2012 Annual Operations Report

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

May 2013

Prepared for:

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Norfolk, VA 23511

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5/23/13

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Acronyms and Abbreviations

bgs	below ground surface
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
LIPA	Long Island Power Authority
NAVFAC	Naval Facilities Engineering Command Mid-Atlantic
NELAC	National Environmental Accreditation Conference
NGC	Northrop Grumman Corporation
NWIRP	Naval Weapons Industrial Reserve Plant
NYSDEC	New York State Department of Environmental Conservation
NYDOH	New York 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 2012 Annual Operations Report 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 N40085-10-D-9409, Task Order No. 0005. This 2012 Annual Operations Report summarizes activities that occurred during 2012 and also further details activities that occurred during the Fourth Quarter 2012 (October 2012 through December 2012). 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.

The following quarterly reports, along with data collected during the Fourth Quarter (October through December), are used as a basis for this 2012 Annual Operations Report:

- *Final Quarterly Operations Report, First Quarter 2012, Soil Vapor Extraction Containment System Site 1, Former Drum Marshalling Yard, Naval Weapons Industrial Reserve Plant, Bethpage, New York* prepared by H&S in 2012.
- *Final Quarterly Operations Report, Second Quarter 2012, Soil Vapor Extraction Containment System Site 1, Former Drum Marshalling Yard, Naval Weapons Industrial Reserve Plant, Bethpage, New York* prepared by H&S in 2012.
- *Final Quarterly Operations Report, Third Quarter 2012, Soil Vapor Extraction Containment System Site 1, Former Drum Marshalling Yard, Naval Weapons Industrial Reserve Plant, Bethpage, New York* prepared by H&S in 2013.

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 the Northrop Grumman Corporation (NGC) until September 1998. NWIRP Bethpage is bordered on the north, west, and south by property owned, or formerly owned, by NGC that covered approximately 605 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 1941. 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), semivolatile 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 Department of Health (NYDOH) for subslab soil vapor concentrations. Of these compounds, TCE is the primary VOC of concern. Mitigation of TCE contamination in accordance with NYDOH 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 a minimum vacuum of 4 inches of water column (i.w.) and each deep SVEW requires a minimum 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 and removed by a portable pump into 55-gallon drums and then disposed of onsite to the County's sanitary sewer system when necessary. 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 TCE, PCE, and 1,1,1-TCA by modified method TO-15.

A total of 18 soil vapor pressure monitors (SVPMs)/soil gas monitoring points have been installed in the neighborhood east of Site 1 at NWIRP Bethpage. These off-site monitoring points consist of eight previously existing SVPMs as well as 10 SVPMs installed in September 2012, as described below. 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.

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.

In addition, the following routine maintenance task was also performed at the SVECS in 2012:

- The system was shut down on 5 January in order to change out the carbon in the VGAC unit.

2.2 Non-routine Maintenance / Site Activities

The following non-routine activities were performed at the SVECS in 2012:

- From 1 May through 12 June, the SVECS was shut down intermittently for a total of 136 hours while the Long Island Power Authority (LIPA) upgraded their system installing a new high voltage switch.

- On 5 September and 6 September, ten additional SVPMs were installed along 10th Avenue, 11th Avenue, and Sycamore Street and one SVPM was decommissioned in place, bringing the total number of off-site SVPMs to 18. Details of these installation activities are provided under separate cover. Quarterly monitoring of all 18 locations began in the Third Quarter, after installation of the 10 additional SVPMs was complete.

- On 5 September, blower motor B-1A failed and the system continued to operate using the second blower motor, B-1B. Blower motor B-1B subsequently failed on 24 September, and the system was down while procurement of two replacement blower motors occurred. Two new blower motors were installed on 3 October, and the system resumed operation. Adjustments were made to the system to limit the system flow rate to 400 scfm in order to avoid overloading the motors.

- The SVECS was shut down on 29 October in preparation for Superstorm Sandy. The SVECS resumed operation once power was restored on 31 October.

3.0 SVECS MONITORING

Several process vapor samples are collected on a monthly basis to monitor SVECS effectiveness. 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 determine the effectiveness of the remediation activities and 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). The first annual soil gas sampling event was conducted in the winter 2012-2013. Samples were collected from the 18 SVPMs in January 2013, and results of this sampling will be discussed in the corresponding quarterly operations report.

3.1 Monthly Air Quality Monitoring

Analysis of influent and effluent vapors is performed to evaluate VOC mass removal and the effectiveness of the VGAC adsorption unit. Composite 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**.

3.1.1 Fourth Quarter 2012 Summary

A summary of monthly vapor sampling results collected in October, November, and December (Fourth 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 contaminant mass recoveries are also presented. Contaminant mass recovery rates are calculated based on the influent concentrations and flow rate to monitor progress and to 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 guidelines (**Appendix A)**. Raw analytical data is provided under a separate cover.

Monthly emission rate calculations for January – September 2012 are included in previously submitted quarterly operations reports as indicated in Section 1.0.

3.1.2 2012 Annual Summary

Emissions

Table 4 summarizes annual air emissions based on monthly emissions during the 12-month period. During 2012, approximately 1.15 lbs of total VOCs were emitted. Annual emission of permitted constituents was well within the permit guidelines as indicated on **Table 4**.

Mass Recovery

Contaminant mass recovery was calculated based on monthly influent concentrations combined with monthly influent flow totals. During 2012, approximately 33.35 lbs of VOCs were removed by the SVECS, for an average monthly mass recovery rate of approximately 2.78 lbs per month. Monthly mass recovery calculations are presented in **Tables 1, 2, and 3**, and summarized annually in **Table 4**.

3.2 Quarterly Air Quality Monitoring

Composite 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 at maintaining hydraulic containment and capturing the contaminated soil vapors (TtEC 2010).

3.2.1 Fourth Quarter 2012 Summary

Quarterly vapor samples were collected on 5 December from the 12 SVEWs. A summary of detected compounds is included as **Table 5**. Raw analytical data is provided under a separate cover.

3.2.2 2012 Annual Summary

Results of quarterly vapor samples collected from the 12 SVEWs in 2012 are presented in **Table 6**, along with historical results beginning in December 2009. Analytical data associated with these results are presented in previously submitted quarterly operations reports as indicated in Section 1.0.

In addition, a geographical depiction of quarterly analytical results of select VOCs (1,1,1-TCA, PCE, and TCE) detected at the 12 SVEWs in 2012 is included as **Figure 5**.

3.3 Quarterly Off-site Vapor Monitoring

3.3.1 Fourth Quarter 2012 Summary

Vacuum 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. Results of the Fourth Quarter vapor monitoring are presented in **Table 7**.

3.3.2 2012 Annual Summary

Results of quarterly vapor monitoring in 2012, beginning with the Third Quarter, are presented in **Table 8**.

3.4 Air Quality Concentration Trends

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 through the Fourth Quarter 2012 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 remained relatively consistent throughout the Fourth Quarter 2012, with total VOC concentrations of 2,827 µg/m^3, 2,950 µg/m^3, and 2,998 µg/m^3 in October, November, and December, respectively. Combined influent VOC concentrations had increased from prior levels in August 2011 (2,820 µg/m^3) and then gradually leveled off prior to increasing again in September 2012 (2,892 µg/m^3), remaining near these levels for the remainder of 2012. Overall concentrations remain well below baseline concentrations observed in December 2009 when a total VOC concentration of 63,650 µg/m^3 was observed.

- SV-101I: Concentrations observed at this location decreased overall throughout 2010 and 2011 with minor fluctuations. Concentrations increased throughout 2012, reaching concentrations of 12,000 µg/m^3 TCE, 120 µg/m^3 PCE, and 4,400 µg/m^3 1,1,1-TCA in the Fourth Quarter, with PCE exhibiting the greatest increase. All concentrations remain well below baseline concentrations observed in December 2009 (180,000 µg/m^3 TCE, 1,700 µg/m^3 PCE, and 51,000 µg/m^3 1,1,1-TCA).

- SV-101D: No overall trend is discernible. Concentrations decreased through 2010, increased in the Third Quarter 2011, and then decreased in the Fourth Quarter 2011 reaching non-detectable levels in the First Quarter 2012. Concentrations again increased through the Fourth Quarter 2012 (350 µg/m^3 TCE, 170 µg/m^3 PCE, and 11 µg/m^3 1,1,1-TCA) with minor fluctuations. 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).

- SV-102I: No overall trend is discernible. Peak concentrations were observed in June 2010 (300 µg/m^3 TCE, 17 µg/m^3 PCE, and 13 µg/m^3 1,1,1-TCE) with concentrations decreasing throughout the remainder of 2010. Concentrations increased slightly and then decreased again during 2011. Concentrations again increased through the Third Quarter 2012 (99 µg/m^3 TCE, 6.4 µg/m^3 PCE, and 3.3 µg/m^3 1,1,1-TCA), then decreased again in the Fourth Quarter 2012. Though 2012 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); however, the concentrations are below peak observed in June 2010.

- SV-102D: Concentrations observed at this location decreased overall throughout 2010. Concentrations generally increased throughout 2011 but remained below baseline concentrations observed in December 2009 (440 µg/m^3 TCE, 10 µg/m^3 PCE, and 130 µg/m^3 1,1,1-TCA). Overall concentrations decreased in the First Quarter 2012. Concentrations of TCE and PCE then increased throughout 2012 with minor fluctuations, reaching 140 µg/m^3 TCE and 25 µg/m^3 PCE in the Fourth Quarter 2012. Concentrations of 1,1,1-TCE decreased throughout 2012 with minor fluctuations, reaching non-detectable levels in the Fourth Quarter 2012. Concentrations of TCE and 1,1,1-TCA remain well below baseline concentrations observed in December 2009, and concentrations of PCE, though above baseline concentrations, remain below the peak concentration observed in October 2011 (39 µg/m^3).

- SV-103I: Concentrations observed at this location have decreased from 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), remaining at low or non-detectable levels through the first half of 2011. Concentrations increased in the latter half of 2011 and varied throughout 2012, with concentrations of 48 µg/m^3 TCE, 120 µg/m^3 PCE, and non-detectable levels of 1,1,1-TCA in the Fourth Quarter 2012. All concentrations remain below baseline concentrations observed in December 2009.

- SV-103D: Concentrations observed at this location have decreased from peak concentrations observed in December 2009 (3,100 µg/m^3 TCE and 3,000 µg/m^3 1,1,1-TCA) and March 2010 (28,000 µg/m^3 PCE), decreasing to low or non-detectable levels through the first half of 2011. Concentrations increased in the latter half of 2011 and varied throughout 2012, with concentrations of 440 µg/m^3 TCE, 4,600 µg/m^3 PCE, and 190 µg/m^3 1,1,1-TCA in the Fourth Quarter 2012. All concentrations remain below baseline concentrations observed in December 2009.

- SV-104I: Concentrations observed at this location have decreased from 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), decreasing through the first half of 2011. Concentrations increased in the Third Quarter 2011, and then decreased, with varying concentrations throughout 2012, with a PCE concentration of 1.6 µg/m^3 PCE and non-detectable levels of TCE and 1,1,1-TCA in the Fourth Quarter 2012. All concentrations remain well below baseline concentrations observed in December 2009.

- SV-104D: Concentrations observed at this location have decreased from peak concentrations observed in December 2009 (3,600 µg/m^3 1,1,1-TCA) and March 2010 (6,000 µg/m^3 TCE and 39,000 µg/m^3 PCE), and continue to decrease through the Third Quarter 2010. Concentrations have varied since then, though remained relatively stable in 2012, with concentrations of 2,300 µg/m^3 TCE, 4,500 µg/m^3 PCE, and 920 µg/m^3 1,1,1-TCA observed in the Fourth Quarter 2012. All concentrations remain below baseline concentrations observed in December 2009.

- SV-105I: No overall trend is discernible. Peak concentrations were observed in June 2010 for TCE (370 µg/m^3) and PCE (240 µg/m^3) and October 2011 for 1,1,1-TCA (29 µg/m^3) with concentrations of TCE and PCE decreasing throughout the remainder of 2010 and into 2011. Concentrations increased during the latter half of 2011, and varied throughout 2012, with concentrations of 180 µg/m^3 TCE, 77 µg/m^3 PCE, and 22 µg/m^3 1,1,1-TCA in the Fourth Quarter 2012. 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); however, they are below peak concentrations observed in June 2010 and October 2011.

- SV-105D: No overall trend is discernible. Peak concentrations were observed for TCE in December 2011 (7,000 µg/m^3), PCE in December 2009 (2,100 µg/m^3), and 1,1,1-TCA in September 2010 (1,000 µg/m^3). Concentrations observed in the Fourth Quarter 2012 (3,800 µg/m^3 TCE, 350 µg/m^3 PCE, and 380 µg/m^3 1,1,1-TCA) were below baseline concentrations observed in October 2009 for PCE (2,100 µg/m^3) and 1,1,1-TCA (550 µg/m^3) and above baseline concentrations for TCE (1,700 µg/m^3). Concentrations observed in Fourth Quarter 2012 remain below peak concentrations observed for all three analytes.

- SV-106I: Concentrations observed at this location have decreased from 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 the peak concentrations observed to date. Concentrations have varied over time, but those observed in the Fourth Quarter 2012 (180 µg/m^3 TCE, 14 µg/m^3 PCE, and non-detectable levels of 1,1,1-TCA) remain well below baseline / peak concentrations.

- SV-106D: Concentrations observed at this location have decreased from baseline concentrations observed in December 2009 (3,900 µg/m^3 TCE, 390 µg/m^3 PCE, and 220 µg/m^3 1,1,1-TCA), which were also the peak concentrations observed to date. Concentrations have varied over time, but those observed in the Fourth Quarter 2012 (300 µg/m^3 TCE, 48 µg/m^3 PCE, and 18 µg/m^3 1,1,1-TCA) remain well below baseline / peak concentrations.

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. The removal of 33.35 lbs of VOCs by the SVECS in 2012 indicates that progress is being made toward these goals. Influent vapor analytical data with concentrations of TCE consistently greater than 250 $\mu g/m^3$ 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, as well as quarterly and annual monitoring of the SVPMs. Ongoing optimization activities should be performed in order to improve system performance.

5.0 REFERENCES

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TABLES

Table 1
Soil Vapor Extraction Containment System
Site 1, Former Drum Marshalling Yard
Naval Weapons Industrial Reserve Plant - Bethpage, NY
Vapor Monitoring Results
October 2012

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	5.8 J	11 J	8.4 J	5.2 J	0.0000	0.1025	0.0000	0.0635	0.0079
Carbon Disulfide	1.6 J	1.2 J	1.4 J	1.0 J	0.0000	0.0171	0.0000	0.0122	0.0013
Carbon Tetrachloride	1.6 J	1.3 J	1.5 J	0	0.0000	0.0177	0.0000	0.0000	0.0014
Chloroform	6.4	5.5	6.0	0	0.0000	0.0726	0.0000	0.0000	0.0056
Cumene	5.4	0	2.7	2.8 J	0.0000	0.0330	0.0000	0.0342	0.0025
1,1-Dichloroethane	22	18	20	8.1	0.0000	0.2442	0.0000	0.0989	0.0187
1,2-Dichloroethane	1.6 J	1.3 J	1.5 J	0	0.0000	0.0177	0.0000	0.0000	0.0014
1,1-Dichloroethene	1.6 J	2.1 J	1.9 J	1.1 J	0.0000	0.0226	0.0000	0.0134	0.0017
cis-1,2-Dichloroethene	200	170	185	72	0.0003	2.2584	0.0001	0.8789	0.1732
trans-1,2-Dichloroethene	2.5 J	1.7 J	2.1 J	0	0.0000	0.0256	0.0000	0.0000	0.0020
Ethanol	1.4 J	4.9 J	3.2 J	0.86 J	0.0000	0.0385	0.0000	0.0105	0.0029
Freon 11	7.4	6.3	6.9	5.2	0.0000	0.0836	0.0000	0.0635	0.0064
Freon 12	3.0 J	3.2 J	3.1 J	2.7 J	0.0000	0.0378	0.0000	0.0330	0.0029
Freon 113	110	91	101	6.2 J	0.0001	1.2269	0.0000	0.0757	0.0941
Hexane	0	1.2 J	0.60 J	0	0.0000	0.0073	0.0000	0.0000	0.0006
Methylene Chloride	0.72 J	0.95 J	0.84 J	0.45 J	0.0000	0.0102	0.0000	0.0055	0.0008
Tetrachloroethene	860	740	800	0	0.0011	9.7661	0.0000	0.0000	0.7492
Tetrahydrofuran	3.5	3.5	3.5	0.87 J	0.0000	0.0427	0.0000	0.0106	0.0033
Toluene	0.41 J	1.8 J	1.1 J	0	0.0000	0.0135	0.0000	0.0000	0.0010
1,1,1-Trichloroethane	400	350	375	6.6	0.0005	4.5778	0.0000	0.0806	0.3512
Trichloroethene	1400	1200	1300	0	0.0018	15.8699	0.0000	0.0000	1.2174
2,2,4-Trimethylpentane	1.7 J	2.1 J	1.9 J	0	0.0000	0.0232	0.0000	0.0000	0.0018
m,p-Xylene	0	0.68 J	0.34 J	0	0.0000	0.0042	0.0000	0.0000	0.0003
Total VOCs	3037	2618	2827	113	0.0039	34.5130	0.0002	1.3804	2.6476

Notes:

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

Average Monthly Vapor Temp (ºF) =	110
Average Monthly Flowrate (cfm) =	402
Average Monthly Flowrate (scfm) =	372
Operational Hours for the month =	672

(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
November 2012

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	6.3 J	6.0 J	6.2 J	9.1 J	0.0000	0.0714	0.0000	0.1057	0.0059
alpha-Chlorotoluene	0.66 J	0	0	0	0.0000	0.0038	0.0000	0.0000	0.0003
Benzene	0	0.91 J	0.46 J	0	0.0000	0.0053	0.0000	0.0000	0.0004
2-Butanone	0	2.6 J	1.3 J	0	0.0000	0.0151	0.0000	0.0000	0.0012
Carbon Disulfide	1.4 J	0	0.70 J	1.7 J	0.0000	0.0081	0.0000	0.0197	0.0007
Carbon Tetrachloride	2.1 J	1.3 J	1.7 J	0	0.0000	0.0197	0.0000	0.0000	0.0016
Chlorobenzene	2.3 J	2.0 J	2.2 J	2.2 J	0.0000	0.0250	0.0000	0.0255	0.0021
Chloroform	6.0	5.0	5.5	1.2 J	0.0000	0.0639	0.0000	0.0139	0.0052
Cumene	5.5	0	2.8	3.1 J	0.0000	0.0319	0.0000	0.0360	0.0026
1,2-Dichlorobenzene	1.8 J	1.0 J	1.4 J	0.88 J	0.0000	0.0163	0.0000	0.0102	0.0013
1,3-Dichlorobenzene	1.9 J	1.2 J	1.6 J	1.5 J	0.0000	0.0180	0.0000	0.0174	0.0015
1,4-Dichlorobenzene	2.2 J	1.5 J	1.9 J	1.6 J	0.0000	0.0215	0.0000	0.0186	0.0018
1,1-Dichloroethane	24	17	21	10	0.0000	0.2380	0.0000	0.1161	0.0196
1,2-Dichloroethane	1.4 J	1.2 J	1.3 J	0.72 J	0.0000	0.0151	0.0000	0.0084	0.0012
1,1-Dichloroethene	1.8 J	1.7 J	1.8 J	0	0.0000	0.0203	0.0000	0.0000	0.0017
cis-1,2-Dichloroethene	310	240	275	100	0.0004	3.1932	0.0001	1.1612	0.2625
trans-1,2-Dichloroethene	4.9	5.0	5.0	0	0.0000	0.0575	0.0000	0.0000	0.0047
Ethanol	0	5.6	2.8	0	0.0000	0.0325	0.0000	0.0000	0.0027
Ethylbenzene	0.50 J	0.46 J	0.48 J	0	0.0000	0.0056	0.0000	0.0000	0.0005
4-Ethyltoluene	0	1.2 J	0.60 J	0	0.0000	0.0070	0.0000	0.0000	0.0006
Freon 11	4.4	4.0	4.2	5.2	0.0000	0.0488	0.0000	0.0604	0.0040
Freon 12	3.7 J	3.1 J	3.4 J	3.4 J	0.0000	0.0395	0.0000	0.0395	0.0032
Freon 113	130	100	115	11	0.0002	1.3353	0.0000	0.1277	0.1098
Heptane	0	0.69 J	0.35 J	0	0.0000	0.0040	0.0000	0.0000	0.0003
Hexane	0.36 J	1.6 J	0.98 J	0	0.0000	0.0114	0.0000	0.0000	0.0009
Methylene Chloride	0.87 J	0	0.44 J	0	0.0000	0.0051	0.0000	0.0000	0.0004
Tetrachloroethene	1000	850	925	3.0 J	0.0012	10.7408	0.0000	0.0348	0.8828
Tetrahydrofuran	2.6	0	1.3	0	0.0000	0.0151	0.0000	0.0000	0.0012
Toluene	1.6 J	2.9	2.3 J	0.87 J	0.0000	0.0261	0.0000	0.0101	0.0021
1,2,4-Trichlorobenzene	8.5 J	0	4.3 J	0	0.0000	0.0493	0.0000	0.0000	0.0041
1,1,1-Trichloroethane	390	320	355	13	0.0005	4.1221	0.0000	0.1510	0.3388
Trichloroethene	1300	1100	1200	3.3 J	0.0016	13.9339	0.0000	0.0383	1.1453
1,2,4-Trimethylbenzene	0.69 J	1.0 J	0.8 J	0	0.0000	0.0098	0.0000	0.0000	0.0008
1,3,5-Trimethylbenzene	0	0.62 J	0.31 J	0	0.0000	0.0036	0.0000	0.0000	0.0003
2,2,4-Trimethylpentane	1.5 J	1.7 J	1.6 J	0	0.0000	0.0186	0.0000	0.0000	0.0015
m,p-Xylene	1.0 J	2.8 J	1.90 J	0	0.0000	0.0221	0.0000	0.0000	0.0018
o-Xylene	0	0.72 J	0.36 J	0	0.0000	0.0042	0.0000	0.0000	0.0003
Total VOCs	3218	2683	2950	172	0.0039	34.2588	0.0002	1.9945	2.8158

Notes:

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

Average Monthly Vapor Temp (ºF) = 100
Average Monthly Flowrate (cfm) = 376
Average Monthly Flowrate (scfm) = 354
Operational Hours for the month = 720

(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 3
Soil Vapor Extraction Containment System
Site 1, Former Drum Marshalling Yard
Naval Weapons Industrial Reserve Plant - Bethpage, NY
Vapor Monitoring Results
December 2012

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	6.6 J	7.8 J	7.2 J	8.2 J	0.0000	0.0843	0.0000	0.0960	0.0072
alpha-Chlorotoluene	0.38 J	0	0.19 J	0.50 J	0.0000	0.0022	0.0000	0.0059	0.0002
Carbon Disulfide	1.6 J	1.7 J	1.7 J	4.5 J	0.0000	0.0193	0.0000	0.0527	0.0016
Carbon Tetrachloride	1.8 J	1.8 J	1.8 J	0	0.0000	0.0211	0.0000	0.0000	0.0018
Chloroform	3.8	3.8 J	3.8 J	0	0.0000	0.0445	0.0000	0.0000	0.0038
Cumene	5.3	0	2.7	3.4 J	0.0000	0.0310	0.0000	0.0398	0.0026
Cyclohexane	9.0	8.9	9.0	0	0.0000	0.1048	0.0000	0.0000	0.0089
1,3-Dichlorobenzene	0.69 J	0	0.35 J	0.82 J	0.0000	0.0040	0.0000	0.0096	0.0003
1,4-Dichlorobenzene	0.91 J	0.59 J	0.75 J	1.0 J	0.0000	0.0088	0.0000	0.0117	0.0007
1,1-Dichloroethane	23	24	24	8.5	0.0000	0.2751	0.0000	0.0995	0.0234
1,2-Dichloroethane	1.1 J	1.1 J	1.1 J	0	0.0000	0.0129	0.0000	0.0000	0.0011
1,1-Dichloroethene	2.6 J	2.9 J	2.8 J	1.6 J	0.0000	0.0322	0.0000	0.0187	0.0027
cis-1,2-Dichloroethene	300	310	305	89	0.0004	3.5707	0.0001	1.0420	0.3033
trans-1,2-Dichloroethene	4.7	4.5	4.6	1.3 J	0.0000	0.0539	0.0000	0.0152	0.0046
trans-1,3-Dichloropropene	0.64 J	0.50 J	0.57 J	0.64 J	0.0000	0.0067	0.0000	0.0075	0.0006
Ethanol	3.1 J	0	1.6 J	2.2 J	0.0000	0.0181	0.0000	0.0258	0.0015
Freon 11	2.7 J	2.9 J	2.8 J	3.0 J	0.0000	0.0328	0.0000	0.0351	0.0028
Freon 12	2.2 J	2.4 J	2.3 J	2.6 J	0.0000	0.0269	0.0000	0.0304	0.0023
Freon 113	110	120	115	9.0	0.0002	1.3463	0.0000	0.1054	0.1143
Heptane	1.2 J	0	0.60 J	0	0.0000	0.0070	0.0000	0.0000	0.0006
Hexachlorobutadiene	0	0	0	0	0.0000	0.0000	0.0000	0.0000	0.0000
Hexane	1.9 J	0	0.95 J	0	0.0000	0.0111	0.0000	0.0000	0.0009
Methylene Chloride	0.58 J	0	0.29 J	0.51 J	0.0000	0.0034	0.0000	0.0060	0.0003
Tetrachloroethene	830	890	860	0	0.0011	10.0683	0.0000	0.0000	0.8551
Tetrahydrofuran	2.6	2.5 J	2.6 J	1.2 J	0.0000	0.0299	0.0000	0.0140	0.0025
Toluene	2.2 J	0	1.1 J	0.67 J	0.0000	0.0129	0.0000	0.0078	0.0011
1,2,4-Trichlorobenzene	0	0	0	3.3 J	0.0000	0.0000	0.0000	0.0386	0.0000
1,1,1-Trichloroethane	390	400	395	9.1	0.0005	4.6244	0.0000	0.1065	0.3928
Trichloroethene	1200	1300	1250	0	0.0017	14.6342	0.0000	0.0000	1.2429
2,2,4-Trimethylpentane	0.91 J	0.87 J	0.89 J	0	0.0000	0.0104	0.0000	0.0000	0.0009
Total VOCs	2910	3086	2998	151	0.0040	35.0973	0.0002	1.7683	2.9809

Notes:

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

Average Monthly Vapor Temp (ºF) = 90
Average Monthly Flowrate (cfm) = 372
Average Monthly Flowrate (scfm) = 357
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 4
Soil Vapor Extraction Containment System
Site 1, Former Drum Marshalling Yard
Naval Weapons Industrial Reserve Plant - Bethpage, NY
2012 Air Emission and Mass Recovery Summary

	1,1-DCA Effluent Emission Rate		1,1-DCE Effluent Emission Rate		cis-1,2-DCE Effluent Emission Rate		PCE Effluent Emission Rate		1,1,1-TCA Effluent Emission Rate		TCE Effluent Emission Rate		Total VOCs Effluent Emission Rate		Mass Recovery (Total VOCs)
Month	**lb/hr**	**lb/mo**	**lb/hr**	**lb/mo**	**lb/hr**	**lb/mo**	**lb/hr**	**lb/mo**	**lb/hr**	**lb/mo**	**lb/hr**	**lb/mo**	**lb/hr**	**lb/mo**	**lb/mo**
Jan-12	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0016	0.0001	0.0660	2.9026
Feb-12	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0025	0.0000	0.0266	2.5033
Mar-12	0.0000	0.0000	0.0000	0.0000	0.0000	0.0008	0.0000	0.0029	0.0000	0.0005	0.0000	0.0084	0.0001	0.0621	2.5957
Apr-12	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0017	0.0001	0.0910	2.7075
May-12	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0174	2.4540
Jun-12	0.0000	0.0020	0.0000	0.0000	0.0000	0.0095	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0001	0.0365	2.7199
Jul-12	0.0000	0.0054	0.0000	0.0000	0.0000	0.0356	0.0000	0.0000	0.0000	0.0000	0.0000	0.0033	0.0001	0.0855	2.9330
Aug-12	0.0000	0.0081	0.0000	0.0000	0.0001	0.0666	0.0000	0.0000	0.0000	0.0015	0.0000	0.0024	0.0002	0.1402	3.1048
Sep-12	0.0000	0.0000	0.0000	0.0000	0.0000	0.0050	0.0000	0.0037	0.0000	0.0000	0.0000	0.0024	0.0003	0.1931	2.9801
Oct-12	0.0000	0.0084	0.0000	0.0011	0.0001	0.0747	0.0000	0.0000	0.0000	0.0068	0.0000	0.0000	0.0002	0.1172	2.6476
Nov-12	0.0000	0.0095	0.0000	0.0000	0.0001	0.0954	0.0000	0.0029	0.0000	0.0088	0.0000	0.0031	0.0002	0.1639	2.8158
Dec-12	0.0000	0.0085	0.0000	0.0016	0.0001	0.0885	0.0000	0.0000	0.0000	0.0090	0.0000	0.0000	0.0002	0.1502	2.9809

	1,1-DCA	1,1-DCE	cis-1,2-DCE	PCE	1,1,1-TCA	TCE	Total VOCs	
Discharge Goal (lb/yr)	**11**	**16**	**5**	**8**	**591**	**1,181**	**---**	
2012 Totals (lb/yr)	**0.0419**	**0.0027**	**0.3761**	**0.0094**	**0.0266**	**0.0253**	**1.1496**	**33.3451**

Notes:

lb/hr = pounds per hour
lb/mo = pounds per month
lb/yr = pounds per year
PCE = tetrachloroethene
TCA = trichloroethane
TCE = trichloroethene

Emission Rate (per hr) = average flowrate (scfm) * (0.3048^3)m^3/ft^3 * Eff conc (ug/m3) * (lb/454000000ug) * 60 min/hr * operational time (hrs)

Monthly Mass Recovery = average flowrate (scfm) * (0.3048^3)m^3/ft^3 * Inf avg conc (ug/m^3) * (lb/454000000ug) * 60 min/hr * operational time (hrs)

Table 5
Soil Vapor Extraction Containment System
Site 1, Former Drum Marshalling Yard
Naval Weapons Industrial Reserve Plant - Bethpage, NY
Fourth Quarter 2012 Vapor Analytical Results Summary

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	12/05/12	12/05/12	12/05/12	12/05/12	12/05/12	12/05/12	12/05/12	12/05/12	12/05/12	12/05/12	12/05/12	12/05/12
Analysis by TO-15 (µg/m^3)												
1,1,1-Trichloroethane	4400	11	ND	ND	ND	190	ND	920	22	380	ND	18
1,1-Dichloroethane	76	1.1 J	ND	0.95 J	0.77 J	10 J	ND	190	10	110	2.5 J	5.8
1,1-Dichloroethene	15 J	ND	ND	ND	ND	ND	ND	11 J	ND	ND	ND	ND
1,2,4-Trichlorobenzene	ND	2.7 J	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,2,4-Trimethylbenzene	ND	1.8 J	ND	0.79 J	0.65 J	ND	ND	ND	1.9 J	ND	1.2 J	1.3 J
1,2-Dichloroethane	14 J	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,4-Dichlorobenzene	ND	0.89 J	0.78 J	0.60 J	0.66 J	ND	0.41 J	ND	0.41 J	ND	0.36 J	ND
2,2,4-Trimethylpentane	ND	1.2 J	ND	0.35 J	ND	ND	ND	ND	0.97 J	ND	ND	ND
2-Butanone	ND	2.2 J	ND	ND	ND	ND	ND	ND	3.3 J	ND	ND	ND
4-ethyltoluene	ND	1.1 J	ND	ND	ND	ND	ND	ND	1.6 J	ND	0.93 J	ND
Acetone	ND	13 J	12 J	5.7 J	8.6 J	7.0 J	8.4 J	7.4 J	17 J	5.3 J	7.5 J	5.8 J
alpha-Chlorotoluene	ND	0.49 J	0.41 J	ND	ND	ND	ND	ND	ND	ND	ND	ND
Benzene	ND	ND	ND	ND	ND	ND	0.66 J	ND	1.0 J	ND	ND	ND
Carbon Disulfide	ND	1.4 J	1.5 J	2.5 J	ND	ND	ND	ND	6.9 J	ND	ND	8.1 J
Carbon Tetrachloride	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	2.9 J	19
Chlorobenzene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	1.0 J
Chloroform	ND	2.4 J	ND	11	ND	ND	ND	ND	ND	ND	ND	6.6
cis-1,2-Dichloroethene	22 J	3.2	ND	4.1	6.0	750	ND	4200	16	210	5.4	8.2
Cyclohexane	ND	ND	ND	ND	ND	ND	ND	ND	0.91 J	ND	ND	0.83 J
Ethanol	47 J	4.6 J	ND	ND	ND	ND	4.2 J	ND	15	ND	ND	2.3 J
Freon 11	ND	2.2 J	1.4 J	6.6	1.3 J	ND	1.3 J	ND	1.6 J	ND	1.3 J	2.0 J
Freon 113	ND	4.4 J	ND	1.9 J	ND	68	ND	1900	11	64	13	24
Freon 12	ND	2.4 J	2.3 J	2.2 J	2.2 J	ND	2.5 J	ND	2.7 J	ND	2.7 J	2.6 J
Heptane	ND	ND	ND	ND	ND	ND	2.6 J	ND	1.2 J	ND	ND	ND
Hexane	ND	ND	ND	ND	ND	ND	3.4	ND	2.5 J	ND	ND	0.59 J
m,p-Xylene	ND	1.2 J	ND	0.65 J	ND	ND	ND	ND	3.1 J	ND	1.0 J	1.1 J
Methylene Chloride	10 J	0.42 J	ND	ND	ND	ND	0.57 J	ND	1.0 J	ND	ND	1.2 J
o-Xylene	ND	ND	ND	ND	ND	ND	ND	ND	1.0 J	ND	ND	ND
Tetrachloroethene	120	170	1.5 J	25	120	4600	1.6 J	4500	77	350	14	48
Tetrahydrofuran	ND	3.2	ND	ND	0.71 J	ND	ND	ND	3.1	ND	2.5	1.8 J
Toluene	ND	0.53 J	ND	0.58 J	0.45 J	ND	1.5 J	ND	6.6	ND	0.73 J	6.6
trans-1,2-Dichloroethene	ND	ND	ND	ND	ND	8.8 J	ND	55	ND	ND	ND	ND
Trichloroethene	12000	350	10	140	48	440	ND	2300	180	3800	180	300

Notes:
µg/m^3 = micrograms per cubic meter
All samples were analyzed for full list VOCs by modified method TO-15. Only detected analytes are presented above.

Table 6
Soil Vapor Extraction Containment System
Site 1, Former Drum Marshalling Yard
Naval Weapons Industrial Reserve Plant - Bethpage, NY
Historical Quarterly Vapor Analytical Results
Through Fourth Quarter 2012

Sample ID	SVE 101I												
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**
Analysis by TO-15 (µg/m^3)													
1,1,1-Trichloroethane	51000	3900	2600	450	850	300	1	0.7 J	0.7 J	1500	1500	3200	4400
1,1,2,2-Tetrachloroethane	NR	NR	NR	ND	ND	ND	1 J	0.7 J	0.8 J	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
1,1-Dichloroethane	1200	65	34	14	31	5	0.8 J	0.4 J	0.4 J	28	28	61	76
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
1,2,3-Trichloropropane	NR	NR	NR	ND	ND	ND	1 J	0.6 J	0.8 J	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
1,2,4-Trichlorobenzene	NR	NR	NR	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
1,2-Dibromoethane	NR	NR	NR	ND	ND	ND	ND	ND	0.8 J	ND	ND	ND	ND
1,2-Dichlorobenzene	NR	NR	NR	ND	ND	ND	0.6	ND	0.6 J	ND	ND	ND	ND
1,2-Dichloroethane	NR	30	ND	4	8	ND	0.9	0.5 J	0.5 J	6.9 J	6.4 J	11 J	14 J
1,2-Dichloropropane	NR	NR	NR	ND	ND	ND	ND	0.6 J	0.6 J	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
1,3-Butadiene	NR	NR	NR	ND	ND	ND	0.7	0.4 J	0.4 J	ND	ND	ND	ND
1,3-Dichlorobenzene	NR	NR	NR	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
1,4-Dioxane	NR	NR	NR	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
2-Butanone	NR	NR	NR	3	1	ND	3	1	1	ND	ND	ND	ND
2-Hexanone	NR	NR	NR	ND	ND	ND	ND	0.5 J	0.5 J	ND	ND	ND	ND
2-Propanol	NR	NR	NR	NR	NR	NR	NR	NR	NR	ND	ND	ND	ND
3-Chloro-1-propene	NR	NR	NR	ND	ND	ND	ND	0.4 J	ND	ND	ND	ND	ND
4-Ethyltoluene	NR	NR	NR	3	ND	ND	0.7 J	ND	ND	ND	1.7 J	ND	ND
4-Methyl-2-pentanone	NR	NR	NR	NR	NR	NR	NR	NR	NR	ND	ND	ND	ND
Acetone	NR	NR	NR	9	5	9	22	16	8	22 J	10 J	ND	ND
alpha-Chlorotoluene	NR	NR	NR	ND	ND	ND	ND	ND	0.5 J	ND	ND	ND	ND
Acrylonitrile	NR	NR	NR	ND	ND	ND	ND	0.4 J	ND	NR	NR	NR	NR
Benzene	NR	NR	NR	1	ND	ND	1	0.4 J	0.6 J	ND	ND	6.7 J	ND
Benzyl Chloride	NR	NR	NR	ND	ND	ND	ND	ND	ND	NR	NR	NR	NR
Bromodichloromethane	NR	NR	NR	23	ND	ND	1	0.8 J	0.8 J	ND	ND	ND	ND
Bromoform	NR	NR	NR	ND	ND	ND	ND	ND	1 J	ND	ND	ND	ND
Bromomethane	NR	NR	NR	ND	ND	ND	0.8	0.6 J	0.5 J	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
Carbon Tetrachloride	NR	NR	NR	2	ND	ND	2	1 J	1 J	ND	ND	ND	ND
Chlorobenzene	NR	NR	NR	ND	ND	ND	ND	ND	0.5 J	ND	ND	20 J, B	ND
Chlorodibromomethane	NR	NR	NR	ND	ND	ND	ND	ND	0.9 J	NR	NR	NR	NR
Chloroethane	NR	NR	NR	ND	ND	ND	0.6	0.4 J	0.4 J	ND	ND	ND	ND
Chloroform	NR	NR	NR	2	1	ND	1	0.8 J	0.6 J	ND	ND	ND	ND
Chloromethane	NR	NR	NR	1	0.5	ND	1	1	1	7.1 J	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
cis-1,3-Dichloropropene	NR	NR	NR	ND	ND	ND	0.7 J	ND	ND	ND	ND	ND	ND
Cumene	NR	NR	NR	NR	NR	NR	NR	NR	NR	ND	ND	ND	ND
Cyclohexane	NR	NR	NR	ND	ND	ND	0.9	0.7	0.3 J	ND	ND	ND	ND
Dichlorodifluoromethane	NR	NR	NR	3	2	ND	3	2	3	ND	ND	ND	ND
Diisopropyl ether	NR	NR	NR	ND	ND	ND	ND	ND	ND	NR	NR	NR	NR
Ethanol	NR	NR	NR	5	4	2	10	7	3	6.9 J	5.3 J	19 J	47 J
Ethyl Acetate	NR	NR	NR	ND	ND	ND	ND	ND	ND	NR	NR	NR	NR
Ethyl tert-butyl ether	NR	NR	NR	ND	ND	ND	0.7 J	ND	ND	NR	NR	NR	NR
Ethylbenzene	NR	NR	NR	3	ND	ND	1	ND	0.5 J	ND	ND	4.7 J	ND
Freon 11	NR	NR	NR	NR	NR	NR	NR	NR	NR	ND	ND	ND	ND
Freon 113	NR	NR	NR	ND	ND	ND	2	2 J	1 J	ND	ND	ND	ND
Freon 114	NR	NR	NR	ND	ND	ND	2	1 J	0.9 J	ND	ND	ND	ND
Freon 12	NR	NR	NR	NR	NR	NR	NR	NR	NR	ND	ND	ND	ND
Heptane	NR	NR	NR	ND	ND	ND	2	ND	0.5 J	ND	ND	ND	ND
Hexachlorobutadiene	NR	NR	NR	ND	ND	ND	2 J	ND	1 J	ND	ND	ND	ND
Hexane	NR	NR	NR	1	ND	ND	3	3	0.7	ND	ND	3.1 J	ND
iso-Octane	NR	NR	NR	2	ND	ND	4	ND	0.6 J	NR	NR	NR	NR
Isopropylbenzene	NR	NR	NR	ND	ND	ND	0.8 J	ND	0.6 J	NR	NR	NR	NR
Isoproyl alcohol	NR	NR	NR	ND	0.8	0.8	2	3	0.7	NR	NR	NR	NR
m,p-Xylene	NR	NR	NR	NR	NR	NR	NR	NR	NR	ND	1.8 J	12 J	ND
Methyl Methacrylate	NR	NR	NR	ND	ND	ND	0.6 J	ND	0.4 J	NR	NR	NR	NR
Methyl-tert-Butyl-Ether	NR	NR	NR	ND	ND	ND	1	1	0.4 J	ND	ND	ND	ND
Methylene Chloride	NR	NR	NR	ND	1	4	8	17	2	2.3 J	ND	ND	10 J
MIBK	NR	NR	NR	ND	ND	ND	1	ND	0.4 J	NR	NR	NR	NR
Naphthalene	NR	NR	NR	4	5	5	ND	ND	ND	NR	NR	NR	NR
n-Butane	NR	NR	NR	0.8	0.7	ND	2	0.7	0.8	NR	NR	NR	NR
o-Xylene	NR	NR	NR	NR	NR	NR	NR	NR	NR	ND	ND	6.3 J	ND
p-Isopropyltoluene	NR	NR	NR	ND	ND	ND	0.6 J	ND	ND	NR	NR	NR	NR
n-Propylbenzene	NR	NR	NR	2	ND	ND	0.7 J	ND	ND	ND	ND	ND	ND
Propylene	NR	NR	NR	ND	2	2	ND	ND	0.5	NR	NR	NR	NR
Styrene	NR	NR	NR	ND	ND	ND	0.7 J	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
tert-Butyl Alcohol	NR	NR	NR	ND	ND	ND	0.7	0.4 J	0.4 J	NR	NR	NR	NR
Tetrachloroethene	1700	410	260	36	63	10	1	ND	2	48	46	93	120
Tetrahydrofuran	NR	NR	NR	4	2	2	1	1	0.5 J	ND	ND	ND	ND
Toluene	NR	NR	NR	3	ND	ND	3	0.4 J	0.8	ND	ND	26	ND
Total Xylenes	NR	NR	NR	13	ND	ND	4	ND	2 J	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
trans-1,3-Dichloropropene	NR	NR	NR	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Trichloroethene	180000	18000	14000	1200	2400	560	1	0.6 J	0.6 J	4200	4300	7200	12000
Trichlorofluoromethane	NR	NR	NR	2	1	ND	2	2	2	NR	NR	NR	NR
Vinyl Acetate	NR	NR	NR	1	ND	ND	ND	0.7 J	ND	NR	NR	NR	NR
Vinyl Bromide	NR	NR	NR	ND	ND	ND	1	0.6 J	0.6 J	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

Notes:
µg/m^3 = micrograms per cubic meter
NR = Not Recorded
NA = Data not available

Table 6
Soil Vapor Extraction Containment System
Site 1, Former Drum Marshalling Yard
Naval Weapons Industrial Reserve Plant - Bethpage, NY
Historical Quarterly Vapor Analytical Results
Through Fourth Quarter 2012

Sample ID	SVE 101D												
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**	**09/11/12**	**12/05/12**
Analysis by TO-15 (µg/m^3)													
1,1,1-Trichloroethane	26000	130	53	ND	ND	ND	3	8	0.8 J	ND	3.1 J	9.9	11
1,1,2,2-Tetrachloroethane	NR	NR	NR	ND	ND	ND	3	0.9 J	1 J	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
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-Dichloroethene	180	2	ND	ND	ND	ND	ND	0.7 J	0.4 J	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
1,2,3-Trimethylbenzene	NR	NR	NR	ND	ND	ND	4	1	1	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
1,2,4-Trimethylbenzene	NR	NR	NR	ND	ND	ND	10	3	3	ND	2.7 J	2.9 J	1.8 J
1,2-Dibromoethane	NR	NR	NR	ND	ND	ND	3	ND	0.9 J	ND	0.72 J	ND	ND
1,2-Dichlorobenzene	NR	NR	NR	ND	ND	ND	2 J	ND	0.7 J	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
1,2-Dichloropropane	NR	NR	NR	ND	ND	ND	2	0.6 J	0.5 J	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
1,3-Butadiene	NR	NR	NR	ND	ND	ND	ND	0.4 J	0.5 J	ND	ND	ND	ND
1,3-Dichlorobenzene	NR	NR	NR	ND	ND	ND	1 J	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
1,4-Dioxane	NR	NR	NR	ND	ND	ND	1	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
2-Butanone	NR	NR	NR	ND	1	2	8	1	1	ND	ND	2.2 J	2.2 J
2-Hexanone	NR	NR	NR	ND	ND	ND	2	0.7 J	0.5 J	ND	ND	ND	ND
2-Propanol	NR	NR	NR	NR	NR	NR	NR	NR	NR	ND	ND	ND	ND
3-Chloro-1-propene	NR	NR	NR	ND	ND	ND	ND	0.4 J	0.4 J	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
4-Methyl-2-pentanone	NR	NR	NR	NR	NR	NR	NR	NR	NR	ND	ND	ND	ND
Acetone	NR	NR	NR	19	10	10	36	4	9	4.4 J	14 J	3.6 J	13 J
alpha-Chlorotoluene	NR	NR	NR	ND	ND	ND	2 J	ND	0.5 J	ND	ND	ND	0.49 J
Acrylonitrile	NR	NR	NR	ND	ND	ND	ND	0.4 J	ND	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
Benzyl Chloride	NR	NR	NR	ND	ND	ND	ND	ND	ND	NR	NR	NR	NR
Bromodichloromethane	NR	NR	NR	ND	ND	ND	3	0.9 J	0.8 J	ND	ND	ND	ND
Bromoform	NR	NR	NR	ND	ND	ND	3 J	ND	1 J	ND	ND	ND	ND
Bromomethane	NR	NR	NR	ND	ND	ND	2	0.6 J	0.5 J	ND	ND	ND	ND
Carbon Disulfide	NR	NR	NR	ND	ND	ND	2	0.8	0.5 J	ND	ND	1.9 J	1.4 J
Carbon Tetrachloride	NR	NR	NR	ND	ND	ND	4	1 J	1	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
Chlorodibromomethane	NR	NR	NR	ND	ND	ND	3	0.9 J	1 J	NR	NR	NR	NR
Chloroethane	NR	NR	NR	ND	ND	ND	ND	0.4 J	0.4 J	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
Chloromethane	NR	NR	NR	1	2	ND	3	0.4	1	ND	ND	ND	ND
cis-1,2-Dichloroethene	220	8.5	7.5	ND	3	ND	2	2	0.5 J	ND	ND	2.1 J	3.2
cis-1,3-Dichloropropene	NR	NR	NR	ND	ND	ND	2	0.5 J	ND	ND	ND	ND	ND
Cumene	NR	NR	NR	NR	NR	NR	NR	NR	NR	ND	ND	ND	ND
Cyclohexane	NR	NR	NR	ND	ND	ND	2	0.4 J	0.4 J	ND	ND	ND	ND
Dichlorodifluoromethane	NR	NR	NR	2	3	ND	5	3	3	ND	ND	ND	ND
Diisopropyl ether	NR	NR	NR	14	ND	ND	ND	ND	ND	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
Ethyl Acetate	NR	NR	NR	12	ND	ND	ND	ND	0.5 J	NR	NR	NR	NR
Ethyl tert-butyl ether	NR	NR	NR	ND	ND	ND	1	0.5 J	ND	NR	NR	NR	NR
Ethylbenzene	NR	NR	NR	ND	ND	ND	4	0.8 J	0.9	ND	ND	1.5 J	ND
Freon 11	NR	NR	NR	NR	NR	NR	NR	NR	NR	1.2 J	1.7 J	1.5 J	2.2 J
Freon 113	NR	NR	NR	4	2	ND	4	7	1 J	ND	ND	3.4 J	4.4 J
Freon 114	NR	NR	NR	ND	ND	ND	3	1 J	1 J	ND	ND	ND	ND
Freon 12	NR	NR	NR	NR	NR	NR	NR	NR	NR	1.4 J	2.6 J	2.6 J	2.4 J
Heptane	NR	NR	NR	ND	ND	ND	3	0.4 J	0.5 J	ND	ND	ND	ND
Hexachlorobutadiene	NR	NR	NR	ND	ND	ND	ND	1 J	1 J	ND	ND	ND	ND
Hexane	NR	NR	NR	30	2	2	18	2	0.8	ND	ND	ND	ND
iso-Octane	NR	NR	NR	ND	ND	ND	4	0.7 J	0.6 J	NR	NR	NR	NR
Isopropylbenzene	NR	NR	NR	ND	ND	ND	2	0.5 J	0.6 J	NR	NR	NR	NR
Isoproyl alcohol	NR	NR	NR	9	1	4	9	1	0.9	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
Methyl Methacrylate	NR	NR	NR	ND	ND	ND	2	0.4 J	3	NR	NR	NR	NR
Methyl-tert-Butyl-Ether	NR	NR	NR	4	ND	ND	5	0.7	0.4 J	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
MIBK	NR	NR	NR	ND	ND	ND	4	0.5 J	0.5 J	NR	NR	NR	NR
Naphthalene	NR	NR	NR	ND	ND	ND	3	0.8 J	0.9 J	NR	NR	NR	NR
n-Butane	NR	NR	NR	ND	20	7	8	0.6	ND	NR	NR	NR	NR
o-Xylene	NR	NR	NR	NR	NR	NR	NR	NR	NR	ND	0.77 J	1.8 J	ND
p-Isopropyltoluene	NR	NR	NR	ND	ND	ND	2 J	0.6 J	ND	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
Propylene	NR	NR	NR	ND	ND	ND	ND	ND	0.4	NR	NR	NR	NR
Styrene	NR	NR	NR	ND	ND	ND	1	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
tert-Butyl Alcohol	NR	NR	NR	ND	ND	ND	2	0.5 J	0.5 J	NR	NR	NR	NR
Tetrachloroethene	3200	1200	1200	ND	4	ND	26	210	2	ND	79	150	170
Tetrahydrofuran	NR	NR	NR	ND	ND	ND	7	1	1	ND	0.93 J	3.2	3.2
Toluene	NR	NR	NR	ND	2	3	12	0.9	1	0.82 J	ND	0.98 J	0.53 J
Total Xylenes	NR	NR	NR	ND	ND	ND	18	3	4	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
trans-1,3-Dichloropropene	NR	NR	NR	ND	ND	ND	2	ND	ND	ND	ND	ND	ND
Trichloroethene	100000	1600	310	3	1	ND	3	120	1 J	ND	200	400	350
Trichlorofluoromethane	NR	NR	NR	ND	2	ND	4	3	2	NR	NR	NR	NR
Vinyl Acetate	NR	NR	NR	ND	1	ND	ND	0.6 J	ND	NR	NR	NR	NR
Vinyl Bromide	NR	NR	NR	ND	ND	ND	2	0.6 J	0.6 J	NR	NR	NR	NR
Vinyl Chloride	ND	ND	ND	ND	ND	ND	1	0.4 J	0.3 J	ND	ND	ND	ND

Notes:
µg/m^3 = micrograms per cubic meter
NR = Not Recorded
NA = Data not available

Table 6
Soil Vapor Extraction Containment System
Site 1, Former Drum Marshalling Yard
Naval Weapons Industrial Reserve Plant - Bethpage, NY
Historical Quarterly Vapor Analytical Results
Through Fourth Quarter 2012

Sample ID	SVE 102I												
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	09/11/12	12/05/12
Analysis by TO-15 (µg/m^3)													
1,1,1-Trichloroethane	ND	ND	13	3	ND	NA	2	3	2	ND	0.60 J	3.3 J	ND
1,1,2,2-Tetrachloroethane	NR	NR	NR	ND	ND	NA	1 J	0.8 J	0.8 J	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
1,1-Dichloroethane	ND	ND	ND	ND	ND	NA	0.8 J	0.5 J	0.5 J	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
1,2,3-Trichloropropane	NR	NR	NR	ND	ND	NA	1 J	0.6 J	0.8 J	NR	NR	NR	NR
1,2,3-Trimethylbenzene	NR	NR	NR	10	ND	NA	5	1	2	NR	NR	NR	NR
1,2,4-Trichlorobenzene	NR	NR	NR	ND	ND	NA	1 J	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
1,2-Dibromoethane	NR	NR	NR	ND	ND	NA	1 J	ND	0.8 J	ND	ND	ND	ND
1,2-Dichlorobenzene	NR	NR	NR	ND	ND	NA	0.8 J	ND	ND	ND	ND	1.0 J	ND
1,2-Dichloroethane	NR	ND	ND	ND	ND	NA	0.8	0.4 J	0.4 J	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
1,3,5-Trimethylbenzene	NR	NR	NR	7	ND	NA	4	0.8 J	1	ND	ND	0.89 J	ND
1,3-Butadiene	NR	NR	NR	ND	ND	NA	NA	0.3 J	ND	ND	ND	ND	ND
1,3-Dichlorobenzene	NR	NR	NR	ND	ND	NA	0.7 J	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
1,4-Dioxane	NR	NR	NR	ND	ND	NA	0.8	ND	0.4 J	ND	ND	ND	ND
2,2,4-Trimethylpentane	NR	NR	NR	NR	NR	NR	NR	NR	NR	ND	ND	ND	ND
2-Butanone	NR	NR	NR	ND	1	NA	4	1	2	ND	ND	ND	ND
2-Hexanone	NR	NR	NR	ND	ND	NA	0.9	0.6 J	0.5 J	ND	ND	ND	ND
2-Propanol	NR	NR	NR	NR	NR	NR	NR	NR	NR	ND	ND	ND	ND
3-Chloro-1-propene	NR	NR	NR	ND	ND	NA	0.6 J	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
4-Methyl-2-pentanone	NR	NR	NR	NR	NR	NR	NR	NR	NR	ND	ND	ND	ND
Acetone	NR	NR	NR	6	5	NA	14	4	7	7.8	9.9 J	7.2 J	12 J
alpha-Chlorotoluene	NR	NR	NR	ND	ND	NA	0.7 J	ND	ND	ND	ND	ND	0.41 J
Acrylonitrile	NR	NR	NR	ND	ND	NA	0.5	0.4 J	ND	NR	NR	NR	NR
Benzene	NR	NR	NR	ND	ND	NA	1	0.4 J	0.5 J	ND	ND	ND	ND
Benzyl Chloride	NR	NR	NR	ND	ND	NA	ND	ND	ND	NR	NR	NR	NR
Bromodichloromethane	NR	NR	NR	ND	ND	NA	2	0.8 J	0.7 J	ND	ND	ND	ND
Bromoform	NR	NR	NR	ND	ND	NA	1 J	ND	1 J	ND	ND	ND	ND
Bromomethane	NR	NR	NR	ND	ND	NA	0.8	0.5 J	0.5 J	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
Carbon Tetrachloride	NR	NR	NR	ND	ND	NA	2	1 J	1 J	ND	ND	ND	ND
Chlorobenzene	NR	NR	NR	ND	ND	NA	0.9	ND	0.5 J	ND	ND	2.7 J, B	ND
Chlorodibromomethane	NR	NR	NR	ND	ND	NA	1 J	ND	0.9 J	NR	NR	NR	NR
Chloroethane	NR	NR	NR	ND	ND	NA	0.6	0.4 J	0.3 J	ND	ND	ND	ND
Chloroform	NR	NR	NR	4	ND	NA	3	5	4	0.75 J	1.4 J	6.6	ND
Chloromethane	NR	NR	NR	ND	0.9	NA	1	0.4	0.4	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
cis-1,3-Dichloropropene	NR	NR	NR	ND	ND	NA	0.7 J	ND	ND	ND	ND	ND	ND
Cumene	NR	NR	NR	NR	NR	NR	NR	NR	NR	ND	ND	ND	ND
Cyclohexane	NR	NR	NR	ND	ND	NA	0.6 J	ND	0.4 J	ND	ND	ND	ND
Dichlorodifluoromethane	NR	NR	NR	ND	2	NA	3	2	2	ND	ND	ND	ND
Diisopropyl ether	NR	NR	NR	ND	ND	NA	NA	ND	ND	NR	NR	NR	NR
Ethanol	NR	NR	NR	2	3	NA	8	2	4	3.0 J	ND	ND	ND
Ethyl Acetate	NR	NR	NR	ND	ND	NA	NA	ND	ND	NR	NR	NR	NR
Ethyl tert-butyl ether	NR	NR	NR	ND	ND	NA	0.7 J	ND	ND	NR	NR	NR	NR
Ethylbenzene	NR	NR	NR	3	ND	NA	4	0.8 J	1	ND	ND	1.4 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
Freon 113	NR	NR	NR	ND	ND	NA	2	1 J	1 J	ND	ND	ND	ND
Freon 114	NR	NR	NR	ND	ND	NA	2	1 J	1 J	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
Heptane	NR	NR	NR	ND	ND	NA	1	ND	0.5 J	ND	ND	0.83 J	ND
Hexachlorobutadiene	NR	NR	NR	ND	ND	NA	3	1 J	1 J	ND	ND	ND	ND
Hexane	NR	NR	NR	ND	1	NA	1	0.8	0.8	ND	ND	0.36 J	ND
iso-Octane	NR	NR	NR	ND	ND	NA	1	0.6 J	0.6 J	NR	NR	NR	NR
Isopropylbenzene	NR	NR	NR	ND	ND	NA	1	ND	0.6 J	NR	NR	NR	NR
Isoproyl alcohol	NR	NR	NR	ND	0.6	NA	2	1	0.8	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
Methyl Methacrylate	NR	NR	NR	ND	ND	NA	0.6 J	ND	ND	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
Methylene Chloride	NR	NR	NR	ND	6	NA	4	3	3	1.3 J	1.0 J	ND	ND
MIBK	NR	NR	NR	ND	ND	NA	0.8 J	ND	ND	NR	NR	NR	NR
Naphthalene	NR	NR	NR	3	ND	NA	5	0.8 J	1	NR	NR	NR	NR
n-Butane	NR	NR	NR	4	2	NA	1	0.4 J	ND	NR	NR	NR	NR
o-Xylene	NR	NR	NR	NR	NR	NA	NR	NR	NR	ND	ND	1.6 J	ND
p-Isopropyltoluene	NR	NR	NR	ND	ND	NA	1 J	ND	ND	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
Propylene	NR	NR	NR	ND	ND	NA	ND	ND	ND	NR	NR	NR	NR
Styrene	NR	NR	NR	ND	ND	NA	0.7 J	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
tert-Butyl Alcohol	NR	NR	NR	ND	ND	NA	1	0.5 J	0.5 J	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
Tetrahydrofuran	NR	NR	NR	6	0.6	NA	5	1	1	ND	ND	ND	ND
Toluene	NR	NR	NR	3	1	NA	4	0.8	1	0.66 J	ND	1.3 J	ND
Total Xylenes	NR	NR	NR	22	ND	NA	20	3	6	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
trans-1,3-Dichloropropene	NR	NR	NR	ND	ND	NA	0.7 J	ND	ND	ND	ND	ND	ND
Trichloroethene	5.6	3.8	300	88	3	NA	34	76	52	10	26	99	10
Trichlorofluoromethane	NR	NR	NR	ND	1	NA	2	2	2	NR	NR	NR	NR
Vinyl Acetate	NR	NR	NR	ND	ND	NA	ND	0.6 J	ND	NR	NR	NR	NR
Vinyl Bromide	NR	NR	NR	ND	ND	NA	1	0.6 J	0.6 J	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

Notes:
µg/m^3 = micrograms per cubic meter
NR = Not Recorded
NA = Data not available

Table 6
Soil Vapor Extraction Containment System
Site 1, Former Drum Marshalling Yard
Naval Weapons Industrial Reserve Plant - Bethpage, NY
Historical Quarterly Vapor Analytical Results
Through Fourth Quarter 2012

Sample ID	SVE 102D												
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**
Analysis by TO-15 (µg/m^3)													
1,1,1-Trichloroethane	130	53	14	7	2	2	6	4	5	1.4 J	1.2 J	3.9 J	ND
1,1,2,2-Tetrachloroethane	NR	NR	NR	ND	ND	ND	1 J	0.9 J	1 J	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
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
1,1-Dichloroethene	ND	ND	ND	ND	ND	ND	1	0.6 J	0.6 J	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
1,2,3-Trimethylbenzene	NR	NR	NR	5	ND	ND	7	1	2	NR	NR	NR	NR
1,2,4-Trichlorobenzene	NR	NR	NR	ND	ND	ND	2 J	ND	0.8 J	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
1,2-Dibromoethane	NR	NR	NR	ND	ND	ND	1 J	ND	1 J	ND	ND	ND	ND
1,2-Dichlorobenzene	NR	NR	NR	ND	ND	ND	1 J	ND	0.8 J	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
1,2-Dichloropropane	NR	NR	NR	ND	ND	ND	1	0.6 J	0.6 J	ND	ND	ND	ND
1,3,5-Trimethylbenzene	NR	NR	NR	4	ND	ND	4	ND	1	ND	ND	ND	ND
1,3-Butadiene	NR	NR	NR	1	ND	ND	ND	0.3 J	0.4 J	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
1,4-Dichlorobenzene	NR	NR	NR	ND	ND	ND	0.8 J	ND	0.6 J	ND	ND	1.3 J	0.60 J
1,4-Dioxane	NR	NR	NR	ND	ND	ND	1	ND	0.6 J	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
2-Butanone	NR	NR	NR	4	0.9	0.7	5	1	1	ND	ND	3.7 J	ND
2-Hexanone	NR	NR	NR	ND	ND	ND	0.9 J	0.6 J	0.6 J	ND	ND	ND	ND
2-Propanol	NR	NR	NR	NR	NR	NR	NR	NR	NR	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
4-Ethyltoluene	NR	NR	NR	3	ND	ND	4	1	1	0.36 J	1.0 J	2.1 J	ND
4-Methyl-2-pentanone	NR	NR	NR	NR	NR	NR	NR	NR	NR	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
alpha-Chlorotoluene	NR	NR	NR	ND	ND	ND	0.9 J	ND	0.6 J	ND	ND	0.78 J	ND
Acrylonitrile	NR	NR	NR	ND	ND	ND	0.5	0.4 J	ND	NR	NR	NR	NR
Benzene	NR	NR	NR	ND	ND	ND	1	0.5 J	0.9	ND	ND	ND	ND
Benzyl Chloride	NR	NR	NR	ND	ND	ND	ND	ND	ND	NR	NR	NR	NR
Bromodichloromethane	NR	NR	NR	ND	ND	ND	2	0.9 J	1 J	ND	ND	ND	ND
Bromoform	NR	NR	NR	ND	ND	ND	2 J	ND	1 J	ND	ND	ND	ND
Bromomethane	NR	NR	NR	ND	ND	ND	1	0.6 J	0.5 J	ND	ND	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
Carbon Tetrachloride	NR	NR	NR	ND	ND	ND	2	2	2	ND	ND	ND	ND
Chlorobenzene	NR	NR	NR	ND	ND	ND	1 J	ND	0.7 J	ND	ND	3.3 J, B	ND
Chlorodibromomethane	NR	NR	NR	ND	ND	ND	2 J	0.9 J	1 J	NR	NR	NR	NR
Chloroethane	NR	NR	NR	ND	ND	ND	0.7	0.4 J	0.4 J	ND	ND	ND	ND
Chloroform	NR	NR	NR	11	2	3	9	14	17	19	19	23	11
Chloromethane	NR	NR	NR	ND	1	0.6	1	0.4	0.4	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
cis-1,3-Dichloropropene	NR	NR	NR	ND	ND	ND	0.9 J	ND	0.6 J	ND	ND	0.69 J	ND
Cumene	NR	NR	NR	NR	NR	NR	NR	NR	NR	ND	ND	ND	ND
Cyclohexane	NR	NR	NR	ND	ND	ND	0.7 J	0.5 J	0.4 J	ND	ND	ND	ND
Dichlorodifluoromethane	NR	NR	NR	2	3	2	4	3	3	ND	ND	ND	ND
Diisopropyl ether	NR	NR	NR	ND	ND	ND	ND	ND	ND	NR	NR	NR	NR
Ethanol	NR	NR	NR	5	3	4	3	1	1	ND	ND	ND	ND
Ethyl Acetate	NR	NR	NR	ND	ND	ND	ND	ND	ND	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
Ethylbenzene	NR	NR	NR	3	ND	ND	4	ND	1	ND	ND	0.65 J	ND
Freon 11	NR	NR	NR	NR	NR	NR	NR	NR	NR	4.8	5.8	11	6.6
Freon 113	NR	NR	NR	ND	ND	ND	3	2	2	ND	ND	ND	1.9 J
Freon 114	NR	NR	NR	ND	ND	ND	2	1 J	1 J	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
Heptane	NR	NR	NR	ND	ND	ND	1	0.4 J	0.6 J	ND	ND	ND	ND
Hexachlorobutadiene	NR	NR	NR	ND	ND	ND	3	1 J	2 J	ND	ND	ND	ND
Hexane	NR	NR	NR	1	ND	ND	1	0.8	0.5 J	ND	ND	ND	ND
iso-Octane	NR	NR	NR	ND	ND	ND	1	1	0.7 J	NR	NR	NR	NR
Isopropylbenzene	NR	NR	NR	ND	ND	ND	1	0.5 J	0.8 J	NR	NR	NR	NR
Isoproyl alcohol	NR	NR	NR	1	ND	ND	2	1	1	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
Methyl Methacrylate	NR	NR	NR	ND	ND	ND	0.8 J	0.4 J	0.4 J	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
Methylene Chloride	NR	NR	NR	7	2	ND	4	2	0.9	1.0 J	ND	0.36 J	ND
MIBK	NR	NR	NR	ND	ND	ND	1	0.4 J	0.4 J	NR	NR	NR	NR
Naphthalene	NR	NR	NR	3	ND	ND	6	3	2	NR	NR	NR	NR
n-Butane	NR	NR	NR	ND	2	ND	2	2	ND	NR	NR	NR	NR
o-Xylene	NR	NR	NR	NR	NR	NR	NR	NR	NR	ND	ND	1.4 J	ND
p-Isopropyltoluene	NR	NR	NR	ND	ND	ND	1	ND	0.7 J	NR	NR	NR	NR
n-Propylbenzene	NR	NR	NR	ND	ND	ND	3	0.7 J	1	ND	ND	0.97 J	ND
Propylene	NR	NR	NR	ND	ND	ND	ND	ND	ND	NR	NR	NR	NR
Styrene	NR	NR	NR	ND	ND	ND	0.8 J	ND	0.5 J	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
tert-Butyl Alcohol	NR	NR	NR	ND	ND	ND	1	0.4 J	0.6	NR	NR	NR	NR
Tetrachloroethene	10	31	31	19	3	9	25	23	39	5.9	6.5	24	25
Tetrahydrofuran	NR	NR	NR	36	7	3	6	1	1	0.54 J	0.74 J	4.0	ND
Toluene	NR	NR	NR	3	ND	ND	4	0.8	2	0.49 J	0.99 J	0.86 J	0.58 J
Total Xylenes	NR	NR	NR	15	ND	ND	22	2 J	7	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
trans-1,3-Dichloropropene	NR	NR	NR	ND	ND	ND	0.8 J	ND	0.5 J	ND	ND	ND	ND
Trichloroethene	440	390	190	110	17	21	89	81	87	34	58	170	140
Trichlorofluoromethane	NR	NR	NR	5	2	6	9	12	13	NR	NR	NR	NR
Vinyl Acetate	NR	NR	NR	ND	ND	ND	2	ND	ND	NR	NR	NR	NR
Vinyl Bromide	NR	NR	NR	ND	ND	ND	1	0.6 J	0.6 J	NR	NR	NR	NR
Vinyl Chloride	ND	ND	ND	ND	ND	ND	0.6	0.4 J	0.3 J	ND	ND	ND	ND

Notes:
µg/m^3 = micrograms per cubic meter
NR = Not Recorded
NA = Data not available

Table 6
Soil Vapor Extraction Containment System
Site 1, Former Drum Marshalling Yard
Naval Weapons Industrial Reserve Plant - Bethpage, NY
Historical Quarterly Vapor Analytical Results
Through Fourth Quarter 2012

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**
Analysis by TO-15 (µg/m^3)													
1,1,1-Trichloroethane	900	ND	ND	ND	ND	ND	0.9 J	6	6	ND	1.6 J	9.2	ND
1,1,2,2-Tetrachloroethane	NR	NR	NR	ND	ND	ND	1 J	0.9 J	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
1,1-Dichloroethane	26	ND	ND	ND	ND	ND	0.6 J	2	2	ND	0.75 J	1.5 J	0.77 J
1,1-Dichloroethene	ND	ND	ND	ND	ND	ND	0.6 J	0.6 J	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
1,2,3-Trimethylbenzene	NR	NR	NR	ND	ND	ND	4	1	2	NR	NR	NR	NR
1,2,4-Trichlorobenzene	NR	NR	NR	ND	ND	ND	1 J	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	0.65 J
1,2-Dibromoethane	NR	NR	NR	ND	ND	ND	0.9 J	0.8 J	ND	ND	ND	ND	ND
1,2-Dichlorobenzene	NR	NR	NR	ND	ND	ND	0.7 J	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
1,2-Dichloropropane	NR	NR	NR	ND	ND	ND	0.7 J	0.6 J	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
1,3-Butadiene	NR	NR	NR	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,3-Dichlorobenzene	NR	NR	NR	ND	ND	ND	ND	ND	ND	1.1 J	ND	1.1 J	ND
1,4-Dichlorobenzene	NR	NR	NR	ND	ND	ND	ND	ND	ND	ND	ND	0.95 J	0.66 J
1,4-Dioxane	NR	NR	NR	ND	ND	ND	0.5 J	0.6 J	0.4 J	ND	ND	ND	ND
2,2,4-Trimethylpentane	NR	NR	NR	NR	NR	NR	NR	NR	NR	ND	ND	0.83 J	ND
2-Butanone	NR	NR	NR	2	ND	ND	4	1	1	4.7 J	5.2 J	ND	ND
2-Hexanone	NR	NR	NR	ND	ND	ND	0.6 J	0.5 J	ND	ND	0.24 J	ND	ND
2-Propanol	NR	NR	NR	NR	NR	NR	NR	NR	NR	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
4-Ethyltoluene	NR	NR	NR	ND	ND	ND	3	0.8 J	1	1.5 J	1.4 J	2.2 J	ND
4-Methyl-2-pentanone	NR	NR	NR	NR	NR	NR	NR	NR	NR	ND	ND	ND	ND
Acetone	NR	NR	NR	13	6	6	17	4	3	65	27	8.4 J	8.6 J
alpha-Chlorotoluene	NR	NR	NR	ND	ND	ND	0.6 J	ND	ND	ND	ND	ND	ND
Acrylonitrile	NR	NR	NR	ND	ND	ND	0.4 J	0.4 J	ND	NR	NR	NR	NR
Benzene	NR	NR	NR	2	ND	ND	1	0.6 J	0.5 J	ND	ND	0.97 J	ND
Benzyl Chloride	NR	NR	NR	ND	ND	ND	ND	ND	ND	NR	NR	NR	NR
Bromodichloromethane	NR	NR	NR	ND	ND	ND	1 J	0.8 J	ND	ND	ND	ND	ND
Bromoform	NR	NR	NR	ND	ND	ND	1 J	1 J	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
Carbon Disulfide	NR	NR	NR	ND	ND	ND	0.6 J	0.6 J	0.5 J	ND	ND	1.9 J	ND
Carbon Tetrachloride	NR	NR	NR	ND	ND	ND	1	1 J	0.9 J	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
Chlorodibromomethane	NR	NR	NR	ND	ND	ND	1 J	0.9 J	ND	NR	NR	NR	NR
Chloroethane	NR	NR	NR	ND	ND	ND	0.5 J	0.5 J	0.3 J	ND	ND	ND	ND
Chloroform	NR	NR	NR	ND	ND	ND	0.8 J	3	2	19	1.1 J	2.3 J	ND
Chloromethane	NR	NR	NR	1	1	1	1	0.4	0.4 J	ND	ND	ND	ND
cis-1,2-Dichloroethene	58	ND	ND	1	ND	1	0.5 J	16	12	18	16	19	6.0
cis-1,3-Dichloropropene	NR	NR	NR	ND	ND	ND	0.5 J	ND	ND	ND	ND	ND	ND
Cumene	NR	NR	NR	NR	NR	NR	NR	NR	NR	ND	ND	ND	ND
Cyclohexane	NR	NR	NR	1	ND	ND	0.8	0.5 J	ND	ND	ND	0.47 J	ND
Dichlorodifluoromethane	NR	NR	NR	3	2	2	3	2	2	ND	ND	ND	ND
Diisopropyl ether	NR	NR	NR	3	ND	ND	ND	ND	ND	NR	NR	NR	NR
Ethanol	NR	NR	NR	17	3	6	14	2	1	ND	5.9 J	3.6 J	ND
Ethyl Acetate	NR	NR	NR	3	ND	ND	ND	ND	ND	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
Ethylbenzene	NR	NR	NR	1	ND	ND	3	0.8 J	1	ND	ND	2.2 J	ND
Freon 11	NR	NR	NR	NR	NR	NR	NR	NR	NR	ND	1.2 J	2.4 J	1.3 J
Freon 113	NR	NR	NR	ND	ND	ND	2	2	1 J	ND	ND	1.1 J	ND
Freon 114	NR	NR	NR	ND	ND	ND	1 J	1 J	0.8 J	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
Heptane	NR	NR	NR	2	ND	ND	1	0.5 J	ND	ND	ND	ND	ND
Hexachlorobutadiene	NR	NR	NR	ND	ND	ND	2 J	1 J	1 J	ND	ND	ND	ND
Hexane	NR	NR	NR	6	ND	ND	3	1	0.6 J	ND	ND	0.84 J	ND
iso-Octane	NR	NR	NR	2	ND	ND	1	0.7 J	0.5 J	NR	NR	NR	NR
Isopropylbenzene	NR	NR	NR	ND	ND	ND	0.8 J	0.6 J	ND	NR	NR	NR	NR
Isoproyl alcohol	NR	NR	NR	4	ND	3	2	1	0.5 J	NR	NR	NR	NR
m,p-Xylene	NR	NR	NR	NR	NR	NR	NR	NR	NR	1.8 J	1.6 J	3.9	ND
Methyl Methacrylate	NR	NR	NR	ND	ND	ND	0.5 J	0.4 J	ND	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
Methylene Chloride	NR	NR	NR	29	ND	2	8	4	1	9.0	1.0 J	0.99 J	ND
MIBK	NR	NR	NR	ND	ND	ND	ND	0.5 J	ND	NR	NR	NR	NR
Naphthalene	NR	NR	NR	ND	ND	ND	7	0.9 J	2	NR	NR	NR	NR
n-Butane	NR	NR	NR	3	1	1	3	0.6	ND	NR	NR	NR	NR
o-Xylene	NR	NR	NR	NR	NR	NR	NR	NR	NR	ND	1.2 J	2.1 J	ND
p-Isopropyltoluene	NR	NR	NR	ND	ND	ND	0.9 J	0.6 J	ND	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
Propylene	NR	NR	NR	ND	ND	ND	2	ND	ND	NR	NR	NR	NR
Styrene	NR	NR	NR	ND	ND	ND	0.6 J	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
tert-Butyl Alcohol	NR	NR	NR	ND	ND	ND	0.8	0.7	0.9	NR	NR	NR	NR
Tetrachloroethene	580	ND	ND	ND	ND	2	1 J	420	590	140	200	430	120
Tetrahydrofuran	NR	NR	NR	1	ND	ND	4	1	1	3.4 J	2.9	3.6	0.71 J
Toluene	NR	NR	NR	6	ND	1	6	0.9	1	ND	0.65 J	7.1	0.45 J
Total Xylenes	NR	NR	NR	6	ND	ND	15	3	5	NR	NR	NR	NR
trans-1,2-Dichloroethene	580	ND	ND	ND	ND	ND	0.6 J	1	1	ND	ND	ND	ND
trans-1,3-Dichloropropene	NR	NR	NR	ND	ND	ND	0.5 J	ND	ND	ND	ND	ND	ND
Trichloroethene	900	0.9	ND	ND	ND	ND	0.9 J	100	97	29	47	130	48
Trichlorofluoromethane	NR	NR	NR	2	ND	1	2	2	2	NR	NR	NR	NR
Vinyl Acetate	NR	NR	NR	3	ND	ND	ND	ND	ND	NR	NR	NR	NR
Vinyl Bromide	NR	NR	NR	ND	ND	ND	0.7 J	0.7 J	ND	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

Notes:
µg/m^3 = micrograms per cubic meter
NR = Not Recorded
NA = Data not available

Table 6
Soil Vapor Extraction Containment System
Site 1, Former Drum Marshalling Yard
Naval Weapons Industrial Reserve Plant - Bethpage, NY
Historical Quarterly Vapor Analytical Results
Through Fourth Quarter 2012

Sample ID	SVE 103D												
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**
Analysis by TO-15 (µg/m^3)													
1,1,1-Trichloroethane	3000	1100	230	ND	13	ND	2 J	20	31	7.4 J	6.9 J	22	190
1,1,2,2-Tetrachloroethane	NR	NR	NR	ND	ND	ND	2 J	2 J	12 J	ND	ND	ND	ND
1,1,2-Trichloroethane	NR	NR	NR	ND	ND	ND	1 J	2 J	10 J	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
1,1-Dichloroethene	ND	ND	ND	ND	ND	ND	1 J	2	6 J	ND	ND	ND	ND
1,2,3-Trichloropropane	NR	NR	NR	ND	ND	ND	2 J	2 J	11 J	NR	NR	NR	NR
1,2,3-Trimethylbenzene	NR	NR	NR	5	ND	2	4	ND	7 J	NR	NR	NR	NR
1,2,4-Trichlorobenzene	NR	NR	NR	ND	ND	ND	ND	ND	9 J	ND	ND	ND	ND
1,2,4-Trimethylbenzene	NR	NR	NR	8	2	7	12	ND	9 J	ND	2.4 J	3.2 J	ND
1,2-Dibromoethane	NR	NR	NR	ND	ND	ND	2 J	2 J	11 J	ND	ND	ND	ND
1,2-Dichlorobenzene	NR	NR	NR	ND	ND	ND	ND	ND	9 J	ND	ND	ND	ND
1,2-Dichloroethane	NR	ND	ND	ND	ND	ND	1 J	1 J	6 J	ND	ND	ND	ND
1,2-Dichloropropane	NR	NR	NR	ND	ND	ND	1 J	1 J	8 J	ND	ND	ND	ND
1,3,5-Trimethylbenzene	NR	NR	NR	ND	ND	2	3	ND	8 J	ND	ND	ND	ND
1,3-Butadiene	NR	NR	NR	ND	ND	ND	1	0.8 J	ND	ND	ND	ND	ND
1,3-Dichlorobenzene	NR	NR	NR	ND	ND	ND	ND	ND	8 J	ND	ND	ND	ND
1,4-Dichlorobenzene	NR	NR	NR	ND	ND	ND	ND	ND	8 J	ND	ND	2.6 J	ND
1,4-Dioxane	NR	NR	NR	ND	ND	ND	0.9 J	1	6 J	ND	ND	ND	ND
2,2,4-Trimethylpentane	NR	NR	NR	NR	NR	NR	NR	NR	NR	ND	ND	2.1 J	ND
2-Butanone	NR	NR	NR	4	1	4	5	2	6 J	ND	ND	ND	ND
2-Hexanone	NR	NR	NR	ND	ND	ND	1 J	1 J	5 J	ND	ND	ND	ND
2-Propanol	NR	NR	NR	NR	NR	NR	NR	NR	NR	ND	ND	5.5 J	ND
3-Chloro-1-propene	NR	NR	NR	ND	ND	ND	0.8 J	1 J	4 J	ND	ND	ND	ND
4-Ethyltoluene	NR	NR	NR	ND	ND	ND	3	ND	8 J	ND	1.2 J	ND	ND
4-Methyl-2-pentanone	NR	NR	NR	NR	NR	NR	NR	NR	NR	ND	ND	ND	ND
Acetone	NR	NR	NR	10	6	21	19	9	10	13 J	11 J	10 J	7.0 J
alpha-Chlorotoluene	NR	NR	NR	ND	ND	ND	ND	ND	8 J	ND	ND	ND	ND
Acrylonitrile	NR	NR	NR	ND	ND	ND	0.5 J	0.8 J	ND	NR	NR	NR	NR
Benzene	NR	NR	NR	ND	ND	12	1	1 J	6 J	ND	ND	ND	ND
Benzyl Chloride	NR	NR	NR	ND	ND	ND	ND	ND	ND	NR	NR	NR	NR
Bromodichloromethane	NR	NR	NR	ND	ND	ND	2 J	2 J	ND	ND	ND	ND	ND
Bromoform	NR	NR	NR	ND	ND	ND	ND	2 J	14 J	ND	ND	ND	ND
Bromomethane	NR	NR	NR	ND	ND	ND	1 J	1 J	6 J	ND	ND	ND	ND
Carbon Disulfide	NR	NR	NR	ND	ND	ND	1 J	1 J	6 J	ND	ND	5.4 J	ND
Carbon Tetrachloride	NR	NR	NR	ND	ND	ND	2 J	2 J	12 J	ND	ND	ND	ND
Chlorobenzene	NR	NR	NR	ND	ND	ND	1 J	1 J	8 J	ND	ND	11 J, B	ND
Chlorodibromomethane	NR	NR	NR	ND	ND	ND	2 J	2 J	14 J	NR	NR	NR	NR
Chloroethane	NR	NR	NR	ND	ND	ND	0.9 J	1 J	5 J	ND	ND	ND	ND
Chloroform	NR	NR	NR	ND	1	ND	1 J	6	29	3.6 J	1.6	9.3 J	ND
Chloromethane	NR	NR	NR	3	0.7	1	2	0.9	4 J	ND	ND	ND	ND
cis-1,2-Dichloroethene	420	1500	370	ND	92	ND	1 J	360	160	290	230	300	750
cis-1,3-Dichloropropene	NR	NR	NR	ND	ND	ND	ND	1 J	6 J	ND	ND	ND	ND
Cumene	NR	NR	NR	NR	NR	NR	NR	NR	NR	ND	ND	ND	ND
Cyclohexane	NR	NR	NR	ND	ND	5	1 J	0.9 J	5 J	ND	ND	ND	ND
Dichlorodifluoromethane	NR	NR	NR	6	2	2	4	3	10	ND	ND	ND	ND
Diisopropyl ether	NR	NR	NR	5	ND	ND	ND	1 J	6 J	NR	NR	NR	NR
Ethanol	NR	NR	NR	6	5	56	10	2	9	5.5 J	ND	ND	ND
Ethyl Acetate	NR	NR	NR	5	ND	ND	ND	ND	ND	NR	NR	NR	NR
Ethyl tert-butyl ether	NR	NR	NR	ND	ND	ND	1 J	1 J	5 J	NR	NR	NR	NR
Ethylbenzene	NR	NR	NR	ND	ND	8	3	0.9 J	7 J	ND	ND	2.3 J	ND
Freon 11	NR	NR	NR	NR	NR	NR	NR	NR	NR	ND	ND	3.1 J	ND
Freon 113	NR	NR	NR	ND	10	10	3 J	12	20	ND	ND	ND	68
Freon 114	NR	NR	NR	ND	ND	ND	2 J	2 J	12 J	ND	ND	ND	ND
Freon 12	NR	NR	NR	NR	NR	NR	NR	NR	NR	ND	ND	2.9 J	ND
Heptane	NR	NR	NR	ND	ND	8	1 J	1 J	5 J	ND	ND	ND	ND
Hexachlorobutadiene	NR	NR	NR	ND	ND	ND	4 J	3 J	18 J	ND	ND	ND	ND
Hexane	NR	NR	NR	3	1	20	2	3	6 J	ND	ND	ND	ND
iso-Octane	NR	NR	NR	ND	ND	ND	1 J	1 J	8 J	NR	NR	NR	NR
Isopropylbenzene	NR	NR	NR	ND	ND	ND	1 J	1 J	8 J	NR	NR	NR	NR
Isoproyl alcohol	NR	NR	NR	5	ND	5	2	2	5 J	NR	NR	NR	NR
m,p-Xylene	NR	NR	NR	NR	NR	NR	NR	NR	NR	ND	1.3 J	5.8 J	ND
Methyl Methacrylate	NR	NR	NR	ND	ND	ND	1 J	1 J	5 J	NR	NR	NR	NR
Methyl-tert-Butyl-Ether	NR	NR	NR	ND	ND	ND	1 J	2	6 J	ND	ND	ND	ND
Methylene Chloride	NR	NR	NR	7	3	4	4	19	11	ND	ND	ND	ND
MIBK	NR	NR	NR	ND	ND	ND	1 J	1 J	6 J	NR	NR	NR	NR
Naphthalene	NR	NR	NR	ND	ND	ND	3	ND	5 J	NR	NR	NR	NR
n-Butane	NR	NR	NR	2	2	67	2	2	ND	NR	NR	NR	NR
o-Xylene	NR	NR	NR	NR	NR	NR	NR	NR	NR	ND	ND	ND	ND
p-Isopropyltoluene	NR	NR	NR	ND	ND	ND	1 J	ND	7 J	NR	NR	NR	NR
n-Propylbenzene	NR	NR	NR	ND	ND	1	2	ND	6 J	ND	ND	ND	ND
Propylene	NR	NR	NR	ND	ND	9	2	ND	ND	NR	NR	NR	NR
Styrene	NR	NR	NR	ND	ND	ND	ND	ND	5 J	ND	ND	ND	ND
tert-Amyl methyl ether	NR	NR	NR	ND	ND	ND	1 J	1 J	6 J	NR	NR	NR	NR
tert-Butyl Alcohol	NR	NR	NR	3	ND	ND	1 J	0.9 J	5 J	NR	NR	NR	NR
Tetrachloroethene	20000	28000	16000	9	1500	ND	3	1600	6700	3800	3200	4700	4600
Tetrahydrofuran	NR	NR	NR	4	1	ND	6	2	6	2.0 J	ND	ND	ND
Toluene	NR	NR	NR	4	2	40	4	0.9 J	6 J	ND	ND	4.7 J	ND
Total Xylenes	NR	NR	NR	ND	ND	34	16	3 J	21 J	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
trans-1,3-Dichloropropene	NR	NR	NR	ND	ND	ND	ND	ND	5 J	ND	ND	ND	ND
Trichloroethene	3100	1600	640	7	92	ND	2 J	290	240	180	200	480	440
Trichlorofluoromethane	NR	NR	NR	6	1	3	3	3	11	NR	NR	NR	NR
Vinyl Acetate	NR	NR	NR	4	ND	ND	ND	ND	ND	NR	NR	NR	NR
Vinyl Bromide	NR	NR	NR	ND	ND	ND	2 J	1 J	8 J	NR	NR	NR	NR
Vinyl Chloride	ND	5.9	ND	ND	2	ND	0.8 J	4	5 J	ND	ND	ND	ND

Notes:
µg/m^3 = micrograms per cubic meter
NR = Not Recorded
NA = Data not available

Table 6
Soil Vapor Extraction Containment System
Site 1, Former Drum Marshalling Yard
Naval Weapons Industrial Reserve Plant - Bethpage, NY
Historical Quarterly Vapor Analytical Results
Through Fourth Quarter 2012

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**	**12/05/12**
Analysis by TO-15 (µg/m^3)													
1,1,1-Trichloroethane	730	4.2	ND	4	NR	NA	1 J	4	2	ND	ND	8.3	ND
1,1,2,2-Tetrachloroethane	NR	NR	NR	ND	ND	NA	1 J	0.7 J	ND	ND	ND	ND	ND
1,1,2-Trichloroethane	NR	NR	NR	ND	ND	NA	1 J	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
1,1-Dichloroethene	ND	ND	ND	ND	ND	NA	1 J	ND	ND	ND	ND	ND	ND
1,2,3-Trichloropropane	NR	NR	NR	ND	ND	NA	1 J	ND	ND	NR	NR	NR	NR
1,2,3-Trimethylbenzene	NR	NR	NR	4	ND	NA	ND	ND	0.7 J	NR	NR	NR	NR
1,2,4-Trichlorobenzene	NR	NR	NR	ND	ND	NA	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
1,2-Dibromoethane	NR	NR	NR	ND	ND	NA	2 J	ND	ND	ND	ND	ND	ND
1,2-Dichlorobenzene	NR	NR	NR	ND	ND	NA	ND	ND	ND	ND	ND	ND	ND
1,2-Dichloroethane	NR	ND	ND	ND	ND	NA	1 J	ND	ND	ND	ND	ND	ND
1,2-Dichloropropane	NR	NR	NR	ND	ND	NA	1 J	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
1,3-Butadiene	NR	NR	NR	ND	ND	NA	1	0.4 J	ND	ND	ND	ND	ND
1,3-Dichlorobenzene	NR	NR	NR	ND	ND	NA	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
1,4-Dioxane	NR	NR	NR	ND	ND	NA	0.8 J	0.4 J	ND	ND	ND	ND	ND
2,2,4-Trimethylpentane	NR	NR	NR	NR	NR	NR	NR	NR	NR	ND	ND	ND	ND
2-Butanone	NR	NR	NR	3	0.6	NA	3	1	0.8	ND	ND	ND	ND
2-Hexanone	NR	NR	NR	ND	ND	NA	0.9 J	ND	ND	ND	ND	ND	ND
2-Propanol	NR	NR	NR	NR	NR	NR	NR	NR	NR	ND	ND	ND	ND
3-Chloro-1-propene	NR	NR	NR	ND	ND	NA	0.9	0.3 J	ND	ND	ND	ND	ND
4-Ethyltoluene	NR	NR	NR	2	ND	NA	ND	ND	ND	ND	ND	1.9 J	ND
4-Methyl-2-pentanone	NR	NR	NR	NR	NR	NR	NR	NR	NR	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
alpha-Chlorotoluene	NR	NR	NR	ND	ND	NA	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
Benzene	NR	NR	NR	1	ND	NA	1 J	0.4 J	0.4 J	ND	ND	ND	0.66 J
Benzyl Chloride	NR	NR	NR	ND	ND	NA	ND	ND	ND	NR	NR	NR	NR
Bromodichloromethane	NR	NR	NR	ND	ND	NA	2 J	0.8 J	ND	ND	ND	ND	ND
Bromoform	NR	NR	NR	ND	ND	NA	ND	ND	ND	ND	ND	ND	ND
Bromomethane	NR	NR	NR	ND	ND	NA	1 J	0.4 J	ND	ND	ND	ND	ND
Carbon Disulfide	NR	NR	NR	ND	ND	NA	1 J	0.5 J	0.5 J	ND	ND	5.2 J	ND
Carbon Tetrachloride	NR	NR	NR	ND	ND	NA	2 J	1 J	1 J	ND	ND	ND	ND
Chlorobenzene	NR	NR	NR	ND	ND	NA	1 J	0.5 J	ND	ND	ND	2.3 J, B	ND
Chlorodibromomethane	NR	NR	NR	ND	ND	NA	2 J	ND	ND	NR	NR	NR	NR
Chloroethane	NR	NR	NR	ND	ND	NA	0.9 J	0.3 J	ND	ND	ND	ND	ND
Chloroform	NR	NR	NR	2	ND	NA	1 J	3	1	ND	ND	2.8 J	ND
Chloromethane	NR	NR	NR	ND	0.5	NA	2	0.5	0.8	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
cis-1,3-Dichloropropene	NR	NR	NR	ND	ND	NA	1 J	ND	ND	ND	ND	ND	ND
Cumene	NR	NR	NR	NR	NR	NR	NR	NR	NR	ND	ND	ND	ND
Cyclohexane	NR	NR	NR	0.8	ND	NA	1 J	ND	ND	ND	ND	ND	ND
Dichlorodifluoromethane	NR	NR	NR	2	2	NA	3	2	2	ND	ND	ND	ND
Diisopropyl ether	NR	NR	NR	5	ND	NA	ND	ND	ND	NR	NR	NR	NR
Ethanol	NR	NR	NR	19	1	NA	12	2	3	ND	1.2 J	ND	4.2 J
Ethyl Acetate	NR	NR	NR	5	ND	NA	ND	ND	ND	NR	NR	NR	NR
Ethyl tert-butyl ether	NR	NR	NR	ND	ND	NA	1 J	ND	ND	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
Freon 11	NR	NR	NR	NR	NR	NR	NR	NR	NR	1.2 J	1.0 J	1.6 J	1.3 J
Freon 113	NR	NR	NR	ND	ND	NA	3 J	2	2	ND	ND	3.0 J	ND
Freon 114	NR	NR	NR	ND	ND	NA	2 J	0.9 J	0.7 J	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
Heptane	NR	NR	NR	1	ND	NA	1 J	ND	ND	ND	ND	ND	2.6 J
Hexachlorobutadiene	NR	NR	NR	ND	ND	NA	2 J	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
iso-Octane	NR	NR	NR	ND	ND	NA	1 J	0.5 J	0.5 J	NR	NR	NR	NR
Isopropylbenzene	NR	NR	NR	ND	ND	NA	1 J	ND	ND	NR	NR	NR	NR
Isoproyl alcohol	NR	NR	NR	6	ND	NA	7	0.7	0.5	NR	NR	NR	NR
m,p-Xylene	NR	NR	NR	NR	NR	NA	NR	NR	NR	ND	ND	2.4 J	ND
Methyl Methacrylate	NR	NR	NR	ND	ND	NA	0.9 J	ND	ND	NR	NR	NR	NR
Methyl-tert-Butyl-Ether	NR	NR	NR	1	ND	NA	4	ND	ND	ND	ND	ND	ND
Methylene Chloride	NR	NR	NR	51	ND	NA	65	1	0.9	2.6	ND	ND	0.57 J
MIBK	NR	NR	NR	ND	ND	NA	1 J	ND	ND	NR	NR	NR	NR
Naphthalene	NR	NR	NR	ND	ND	NA	ND	ND	0.7 J	NR	NR	NR	NR
n-Butane	NR	NR	NR	2	0.6	NA	2	0.5 J	ND	NR	NR	NR	NR
o-Xylene	NR	NR	NR	NR	NR	NA	NR	NR	NR	ND	ND	1.2 J	ND
p-Isopropyltoluene	NR	NR	NR	ND	ND	NA	ND	ND	ND	NR	NR	NR	NR
n-Propylbenzene	NR	NR	NR	1	ND	NA	ND	ND	ND	ND	ND	0.60 J	ND
Propylene	NR	NR	NR	ND	ND	NA	ND	ND	0.4	NR	NR	NR	NR
Styrene	NR	NR	NR	ND	ND	NA	ND	ND	ND	ND	ND	ND	ND
tert-Amyl methyl ether	NR	NR	NR	ND	ND	NA	1 J	ND	ND	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
Tetrachloroethene	3100	210	68	96	16	NA	2 J	54	33	12	ND	86	1.6 J
Tetrahydrofuran	NR	NR	NR	4	1	NA	1	1	0.8	0.58 J	ND	1.4 J	ND
Toluene	NR	NR	NR	7	ND	NA	2	1	0.6 J	0.59 J	ND	0.68 J	1.5 J
Total Xylenes	NR	NR	NR	12	ND	NA	3 J	3	2 J	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
trans-1,3-Dichloropropene	NR	NR	NR	ND	ND	NA	ND	ND	ND	ND	ND	ND	ND
Trichloroethene	710	44	60	72	12	NA	2 J	44	25	9.6	ND	73	ND
Trichlorofluoromethane	NR	NR	NR	2	ND	NA	3	2	2	NR	NR	NR	NR
Vinyl Acetate	NR	NR	NR	2	ND	NA	ND	ND	0.5 J	NR	NR	NR	NR
Vinyl Bromide	NR	NR	NR	ND	ND	NA	1 J	0.5 J	ND	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

Notes:
µg/m^3 = micrograms per cubic meter
NR = Not Recorded
NA = Data not available

Table 6
Soil Vapor Extraction Containment System
Site 1, Former Drum Marshalling Yard
Naval Weapons Industrial Reserve Plant - Bethpage, NY
Historical Quarterly Vapor Analytical Results
Through Fourth Quarter 2012

Sample ID	SVE 104D												
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**	**09/11/12**	**12/05/12**
Analysis by TO-15 (µg/m^3)													
1,1,1-Trichloroethane	3600	3000	860	ND	270	ND	370	620	440	520	580	620	920
1,1,2,2-Tetrachloroethane	NR	NR	NR	ND	ND	ND	1 J	ND	9 J	ND	ND	ND	ND
1,1,2-Trichloroethane	NR	NR	NR	ND	ND	ND	2 J	7 J	7 J	ND	ND	ND	ND
1,1-Dichloroethane	290	350	140	ND	66	ND	56	110	77	87	95	100	190
1,1-Dichloroethene	ND	ND	ND	ND	ND	ND	3	7 J	7 J	3.0 J	5.0 J	ND	11 J
1,2,3-Trichloropropane	NR	NR	NR	ND	ND	ND	2 J	7 J	7 J	NR	NR	NR	NR
1,2,3-Trimethylbenzene	NR	NR	NR	ND	ND	ND	7	ND	6 J	NR	NR	NR	NR
1,2,4-Trichlorobenzene	NR	NR	NR	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,2,4-Trimethylbenzene	NR	NR	NR	3	ND	ND	21	ND	7 J	ND	4.0 J	2.5 J	ND
1,2-Dibromoethane	NR	NR	NR	ND	ND	ND	2 J	ND	9 J	ND	ND	ND	ND
1,2-Dichlorobenzene	NR	NR	NR	ND	ND	ND	1 J	ND	7 J	ND	ND	ND	ND
1,2-Dichloroethane	NR	ND	ND	ND	ND	ND	1 J	5 J	5 J	ND	ND	ND	ND
1,2-Dichloropropane	NR	NR	NR	ND	ND	ND	2 J	6 J	5 J	ND	ND	ND	ND
1,3,5-Trimethylbenzene	NR	NR	NR	ND	ND	ND	4	ND	5 J	ND	ND	ND	ND
1,3-Butadiene	NR	NR	NR	ND	ND	ND	ND	3 J	ND	ND	ND	ND	ND
1,3-Dichlorobenzene	NR	NR	NR	ND	ND	ND	1 J	ND	ND	ND	ND	ND	ND
1,4-Dichlorobenzene	NR	NR	NR	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,4-Dioxane	NR	NR	NR	ND	ND	ND	2	9	4 J	ND	ND	ND	ND
2,2,4-Trimethylpentane	NR	NR	NR	NR	NR	NR	NR	NR	NR	ND	ND	ND	ND
2-Butanone	NR	NR	NR	ND	ND	ND	7	5 J	3 J	ND	ND	ND	ND
2-Hexanone	NR	NR	NR	ND	ND	ND	1 J	8	ND	ND	ND	ND	ND
2-Propanol	NR	NR	NR	NR	NR	NR	NR	NR	NR	ND	ND	ND	ND
3-Chloro-1-propene	NR	NR	NR	ND	ND	ND	1 J	4 J	ND	ND	ND	ND	ND
4-Ethyltoluene	NR	NR	NR	ND	ND	ND	4	ND	5 J	ND	1.7 J	ND	ND
4-Methyl-2-pentanone	NR	NR	NR	NR	NR	NR	NR	NR	NR	ND	ND	ND	ND
Acetone	NR	NR	NR	10	ND	6	26	10	8	46	12 J	ND	7.4 J
alpha-Chlorotoluene	NR	NR	NR	ND	ND	ND	1 J	ND	5 J	ND	ND	ND	ND
Acrylonitrile	NR	NR	NR	ND	ND	ND	0.8 J	4	ND	NR	NR	NR	NR
Benzene	NR	NR	NR	ND	ND	ND	2	4 J	4 J	ND	ND	1.5 J	ND
Benzyl Chloride	NR	NR	NR	ND	ND	ND	1 J	ND	ND	NR	NR	NR	NR
Bromodichloromethane	NR	NR	NR	ND	ND	ND	2 J	8 J	7 J	ND	ND	ND	ND
Bromoform	NR	NR	NR	ND	ND	ND	3 J	ND	11 J	ND	ND	ND	ND
Bromomethane	NR	NR	NR	ND	ND	ND	1 J	6 J	5 J	ND	ND	ND	ND
Carbon Disulfide	NR	NR	NR	ND	ND	ND	1	5 J	4 J	ND	ND	6.3 J	ND
Carbon Tetrachloride	NR	NR	NR	ND	ND	ND	3	9 J	8 J	ND	ND	ND	ND
Chlorobenzene	NR	NR	NR	ND	ND	ND	1 J	ND	5 J	ND	ND	10 J, B	ND
Chlorodibromomethane	NR	NR	NR	ND	ND	ND	2 J	9 J	10 J	NR	NR	NR	NR
Chloroethane	NR	NR	NR	ND	ND	ND	1 J	4 J	4 J	ND	ND	ND	ND
Chloroform	NR	NR	NR	ND	ND	ND	3	10	9 J	ND	2.2 J	5.8 J	ND
Chloromethane	NR	NR	NR	0.9	ND	ND	2	3 J	3 J	ND	ND	ND	ND
cis-1,2-Dichloroethene	2400	6600	3500	ND	1200	ND	1000	3600	2100	2200	2800 J	2200	4200
cis-1,3-Dichloropropene	NR	NR	NR	ND	ND	ND	1 J	ND	ND	ND	ND	ND	ND
Cumene	NR	NR	NR	NR	NR	NR	NR	NR	NR	ND	ND	ND	ND
Cyclohexane	NR	NR	NR	ND	ND	ND	2	4 J	ND	ND	ND	ND	ND
Dichlorodifluoromethane	NR	NR	NR	2	ND	ND	4	9 J	8 J	ND	ND	ND	ND
Diisopropyl ether	NR	NR	NR	ND	ND	ND	ND	ND	ND	NR	NR	NR	NR
Ethanol	NR	NR	NR	4	4	6	20	10	ND	11 J	2.2 J	ND	ND
Ethyl Acetate	NR	NR	NR	ND	ND	ND	ND	6 J	ND	NR	NR	NR	NR
Ethyl tert-butyl ether	NR	NR	NR	ND	ND	ND	1 J	4 J	ND	NR	NR	NR	NR
Ethylbenzene	NR	NR	NR	ND	ND	ND	4	ND	5 J	ND	ND	2.3 J	ND
Freon 11	NR	NR	NR	NR	NR	NR	NR	NR	NR	ND	ND	ND	ND
Freon 113	NR	NR	NR	ND	560	560	280	260	550	720	980	880	1900
Freon 114	NR	NR	NR	ND	ND	ND	2 J	10 J	9 J	ND	ND	ND	ND
Freon 12	NR	NR	NR	NR	NR	NR	NR	NR	NR	ND	ND	2.7 J	ND
Heptane	NR	NR	NR	ND	ND	ND	2	5 J	5 J	ND	ND	ND	ND
Hexachlorobutadiene	NR	NR	NR	ND	ND	ND	5	ND	14 J	ND	ND	ND	ND
Hexane	NR	NR	NR	2	ND	2	7	5 J	4 J	ND	ND	ND	ND
iso-Octane	NR	NR	NR	ND	ND	ND	3	7 J	6 J	NR	NR	NR	NR
Isopropylbenzene	NR	NR	NR	ND	ND	ND	2 J	ND	6 J	NR	NR	NR	NR
Isoproyl alcohol	NR	NR	NR	1	ND	ND	7	6	4 J	NR	NR	NR	NR
m,p-Xylene	NR	NR	NR	NR	NR	NR	NR	NR	NR	ND	1.1 J	3.8 J	ND
Methyl Methacrylate	NR	NR	NR	ND	ND	ND	1 J	4 J	ND	NR	NR	NR	NR
Methyl-tert-Butyl-Ether	NR	NR	NR	ND	ND	ND	3	4 J	4 J	ND	ND	ND	ND
Methylene Chloride	NR	NR	NR	6	ND	14	28	9	6 J	ND	ND	ND	ND
MIBK	NR	NR	NR	ND	ND	ND	1 J	5 J	ND	NR	NR	NR	NR
Naphthalene	NR	NR	NR	ND	ND	ND	7	ND	5 J	NR	NR	NR	NR
n-Butane	NR	NR	NR	ND	ND	3	5	4 J	ND	NR	NR	NR	NR
o-Xylene	NR	NR	NR	NR	NR	NR	NR	NR	NR	ND	ND	ND	ND
p-Isopropyltoluene	NR	NR	NR	ND	ND	ND	2 J	ND	ND	NR	NR	NR	NR
n-Propylbenzene	NR	NR	NR	ND	ND	ND	3	ND	ND	ND	ND	ND	ND
Propylene	NR	NR	NR	ND	ND	ND	ND	ND	3 J	NR	NR	NR	NR
Styrene	NR	NR	NR	ND	ND	ND	1 J	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
tert-Butyl Alcohol	NR	NR	NR	ND	ND	ND	2	4 J	3 J	NR	NR	NR	NR
Tetrachloroethene	20000	39000	21000	ND	2400	ND	1400	5800	6300	3800	4300	4600	4500
Tetrahydrofuran	NR	NR	NR	ND	ND	ND	7	4 J	3 J	2.8 J	ND	8.2 J	ND
Toluene	NR	NR	NR	ND	ND	ND	8	4 J	4 J	ND	ND	2.5 J	ND
Total Xylenes	NR	NR	NR	ND	ND	ND	20	ND	14 J	NR	NR	NR	NR
trans-1,2-Dichloroethene	130	70	30	ND	13	ND	14	25	22	26	31	27	55
trans-1,3-Dichloropropene	NR	NR	NR	ND	ND	ND	1 J	ND	ND	ND	ND	ND	ND
Trichloroethene	4600	6000	2400	ND	470	ND	420	1600	1300	1400	1400	1700	2300
Trichlorofluoromethane	NR	NR	NR	ND	ND	ND	3	9 J	7 J	NR	NR	NR	NR
Vinyl Acetate	NR	NR	NR	ND	ND	ND	ND	5 J	4 J	NR	NR	NR	NR
Vinyl Bromide	NR	NR	NR	ND	ND	ND	2 J	6 J	ND	NR	NR	NR	NR
Vinyl Chloride	ND	12	ND	ND	ND	ND	2	5	5 J	ND	ND	ND	ND

Notes:
µg/m^3 = micrograms per cubic meter
NR = Not Recorded
NA = Data not available

Table 6
Soil Vapor Extraction Containment System
Site 1, Former Drum Marshalling Yard
Naval Weapons Industrial Reserve Plant - Bethpage, NY
Historical Quarterly Vapor Analytical Results
Through Fourth Quarter 2012

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
Analysis by TO-15 (µg/m^3)													
1,1,1-Trichloroethane	9.9	11	29	ND	24	1	1 J	21	31	11	13	26	22
1,1,2,2-Tetrachloroethane	NR	NR	NR	ND	ND	ND	0.8 J	1 J	0.9 J	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
1,1-Dichloroethane	ND	5.7	13	ND	6	ND	0.6 J	5	7	4.2	5.6	5.6	10
1,1-Dichloroethene	ND	ND	ND	ND	ND	ND	0.6 J	0.6 J	0.5 J	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
1,2,3-Trimethylbenzene	NR	NR	NR	14	ND	1	0.7 J	1	2	NR	NR	NR	NR
1,2,4-Trichlorobenzene	NR	NR	NR	ND	ND	ND	ND	ND	1 J	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
1,2-Dibromoethane	NR	NR	NR	ND	ND	ND	0.9 J	ND	0.8 J	ND	ND	ND	ND
1,2-Dichlorobenzene	NR	NR	NR	ND	ND	ND	0.9 J	ND	0.8 J	ND	ND	ND	ND
1,2-Dichloroethane	NR	ND	ND	ND	ND	ND	0.7 J	0.6 J	0.5 J	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
1,3,5-Trimethylbenzene	NR	NR	NR	10	ND	1	2	0.9 J	1	0.48 J	ND	0.92 J	ND
1,3-Butadiene	NR	NR	NR	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
1,4-Dichlorobenzene	NR	NR	NR	ND	ND	ND	ND	ND	0.7 J	ND	ND	0.81 J	0.41 J
1,4-Dioxane	NR	NR	NR	ND	ND	ND	0.7 J	0.7 J	0.6 J	ND	ND	ND	ND
2,2,4-Trimethylpentane	NR	NR	NR	NR	NR	NR	NR	NR	NR	ND	ND	ND	0.97 J
2-Butanone	NR	NR	NR	4	1	6	6	2	1	3.6 J	ND	ND	3.3 J
2-Hexanone	NR	NR	NR	ND	ND	ND	0.7 J	0.6 J	0.4 J	ND	ND	ND	ND
2-Propanol	NR	NR	NR	NR	NR	NR	NR	NR	NR	ND	ND	ND	ND
3-Chloro-1-propene	NR	NR	NR	ND	ND	ND	0.4 J	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
4-Methyl-2-pentanone	NR	NR	NR	NR	NR	NR	NR	NR	NR	ND	ND	ND	ND
Acetone	NR	NR	NR	11	3	15	27	9	4	25	4.7 J	7.8 J	17 J
alpha-Chlorotoluene	NR	NR	NR	ND	ND	ND	0.5 J	ND	0.7 J	ND	ND	ND	ND
Acrylonitrile	NR	NR	NR	ND	ND	ND	0.3 J	0.4 J	ND	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
Benzyl Chloride	NR	NR	NR	ND	ND	ND	ND	ND	ND	NR	NR	NR	NR
Bromodichloromethane	NR	NR	NR	ND	ND	ND	1 J	1 J	0.9 J	ND	ND	ND	ND
Bromoform	NR	NR	NR	ND	ND	ND	1 J	1 J	1 J	ND	ND	ND	ND
Bromomethane	NR	NR	NR	ND	ND	ND	0.8	0.6 J	0.5 J	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
Carbon Tetrachloride	NR	NR	NR	ND	ND	ND	1	1 J	1	ND	ND	ND	ND
Chlorobenzene	NR	NR	NR	ND	ND	ND	0.6 J	0.5 J	0.6 J	ND	ND	2.9 J, B	ND
Chlorodibromomethane	NR	NR	NR	ND	ND	ND	1 J	0.9 J	1 J	NR	NR	NR	NR
Chloroethane	NR	NR	NR	ND	ND	ND	0.7	0.4 J	0.4 J	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
Chloromethane	NR	NR	NR	0.9	ND	ND	3	0.5	0.4	ND	ND	ND	ND
cis-1,2-Dichloroethene	ND	6.6	20	ND	ND	ND	1	10	16	8.1	9.7	13	16
cis-1,3-Dichloropropene	NR	NR	NR	ND	13	ND	0.5 J	ND	0.5 J	ND	ND	ND	ND
Cumene	NR	NR	NR	NR	NR	NR	NR	NR	NR	ND	ND	ND	ND
Cyclohexane	NR	NR	NR	ND	ND	3	0.7 J	0.6 J	0.5 J	ND	ND	ND	0.91 J
Dichlorodifluoromethane	NR	NR	NR	2	2	2	3	2	3	ND	ND	ND	ND
Diisopropyl ether	NR	NR	NR	ND	ND	ND	ND	0.6 J	ND	NR	NR	NR	NR
Ethanol	NR	NR	NR	5	1	37	19	3	2	15	1.1 J	2.8 J	15
Ethyl Acetate	NR	NR	NR	ND	ND	2	ND	ND	ND	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
Ethylbenzene	NR	NR	NR	4	ND	3	3	0.9	1	ND	ND	ND	ND
Freon 11	NR	NR	NR	NR	NR	NR	NR	NR	NR	1.1 J	0.87 J	1.5 J	1.6 J
Freon 113	NR	NR	NR	ND	2	ND	2	3	3	1.8 J	5.5 J	3.2 J	11
Freon 114	NR	NR	NR	ND	ND	ND	1 J	1 J	1 J	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
Heptane	NR	NR	NR	ND	ND	3	3	0.5 J	0.5 J	ND	ND	ND	1.2 J
Hexachlorobutadiene	NR	NR	NR	ND	ND	ND	2 J	1 J	2 J	ND	ND	ND	ND
Hexane	NR	NR	NR	2	ND	11	2	1	0.5 J	ND	ND	ND	2.5 J
iso-Octane	NR	NR	NR	ND	ND	4	1	0.7 J	0.7 J	NR	NR	NR	NR
Isopropylbenzene	NR	NR	NR	ND	ND	ND	0.8 J	0.6 J	0.8 J	NR	NR	NR	NR
Isoproyl alcohol	NR	NR	NR	ND	ND	6	9	2	7	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
Methyl Methacrylate	NR	NR	NR	ND	ND	ND	0.6 J	0.5 J	0.4 J	NR	NR	NR	NR
Methyl-tert-Butyl-Ether	NR	NR	NR	ND	ND	1	0.7 J	0.7 J	0.4 J	ND	ND	ND	ND
Methylene Chloride	NR	NR	NR	6	0.8	48	7	5	1	0.94 J	ND	ND	1.0 J
MIBK	NR	NR	NR	ND	ND	ND	0.8 J	0.6 J	0.5 J	NR	NR	NR	NR
Naphthalene	NR	NR	NR	3	ND	1	6	0.8 J	8	NR	NR	NR	NR
n-Butane	NR	NR	NR	0.5	ND	23	2	0.6	ND	NR	NR	NR	NR
o-Xylene	NR	NR	NR	NR	NR	NR	NR	NR	NR	0.49 J	ND	ND	1.0 J
p-Isopropyltoluene	NR	NR	NR	ND	ND	ND	0.9 J	0.6 J	0.7 J	NR	NR	NR	NR
n-Propylbenzene	NR	NR	NR	4	ND	ND	2	0.7 J	1	ND	ND	0.68 J	ND
Propylene	NR	NR	NR	ND	ND	ND	ND	ND	ND	NR	NR	NR	NR
Styrene	NR	NR	NR	ND	ND	ND	0.5 J	ND	0.5 J	ND	ND	ND	ND
tert-Amyl methyl ether	NR	NR	NR	ND	ND	ND	0.5 J	0.5 J	0.5 J	NR	NR	NR	NR
tert-Butyl Alcohol	NR	NR	NR	1	ND	ND	4	0.6 J	0.4 J	NR	NR	NR	NR
Tetrachloroethene	70	9.1	240	ND	55	5	2	95	100	31	43	100	77
Tetrahydrofuran	NR	NR	NR	5	2	ND	4	2	2	1.0 J	0.99 J	ND	3.1
Toluene	NR	NR	NR	4	ND	14	5	2	1	0.60 J	ND	0.79 J	6.6
Total Xylenes	NR	NR	NR	28	ND	11	17	4	6	NR	NR	NR	NR
trans-1,2-Dichloroethene	ND	ND	1.6	ND	ND	ND	0.5 J	1	1	ND	ND	1.5 J	ND
trans-1,3-Dichloropropene	NR	NR	NR	ND	ND	ND	0.5 J	ND	0.5 J	ND	ND	ND	ND
Trichloroethene	76	6.3	370	ND	120	7	1	170	200	110	140	260	180
Trichlorofluoromethane	NR	NR	NR	1	1	2	2	2	2	NR	NR	NR	NR
Vinyl Acetate	NR	NR	NR	ND	ND	ND	3	ND	ND	NR	NR	NR	NR
Vinyl Bromide	NR	NR	NR	ND	ND	ND	0.7 J	ND	0.6 J	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

Notes:
µg/m^3 = micrograms per cubic meter
NR = Not Recorded
NA = Data not available

Table 6
Soil Vapor Extraction Containment System
Site 1, Former Drum Marshalling Yard
Naval Weapons Industrial Reserve Plant - Bethpage, NY
Historical Quarterly Vapor Analytical Results
Through Fourth Quarter 2012

Sample ID	SVE 105D												
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	09/11/12	12/05/12
Analysis by TO-15 (µg/m^3)													
1,1,1-Trichloroethane	550	47	320	1000	590	ND	1 J	490	930	350	320	270	380
1,1,2,2-Tetrachloroethane	NR	NR	NR	ND	ND	ND	0.9 J	8 J	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
1,1-Dichloroethane	300	28	270	250	ND	ND	0.6 J	74	150	69	78	72	110
1,1-Dichloroethene	3.9	ND	ND	2	4	4	0.6 J	6 J	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
1,2,3-Trimethylbenzene	NR	NR	NR	8	ND	ND	3	ND	ND	NR	NR	NR	NR
1,2,4-Trichlorobenzene	NR	NR	NR	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
1,2-Dibromoethane	NR	NR	NR	ND	ND	ND	1 J	ND	ND	ND	ND	ND	ND
1,2-Dichlorobenzene	NR	NR	NR	ND	ND	ND	4	ND	ND	ND	ND	ND	ND
1,2-Dichloroethane	NR	ND	ND	ND	ND	ND	4	5 J	ND	ND	ND	ND	ND
1,2-Dichloropropane	NR	NR	NR	ND	ND	ND	0.7 J	5 J	ND	ND	ND	ND	ND
1,3,5-Trimethylbenzene	NR	NR	NR	6	ND	ND	2	ND	ND	ND	ND	ND	ND
1,3-Butadiene	NR	NR	NR	ND	ND	ND	0.4	3 J	ND	ND	ND	ND	ND
1,3-Dichlorobenzene	NR	NR	NR	ND	ND	ND	0.6 J	ND	ND	ND	ND	ND	ND
1,4-Dichlorobenzene	NR	NR	NR	ND	ND	ND	0.7 J	ND	ND	ND	ND	ND	ND
1,4-Dioxane	NR	NR	NR	ND	ND	ND	0.8	ND	ND	ND	ND	ND	ND
2,2,4-Trimethylpentane	NR	NR	NR	NR	NR	NR	NR	NR	NR	ND	ND	ND	ND
2-Butanone	NR	NR	NR	7	2	2	4	6 J	ND	ND	ND	ND	ND
2-Hexanone	NR	NR	NR	ND	ND	ND	0.7 J	7 J	ND	ND	ND	ND	ND
2-Propanol	NR	NR	NR	NR	NR	NR	NR	NR	NR	ND	ND	ND	ND
3-Chloro-1-propene	NR	NR	NR	ND	ND	ND	0.5 J	3 J	ND	ND	ND	ND	ND
4-Ethyltoluene	NR	NR	NR	5	ND	ND	2	ND	ND	ND	ND	ND	ND
4-Methyl-2-pentanone	NR	NR	NR	NR	NR	NR	NR	NR	NR	ND	ND	ND	ND
Acetone	NR	NR	NR	35	5	11	22	10	5	ND	15 J	10 J	5.3 J
alpha-Chlorotoluene	NR	NR	NR	ND	ND	ND	0.7 J	ND	ND	ND	ND	ND	ND
Acrylonitrile	NR	NR	NR	ND	ND	ND	0.4 J	4 J	ND	NR	NR	NR	NR
Benzene	NR	NR	NR	ND	1	3	1	4 J	ND	ND	ND	ND	ND
Benzyl Chloride	NR	NR	NR	ND	ND	ND	ND	ND	ND	NR	NR	NR	NR
Bromodichloromethane	NR	NR	NR	6	ND	ND	1 J	8 J	ND	ND	ND	ND	ND
Bromoform	NR	NR	NR	ND	ND	ND	1 J	ND	ND	ND	ND	ND	ND
Bromomethane	NR	NR	NR	ND	ND	ND	0.6 J	6 J	ND	ND	ND	ND	ND
Carbon Disulfide	NR	NR	NR	ND	ND	ND	0.8	4 J	ND	ND	ND	3.9 J	ND
Carbon Tetrachloride	NR	NR	NR	3	6	ND	1	10 J	ND	4.0 J	8.1 J	ND	ND
Chlorobenzene	NR	NR	NR	ND	ND	ND	1	ND	ND	ND	ND	5.9 J, B	ND
Chlorodibromomethane	NR	NR	NR	ND	ND	ND	1 J	9 J	ND	NR	NR	NR	NR
Chloroethane	NR	NR	NR	1	1	ND	0.5 J	4 J	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
Chloromethane	NR	NR	NR	1	ND	ND	2	3 J	ND	ND	ND	ND	ND
cis-1,2-Dichloroethene	61	36	85	300	ND	ND	0.7 J	150	380	190	220	150	210
cis-1,3-Dichloropropene	NR	NR	NR	ND	ND	ND	0.6 J	ND	ND	ND	ND	ND	ND
Cumene	NR	NR	NR	NR	NR	NR	NR	NR	NR	ND	ND	ND	ND
Cyclohexane	NR	NR	NR	ND	ND	1	0.8	ND	ND	ND	ND	ND	ND
Dichlorodifluoromethane	NR	NR	NR	2	5	2	3	9 J	3 J	ND	ND	ND	ND
Diisopropyl ether	NR	NR	NR	2	ND	ND	ND	ND	ND	NR	NR	NR	NR
Ethanol	NR	NR	NR	8	2	26	12	10	10	5.2 J	ND	ND	ND
Ethyl Acetate	NR	NR	NR	2	ND	ND	ND	ND	ND	NR	NR	NR	NR
Ethyl tert-butyl ether	NR	NR	NR	ND	ND	ND	0.6 J	4 J	ND	NR	NR	NR	NR
Ethylbenzene	NR	NR	NR	4	ND	2	3	ND	ND	ND	ND	ND	ND
Freon 11	NR	NR	NR	NR	NR	NR	NR	NR	NR	ND	ND	ND	ND
Freon 113	NR	NR	NR	81	89	ND	2	62	40	18 J	43	37	64
Freon 114	NR	NR	NR	ND	ND	ND	1 J	10 J	ND	ND	ND	ND	ND
Freon 12	NR	NR	NR	NR	NR	NR	NR	NR	NR	ND	ND	2.9 J	ND
Heptane	NR	NR	NR	ND	ND	1	0.9	5 J	ND	ND	ND	ND	ND
Hexachlorobutadiene	NR	NR	NR	ND	ND	ND	2 J	ND	ND	ND	ND	ND	ND
Hexane	NR	NR	NR	5	2	5	2	4 J	ND	ND	ND	ND	ND
iso-Octane	NR	NR	NR	ND	ND	2	1	7 J	ND	NR	NR	NR	NR
Isopropylbenzene	NR	NR	NR	ND	ND	ND	0.8 J	ND	ND	NR	NR	NR	NR
Isoproyl alcohol	NR	NR	NR	2	ND	2	2	6	ND	NR	NR	NR	NR
m,p-Xylene	NR	NR	NR	NR	NR	NR	NR	NR	NR	ND	1.9 J	3.1 J	ND
Methyl Methacrylate	NR	NR	NR	ND	ND	ND	0.7 J	4 J	ND	NR	NR	NR	NR
Methyl-tert-Butyl-Ether	NR	NR	NR	ND	ND	ND	0.7 J	4 J	ND	ND	ND	ND	ND
Methylene Chloride	NR	NR	NR	16	5	2	6	8	3 J	8.4 J	ND	ND	ND
MIBK	NR	NR	NR	ND	ND	ND	0.8 J	5 J	ND	NR	NR	NR	NR
Naphthalene	NR	NR	NR	9	ND	ND	4	ND	ND	NR	NR	NR	NR
n-Butane	NR	NR	NR	ND	2	13	2	4 J	ND	NR	NR	NR	NR
o-Xylene	NR	NR	NR	NR	NR	NR	NR	NR	NR	ND	ND	ND	ND
p-Isopropyltoluene	NR	NR	NR	ND	ND	ND	0.8 J	ND	ND	NR	NR	NR	NR
n-Propylbenzene	NR	NR	NR	3	ND	ND	1	ND	ND	ND	ND	ND	ND
Propylene	NR	NR	NR	2	ND	1	ND	ND	ND	NR	NR	NR	NR
Styrene	NR	NR	NR	ND	ND	ND	0.7 J	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
tert-Butyl Alcohol	NR	NR	NR	3	ND	ND	0.9	4 J	ND	NR	NR	NR	NR
Tetrachloroethene	2100	1.1	650	270	420	ND	2	240	330	140	220	270	350
Tetrahydrofuran	NR	NR	NR	6	3	2	3	5 J	2 J	ND	1.6 J	1.3 J	ND
Toluene	NR	NR	NR	3	2	8	14	4 J	ND	ND	ND	ND	ND
Total Xylenes	NR	NR	NR	22	ND	10	20	ND	ND	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
trans-1,3-Dichloropropene	NR	NR	NR	ND	ND	ND	0.5 J	ND	ND	ND	ND	ND	ND
Trichloroethene	1700	68	200	1100	1400	1	2	3000	7000	3600	4500	2200	3800
Trichlorofluoromethane	NR	NR	NR	ND	3	1	2	9 J	ND	NR	NR	NR	NR
Vinyl Acetate	NR	NR	NR	2	ND	ND	ND	4 J	ND	NR	NR	NR	NR
Vinyl Bromide	NR	NR	NR	ND	ND	ND	0.8 J	6 J	ND	NR	NR	NR	NR
Vinyl Chloride	ND	ND	ND	ND	ND	ND	0.4 J	4 J	ND	ND	ND	ND	ND

Notes:
µg/m^3 = micrograms per cubic meter
NR = Not Recorded
NA = Data not available

Table 6
Soil Vapor Extraction Containment System
Site 1, Former Drum Marshalling Yard
Naval Weapons Industrial Reserve Plant - Bethpage, NY
Historical Quarterly Vapor Analytical Results
Through Fourth Quarter 2012

Sample ID	SVE 106I												
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**
Analysis by TO-15 (µg/m^3)													
1,1,1-Trichloroethane	220	8.6	ND	4	ND	NA	6	3	7	1.0 J	2.2 J	11	ND
1,1,2,2-Tetrachloroethane	NR	NR	NR	ND	ND	NA	1 J	0.8 J	1 J	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
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
1,1-Dichloroethene	ND	ND	ND	ND	ND	NA	0.6 J	2	0.6 J	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
1,2,3-Trimethylbenzene	NR	NR	NR	9	ND	NA	9	1	2	NR	NR	NR	NR
1,2,4-Trichlorobenzene	NR	NR	NR	2	ND	NA	2	ND	0.8 J	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
1,2-Dibromoethane	NR	NR	NR	ND	ND	NA	1 J	ND	1 J	ND	ND	ND	ND
1,2-Dichlorobenzene	NR	NR	NR	1	ND	NA	0.7 J	ND	0.9 J	ND	ND	ND	ND
1,2-Dichloroethane	NR	ND	ND	0.8	ND	NA	0.6 J	0.5 J	0.6 J	ND	ND	ND	ND
1,2-Dichloropropane	NR	NR	NR	ND	ND	NA	0.7 J	ND	0.7 J	ND	ND	ND	ND
1,3,5-Trimethylbenzene	NR	NR	NR	6	ND	NA	5	0.9 J	1	ND	ND	0.84 J	ND
1,3-Butadiene	NR	NR	NR	1	ND	NA	ND	2	0.6	ND	0.87 J	ND	ND
1,3-Dichlorobenzene	NR	NR	NR	ND	ND	NA	ND	ND	0.7 J	ND	ND	ND	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
1,4-Dioxane	NR	NR	NR	ND	ND	NA	0.7	0.5 J	0.6 J	ND	ND	ND	ND
2,2,4-Trimethylpentane	NR	NR	NR	NR	NR	NR	NR	NR	NR	ND	120	ND	ND
2-Butanone	NR	NR	NR	4	ND	NA	7	0.5 J	2	0.70 J	ND	ND	ND
2-Hexanone	NR	NR	NR	ND	ND	NA	1	0.6 J	0.5 J	ND	ND	ND	ND
2-Propanol	NR	NR	NR	NR	NR	NR	NR	NR	NR	ND	ND	ND	ND
3-Chloro-1-propene	NR	NR	NR	ND	ND	NA	0.4 J	0.5 J	0.4 J	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
4-Methyl-2-pentanone	NR	NR	NR	NR	NR	NR	NR	NR	NR	ND	ND	ND	ND
Acetone	NR	NR	NR	5	5	NA	22	11	9	5.6 J	9.5 J	3.7 J	7.5 J
alpha-Chlorotoluene	NR	NR	NR	ND	ND	NA	0.6 J	ND	0.7 J	ND	ND	ND	ND
Acrylonitrile	NR	NR	NR	0.4	ND	NA	0.4 J	0.4 J	ND	NR	NR	NR	NR
Benzene	NR	NR	NR	0.8	ND	NA	0.9	0.9	0.6 J	ND	ND	ND	ND
Benzyl Chloride	NR	NR	NR	1	ND	NA	0.7 J	ND	ND	NR	NR	NR	NR
Bromodichloromethane	NR	NR	NR	ND	ND	NA	0.8 J	0.5 J	1 J	ND	ND	ND	ND
Bromoform	NR	NR	NR	ND	ND	NA	1 J	0.3 J	2 J	ND	ND	ND	ND
Bromomethane	NR	NR	NR	0.9	ND	NA	0.6 J	2	0.6 J	ND	ND	ND	ND
Carbon Disulfide	NR	NR	NR	0.8	ND	NA	0.8	0.5 J	0.6	ND	ND	2.2 J	ND
Carbon Tetrachloride	NR	NR	NR	2	ND	NA	1	ND	3	0.91 J	0.55 J	ND	2.9 J
Chlorobenzene	NR	NR	NR	ND	ND	NA	0.7 J	0.3 J	0.7 J	ND	ND	2.5 J, B	ND
Chlorodibromomethane	NR	NR	NR	ND	ND	NA	1 J	1	1 J	NR	NR	NR	NR
Chloroethane	NR	NR	NR	0.6	ND	NA	0.7	0.8	0.5 J	ND	ND	ND	ND
Chloroform	NR	NR	NR	1	ND	NA	2	0.4 J	2	ND	1.4 J	1.5 J	ND
Chloromethane	NR	NR	NR	0.8	0.8	NA	2	ND	0.4	ND	ND	ND	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
cis-1,3-Dichloropropene	NR	NR	NR	ND	ND	NA	0.6 J	ND	0.5 J	ND	ND	ND	ND
Cumene	NR	NR	NR	NR	NR	NR	NR	NR	NR	ND	ND	ND	ND
Cyclohexane	NR	NR	NR	ND	ND	NA	0.6 J	ND	0.4 J	ND	2.9	ND	ND
Dichlorodifluoromethane	NR	NR	NR	3	2	NA	3	0.8 J	3	ND	ND	ND	ND
Diisopropyl ether	NR	NR	NR	ND	ND	NA	ND	ND	ND	NR	NR	NR	NR
Ethanol	NR	NR	NR	3	2	NA	15	9	1	1.6 J	ND	ND	ND
Ethyl Acetate	NR	NR	NR	ND	ND	NA	ND	ND	ND	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
Ethylbenzene	NR	NR	NR	3	ND	NA	4	2	1	ND	3.6	1.4 J	ND
Freon 11	NR	NR	NR	NR	NR	NR	NR	NR	NR	1.2 J	0.96 J	1.5 J	1.3 J
Freon 113	NR	NR	NR	4	ND	NA	5	4	12	12	6.5	3.0 J	13
Freon 114	NR	NR	NR	2	ND	NA	1 J	0.9 J	1 J	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
Heptane	NR	NR	NR	ND	ND	NA	0.8 J	0.7 J	0.5 J	ND	7.6	ND	ND
Hexachlorobutadiene	NR	NR	NR	2	ND	NA	2 J	1 J	2 J	ND	ND	ND	ND
Hexane	NR	NR	NR	0.8	ND	NA	1	1	1	ND	ND	ND	ND
iso-Octane	NR	NR	NR	1	ND	NA	19	0.9 J	0.8 J	NR	NR	NR	NR
Isopropylbenzene	NR	NR	NR	1	ND	NA	1	0.5 J	0.7 J	NR	NR	NR	NR
Isoproyl alcohol	NR	NR	NR	1	ND	NA	13	1	1	NR	NR	NR	NR
m,p-Xylene	NR	NR	NR	NR	NR	NA	NR	NR	NR	0.80 J	15	2.6 J	1.0 J
Methyl Methacrylate	NR	NR	NR	ND	ND	NA	0.5 J	ND	0.5 J	NR	NR	NR	NR
Methyl-tert-Butyl-Ether	NR	NR	NR	ND	ND	NA	0.7 J	0.5 J	0.7	ND	ND	ND	ND
Methylene Chloride	NR	NR	NR	2	0.8	NA	6	2	5	0.71 J	2.0 J	ND	ND
MIBK	NR	NR	NR	ND	ND	NA	0.8 J	0.4 J	0.5 J	NR	NR	NR	NR
Naphthalene	NR	NR	NR	6	ND	NA	26	1	2	NR	NR	NR	NR
n-Butane	NR	NR	NR	0.8	0.5	NA	1	0.5 J	ND	NR	NR	NR	NR
o-Xylene	NR	NR	NR	NR	NR	NA	NR	NR	NR	ND	5.9	0.93 J	ND
p-Isopropyltoluene	NR	NR	NR	2	ND	NA	1	ND	0.8 J	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
Propylene	NR	NR	NR	ND	ND	NA	ND	ND	ND	NR	NR	NR	NR
Styrene	NR	NR	NR	ND	ND	NA	0.7 J	ND	0.5 J	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
tert-Butyl Alcohol	NR	NR	NR	0.9	ND	NA	2	1 J	0.8	NR	NR	NR	NR
Tetrachloroethene	390	35	ND	15	ND	NA	15	7	19	4.3 J	7.2	27	14
Tetrahydrofuran	NR	NR	NR	6	ND	NA	8	2	2	0.87 J	1.2 J	ND	2.5
Toluene	NR	NR	NR	2	ND	NA	5	3	1	0.44 J	3.4	0.93 J	0.73 J
Total Xylenes	NR	NR	NR	17	ND	NA	22	8	6	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
trans-1,3-Dichloropropene	NR	NR	NR	ND	ND	NA	0.6 J	ND	ND	ND	ND	ND	ND
Trichloroethene	1900	41	ND	140	10	NA	210	92	190	69	110	260	180
Trichlorofluoromethane	NR	NR	NR	2	1	NA	2	2	2	NR	NR	NR	NR
Vinyl Acetate	NR	NR	NR	1	ND	NA	3	ND	ND	NR	NR	NR	NR
Vinyl Bromide	NR	NR	NR	0.9	ND	NA	0.7 J	0.5 J	0.7 J	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

Notes:
µg/m^3 = micrograms per cubic meter
NR = Not Recorded
NA = Data not available

Table 6
Soil Vapor Extraction Containment System
Site 1, Former Drum Marshalling Yard
Naval Weapons Industrial Reserve Plant - Bethpage, NY
Historical Quarterly Vapor Analytical Results
Through Fourth Quarter 2012

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**	**09/11/12**	**12/05/12**
Analysis by TO-15 (µg/m^3)													
1,1,1-Trichloroethane	340	32	30	20	12	9	20	23	29	ND	11	26	18
1,1,2,2-Tetrachloroethane	NR	NR	NR	ND	ND	ND	ND	0.9 J	1 J	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
1,1-Dichloroethane	250	6.3	ND	5	2	5	4	3	3	ND	3.0	4.3	5.8
1,1-Dichloroethene	ND	ND	ND	ND	ND	ND	0.5 J	0.7 J	0.8	ND	ND	ND	ND
1,2,3-Trichloropropane	NR	NR	NR	ND	ND	ND	ND	0.7 J	1 J	NR	NR	NR	NR
1,2,3-Trimethylbenzene	NR	NR	NR	8	ND	ND	6	ND	2	NR	NR	NR	NR
1,2,4-Trichlorobenzene	NR	NR	NR	NR	ND	ND	1 J	ND	0.9 J	ND	1.9 J	ND	ND
1,2,4-Trimethylbenzene	NR	NR	NR	17	2	2	23	ND	4	ND	ND	3.6 J	1.3 J
1,2-Dibromoethane	NR	NR	NR	ND	ND	ND	ND	ND	1 J	ND	ND	ND	ND
1,2-Dichlorobenzene	NR	NR	NR	ND	ND	ND	ND	ND	1 J	ND	ND	ND	ND
1,2-Dichloroethane	NR	ND	ND	ND	ND	ND	ND	0.6 J	0.7 J	ND	ND	ND	ND
1,2-Dichloropropane	NR	NR	NR	ND	ND	ND	ND	0.6 J	0.8 J	ND	ND	ND	ND
1,3,5-Trimethylbenzene	NR	NR	NR	6	ND	ND	4	ND	1	ND	2.3 J	0.97 J	ND
1,3-Butadiene	NR	NR	NR	ND	ND	ND	ND	0.3 J	ND	ND	ND	ND	ND
1,3-Dichlorobenzene	NR	NR	NR	ND	ND	ND	ND	ND	0.8 J	ND	ND	ND	ND
1,4-Dichlorobenzene	NR	NR	NR	ND	ND	ND	ND	ND	0.8 J	ND	ND	0.87 J	ND
1,4-Dioxane	NR	NR	NR	ND	ND	ND	0.5 J	0.7 J	0.7 J	ND	ND	ND	ND
2,2,4-Trimethylpentane	NR	NR	NR	NR	NR	NR	NR	NR	NR	ND	390	1.2 J	ND
2-Butanone	NR	NR	NR	8	2	0.8	5	1	2	ND	ND	4.0 J	ND
2-Hexanone	NR	NR	NR	ND	ND	ND	ND	0.5 J	0.8 J	ND	ND	ND	ND
2-Propanol	NR	NR	NR	NR	NR	NR	NR	NR	NR	ND	ND	ND	ND
3-Chloro-1-propene	NR	NR	NR	ND	ND	ND	ND	0.4 J	0.4 J	ND	ND	ND	ND
4-Ethyltoluene	NR	NR	NR	6	ND	ND	4	ND	1	ND	2.8 J	2.9 J	ND
4-Methyl-2-pentanone	NR	NR	NR	NR	NR	NR	NR	NR	NR	ND	ND	ND	ND
Acetone	NR	NR	NR	25	9	5	11	6	6	4.8 J	13 J	11 J	5.8 J
alpha-Chlorotoluene	NR	NR	NR	ND	ND	ND	ND	ND	0.9 J	ND	ND	ND	ND
Acrylonitrile	NR	NR	NR	ND	ND	ND	0.4 J	0.4 J	ND	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
Benzyl Chloride	NR	NR	NR	ND	ND	ND	ND	ND	0.6 J	NR	NR	NR	NR
Bromodichloromethane	NR	NR	NR	ND	ND	ND	ND	0.9 J	1 J	ND	ND	ND	ND
Bromoform	NR	NR	NR	ND	ND	ND	ND	ND	2 J	ND	ND	ND	ND
Bromomethane	NR	NR	NR	ND	ND	ND	ND	0.6 J	0.7 J	ND	ND	ND	ND
Carbon Disulfide	NR	NR	NR	ND	ND	ND	0.6 J	0.6 J	0.6	ND	ND	ND	8.1 J
Carbon Tetrachloride	NR	NR	NR	8	26	17	9	6	18	ND	18	5.6	19
Chlorobenzene	NR	NR	NR	ND	ND	ND	ND	0.5 J	0.8 J	ND	ND	3.1 J, B	1.0 J
Chlorodibromomethane	NR	NR	NR	ND	ND	ND	ND	1 J	1 J	NR	NR	NR	NR
Chloroethane	NR	NR	NR	ND	ND	ND	0.4 J	0.4 J	0.4 J	ND	ND	ND	ND
Chloroform	NR	NR	NR	ND	2	2	5	5	5	ND	6.4	6.9	6.6
Chloromethane	NR	NR	NR	3	1	0.5	0.7	0.5	0.6	1.2 J	ND	ND	ND
cis-1,2-Dichloroethene	79	13	11	13	2	11	11	5	4	ND	4.1	7.1	8.2
cis-1,3-Dichloropropene	NR	NR	NR	ND	ND	ND	ND	ND	0.7 J	ND	ND	ND	ND
Cumene	NR	NR	NR	NR	NR	NR	NR	NR	NR	ND	1.4 J	ND	ND
Cyclohexane	NR	NR	NR	ND	ND	ND	1	0.4 J	0.4 J	ND	7.0	ND	0.83 J
Dichlorodifluoromethane	NR	NR	NR	6	3	3	4	2	3	ND	ND	ND	ND
Diisopropyl ether	NR	NR	NR	ND	ND	ND	ND	ND	1 J	NR	NR	NR	NR
Ethanol	NR	NR	NR	8	3	2	17	4	ND	2.3 J	ND	8.8	2.3 J
Ethyl Acetate	NR	NR	NR	ND	ND	ND	ND	ND	ND	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
Ethylbenzene	NR	NR	NR	5	ND	ND	5	ND	1	ND	6.3	1.2 J	ND
Freon 11	NR	NR	NR	NR	NR	NR	NR	NR	NR	1.2 J	1.3 J	2.7 J	2.0 J
Freon 113	NR	NR	NR	ND	18	30	16	25	25	ND	15	13	24
Freon 114	NR	NR	NR	ND	ND	ND	ND	1 J	1 J	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
Heptane	NR	NR	NR	ND	ND	ND	1	0.4 J	0.6 J	0.82 J	18	1.0 J	ND
Hexachlorobutadiene	NR	NR	NR	ND	ND	ND	ND	1 J	2 J	ND	ND	ND	ND
Hexane	NR	NR	NR	3	ND	ND	3	2	0.6 J	ND	ND	1.8 J	0.59 J
iso-Octane	NR	NR	NR	ND	ND	ND	130	0.7 J	0.8 J	NR	NR	NR	NR
Isopropylbenzene	NR	NR	NR	ND	ND	ND	0.8 J	0.5 J	0.8 J	NR	NR	NR	NR
Isoproyl alcohol	NR	NR	NR	5	ND	2	3	2	ND	NR	NR	NR	NR
m,p-Xylene	NR	NR	NR	NR	NR	NR	NR	NR	NR	ND	21	4.2	1.1 J
Methyl Methacrylate	NR	NR	NR	ND	ND	ND	ND	0.4 J	0.4 J	NR	NR	NR	NR
Methyl-tert-Butyl-Ether	NR	NR	NR	ND	ND	ND	ND	1	0.5 J	ND	ND	ND	ND
Methylene Chloride	NR	NR	NR	4	2	4	5	17	1	3.9	ND	1.7 J	1.2 J
MIBK	NR	NR	NR	ND	ND	ND	0.5 J	0.4 J	0.6 J	NR	NR	NR	NR
Naphthalene	NR	NR	NR	8	ND	ND	25	ND	3	NR	NR	NR	NR
n-Butane	NR	NR	NR	ND	1	0.9	6	0.9	ND	NR	NR	NR	NR
o-Xylene	NR	NR	NR	NR	NR	NR	NR	NR	NR	ND	24	1.9 J	ND
p-Isopropyltoluene	NR	NR	NR	ND	ND	ND	0.7 J	ND	0.9 J	NR	NR	NR	NR
n-Propylbenzene	NR	NR	NR	ND	ND	ND	2	ND	0.9 J	ND	0.45 J	1.0 J	ND
Propylene	NR	NR	NR	ND	ND	ND	ND	ND	MD	NR	NR	NR	NR
Styrene	NR	NR	NR	ND	ND	ND	ND	ND	0.6 J	ND	ND	ND	ND
tert-Amyl methyl ether	NR	NR	NR	ND	ND	ND	ND	0.5 J	0.6 J	NR	NR	NR	NR
tert-Butyl Alcohol	NR	NR	NR	4	ND	ND	0.6 J	0.5 J	ND	NR	NR	NR	NR
Tetrachloroethene	720	65	70	ND	13	19	41	8	66	ND	28	62	48
Tetrahydrofuran	NR	NR	NR	8	2	1	7	2	2	ND	1.1 J	4.0	1.8 J
Toluene	NR	NR	NR	5	2	2	11	0.5 J	3	0.81 J	11	15	6.6
Total Xylenes	NR	NR	NR	21	ND	ND	25	ND	6	NR	NR	NR	NR
trans-1,2-Dichloroethene	15	ND	ND	ND	ND	ND	0.6 J	0.8	0.9	ND	ND	ND	ND
trans-1,3-Dichloropropene	NR	NR	NR	ND	ND	ND	ND	ND	0.6 J	ND	ND	ND	ND
Trichloroethene	3400	600	900	230	130	170	210	260	320	ND	180	380	300
Trichlorofluoromethane	NR	NR	NR	6	2	2	3	2	3	NR	NR	NR	NR
Vinyl Acetate	NR	NR	NR	4	ND	ND	ND	ND	ND	NR	NR	NR	NR
Vinyl Bromide	NR	NR	NR	ND	ND	ND	ND	0.6 J	0.9	NR	NR	NR	NR
Vinyl Chloride	ND	1.6	ND	ND	ND	ND	ND	0.4 J	0.5 J	ND	ND	ND	ND

Notes:
µg/m^3 = micrograms per cubic meter
NR = Not Recorded
NA = Data not available

Table 7
Soil Vapor Extraction Containment System
Site 1, Former Drum Marshalling Yard
Naval Weapons Industrial Reserve Plant - Bethpage, NY
Fourth Quarter 2012 Offsite Soil Vapor Monitoring

SVPM/ SVEW Location	Vacuum (i.w.)	Valve Position (% open)
Monitoring Date: 12/6/12		
BPS1-SVPM2001S	0.02	--
BPS1-SVPM2001I	0.02	--
BPS1-SVPM2001D	0.01	--
BPS1-SVPM2002S	0.01	--
BPS1-SVPM2002I	0.10	--
BPS1-SVPM2002D	0.10	--
BPS1-SVPM2003S	0.01	--
BPS1-SVPM2003I	0.02	--
BPS1-SVPM2003D	0.02	--
BPS1-SVPM2004S	0.04	--
BPS1-SVPM2004I	0.04	--
BPS1-SVPM2004D	0.04	--
BPS1-SVPM2006S	0.01	--
BPS1-SVPM2006I	0.01	--
BPS1-SVPM2006D	0.02	--
BPS1-SVPM2007S	0.01	--
BPS1-SVPM2007D	0.01	--
BPS1-SVPM2007I	0.01	--
SV-101I	7	30
SV-101D	16	30
SV-102I	3	30
SV-102D	18	30
SV-103I	2	30
SV-103D	24	30
SV-104I	6	30
SV-104D	10	30
SV-105I	9	30
SV-105D	7	30
SV-106I	8	30
SV-106D	12	30

Notes:
i.w. = inches of water column
SVEW = soil vapor extraction well
SVPM = soil vapor pressure monitor
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.

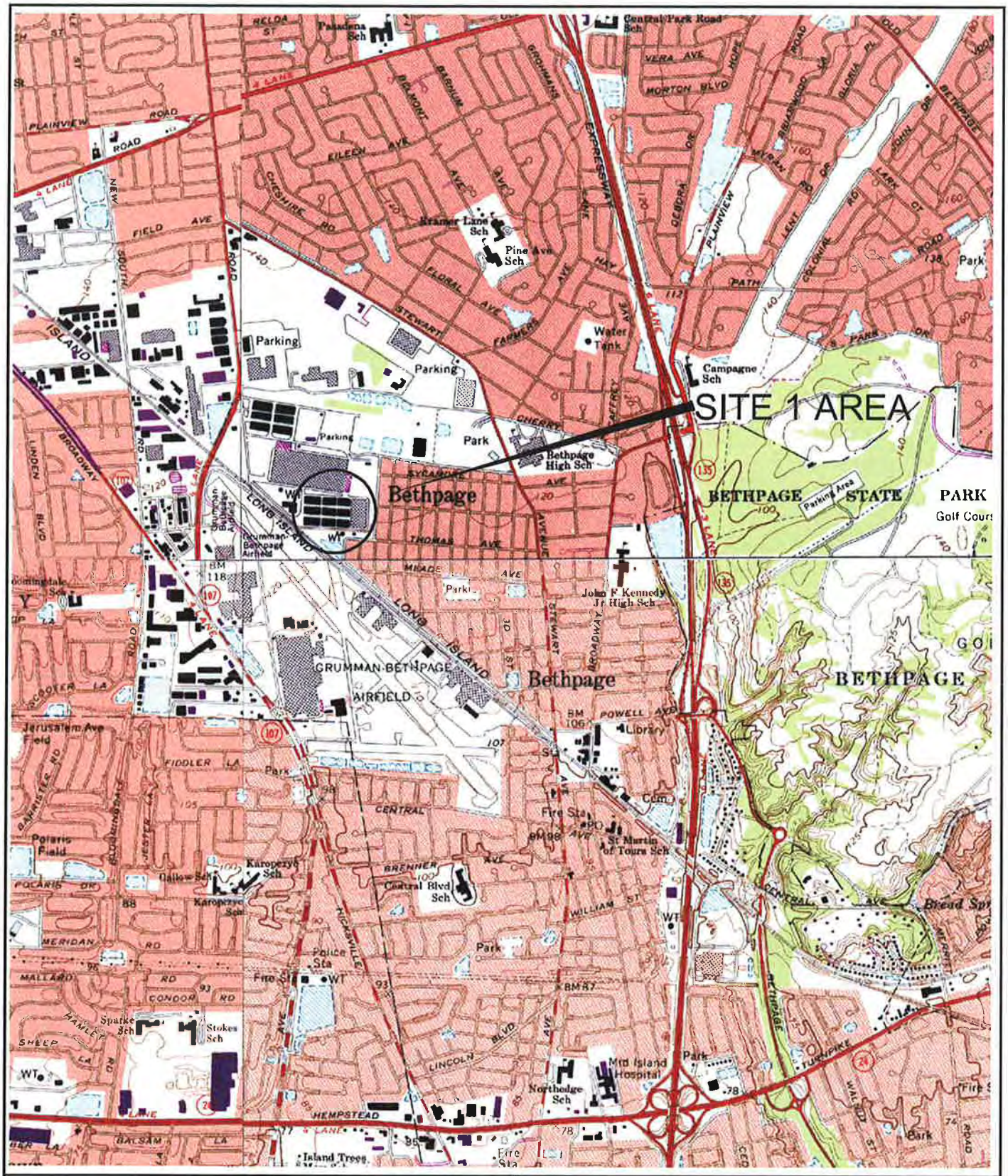
Table 8
Soil Vapor Extraction Containment System
Site 1, Former Drum Marshalling Yard
Naval Weapons Industrial Reserve Plant - Bethpage, NY
Historical Quarterly Offsite Soil Vapor Monitoring
Through Fourth Quarter 2012

SVPM/ SVEW Location	Vacuum (i.w.)	Valve Position (% open)	Vacuum (i.w.)	Valve Position (% open)
Monitoring Date:	***10/10/2012***		***12/6/2012***	
BPS1-SVPM2001S	0.01	--	0.02	--
BPS1-SVPM2001I	0.01	--	0.02	--
BPS1-SVPM2001D	0.01	--	0.01	--
BPS1-SVPM2002S	0.02	--	0.01	--
BPS1-SVPM2002I	0.11	--	0.10	--
BPS1-SVPM2002D	0.12	--	0.10	--
BPS1-SVPM2003S	0.01	--	0.01	--
BPS1-SVPM2003I	0.04	--	0.02	--
BPS1-SVPM2003D	0.04	--	0.02	--
BPS1-SVPM2004S	0.04	--	0.04	--
BPS1-SVPM2004I	0.04	--	0.04	--
BPS1-SVPM2004D	0.06	--	0.04	--
BPS1-SVPM2006S	0.01	--	0.01	--
BPS1-SVPM2006I	0.01	--	0.01	--
BPS1-SVPM2006D	0.02	--	0.02	--
BPS1-SVPM2007S	0.01	--	0.01	--
BPS1-SVPM2007D	0.01	--	0.01	--
BPS1-SVPM2007I	0.01	--	0.01	--
SV-101I	5	60	7	30
SV-101D	10	60	16	30
SV-102I	5	40	3	30
SV-102D	10	40	18	30
SV-103I	5	40	2	30
SV-103D	8	40	24	30
SV-104I	8	40	6	30
SV-104D	11	40	10	30
SV-105I	5	40	9	30
SV-105D	8	40	7	30
SV-106I	5	40	8	30
SV-106D	8	40	12	30

Notes:
i.w. = inches of water column
SVEW = soil vapor extraction well
SVPM = soil vapor pressure monitor

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.

FIGURES



Quadrangle Location Map

0 2000 4000 Feet

N

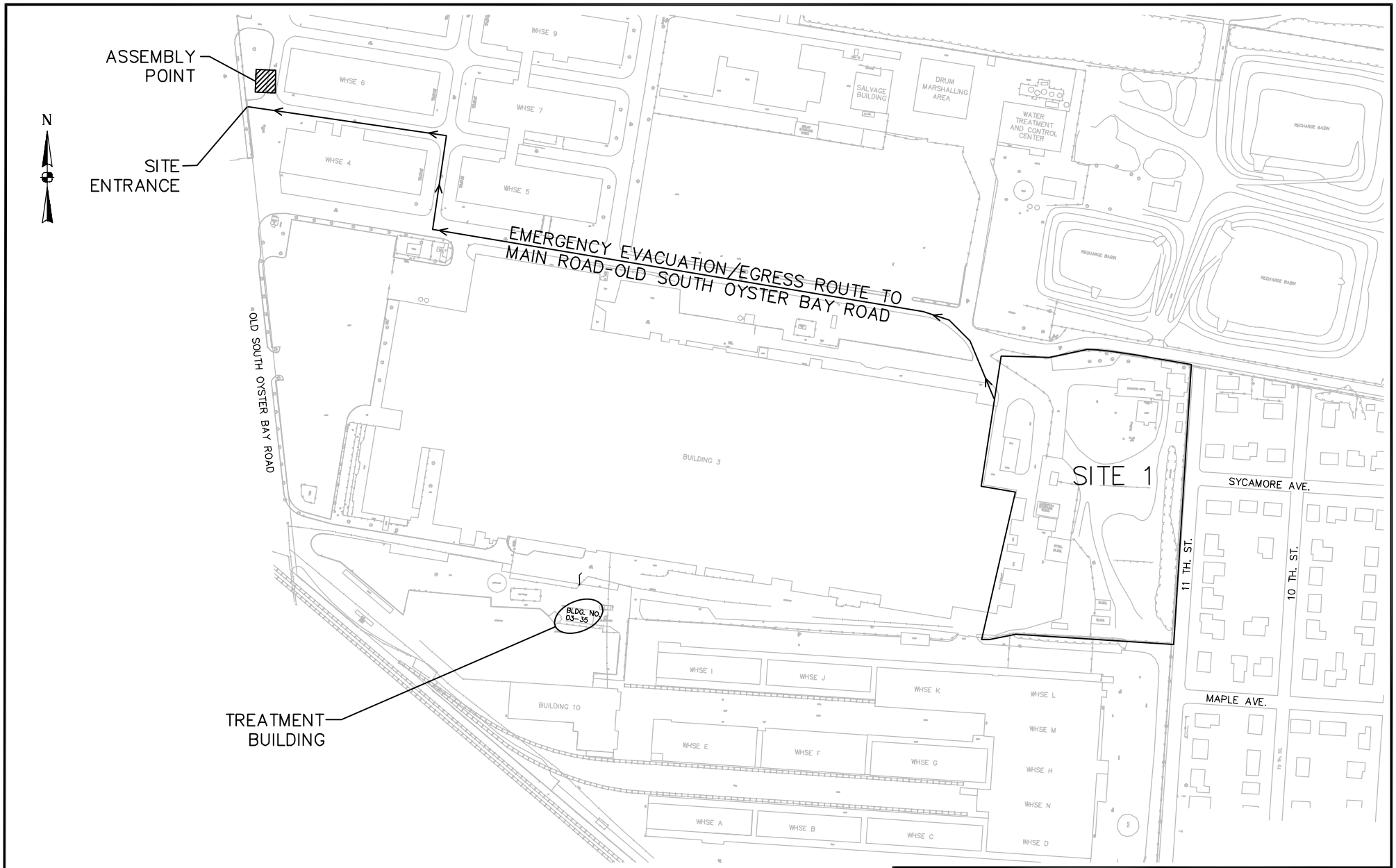
Source: U.S.G.S. Topographic Maps (7.5 Minute)
Amityville, Freeport, Hicksville, Huntington, NY Quadrangles

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.

N

PLANT 3

SITE 1

SITE 4

SVE-106D
SVE-106I
SVE-105I
SVE-105D
SVE-104D
SVE-104I
SVE-103D
SVE-103I
SVE-101D
SVE-101I
SVE-102D
SVE-102I
SVE-111D
SVE-110D
SVE-109D
SVE-108D
SVE-107D

TRAP & CLEANOUT #5
TRAP & CLEANOUT #4
TRAP & CLEANOUT #3
TRAP & CLEANOUT #2
TRAP & CLEANOUT #1

TREATMENT BUILDING

FLOW MONITORING STATION

BUILDING 10

WAREHOUSE I
WAREHOUSE J
WAREHOUSE K
WAREHOUSE L
WAREHOUSE M
WAREHOUSE E
WAREHOUSE F
WAREHOUSE G
WAREHOUSE H
WAREHOUSE N
WAREHOUSE A
WAREHOUSE B
WAREHOUSE C
WAREHOUSE D

LEGEND

- FORMER NWIRP BOUNDARY
- CURRENT NWIRP BOUNDARY
- SVE CONTAINMENT WELL LOCATION

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
0 160

DATE
5/22/2012

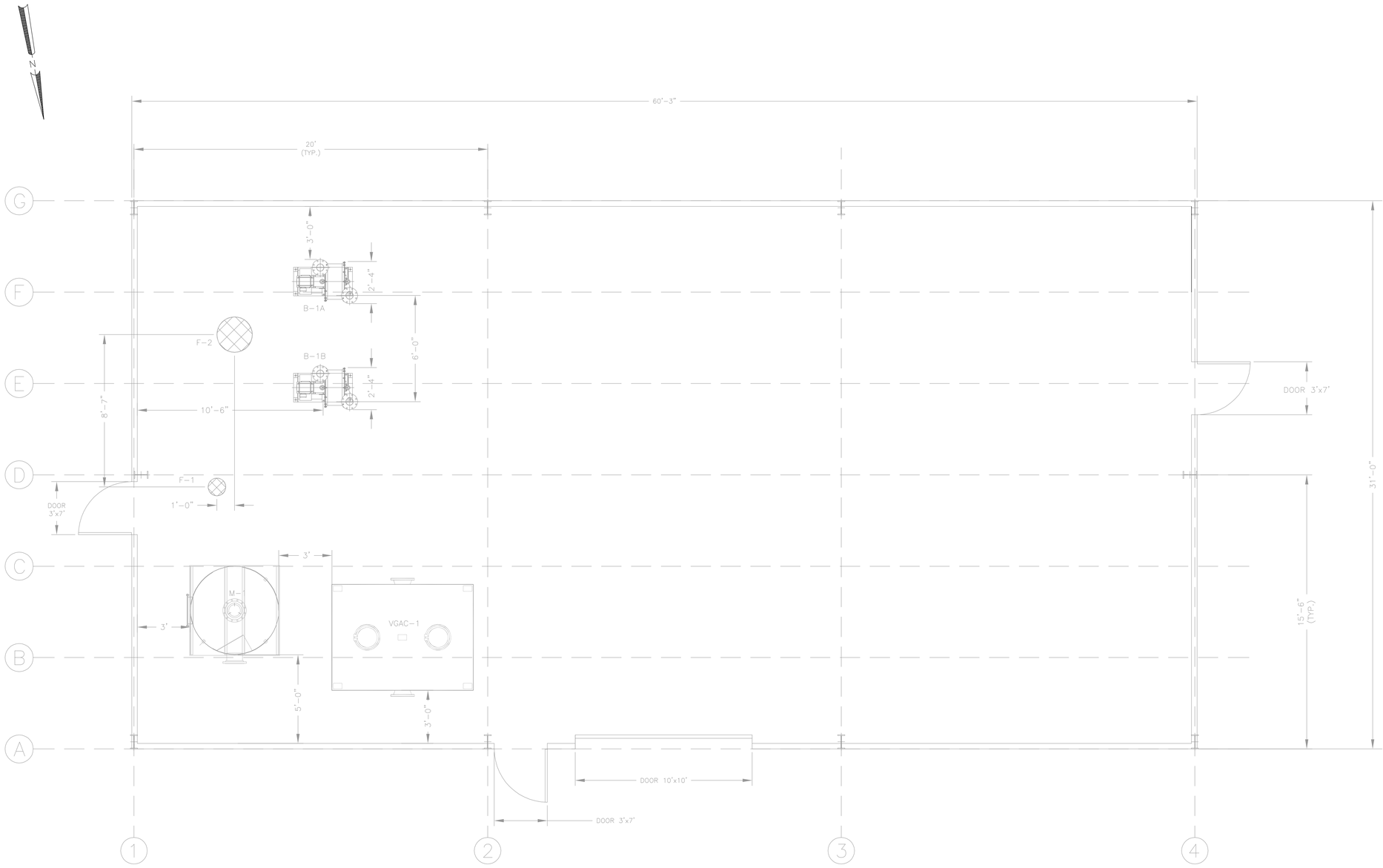
FIGURE
3

H&S

BETHPAGE SVE.DWG

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: INLINE 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, 2,000 CFM AT 6 IW -CAPACITY: 5,000 LBS CARBON -DIMENSIONS: 6' X 8' FOOTPRINT, 6' 8" HT

3 0 3 6

1" = 3'

TETRA TECH ENGINEERING CORPORATION PC

DESIGN: BK
DRAWN: BK
CHK: SP
DR. BWY
CH. ENG:
SUBMITTED BY:
(TYPE NUMBER)
(TITLE)
(DATE)
SOUTHWESTBY
DM
PIC:
HQ:
RO:
NR:
DIR:
OFFICER IN CHARGE
APPROVED
DATE

REV	DESCRIPTION	PREP BY	DATE	APPRVD
0	ISSUED FOR CONSTRUCTION	DLB	10-14-09	SGP

NAVAL FACILITIES ENGINEERING COMMAND, MID-ATLANTIC
BETHPAGE, NEW YORK
EFANE FOR COMMANDER, NAVFAC

DEPARTMENT OF THE NAVY
NAVAL FACILITIES ENGINEERING COMMAND
NAVAL WEAPONS INDUSTRIAL RESERVE PLANT

SITE 1, FORMER DRUM MARSHALLING AREA
SOIL VAPOR EXTRACTION CONTAINMENT SYSTEM
LAYOUT PLAN

DATE
APPROVED

SEAL AREA

SAT TO DATE

CODE I.D. NO.

SCALE : AS SHOWN

SPEC. NO.

CONSTRN. CONTR. NO.
N62473-10-D-3211

NAVFAC DRAWING NO.
Figure 4

SHEET OF

SIZE: D

DIS. SH. NO.
1-3

N

SV-105D	02/10/12	05/11/12	09/11/12	12/05/12
1,1,1-TCA	350	320	270	380
PCE	140	220	270	350
TCE	3600	4500	2200	3800

SV-105I	02/10/12	05/11/12	09/11/12	12/05/12
1,1,1-TCA	11	13	26	22
PCE	31	43	100	77
TCE	110	140	260	180

SV-103D	02/10/12	05/11/12	09/11/12	12/05/12
1,1,1-TCA	7.4 J	6.9 J	22	190
PCE	3800	3200	4700	4600
TCE	180	200	480	440

SV-103I	02/10/12	05/11/12	09/11/12	12/05/12
1,1,1-TCA	ND	1.6 J	9.2	ND
PCE	140	200	430	120
TCE	29	47	130	48

SV-106I	02/10/12	05/11/12	09/11/12	12/05/12
1,1,1-TCA	1.0 J	2.2 J	11	ND
PCE	4.3 J	7.2	27	14
TCE	69	110	260	180

SV-106D	02/10/12	05/11/12	09/11/12	12/05/12
1,1,1-TCA	ND	11	26	18
PCE	ND	28	62	48
TCE	ND	180	380	300

SV-104D	02/10/12	05/11/12	09/11/12	12/05/12
1,1,1-TCA	520	580	620	920
PCE	3800	4300	4600	4500
TCE	1400	1400	1700	2300

SV-104I	02/10/12	05/11/12	09/11/12	12/05/12
1,1,1-TCA	ND	ND	8.3	ND
PCE	12	ND	86	1.6 J
TCE	9.6	ND	73	ND

SV-101D	02/10/12	05/11/12	09/11/12	12/05/12
1,1,1-TCA	ND	3.1 J	9.9	11
PCE	ND	79	150	170
TCE	ND	200	400	350

SV-101I	02/10/12	05/11/12	09/11/12	12/05/12
1,1,1-TCA	1500	1500	3200	4400
PCE	48	46	93	120
TCE	4200	4300	7200	12000

SV-102D	02/10/12	05/11/12	09/11/12	12/05/12
1,1,1-TCA	1.4 J	1.2 J	3.9 J	ND
PCE	5.9	6.5	24	25
TCE	34	58	170	140

SV-102I	02/10/12	05/11/12	09/11/12	12/05/12
1,1,1-TCA	ND	0.60 J	3.3 J	ND
PCE	ND	1.6 J	6.4	1.5 J
TCE	10	26	99	10

PLANT 3

SITE 1

SITE 4

SVE-106D
SVE-106I
SVE-105I
SVE-105D
SVE-104D
SVE-104I
SVE-103D
SVE-103I
SVE-101D
SVE-101I
SVE-102D
SVE-102I
SVE-111D
SVE-110D
SVE-109D
SVE-108D
SVE-107D

TRAP & CLEANOUT #5
TRAP & CLEANOUT #4
TRAP & CLEANOUT #3
TRAP & CLEANOUT #2
TRAP & CLEANOUT #1

TREATMENT BUILDING

FLOW MONITORING STATION

BUILDING 10

WAREHOUSE I
WAREHOUSE J
WAREHOUSE K
WAREHOUSE L
WAREHOUSE M
WAREHOUSE H
WAREHOUSE N
WAREHOUSE D
WAREHOUSE E
WAREHOUSE F
WAREHOUSE G
WAREHOUSE A
WAREHOUSE B
WAREHOUSE C

LEGEND

- FORMER NWIRP BOUNDARY
- CURRENT NWIRP BOUNDARY
- SVE CONTAINMENT WELL LOCATION
- ND — NOT DETECTED ABOVE LABORATORY METHOD DETECTION LIMIT
- PCE — TETRACHLOROETHANE
- 1,1,1-TCA — 1,1,1-TRICHLOROETHANE
- TCE — TRICHLOROETHENE

2012 VAPOR ANALYTICAL MAP
SELECT VOC CONCENTRATIONS

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
0 160

DATE
4/18/2013

FIGURE
5

2012 BETHPAGE VOC.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. Patselos, 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			State Facility Permit N/A	
❑ New	❑ Significant Modification	❑ Administrative Amendment	❑ New	❑ Modification
❑ Renewal	❑ Minor Modification	General Permit Title:	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
Air Permit Application

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
Air Permit Application

DEC ID
- - - - - - - - -

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	1,322		
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	1,181		
00075 - 34 - 3	1,1-Dichloroethane	11		
00075 - 35 - 4	1,1-Dichloroethylene (Vinylidine Chloride)	16		

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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: 1-00EU1 Effluent from first soil vapor extraction blower (BL-1)

Vapor Phase Granular Activated Carbon Unit. The emission point is stack 00ST-2

Building

❑ Continuation Sheet(s)

Building	Building Name	Length (ft)	Width (ft)	Orientation
03-35	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)	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			03-35	100'	

EMISSION PT.:

Ground Elev. (ft)	Height (ft)	Height Above Structure (ft)	Inside Diameter (in)	Exit Temp. (°F)	Cross Section	
					Length (in)	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	Emission Source Type	Date of Construction	Date of Operation	Date of Removal	Control Type Code	Control Type Description	Manufacturer's Name/Model No.
BL 1/2	1				048	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	Emission Source 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

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Section IV - Emission Unit Information (continued)

Process Information

❑ Continuation Sheet(s)

EMISSION UNIT 1-00EU1 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 600 cfm, with a maximum of 1,000 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)

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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
-													
-													
-													
-													

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	00ST2	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.
23	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

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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 1-00EU1 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 1-00EU1 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	8			02		

EMISSION UNIT 1-00EU1 PROCESS SVE

CAS No.	Contaminant Name	% Thruput	% Capture	% Control	ERP (lbs/hr)	ERP How Determined
00079-01-6	Trichloroethylene			80	0.67	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		

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Air Permit Application

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Section IV - Emission Unit Information (continued)

EMISSION UNIT i-OOEU1	Emission Unit Emissions Summary			☒ Continuation Sheet(s)
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
Air Permit Application

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Section IV - Emission Unit Information

EMISSION UNIT	Emission Unit Emissions Summary (continuation)			
1 - 00EU1				
CAS No.	Contaminant Name			
00156- 60 - 5	trans-1,2-Dichloroethene			
ERP (lbs/yr)	PTE Emissions		Actual	
	(lbs/hr)	(lbs/yr)	(lbs/hr)	(lbs/yr)
	BRT	BRT		
CAS No.	Contaminant Name			
00075- 01 - 4	Vinyl Chloride			
ERP (lbs/yr)	PTE Emissions		Actual	
	(lbs/hr)	(lbs/yr)	(lbs/hr)	(lbs/yr)
	BRT	BRT		
CAS No.	Contaminant Name			
- -				
ERP (lbs/yr)	PTE Emissions		Actual	
	(lbs/hr)	(lbs/yr)	(lbs/hr)	(lbs/yr)
CAS No.	Contaminant Name			
- -				
ERP (lbs/yr)	PTE Emissions		Actual	
	(lbs/hr)	(lbs/yr)	(lbs/hr)	(lbs/yr)
CAS No.	Contaminant Name			
- -				
ERP (lbs/yr)	PTE Emissions		Actual	
	(lbs/hr)	(lbs/yr)	(lbs/hr)	(lbs/yr)
CAS No.	Contaminant Name			
- -				
ERP (lbs/yr)	PTE Emissions		Actual	
	(lbs/hr)	(lbs/yr)	(lbs/hr)	(lbs/yr)
CAS No.	Contaminant Name			
- -				
ERP (lbs/yr)	PTE Emissions		Actual	
	(lbs/hr)	(lbs/yr)	(lbs/hr)	(lbs/yr)
CAS No.	Contaminant Name			
- -				
ERP (lbs/yr)	PTE Emissions		Actual	
	(lbs/hr)	(lbs/yr)	(lbs/hr)	(lbs/yr)

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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 ___/___/___

Reduction	
Date	Method
/ /	

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

DEC ID
- - - - - - - - - -

Supporting Documentation

- ❑ P.E. Certification (form attached)
- ❑ List of Exempt Activities (form attached)
- ❑ Plot Plan
- ❑ Methods Used to 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): _____ (/ /)

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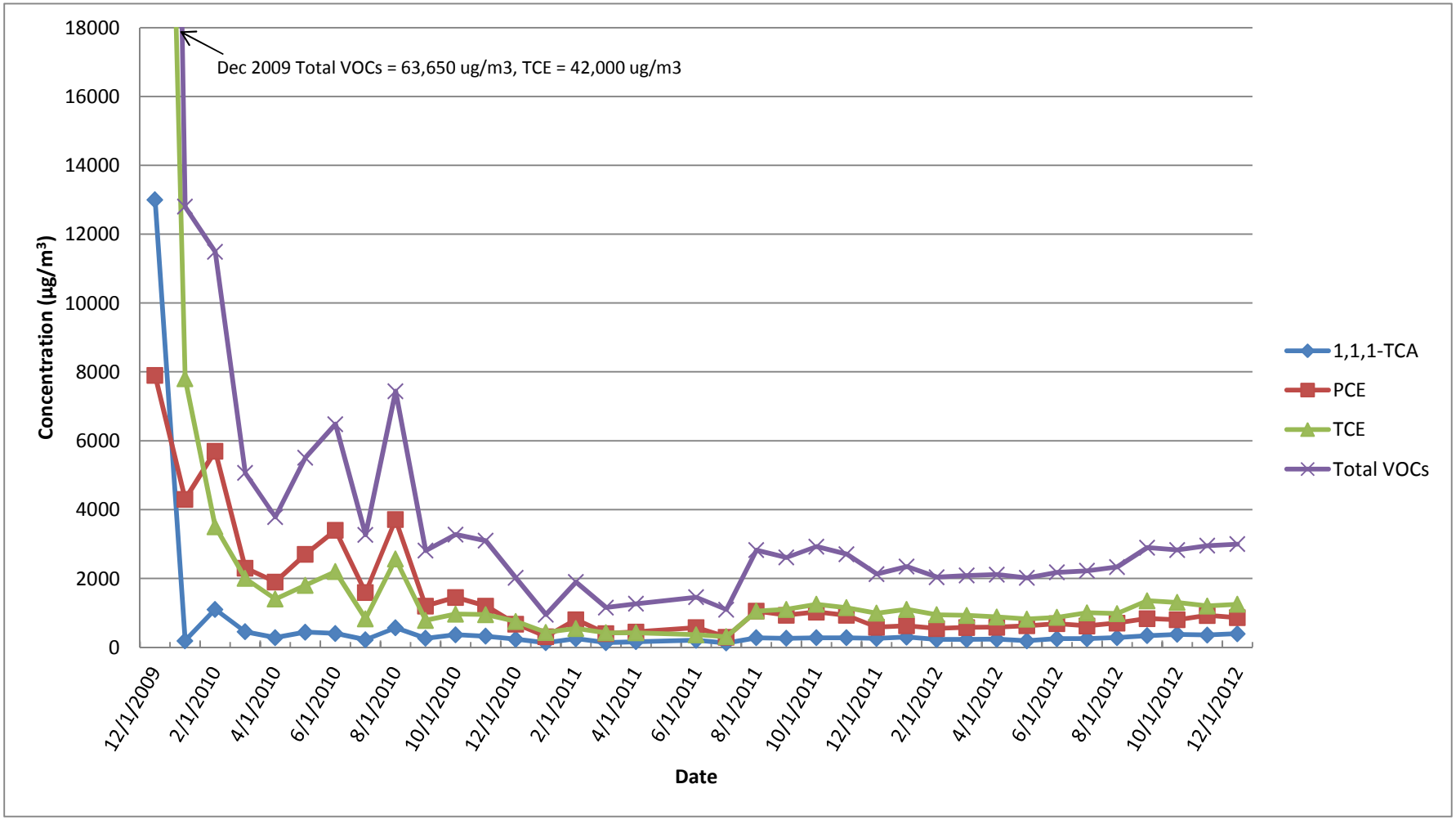
APPENDIX B

VAPOR CONCENTRATION TREND GRAPHS

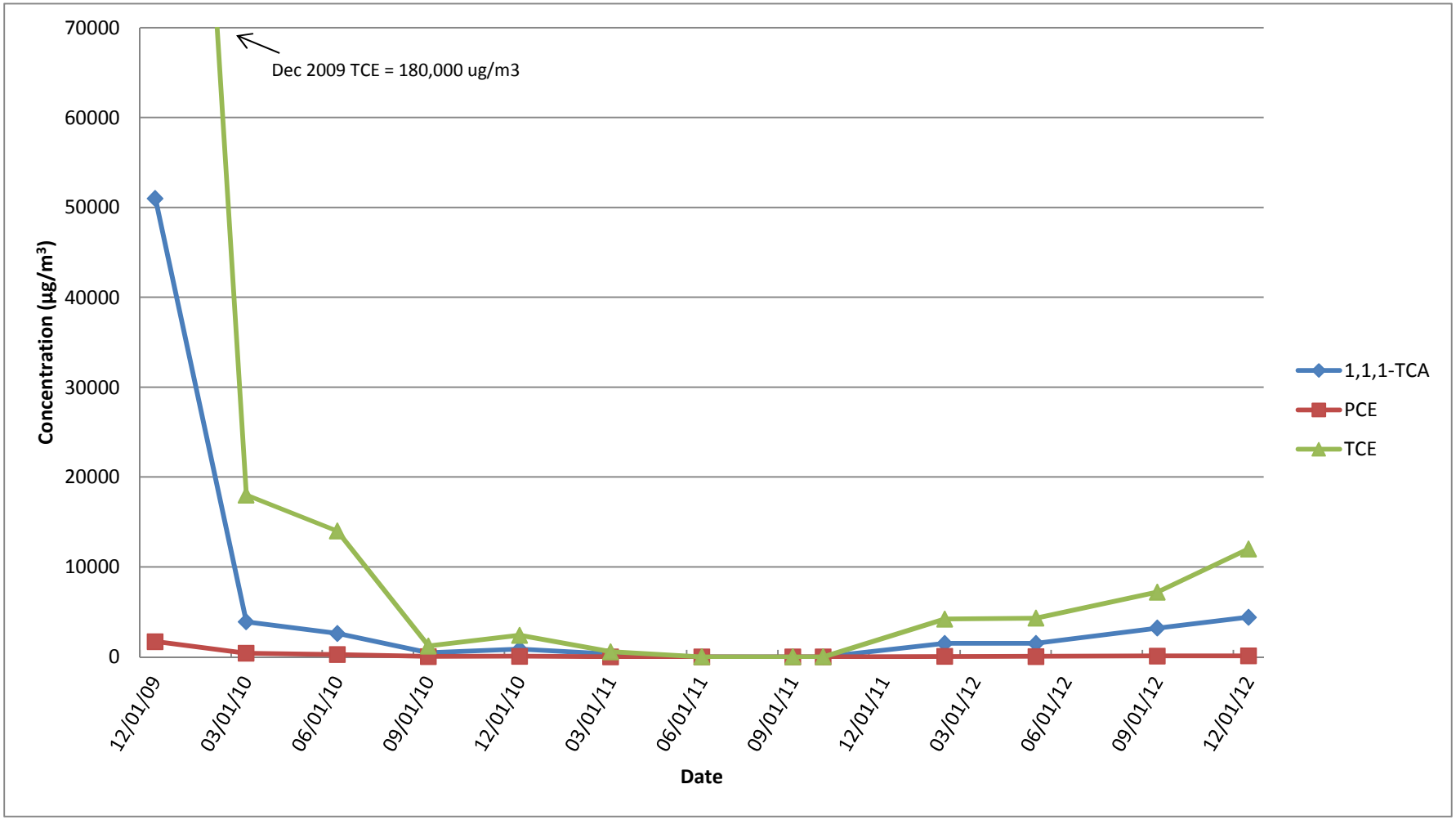
Soil Vapor Extraction Containment System
Site 1, Former Drum Marshalling Yard
Naval Weapons Industrial Reserve Plant - Bethpage, NY
Vapor Concentration Trends of Select and Total VOCs

COMBINED INFLUENT



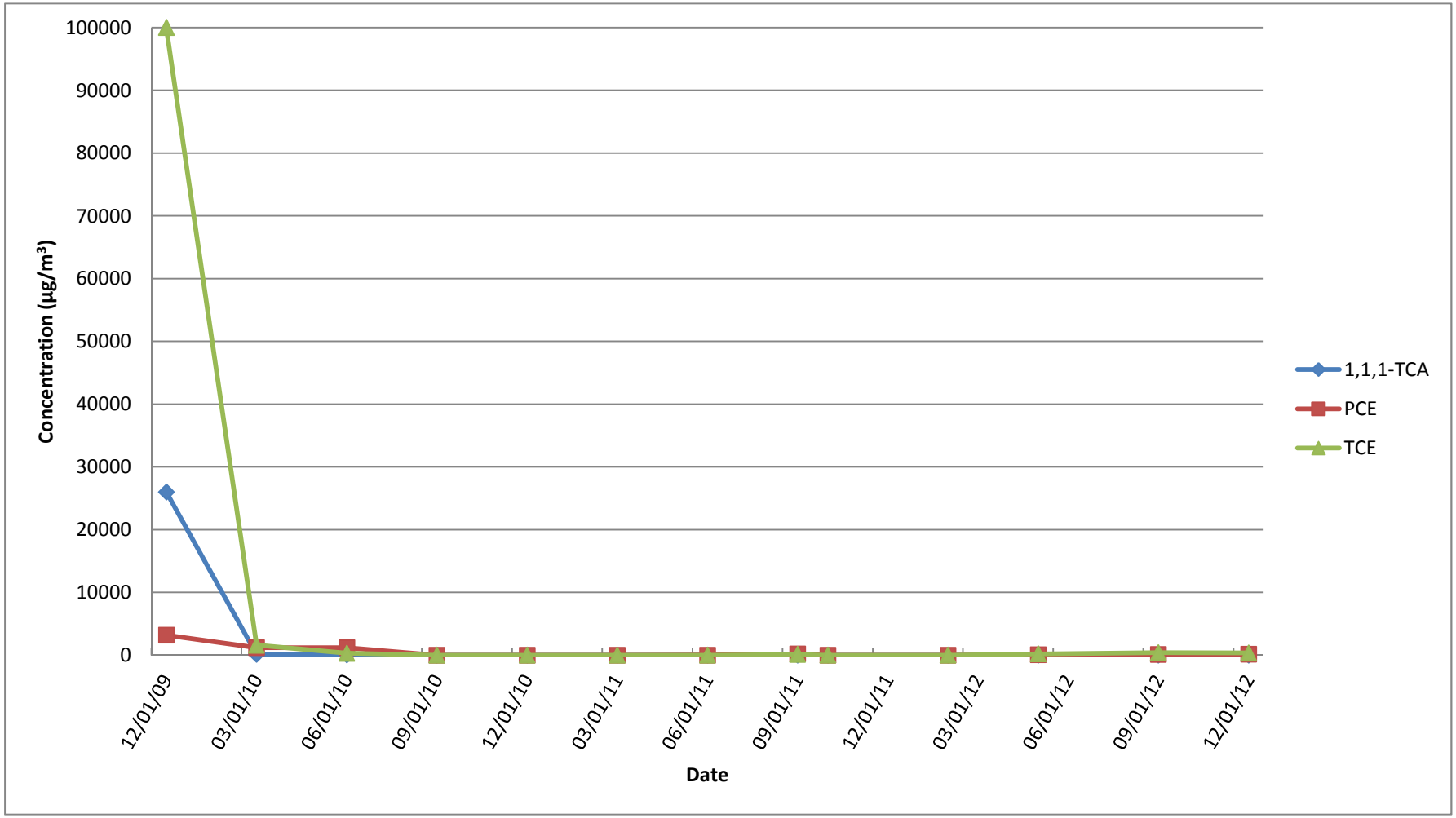
Soil Vapor Extraction Containment System
Site 1, Former Drum Marshalling Yard
Naval Weapons Industrial Reserve Plant - Bethpage, NY
Groundwater Concentration Trends of Select VOCs

SV-101I



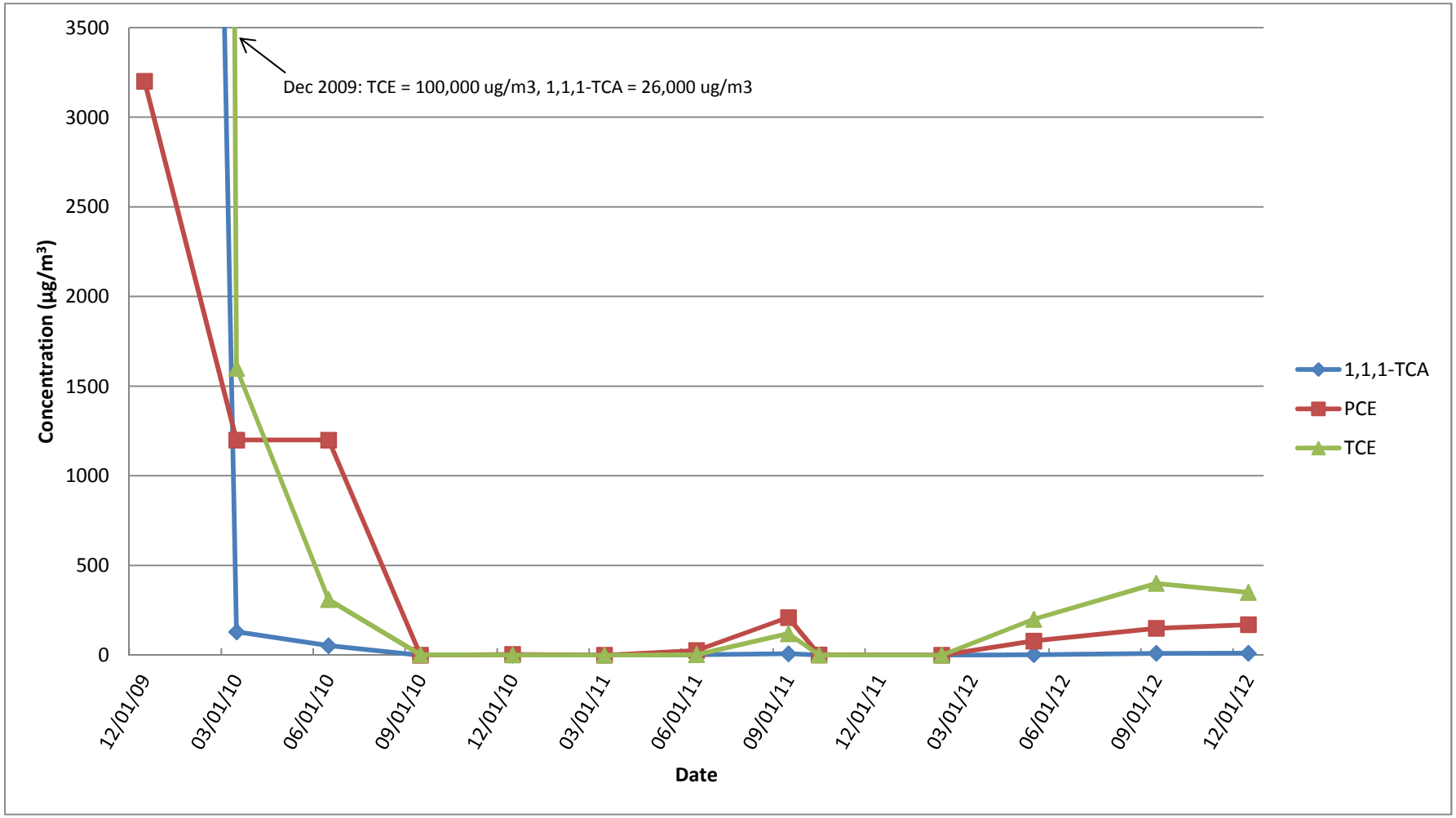
Soil Vapor Extraction Containment System
Site 1, Former Drum Marshalling Yard
Naval Weapons Industrial Reserve Plant - Bethpage, NY
Groundwater Concentration Trends of Select VOCs

SV-101D



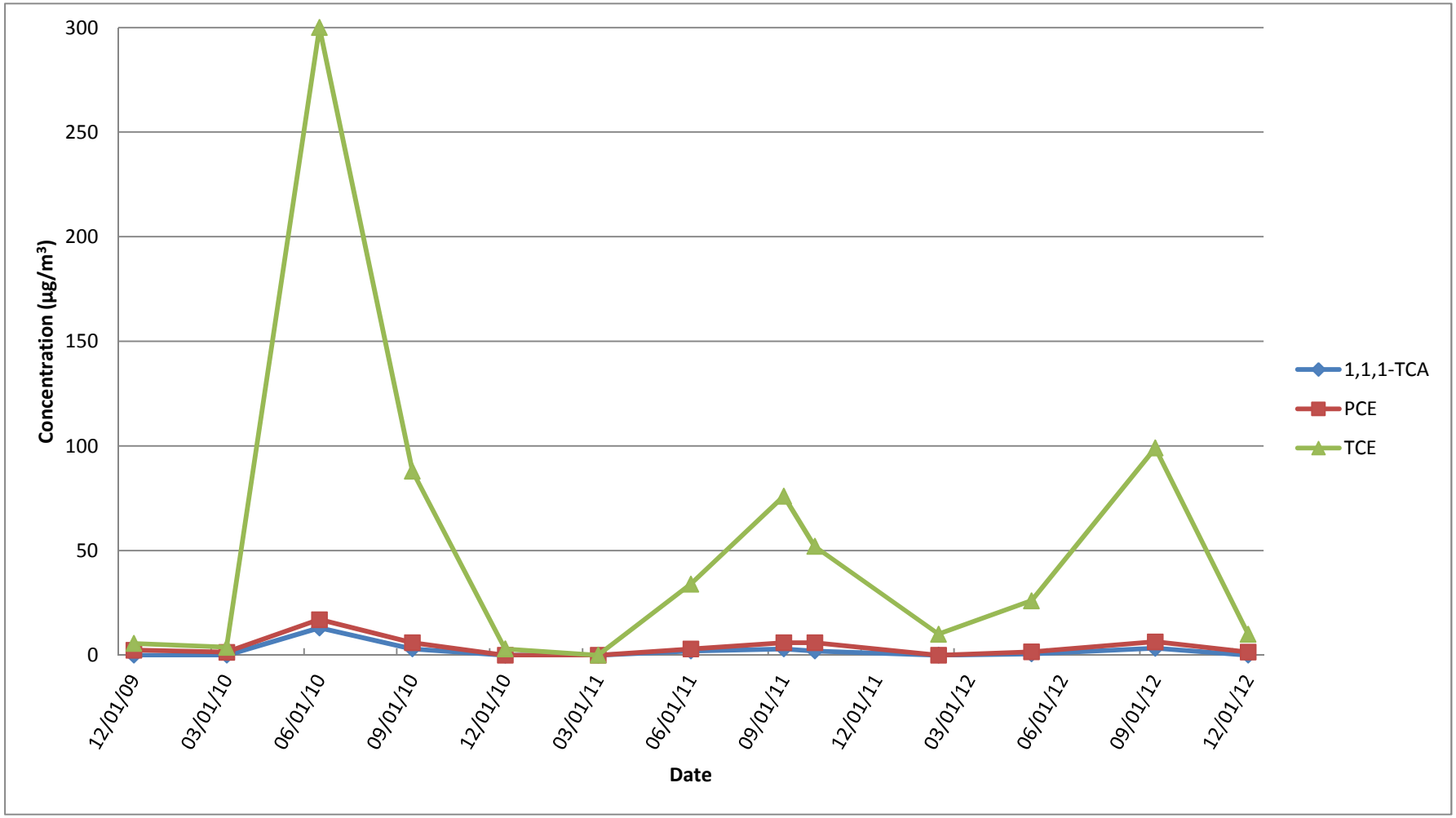
Soil Vapor Extraction Containment System
Site 1, Former Drum Marshalling Yard
Naval Weapons Industrial Reserve Plant - Bethpage, NY
Groundwater Concentration Trends of Select VOCs

SV-101D (smaller scale)



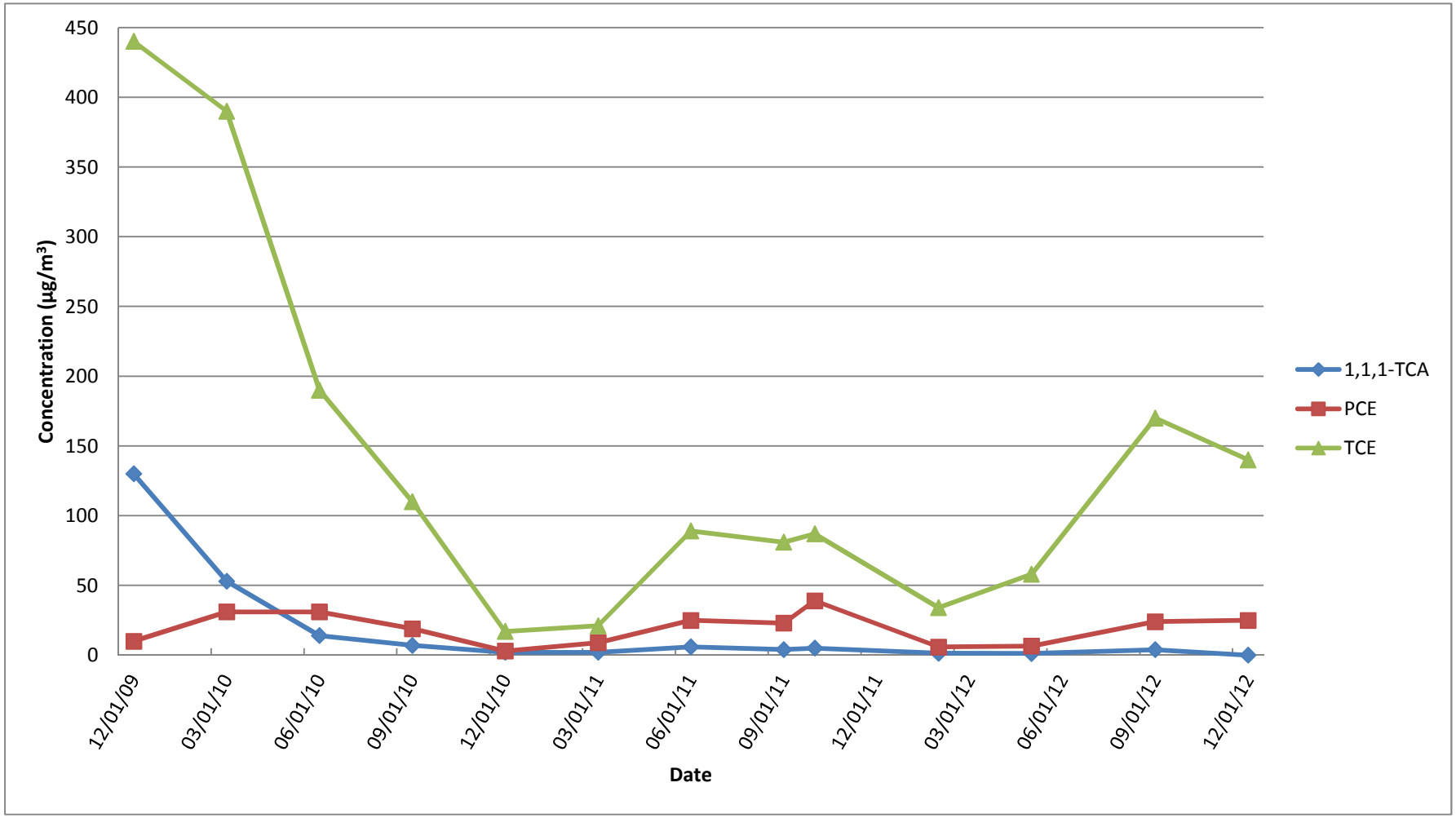
Soil Vapor Extraction Containment System
Site 1, Former Drum Marshalling Yard
Naval Weapons Industrial Reserve Plant - Bethpage, NY
Groundwater Concentration Trends of Select VOCs

SV102I



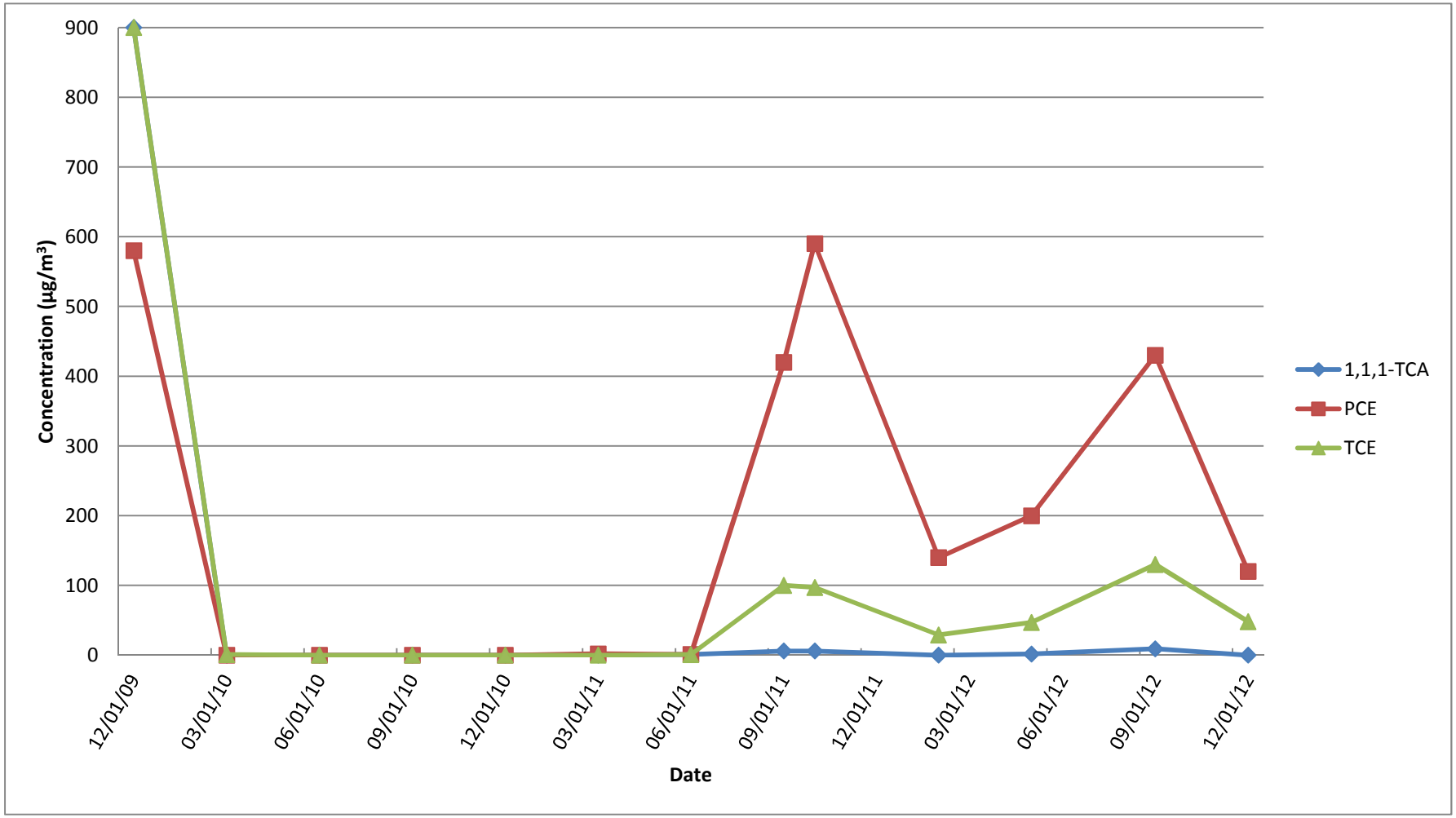
Soil Vapor Extraction Containment System
Site 1, Former Drum Marshalling Yard
Naval Weapons Industrial Reserve Plant - Bethpage, NY
Groundwater Concentration Trends of Select VOCs

SV-102D



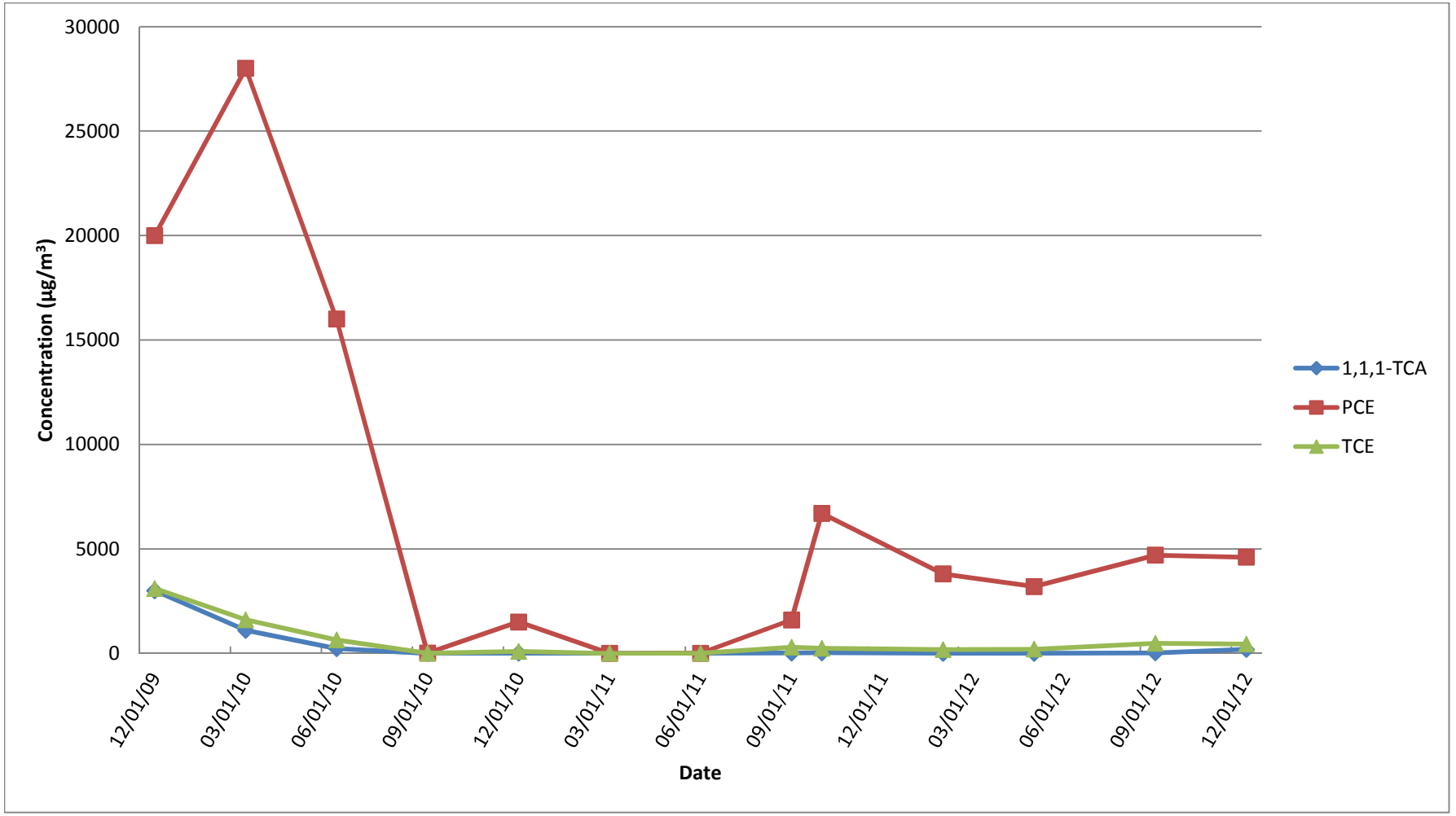
Soil Vapor Extraction Containment System
Site 1, Former Drum Marshalling Yard
Naval Weapons Industrial Reserve Plant - Bethpage, NY
Groundwater Concentration Trends of Select VOCs

SV-103I



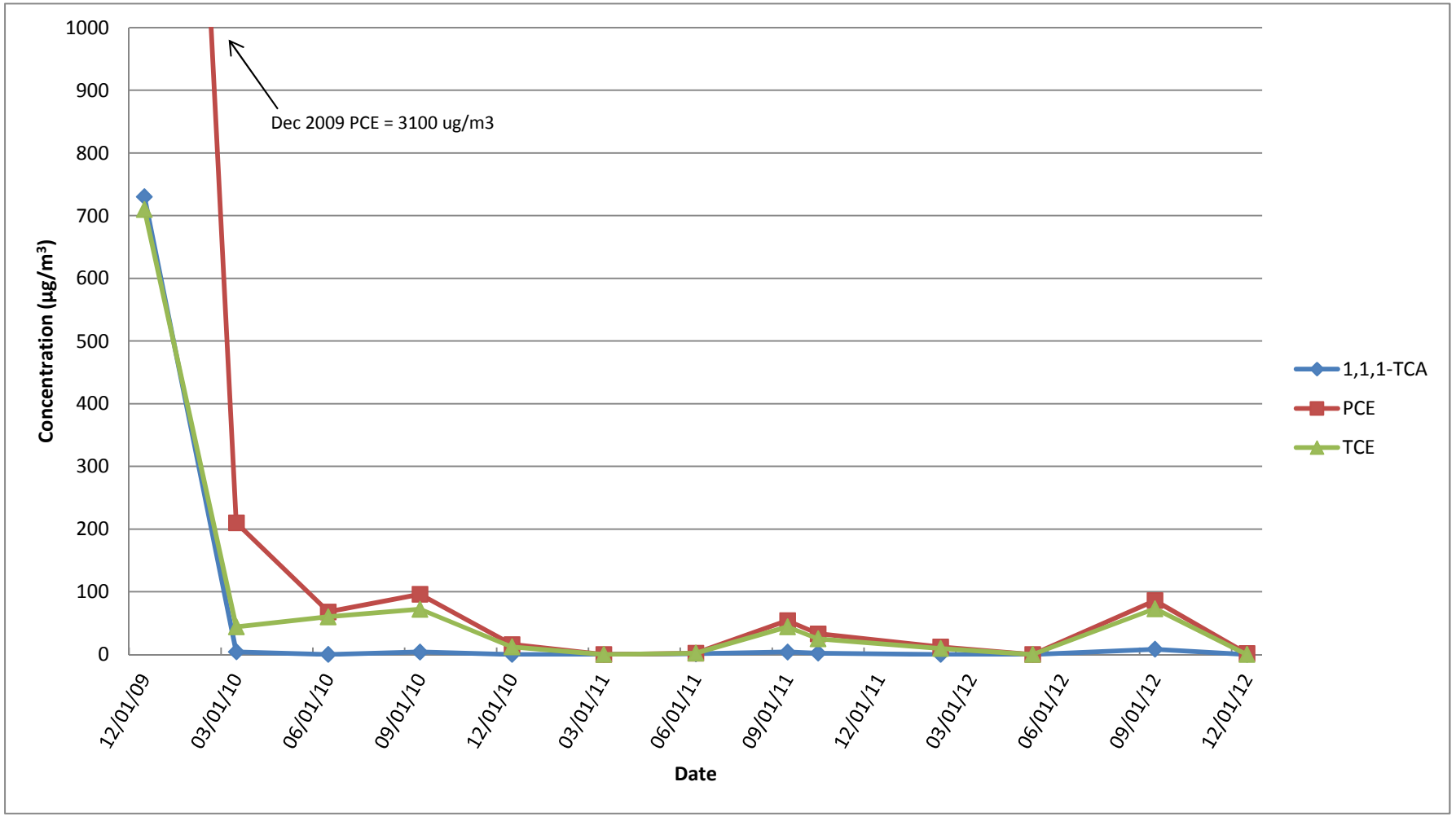
Soil Vapor Extraction Containment System
Site 1, Former Drum Marshalling Yard
Naval Weapons Industrial Reserve Plant - Bethpage, NY
Groundwater Concentration Trends of Select VOCs

SV103D



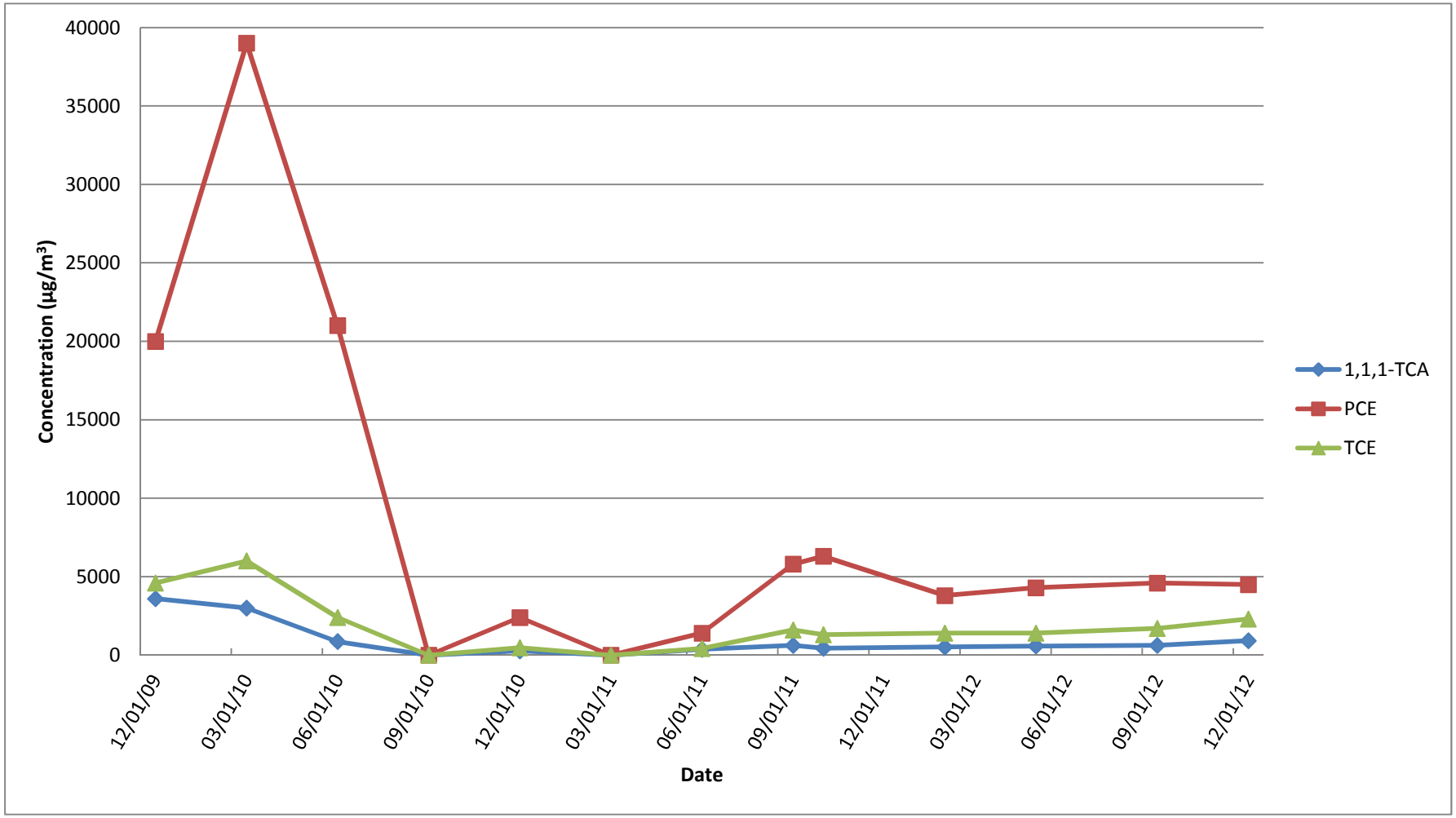
Soil Vapor Extraction Containment System
Site 1, Former Drum Marshalling Yard
Naval Weapons Industrial Reserve Plant - Bethpage, NY
Groundwater Concentration Trends of Select VOCs

SV104I



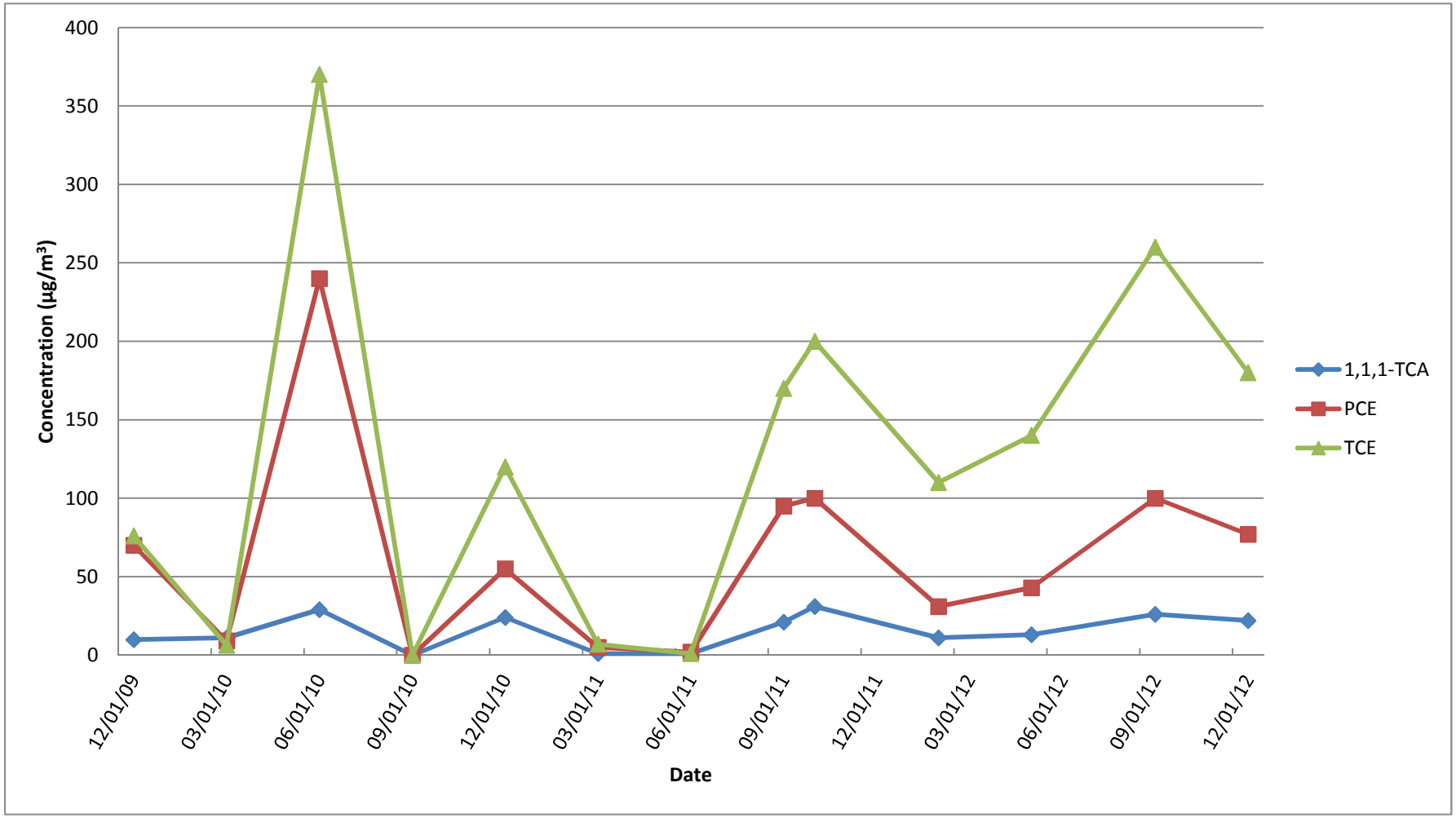
Soil Vapor Extraction Containment System
Site 1, Former Drum Marshalling Yard
Naval Weapons Industrial Reserve Plant - Bethpage, NY
Groundwater Concentration Trends of Select VOCs

SV-104D



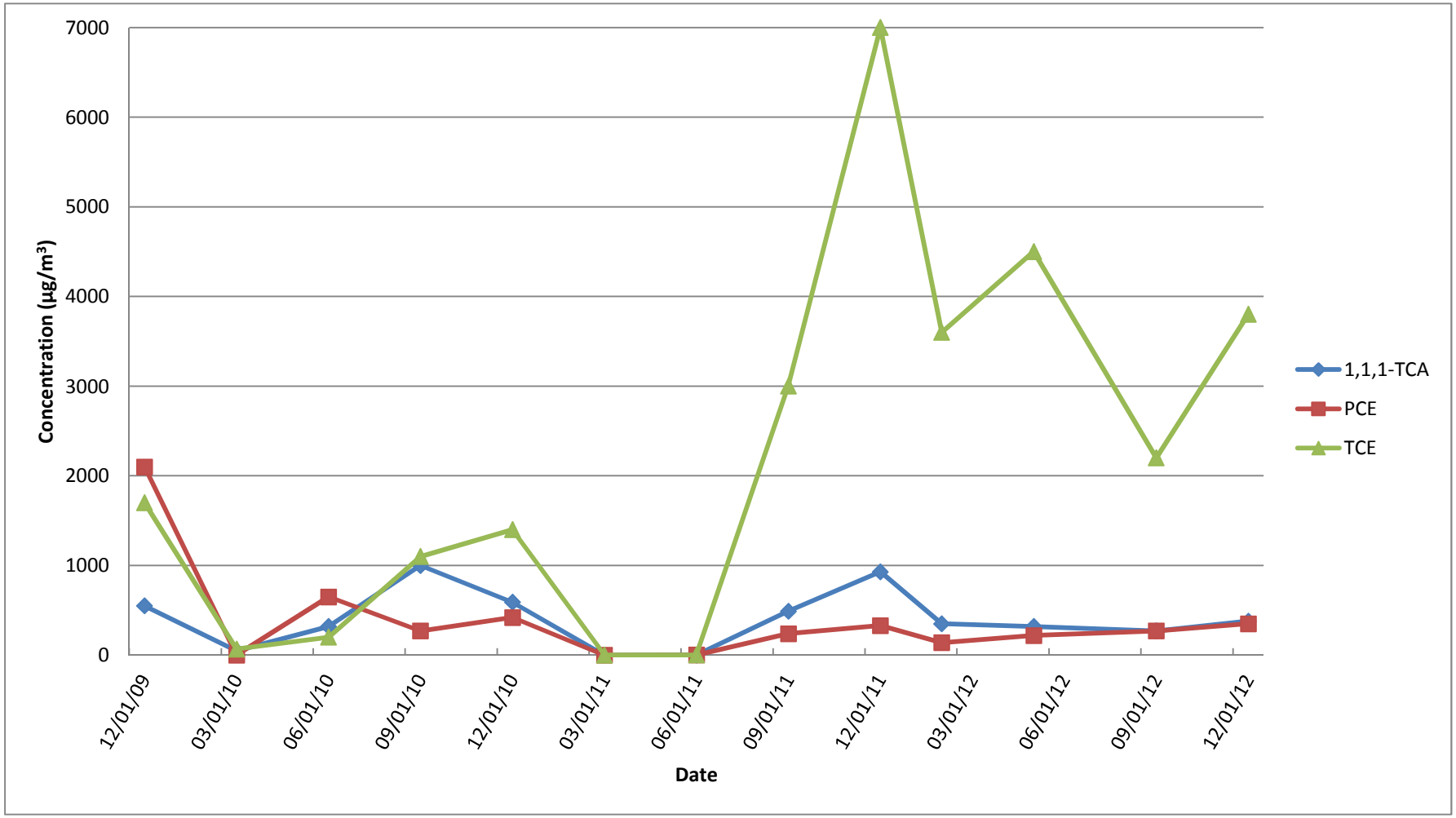
Soil Vapor Extraction Containment System
Site 1, Former Drum Marshalling Yard
Naval Weapons Industrial Reserve Plant - Bethpage, NY
Groundwater Concentration Trends of Select VOCs

SV-105I



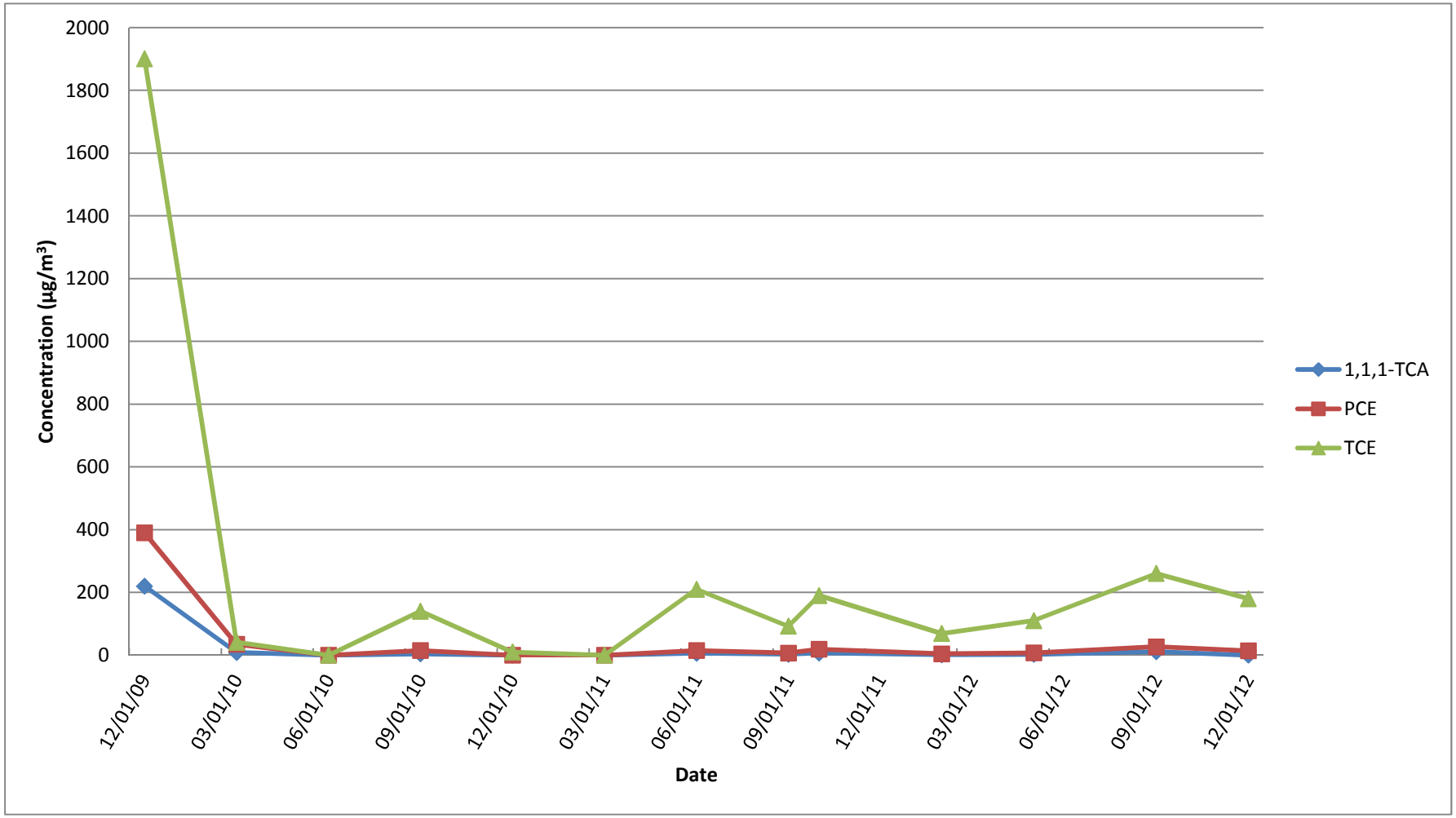
Soil Vapor Extraction Containment System
Site 1, Former Drum Marshalling Yard
Naval Weapons Industrial Reserve Plant - Bethpage, NY
Groundwater Concentration Trends of Select VOCs

SV-105D



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-106I



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-106D