	13	24	ND	ND	13
Freon 114	NR	NR	NR	ND	ND	ND	ND	1 J	1 J	ND	ND	ND	ND	ND	ND	ND
Freon 12	NR	NR	NR	NR	NR	NR	NR	NR	NR	1.1 J	2.3 J	3.3 J	2.6 J	2.8 J	2.5 J	3.9 J
Heptane	NR	NR	NR	ND	NO	ND	1	0.4 J	0.6 J	0.82 J	18	1.0 J	ND	ND	ND	ND
Hexachlorobutadiene	NR	NR	NR	ND	ND	ND	NO	1 J	2 J	ND	ND	ND	ND	ND	ND	ND
Hexane	NR	NR	NR	3	ND	ND	3	2	0.6 J	ND	ND	1.8 J	0.59 J	ND	1.5 J	NO
Iso-Octane	NR	NR	NR	ND	ND	ND	130	0.7 J	0.8 J	NR N	NR	NR	NR	NR	NR	NR
Isopropylbenzene	NR	NR	NR	ND	ND	ND	0.8 J	0.5 J	0.8 J	NR	NR	NR	NR	NR	NR	NR
Isopropyl alcohol	NR	NR	NR	5	ND	2	3	2	ND	NR	NR	NR	NR	NR	NR	NR
m,p-Xylene	NR	NR	NR	NR	NR	NR	NR	NR	NR	ND	21	4.2	1.1 J	ND	2.0 J	ND
Methyl Methacrylate	NR	NR	NR	ND	ND	NO	NO	0.4 J	0.4 J	N NR	NR	NR	NR	NR	NR	NR
Methyl-tert-Butyl-Ether	NR	NR	NR	ND	ND	ND	NO	1	0.5 J	NO	ND	ND	ND	ND	NO	ND
Methylene Chloride	NR	NR	NR	4	2	4	5	17	1	3.9	NO	1.7 J	1.2 J	0.72 J	0.86 J	ND
MIBK	NR	NR	NR	ND	ND	ND	0.5 J	0.4 J	0.6 J	NR	NR	NR	NR	NR	NR	NR
Naphthalene	NR	NR	NR	8	NO	ND	25	ND	3	NR	NR	NR	NR	NR	NR	NR
n-Butane	NR	NR	NR	ND	1	0.9	6	0.9	NO	NR	NR	NR	NR	NR	NR	NR
o-Xylene	NR	NR	NR	NR	NR	NR	NR	NR	NR	ND	24	1.9 J	ND	ND	0.80 J	NO
p-Isopropyltoluene	NR	NR	NR	ND	ND	ND	0.7 J	ND	0.9 J	NR	NR	NR	NR	NR	NR	NR
n-Propylbenzene	NR	NR	NR	ND	ND	NO	2	ND	0.9 J	NO	0.45 J	1.0 J	NO	NO	NO	NO
Propylene	NR	NR	NR	ND	ND	ND	ND	ND	MD	NR	NR	NR	NR	NR	NR	NR
Styrene	NR	NR	NR	ND	NO	ND	NO	ND	0.6 J	ND	ND	ND	ND	ND	ND	ND
tert-Amyl methyl ether	NR	NR	NR	ND	ND	ND	NO	0.5 J	0.6 J	NR	NR	NR	NR	NR	NR	NR
tert-Butyl Alcohol	NR	NR	NR	4	ND	ND	0.6 J	0.5 J	ND	NR	NR	NR	NR	NR	NR	NR
Tetrachloroethene	720	65	70	ND	13	19	41	8	66	NO	28	62	48	ND	1.3 J	50
Tetrahydrofuran	NR	NR	NR	8	2	1	7	2	2	ND	1.1 J	4.0	1.8 J	ND	ND	1.4 J
Toluene	NR	NR	NR	5	2	2	11	0.5 J	3	0.81 J	11	15	6.6	0.60 J	5.5	NO
Total Xylenes	NR	NR	NR	21	ND	ND	25	ND	6	NR	NR	NR	NR	NR	NR	NR
trans-1,2-Dichloroethene	15	ND	ND	ND	NO	ND	0.6 J	0.8	0.9	ND	ND	ND	NO	ND	ND	NO
trans-1,3-Dichloropropene	NR	NR	NR	ND	ND	ND	NO	ND	0.6 J	NO	ND	NO	ND	NO	ND	ND
Trichloroethene	3400	600	900	230	130	170	210	260	320	ND	180	380	300	ND	ND	460
Trichlorofluoromethane	NR	NR	NR	6	2	2	3	2	3	NR	NR	NR	NR	NR	NR	NR
Vinyl Acetate	NR	NR	NR	4	ND	ND	ND	ND	ND	NR	NR	NR	NR	NR	NR	NR
Vinyl Bromide	NR	NR	NR	ND	ND	ND	ND	0.6 J	0.9	NR	NR	NR	NR	NR	NR	NR
Vinyl Chloride	ND	1.6	ND	NO	ND	ND	ND	0.4 J	0.5 1	ND	ND	ND	ND	ND	ND	ND

Notes:

µg/m³ = micrograms per cubic meter
NR = Not Recorded
NA = Data not available
ND = Not detected above method detection limit

Table 6
Soil Vapor Extraction Containment System
Site 1, Former Drum Marshalling Yard
Naval Weapons Industrial Reserve Plant - Bethpage, NY
Third Quarter 2013 Off-site Soil Vapor Monitoring of SVPMs

SVPM/ SVEW Location	Vacuum Reading (i.w.)
Monitoring Date:	***8/27/13***
BPS1-SVPM2001S	0.08
BPS1-SVPM2001I	0.12
BPS1-SVPM2001D	0.00
BPS1-SVPM2002S	0.12
BPS1-SVPM2002I	0.18
BPS1-SVPM2002D	0.18
BPS1-SVPM2003S	*0.02
BPS1-SVPM2003I	0.04
BPS1-SVPM2003D	0.04
BPS1-SVPM2004S	0.04
BPS1-SVPM2004I	0.04
BPS1-SVPM2004D	0.04
BPS1-SVPM2006S	0.00
BPS1-SVPM2006I	*0.01
BPS1-SVPM2006D	*0.01
BPS1-SVPM2007S	0.00
BPS1-SVPM2007I	*0.01
BPS1-SVPM2007D	*0.01
SV-101I	5.1
SV-101D	23.5
SV-102I	6.9
SV-102D	26.6
SV-103I	3.5
SV-103D	27.7
SV-104I	3.5
SV-104D	9.0
SV-105I	4.3
SV-105D	5.0
SV-106I	4.0
SV-106D	7.0

Notes:
i.w. = inches of water column
SVEW = soil vapor extraction well
SVPM = soil vapor pressure monitor
* Indicates a positive pressure reading was measured as opposed to a negative vacuum reading.

Vacuum readings for the SVPMs were measured using a portable Magnehelic® Differential Pressure Gauge 2000-0, with a range of 0-0.50 i.w. Vacuum readings for SVEWs were recorded from dedicated in-line pressure gauges.

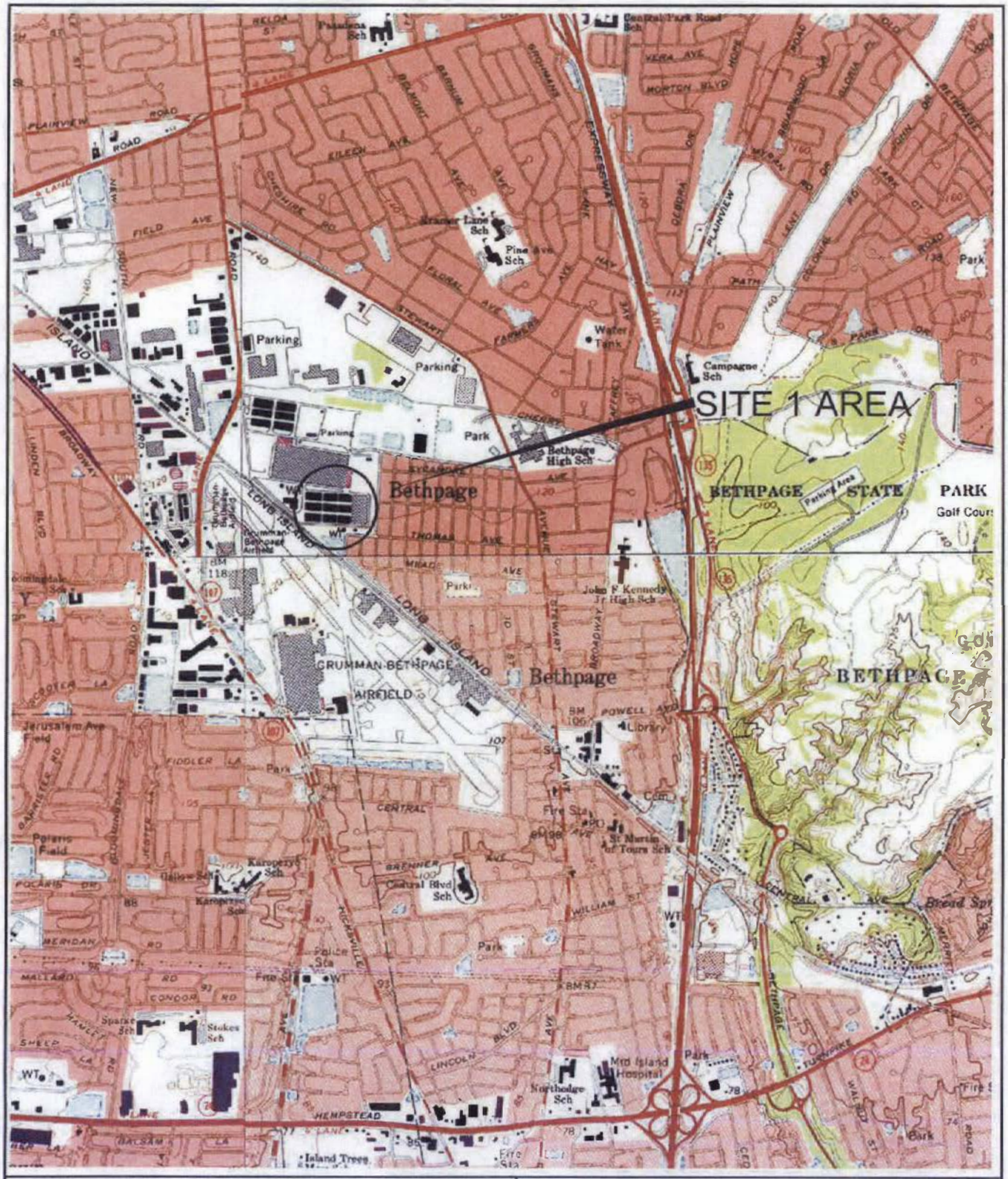
Table 7
Soil Vapor Extraction Containment System
Site 1, Former Drum Marshalling Yard
Naval Weapons Industrial Reserve Plant - Bethpage, NY
Historical Quarterly Off-site Soil Vapor Monitoring of SVPMs
Through Third Quarter 2013

	Third Quarter 2012	*Fourth Quarter 2012*	*First Quarter 2013*		*Second Quarter 2013*	*Third Quarter 2013*
SVPM/ SVEW Location	Vacuum Reading (i.w.)	Vacuum Reading (i.w.)	Vacuum Reading (i.w.) Pre- Vapor Sample Collection	Vacuum Reading (i.w.) Post- Vapor Sample Collection	Vacuum Reading (i.w.)	Vacuum Reading (i.w.)
Monitoring Date:	***10/10/2012***	***12/6/2012***	***1/15/13***	***1/16/13***	***5/29/13***	***8/27/13***
BPS1-SVPM2001S	0.01	0.02	0.01	0.01	0.02	0.08
BPS1-SVPM2001I	0.01	0.02	0.02	0.01	0.10	0.12
BPS1-SVPM2001D	0.01	0.01	0.01	0.01	0.01	0.00
BPS1-SVPM2002S	0.02	0.01	0.02	0.02	0.06	0.12
BPS1-SVPM2002I	0.11	0.10	0.01	0.02	0.10	0.18
BPS1-SVPM2002D	0.12	0.10	0.01	0.01	0.10	0.18
BPS1-SVPM2003S	0.01	0.01	0.03	0.02	0.04	*0.02
BPS1-SVPM2003I	0.04	0.02	0.03	0.04	0.10	0.04
BPS1-SVPM2003D	0.04	0.02	0.01	0.04	0.05	0.04
BPS1-SVPM2004S	0.04	0.04	0.03	0.02	0.03	0.04
BPS1-SVPM2004I	0.04	0.04	0.02	0.01	0.04	0.04
BPS1-SVPM2004D	0.06	0.04	0.03	0.01	0.04	0.04
BPS1-SVPM2006S	0.01	0.01	0.01	0.01	0.02	0.00
BPS1-SVPM2006I	0.01	0.01	0.01	0.01	0.01	*0.01
BPS1-SVPM2006D	0.02	0.02	0.01	0.01	0.02	*0.01
BPS1-SVPM2007S	0.01	0.01	0.01	0.01	0.04	0.00
BPS1-SVPM2007D	0.01	0.01	0.01	0.01	0.04	*0.01
BPS1-SVPM2007I	0.01	0.01	0.01	0.01	0.02	0.02
SV-101I	5	7	10	--	6.0	5.1
SV-101D	10	16	16	--	16.0	23.5
SV-102I	5	3	16	--	3.0	6.9
SV-102D	10	18	10	--	22.0	26.6
SV-103I	5	2	20	--	4.0	3.5
SV-103D	8	24	10	--	24.2	27.7
SV-104I	8	6	20	--	4.0	3.5
SV-104D	11	10	10	--	10.0	9.0
SV-105I	5	9	16	--	7.5	4.3
SV-105D	8	7	8	--	8.0	5.0
SV-106I	5	8	16	--	8.0	4.0
SV-106D	8	12	10	--	11.0	7.0

Notes:
i.w. = inches of water column
SVEW = soil vapor extraction well
SVPM = soil vapor pressure monitor
* Indicates a positive pressure reading was measured as opposed to a negative vacuum reading.

Vacuum readings for the SVPMs were measured using a portable Magnehelic® Differential Pressure Gauge 2000-0, with a range of 0-0.50 i.w. Vacuum readings for SVEWs were recorded from dedicated in-line vacuum gauges.

FIGURES



Quadrangle Location Map

0 2000 4000 Feet

N

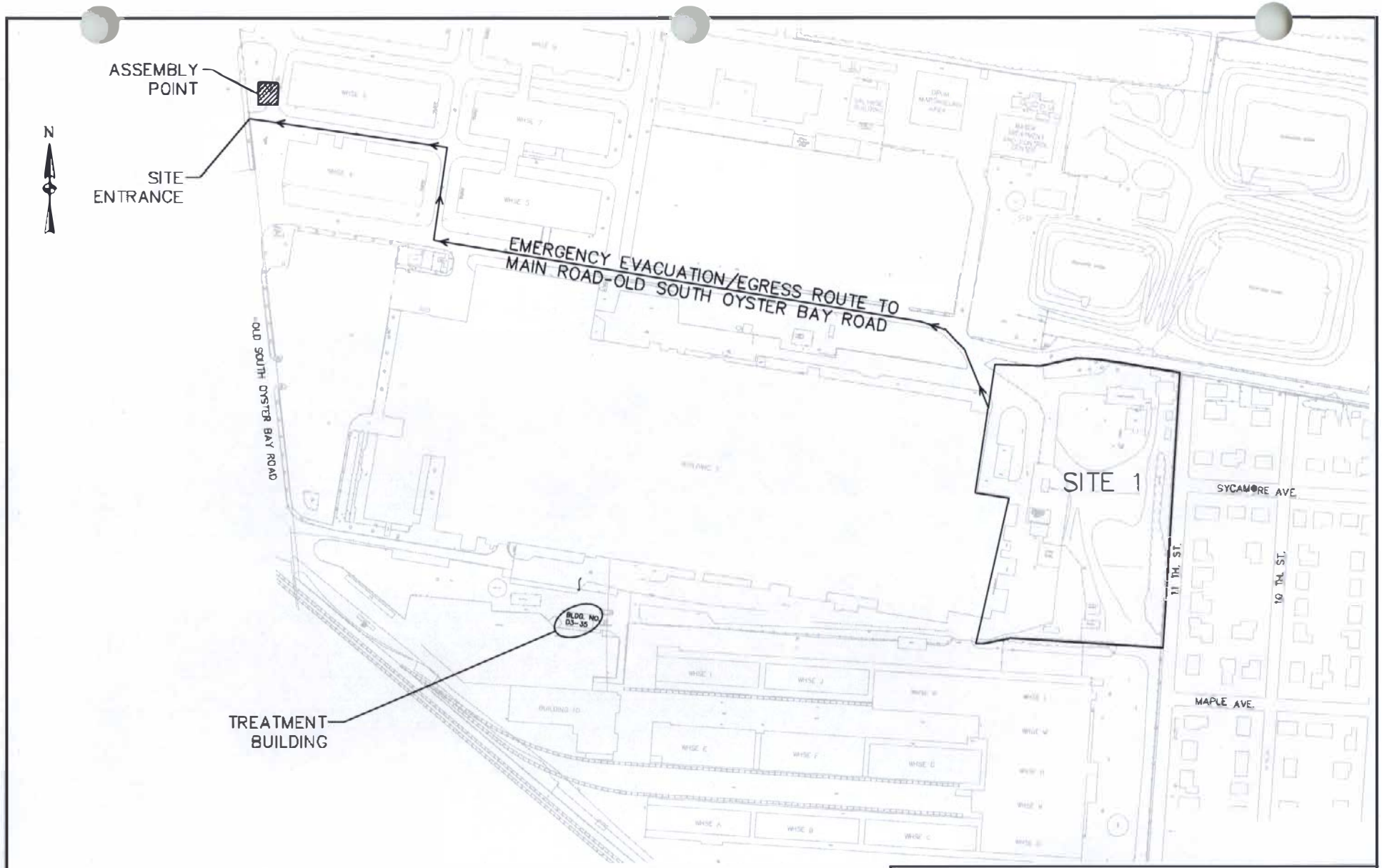
Source: U.S.G.S. Topographic Maps (7.5 Minute)
Amityville, Freeport, Hicksville, Huntington, NY Quadrangles

Department of the Navy
Naval Facilities Engineering Command, Mid-Atlantic

Site 1, Former Drum Marshalling Area
Naval Weapons Industrial Reserve Plant
Bethpage, NY

Figure 1: Site Location Map

H&S Environmental, Inc.

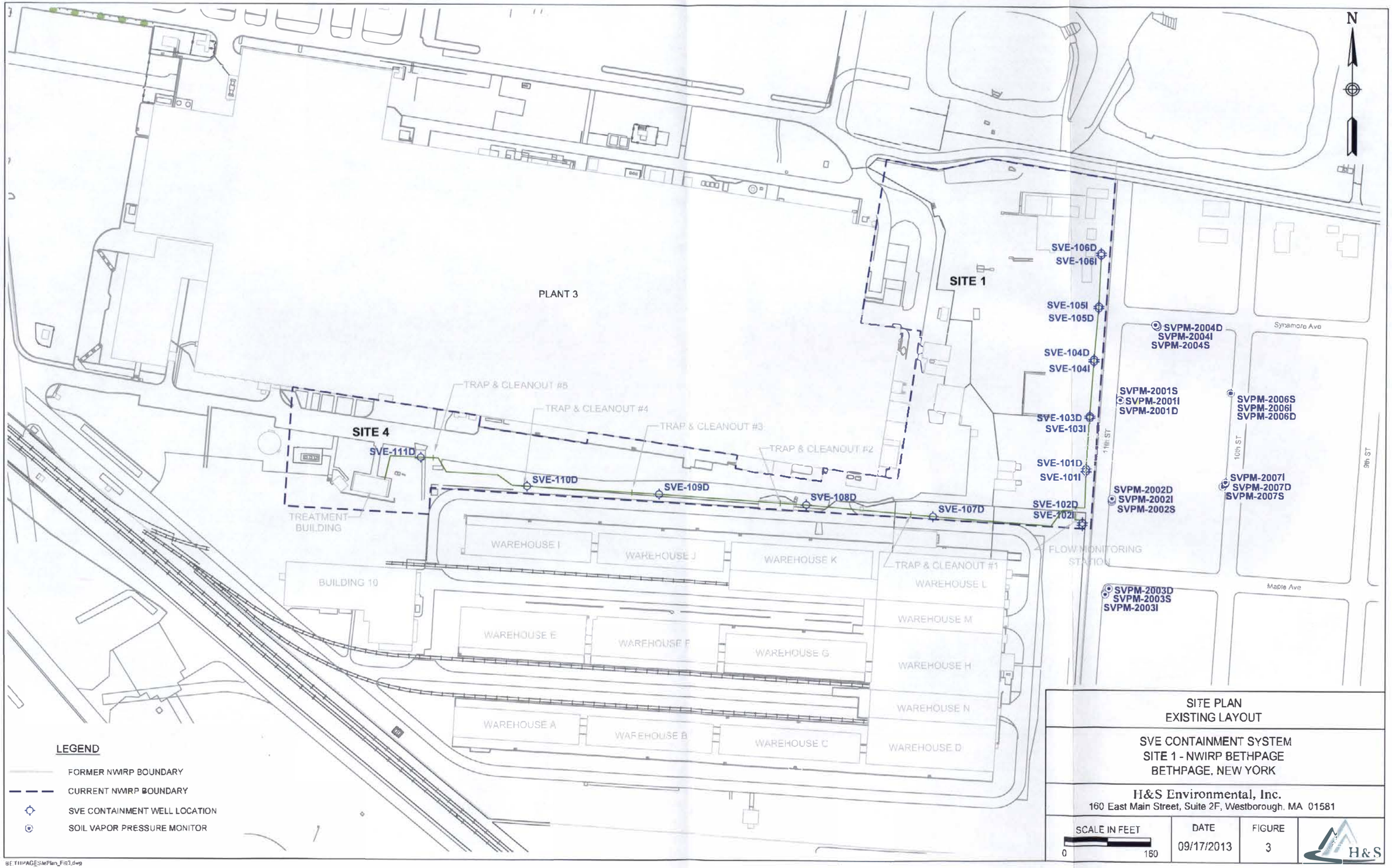


Department of the Navy
Naval Facilities Engineering Command, Mid-Atlantic

Site 1, Former Drum Marshalling Area
Naval Weapons Industrial Reserve Plant
Bethpage, NY

Figure 2
Site 1 Area and Vicinity

H&S Environmental, Inc.



SITE PLAN
EXISTING LAYOUT

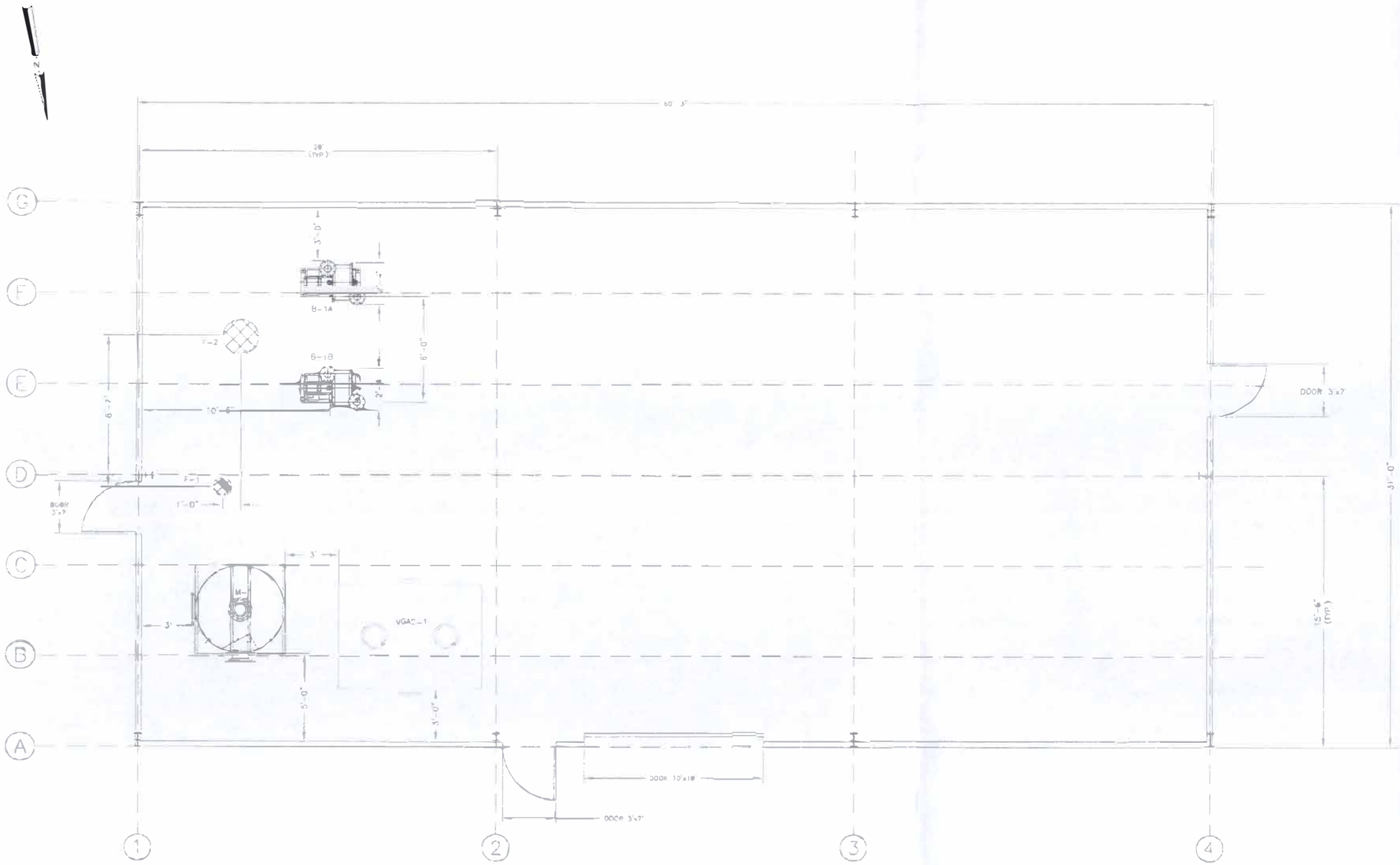
SVE CONTAINMENT SYSTEM
SITE 1 - NWIRP BETHPAGE
BETHPAGE, NEW YORK

H&S Environmental, Inc.
160 East Main Street, Suite 2F, Westborough, MA 01581

SCALE IN FEET	DATE	FIGURE
0 160	09/17/2013	3

H&S

BETHPAGESitePlan_Fig3.dwg



1" = 3'

NOTES:

1. ALL MAN DOORS AND OVERHEAD DOORS ARE EXISTING. MAN DOORS ARE APPROXIMATELY 7'X3'. OVERHEAD DOOR IS APPROXIMATELY 10'X10'.

PROCESS EQUIPMENT LIST

ITEM NUMBER	NUMBER REQUIRED	NAME/DESCRIPTION
M-1	1	MOISTURE SEPARATOR -CONFIGURATION: VERTICAL, CYLINDRICAL -MATERIAL OF CONSTRUCTION: CARBON STEEL, EPOXY INTERIOR COATING, PAINT EXTERIOR COATING -CAPACITY: 400 GALLON CONDENSATE COLLECTION -DIMENSIONS: 5 FT DIA X 6 FEET HT, 718 GALLON
F-1	1	MAKE-UP AIR FILTER -CONFIGURATION: INTAKE FILTER/SILENCER COMBINATION HOUSING -MATERIAL OF CONSTRUCTION: CARBON STEEL, CORROSION RESISTANCE COATING -CAPACITY: 500 CFM AT 20 IW, 4 INCH FLANGED CONNECTION
F-2	1	BLOWER AIR FILTER -CONFIGURATION: FILTER VACUUM SERVICE FILTER -MATERIAL OF CONSTRUCTION: CARBON STEEL, CORROSION RESISTANCE COATING -CAPACITY: 1,200 CFM AT 35 IW, 10 INCH FLANGED CONNECTION
B-1A B-1B	2	SOIL VAPOR EXTRACTION BLOWER -CONFIGURATION: HORIZONTAL CENTRIFUGAL -RATING: 600 CFM AT 40 IW -MOTOR 7.5 HP, 460V, 3PH, 60HZ, ODP
VGAC-1	1	VAPOR PHASE GRANULAR ACTIVATED CARBON -CONFIGURATION: RECTANGULAR TANK -MATERIAL OF CONSTRUCTION: CARBON STEEL, EPOXY INTERIOR COATING, EPOXY EXTERIOR COATING -RATING: 1,600 CFM AT 3 IW, 2,800 CFM AT 6 IW -CAPACITY: 5,000 LBS CARBON -DIMENSIONS: 6'X8' FOOTPRINT, 8'8" HT

TETRA TECH ENGINEERING CORPORATION PC

REV	DESCRIPTION	PREP BY	DATE	APPRVD
0	ISSUED FOR CONSTRUCTION	DLB	0 14-08	SGP

DEPARTMENT OF THE NAVY
NAVAL FACILITIES ENGINEERING COMMAND, MID-ATLANTIC
NAVAL WEAPONS INDUSTRIAL RESERVE PLANT
DESIGNED: NEW YORK
SITE 1, FORMER DRUM MARSHALLING AREA
SOIL VAPOR EXTRACTION CONTAINMENT SYSTEM
LAYOUT PLAN
CRANE AIR CONDITIONER, HARVEY
SEAL AREA
AUTHORIZED
SAT TO
DATE
CONT I.D. NO.
SCALE AS SHOWN
SPEC. NO.
CONTRACT NO. N62473-10-D-3211
NAVFAC DRAWING NO. Figure 4
SHEET OF
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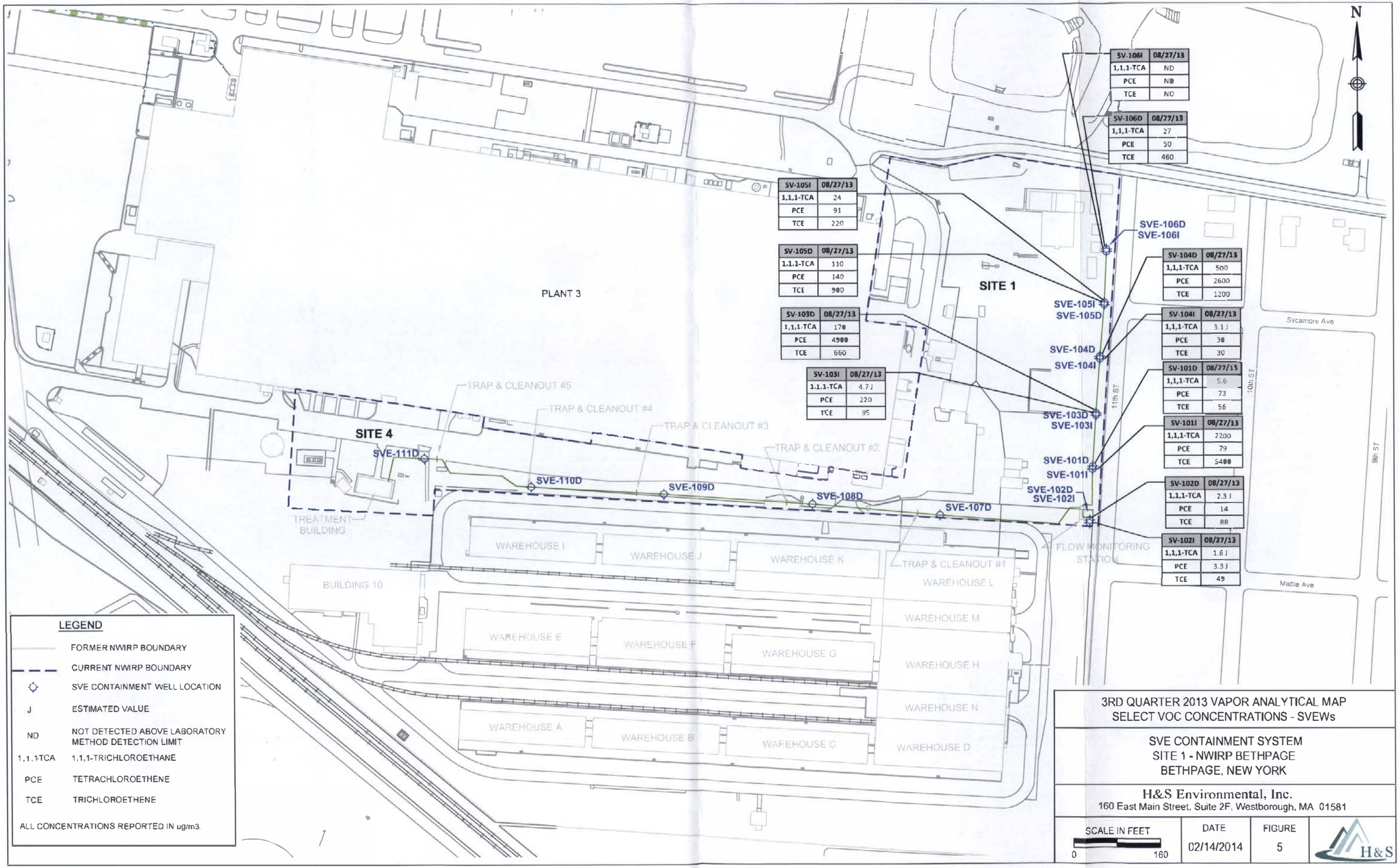
DFS SHT NO 1-3

THIS DRAWING PRODUCED ON AUTOCAD DO NOT REVISE MANUALLY



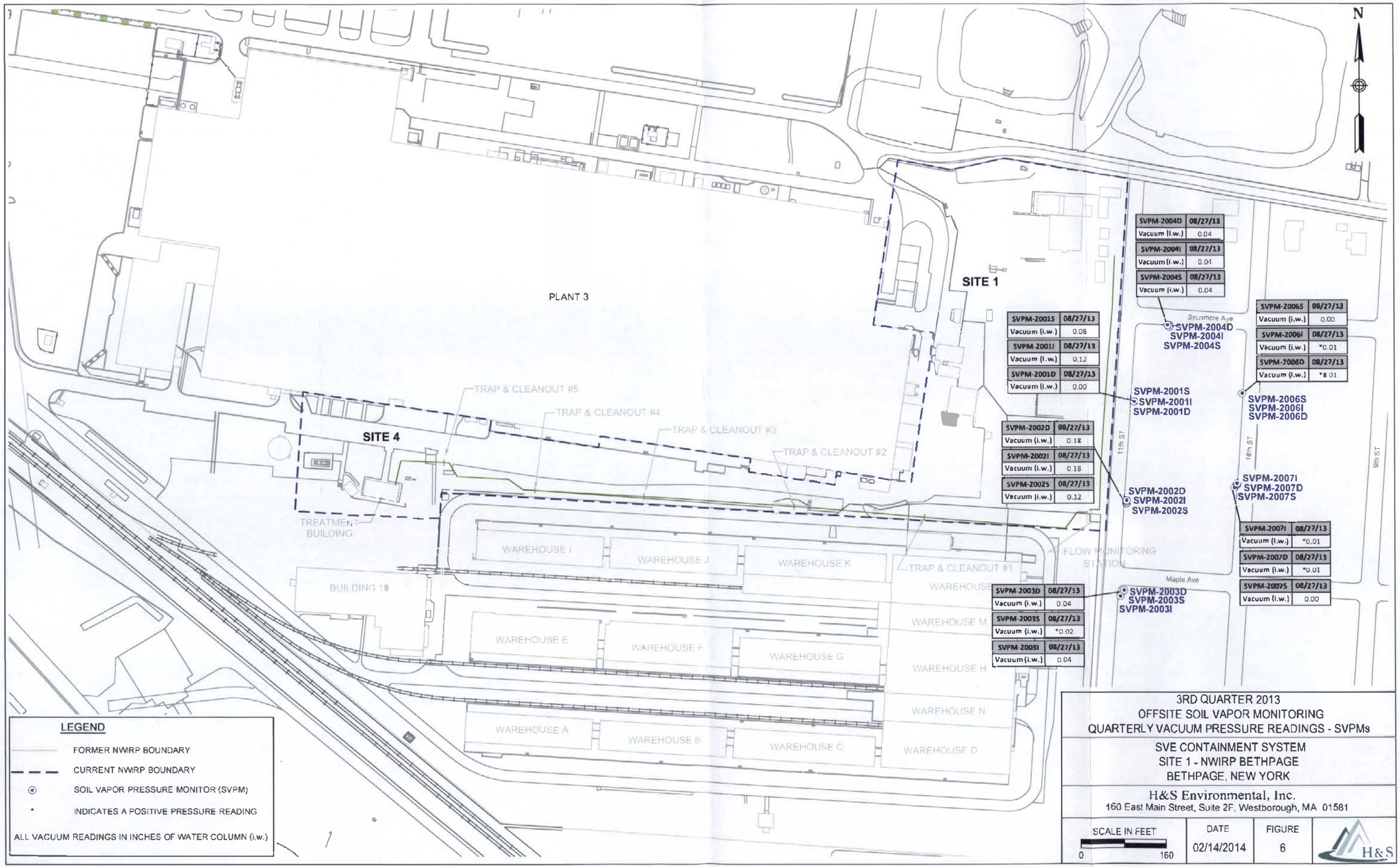
3RD QUARTER 2013 VAPOR ANALYTICAL MAP
SELECT VOC CONCENTRATIONS - SVEWs

SVE CONTAINMENT SYSTEM
SITE 1 - NWIRP BETHPAGE
BETHPAGE, NEW YORK

H&S Environmental, Inc.
160 East Main Street, Suite 2F, Westborough, MA 01581

SCALE IN FEET	DATE	FIGURE
0 160	02/14/2014	5

BETHPAGE_3Q13_VOC_SVEWs_Fig5.dwg



3RD QUARTER 2013
OFFSITE SOIL VAPOR MONITORING
QUARTERLY VACUUM PRESSURE READINGS - SVPMs

SVE CONTAINMENT SYSTEM
SITE 1 - NWIRP BETHPAGE
BETHPAGE, NEW YORK

H&S Environmental, Inc.
160 East Main Street, Suite 2F, Westborough, MA 01581

SCALE IN FEET	DATE	FIGURE
0 160	02/14/2014	6

BETHPAGE_3Q13_VAC_SVPM_Fig6.dwg

APPENDIX A

NYSDEC AIR PERMIT EQUIVALENT APPROVAL

New York State Department of Environmental Conservation
Division of Environmental Remediation
Bureau of Remedial Action A
625 Broadway, 11th Floor
Albany, New York 12233-7015
Phone: (518) 402-9625 • Fax: (518) 402-9022

Website: www.dec.state.ny.us

February 5, 2010

Lora Fly, Project Manager
Naval Facilities Engineering Command-Midlant
9742 Maryland Avenue
Norfolk, VA 23511-3095

RE: Naval Weapons Industrial Research Plant(NWIRP)
Site-Bethpage, NYSDEC No. 1-30-003B.

Dear Ms. Fly:

Tetra Tech FW, on behalf of the Department of the Navy (Navy), has submitted the enclosed New York State Department of Environmental Conservation (NYSDEC) Division of Air Resources (DAR) Air Permit Application as a permit equivalent. This DAR Air permit equivalent is for the soil vapor extraction system at Site 1 of Plant 3 of the former Naval Weapons Industrial Reserve Plant (NWIRP) site in Bethpage, NY. The NYSDEC Division of Environmental Remediation (DER) has reviewed the permit equivalent and, by means of this letter approves the Site 1 remedy air discharge for immediate operation.

The NWIRP Site 1 SVE system utilizes the reasonably available control technology (RACT) with activated carbon. The air discharge will be periodically monitored at start up and will be added for routine monitoring in the operation, maintenance and monitoring (OMM) plan, to be submitted shortly for Departmental review.

If you have any questions, please contact me at your earliest convenience at (518)402-9620.

Sincerely,

Steven M. Scharf, P.E.
Project Engineer
Division of Environmental Remediation
Bureau of Remedial Action A

Enclosure
ec/w/enc: J. Swartwout/S. Scharf/File
W. Parish, Region 1 NYSDEC
A. J. Shah, Region 1 NYSDEC
S. Patseles, Tetra Tech FW
J. Cofman, Northrop Grumman
E docs: Region 1, Nassau, Oyster Bay (T): NWIRP Bethpage 130003B-OU1-OMM

New York State Department of Environmental Conservation
Air Permit Application

DEC ID	APPLICATION ID	OFFICE USE ONLY
- -	- /	/ /

Section I - Certification

Title V Certification

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons directly responsible for gathering the information (required pursuant to 6 NYCRR 201-6.3(d)) I believe the information is, true, accurate and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fines and imprisonment for knowing violations.

Responsible Official	Title
Signature	Date / /

State Facility Certification

I certify that this facility will be operated in conformance with all provisions of existing regulations.

Responsible Official	Title
Signature	Date / /

Section II - Identification Information

Title V Facility Permit N/A
☐ New ☐ Significant Modification ☐ Administrative Amendment
☐ Renewal ☐ Minor Modification General Permit Title:

State Facility Permit N/A
☐ New ☐ Modification
General Permit Title:

☒ Application involves construction of new facility ☐ Application involves construction of new emission unit(s)

Owner/Firm

Name US Navy / NAVFAC Midlant
Street Address 9742 Maryland Ave, Bldg Z-144
City Norfolk State VA Country US Zip 23511 - 3095
Owner Classification ☒ Federal ☐ State ☐ Municipal ☐ Corporation/Partnership ☐ Individual
Taxpayer ID

Facility

☐ Confidential

Name Naval Weapons Industrial Reserve Plant (NWIRP) Site 1
Location Address Bethpage
☐ City / ☒ Town / ☐ Village Oyster Bay, New York Zip 11714

Project Description

☐ Continuation Sheet(s)

Vapor phase granular activated carbon to remove VOCs from soil gas

Owner/Firm Contact Mailing Address

Name (Last, First, Middle Initial) Fly, Lora		Phone No. (757) 444-0781
Affiliation Department of the Navy	Title Remedial PM	Fax No. ( )
Street Address 9742 Maryland Ave, Bldg Z-144		
City Norfolk	State VA Country US	Zip 23511-3095

Facility Contact Mailing Address

Name (Last, First, Middle Initial)		Phone No. ( )
Affiliation	Title	Fax No. ( )
Street Address		
City	State Country	Zip

New York State Department of Environmental Conservation
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DEC ID

Section III - Facility Information

Classification

☐ Hospital ☐ Residential ☐ Educational/Institutional ☐ Commercial ☒ Industrial ☐ Utility

Affected States (Title V Only) N/A

☐ Vermont ☐ Massachusetts ☐ Rhode Island ☐ Pennsylvania Tribal Land: _____
☐ New Hampshire ☐ Connecticut ☐ New Jersey ☐ Ohio Tribal Land: _____

SIC Codes

9999

Facility Description ☐ Continuation Sheet(s)

Soil vapor remediation by SVE followed by vapor phase GAC.

Compliance Statements (Title V Only) N/A

I certify that as of the date of this application the facility is in compliance with all applicable requirements: ☐ YES ☐ NO

If one or more emission units at the facility are not in compliance with all applicable requirements at the time of signing this application (the 'NO' box must be checked), the noncomplying units must be identified in the "Compliance Plan" block on page 8 of this form along with the compliance plan information required. For all emission units at this facility that are operating in compliance with all applicable requirements complete the following:

- ☐ This facility will continue to be operated and maintained in such a manner as to assure compliance for the duration of the permit, except those units referenced in the compliance plan portion of Section IV of this application.
- ☐ For all emission units, subject to any applicable requirements that will become effective during the term of the permit, this facility will meet all such requirements on a timely basis.
- ☐ Compliance certification reports will be submitted at least once a year. Each report will certify compliance status with respect to each requirement, and the method used to determine the status.

Facility Applicable Federal Requirements N/A ☐ Continuation Sheet(s)

Title	Type	Part	Sub Part	Section	Sub Division	Paragraph	Sub Paragraph	Clause	Sub Clause

Facility State Only Requirements ☐ Continuation Sheet(s)

Title	Type	Part	Sub Part	Section	Sub Division	Paragraph	Sub Paragraph	Clause	Sub Clause

New York State Department of Environmental Conservation
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- [ ][ ][ ][ ][ ]-[ ][ ][ ][ ]

Section III - Facility Information (continued)

Facility Compliance Certification N/A ☐ Continuation Sheet(s)

Rule Citation

Title	Type	Part	Sub Part	Section	Sub Division	Paragraph	Sub Paragraph	Clause	Sub Clause

☐ Applicable Federal Requirement ☐ State Only Requirement ☐ Capping

CAS No.	Contaminant Name
- -	

Monitoring Information

☐ Ambient Air Monitoring ☐ Work Practice Involving Specific Operations ☐ Record Keeping/Maintenance Procedures

Description

Work Practice Type	Process Material Code	Process Material Description	Reference Test Method

Parameter Code	Parameter Description	Manufacturer Name/Model No.

Limit Upper	Limit Lower	Limit Units Code	Limit Units Description

Averaging Method Code	Averaging Method Description	Monitoring Frequency Code	Monitoring Frequency Description	Reporting Requirements Code	Reporting Requirements Description

Facility Emissions Summary ☒ Continuation Sheet(s)

CAS No.	Contaminant Name	PTE (lbs/yr)	PTE Range Code	Actual (lbs/yr)
NY075 - 00 - 5	PM-10			
NY075 - 00 - 0	PARTICULATES			
7446 - 09 - 5	SULFUR DIOXIDE			
NY210 - 00 - 0	OXIDES OF NITROGEN			
630 - 08 - 0	CARBON MONOXIDE			
7439 - 92 - 1	LEAD			
NY998 - 00 - 0	VOC	1,222		
NY100 - 00 - 0	HAP	1,813		
00071 - 55 - 6	1,1,1-Trichloroethane (Methyl Chloroform)	591		
00127 - 18 - 4	Tetrachloroethylene	8		
00079 - 01 - 6	Trichloroethylene	1,151		
00075 - 34 - 3	1,1-Dichloroethane	11		
00075 - 35 - 4	1,1-Dichloroethylene (Vinylidine Chloride)	16		

New York State Department of Environmental Conservation
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Section III - Facility Information

Facility Emissions Summary (continuation)

CAS No.	Contaminant Name	PTE (lbs/yr)	PTE Range Code	Actual (lbs/yr)
00540-59-0	cis-1,2-Dichloroethene	5		
00107-06-2	1,2-Dichloroethane	0		
00156-60-5	trans-1,2-Dichloroethene	0		
00075-01-4	Vinyl Chloride	0		
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Section IV - Emission Unit Information

Emission Unit Description

☐ Continuation Sheet(s)

EMISSION UNIT 1-0OEU1 Effluent from first soil vapor extraction blower (BL-1)

Vapor Phase Granular Activated Carbon Unit. The emission point is stack COST-2

Building

☐ Continuation Sheet(s)

Building	Building Name	Length (ft)	Width (ft)	Orientation
C3-35	Treatment Building	60	40	0

Emission Point

☐ Continuation Sheet(s)

EMISSION PT: 00ST2

Ground Elev. (ft)	Height (ft)	Height Above Structure (ft)	Inside Diameter (in)	Exit Temp. (°F)	Cross Section Length (in)	Cross Section Width (in)
	36	6	8	70		
Exit Velocity (FPS)	**Exit Flow (ACFM)**	**NYTM (E) (KM)**	**NYTM (N) (KM)**	**Building**	**Distance to Property Line (ft)**	**Date of Removal**
	1,000			C3-35	100'	

EMISSION PT:

Ground Elev. (ft)	Height (ft)	Height Above Structure (ft)	Inside Diameter (in)	Exit Temp. (°F)	Cross Section Length (in)	Cross Section Width (in)
Exit Velocity (FPS)	**Exit Flow (ACFM)**	**NYTM (E) (KM)**	**NYTM (N) (KM)**	**Building**	**Distance to Property Line (ft)**	**Date of Removal**

Emission Source/Control

☐ Continuation Sheet(s)

Emission Source ID	Type	Date of Construction	Date of Operation	Date of Removal	Control Type Code	Control Type Description	Manufacturer's Name/Model No.
BL1/2	1				C48	Granular Act. Carbon	Tetrasolv Filtration

Design Capacity	Design Capacity Units Code	Design Capacity Units Description	Waste Feed Code	Waste Feed Description	Waste Type Code	Waste Type Description

Emission Source ID	Type	Date of Construction	Date of Operation	Date of Removal	Control Type Code	Control Type Description	Manufacturer's Name/Model No.

Design Capacity	Design Capacity Units Code	Design Capacity Units Description	Waste Feed Code	Waste Feed Description	Waste Type Code	Waste Type Description

New York State Department of Environmental Conservation
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Section IV - Emission Unit Information (continued)

Process Information

☐ Continuation Sheet(s)

EMISSION UNIT 1-CCEU1 PROCESS SVE

Description

The Soil Vapor Extraction System will consist of 12 SVE wells (6 intermediate and 6 deep), a moisture separator, and 2 soil vapor extraction blowers (BL-1 and BL-2) which both vent to a vapor phase granular activated carbon unit for treatment prior to discharge from stack 00STA. The VGAC unit will be a 5,000 pound unit filled with Tetrasolv Virgin Carbon. The VGAC unit has been designed to operate nominally at 1600 cfm, with a maximum of 1,800 cfm.

Source Classification Code (SCC)	Total Thruput		Thruput Quantity Units	
	Quantity/Hr	Quantity/Yr	Code	Description

☐ Confidential
☒ Operating at Maximum Capacity
☐ Activity with Insignificant Emissions

Operating Schedule		Building	Floor/Location
Hrs/Day	Days/Yr		
24	365	03-35	Main

Emission Source/Control Identifier(s)

BL-1	BL-2						

EMISSION UNIT [ ]-[ ][ ][ ][ ][ ] PROCESS [ ][ ][ ]

Description

Source Classification Code (SCC)	Total Thruput		Thruput Quantity Units	
	Quantity/Hr	Quantity/Yr	Code	Description

☐ Confidential
☐ Operating at Maximum Capacity
☐ Activity with Insignificant Emissions

Operating Schedule		Building	Floor/Location
Hrs/Day	Days/Yr		

Emission Source/Control Identifier(s)

New York State Department of Environmental Conservation
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Section IV - Emission Unit Information (continued)

Emission Unit	Emission Point	Process	Emission Source	Emission Unit Applicable Federal Requirements ❑ Continuation Sheet(s)									
				Title	Type	Part	Sub Part	Section	Sub Division	Parag.	Sub Parag.	Clause	Sub Clause
-													
-													
-													
-													

Emission Unit	Emission Point	Process	Emission Source	Emission Unit State Only Requirements ❑ Continuation Sheet(s)									
				Title	Type	Part	Sub Part	Section	Sub Division	Parag.	Sub Parag.	Clause	Sub Clause
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-													
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-													

Emission Unit Compliance Certification ❑ Continuation Sheet(s)

Rule Citation

Title	Type	Part	Sub Part	Section	Sub Division	Paragraph	Sub Paragraph	Clause	Sub Clause
6	NYCRR	212	-						

❑ Applicable Federal Requirement ❑ State Only Requirement ❑ Capping

Emission Unit	Emission Point	Process	Emission Source	CAS No.	Contaminant Name
1-00EU1	00ST3	SVE		00079-01-6	Trichloroethylene

Monitoring Information

- ❑ Continuous Emission Monitoring
- ☒ Intermittent Emission Testing
- ❑ Ambient Air Monitoring
- ❑ Monitoring of Process or Control Device Parameters as Surrogate
- ❑ Work Practice Involving Specific Operations
- ❑ Record Keeping/Maintenance Procedures

Description

Monthly grab samples analyzed for VOCs from the VGAC unit influent and effluent

Work Practice Type	Process Material Code	Process Material Description	Reference Test Method

Parameter Code	Parameter Description	Manufacturer Name/Model No.
83	Concentration	

Limit Upper	Limit Lower	Limit Units Code	Limit Units Description
36,000		255	micrograms per cubic meter

Averaging Method Code	Averaging Method Description	Monitoring Frequency Code	Monitoring Frequency Description	Reporting Requirements Code	Reporting Requirements Description
01	Instantaneous	05	Monthly	10	Upon Request

New York State Department of Environmental Conservation
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1-[ ][ ][ ][ ]-[ ][ ][ ][ ]

Section IV - Emission Unit Information (continued)

Determination of Non-Applicability (Title V Only) N/A ☐ Continuation Sheet(s)

Rule Citation

Title	Type	Part	Sub Part	Section	Sub Division	Paragraph	Sub Paragraph	Clause	Sub Clause

Emission Unit	Emission Point	Process	Emission Source	☐ Applicable Federal Requirement ☐ State Only Requirement
-				

Description

Rule Citation

Title	Type	Part	Sub Part	Section	Sub Division	Paragraph	Sub Paragraph	Clause	Sub Clause

Emission Unit	Emission Point	Process	Emission Source	☐ Applicable Federal Requirement ☐ State Only Requirement
-				

Description

Process Emissions Summary ☒ Continuation Sheet(s)

EMISSION UNIT 1-C0EU1 PROCESS SVE

CAS No.	Contaminant Name	% Thruput	% Capture	% Control	ERP (lbs/hr)	ERP How Determined
00071-55-6	1,1,1-Trichloroethane			80	0.34	02

PTE (lbs/hr)	PTE (lbs/yr)	PTE (standard units)	Standard Units	PTE How Determined	Actual (lbs/hr)	Actual (lbs/yr)
0.07	591			02		

EMISSION UNIT 1-C0EU1 PROCESS SVE

CAS No.	Contaminant Name	% Thruput	% Capture	% Control	ERP (lbs/hr)	ERP How Determined
00127-18-4	Tetrachloroethylene			80	0.00	02

PTE (lbs/hr)	PTE (lbs/yr)	PTE (standard units)	Standard Units	PTE How Determined	Actual (lbs/hr)	Actual (lbs/yr)
~~0.00~~ BRT	3			02		

EMISSION UNIT 1-C0EU1 PROCESS SVE

CAS No.	Contaminant Name	% Thruput	% Capture	% Control	ERP (lbs/hr)	ERP How Determined
00079-01-6	Trichloroethylene			80	0.07	02

PTE (lbs/hr)	PTE (lbs/yr)	PTE (standard units)	Standard Units	PTE How Determined	Actual (lbs/hr)	Actual (lbs/yr)
0.13	1,181			02		

New York State Department of Environmental Conservation
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Section IV - Emission Unit Information (continued)

EMISSION UNIT	Emission Unit Emissions Summary			☒ Continuation Sheet(s)
T-1-0-1-E-U-1				
CAS No.	Contaminant Name			
00075-34-3	1,1-Dichloroethane			
ERP (lbs/yr)	PTE Emissions		Actual	
	(lbs/hr)	(lbs/yr)	(lbs/hr)	(lbs/yr)
	BRT	11		
CAS No.	Contaminant Name			
00075-35-4	1,1-Dichloroethylene (Vinylidine Chloride)			
ERP (lbs/yr)	PTE Emissions		Actual	
	(lbs/hr)	(lbs/yr)	(lbs/hr)	(lbs/yr)
	BRT	16		
CAS No.	Contaminant Name			
00540-59-0	cis-1,2-Dichloroethene			
ERP (lbs/yr)	PTE Emissions		Actual	
	(lbs/hr)	(lbs/yr)	(lbs/hr)	(lbs/yr)
	BRT	5		
CAS No.	Contaminant Name			
00107-06-2	1,2-Dichloroethane			
ERP (lbs/yr)	PTE Emissions		Actual	
	(lbs/hr)	(lbs/yr)	(lbs/hr)	(lbs/yr)
	BRT	BRT		

Compliance Plan N/A

☐ Continuation Sheet(s)

For any emission units which are not in compliance at the time of permit application, the applicant shall complete the following

Consent Order — Certified progress reports are to be submitted every 6 months beginning ___/___/___

Emission Unit	Process	Emission Source	Applicable Federal Requirement									
			Title	Type	Part	Sub Part	Section	Sub Division	Parag.	Sub Parag	Clause	Sub Clause

Remedial Measure / Intermediate Milestones	R/I	Date Scheduled

New York State Department of Environmental Conservation
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Section IV - Emission Unit Information

EMISSION UNIT: 1-1018U1

Emission Unit Emissions Summary (continuation)

CAS No.	Contaminant Name	PTE Emissions (lbs/hr)	PTE Emissions (lbs/yr)	Actual (lbs/hr)	Actual (lbs/yr)	ERP (lbs/yr)
00156-60-5	trans-1,2-Dichloroethene	BRT	BRT			
75014-01-4	Vinyl Chloride	BRT	BRT			
- -						
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12/21/01

CONTINUATION SHEET __ OF __

New York State Department of Environmental Conservation
Air Permit Application

DEC ID

Section IV - Emission Unit Information (continued)

Request for Emission Reduction Credits

❑ Continuation Sheet(s)

EMISSION UNIT

Emission Reduction Description

Contaminant Emission Reduction Data

Baseline Period ___/___/___ to ___/___/___

CAS No.	Contaminant Name	Reduction Date	Reduction Method	ERC (lbs/yr) Netting	ERC (lbs/yr) Offset
- -		/ /			
- -					
- -					

Facility to Use Future Reduction

Name | APPLICATION ID

Location Address

❑ City / ❑ Town / ❑ Village | State | Zip

Use of Emission Reduction Credits

❑ Continuation Sheet(s)

EMISSION UNIT

Proposed Project Description

Contaminant Emissions Increase Data

CAS No.	Contaminant Name	PEP (lbs/yr)
- -		

Statement of Compliance

❑ All facilities under the ownership of this "ownership/firm" are operating in compliance with all applicable requirements and state regulations including any compliance certification requirements under Section 114(a)(3) of the Clean Air Act Amendments of 1990, or are meeting the schedule of a consent order.

Source of Emission Reduction Credit - Facility

Name | PERMIT ID

Location Address

❑ City / ❑ Town / ❑ Village | State | Zip

Emission Unit	CAS No.	Contaminant Name	ERC (lbs/yr) Netting	ERC (lbs/yr) Offset
-	- -			
-	- -			
-	- -			

DEC ID
I-IIIII-IIIII

Supporting Documentation

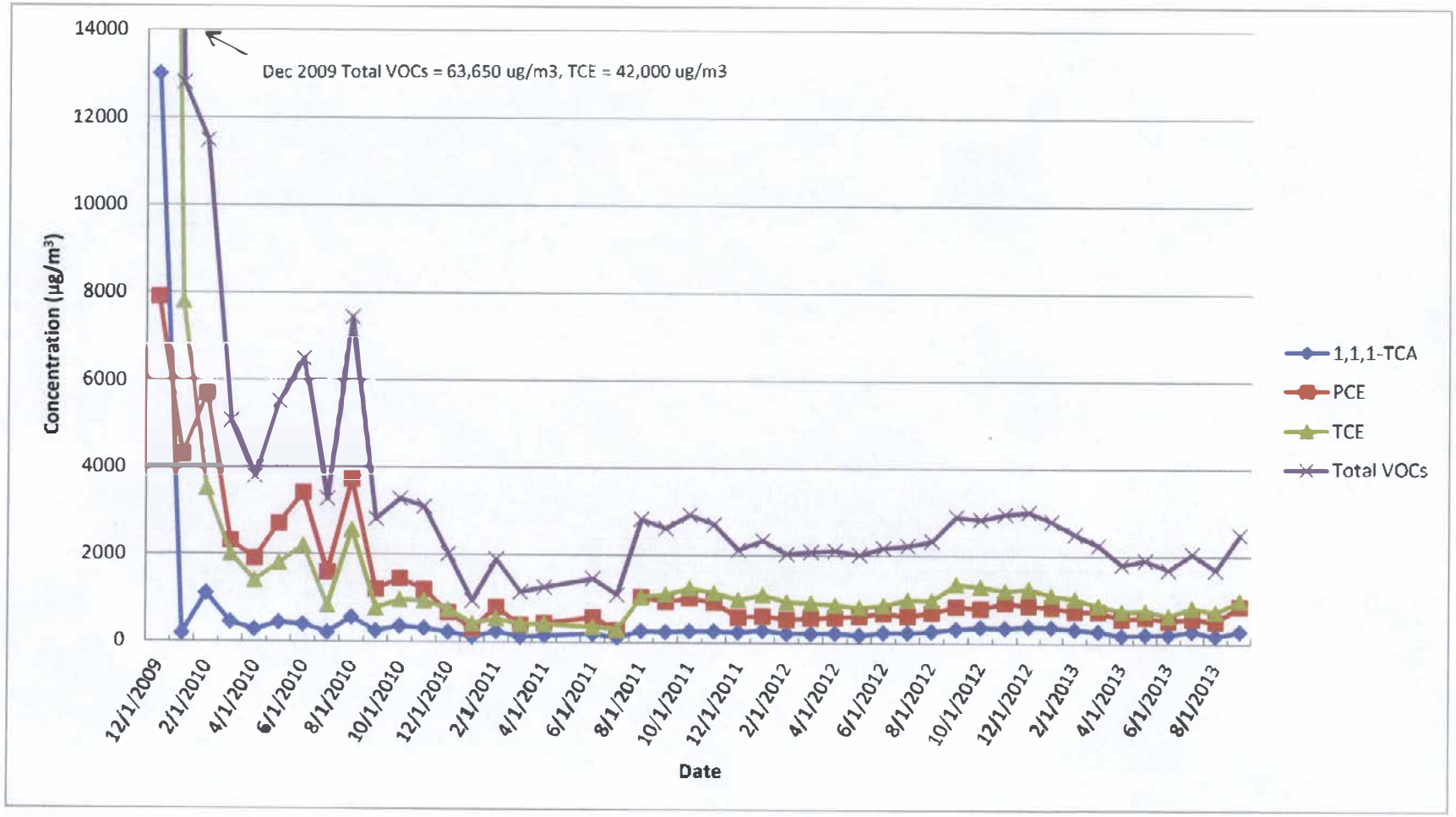
- ☐ P.E. Certification (form attached)
- ☐ List of Exempt Activities (form attached)
- ☐ PIoI Plan
- ☐ Methods Used Io Determine Compliance (form attached)
- ☒ Calculations
- ☐ Air Quality Model (____ / ____ / ____)
- ☐ Confidentiality Justification
- ☐ Ambient Air Monitoring Plan (____ / ____ / ____)
- ☐ Stack Test Protocols/Reports (____ / ____ / ____)
- ☐ Continuous Emissions Monitoring Plans/QA/QC (____ / ____ / ____)
- ☐ MACT Demonstration (____ / ____ / ____)
- ☐ Operational Flexibility: Description of Alternative Operating Scenarios and Protocols
- ☐ Title IV: Application/Registration
- ☐ ERC Quantification (form attached)
- ☐ Use of ERC(s) (form attached)
- ☐ Baseline Period Demonstration
- ☐ Analysis of Contemporaneous Emission Increase/Decrease
- ☐ LAER Demonstration (____ / ____ / ____)
- ☐ BACT Demonstration (____ / ____ / ____)
- ☐ Other Document(s): _____ (/ /)

APPENDIX B

VAPOR CONCENTRATION TREND GRAPHS

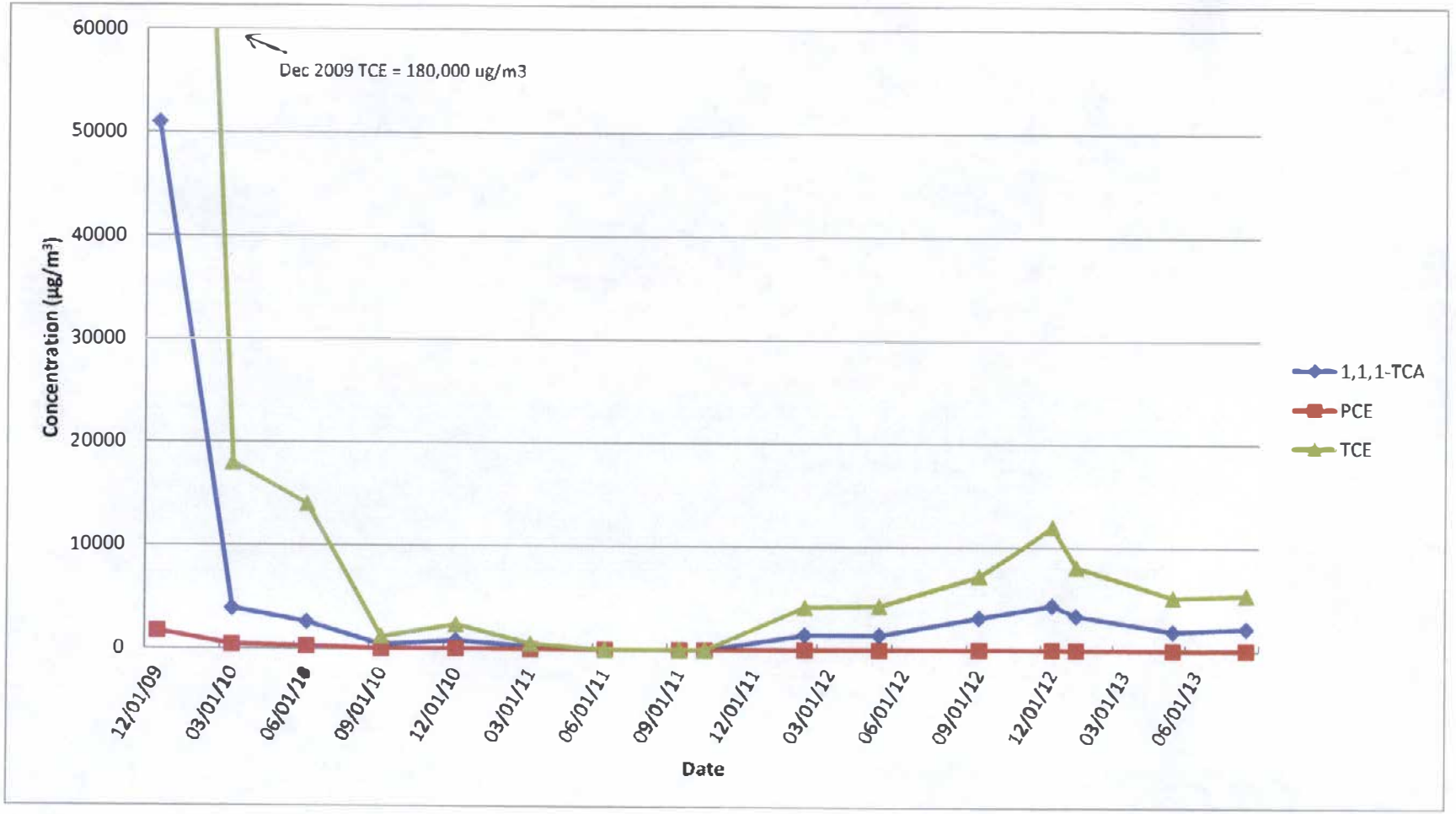
Soil Vapor Extraction Containment System
Site 1, Former Drum Marshalling Yard
Naval Weapons Industrial Reserve Plant - Bethpage, NY
Vapor Concentration Trends of Select and Total VOCs

COMBINED INFLUENT



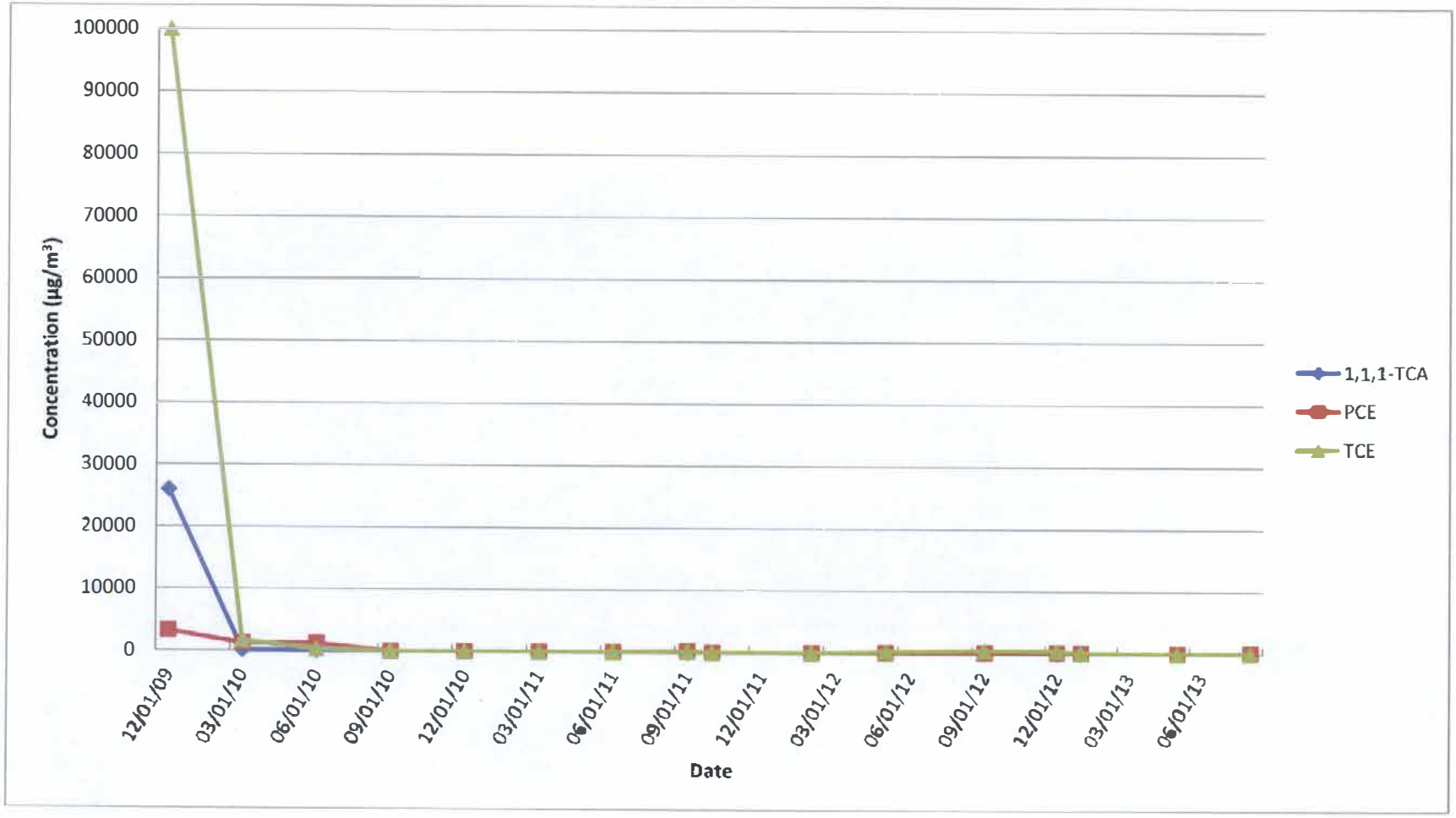
Soil Vapor Extraction Containment System
Site 1, Former Drum Marshalling Yard
Naval Weapons Industrial Reserve Plant - Bethpage, NY
Groundwater Concentration Trends of Select VOCs

SV-101I



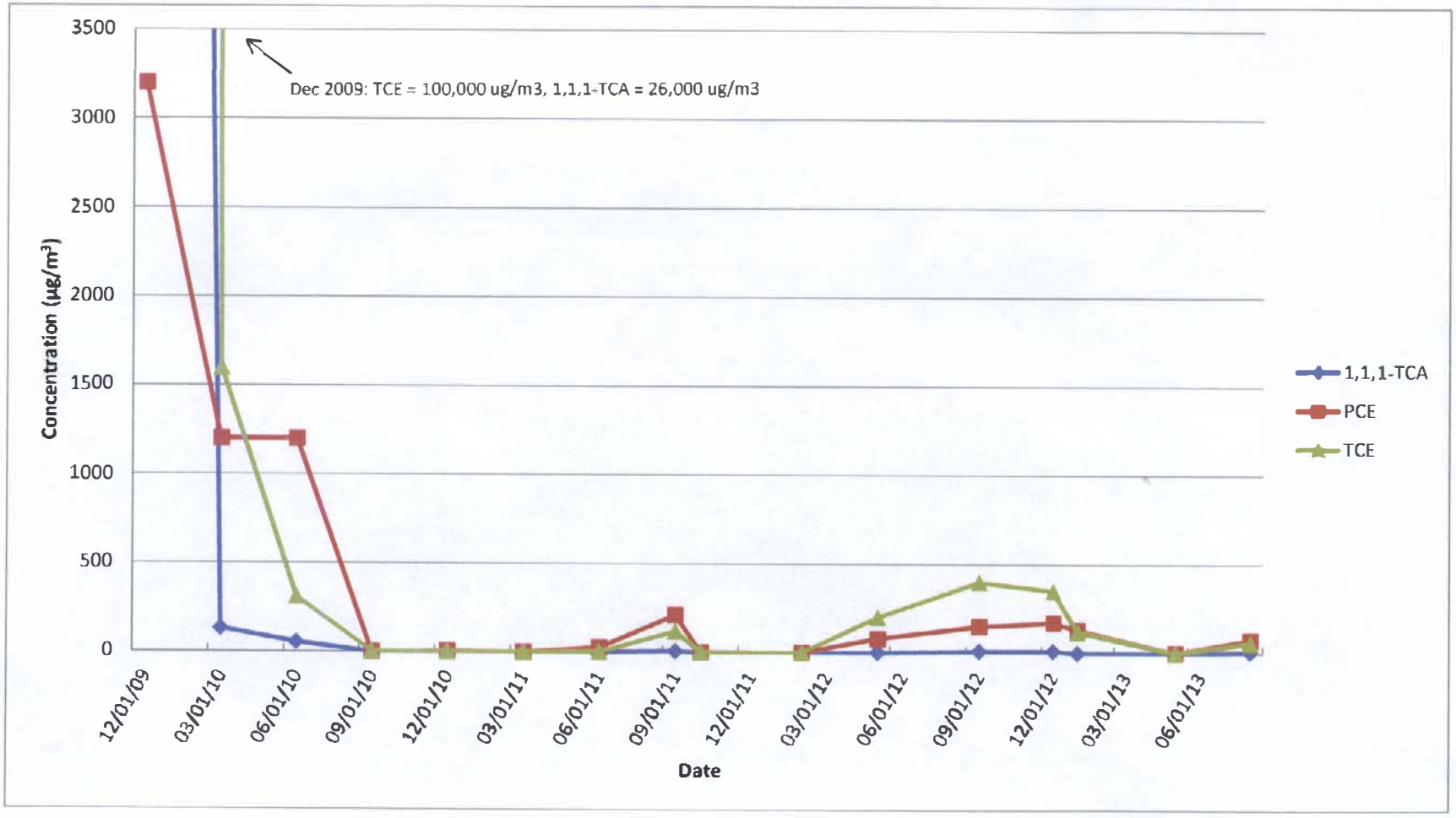
Soil Vapor Extracti[illegible]ontainment System
Site 1, Former Drum Marshalling Yard
Naval Weapons Industrial Reserve Plant - Bethpage, NY
Groundwater Concentration Trends of Select VOCs

SV-101D



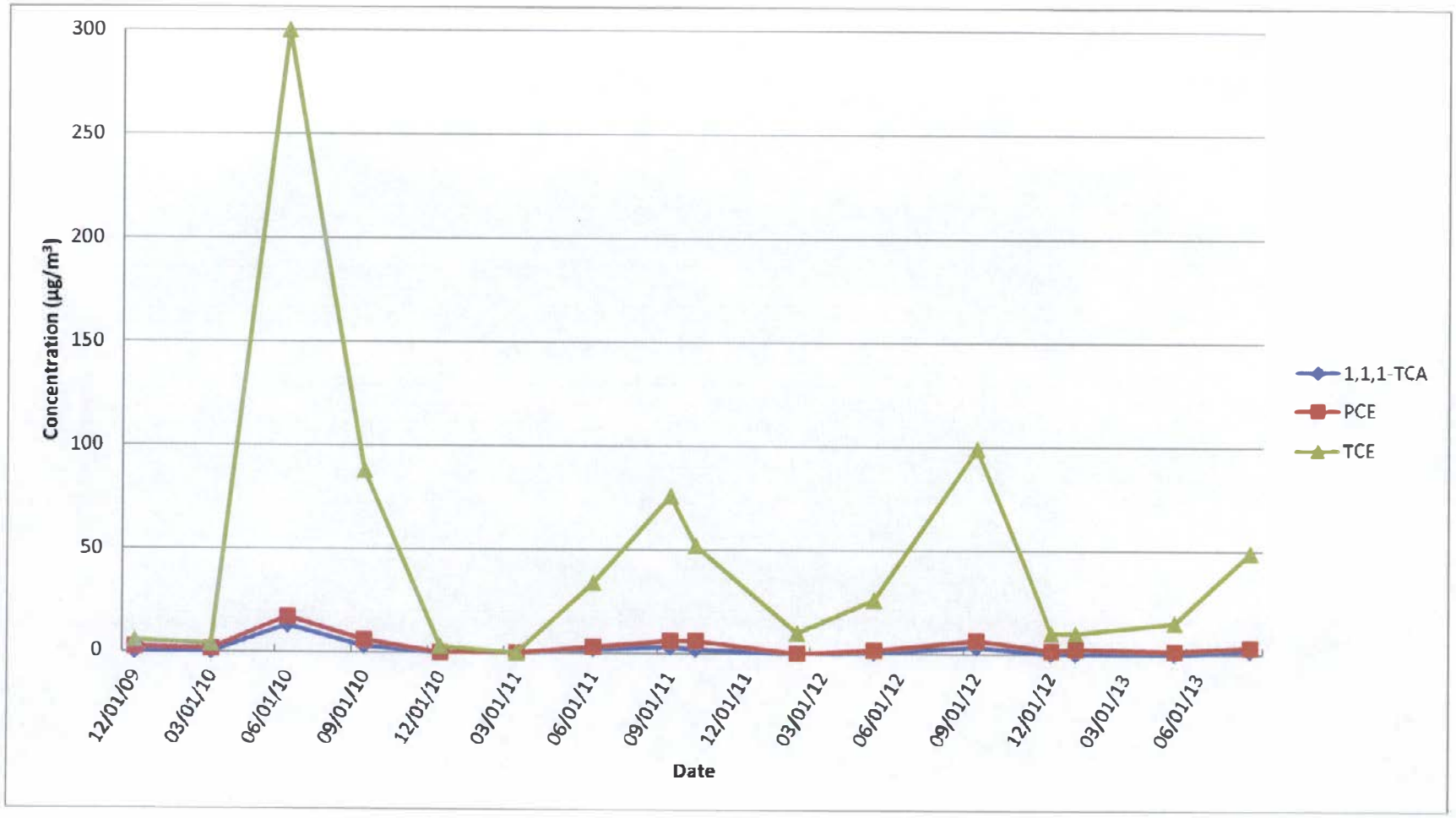
Soil Vapor Extracti[illegible]ontainment System
Site 1, Former Drum Marshalling Yard
Naval Weapons Industrial Reserve Plant - Bethpage, NY
Groundwater Concentration Trends of Select VOCs

SV-101D (smaller scale)



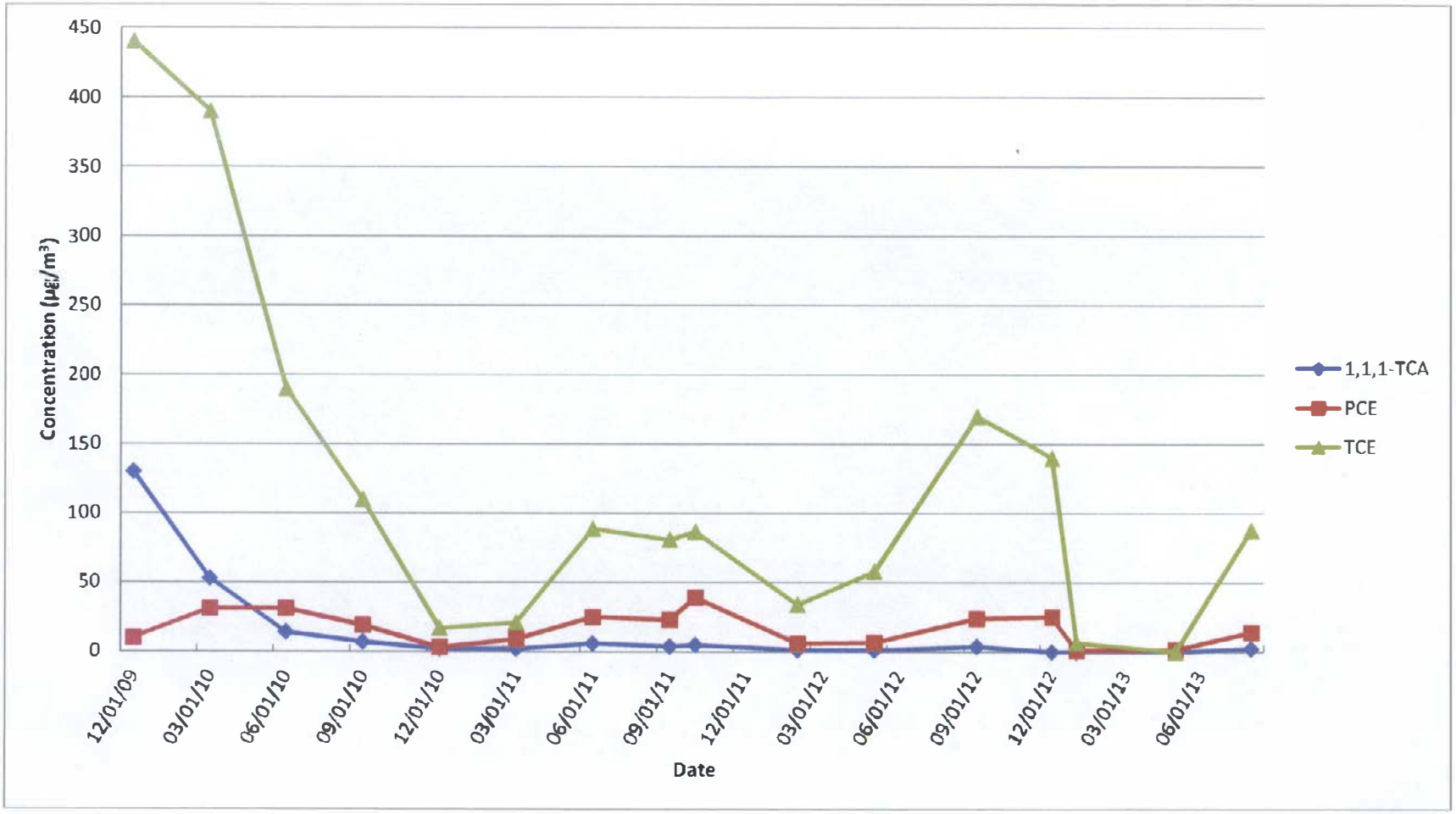
Soil Vapor Extraction Containment System
Site 1, Former Drum Marshalling Yard
Naval Weapons Industrial Reserve Plant - Bethpage, NY
Groundwater Concentration Trends of Select VOCs

SV102I



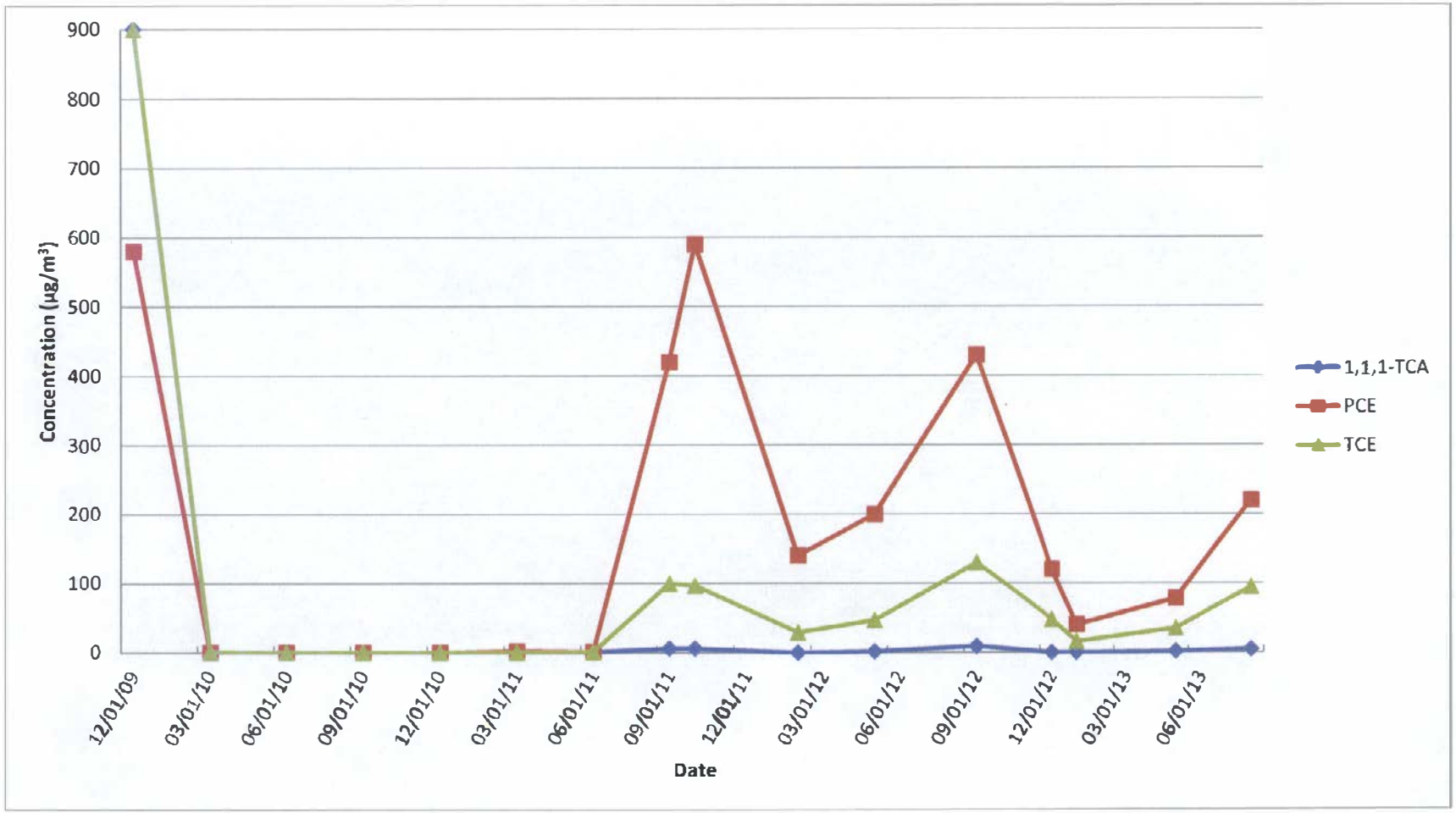
Soil Vapor Extracti[illegible]ontainment System
Site 1, Former Drum Marshalling Yard
Naval Weapons Industrial Reserve Plant - Bethpage, NY
Groundwater Concentration Trends of Select VOCs

SV-102D



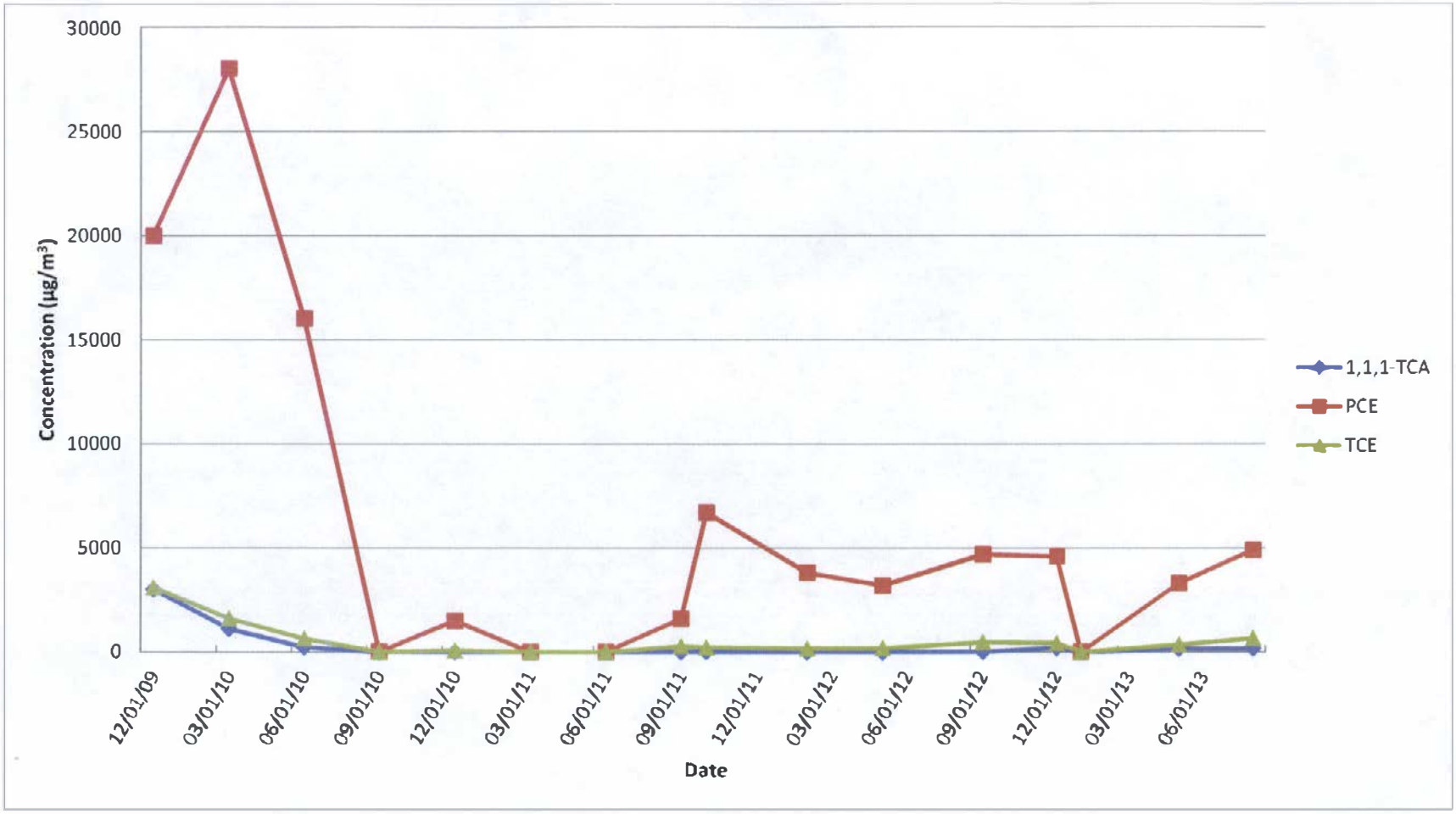
Soil Vapor Extraction Containment System
Site 1, Former Drum Marshalling Yard
Naval Weapons Industrial Reserve Plant - Bethpage, NY
Groundwater Concentration Trends of Select VOCs

SV-103I



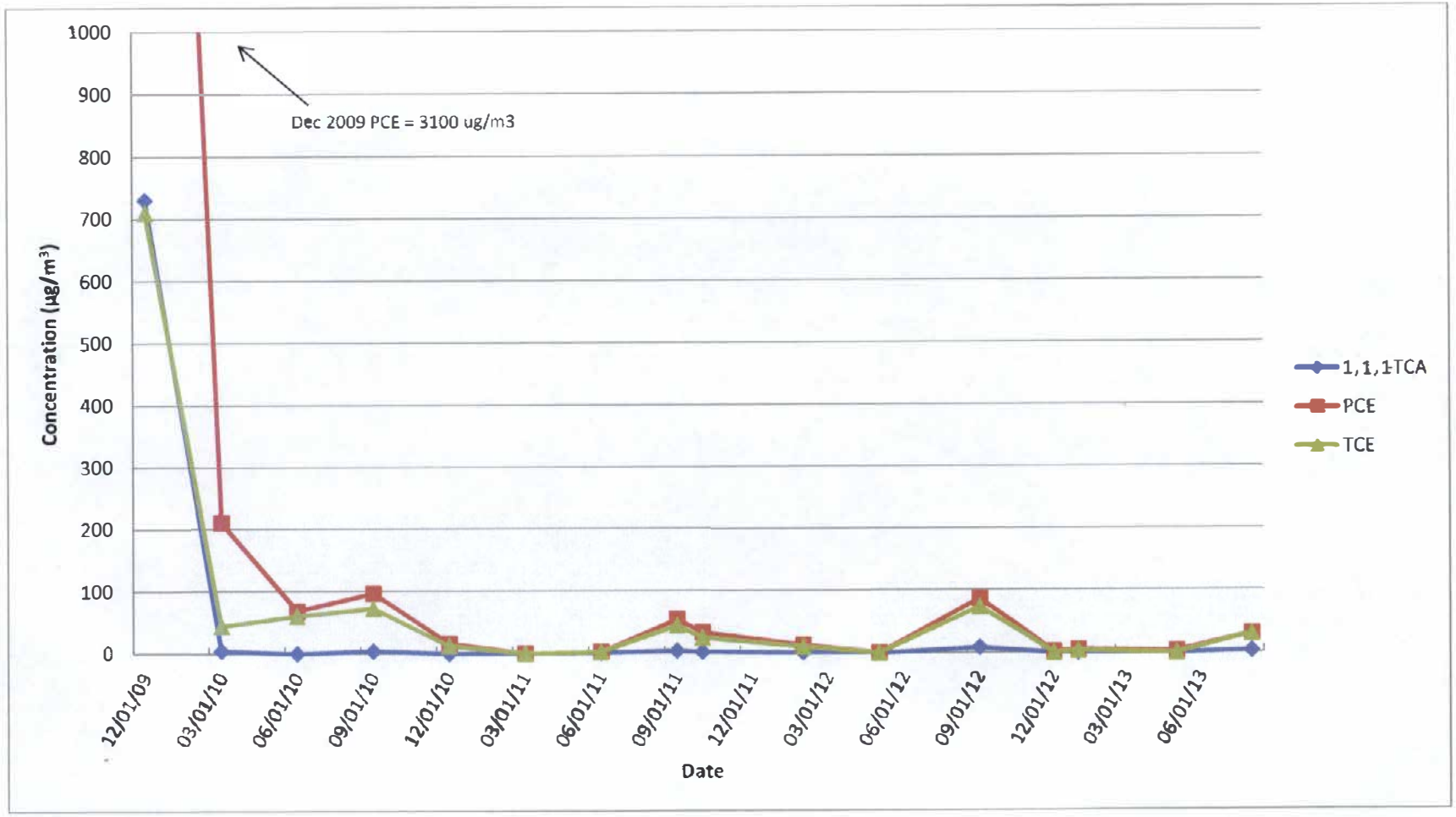
Soil Vapor Extraction & Containment System
Site 1, Former Drum Marshalling Yard
Naval Weapons Industrial Reserve Plant - Bethpage, NY
Groundwater Concentration Trends of Select VOCs

SV103D



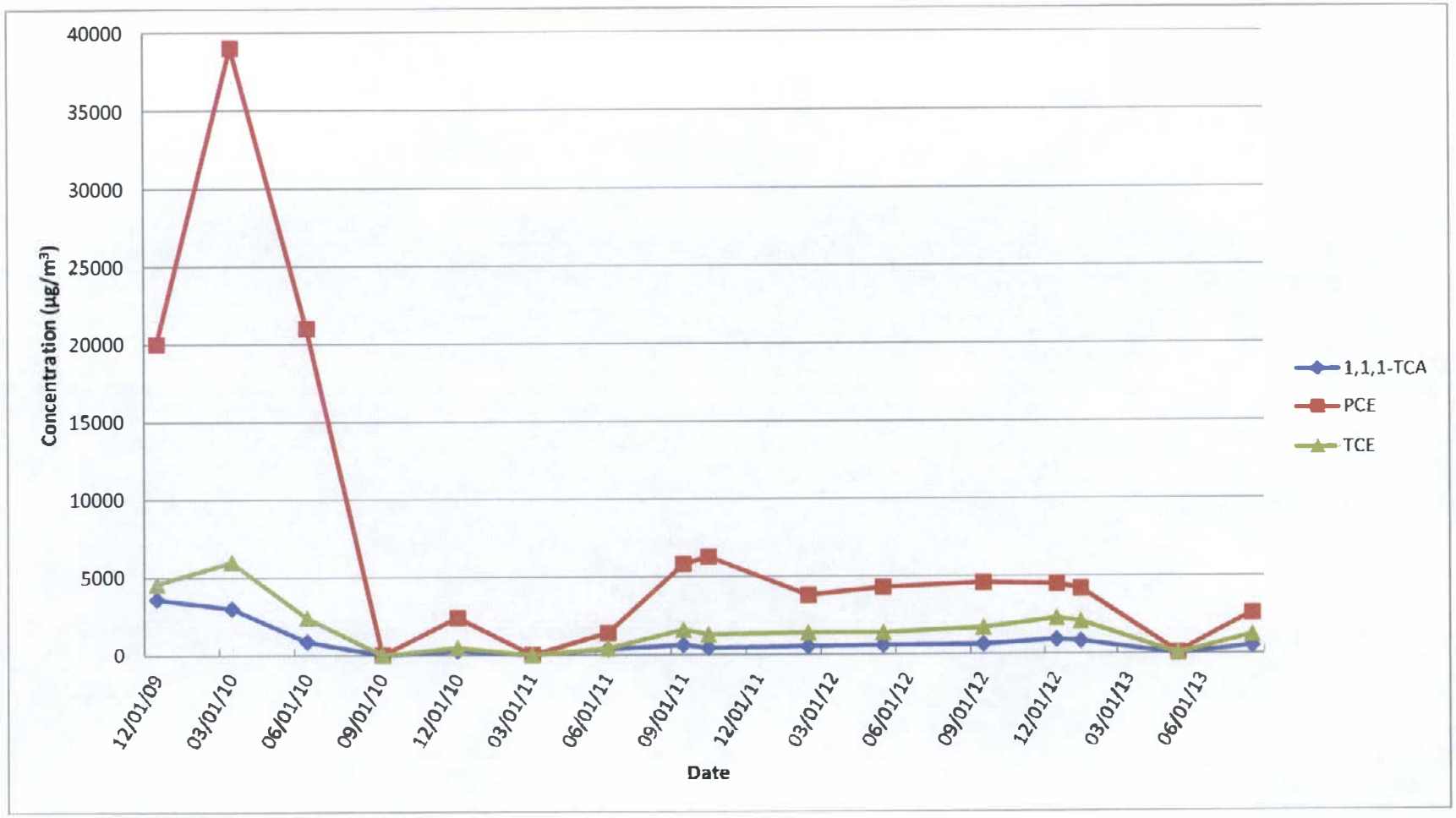
Soil Vapor Extracti[illegible]ontainment System
Site 1, Former Drum Marshalling Yard
Naval Weapons Industrial Reserve Plant - Bethpage, NY
Groundwater Concentration Trends of Select VOCs

SV104I



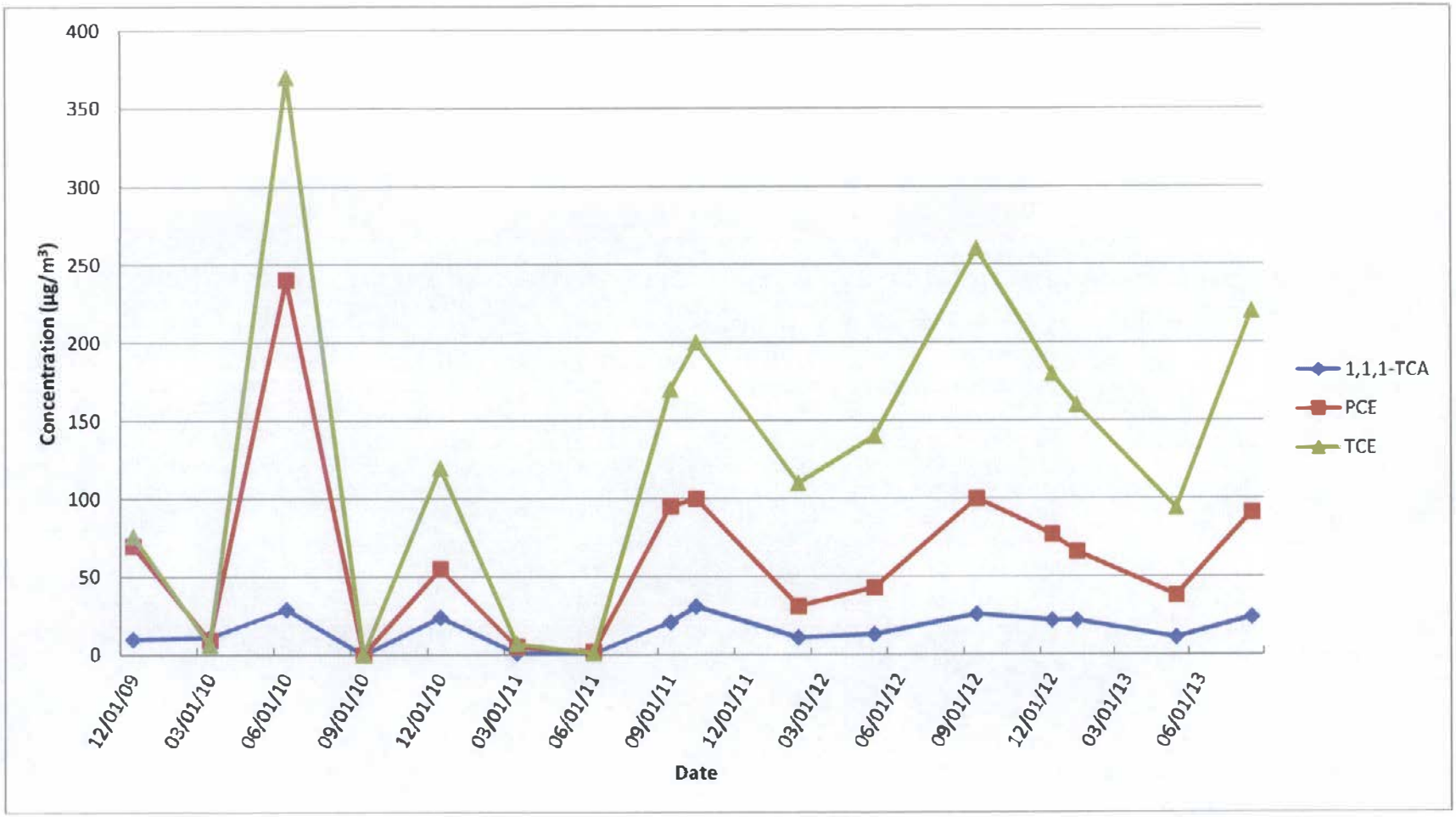
Soil Vapor Extracti[illegible]ontainment System
Site 1, Former Drum Marshalling Yard
Naval Weapons Industrial Reserve Plant - Bethpage, NY
Groundwater Concentration Trends of Select VOCs

SV-104D



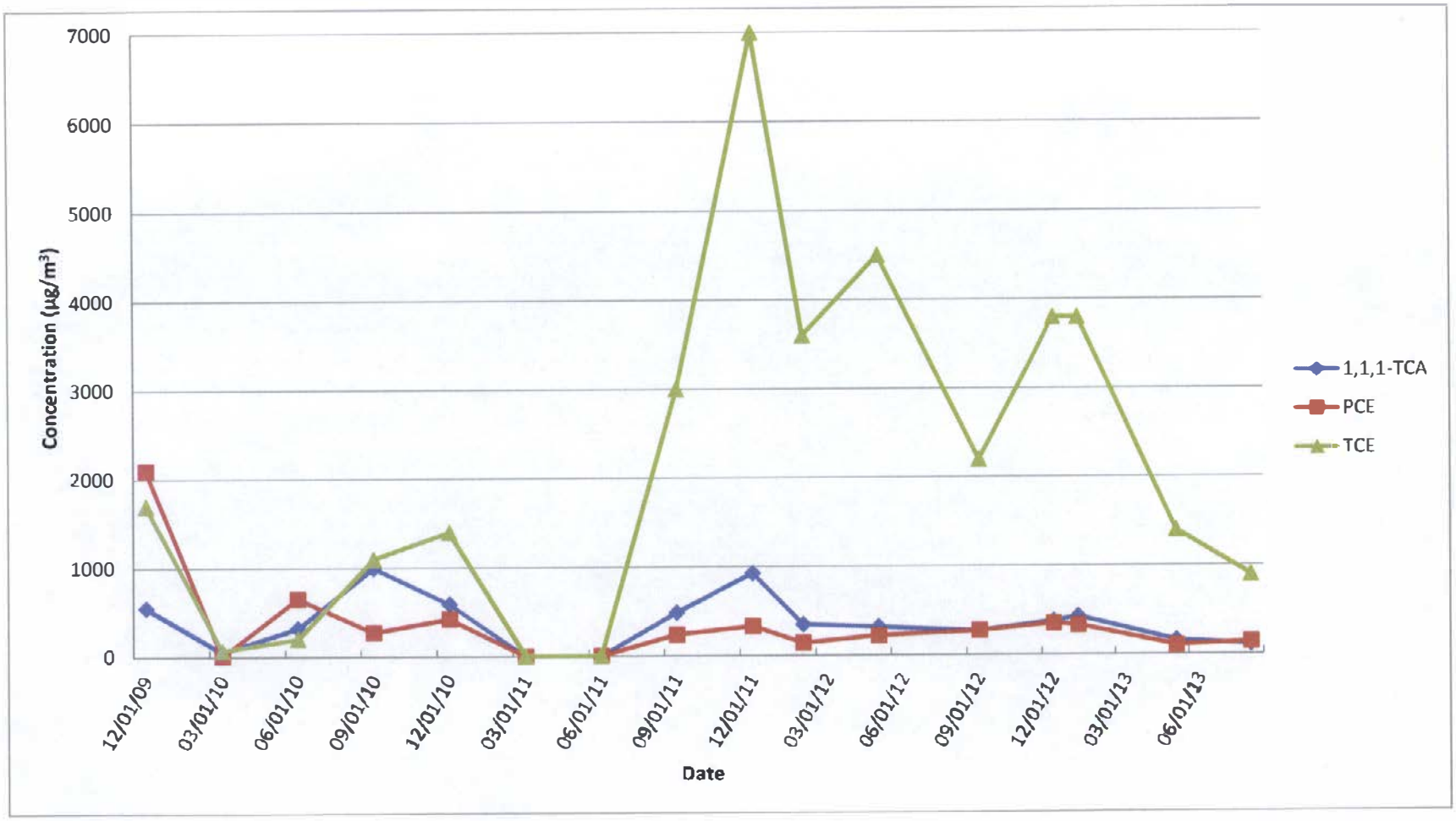
Soil Vapor Extracti[illegible]ontainment System
Site 1, Former Drum Marshalling Yard
Naval Weapons Industrial Reserve Plant - Bethpage, NY
Groundwater Concentration Trends of Select VOCs

SV-105I



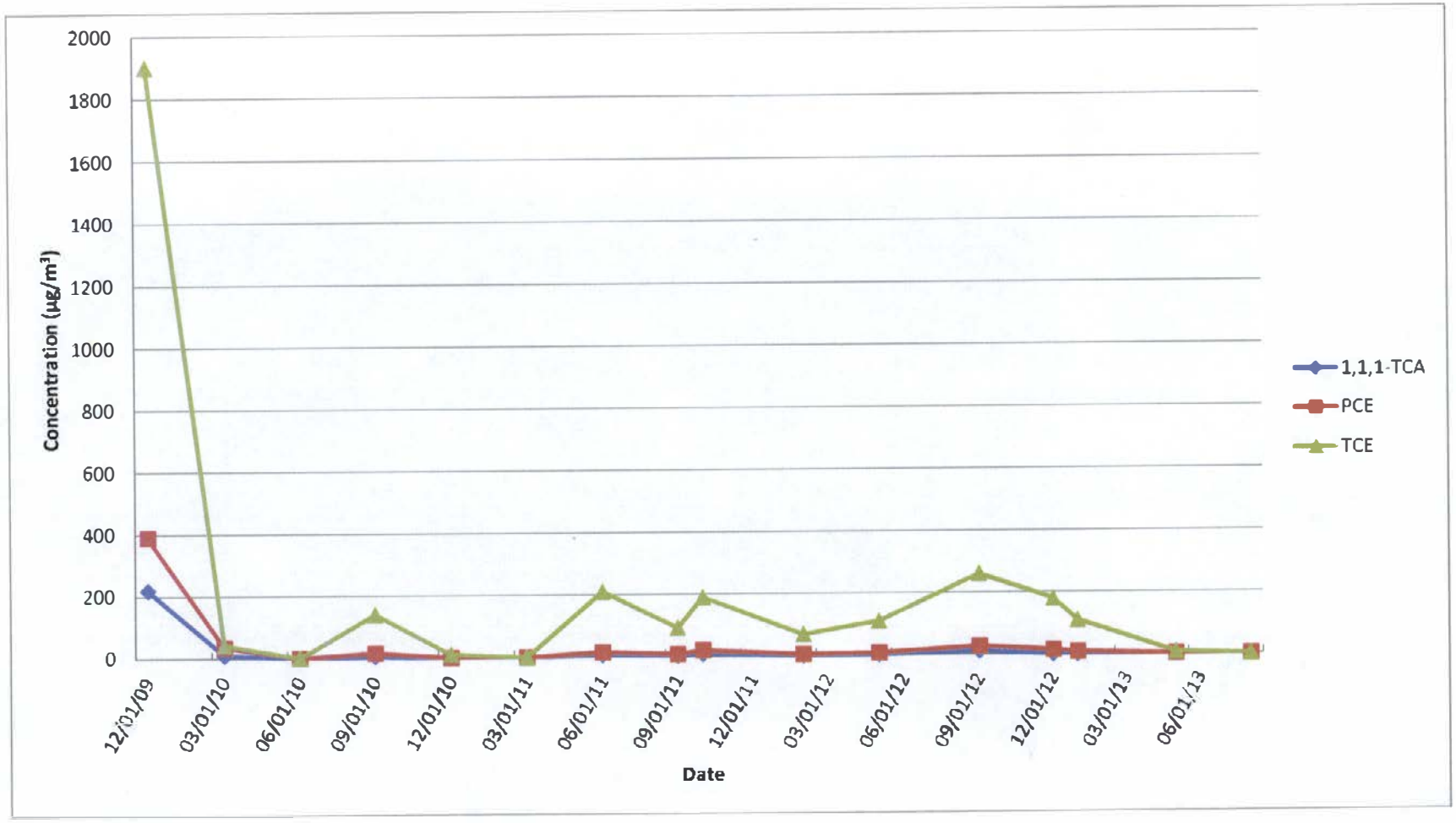
Soil Vapor Extracti[illegible]ontainment System
Site 1, Former Drum Marshalling Yard
Naval Weapons Industrial Reserve Plant - Bethpage, NY
Groundwater Concentration Trends of Select VOCs

SV-105D



Soil Vapor Extracti[illegible]ontainment System
Site 1, Former Drum Marshalling Yard
Naval Weapons Industrial Reserve Plant - Bethpage, NY
Groundwater Concentration Trends of Select VOCs

SV-106I



Soil Vapor Extracti[illegible]ontainment System
Site 1, Former Drum Marshalling Yard
Naval Weapons Industrial Reserve Plant - Bethpage, NY
Groundwater Concentration Trends of Select VOCs

SV-106D