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2013 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 2014

Prepared for:

Naval Facilities Engineering Command Mid-Atlantic
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Norfolk, VA 23511

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5/29/14
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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
NAVFAC	Naval Facilities Engineering Command Mid-Atlantic
NELAC	National Environmental Accreditation Conference
NG	Northrop Grumman
NWIRP	Naval Weapons Industrial Reserve Plant
NYSDEC	New York State Department of Environmental Conservation
NYSDOH	New York State Department of Health
O&M	Operation and Maintenance
PCB	polychlorinated biphenyls
PCE	tetrachloroethene
PID	photoionization detector
scfm	standard cubic feet per minute
SVECS	soil vapor extraction containment system
SVEW	soil vapor extraction well
SVOC	semi-volatile organic compound
SVPM	soil vapor pressure monitor
TCA	trichloroethane
TCE	trichloroethene
TCL	target compound list
TtEC	Tetra Tech EC, Inc.
TtNUS	Tetra Tech NUS, Inc.
VGAC	vapor–phase granular activated carbon
VOC	volatile organic compound

1.0 INTRODUCTION

H&S Environmental, Inc. (H&S) has prepared this 2013 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 2013 Annual Operations Report summarizes activities that occurred during 2013 and also further details activities that occurred during the Fourth Quarter 2013 (October 2013 through December 2013). Data was collected and operational activities were performed by H&S in accordance with the following documents:

- *Final Operation & Maintenance Plan for Soil Vapor Extraction Containment System Site 1, Former Drum Marshalling Yard at Naval Weapons Industrial Reserve Plant Bethpage, New York* prepared by Tetra Tech EC, Inc. (TtEC) in 2010, hereafter referred to as the "O&M Manual."
- *Final Supplemental Offsite Soil Vapor Intrusion Monitoring Plan for the Soil Vapor Extraction Containment System, Site 1, Former Drum Marshalling Yard at Naval Weapons Industrial Reserve Plant, Bethpage, New York* prepared by Tetra Tech NUS, Inc. (TtNUS) in 2012.

The following quarterly reports, along with data collected during the Fourth Quarter (October through December), are used as a basis for this 2013 Annual Operations Report:

- *Final Quarterly Operations Report, First Quarter 2013, Soil Vapor Extraction Containment System Site 1, Former Drum Marshalling Yard, Naval Weapons Industrial Reserve Plant, Bethpage, New York* prepared by H&S in October 2013.
- *Final Quarterly Operations Report, Second Quarter 2013, Soil Vapor Extraction Containment System Site 1, Former Drum Marshalling Yard, Naval Weapons Industrial Reserve Plant, Bethpage, New York* prepared by H&S in December 2013.
- *Final Quarterly Operations Report, Third Quarter 2013, Soil Vapor Extraction Containment System Site 1, Former Drum Marshalling Yard, Naval Weapons Industrial Reserve Plant, Bethpage, New York* prepared by H&S in February 2014.

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 (NG) until September 1998. NWIRP Bethpage is bordered on the north, west, and south by property owned, or formerly owned, by NG that covered approximately 550 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 State Department of Health (NYSDOH) 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. It is expected to operate continuously

24 hours/day, seven days/week, with the exception of maintenance and adjustment periods until the remedial objectives are met (TtEC 2010).

1.4 SVECS Overview

The SVECS consists of soil vapor extraction, soil vapor monitoring, and soil vapor treatment. Twelve SVE wells (SVEWs) are located along the eastern boundary of Site 1 in six clusters, each consisting of one intermediate well and one deep well. Intermediate wells SVE-101I, SVE-102I, SVE-103I, SVE-104I, SVE-105I, and SVE-106I have a screened interval between 25 and 35 ft bgs. Deep wells SVE-101D, SVE-102D, SVE-103D, SVE-104D, SVE-105D, and SVE-106D have a screened interval between 40 and 60 ft bgs. The groundwater table fluctuates between approximately 50 and 55 feet bgs. Each SVEW is operated at a flow rate such that the combined total flow rate is approximately 400 standard cubic feet per minute (scfm) of soil vapor. Each intermediate depth SVEW requires an approximate vacuum of 4 inches of water column (i.w.) and each deep SVEW requires an approximate vacuum of 20 i.w. in order to extract the targeted flow rates. These twelve SVEWs have been piped below the ground to the Flow Monitoring Station (FMS), where flow, vacuum, and vapor quality are monitored. Within the FMS, the discharges from the individual SVEWs have been equipped with a 2-inch flow control butterfly valve, a vacuum gauge, and a sampling port. The sampling port is utilized to measure the flow rate from an individual well using a portable velocity meter and to collect vapor samples. All the SVE lines collect into a single manifold within the FMS and from this location a single underground pipeline has been routed approximately 1,400 linear feet to the Treatment Building (Building 03-35). Five additional SVEWs (SV-107D, SV-108D, SV-109D, SV-110D, and SV-11D) were installed in October 2011 to address potential VOCs under Plant No. 3 and the South Warehouse. A site plan depicting well locations is included as **Figure 3**.

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

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

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

2.0 SVECS OPERATION AND MAINTENANCE

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

2.1 Routine Maintenance Activities

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

2.2 Non-routine Maintenance / Site Activities

The following non-routine activities occurred at the SVECS in 2013:

- On 1 October and 17 December, the SVECS went down due to power interruptions caused by storms and/or loss of power in the area. On each occasion, the system was restarted upon arrival by the operator and/or restoration of power.

3.0 SVECS MONITORING

Several process vapor samples are collected on a monthly basis to monitor the SVECS operation. These samples consist of an influent sample (as well as a duplicate sample), located immediately prior to the VGAC unit, and an effluent sample, located after the VGAC unit and before the exhaust stack. Vapor samples are also collected from the 12 original SVEWs on a quarterly basis to monitor the capture of the contaminated soil vapor by the SVEWs. In addition, quarterly pressure measurements are collected from the SVEWs and SVPMs to monitor the SVECS vacuum field, and soil gas sampling for SVPMs is conducted annually (generally in the winter time-frame) to evaluate the effectiveness of the SVECS. The first annual soil gas sampling event was conducted in the winter 2012-2013; samples were collected from the 18 SVPMs in January 2013, as discussed in Section 3.4 below.

3.1 Monthly Air Quality Monitoring

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

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

3.1.1 Fourth Quarter 2013 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 mass recoveries are also presented. Emission rates of the influent stream are calculated to monitor progress and determine when influent concentrations have reached levels at which vapor treatment via carbon adsorption is no longer required. The data presented in **Tables 1, 2, and 3** demonstrate that all constituents were within the effluent emission rates (**Appendix A**). Raw analytical data is provided under a separate cover.

Monthly emission rate calculations for January – September 2013 are included in previously submitted quarterly operations reports as indicated in Section 1.0.

3.1.2 2013 Annual Summary

Emissions

Table 4 summarizes annual air emissions based on monthly emissions during the 12-month period. During 2013, approximately 4.57 lbs of total VOCs were emitted. Annual emission of permitted constituents was 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 2013, approximately 29.21 lbs of VOCs were removed by the SVECS, for an average monthly mass recovery rate of approximately 2.43 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 of SVEWs

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

3.2.1 Fourth Quarter 2013 Summary

Quarterly vapor samples were collected on 8 November 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 2013 Annual Summary

Results of quarterly vapor samples collected from the 12 SVEWs in 2013 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 2013 is included as **Figure 5**. Concentration trends are discussed below in Section 3.5.

3.3 Quarterly Vapor Monitoring of SVEWs and Off-site SVPMs

3.3.1 Fourth Quarter 2013 Summary

Pressure readings are collected quarterly from the 12 SVEWs and 18 SVPMs in order to monitor the SVECS vacuum field. Valve positions of the SVEWs are also recorded at this time. Pressure readings from the 18 SVPMs were collected on 8 November. Results of the Fourth Quarter vapor monitoring are presented in **Table 7**. As indicated, soil vapor pressure measurements ranged from (+) 0.02 to (-) 0.16 i.w. during the Fourth Quarter monitoring event.

3.3.2 2013 Annual Summary

Results of quarterly vapor monitoring performed in 2013 are presented in **Table 8**, along with historical results beginning in October 2012. Pressure readings collected from the 18 SVPMs in 2013 are presented graphically as **Figure 6**. As indicated, the greatest vacuum readings are typically observed at the SVPM-2001 and SVPM-2002 well clusters. Geographically, these two well clusters are located closest to the row of 12 SVEWs and the FMS.

3.4 Annual Vapor Quality Monitoring of Off-site SVPMs

Time-integrated vapor samples are collected annually using 6-L summa canisters with 30-minute flow regulators at 18 SVPM locations.

3.4.1 2013 Vapor Quality Results

Annual vapor samples were collected on 15-16 January from the 18 SVPM locations, results of which were presented in the *Final Quarterly Operations Report, First Quarter 2013* (H&S 2013). Validated analytical results of samples collected in January 2013 are summarized in **Table 9**. As indicated, TCE was detected at six of the 18 locations, with concentrations ranging from 4.9 µg/m3 at SVPM-2003S to 47 µg/m^3 at SVPM-2006I. PCE was detected at 11 of the 18 locations, with concentrations ranging from 0.97 J µg/m^3 at SVPM-2003I to 2.3 J µg/m^3 at SVPM-2004D. 1,1,1-TCA was detected in only one location, SVPM-2007D, at a concentration of 1.3 J µg/m^3. All detected concentrations were well below the sub-slab vapor concentrations of 250 µg/m^3 for TCE, 1,000 µg/m^3 for PCE, and 1,000 µg/m^3 for 1,1,1-TCA, as outlined in the *Guidance for Evaluating Soil Vapor Intrusion in the State of New York* (NYSDOH 2006).

Results of quality assurance /quality control (QA/QC) samples, data validation reports, and a validated analytical data summary from the January 2013 sampling event are presented in the *Final Quarterly Operations Report, First Quarter 2013* (H&S 2013).

3.4.2 Historical Vapor Quality Results

Table 10 presents historical vapor quality analytical results collected from the 18 SVPM locations, beginning in October 2008 and including the most recent results obtained in January 2013. As indicated, concentrations observed in January 2013 have dropped substantially from initial concentrations observed in October 2008.

In 2008, TCE was detected at all 18 locations, with concentrations ranging from 1.0 µg/m^3 (SVPM-2004S) to 89,000 µg/m^3 (SVPM-2002I); concentrations exceeded the NYSDOH sub-slab screening value of 250 µg/m^3 at nine locations (SVPM-2001S, SVPM-2001I, SVPM-2001D, SVPM-2002S, SVPM-2002I, SVPM-2002D, SVPM-2003D, SVPM-2004I, and SVPM-2004D). In 2013, TCE concentrations ranged from non-detectable levels (at 12 locations) to 47 µg/m^3 (SVPM-2006I), and no locations exceeded the NYSDOH sub-slab screening value of 250 µg/m^3.

In 2008, PCE was detected at all 18 locations, with concentrations ranging from 1.8 µg/m^3 (SVPM-2004S) to 5,000 µg/m^3 (SVPM-2001I); concentrations exceeded the NYSDOH sub-slab screening value of 1,000 µg/m^3 at two locations (SVPM-2001S and SVPM-2001I). In 2013, PCE concentrations ranged from non-detectable levels (at seven locations) to 2.3 J µg/m^3 (SVPM-2004D), and no locations exceeded the NYSDOH sub-slab screening value of 1,000 µg/m^3.

In 2008, 1,1,1-TCA was detected at all 18 locations, with concentrations ranging from 1.4 µg/m^3 (SVPM-2004S) to 52,000 µg/m^3 (SVPM-2002I); concentrations exceeded the NYSDOH sub-slab screening value of 1,000 µg/m^3 at six locations (SVPM-2001S, SVPM-2001I, SVPM-2001D, SVPM-2002S, SVPM-

20021, SVPM-2002D). In 2013, 1,1,1-TCA was detected at only one location, SVPM-2007D, at a concentration of 1.3 J $\mu g/m^3$, well below the NYSDOH sub-slab screening value of 1,000 $\mu g/m^3$.

3.5 Soil Vapor 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 2013 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 continued to increase throughout the Fourth Quarter, with total VOC concentrations of 3,272 $\mu g/m^3$, 4,494 $\mu g/m^3$, and 4,169 $\mu g/m^3$ in October, November, and December, respectively. Overall concentrations remain well below baseline concentrations observed in December 2009 when a total VOC concentration of 63,650 $\mu g/m^3$ was observed.

- SV-101I: Concentrations observed at this location increased in the Fourth Quarter from concentrations observed in the Third Quarter, with concentrations of 8,900 $\mu g/m^3$ TCE, 100 $\mu g/m^3$ PCE, and 2,900 $\mu g/m^3$ 1,1,1-TCA. All concentrations remain well below baseline concentrations observed in December 2009 (180,000 $\mu g/m^3$ TCE, 1,700 $\mu g/m^3$ PCE, and 51,000 $\mu g/m^3$ 1,1,1-TCA), which were also peak concentrations observed to date.

- SV-101D: Concentrations observed at this location increased in the Fourth Quarter from concentrations observed in the Third Quarter, with concentrations of 540 $\mu g/m^3$ TCE, 330 $\mu g/m^3$ PCE, and 16 $\mu g/m^3$ 1,1,1-TCA. All concentrations remain well below baseline concentrations observed in December 2009 (100,000 $\mu g/m^3$ TCE, 3,200 $\mu g/m^3$ PCE, and 26,000 $\mu g/m^3$ 1,1,1-TCA), which were also peak concentrations observed to date.

- SV-102I: Concentrations observed at this location decreased somewhat in the Fourth Quarter from concentrations observed in the Third Quarter, with concentrations of 21 $\mu g/m^3$ TCE, 2.6 $\mu g/m^3$ PCE, and non-detectable levels of 1,1,1-TCA. Though Fourth Quarter concentrations are above baseline concentrations observed in December 2009 (5.6 $\mu g/m^3$ TCE, 2.4 $\mu g/m^3$ PCE, and non-detectable 1,1,1-TCA), the concentrations are well below peak concentrations observed in June 2010 (300 $\mu g/m^3$ TCE, 17 $\mu g/m^3$ PCE, and 13 $\mu g/m^3$ 1,1,1-TCA).

- SV-102D: Concentrations observed at this location increased in the Fourth Quarter from concentrations observed in the Third Quarter, with concentrations of 160 $\mu g/m^3$ TCE, 28 $\mu g/m^3$ PCE, and 3.1 $\mu g/m^3$ 1,1,1-TCA. Concentrations remain well below baseline concentrations observed in December 2009 for TCE and 1,1,1-TCA (440 $\mu g/m^3$ TCE, 10 $\mu g/m^3$ PCE, and 130 $\mu g/m^3$ 1,1,1-TCA), and also well below peak concentrations observed in December 2009 (440 $\mu g/m^3$ TCE and 130 $\mu g/m^3$ 1,1,1-TCA) and October 2011 (39 $\mu g/m^3$ PCE).

- SV-103I: Concentrations observed at this location decreased slightly in the Fourth Quarter from concentrations observed in the Third Quarter, with concentrations of 78 $\mu g/m^3$ TCE, 200 $\mu g/m^3$

PCE, and 2.8 µg/m^3 1,1,1-TCA. Concentrations remain well below baseline concentrations observed in December 2009 (900 µg/m^3 TCE, 580 µg/m^3 PCE, and 900 µg/m^3 1,1,1-TCA), and also well below peak concentrations observed in December 2009 (900 µg/m3 TCE and 900 µg/m3 1,1,1-TCA) and October 2011 (590 µg/m3 PCE).

- SV-103D: Concentrations observed at this location increased in the Fourth Quarter from concentrations observed in the Third Quarter, with concentrations of 2,100 µg/m^3 TCE, 17,000 µg/m^3 PCE, and 200 µg/m^3 1,1,1-TCA. Concentrations remain below baseline concentrations observed in December 2009 (3,100 µg/m^3 TCE, 20,000 µg/m^3 PCE, and 3,000 µg/m^3 1,1,1-TCA), and also below 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).

- SV-104I: Concentrations observed at this location remained similar in the Fourth Quarter to concentrations observed in the Third Quarter, with concentrations of 31 µg/m^3 TCE, 36 µg/m^3 PCE, and 2.6 J µg/m^3 1,1,1-TCA. All concentrations remain well below baseline concentrations observed in December 2009 (710 µg/m^3 TCE, 3,100 µg/m^3 PCE, and 730 µg/m^3 1,1,1-TCA) which were also peak concentrations observed to date.

- SV-104D: Concentrations observed at this location in the Fourth Quarter increased from those observed in the Third Quarter, with concentrations of 1,600 µg/m^3 TCE, 3,900 µg/m^3 PCE, and 600 µg/m^3 1,1,1-TCA. All concentrations remain below baseline concentrations observed in December 2009 (4,600 µg/m^3 TCE, 20,000 µg/m^3 PCE, and 3,600 µg/m^3 1,1,1-TCA) and also well below peak concentrations observed in December 2009 (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).

- SV-105I: Concentrations observed at this location in the Fourth Quarter decreased from those observed in the Third Quarter, with concentrations of 140 µg/m^3 TCE, 57 µg/m^3 PCE, and 18 µg/m^3 1,1,1-TCA. Though these concentrations are above baseline concentrations observed in December 2009 for TCE and 1,1,1-TCA (76 µg/m^3 TCE, 70 µg/m^3 PCE, and 9.9 µg/m^3 1,1,1-TCA), they are below peak concentrations observed in June 2010 (370 µg/m^3 TCE, 240 µg/m^3 PCE, and 29 µg/m^3 1,1,1-TCA).

- SV-105D: Concentrations observed at this location in the Fourth Quarter increased from concentrations observed in the Third Quarter, with concentrations of 1,200 µg/m^3 TCE, 260 µg/m^3 PCE, and 120 µg/m^3 1,1,1-TCA. These concentrations are below baseline concentrations observed in December 2009 (1,700 µg/m^3 TCE, 2,100 µg/m^3 PCE, and 550 µg/m^3 1,1,1-TCA), and also below peak concentrations observed in December 2009 (2,100 µg/m^3 PCE), September 2010 (1,000 µg/m^3 1,1,1-TCA) and December 2011 (7,000 µg/m^3 TCE).

- SV-106I: Concentrations observed at this location in the Fourth Quarter increased from concentrations observed in the Third Quarter, with concentrations of 210 µg/m^3 TCE, 19 µg/m^3 PCE, and 18 µg/m^3 1,1,1-TCA. All concentrations remain well below baseline concentrations observed in December 2009 (1,900 µg/m^3 TCE, 390 µg/m^3 PCE, and 220 µg/m^3 1,1,1-TCA), which were also peak concentrations observed to date.

- SV-106D: Concentrations observed at this location in the Fourth Quarter remained similar to those observed in the Third Quarter, with concentrations of 440 µg/m^3 TCE, 58 µg/m^3 PCE, and 25 µg/m^3 1,1,1-TCA. These concentrations are well below baseline concentrations observed in December 2009 (3,400 µg/m^3 TCE, 720 µg/m^3 PCE, and 340 µg/m^3 1,1,1-TCA), which were also peak concentrations observed to date.

4.0 CONCLUSIONS AND RECOMMENDATIONS

As stated previously, the intent of the Site 1 SVECS is to prevent further off-site migration of VOC contaminated soil vapor and to the extent practical, capture soil vapor with elevated TCE concentrations. Based on the presence of a vacuum field and the reduction of VOC concentrations to less than the screening values in the off-property area, the SVECS is functioning as designed, and the removal of 29.21 lbs of VOCs by the SVECS in 2013 indicates that progress is being made toward these goals. Influent vapor analytical data with concentrations of TCE consistently greater than 250 µg/L indicate that the SVECS should continue to be operated on a full-time basis to achieve continued capture of contaminated soil vapor. Monthly monitoring of the combined influent and effluent as well as quarterly monitoring of individual SVEWs should continue. Quarterly and annual monitoring of the SVPMs should also continue in order to ensure that a measurable vacuum field is being established and that the area is being effectively treated. Ongoing optimization activities should be performed in order to improve system performance.

5.0 REFERENCES

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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 2013

Compound	Concentration (ug/m^3)				Emission Rate [1],[2]				Monthly Mass Recovery [3]
					Prior to Treatment		Following Treatment		
	Influent #1	Influent #2	Average	Effluent	(lbs/hr)	(lbs/yr)	(lbs/hr)	(lbs/yr)	(lbs)
Acelone	32	9.8 J	21 J	19	0.0000	0.2438	0.0000	0.2217	0.0204
Benzene	0.73 J	0.60 J	0.67 J	0.78 J	0.0000	0.0078	0.0000	0.0091	0.0006
2-Butanone	6.0 J	0	3.0 J	4.0 J	0.0000	0.0350	0.0000	0.0467	0.0029
Carbon Disulfide	0	5.7 J	2.9 J	0	0.0000	0.0332	0.0000	0.0000	0.0028
Carbon Tetrachloride	0	1.7 J	0.85 J	0	0.0000	0.0099	0.0000	0.0000	0.0008
Chloroform	6.0	6.9	6.5	2.0 J	0.0000	0.0752	0.0000	0.0233	0.0063
Cumene	7.2	0	3.6	3.7	0.0000	0.0420	0.0000	0.0432	0.0035
Cyclohexane	1.6 J	1.6 J	1.6 J	0.83 J	0.0000	0.0187	0.0000	0.0097	0.0016
1,1-Dichloroethane	18	23	21	10	0.0000	0.2392	0.0000	0.1167	0.0200
1,2-Dichloroethane	1.7 J	1.6 J	1.7 J	0	0.0000	0.0192	0.0000	0.0000	0.0016
1,1-Dichloroethene	2.5 J	2.6 J	2.6 J	0	0.0000	0.0297	0.0000	0.0000	0.0025
cis-1,2-Dichloroethene	300	370	335	110	0.0004	3.9083	0.0001	1.2833	0.3266
trans-1,2-Dichloroethene	5.4	6.4	5.9	1.6 J	0.0000	0.0688	0.0000	0.0187	0.0058
Ethanol	6.1	0	3.1	7.0	0.0000	0.0356	0.0000	0.0817	0.0030
4-Ethyltoluene	0.74 J	0	0.37 J	0.72 J	0.0000	0.0043	0.0000	0.0084	0.0004
Freon 11	3.6 J	4.1 J	3.9 J	2.9 J	0.0000	0.0449	0.0000	0.0338	0.0038
Freon 12	3.0 J	4.0	3.5 J	4.1	0.0000	0.0408	0.0000	0.0478	0.0034
Freon113	100	120	110	24	0.0001	1.2833	0.0000	0.2800	0.1072
Hexane	3.3	4.3	3.8	2.0 J	0.0000	0.0443	0.0000	0.0233	0.0037
Tetrachloroethene	1200	1400	1300	0	0.0017	15.1666	0.0000	0.0000	1.2673
Tetrahydrofuran	2.2 J	4.0	3.1	2.3	0.0000	0.0362	0.0000	0.0268	0.0030
Toluene	1.5 J	2.0 J	1.8 J	3.3	0.0000	0.0204	0.0000	0.0385	0.0017
1,1,1-Trichloroethane	310	370	340	46	0.0005	3.9566	0.0001	0.5367	0.3315
1,1,2-Trichloroethane	1.3 J	1.7 J	1.5 J	0	0.0000	0.0175	0.0000	0.0000	0.0015
Trichloroethene	970	1200	1085	25	0.0014	12.6582	0.0000	0.2917	1.0577
1,2,4-Trimethylbenzene	0.86 J	0	0.43 J	0.88 J	0.0000	0.0050	0.0000	0.0103	0.0004
2,2,4-Trimethylpentane	8.6	11	10	2.2 J	0.0000	0.1143	0.0000	0.0257	0.0096
m,p-Xylene	0	0	0	1.2 J	0.0000	0.0000	0.0000	0.0140	0.0000
Total VOCs	2992	3551	3272	274	0.0044	38.1692	0.0004	3.1909	3.1895

Notes:

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

Average Monthly Vapor Temp (°F) =	108
Average Monthly Flowrate (cfm) =	383
Average Monthly Flowrate (scfm) =	356
Operational Hours for the month =	732

(1) Emissions (lbs/hr) = Concentration (ug/m^3)*(lb/454000000ug)*(0.3048^3m^2/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 2013

Compound	Concentration (ug/m^3)				Emission Rate [1] [2]				Monthly Mass Recovery [3]
					Prior to Treatment		Following Treatment		
	Influent #1	Influent #2	Average	Effluent	(lbs/hr)	(lbs/yr)	(lbs/hr)	(lbs/yr)	(lbs)
Acetone	8.5 J	6.1 J	7.3 J	18 J	0.0000	0.0841	0.0000	0.2074	0.0069
Benzene	0.64 J	0	0	0	0.0000	0.0037	0.0000	0.0000	0.0003
Bromomethane	2.2 J	0	1.1 J	1.3 J	0.0000	0.0127	0.0000	0.0150	0.0010
Carbon Tetrachloride	1.3 J	0	0.65 J	0	0.0000	0.0075	0.0000	0.0000	0.0006
Chloroform	5.7	5.7	5.7	3.7	0.0000	0.0657	0.0000	0.0426	0.0054
Cumene	9.1	0	4.6	2.6 J	0.0000	0.0524	0.0000	0.0300	0.0043
1,1-Dichloroethane	20	20	20	20	0.0000	0.2305	0.0000	0.2305	0.0189
1,2-Dichloroethane	1.2 J	1.1 J	1.2 J	1.8 J	0.0000	0.0133	0.0000	0.0207	0.0011
1,1-Dichloroethene	2.5 J	2.8 J	2.7 J	3.1	0.0000	0.0305	0.0000	0.0357	0.0025
cis-1,2-Dichloroethene	410	410	410	270	00005	4.7250	0.0004	3.1116	0.3884
trans-1,2-Dichloroethene	3.8 J	5.5	4.7 J	3.1	0.0000	0.0536	0.0000	0.0357	0.0044
Freon 11	2.8 J	2.8 J	2.8 J	2.7 J	0.0000	0.0323	0.0000	0.0311	0.0027
Freon 12	2.8 J	2.9 J	2.9 J	3.1 J	0.0000	0.0328	0.0000	0.0357	0.0027
Freon 113	160	160	160	68	0.0002	1.8439	0.0001	0.7837	0.1516
Hexane	1.1 J	0.87 J	1.0 J	0	0.0000	0.0114	0.0000	0.0000	0.0009
Tetrachloroethene	2000	2100	2050	0	0.0027	23.6249	0.0000	0.0000	1.9418
Tetrahydrofuran	2.5 J	2.4 J	2.5 J	3.8	0.0000	0.0282	0.0000	0.0438	0.0023
Toluene	0.83 J	1.0 J	0.92 J	4.3	0.0000	0.0105	0.0000	0.0496	0.0009
1,1,1-Trichloroethane	360	360	360	130	0.0005	4.1488	0.0002	1.4982	0.3410
Trichloroethane	1400	1500	1450	96	0.0019	16.7103	0.0001	1.1063	1.3734
2,2,4-Trimethylpentane	5.4	5.1	5.3	0	0.0000	0.0605	0.0000	0.0000	0.0050
Vinyl Chloride	1.0 J	1.0 J	1.0 J	1.4 J	0.0000	0.0115	0.0000	0.0161	0.0009
Total VOCs	4401	4587	4494	633	0.0059	51.7940	0.0008	7.2937	4.2570

Notes:

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

Average Monthly Vapor Temp (°F) =	110
Average Monthly Flowrate (cfm) =	380
Average Monthly Flowrate (scfm) =	352
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 2013

Compound	Concentration (ug/m^3)				Emission Rate (1),(2)				Monthly Mass Recovery (3) (lbs)
					Prior to Treatment		Following Treatment		
	Influent #1	Influent #2	Average	Effluent	(lbs/hr)	(lbs/yr)	(lbs/hr)	(lbs/yr)	
Acetone	9.9 J	9.0 J	9.5 J	8.4 J	0.0000	0.1121	0.0000	0.0996	0.0094
Benzene	0.82 J	0.68 J	0.75 J	0	0.0000	0.0089	0.0000	0.0000	0.0007
Bromomethane	2.1 J	1.3 J	1.7 J	1.3 J	0.0000	0.0202	0.0000	0.0154	0.0017
Carbon Tetrachloride	0	1.4 J	0.70 J	0	0.0000	0.0083	0.0000	0.0000	0.0007
Chloroform	3.9 J	4.4	4.2	2.4 J	0.0000	0.0492	0.0000	0.0285	0.0041
Cumene	2.5 J	2.9 J	2.7 J	1.5 J	0.0000	0.0320	0.0000	0.0178	0.0027
1,1-Dichloroethane	16	17	17	11	0.0000	0.1957	0.0000	0.1305	0.0164
1,2-Dichloroethane	1.1 J	1.2 J	1.2 J	0.50 J	0.0000	0.0136	0.0000	0.0059	0.0011
1,1-Dichloroethene	2.3 J	2.7 J	2.5 J	2.1 J	0.0000	0.0297	0.0000	0.0249	0.0025
cis-1,2-Dichloroethene	330	350	340	140	0.0005	4.0325	0.0002	1.6605	0.3370
trans-1,2-Dichloroethene	3.2 J	4.2	3.7 J	1.2 J	0.0000	0.0439	0.0000	0.0142	0.0037
Freon 11	2.6 J	2.7 J	2.7 J	1.9 J	0.0000	0.0314	0.0000	0.0225	0.0026
Freon 12	2.5 J	2.6 J	2.6 J	2.7 J	0.0000	0.0302	0.0000	0.0320	0.0025
Freon 113	150	150	150	42	0.0002	1.7791	0.0001	0.4981	0.1487
Methylene Chloride	0	1.2 J	0.60 J	0	0.0000	0.0071	0.0000	0.0000	0.0006
Tetrachloroethene	2000	2000 J	2000 J	2.3 J	0.0027	23.7208	0.0000	0.0273	1.9622
Tetrahydrofuran	1.4 J	1.8 J	1.6 J	1.4 J	0.0000	0.0190	0.0000	0.0166	0.0016
Toluene	0.86 J	0.83 J	0.85 J	0	0.0000	0.0100	0.0000	0.0000	0.0008
1,1,1-Trichloroethane	320	330	325	79	0.0004	3.8546	0.0001	0.9370	0.3221
1,1,2-Trichloroethane	0	0.87 J	0.44 J	0	0.0000	0.0052	0.0000	0.0000	0.0004
Trichloroethene	1300	1300	1300	65	0.0018	15.4185	0.0001	0.7709	1.2884
2,2,4-Trimethylpentane	2.2 J	2.0 J	2.1 J	0	0.0000	0.0249	0.0000	0.0000	0.0021
Vinyl Chloride	0	0.56 J	0.28 J	0	0.0000	0.0033	0.0000	0.0000	0.0003
Total VOCs	4151	4187	4169	363	0.0056	49.4504	0.0005	4.3018	4.1322

Notes:

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

Average Monthly Vapor Temp (°F) =	103
Average Monthly Flowrate (cfm) =	386
Average Monthly Flowrate (scfm) =	362
Operational Hours for the month =	732

(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
2013 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-13	0.0000	0.0085	0.0000	0.0012	0.0001	0.0733	0.0000	0.0000	0.0000	0.0100	0.0000	0.0000	0.0002	0.1344	2.6559
Feb-13	0.0000	0.0076	0.0000	0.0000	0.0001	0.0375	0.0000	0.0007	0.0000	0.0053	0.0000	0.0000	0.0001	0.0784	2.1707
Mar-13	0.0000	0.0060	0.0000	0.0000	0.0001	0.0597	0.0000	0.0010	0.0000	0.0079	0.0000	0.0000	0.0001	0.0944	2.1266
Apr-13	0.0000	0.0109	0.0000	0.0018	0.0001	0.1003	0.0000	0.0010	0.0000	0.0109	0.0000	0.0020	0.0002	0.1611	1.6421
May-13	0.0000	0.0108	0.0000	0.0018	0.0001	0.0982	0.0000	0.0000	0.0000	0.0167	0.0000	0.0027	0.0003	0.1998	1.8739
Jun-13	0.0000	0.0233	0.0000	0.0036	0.0003	0.2235	0.0000	0.0007	0.0001	0.0418	0.0000	0.0070	0.0005	0.3717	1.6221
Jul-13	0.0001	0.0415	0.0000	0.0076	0.0006	0.4251	0.0000	0.0017	0.0002	0.1316	0.0001	0.0466	0.0011	0.7904	2.0792
Aug-13	0.0000	0.0317	0.0000	0.0074	0.0005	0.3989	0.0000	0.0018	0.0002	0.1432	0.0001	0.0777	0.0011	0.7872	1.7283
Sep-13	0.0000	0.0318	0.0000	0.0049	0.0005	0.3672	0.0000	0.0000	0.0002	0.1290	0.0001	0.0764	0.0010	0.7147	1.7283
Oct-13	0.0000	0.0099	0.0000	0.0000	0.0001	0.1090	0.0000	0.0000	0.0001	0.0456	0.0000	0.0248	0.0004	0.2710	3.1895
Nov-13	0.0000	0.0189	0.0000	0.0029	0.0004	0.2557	0.0000	0.0000	0.0002	0.1231	0.0001	0.0909	0.0008	0.5995	4.2570
Dec-13	0.0000	0.0111	0.0000	0.0021	0.0002	0.1410	0.0000	0.0023	0.0001	0.0796	0.0001	0.0655	0.0005	0.3654	4.1322

	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	---	
2013 Totals (lb/yr)	0.2120	0.0333	2.2894	0.0094	0.7447	0.3935	4.5679	29.2057

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 2013 Vapor Analytical Results Summary of SVE Wells

Sample ID	SVE 101I	SVE 101D	SVE 102I	SVE 102D	SVE 103I	SVE 103D	SVE 104I	SVE 104D	SVE 105I	SVE 105D	SVE 106I	SVE 106D
Sample Date	11/08/13	11/08/13	11/08/13	11/08/13	11/08/13	11/08/13	11/08/13	11/08/13	11/08/13	11/08/13	11/08/13	11/08/13
Analysis by TO-15 ($\mu g/m^3$)												
1,1,1-Trichloroethane	2900	16	ND	3.1 J	2.8 J	200	2.6 J	600	18	120	18	25
1,1,2-Trichloroethane	8.0 J	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,1-Dichloroethane	57	1.5 J	ND	0.69 J	1.3 J	20 J	ND	130	7.4	70	3.8	11
1,1-Dichloroethene	16 J	1.0 J	ND	ND	ND	ND	ND	ND	ND	1.5 J	ND	ND
1,2-Dichloroethane	9.2 J	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	2.5 J
2,2,4-Trimethylpentane	ND	23	ND	4.0	ND	ND	ND	ND	1.1 J	ND	0.77 J	ND
2-Butanone	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	3.6 J	2.6 J
2-Propanol	ND	ND	ND	4.7 J	ND	ND	ND	8.1 J	ND	2.6 J	ND	1.9 J
4-ethyltoluene	ND	0.90 J	ND	ND	ND	ND	ND	ND	ND	0.76 J	1.9 J	ND
Acetone	ND	7.0 J	12 J	12 J	9.5 J	ND	9.6 J	12 J	8.0 J	7.4 J	14 J	9.0 J
Benzene	ND	ND	ND	0.39 J	0.40 J	ND	0.42 J	ND	0.42 J	0.50 J	0.38 J	ND
Bromomethane	ND	1.6 J	1.5 J	ND	1.7 J	ND	ND	5.6 J	1.3 J	ND	ND	ND
Carbon Disulfide	ND	ND	ND	ND	ND	ND	ND	ND	ND	2.4 J	ND	ND
Carbon Tetrachloride	ND	ND	ND	ND	ND	ND	ND	ND	ND	6.3	ND	6.0
Chloroform	ND	12	1.6 J	10	ND	5.0 J	ND	4.0 J	1.1 J	4.6	0.85 J	3.9
cis-1,2-Dichloroethene	22 J	3.0 J	ND	3.4	15	2600	5.3	3200	7.4	85	8.3	15
Cyclohexane	ND	2.6 J	ND	1.3 J	ND	ND	ND	17	ND	4.1	1.3 J	1.2 J
Ethanol	ND	ND	ND	5.9 J	ND	ND	3.4 J	ND	ND	ND	ND	2.9 J
Freon 11	ND	3.5 J	1.8 J	3.7 J	1.4 J	ND	1.4 J	ND	1.5 J	1.5 J	1.2 J	1.7 J
Freon 113	ND	7.4	ND	ND	ND	120	7.7	2400	13	170	11	48
Freon 12	ND	2.8 J	2.9 J	3.2 J	2.8 J	ND	3.0 J	6.3 J	3.0 J	3.0 J	2.5 J	2.9 J
Heptane	ND	ND	ND	1.1 J	ND	ND	ND	ND	ND	0.75 J	ND	0.63 J
Hexane	ND	3.2	ND	1.5 J	ND	ND	0.74 J	4.5 J	ND	1.2 J	0.70 J	1.0 J
m,p-Xylene	ND	0.63 J	0.74 J	1.3 J	ND	ND	0.76 J	ND	0.72 J	0.84 J	1.4 J	0.68 J
o-Xylene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.63 J	ND
n-Propylbenzene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.48 J	ND
Tetrachloroethene	100	330	2.6 J	28	200	17000	36	3900	57	260	19	58
Tetrahydrofuran	ND	ND	ND	6.5	ND	ND	1.1 J	ND	ND	1.7 J	2.0 J	2.0 J
Toluene	ND	0.61 J	0.48 J	32	0.47 J	ND	3.2	75	3.4	21	4.2	13
trans-1,2-Dichloroethene	ND	ND	ND	ND	0.85 J	18 J	ND	40	1.0 J	3.6	ND	1.1 J
Trichloroethene	8900	540	21	160	78	2100	31	1600	140	1200	210	440
Vinyl Chloride	ND	ND	ND	ND	ND	14 J	ND	ND	ND	ND	ND	ND

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

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

Sample ID	SVE 1011																
Sample Date	12/21/09	08/31/10	06/09/10	09/15/10	12/08/10	03/30/11	06/22/11	09/06/11	10/14/11	02/10/12	05/11/12	09/11/12	12/05/12	01/25/13	05/16/13	08/27/13	11/06/13
Analysis by TO-15 (µg/m³)																	
1,1,1-Trichloroethane	51000	3900	2600	450	850	300	1	0.7 J	0.7 J	1500	1500	ND	ND	ND	ND	ND	ND
1,1,2,2-Tetrachloroethane	NR	NR	NR	ND	ND	ND	1 J	0.7 J	0.8 J	ND	ND	ND	ND	ND	ND	ND	8.0 J
1,1,2-Trichloroethane	NR	NR	NR	3	5	ND	1 J	0.6 J	0.6 J	4.0 J	ND	ND	ND	ND	ND	36	57
1,1-Dichloroethane	1200	65	34	14	31	5	0.8 J	0.4 J	0.4 J	28	28	61	76	62	35	36	16 J
1,1-Dichloroethene	250	ND	ND	4	8	ND	0.7 J	0.4 J	0.5 J	7.6 J	10	ND	15 J	ND	12 J	8.9 J	16 J
1,2,3-Trichloropropane	NR	NR	NR	ND	ND	ND	1 J	0.6 J	0.8 J	NR	NR	NR	NR	NR	NR	NR	NR
1,2,3-Trimethylbenzene	NR	NR	NR	6	2	ND	0.6 J	ND	0.5 J	NR	NR	NR	NR	NR	NR	NR	NR
1,2,4-Trichlorobenzene	NR	NR	NR	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,2,4-Trimethylbenzene	NR	NR	NR	15	5	2	1	ND	0.7 J	ND	3.2 J	5.1 J	ND	ND	ND	ND	ND
1,2-Dibromoethane	NR	NR	NR	ND	ND	ND	ND	ND	0.8 J	ND	ND	ND	ND	ND	ND	ND	ND
1,2-Dichlorobenzene	NR	NR	NR	ND	ND	ND	0.6	ND	0.6 J	ND	ND	ND	ND	ND	ND	ND	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	12 J	10 J	8.6 J	9.2 J
1,2-Dichloropropane	NR	NR	NR	ND	ND	ND	ND	0.6 J	0.6 J	ND	ND	ND	ND	ND	ND	ND	ND
1,3,5-Trimethylbenzene	NR	NR	NR	4	ND	ND	0.6 J	ND	0.5 J	ND	ND	ND	ND	ND	ND	ND	ND
1,3-Butadiene	NR	NR	NR	ND	ND	ND	0.7	0.4 J	0.4 J	ND	ND	ND	ND	ND	ND	ND	ND
1,3-Dichlorobenzene	NR	NR	NR	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,4-Dichlorobenzene	NR	NR	NR	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,4-Dioxane	NR	NR	NR	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
2,2,4-Trimethylpentane	NR	NR	NR	NR	NR	NR	NR	NR	NR	ND	ND	6.7 J	ND	ND	ND	ND	ND
2-Butanone	NR	NR	NR	3	1	ND	3	1	1	ND	ND	ND	ND	ND	ND	ND	ND
2-Hexanone	NR	NR	NR	ND	ND	ND	ND	0.5 J	0.5 J	ND	ND	ND	ND	ND	ND	ND	ND
2-Propanol	NR	NR	NR	NR	NR	NR	NR	NR	NR	ND	ND	ND	ND	ND	ND	ND	ND
3-Chloro-1-propene	NR	NR	NR	ND	ND	ND	ND	0.4 J	ND	ND	ND	ND	ND	ND	ND	ND	ND
4-Ethyltoluene	NR	NR	NR	3	ND	ND	0.7 J	ND	ND	ND	1.7 J	ND	ND	ND	ND	ND	ND
4-Methyl-2-pentanone	NR	NR	NR	NR	NR	NR	NR	NR	NR	ND	ND	ND	ND	ND	ND	ND	ND
Acetone	NR	NR	NR	9	5	9	22	16	8	22 J	10 J	ND	ND	ND	ND	5.6 J	ND
alpha-Chlorotoluene	NR	NR	NR	ND	ND	ND	ND	ND	0.5 J	ND	ND	ND	ND	ND	ND	ND	ND
Acrylonitrile	NR	NR	NR	ND	ND	ND	ND	ND	0.4 J	ND	NR	NR	NR	NR	NR	NR	NR
Benzene	NR	NR	NR	1	ND	ND	1	0.4 J	0.6 J	ND	ND	6.7 J	ND	ND	ND	ND	ND
Benzyl Chloride	NR	NR	NR	ND	ND	ND	ND	ND	ND	NR	NR	NR	NR	NR	NR	NR	NR
Bromodichloromethane	NR	NR	NR	23	ND	ND	1	0.8 J	0.8 J	ND	ND	ND	ND	ND	ND	ND	ND
Bromoform	NR	NR	NR	ND	ND	ND	ND	ND	1 J	ND	ND	ND	ND	ND	ND	ND	ND
Bromomethane	NR	NR	NR	ND	ND	ND	0.8	0.6 J	0.5 J	ND	ND	ND	ND	ND	ND	ND	ND
Carbon Disulfide	NR	NR	NR	ND	ND	ND	0.9	0.5 J	0.4 J	ND	ND	11 J	ND	ND	4.6 J	ND	ND
Carbon Tetrachloride	NR	NR	NR	2	ND	ND	2	1 J	1 J	ND	ND	ND	ND	ND	ND	ND	ND
Chlorobenzene	NR	NR	NR	ND	ND	ND	ND	ND	0.5 J	ND	ND	20 J, B	ND	ND	ND	ND	ND
Chlorodibromomethane	NR	NR	NR	ND	ND	ND	ND	ND	0.9 J	NR	NR	NR	NR	NR	NR	NR	NR
Chloroethane	NR	NR	NR	ND	ND	ND	0.6	0.4 J	0.4 J	ND	ND	ND	ND	ND	ND	ND	ND
Chloroform	NR	NR	NR	2	1	ND	1	0.8 J	0.6 J	ND	ND	ND	ND	ND	ND	ND	ND
Chloromethane	NR	NR	NR	1	0.5	ND	1	1	1	7.1 J	ND	ND	ND	ND	ND	ND	ND
cis-1,2-Dichloroethene	480	59	ND	9	15	3	0.7 J	ND	0.4 J	7.1 J	7.4 J	20 J	22 J	14 J	6.2 J	11 J	22 J
cis-1,3-Dichloropropene	NR	NR	NR	ND	ND	ND	0.7 J	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Cumene	NR	NR	NR	NR	NR	NR	NR	NR	NR	ND	ND	ND	ND	ND	ND	ND	ND
Cyclohexane	NR	NR	NR	ND	ND	ND	0.9	0.7	0.3 J	ND	ND	ND	ND	ND	ND	ND	ND
Dichlorodifluoromethane	NR	NR	NR	3	2	ND	3	2	3	ND	ND	ND	ND	ND	ND	ND	ND
Diisopropyl ether	NR	NR	NR	ND	ND	ND	ND	ND	ND	NR	NR	NR	NR	NR	NR	NR	NR
Ethanol	NR	NR	NR	5	4	2	10	7	3	6.9 J	5.3 J	19 J	47 J	ND	ND	ND	ND
Ethyl Acetate	NR	NR	NR	ND	ND	ND	ND	ND	ND	NR	NR	NR	NR	NR	NR	NR	NR
Ethyl tert-butyl ether	NR	NR	NR	ND	ND	ND	0.7 J	ND	ND	NR	NR	NR	NR	NR	NR	NR	NR
Ethylbenzene	NR	NR	NR	3	ND	ND	1	ND	0.5 J	ND	ND	4.7 J	ND	ND	ND	ND	ND
Freon 11	NR	NR	NR	NR	NR	NR	NR	NR	NR	ND	ND	ND	ND	ND	ND	2.3 J	ND
Freon 113	NR	NR	NR	ND	ND	ND	2	2 J	1 J	ND	ND	ND	ND	ND	ND	ND	ND
Freon 114	NR	NR	NR	ND	ND	ND	2	1 J	0.9 J	ND	ND	ND	ND	ND	ND	ND	ND
Freon 12	NR	NR	NR	NR	NR	NR	NR	NR	NR	ND	ND	ND	ND	ND	ND	ND	ND
Heptane	NR	NR	NR	ND	ND	ND	2	ND	0.5 J	ND	ND	ND	ND	ND	ND	ND	ND
Hexachlorobutadiene	NR	NR	NR	ND	ND	ND	2 J	ND	1 J	ND	ND	ND	ND	ND	ND	ND	ND
Hexane	NR	NR	NR	1	ND	ND	3	3	0.7	ND	ND	3.1 J	ND	ND	ND	ND	ND
Iso-Octane	NR	NR	NR	2	ND	ND	4	ND	0.6 J	NR	NR	NR	NR	NR	NR	NR	NR
Isopropylbenzene	NR	NR	NR	ND	ND	ND	0.8 J	ND	0.6 J	NR	NR	NR	NR	NR	NR	NR	NR
Isopropyl alcohol	NR	NR	NR	ND	0.8	0.8	2	3	0.7	NR	NR	NR	NA	NR	NR	NR	NR
m,p-Xylene	NR	NR	NR	NR	NR	NR	NR	NR	NR	ND	1.8 J	12 J	ND	ND	ND	ND	ND
Methyl Methacrylate	NR	NR	NR	ND	ND	ND	0.6 J	ND	0.4 J	NR	NR	NR	NR	NR	NR	NR	NR
Methyl-tert-Butyl-Ether	NR	NR	NR	ND	ND	ND	1	1	0.4 J	ND	ND	ND	ND	ND	ND	ND	ND
Methylene Chloride	NR	NR	NR	ND	1	4	8	17	2	2.3 J	ND	ND	10 J	ND	ND	ND	ND
MIBK	NR	NR	NR	ND	ND	ND	1	ND	0.4 J	NR	NR	NR	NR	NR	NR	NR	NR
Naphthalene	NR	NR	NR	4	5	5	ND	ND	ND	NR	NR	NR	NR	NR	NR	NR	NR
n-Butane	NR	NR	NR	0.8	0.7	ND	2	0.7	0.8	NR	NR	NR	NR	NR	NR	NR	NR
o-Xylene	NR	NR	NR	NR	NR	NR	NR	NR	NR	ND	ND	6.3 J	ND	ND	ND	ND	ND
p-Isopropyltoluene	NR	NR	NR	ND	ND	ND	0.6 J	ND	ND	NR	NR	NR	NR	NR	NR	NR	NR
n-Propylbenzene	NR	NR	NR	2	ND	ND	0.7 J	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Propylene	NR	NR	NR	ND	2	2	ND	ND	0.5	NR	NR	NR	NA	NR	NR	NR	NR
Styrene	NR	NR	NR	ND	ND	ND	0.7 J	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
tert-Amyl methyl ether	NR	NR	NR	ND	ND	ND	ND	ND	0.5 J	NR	NR	NR	NR	NR	NR	NR	NR
tert-Butyl Alcohol	NR	NR	NR	ND	ND	ND	0.7	0.4 J	0.4 J	NR	NR	NR	NR	NR	NR	NR	NR
Tetrachloroethene	1700	410	260	36	63	10	1	ND	2	48	46	93	120	88	49	79	100
Tetrahydrofuran	NR	NR	NR	4	2	2	1	1	0.5 J	ND	ND	ND	ND	ND	ND	ND	ND
Toluene	NR	NR	NR	3	ND	ND	3	0.4 J	0.8	ND	ND	26	ND	ND	ND	ND	ND
Total Xylenes	NR	NR	NR	13	ND	ND	4	ND	2 J	NR	NR	NR	NR	NR	NR	NR	NR
trans-1,2-Dichloroethene	ND	ND	ND	ND	ND	ND	0.7 J	0.4 J	0.4 J	ND	ND	ND	ND	ND	ND	ND	ND
trans-1,3-Dichloropropene	NR	NR	NR	ND	ND	ND	ND	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	8100	5200	5400	8900
Trichlorofluoromethane	NR	NR	NR	2	1	ND	2	2	2	NR	NR	NR	NA	NR	NR	NA	NR
Vinyl Acetate	NR	NR	NR	1	ND	ND	ND	0.7 J	ND	NR	NR	NR	NA	NR	NR	NA	NR
Vinyl Bromide	NR	NR	NR	ND	ND	ND	1	0.6 J	0.6 J	NR	NR	NR	NA	NA	NA	NR	NR
Vinyl Chloride	ND	ND	ND	ND	ND	ND	0.5 J	0.3 J	0.3 J	ND	ND	ND	ND	ND	ND	ND	ND

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

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

Sample ID	SVE 1010																
Sample Date	12/21/09	03/31/10	06/09/10	09/16/10	12/22/10	03/30/11	06/28/11	09/06/11	10/14/11	02/10/12	05/11/12	08/11/12	12/05/12	01/15/13	05/16/13	08/27/13	11/08/13
Analysis by TO-15 (µg/m³)																	
1,1,1-Trichloroethane	26000	130	53	ND	ND	ND	3	8	0.8 J	ND	3.1 J	9.9	11	ND	ND	56	16
1,1,2,2-Tetrachloroethane	NR	NR	NR	ND	ND	ND	3	0.9 J	1 J	ND	ND	ND	ND	ND	ND	ND	ND
1,1,2-Trichloroethane	NR	NR	NR	ND	ND	ND	2	0.6 J	0.7 J	ND	ND	ND	ND	ND	ND	ND	ND
1,1-Dichloroethane	660	3.9	ND	ND	ND	ND	2	0.9 J	0.5 J	ND	ND	1.0 J	1.1 J	1.1 J	ND	ND	1.5 J
1,1-Dichloroethene	180	2	ND	ND	ND	ND	ND	0.7 J	0.4 J	ND	ND	ND	ND	ND	ND	ND	1.0 J
1,2,3-Trichloropropane	NR	NR	NR	ND	ND	ND	2	0.8 J	0.8 J	NR	NR	NR	NR	NR	NR	NR	NR
1,2,3-Trimethylbenzene	NR	NR	NR	ND	ND	ND	4	1	1	NR	NR	NR	NR	NR	NR	NR	NR
1,2,4-Trichlorobenzene	NR	NR	NR	ND	ND	ND	2 J	ND	ND	ND	3.2 J	ND	2.7 J	ND	1.61	ND	ND
1,2,4-Trimethylbenzene	NR	NR	NR	ND	ND	ND	10	3	3	ND	2.7 J	2.9 J	1.8 J	ND	0.85 J	1.3 J	ND
1,2-Dibromoethane	NR	NR	NR	ND	ND	ND	3	ND	0.9 J	ND	0.72 J	ND	ND	ND	ND	ND	ND
1,2-Dichlorobenzene	NR	NR	NR	ND	ND	ND	2 J	ND	0.7 J	ND	ND	ND	ND	ND	ND	ND	ND
1,2-Dichloroethane	NR	0.5	ND	ND	ND	ND	2	0.5 J	0.5 J	ND	ND	ND	ND	ND	ND	ND	ND
1,2-Dichloropropane	NR	NR	NR	ND	ND	ND	2	0.6 J	0.5 J	ND	ND	ND	ND	ND	ND	ND	ND
1,3,5-Trimethylbenzene	NR	NR	NR	ND	ND	ND	3	0.9 J	1	ND	ND	0.68 J	ND	ND	ND	ND	ND
1,3-Butadiene	NR	NR	NR	ND	ND	ND	ND	0.4 J	0.5 J	ND	ND	ND	ND	ND	ND	ND	ND
1,3-Dichlorobenzene	NR	NR	NR	ND	ND	ND	1 J	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,4-Dichlorobenzene	NR	NR	NR	ND	ND	ND	1 J	ND	ND	ND	ND	ND	0.89 J	0.34 J	ND	ND	ND
1,4-Dioxane	NR	NR	NR	ND	ND	ND	1	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	0.99 J	1.2 J	ND	ND	ND	23
2-Butanone	NR	NR	NR	ND	1	2	8	1	1	ND	ND	2.2 J	2.2 J	ND	ND	ND	ND
2-Hexanone	NR	NR	NR	ND	ND	ND	2	0.7 J	0.5 J	ND	ND	ND	ND	ND	ND	ND	ND
2-Propanol	NR	NR	NR	NR	NR	NR	NR	NR	NR	ND	ND	ND	ND	ND	5.5 J	ND	ND
3-Chloro-1-propene	NR	NR	NR	ND	ND	ND	ND	0.4 J	0.4 J	ND	ND	ND	ND	ND	ND	ND	ND
4-Ethyltoluene	NR	NR	NR	ND	ND	ND	3	0.8 J	1	ND	1.3 J	1.9 J	1.1 J	ND	0.46 J	0.90 J	0.90 J
4-Methyl-2-pentanone	NR	NR	NR	NR	NR	NR	NR	NR	NR	ND	ND	ND	ND	ND	ND	ND	ND
Acetone	NR	NR	NR	19	10	10	36	4	9	4.4 J	14 J	3.6 J	13 J	6.9 J	21	30	7.0 J
alpha-Chlorotoluene	NR	NR	NR	ND	ND	ND	2 J	ND	0.5 J	ND	ND	ND	0.43 J	ND	ND	ND	ND
Acrylonitrile	NR	NR	NR	ND	ND	ND	ND	0.4 J	ND	NR	NR	NR	NR	NR	NR	NR	NR
Benzene	NR	NR	NR	ND	1	ND	4	0.5 J	0.5 J	0.59 J	ND	0.59 J	ND	0.41 J	1.2 J	0.48 J	ND
Benzyl Chloride	NR	NR	NR	ND	ND	ND	ND	ND	ND	NR	NR	NR	NR	NR	NR	NR	NR
Bromodichloromethane	NR	NR	NR	ND	ND	ND	3	0.9 J	0.8 J	ND	ND	ND	ND	ND	ND	ND	ND
Bromoform	NR	NR	NR	ND	ND	ND	3 J	ND	1 J	ND	ND	ND	ND	ND	ND	ND	ND
Bromomethane	NR	NR	NR	ND	ND	ND	2	0.6 J	0.5 J	ND	ND	ND	ND	1.9 J	ND	ND	1.6 J
Carbon Disulfide	NR	NR	NR	ND	ND	ND	2	0.8	0.5 J	ND	ND	1.9 J	1.4 J	ND	1.5 J	ND	ND
Carbon Tetrachloride	NR	NR	NR	ND	ND	ND	4	1 J	1	ND	ND	ND	ND	ND	ND	ND	ND
Chlorobenzene	NR	NR	NR	ND	ND	ND	2	0.5 J	0.6 J	ND	ND	2.5 J, B	ND	ND	ND	ND	ND
Chlorodibromomethane	NR	NR	NR	ND	ND	ND	3	0.9 J	1 J	NR	NR	NR	NR	NR	NR	NR	NR
Chloroethane	NR	NR	NR	ND	ND	ND	ND	0.4 J	0.4 J	ND	ND	ND	ND	ND	ND	ND	ND
Chloroform	NR	NR	NR	ND	ND	ND	2	7	0.7 J	ND	0.91 J	5.4	2.4 J	ND	ND	1.2 J	12
Chloromethane	NR	NR	NR	1	2	ND	3	0.4	1	ND	ND	ND	ND	ND	ND	1.61	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	ND	ND	ND	3.01
cis-1,3-Dichloropropene	NR	NR	NR	ND	ND	ND	2	0.5 J	ND	ND	ND	ND	ND	ND	ND	ND	ND
Cumene	NR	NR	NR	NR	NR	NR	NR	NR	NR	ND	ND	ND	ND	ND	ND	ND	ND
Cyclohexane	NR	NR	NR	ND	ND	ND	2	0.4 J	0.4 J	ND	ND	ND	ND	ND	ND	ND	2.6 J
Dichlorodifluoromethane	NR	NR	NR	2	3	ND	5	3	3	ND	ND	ND	ND	ND	ND	ND	ND
Diisopropyl ether	NR	NR	NR	14	ND	ND	ND	ND	ND	NR	NR	NR	NR	NR	NR	NR	NR
Ethanol	NR	NR	NR	7	5	11	29	1	3	2.4 J	3.2 J	2.9 J	4.6 J	2.7 J	6.4	64	ND
Ethyl Acetate	NR	NR	NR	12	ND	ND	ND	ND	0.5 J	NR	NR	NR	NR	NR	NR	NR	NR
Ethyl tert-butyl ether	NR	NR	NR	ND	ND	ND	1	0.5 J	ND	NR	NR	NR	NR	NR	NR	NR	NR
Ethylbenzene	NR	NR	NR	ND	ND	ND	4	0.6 J	0.9	ND	ND	1.5 J	ND	ND	ND	ND	ND
Freon 11	NR	NR	NR	NR	NR	NR	NR	NR	NR	1.2 J	1.7 J	1.5 J	2.2 J	2.2 J	1.4 J	3.0 J	3.5 J
Freon 113	NR	NR	NR	4	2	ND	4	7	1 J	ND	ND	3.4 J	4.4 J	3.7 J	ND	2.8 J	7.4
Freon 114	NR	NR	NR	ND	ND	ND	3	11	1 J	ND	ND	ND	ND	ND	ND	ND	ND
Freon 12	NR	NR	NR	NR	NR	NR	NR	NR	NR	1.4 J	2.6 J	2.6 J	2.4 J	2.5 J	2.5 J	2.3 J	2.8 J
Heptane	NR	NR	NR	ND	ND	ND	3	0.4 J	0.5 J	ND	ND	ND	ND	ND	ND	ND	ND
Hexachlorobutadiene	NR	NR	NR	ND	ND	ND	ND	1 J	1 J	ND	ND	ND	ND	ND	ND	ND	ND
Hexane	NR	NR	NR	30	2	2	18	2	0.8	ND	ND	ND	ND	ND	0.84 J	ND	3.2
Iso-Octane	NR	NR	NR	ND	ND	ND	4	0.7 J	0.6 J	NR	NR	NR	NR	NR	NR	NR	NR
Isopropylbenzene	NR	NR	NR	ND	ND	ND	2	0.5 J	0.6 J	NR	NR	NR	NR	NR	NR	NR	NR
Isopropyl alcohol	NR	NR	NR	9	1	4	9	1	0.9	NR	NR	NR	NR	NR	NR	NR	NR
m,p-Xylene	NR	NR	NR	NR	NR	NR	NR	NR	NR	ND	1.4 J	1.7 J	1.2 J	ND	1.4 J	1.1 J	0.63 J
Methyl Methacrylate	NR	NR	NR	ND	ND	ND	2	0.4 J	3	NR	NR	NR	NR	NR	NR	NR	NR
Methyl-tert-Butyl-Ether	NR	NR	NR	4	ND	ND	5	0.7	0.4 J	ND	ND	ND	ND	ND	ND	ND	ND
Methylene Chloride	NR	NR	NR	150	7	4	84	8	2	0.54 J	1.4 J	2.0 J	0.42 J	ND	ND	ND	ND
MIBK	NR	NR	NR	ND	ND	ND	4	0.5 J	0.5 J	NR	NR	NR	NR	NR	NR	NR	NR
Naphthalene	NR	NR	NR	ND	ND	ND	3	0.8 J	0.9 J	NR	NR	NR	NR	NR	NR	NR	NR
n-Butane	NR	NR	NR	ND	20	7	8	0.6	ND	NR	NR	NR	NR	NR	NR	NR	NR
o-Xylene	NR	NR	NR	NR	NR	NR	NR	NR	NR	ND	0.77 J	1.8 J	ND	ND	0.61 J	ND	ND
p-Isopropyltoluene	NR	NR	NR	ND	ND	ND	2 J	0.6 J	ND	NR	NR	NR	NR	NR	NR	NR	NR
n-Propylbenzene	NR	NR	NR	ND	ND	ND	2	0.7 J	0.8 J	ND	0.32 J	0.61 J	ND	ND	ND	ND	ND
Propylene	NR	NR	NR	ND	ND	ND	ND	ND	0.4	NR	NR	NR	NR	NR	NR	NR	NR
Styrene	NR	NR	NR	ND	ND	ND	1	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
tert-Amyl methyl ether	NR	NR	NR	ND	ND	ND	2	0.5 J	0.5 J	NR	NR	NR	NR	NR	NR	NR	NR
tert-Butyl Alcohol	NR	NR	NR	ND	ND	ND	2	0.5 J	0.5 J	NR	NR	NR	NR	NR	NR	NR	NR
Tetrachloroethene	3200	1200	1200	ND	4	ND	26	210	2	ND	79	150	170	130	0.92 J	73	330
Tetrahydrofuran	NR	NR	NR	ND	ND	ND	7	1	1	ND	0.93 J	3.2	3.2	1.0 J	ND	1.4 J	ND
Toluene	NR	NR	NR	ND	2	3	12	0.9	1	0.82 J	ND	0.98 J	0.53 J	0.42 J	4.2	ND	0.61 J
Total Xylenes	NR	NR	NR	ND	ND	ND	18	3	4	NR	NR	NR	NR	NR	NR	NR	NR
trans-1,2-Dichloroethene	ND	ND	ND	ND	ND	ND	2	0.6 J	0.4 J	ND	ND	ND	ND	ND	ND	ND	ND
trans-1,3-Dichloropropene	NR	NR	NR	ND	ND	ND	2	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Trichloroethene	100000	1600	310	3	1	ND	3	120	1 J	ND	200	400	350	120	ND	56	540
Trichlorofluoromethane	NR	NR	NR	ND	2	ND	4	3	2	NR	NR	NR	NR	NR	NR	NR	NR
Vinyl Acetate	NR	NR	NR	ND	1	ND	ND	0.6 J	ND	NR	NR	NR	NR	NR	NR	NR	NR
Vinyl Bromide	NR	NR	NR	ND	ND	ND	2	0.6 J	0.6 J	NR	NR	NR	NR	NR	NR	NR	NR
Vinyl Chloride	ND	ND	ND	ND	ND	ND	1	0.4 J	0.3 J	ND	ND	ND	ND	ND	ND	ND	ND

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

Table 6
Soil Vapor Extraction Containment System
Site 1, Former Drum Marshalling Yard
Naval Weapons Industrial Reserve Plant - Bethpage, NY
Quarterly Vapor Monitoring Results of SVE Wells
Through Fourth Quarter 2013

Sample ID	SVE 102I																
Sample Date	12/21/09	03/31/10	06/09/10	09/16/10	12/22/10	03/30/11	06/23/11	09/06/11	10/14/11	02/10/12	05/11/12	09/11/12	12/05/12	01/15/13	05/16/13	08/27/13	11/08/13
Analysis by TO-15 (µg/m³)																	
1,1,1-Trichloroethane	ND	ND	13	3	ND	NA	2	3	2	NO	0.60 J	3.3 J	ND	NO	ND	1.6 J	ND
1,1,2,2-Tetrachloroethane	NR	NR	NR	ND	ND	NA	1 J	0.8 J	0.8 J	NO	NO	ND	ND	NO	ND	ND	ND
1,1,2-Trichloroethane	NR	NR	NR	ND	ND	NA	1 J	0.6 J	0.6 J	NO	ND	ND	ND	NO	ND	ND	ND
1,1-Dichloroethane	ND	ND	ND	ND	ND	NA	0.8 J	0.5 J	0.5 J	ND	ND	ND	ND	ND	NO	ND	ND
1,1-Dichloroethene	ND	ND	ND	ND	ND	NA	0.7 J	0.4 J	0.4 J	ND	ND	ND	ND	ND	NO	ND	ND
1,2,3-Trichloropropane	NR	NR	NR	ND	ND	NA	1 J	0.6 J	0.8 J	NR	NR	NR	NR	NR	NR	NR	NR
1,2,3-Trimethylbenzene	NR	NR	NR	10	ND	NA	5	1	2	NR	NR	NR	NR	NR	NR	NR	NR
1,2,4-Trichlorobenzene	NR	NR	NR	ND	ND	NA	1 J	ND	ND	ND	ND	ND	NO	NO	ND	ND	ND
1,2,4-Trimethylbenzene	NR	NR	NR	35	1	NA	18	3	5	0.77 J	1.5 J	2.3 J	ND	0.96 J	1.2 J	1.0 J	ND
1,2-Dibromoethane	NR	NR	NR	ND	ND	NA	1 J	ND	0.8 J	ND	ND	ND	NO	ND	ND	ND	NO
1,2-Dichlorobenzene	NR	NR	NR	ND	ND	NA	0.8 J	ND	ND	ND	ND	1.0 J	ND	ND	ND	NO	ND
1,2-Dichloroethane	NR	ND	ND	ND	ND	NA	0.8	0.4 J	0.4 J	ND	ND	ND	NO	NO	NO	NO	NO
1,2-DichloroPropane	NR	NR	NR	ND	ND	NA	0.9 J	0.6 J	0.6 J	ND	ND	NO	ND	ND	ND	ND	ND
1,3,5-Trimethylbenzene	NR	NR	NR	7	ND	NA	4	0.8 J	1	ND	ND	0.89 J	ND	ND	ND	ND	ND
1,3-Butadiene	NR	NR	NR	ND	ND	NA	NA	0.3 J	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,3-Dichlorobenzene	NR	NR	NR	ND	ND	NA	0.7 J	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,4-Dichlorobenzene	NR	NR	NR	ND	ND	NA	0.6 J	ND	ND	ND	ND	1.2 J	0.78 J	ND	ND	ND	NO
1,4-Dioxane	NR	NR	NR	ND	ND	NA	0.8	ND	0.4 J	ND	ND	ND	ND	ND	ND	ND	ND
2,2,4-Trimethylpentane	NR	NR	NR	NR	NR	NR	NR	NR	NR	ND	ND	ND	ND	NO	ND	ND	ND
2-Butanone	NR	NR	NR	ND	1	NA	4	1	2	ND	ND	ND	ND	ND	4.7 J	ND	ND
2-Hexanone	NR	NR	NR	ND	ND	NA	0.9	0.6 J	0.5 J	ND	ND	ND	ND	ND	ND	ND	NO
2-Propanol	NR	NR	NR	NR	NR	NR	NR	NR	NR	ND	ND	ND	ND	ND	1.5 J	ND	ND
3-Chloro-1-propene	NR	NR	NR	ND	ND	NA	0.6 J	ND	ND	ND	ND	ND	ND	ND	ND	NO	ND
4-Ethyltoluene	NR	NR	NR	5	ND	NA	4	0.8 J	1	0.64 J	0.72 J	3.2 J	ND	ND	0.41 J	0.66 J	ND
4-Methyl-2-pentanone	NR	NR	NR	NR	NR	NR	NR	NR	NR	ND	ND	ND	ND	ND	ND	ND	ND
Acetone	NR	NR	NR	6	5	NA	14	4	7	7.8	9.9 J	7.2 J	12 J	8.7 J	21	9.7 J	12 J
alpha-Chlorotoluene	NR	NR	NR	ND	ND	NA	0.7 J	ND	ND	ND	ND	ND	0.41 J	ND	ND	ND	ND
Acrylonitrile	NR	NR	NR	ND	ND	NA	0.5	0.4 J	ND	NR	NR	NR	NR	NR	NR	NR	NR
Benzene	NR	NR	NR	ND	ND	NA	1	0.4 J	0.5 J	ND	ND	ND	ND	0.45 J	1.2 J	ND	ND
Benzyl Chloride	NR	NR	NR	ND	ND	NA	ND	ND	ND	NR	NR	NR	NR	NR	NR	NR	NR
Bromodichloromethane	NR	NR	NR	ND	ND	NA	2	0.8 J	0.7 J	ND	ND	ND	ND	ND	ND	ND	ND
Bromoform	NR	NR	NR	ND	ND	NA	1 J	ND	1 J	ND	ND	ND	ND	ND	ND	ND	ND
Bromomethane	NR	NR	NR	ND	ND	NA	0.8	0.5 J	0.5 J	ND	ND	ND	ND	ND	ND	ND	1.5 J
Carbon Disulfide	NR	NR	NR	ND	ND	NA	0.7	0.5 J	0.4 J	ND	ND	1.8 J	1.5 J	ND	10	ND	ND
Carbon Tetrachloride	NR	NR	NR	ND	ND	NA	2	1 J	1 J	ND	ND	ND	ND	ND	ND	ND	ND
Chlorobenzene	NR	NR	NR	ND	ND	NA	0.9	ND	0.5 J	ND	ND	2.7 J, 8	ND	ND	ND	ND	ND
Chlorodibromomethane	NR	NR	NR	ND	ND	NA	1 J	ND	0.9 J	NR	NR	NR	NR	NR	NR	NR	NR
Chloroethane	NR	NR	NR	ND	ND	NA	0.6	0.4 J	0.3 J	ND	ND	ND	ND	ND	ND	ND	ND
Chloroform	NR	NR	NR	4	ND	NA	3	5	4	0.75 J	1.4 J	6.6	ND	ND	1.4 J	3.7 J	1.6 J
Chloromethane	NR	NR	NR	ND	0.5	NA	1	0.4	0.4	ND	ND	ND	ND	ND	ND	ND	ND
cis-1,2-Dichloroethene	ND	ND	ND	ND	ND	NA	0.7 J	0.5 J	0.5 J	ND	ND	ND	ND	ND	ND	ND	ND
cis-1,3-Dichloropropene	NR	NR	NR	ND	ND	NA	0.7 J	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Cumene	NR	NR	NR	NR	NR	NR	NR	NR	NR	ND	ND	ND	ND	ND	ND	ND	NO
Cyclohexane	NR	NR	NR	ND	ND	NA	0.6 J	ND	0.4 J	ND	ND	ND	ND	ND	ND	ND	ND
Dichlorodifluoromethane	NR	NR	NR	ND	2	NA	3	2	2	ND	ND	ND	ND	ND	ND	ND	ND
Diisopropyl ether	NR	NR	NR	ND	ND	NA	NA	ND	ND	NR	NR	NR	NR	NR	NR	NR	NR
Ethanol	NR	NR	NR	2	3	NA	8	2	4	3.0 J	ND	ND	ND	3.6 J	6.5	ND	ND
Ethyl Acetate	NR	NR	NR	ND	ND	NA	NA	ND	ND	NR	NR	NR	NR	NR	NR	NR	NR
Ethyl tert-butyl ether	NR	NR	NR	ND	ND	NA	0.7 J	ND	ND	NR	NR	NR	NR	NR	NR	NR	NR
Ethylbenzene	NR	NR	NR	3	ND	NA	4	0.8 J	1	ND	ND	1.4 J	ND	ND	0.70 J	ND	ND
Freon 11	NR	NR	NR	NR	NR	NR	NR	NR	NR	1.1 J	2.0 J	2.5 J	1.4 J	1.4 J	1.8 J	2.1 J	1.8 J
Freon 113	NR	NR	NR	ND	ND	NA	2	1 J	1 J	ND	ND	ND	ND	ND	ND	NO	ND
Freon 114	NR	NR	NR	ND	ND	NA	2	1 J	1 J	ND	ND	ND	ND	NO	NO	ND	ND
Freon 12	NR	NR	NR	NR	NR	NR	NR	NR	NR	1.9 J	2.4 J	2.6 J	2.3 J	2.4 J	2.5 J	2.4 J	2.9 J
Heptane	NR	NR	NR	ND	ND	NA	1	ND	0.5 J	ND	ND	0.83 J	ND	ND	NO	ND	ND
Hexachlorobutadiene	NR	NR	NR	ND	ND	NA	3	1 J	1 J	ND	ND	ND	ND	ND	ND	ND	ND
Hexane	NR	NR	NR	ND	1	NA	1	0.8	0.8	ND	ND	0.36 J	ND	ND	1.7 J	ND	ND
Iso-Octane	NR	NR	NR	ND	ND	NA	1	0.6 J	0.6 J	NR	NR	NR	NR	NR	NR	NR	NR
Isopropylbenzene	NR	NR	NR	ND	ND	NA	1	ND	0.6 J	NR	NR	NR	NR	NR	NR	NR	NR
Isopropyl alcohol	NR	NR	NR	ND	0.6	NA	2	1	0.8	NR	NR	NR	NR	NR	NR	NR	NR
m,p-Xylene	NR	NR	NR	NR	NR	NA	NR	NR	NR	0.63 J	0.97 J	2.8 J	ND	1.1 J	2.5 J	ND	0.74 J
Methyl Methacrylate	NR	NR	NR	ND	ND	NA	0.6 J	ND	ND	NR	NR	NR	NR	NR	NR	NR	NR
Methyl-tert-Butyl Ether	NR	NR	NR	NO	NO	NA	0.7	0.5 J	0.4 J	ND	NO	ND	ND	0.54 J	ND	ND	ND
Methylene Chloride	NR	NR	NR	ND	6	NA	4	3	3	1.3 J	1.0 J	ND	NO	1.8 J	3.1 J	ND	NO
MIBK	NR	NR	NR	ND	ND	NA	0.8 J	ND	ND	NR	NR	NR	NR	NR	NR	NR	NR
Naphthalene	NR	NR	NR	3	ND	NA	5	0.8 J	1	NR	NR	NR	NR	NR	NR	NR	NR
n-Butane	NR	NR	NR	4	2	NA	1	0.4 J	ND	NR	NR	NR	NR	NR	NR	NR	NR
o-Xylene	NR	NR	NR	NR	NR	NA	NR	NR	NR	ND	ND	1.6 J	NO	ND	0.68 J	ND	ND
p-IsoPropyltoluene	NR	NR	NR	ND	ND	NA	1 J	ND	ND	NR	NR	NR	NR	NR	NR	NR	NR
n-Propylbenzene	NR	NR	NR	3	ND	NA	2	0.6 J	0.9 J	NO	ND	0.90 J	NO	NO	ND	ND	ND
Propylene	NR	NR	NR	ND	ND	NA	ND	ND	ND	NR	NR	NR	NR	NR	NR	NR	NR
Styrene	NR	NR	NR	ND	ND	NA	0.7 J	ND	ND	NO	ND	NO	ND	ND	ND	NO	ND
tert-Amyl methyl ether	NR	NR	NR	ND	ND	NA	0.7 J	ND	0.4 J	NR	NR	NR	NR	NR	NR	NR	NR
tert-Butyl Alcohol	NR	NR	NR	ND	ND	NA	1	0.5 J	0.5 J	NR	NR	NR	NR	NR	NR	NR	NR
Tetrachloroethene	2.4	1.4	17	5	NR	NA	3	6	6	NO	1.6 J	6.4	1.5 J	2.4 J	1.4 J	3.3 J	2.5 J
Tetrahydrofuran	NR	NR	NR	5	0.6	NA	5	1	1	NO	NO	ND	ND	ND	NO	ND	ND
Toluene	NR	NR	NR	3	1	NA	4	0.8	1	0.66 J	ND	1.3 J	ND	3.8	4.8	ND	0.48 J
Total Xylenes	NR	NR	NR	22	ND	NA	20	3	6	NR	NR	NR	NR	NR	NR	NR	NR
trans-1, 2-Dichloroethene	ND	ND	ND	ND	ND	NA	0.7 J	0.4 J	0.4 J	ND	ND	ND	ND	ND	NO	NO	ND
trans-1,3-Dichloropropene	NR	NR	NR	ND	ND	NA	0.7 J	ND	ND	ND	ND	NO	ND	ND	ND	NO	ND
Trichloroethene	5.6	3.8	300	86	3	NA	34	76	52	10	26	99	10	10	15	49	21
Trichlorofluoromethane	NR	NR	NR	NO	1	NA	2	2	2	NR	NR	NR	NR	NR	NR	NR	NR
Vinyl Acetate	NR	NR	NR	ND	NO	NA	NO	0.6 J	ND	NR	NR	NR	NR	NR	NR	NR	NR
Vinyl Bromide	NR	NR	NR	ND	ND	NA	1	0.6 J	0.6 J	NR	NR	NR	NR	NR	NR	NR	NR
Vinyl Chloride	ND	ND	NO	NO	ND	NA	0.5 J	0.4 J	0.3 J	ND	ND	ND	ND	ND	ND	ND	ND

Notes:

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

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

Sample ID	SVE 1020																
Sample Date	12/21/09	03/31/10	06/09/10	09/16/10	12/08/10	03/30/11	06/28/11	09/06/11	10/14/11	02/10/12	05/11/12	09/11/12	12/05/12	01/15/13	06/16/13	08/27/13	11/08/13
Analysis by TO-15 (µg/m³)																	
1,1,1-Trichloroethane	130	53	14	7	2	2	6	4	5	1.4 J	1.2 J	3.9 J	ND	ND	ND	2.3 J	3.1 J
1,1,2,2-Tetrachloroethane	NR	NR	NR	ND	ND	ND	1 J	0.9 J	1 J	ND	ND	ND	ND	ND	ND	ND	ND
1,1,2-Trichloroethane	NR	NR	NR	ND	ND	ND	1 J	0.6 J	0.8 J	ND	ND	ND	ND	ND	ND	ND	ND
1,1-Dichloroethane	ND	2.7	ND	ND	ND	ND	1	0.6 J	0.7 J	ND	ND	0.51 J	0.95 J	ND	ND	ND	0.69 J
1,1-Dichloroethene	ND	ND	ND	ND	ND	ND	1	0.6 J	0.6 J	ND	ND	ND	ND	ND	ND	ND	ND
1,2,3-Trichloropropane	NR	NR	NR	ND	ND	ND	ND	0.7 J	0.9 J	NR	NR	NR	NR	NR	NR	NR	NR
1,2,3-Trimethylbenzene	NR	NR	NR	5	ND	ND	7	1	2	NR	NR	NR	NR	NR	NR	NR	NR
1,2,4-Trichlorobenzene	NR	NR	NR	ND	ND	ND	2 J	ND	0.8 J	ND	ND	ND	ND	ND	ND	ND	ND
1,2,4-Trimethylbenzene	NR	NR	NR	18	2	2	22	4	6	ND	2.3 J	2.8 J	0.79 J	ND	ND	ND	ND
1,2-Dibromoethane	NR	NR	NR	ND	ND	ND	1 J	ND	1 J	ND	ND	ND	ND	ND	ND	ND	ND
1,2-Dichlorobenzene	NR	NR	NR	ND	ND	ND	1 J	ND	0.8 J	ND	ND	ND	ND	ND	ND	ND	ND
1,2-Dichloroethane	NR	ND	ND	ND	ND	ND	0.9	0.5 J	0.5 J	ND	ND	ND	ND	ND	ND	ND	ND
1,2-Dichloropropane	NR	NR	NR	ND	ND	ND	1	0.6 J	0.6 J	ND	ND	ND	ND	ND	ND	ND	ND
1,3,5-Trimethylbenzene	NR	NR	NR	4	ND	ND	4	ND	1	ND	ND	ND	ND	ND	ND	ND	ND
1,3-Butadiene	NR	NR	NR	1	ND	ND	ND	0.3 J	0.4 J	ND	ND	ND	ND	ND	ND	ND	ND
1,3-Dichlorobenzene	NR	NR	NR	ND	ND	ND	0.8 J	ND	0.7 J	ND	ND	1.2 J	ND	ND	ND	ND	ND
1,4-Dichlorobenzene	NR	NR	NR	ND	ND	ND	0.8 J	ND	0.6 J	ND	ND	1.3 J	0.60 J	ND	ND	ND	ND
1,4-Dioxane	NR	NR	NR	ND	ND	ND	1	ND	0.6 J	ND	ND	ND	ND	ND	ND	ND	ND
2,2,4-Trimethylpentane	NR	NR	NR	NR	NR	NR	NR	NR	NR	ND	ND	0.53 J	0.35 J	ND	1.2 J	ND	4.0
2-Butanone	NR	NR	NR	4	0.9	0.7	5	1	1	ND	ND	3.7 J	ND	ND	ND	ND	ND
2-Hexanone	NR	NR	NR	ND	ND	ND	0.9 J	0.6 J	0.6 J	ND	ND	ND	ND	ND	ND	ND	ND
2-Propanol	NR	NR	NR	NR	NR	NR	NR	NR	NR	ND	ND	ND	ND	ND	ND	ND	4.7 J
3-Chloro-1-propene	NR	NR	NR	ND	ND	ND	0.7 J	0.4 J	ND	ND	ND	ND	ND	ND	ND	ND	ND
4-Ethyltoluene	NR	NR	NR	3	ND	ND	4	1	1	0.36 J	1.0 J	2.1 J	ND	ND	0.67 J	ND	ND
4-Methyl-2-pentanone	NR	NR	NR	NR	NR	NR	NR	NR	NR	ND	ND	ND	ND	ND	ND	ND	ND
Acetone	NR	NR	NR	10	8	6	12	4	4	8.4	6.0 J	7.1 J	5.7 J	4.6 J	21	3.4 J	12 J
alpha-Chlorotoluene	NR	NR	NR	ND	ND	ND	0.9 J	ND	0.6 J	ND	ND	0.78 J	ND	ND	ND	ND	ND
Acrylonitrile	NR	NR	NR	ND	ND	ND	0.5	0.4 J	ND	NR	NR	NR	NR	NR	NR	NR	NR
Benzene	NR	NR	NR	ND	ND	ND	1	0.5 J	0.9	ND	ND	ND	ND	0.55 J	1.2 J	ND	0.39 J
Benzyl Chloride	NR	NR	NR	ND	ND	ND	ND	ND	ND	NR	NR	NR	NR	NR	NR	NR	NR
Bromodichloromethane	NR	NR	NR	ND	ND	ND	2	0.9 J	1 J	ND	ND	ND	ND	ND	ND	ND	ND
Bromoform	NR	NR	NR	ND	ND	ND	2 J	ND	1 J	ND	ND	ND	ND	ND	ND	ND	ND
Bromomethane	NR	NR	NR	ND	ND	ND	1	0.6 J	0.5 J	ND	ND	ND	ND	2.0 J	ND	ND	ND
Carbon Disulfide	NR	NR	NR	ND	ND	ND	0.9	0.5 J	0.5 J	ND	ND	2.0 J	2.5 J	ND	1.4 J	ND	ND
Carbon Tetrachloride	NR	NR	NR	ND	ND	ND	2	2	2	ND	ND	ND	ND	ND	ND	ND	ND
Chlorobenzene	NR	NR	NR	ND	ND	ND	1 J	ND	0.7 J	ND	ND	3.3 J, 8	ND	ND	ND	ND	ND
Chlorodibromomethane	NR	NR	NR	ND	ND	ND	2 J	0.9 J	1 J	NR	NR	NR	NR	NR	NR	NR	NR
Chloroethane	NR	NR	NR	ND	ND	ND	0.7	0.4 J	0.4 J	ND	ND	ND	ND	ND	ND	ND	ND
Chloroform	NR	NR	NR	11	2	3	9	14	17	19	19	23	11	ND	ND	21	10
Chloromethane	NR	NR	NR	ND	1	0.6	1	0.4	0.4	ND	ND	ND	ND	ND	ND	ND	ND
cis-1,2-Dichloroethene	ND	1.4	ND	ND	0.9	ND	1	0.5 J	0.9	ND	ND	1.1 J	4.1	ND	ND	ND	3.4
cis-1,3-Dichloropropene	NR	NR	NR	ND	ND	ND	0.9 J	ND	0.6 J	ND	ND	0.69 J	ND	ND	ND	ND	ND
Cumene	NR	NR	NR	NR	NR	NR	NR	NR	NR	ND	ND	ND	ND	ND	ND	ND	ND
Cyclohexane	NR	NR	NR	ND	ND	ND	0.7 J	0.5 J	0.4 J	ND	ND	ND	ND	ND	ND	ND	1.3 J
Dichlorodifluoromethane	NR	NR	NR	2	3	2	4	3	3	ND	ND	ND	ND	ND	ND	ND	ND
Diisopropyl ether	NR	NR	NR	ND	ND	ND	ND	ND	ND	NR	NR	NR	NR	NR	NR	NR	NR
Ethanol	NR	NR	NR	5	3	4	3	1	1	ND	ND	ND	ND	5.5 J	ND	ND	5.9 J
Ethyl Acetate	NR	NR	NR	ND	ND	ND	ND	ND	ND	NR	NR	NR	NR	NR	NR	NR	NR
Ethyl tert-butyl ether	NR	NR	NR	ND	ND	ND	0.8 J	0.4 J	0.5 J	NR	NR	NR	NR	NR	NR	NR	NR
Ethylbenzene	NR	NR	NR	3	ND	ND	4	ND	1	ND	ND	0.65 J	ND	ND	ND	ND	ND
Freon 11	NR	NR	NR	NR	NR	NR	NR	NR	NR	4.8	5.8	11	6.6	1.5 J	1.4 J	4.4 J	3.7 J
Freon 113	NR	NR	NR	ND	ND	ND	3	2	2	ND	ND	ND	1.9 J	ND	ND	ND	ND
Freon 114	NR	NR	NR	ND	ND	ND	2	1 J	1 J	ND	ND	ND	ND	ND	ND	ND	ND
Freon 12	NR	NR	NR	NR	NR	NR	NR	NR	NR	2.6 J	2.1 J	2.1 J	2.2 J	2.6 J	2.1 J	2.3 J	3.2 J
Heptane	NR	NR	NR	ND	ND	ND	1	0.4 J	0.6 J	ND	ND	ND	ND	ND	ND	ND	1.1 J
Hexachlorobutadiene	NR	NR	NR	ND	ND	ND	3	1 J	2 J	ND	ND	ND	ND	ND	ND	ND	ND
Hexane	NR	NR	NR	1	ND	ND	1	0.8	0.5 J	ND	ND	ND	ND	ND	0.94 J	ND	1.5 J
Iso-Octane	NR	NR	NR	ND	ND	ND	1	1	0.7 J	NR	NR	NR	NR	NR	NR	NR	NR
Isopropylbenzene	NR	NR	NR	ND	ND	ND	1	0.5 J	0.8 J	NR	NR	NR	NR	NR	NR	NR	NR
Isopropyl alcohol	NR	NR	NR	1	ND	ND	2	1	1	NR	NR	NR	NR	NR	NR	NR	NR
m,p-Xylene	NR	NR	NR	NR	NR	NR	NR	NR	NR	ND	1.4 J	2.2 J	0.65 J	ND	1.7 J	ND	1.3 J
Methyl Methacrylate	NR	NR	NR	ND	ND	ND	0.8 J	0.4 J	0.4 J	NR	NR	NR	NR	NR	NR	NR	NR
Methyl-tert-Butyl-Ether	NR	NR	NR	ND	ND	ND	0.9	0.5 J	0.4 J	ND	ND	ND	ND	ND	ND	ND	ND
Methylene Chloride	NR	NR	NR	7	2	ND	4	2	0.9	1.0 J	ND	0.36 J	ND	1.0 J	1.4 J	ND	ND
MIBK	NR	NR	NR	ND	ND	ND	1	0.4 J	0.4 J	NR	NR	NR	NR	NR	NR	NR	NR
Naphthalene	NR	NR	NR	3	ND	ND	6	3	2	NR	NR	NR	NR	NR	NR	NR	NR
n-Butane	NR	NR	NR	ND	2	ND	2	2	ND	NR	NR	NR	NR	NR	NR	NR	NR
o-Xylene	NR	NR	NR	NR	NR	NR	NR	NR	NR	ND	ND	1.4 J	ND	ND	ND	ND	ND
p-Isopropyltoluene	NR	NR	NR	ND	ND	ND	1	ND	0.7 J	NR	NR	NR	NR	NR	NR	NR	NR
n-Propylbenzene	NR	NR	NR	ND	ND	ND	3	0.7 J	1	ND	ND	0.97 J	ND	ND	ND	ND	ND
Propylene	NR	NR	NR	ND	ND	ND	ND	ND	ND	NR	NR	NR	NR	NR	NR	NR	NR
Styrene	NR	NR	NR	ND	ND	ND	0.8 J	ND	0.5 J	ND	ND	ND	ND	ND	ND	ND	ND
tert-Amyl methyl ether	NR	NR	NR	ND	ND	ND	0.9 J	0.5 J	0.5 J	NR	NR	NR	NR	NR	NR	NR	NR
tert-Butyl Alcohol	NR	NR	NR	ND	ND	ND	1	0.4 J	0.6	NR	NR	NR	NR	NR	NR	NR	NR
Tetrachloroethene	10	31	31	19	3	9	25	23	39	5.9	6.5	24	25	0.96 J	1.4 J	14	28
Tetrahydrofuran	NR	NR	NR	36	7	3	6	1	1	0.54 J	0.74 J	4.0	ND	ND	ND	ND	6.5
Toluene	NR	NR	NR	3	ND	ND	4	0.8	2	0.49 J	0.99 J	0.85 J	0.58 J	0.58 J	4.4	ND	32
Total Xylenes	NR	NR	NR	15	ND	ND	22	2 J	7	NR	NR	NR	NR	NR	NR	NR	NR
trans-1,2-Dichloroethene	ND	ND	ND	ND	ND	ND	1	0.5 J	0.5 J	ND	ND	ND	ND	ND	ND	ND	ND
trans-1,3-Dichloropropene	NR	NR	NR	ND	ND	ND	0.8 J	ND	0.5 J	ND	ND	ND	ND	ND	ND	ND	ND
Trichloroethene	440	390	190	110	17	21	89	81	87	34	58	170	140	65	ND	88	160
Trichlorofluoromethane	NR	NR	NR	5	2	6	9	12	13	NR	NR	NR	NR	NR	NR	NR	NR
Vinyl Acetate	NR	NR	NR	ND	ND	ND	2	ND	ND	NR	NR	NR	NR	NR	NR	NR	NR
Vinyl Bromide	NR	NR	NR	ND	ND	ND	1	0.6 J	0.6 J	NR	NR	NR	NR	NR	NR	NR	NR
Vinyl Chloride	ND	ND	ND	ND	ND	ND	0.6	0.4 J	0.3 J	ND	ND	ND	ND	ND	ND	ND	ND

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

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

Sample ID	SVE 103I																
Sample Date	12/21/09	03/31/10	06/09/10	09/16/10	12/08/10	03/30/11	06/28/11	09/06/11	10/14/11	02/10/12	05/11/12	09/11/12	12/05/12	01/15/13	05/16/13	08/27/13	11/06/13
Analysis by TO-15 (µg/m³)																	
1,1,1-Trichloroethane	900	ND	ND	ND	ND	ND	0.9 J	6	6	ND	1.6 J	9.2	ND	ND	1.4 J	4.7 J	2.8 J
1,1,2,2-Tetrachloroethane	NR	NR	NR	ND	ND	ND	1 U	0.9 J	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,1,2-Trichloroethane	NR	NR	NR	ND	ND	ND	0.7 U	0.7 J	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,1-Dichloroethane	26	ND	ND	ND	ND	ND	0.6 J	2	2	ND	0.75 J	1.5 J	0.77 J	ND	ND	1.5 J	1.3 J
1,1-Dichloroethene	ND	ND	ND	ND	ND	ND	0.6 J	0.6 J	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,2,3-Trichloropropane	NR	NR	NR	ND	ND	ND	0.9 J	0.8 J	0.6 J	NR	NR	NR	NR	NR	NR	NR	NR
1,2,3-Trimethylbenzene	NR	NR	NR	ND	ND	ND	4	1	2	NR	NR	NR	NR	NR	NR	NR	NR
1,2,4-Trichlorobenzene	NR	NR	NR	ND	ND	ND	1 U	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,2,4-Trimethylbenzene	NR	NR	NR	2	ND	1	14	3	5	2.2 J	3.3 J	3.3 U	0.65 J	ND	ND	1.5 J	ND
1,2-Dibromoethane	NR	NR	NR	ND	ND	ND	0.9 J	0.8 J	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,2-Dichlorobenzene	NR	NR	NR	ND	ND	ND	0.7 J	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,2-Dichloroethane	NR	ND	ND	ND	ND	ND	0.7 U	0.5 J	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,2-Dichloropropane	NR	NR	NR	ND	ND	ND	0.7 U	0.6 J	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,3,5-Trimethylbenzene	NR	NR	NR	ND	ND	ND	2	0.9 J	1	ND	ND	0.92 J	ND	ND	ND	ND	ND
1,3-Butadiene	NR	NR	NR	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.43 J	ND	ND
1,3-Dichlorobenzene	NR	NR	NR	ND	ND	ND	ND	ND	ND	ND	ND	1.1 U	ND	ND	ND	ND	ND
1,4-Dichlorobenzene	NR	NR	NR	ND	ND	ND	ND	ND	ND	ND	ND	0.95 J	0.66 J	ND	ND	ND	ND
1,4-Dioxane	NR	NR	NR	ND	ND	ND	0.5 J	0.6 J	0.4 J	ND	ND	ND	ND	ND	ND	ND	ND
2,2,4-Trimethylpentane	NR	NR	NR	NR	NR	NR	NR	NR	NR	ND	ND	0.83 J	ND	ND	ND	ND	ND
2-Butanone	NR	NR	NR	2	ND	ND	4	1	1	4.7 J	5.2 J	ND	ND	ND	ND	ND	ND
2-Hexanone	NR	NR	NR	ND	ND	ND	0.6 J	0.5 J	ND	ND	0.24 J	ND	ND	ND	ND	ND	ND
2-Propanol	NR	NR	NR	NR	NR	NR	NR	NR	NR	ND	ND	ND	ND	ND	ND	ND	ND
3-Chloro-1-propene	NR	NR	NR	ND	ND	ND	0.4 J	0.4 J	ND	ND	ND	ND	ND	ND	ND	ND	ND
4-Ethyltoluene	NR	NR	NR	ND	ND	ND	3	0.8 J	1	1.5 J	1.4 J	2.2 J	ND	ND	0.36 J	0.86 J	ND
4-Methyl-2-pentanone	NR	NR	NR	NR	NR	NR	NR	NR	NR	ND	ND	ND	ND	ND	ND	ND	ND
Acetone	NR	NR	NR	13	6	6	17	4	3	65	27	5.4 J	3.6 J	5.1 J	12 J	11 J	9.5 J
alpha-Chlorotoluene	NR	NR	NR	ND	ND	ND	0.6 J	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Acrylonitrile	NR	NR	NR	ND	ND	ND	0.4 U	0.4 J	ND	NR	NR	NR	NR	NR	NR	NR	NR
Benzene	NR	NR	NR	2	ND	ND	1	0.6 J	0.5 J	ND	ND	0.97 J	ND	ND	ND	ND	0.48 J
Benzyl Chloride	NR	NR	NR	ND	ND	ND	ND	ND	ND	NR	NR	NR	NR	NR	NR	NR	NR
Bromodichloromethane	NR	NR	NR	ND	ND	ND	1 U	0.8 U	ND	ND	ND	ND	ND	ND	ND	ND	ND
Bromoform	NR	NR	NR	ND	ND	ND	1 U	1 U	ND	ND	ND	ND	ND	ND	ND	ND	ND
Bromomethane	NR	NR	NR	ND	ND	ND	0.6 J	0.6 J	0.4 J	ND	ND	ND	ND	ND	ND	ND	1.7 J
Carbon Disulfide	NR	NR	NR	ND	ND	ND	0.6 J	0.6 J	0.5 J	ND	ND	1.9 J	ND	ND	1.4 J	ND	ND
Carbon Tetrachloride	NR	NR	NR	ND	ND	ND	1	1 J	0.9 J	ND	ND	ND	ND	ND	ND	ND	ND
Chlorobenzene	NR	NR	NR	ND	ND	ND	0.6 J	0.5 J	0.5 J	ND	ND	2.8 J, B	ND	ND	ND	ND	ND
Chlorodibromomethane	NR	NR	NR	ND	ND	ND	1 U	0.9 J	ND	NR	NR	NR	NR	NR	NR	NR	NR
Chloroethane	NR	NR	NR	ND	ND	ND	0.5 J	0.5 J	0.3 J	ND	ND	ND	ND	ND	ND	ND	ND
Chloroform	NR	NR	NR	ND	ND	ND	0.8 J	3	2	19	1.1 J	2.3 J	ND	ND	1.3 J	ND	ND
Chloromethane	NR	NR	NR	1	1	1	1	0.4	0.4 J	ND	ND	ND	ND	ND	ND	ND	ND
cis-1,2-Dichloroethene	58	ND	ND	1	ND	1	0.5 J	16	12	18	16	19	6.0	2.4 J	5.0	11	15
cis-1,3-Dichloropropene	NR	NR	NR	ND	ND	ND	0.5 U	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Cumene	NR	NR	NR	NR	NR	NR	NR	NR	NR	ND	ND	ND	ND	ND	ND	ND	ND
Cyclohexane	NR	NR	NR	1	ND	ND	0.8	0.5 J	ND	ND	ND	0.47 J	ND	ND	ND	ND	ND
Dichlorodifluoromethane	NR	NR	NR	3	2	2	3	2	2	ND	ND	ND	ND	ND	ND	ND	ND
Diisopropyl ether	NR	NR	NR	3	ND	ND	ND	ND	ND	NR	NR	NR	NR	NR	NR	NR	NR
Ethanol	NR	NR	NR	17	3	6	14	2	1	ND	5.9 J	3.6 J	ND	2.6 J	3.4 J	ND	ND
Ethyl Acetate	NR	NR	NR	3	ND	ND	ND	ND	ND	NR	NR	NR	NR	NR	NR	NR	NR
Ethyl tert-butyl ether	NR	NR	NR	ND	ND	ND	0.6 U	0.5 J	ND	NR	NR	NR	NR	NR	NR	NR	NR
Ethylbenzene	NR	NR	NR	1	ND	ND	3	0.8 J	1	ND	ND	2.2 J	ND	ND	ND	ND	ND
Freon 11	NR	NR	NR	NR	NR	NR	NR	NR	NR	ND	1.2 J	2.4 J	1.3 J	1.4 J	1.8 J	1.7 J	1.4 J
Freon 113	NR	NR	NR	ND	ND	ND	2	2	1 J	ND	ND	1.1 J	ND	ND	ND	ND	ND
Freon 114	NR	NR	NR	ND	ND	ND	1 U	1 J	0.8 J	ND	ND	ND	ND	ND	ND	ND	ND
Freon 12	NR	NR	NR	NR	NR	NR	NR	NR	NR	2.0 J	2.5 J	2.3 J	2.2 J	2.5 J	2.3 J	2.3 J	2.8 J
Heptane	NR	NR	NR	2	ND	ND	1	0.5 J	ND	ND	ND	ND	ND	ND	ND	ND	ND
Hexachlorobutadiene	NR	NR	NR	ND	ND	ND	2 J	1 J	1 J	ND	ND	ND	ND	ND	ND	ND	ND
Hexane	NR	NR	NR	6	ND	ND	3	1	0.6 J	ND	ND	0.84 J	ND	ND	ND	ND	ND
Iso-Octane	NR	NR	NR	2	ND	ND	1	0.7 J	0.5 J	NR	NR	NR	NR	NR	NR	NR	NR
Isopropylbenzene	NR	NR	NR	ND	ND	ND	0.8 J	0.6 J	ND	NR	NR	NR	NR	NR	NR	NR	NR
Isopropyl alcohol	NR	NR	NR	4	ND	3	2	1	0.5 J	NR	NR	NR	NR	NR	NR	NR	NR
m,p-Xylene	NR	NR	NR	NR	NR	NR	NR	NR	NR	1.8 J	1.6 U	3.9	ND	ND	ND	ND	ND
Methyl Methacrylate	NR	NR	NR	ND	ND	ND	0.5 J	0.4 J	ND	NR	NR	NR	NR	NR	NR	NR	NR
Methyl-tert-Butyl-Ether	NR	NR	NR	1	ND	ND	0.7 J	0.7 J	0.6 J	ND	ND	ND	ND	ND	ND	ND	ND
Methylene Chloride	NR	NR	NR	29	ND	2	5	4	1	9.0	1.0 J	0.99 J	ND	0.51 J	ND	ND	ND
MIBK	NR	NR	NR	ND	ND	ND	ND	0.5 J	ND	NR	NR	NR	NR	NR	NR	NR	NR
Naphthalene	NR	NR	NR	ND	ND	ND	7	0.9 J	2	NR	NR	NR	NR	NR	NR	NR	NR
n-Butane	NR	NR	NR	3	1	1	3	0.6	ND	NR	NR	NR	NR	NR	NR	NR	NR
o-Xylene	NR	NR	NR	NR	NR	NR	NR	NR	NR	ND	1.2 J	2.1 J	ND	ND	ND	ND	ND
p-Isopropyltoluene	NR	NR	NR	ND	ND	ND	0.9 J	0.6 J	ND	NR	NR	NR	NR	NR	NR	NR	NR
n-Propylbenzene	NR	NR	NR	ND	ND	ND	2	0.7 J	0.9 J	ND	0.45 J	0.80 J	ND	ND	ND	ND	ND
Propylene	NR	NR	NR	ND	ND	ND	2	ND	ND	NR	NR	NR	NR	NR	NR	NR	NR
Styrene	NR	NR	NR	ND	ND	ND	0.6 J	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
tert-Amyl methyl ether	NR	NR	NR	ND	ND	ND	0.6 J	0.5 J	ND	NR	NR	NR	NR	NR	NR	NR	NR
tert-Butyl Alcohol	NR	NR	NR	ND	ND	ND	0.8	0.7	0.9	NR	NR	NR	NR	NR	NR	NR	NR
Tetrachloroethene	580	ND	ND	ND	ND	2	1 J	420	590	140	200	430	120	40	78	220	200
Tetrahydrofuran	NR	NR	NR	1	ND	ND	4	1	1	3.4 J	2.9	3.6	0.71 J	1.1 J	ND	0.75 J	ND
Toluene	NR	NR	NR	6	ND	1	6	0.9	1	ND	0.65 J	7.1	0.45 J	0.58 J	0.51 J	ND	0.47 J
Total Xylenes	NR	NR	NR	6	ND	ND	15	3	5	NR	NR	NR	NR	NR	NR	NR	NR
trans-1,2-Dichloroethene	580	ND	ND	ND	ND	ND	0.6 J	1	1	ND	ND	ND	ND	ND	ND	ND	0.85 J
trans-1,3-Dichloropropene	NR	NR	NR	ND	ND	ND	0.5 U	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Trichloroethene	900	0.9	ND	ND	ND	ND	0.9 J	100	97	29	47	130	48	16	35	95	78
Trichlorofluoromethane	NR	NR	NR	2	ND	1	2	2	2	NR	NR	NR	NR	NR	NR	NR	NR
Vinyl Acetate	NR	NR	NR	3	ND	ND	ND	ND	ND	NR	NR	NR	NR	NR	NR	NR	NR
Vinyl Bromide	NR	NR	NR	ND	ND	ND	0.7 J	0.7 J	ND	NR	NR	NR	NR	NR	NR	NR	NR
Vinyl Chloride	ND	ND	ND	ND	ND	ND	0.4 J	0.4 J	0.3 J	ND	ND	ND	ND	ND	ND	ND	ND

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

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

Sample ID	SVE 1090																
Sample Date	12/21/09	03/31/10	06/09/10	09/16/10	12/08/10	03/30/11	06/28/11	09/06/11	10/14/11	02/10/12	05/11/12	09/11/12	12/05/12	01/15/13	05/16/13	08/27/13	11/08/13
Analysis by TO-15 (µg/m³)																	
1,1,1-Trichloroethane	3000	1100	230	ND	13	ND	2 J	20	31	7.4 J	6.9 J	22	190	ND	ND	170	200
1,1,2,2-Tetrachloroethane	NR	NR	NR	ND	ND	ND	2 J	2 J	12 J	ND	ND	ND	ND	ND	ND	ND	ND
1,1,2-Trichloroethane	NR	NR	NR	ND	ND	ND	1 J	2 J	10 J	ND	ND	ND	ND	ND	ND	ND	ND
1,1-Dichloroethane	82	69	ND	ND	2	2	1 J	4	9	1.6 J	1.5 J	1.9 J	10 J	ND	10	10 J	20 J
1,1-Dichloroethene	ND	ND	ND	ND	ND	ND	1 J	2	6 J	ND	ND	ND	ND	ND	ND	ND	ND
1,2,3-Trichloropropane	NR	NR	NR	ND	ND	ND	2 J	2 J	11 J	NR	NR	NR	NR	NR	NR	NR	NR
1,2,3-Trimethylbenzene	NR	NR	NR	5	ND	2	4	ND	7 J	NR	NR	NR	NR	NR	NR	NR	NR
1,2,4-Trichlorobenzene	NR	NR	NR	ND	ND	ND	ND	ND	9 J	ND	ND	ND	ND	ND	3.2 J	ND	ND
1,2,4-Trimethylbenzene	NR	NR	NR	8	2	7	12	ND	9 J	ND	2.4 J	3.2 J	ND	ND	ND	ND	ND
1,2-Dibromoethane	NR	NR	NR	ND	ND	ND	2 J	2 J	11 J	ND	ND	ND	ND	ND	ND	ND	ND
1,2-Dichlorobenzene	NR	NR	NR	ND	ND	ND	ND	ND	9 J	ND	ND	ND	ND	ND	ND	ND	ND
1,2-Dichloroethane	NR	ND	ND	ND	ND	ND	1 J	1 J	6 J	ND	ND	ND	ND	ND	ND	ND	ND
1,2-Dichloropropane	NR	NR	NR	ND	ND	ND	1 J	1 J	8 J	ND	ND	ND	ND	ND	ND	ND	ND
1,3,5-Trimethylbenzene	NR	NR	NR	ND	ND	2	3	ND	8 J	ND	ND	ND	ND	ND	ND	ND	ND
1,3-Butadiene	NR	NR	NR	ND	ND	ND	1	0.8 J	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,3-Dichlorobenzene	NR	NR	NR	ND	ND	ND	ND	ND	8 J	ND	ND	ND	ND	ND	ND	ND	ND
1,4-Dichlorobenzene	NR	NR	NR	ND	ND	ND	ND	ND	8 J	ND	ND	2.6 J	ND	ND	ND	ND	ND
1,4-Dioxane	NR	NR	NR	ND	ND	ND	0.9 J	1	6 J	ND	ND	ND	ND	ND	ND	ND	ND
2,2,4-Trimethylpentane	NR	NR	NR	NR	NR	NR	NR	NR	NR	ND	ND	2.1 J	ND	ND	ND	ND	ND
2-Butanone	NR	NR	NR	4	1	4	5	2	6 J	ND	ND	ND	ND	ND	ND	ND	ND
2-Hexanone	NR	NR	NR	ND	ND	ND	1 J	1 J	5 J	ND	ND	ND	ND	ND	ND	ND	ND
2-Propanol	NR	NR	NR	NR	NR	NR	NR	NR	NR	ND	ND	5.5 J	ND	ND	ND	ND	ND
3-Chloro-1-propene	NR	NR	NR	ND	ND	ND	0.8 J	1 J	4 J	ND	ND	ND	ND	ND	ND	ND	ND
4-Ethyltoluene	NR	NR	NR	ND	ND	ND	3	ND	8 J	ND	1.2 J	ND	ND	ND	ND	ND	ND
4-Methyl-2-pentanone	NR	NR	NR	NR	NR	NR	NR	NR	NR	ND	ND	ND	ND	ND	ND	ND	ND
Acetone	NR	NR	NR	10	6	21	19	9	10	13 J	11 J	10 J	7.0 J	8.0 J	12 J	ND	ND
alpha-Chlorotoluene	NR	NR	NR	ND	ND	ND	ND	ND	8 J	ND	ND	ND	ND	ND	ND	ND	ND
Acrylonitrile	NR	NR	NR	ND	ND	ND	0.5 J	0.8 J	ND	NR	NR	NR	NR	NR	NR	NR	NR
Benzene	NR	NR	NR	ND	ND	12	1	1 J	6 J	ND	ND	ND	ND	0.76 J	ND	ND	ND
Benzyl Chloride	NR	NR	NR	ND	ND	ND	ND	ND	ND	NR	NR	NR	NR	NR	NR	NR	NR
Bromodichloromethane	NR	NR	NR	ND	ND	ND	2 J	2 J	ND	ND	ND	ND	ND	ND	ND	ND	ND
Bromoform	NR	NR	NR	ND	ND	ND	ND	2 J	14 J	ND	ND	ND	ND	ND	ND	ND	ND
Bromomethane	NR	NR	NR	ND	ND	ND	1 J	1 J	6 J	ND	ND	ND	ND	ND	ND	ND	ND
Carbon Disulfide	NR	NR	NR	ND	ND	ND	1 J	1 J	6 J	ND	ND	5.4 J	ND	ND	2.4 J	ND	ND
Carbon Tetrachloride	NR	NR	NR	ND	ND	ND	2 J	2 J	12 J	ND	ND	ND	ND	ND	ND	ND	ND
Chlorobenzene	NR	NR	NR	ND	ND	ND	1 J	1 J	8 J	ND	ND	11 J, B	ND	ND	ND	ND	ND
Chlorodibromomethane	NR	NR	NR	ND	ND	ND	2 J	2 J	14 J	NR	NR	NR	NR	NR	NR	NR	NR
Chloroethane	NR	NR	NR	ND	ND	ND	0.9 J	1 J	5 J	ND	ND	ND	ND	ND	ND	ND	ND
Chloroform	NR	NR	NR	ND	1	ND	1 J	6	29	3.6 J	1.6	9.3 J	ND	ND	1.7 J	ND	5.0 J
Chloromethane	NR	NR	NR	3	0.7	1	2	0.9	4 J	ND	ND	ND	ND	ND	ND	ND	ND
cis-1,2-Dichloroethene	420	1500	370	ND	92	ND	1 J	360	160	290	230	300	750	ND	550	700	2600
cis-1,3-Dichloropropene	NR	NR	NR	ND	ND	ND	ND	1 J	6 J	ND	ND	ND	ND	ND	ND	ND	ND
Cumene	NR	NR	NR	NR	NR	NR	NR	NR	NR	ND	NO	ND	ND	ND	ND	ND	ND
Cyclohexane	NR	NR	NR	ND	ND	5	1 J	0.9 J	5 J	ND	ND	ND	ND	ND	ND	ND	ND
Dichlorodifluoromethane	NR	NR	NR	6	2	2	4	3	10	ND	ND	NO	ND	NO	ND	ND	ND
Diisopropyl ether	NR	NR	NR	5	ND	ND	ND	1 J	6 J	NR	NR	NR	NR	NR	NR	NR	NR
Ethanol	NR	NR	NR	6	5	56	10	2	9	5.5 J	ND	ND	ND	3.8 J	ND	ND	ND
Ethyl Acetate	NR	NR	NR	5	ND	ND	ND	NO	ND	NR	NR	NR	NR	NR	NR	NR	NR
Ethyl tert-butyl ether	NR	NR	NR	ND	ND	ND	1 J	1 J	5 J	NR	NR	NR	NR	NR	NR	NR	NR
Ethylbenzene	NR	NR	NR	ND	ND	8	3	0.9 J	7 J	NO	ND	2.3 J	ND	ND	ND	ND	ND
Freon 11	NR	NR	NR	NR	NR	NR	NR	NR	NR	NO	ND	3.1 J	ND	ND	1.1 J	1.4 J	ND	ND
Freon 113	NR	NR	NR	ND	10	10	3 J	12	20	ND	ND	ND	68	ND	39	35	120
Freon 114	NR	NR	NR	ND	ND	ND	2 J	2 J	12 J	ND	NO	ND	NO	NO	ND	ND	ND
Freon 12	NR	NR	NR	NR	NR	NR	NR	NR	NR	NO	ND	2.9 J	ND	2.7 J	2.6 J	ND	ND
Heptane	NR	NR	NR	ND	ND	8	1 J	1 J	5 J	ND	NO	ND	ND	ND	ND	ND	ND
Hexachlorobutadiene	NR	NR	NR	ND	ND	ND	4 J	3 J	12 J	ND	ND	ND	ND	ND	ND	NO	ND
Hexane	NR	NR	NR	3	1	20	2	3	6 J	ND	ND	ND	ND	ND	NO	ND	ND
Iso-Octane	NR	NR	NR	ND	ND	ND	1 J	1 J	8 J	NR	NR	NR	NR	NR	NR	NR	NR
Isopropylbenzene	NR	NR	NR	ND	ND	ND	1 J	1 J	8 J	NR	NR	NR	NR	NR	NR	NR	NR
Isopropyl alcohol	NR	NR	NR	5	ND	5	2	2	5 J	NR	NR	NR	NR	NR	NR	NR	NR
m,p-Xylene	NR	NR	NR	NR	NR	NR	NR	NR	NR	ND	1.3 J	5.8 J	ND	ND	ND	ND	ND
Methyl Methacrylate	NR	NR	NR	ND	ND	ND	1 J	1 J	5 J	NR	NR	NR	NR	NR	NR	NR	NR
Methyl-tert-Butyl-Ether	NR	NR	NR	ND	ND	ND	1 J	2	6 J	ND	ND	ND	ND	ND	ND	ND	ND
Methylene Chloride	NR	NR	NR	7	3	4	4	19	12	ND	ND	ND	ND	2.0 J	ND	NO	ND
MIBK	NR	NR	NR	ND	ND	ND	1 J	1 J	6 J	NR	NR	NR	NR	NR	NR	NR	NR
Naphthalene	NR	NR	NR	ND	ND	ND	3	ND	5 J	NR	NR	NR	NR	NR	NR	NR	NR
n-Butane	NR	NR	NR	2	2	67	2	2	ND	NR	NR	NR	NR	NR	NR	NR	NR
o-Xylene	NR	NR	NR	NR	NR	NR	NR	NR	NR	ND	ND	ND	ND	ND	ND	ND	ND
p-Isopropyltoluene	NR	NR	NR	ND	ND	ND	1 J	ND	7 J	NR	NR	NR	NR	NR	NR	NR	NR
n-Propylbenzene	NR	NR	NR	ND	ND	1	2	ND	6 J	ND	ND	ND	ND	ND	ND	ND	ND
Propylene	NR	NR	NR	ND	ND	9	2	ND	ND	NR	NR	NR	NR	NR	NR	NR	NR
Styrene	NR	NR	NR	ND	ND	ND	ND	ND	5 J	ND	ND	ND	ND	ND	ND	ND	ND
tert-Amyl methyl ether	NR	NR	NR	ND	ND	ND	1 J	1 J	6 J	NR	NR	NR	NR	NR	NR	NR	NR
tert-Butyl Alcohol	NR	NR	NR	3	ND	ND	1 J	0.3 J	5 J	NR	NR	NR	NR	NR	NR	NR	NR
Tetrachloroethene	20000	28000	16000	9	1500	ND	3	1600	6700	3800	3200	4700	4800	1.6 J	3300	4900	17000
Tetrahydrofuran	NR	NR	NR	4	1	ND	6	2	6	2.0 J	ND	ND	ND	ND	ND	ND	ND
Toluene	NR	NR	NR	4	2	40	4	0.9 J	6 J	ND	ND	4.7 J	ND	3.8	ND	ND	ND
Total Xylenes	NR	NR	NR	ND	ND	34	16	3 J	21 J	NR	NR	NR	NR	NR	NR	NR	NR
trans-1,2-Dichloroethene	ND	24	ND	ND	1	ND	1 J	3	7 J	ND	ND	ND	8.8 J	ND	5.7 J	8.5 J	18 J
trans-1,3-Dichloropropene	NR	NR	NR	ND	ND	ND	ND	ND	5 J	ND	ND	ND	ND	ND	ND	ND	ND
Trichloroethene	3100	1600	640	7	92	ND	2 J	290	240	180	200	480	440	6.0	360	680	2100
Trichlorofluoromethane	NR	NR	NR	6	1	3	3	3	11	NR	NR	NR	NR	NR	NR	NR	NR
Vinyl Acetate	NR	NR	NR	4	ND	ND	ND	ND	ND	NR	NR	NR	NR	NR	NR	NR	NR
Vinyl Bromide	NR	NR	NR	ND	ND	ND	2 J	1 J	8 J	NR	NR	NR	NR	NR	NR	NR	NR
Vinyl Chloride	ND	5.9	ND	ND	2	ND	0.8 J	4	5 J	ND	ND	ND	ND	ND	1.9 J	ND	14 J

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

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

Sample ID	SVE 1041																	
Sample Date	12/21/09	03/31/10	06/09/10	09/16/10	12/08/10	03/30/11	06/28/11	09/06/11	10/14/11	02/10/12	05/11/12	09/11/12	12/05/12	03/15/13	05/16/13	08/27/13	11/08/13
Analysis by TO-15 (µg/m³)																	
1,1,1-Trichloroethane	730	4.2	ND	4	NR	NA	1 J	4	2	ND	ND	8.3	ND	ND	ND	3.1 J	2.6 J
1,1,2,2-Tetrachloroethane	NR	NR	NR	ND	ND	NA	1 J	0.7 J	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,1,2-Trichloroethane	NR	NR	NR	ND	ND	NA	1 J	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,1-Dichloroethane	24	0.54	ND	ND	ND	NA	1 J	0.6 J	0.5 J	ND	ND	ND	ND	ND	ND	ND	ND
1,1-Dichloroethene	ND	ND	ND	ND	ND	NA	1 J	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,2,3-Trichloropropane	NR	NR	NR	ND	ND	NA	1 J	ND	ND	NR	NR	NR	NR	NR	NR	NR	NR
1,2,3-Trimethylbenzene	NR	NR	NR	4	ND	NA	ND	ND	0.7 J	NR	NR	NR	NR	NR	NR	NR	NR
1,2,4-Trichlorobenzene	NR	NR	NR	ND	ND	NA	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,2,4-Trimethylbenzene	NR	NR	NR	12	1	NA	ND	ND	2	ND	ND	2.2 J	ND	ND	ND	ND	ND
1,2-Dibromoethane	NR	NR	NR	ND	ND	NA	2 J	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,2-Dichlorobenzene	NR	NR	NR	ND	ND	NA	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,2-Dichloroethane	NR	ND	ND	ND	ND	NA	1 J	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,2-Dichloropropane	NR	NR	NR	ND	ND	NA	1 J	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,3,5-Trimethylbenzene	NR	NR	NR	3	ND	NA	ND	ND	0.5 J	ND	ND	0.75 J	ND	ND	ND	ND	ND
1,3-Butadiene	NR	NR	NR	ND	ND	NA	1	0.4 J	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,3-Dichlorobenzene	NR	NR	NR	ND	ND	NA	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,4-Dichlorobenzene	NR	NR	NR	ND	ND	NA	ND	ND	ND	ND	ND	ND	0.41 J	0.48 J	ND	ND	ND
1,4-Dioxane	NR	NR	NR	ND	ND	NA	0.8 J	0.4 J	ND	ND	ND	ND	ND	ND	ND	ND	ND
2,2,4-Trimethylpentane	NR	NR	NR	NR	NR	NR	NR	NR	NR	ND	ND	ND	ND	ND	1.1 J	ND	ND
2-Butanone	NR	NR	NR	3	0.6	NA	3	1	0.8	ND	ND	ND	ND	ND	ND	ND	ND
2-Hexanone	NR	NR	NR	ND	ND	NA	0.9 J	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
2-Propanol	NR	NR	NR	NR	NR	NR	NR	NR	NR	ND	ND	ND	ND	ND	1.9 J	ND	ND
3-Chloro-1-propene	NR	NR	NR	ND	ND	NA	0.9	0.3 J	ND	ND	ND	ND	ND	ND	ND	ND	ND
4-Ethyltoluene	NR	NR	NR	2	ND	NA	ND	ND	ND	ND	ND	1.9 J	ND	ND	0.43 J	ND	ND
4-Methyl-2-pentanone	NR	NR	NR	NR	NR	NR	NR	NR	NR	ND	ND	ND	ND	ND	ND	ND	ND
Acetone	NR	NR	NR	11	3	NA	21	5	5	4.8 J	6.5 J	6.5 J	8.4 J	5.9 J	13 J	12 J	9.6 J
alpha-Chlorotoluene	NR	NR	NR	ND	ND	NA	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Acrylonitrile	NR	NR	NR	ND	ND	NA	0.5 J	0.3 J	ND	NR	NR	NR	NR	NR	NR	NR	NR
Benzene	NR	NR	NR	1	ND	NA	1 J	0.4 J	0.4 J	ND	ND	ND	0.66 J	0.53 J	1.1 J	ND	0.42 J
Benzyl Chloride	NR	NR	NR	ND	ND	NA	ND	ND	ND	NR	NR	NR	NR	NR	NR	NR	NR
Bromodichloromethane	NR	NR	NR	ND	ND	NA	2 J	0.8 J	ND	ND	ND	ND	ND	ND	ND	ND	ND
Bromoform	NR	NR	NR	ND	ND	NA	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Bromomethane	NR	NR	NR	ND	ND	NA	1 J	0.4 J	ND	ND	ND	ND	ND	1.9 J	ND	ND	ND
Carbon Disulfide	NR	NR	NR	ND	ND	NA	1 J	0.5 J	0.5 J	ND	ND	5.2 J	ND	ND	1.1 J	ND	ND
Carbon Tetrachloride	NR	NR	NR	ND	ND	NA	2 J	1 J	1 J	ND	ND	ND	ND	ND	ND	ND	ND
Chlorobenzene	NR	NR	NR	ND	ND	NA	1 J	0.5 J	ND	ND	ND	2.3 J, B	ND	ND	ND	ND	ND
Chlorodibromomethane	NR	NR	NR	ND	ND	NA	2 J	ND	ND	NR	NR	NR	NR	NR	NR	NR	NR
Chloroethane	NR	NR	NR	ND	ND	NA	0.9 J	0.3 J	ND	ND	ND	ND	ND	ND	ND	ND	ND
Chloroform	NR	NR	NR	2	ND	NA	1 J	3	1	ND	ND	2.8 J	ND	ND	ND	ND	ND
Chloromethane	NR	NR	NR	ND	0.5	NA	2	0.5	0.8	ND	ND	ND	ND	ND	ND	ND	ND
cis-1,2-Dichloroethene	110	14	ND	2	0.8	NA	0.9 J	2	3	0.90 J	ND	5.0	ND	2.7 J	ND	3.3	5.3
cis-1,3-Dichloropropene	NR	NR	NR	ND	ND	NA	1 J	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Cumene	NR	NR	NR	NR	NR	NR	NR	NR	NR	ND	ND	ND	ND	ND	ND	ND	ND
Cyclohexane	NR	NR	NR	0.8	ND	NA	1 J	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Dichlorodifluoromethane	NR	NR	NR	2	2	NA	3	2	2	ND	ND	ND	ND	ND	ND	ND	ND
Diisopropyl ether	NR	NR	NR	5	ND	NA	ND	ND	ND	NR	NR	NR	NR	NR	NR	NR	NR
Ethanol	NR	NR	NR	19	1	NA	12	2	3	ND	1.2 J	ND	4.2 J	ND	7.0	ND	3.4 J
Ethyl Acetate	NR	NR	NR	5	ND	NA	ND	ND	ND	NR	NR	NR	NR	NR	NR	NR	NR
Ethyl tert-butyl ether	NR	NR	NR	ND	ND	NA	1 J	ND	ND	NR	NR	NR	NR	NR	NR	NR	NR
Ethylbenzene	NR	NR	NR	2	ND	NA	1 J	0.6 J	0.6 J	ND	ND	0.89 J	ND	ND	ND	ND	ND
Freon 11	NR	NR	NR	NR	NR	NR	NR	NR	NR	1.2 J	1.0 J	1.6 J	1.3 J	1.2 J	1.6 J	1.0 J	1.4 J
Freon 113	NR	NR	NR	ND	ND	NA	3 J	2	2	ND	ND	3.0 J	ND	3.6 J	ND	2.3 J	7.7
Freon 114	NR	NR	NR	ND	ND	NA	2 J	0.3 J	0.7 J	ND	ND	ND	ND	ND	ND	ND	ND
Freon 12	NR	NR	NR	NR	NR	NR	NR	NR	NR	2.4 J	2.1 J	2.6 J	2.5 J	2.6 J	2.9 J	2.4 J	3.0 J
Heptane	NR	NR	NR	1	ND	NA	1 J	ND	ND	ND	ND	ND	2.6 J	ND	ND	ND	ND
Hexachlorobutadiene	NR	NR	NR	ND	ND	NA	2 J	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Hexane	NR	NR	NR	10	ND	NA	12	0.5 J	0.4 J	0.82 J	ND	ND	3.4	ND	0.89 J	ND	0.74 J
iso-Octane	NR	NR	NR	ND	ND	NA	1 J	0.5 J	0.5 J	NR	NR	NR	NR	NR	NR	NR	NR
Isopropylbenzene	NR	NR	NR	ND	ND	NA	1 J	ND	ND	NR	NR	NR	NR	NR	NR	NR	NR
Isopropyl alcohol	NR	NR	NR	6	ND	NA	7	0.7	0.5	NR	NR	NR	NR	NR	NR	NR	NR
m,p-Xylene	NR	NR	NR	NR	NR	NA	NR	NR	NR	ND	ND	2.4 J	ND	3.1 J	1.8 J	ND	0.76 J
Methyl Methacrylate	NR	NR	NR	NR	ND	NA	0.9 J	ND	ND	NR	NR	NR	NR	NR	NR	NR	NR
Methyl-tert-Butyl-Ether	NR	NR	NR	1	ND	NA	4	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Methylene Chloride	NR	NR	NR	51	ND	NA	65	1	0.9	2.6	ND	ND	0.57 J	0.43 J	ND	ND	ND
MIBK	NR	NR	NR	ND	ND	NA	1 J	ND	ND	NR	NR	NR	NR	NR	NR	NR	NR
Napnthalene	NR	NR	NR	ND	ND	NA	ND	ND	0.7 J	NR	NR	NR	NR	NR	NR	NR	NR
n-Butane	NR	NR	NR	2	0.6	NA	2	0.5 J	ND	NR	NR	NR	NR	NR	NR	NR	NR
o-Xylene	NR	NR	NR	NR	NR	NA	NR	NR	NR	ND	ND	1.2 J	ND	ND	ND	ND	ND
p-Isopropyltoluene	NR	NR	NR	ND	ND	NA	ND	ND	ND	NR	NR	NR	NR	NR	NR	NR	NR
n-Propylbenzene	NR	NR	NR	1	ND	NA	ND	ND	ND	ND	ND	0.60 J	ND	ND	ND	ND	ND
Propylene	NR	NR	NR	ND	ND	NA	ND	ND	0.4	NR	NR	NR	NR	NR	NR	NR	NR
Styrene	NR	NR	NR	ND	ND	NA	ND	ND	ND	ND	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	NR	NR	NR	NR
tert-Butyl Alcohol	NR	NR	NR	ND	ND	NA	0.9 J	0.3 J	0.3 J	NR	NR	NR	NR	NR	NR	NR	NR
Tetrachloroethene	3100	210	68	96	16	NA	2 J	54	33	1.2	ND	86	1.6 J	4.8 J	2.3 J	30	35
Tetrahydrofuran	NR	NR	NR	4	1	NA	1	1	0.8	0.58 J	ND	1.4 J	ND	ND	ND	0.74 J	1.1 J
Toluene	NR	NR	NR	7	ND	NA	2	1	0.6 J	0.59 J	ND	0.68 J	1.5 J	0.54 J	5.1	ND	3.2
Total Xylenes	NR	NR	NR	12	ND	NA	3 J	3	2 J	NR	NR	NR	NR	NR	NR	NR	NR
trans-1,2-Dichloroethene	15	ND	ND	ND	ND	NA	1 J	0.5 J	0.4 J	ND	ND	ND	ND	ND	ND	ND	ND
trans-1,3-Dichloropropene	NR	NR	NR	ND	ND	NA	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Trichloroethene	710	44	60	72	12	NA	2 J	44	25	9.6	ND	73	ND	3.1 J	ND	30	31
Trichlorofluoromethane	NR	NR	NR	2	ND	NA	3	2	2	NR	NR	NR	NR	NR	NR	NR	NR
Vinyl Acetate	NR	NR	NR	2	ND	NA	ND	ND	0.5 J	NR	NR	NR	NR	NR	NR	NR	NR
Vinyl Bromide	NR	NR	NR	ND	ND	NA	1 J	0.5 J	ND	NR	NR	NR	NR	NR	NR	NR	NR
Vinyl Chloride	ND	0.47	ND	ND	ND	NA	0.7 J	0.3 J	0.3 J	ND	ND	ND	ND	ND	ND	ND	ND

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

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

Sample ID	SVE 1040																	
Sample Date	12/21/09	03/31/10	06/09/10	09/16/10	12/22/10	03/30/11	06/28/11	09/06/11	10/14/11	02/10/12	05/11/12	08/11/12	12/05/12	01/15/13	05/16/13	08/27/13	11/08/13
Analysis by TO-15 (µg/m³)																	
1,1,1-Trichloroethane	3600	3000	860	ND	270	ND	370	620	440	520	580	620	920	820	0.85 J	500	600
1,1,2,2-Tetrachloroethane	NR	NR	NR	ND	ND	ND	1 J	ND	9 J	ND	ND	ND	ND	ND	ND	ND	ND
1,1,2-Trichloroethane	NR	NR	NR	ND	ND	ND	2 J	7 J	7 J	ND	ND	ND	ND	ND	ND	ND	ND
1,1-Dichloroethane	290	350	140	ND	66	ND	56	110	77	87	95	100	190	160	ND	95	130
1,1-Dichloroethene	ND	ND	ND	ND	ND	ND	3	7 J	7 J	3.0 J	5.0 J	ND	11 J	ND	ND	ND	ND
1,2,3-Trichloropropane	NR	NR	NR	ND	ND	ND	2 J	7 J	7 J	NR	NR	NR	NR	NR	NR	NR	NR
1,2,3-Trimethylbenzene	NR	NR	NR	ND	ND	ND	7	ND	6 J	NR	NR	NR	NR	NR	NR	NR	NR
1,2,4-Trichlorobenzene	NR	NR	NR	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	1.7 J	ND	ND
1,2,4-Trimethylbenzene	NR	NR	NR	3	ND	ND	21	ND	7 J	ND	4.0 J	2.5 J	ND	ND	1.3 J	ND	ND
1,2-Dibromoethane	NR	NR	NR	ND	ND	ND	2 J	ND	9 J	ND	ND	ND	ND	ND	ND	ND	ND
1,2-Dichlorobenzene	NR	NR	NR	ND	ND	ND	1 J	ND	7 J	ND	ND	ND	ND	ND	ND	ND	ND
1,2-Dichloroethane	NR	ND	ND	ND	ND	ND	1 J	5 J	5 J	ND	ND	ND	ND	ND	ND	ND	ND
1,2-Dichloropropane	NR	NR	NR	ND	ND	ND	2 J	6 J	5 J	ND	ND	ND	ND	ND	ND	ND	ND
1,3,5-Trimethylbenzene	NR	NR	NR	ND	ND	ND	4	ND	5 J	ND	ND	ND	ND	ND	ND	ND	ND
1,3-Butadiene	NR	NR	NR	ND	ND	ND	ND	3 J	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,3-Dichlorobenzene	NR	NR	NR	ND	ND	ND	1 J	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,4-Dichlorobenzene	NR	NR	NR	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.87 J	ND	ND
1,4-Dioxane	NR	NR	NR	ND	ND	ND	2	9	4 J	ND	ND	ND	ND	ND	ND	ND	ND
2,2,4-Trimethylpentane	NR	NR	NR	NR	NR	NR	NR	NR	NR	ND	ND	ND	ND	ND	ND	ND	ND
2-Butanone	NR	NR	NR	ND	ND	ND	7	5 J	3 J	ND	ND	ND	ND	ND	3.1 J	ND	ND
2-Hexanone	NR	NR	NR	ND	ND	ND	1 J	8	ND	ND	ND	ND	ND	ND	ND	ND	ND
2-Propanol	NR	NR	NR	NR	NR	NR	NR	NR	NR	ND	ND	ND	ND	ND	ND	ND	8.1 J
3-Chloro-1-propene	NR	NR	NR	ND	ND	ND	1 J	4 J	ND	ND	ND	ND	ND	ND	ND	ND	ND
4-Ethyltoluene	NR	NR	NR	ND	ND	ND	4	ND	5 J	ND	1.7 J	ND	ND	ND	1.0 J	ND	ND
4-Methyl-2-pentanone	NR	NR	NR	NR	NR	NR	NR	NR	NR	ND	ND	ND	ND	ND	ND	ND	ND
Acetone	NR	NR	NR	10	ND	6	26	10	8	46	12 J	ND	7.4 J	ND	30	6.4 J	12 J
alpha-Chlorotoluene	NR	NR	NR	ND	ND	ND	1 J	ND	5 J	ND	ND	ND	ND	ND	ND	ND	ND
Acrylonitrile	NR	NR	NR	ND	ND	ND	0.8 J	4	ND	NR	NR	NR	NR	NR	NR	NR	NR
Benzene	NR	NR	NR	ND	ND	ND	2	4 J	4 J	ND	ND	1.5 J	ND	ND	1.2 J	ND	ND
Benzyl Chloride	NR	NR	NR	ND	ND	ND	1 J	ND	ND	NR	NR	NR	NR	NR	NR	NR	NR
Bromodichloromethane	NR	NR	NR	ND	ND	ND	2 J	8 J	7 J	ND	ND	ND	ND	ND	ND	ND	ND
Bromoform	NR	NR	NR	ND	ND	ND	3 J	ND	11 J	ND	ND	ND	ND	ND	ND	ND	ND
Bromomethane	NR	NR	NR	ND	ND	ND	1 J	6 J	5 J	ND	ND	ND	ND	ND	ND	ND	5.6 J
Carbon Disulfide	NR	NR	NR	ND	ND	ND	1	5 J	4 J	ND	ND	6.3 J	ND	ND	1.2 J	ND	ND
Carbon Tetrachloride	NR	NR	NR	ND	ND	ND	3	9 J	8 J	ND	ND	ND	ND	ND	ND	ND	ND
Chlorobenzene	NR	NR	NR	ND	ND	ND	1 J	ND	5 J	ND	ND	10 J, B	ND	ND	ND	ND	ND
Chlorodibromomethane	NR	NR	NR	ND	ND	ND	2 J	9 J	10 J	NR	NR	NR	NR	NR	NR	NR	NR
Chloroethane	NR	NR	NR	ND	ND	ND	1 J	4 J	4 J	ND	ND	ND	ND	ND	ND	ND	ND
Chloroform	NR	NR	NR	ND	ND	ND	3	10	9 J	ND	2.2 J	5.8 J	ND	ND	ND	12	4.0 J
Chloromethane	NR	NR	NR	0.9	ND	ND	2	3 J	3 J	ND	ND	ND	ND	ND	ND	ND	ND
cis-1,2-Dichloroethene	2400	6600	3500	ND	1200	ND	1000	3600	2100	2200	2800 J	2200	4200	3700	8.6	2000	3200
cis-1,3-Dichloropropene	NR	NR	NR	ND	ND	ND	1 J	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Cumene	NR	NR	NR	NR	NR	NR	NR	NR	NR	ND	ND	ND	ND	ND	ND	ND	ND
Cyclohexane	NR	NR	NR	ND	ND	ND	2	4 J	ND	ND	ND	ND	ND	ND	ND	ND	17
Dichlorodifluoromethane	NR	NR	NR	2	ND	ND	4	9 J	8 J	ND	ND	ND	ND	ND	ND	ND	ND
Diisopropyl ether	NR	NR	NR	ND	ND	ND	ND	ND	ND	NR	NR	NR	NR	NR	NR	NR	NR
Ethanol	NR	NR	NR	4	4	6	20	10	ND	11 J	2.2 J	ND	ND	ND	6.9	ND	ND
Ethyl Acetate	NR	NR	NR	ND	ND	ND	ND	6 J	ND	NR	NR	NR	NR	NR	NR	NR	NR
Ethyl tert-butyl ether	NR	NR	NR	ND	ND	ND	1 J	4 J	ND	NR	NR	NR	NR	NR	NR	NR	NR
Ethylbenzene	NR	NR	NR	ND	ND	ND	4	ND	5 J	ND	ND	2.3 J	ND	ND	0.64 J	ND	ND
Freon 11	NR	NR	NR	NR	NR	NR	NR	NR	NR	ND	ND	ND	ND	ND	0.95 J	ND	ND
Freon 113	NR	NR	NR	ND	560	580	280	260	550	720	980	980	1900	1500	ND	1000	2400
Freon 114	NR	NR	NR	ND	ND	ND	2 J	10 J	9 J	ND	ND	ND	ND	ND	ND	ND	ND
Freon 12	NR	NR	NR	NR	NR	NR	NR	NR	NR	ND	ND	2.7 J	ND	3.2 J	2.2 J	2.6 J	6.3 J
Heptane	NR	NR	NR	ND	ND	ND	2	5 J	5 J	ND	ND	ND	ND	ND	0.76 J	ND	ND
Hexachlorobutadiene	NR	NR	NR	ND	ND	ND	5	ND	14 J	ND	ND	ND	ND	ND	ND	ND	ND
Hexane	NR	NR	NR	2	ND	2	7	5 J	4 J	ND	ND	ND	ND	ND	1.6 J	ND	4.5 J
Iso-Octane	NR	NR	NR	ND	ND	ND	3	7 J	6 J	NR	NR	NR	NR	NR	NR	NR	NR
Isopropylbenzene	NR	NR	NR	ND	ND	ND	2 J	ND	6 J	NR	NR	NR	NR	NR	NR	NR	NR
Isopropyl alcohol	NR	NR	NR	1	ND	ND	7	6	4 J	NR	NR	NR	NR	NR	NR	NR	NR
m,p-Xylene	NR	NR	NR	NR	NR	NR	NR	NR	NR	ND	1.1 J	3.8 J	ND	ND	1.9 J	ND	ND
Methyl Methacrylate	NR	NR	NR	ND	ND	ND	1 J	4 J	ND	NR	NR	NR	NR	NR	NR	NR	NR
Methyl-tert-Butyl-Ether	NR	NR	NR	ND	ND	ND	3	4 J	4 J	ND	ND	ND	ND	ND	ND	ND	ND
Methylene Chloride	NR	NR	NR	6	ND	14	28	9	6 J	ND	ND	ND	ND	ND	1.2 J	ND	ND
MIBK	NR	NR	NR	ND	ND	ND	1 J	5 J	ND	NR	NR	NR	NR	NR	NR	NR	NR
Naphthalene	NR	NR	NR	ND	ND	ND	7	ND	5 J	NR	NR	NR	NR	NR	NR	NR	NR
n-Butane	NR	NR	NR	ND	ND	3	5	4 J	ND	NR	NR	NR	NR	NR	NR	NR	NR
o-Xylene	NR	NR	NR	NR	NR	NR	NR	NR	NR	ND	ND	ND	ND	ND	0.92 J	ND	ND
p-Isopropyltoluene	NR	NR	NR	ND	ND	ND	2 J	ND	ND	NR	NR	NR	NR	NR	NR	NR	NR
n-Propylbenzene	NR	NR	NR	ND	ND	ND	3	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Propylene	NR	NR	NR	ND	ND	ND	ND	ND	3 J	NR	NR	NR	NR	NR	NR	NR	NR
Styrene	NR	NR	NR	ND	ND	ND	1 J	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
tert-Amyl methyl ether	NR	NR	NR	ND	ND	ND	1 J	5 J	4 J	NR	NR	NR	NR	NR	NR	NR	NR
tert-Butyl Alcohol	NR	NR	NR	ND	ND	ND	2	4 J	3 J	NR	NR	NR	NR	NR	NR	NR	NR
Tetrachloroethene	20000	39000	21000	ND	2400	ND	1400	5800	6300	3800	4300	4600	4500	4200	69	2600	3900
Tetrahydrofuran	NR	NR	NR	ND	ND	ND	7	4 J	3 J	2.8 J	ND	5.2 J	ND	ND	ND	ND	ND
Toluene	NR	NR	NR	ND	ND	ND	8	4 J	4 J	ND	ND	2.5 J	ND	ND	4.7	ND	75
Total Xylenes	NR	NR	NR	ND	ND	ND	20	ND	14 J	NR	NR	NR	NR	NR	NR	NR	NR
trans-1,2-Dichloroethene	130	70	30	ND	13	ND	14	25	22	26	31	27	55	40	ND	24	40
trans-1,3-Dichloropropene	NR	NR	NR	ND	ND	ND	1 J	ND	ND	ND	ND	ND	ND	ND	0.94 J	ND	ND
Trichloroethene	4600	6000	2400	ND	470	ND	420	1600	1300	1400	1400	1700	2300	2100	14	1200	1500
Trichlorofluoromethane	NR	NR	NR	ND	ND	ND	3	9 J	7 J	NR	NR	NR	NR	NR	NR	NR	NR
Vinyl Acetate	NR	NR	NR	ND	ND	ND	ND	5 J	4 J	NR	NR	NR	NR	NR	NR	NR	NR
Vinyl Bromide	NR	NR	NR	ND	ND	ND	2 J	6 J	ND	NR	NR	NR	NR	NR	NR	NR	NR
Vinyl Chloride	ND	12	ND	ND	ND	ND	2	5	5 J	ND	ND	ND	ND	ND	ND	ND	ND

Notes:

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

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

Sample ID	SVE 1051																	
Sample Date	12/21/09	03/31/10	06/09/10	09/16/10	12/08/10	03/30/11	06/28/11	09/06/11	10/14/11	02/10/12	05/11/12	09/11/12	12/05/12	01/15/13	05/16/13	08/27/13	11/08/13	
Analysis by TO-15 (µg/m³)																		
1,1,1-Trichloroethane	9.9	11	29	ND	24	1	1 J	21	31	11	13	26	22	22	11	24	18	
1,1,2,2-Tetrachloroethane	NR	NR	NR	ND	ND	ND	0.8 J	1 J	0.9 J	ND	ND	ND	ND	ND	ND	ND	ND	
1,1,2-Trichloroethane	NR	NR	NR	ND	ND	ND	0.7 J	0.8 J	0.9 J	ND	ND	ND	ND	ND	ND	ND	ND	
1,1-Dichloroethane	ND	5.7	13	ND	6	ND	0.6 J	5	7	4.2	5.6	5.6	10	12	8.8	8.0	7.4	
1,1-Dichloroethene	ND	ND	ND	ND	ND	ND	0.6 J	0.6 J	0.5 J	ND	ND	ND	ND	ND	ND	ND	ND	
1,2,3-Trichloropropane	NR	NR	NR	ND	ND	ND	0.7 J	0.8 J	0.9 J	NR	NR	NR	NR	NR	NR	NR	NR	
1,2,3-Trimethylbenzene	NR	NR	NR	14	ND	1	0.7 J	1	2	NR	NR	NR	NR	NR	NR	NR	NR	
1,2,4-Trichlorobenzene	NR	NR	NR	ND	ND	ND	ND	ND	1 J	ND	ND	ND	ND	ND	ND	ND	ND	
1,2,4-Trimethylbenzene	NR	NR	NR	44	3	4	1	3	7	1.4 J	1.7 J	2.8 J	1.9 J	ND	1.2 J	1.1 J	ND	
1,2-Dibromoethane	NR	NR	NR	ND	ND	ND	0.9 J	ND	0.8 J	ND	ND	ND	ND	ND	ND	ND	ND	
1,2-Dichlorobenzene	NR	NR	NR	ND	ND	ND	0.9 J	ND	0.8 J	ND	ND	ND	ND	ND	ND	ND	ND	
1,2-Dichloroethane	NR	ND	ND	ND	ND	ND	0.7 J	0.6 J	0.5 J	ND	ND	ND	ND	ND	ND	ND	ND	
1,2-Dichloropropane	NR	NR	NR	ND	ND	ND	0.7 J	0.5 J	0.6 J	ND	ND	ND	ND	ND	ND	ND	ND	
1,3,5-Trimethylbenzene	NR	NR	NR	10	ND	1	2	0.9 J	1	0.48 J	ND	0.92 J	ND	ND	ND	ND	ND	
1,3-Butadiene	NR	NR	NR	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	
1,3-Dichlorobenzene	NR	NR	NR	ND	ND	ND	ND	ND	0.7 J	ND	ND	ND	ND	ND	ND	ND	ND	
1,4-Dichlorobenzene	NR	NR	NR	ND	ND	ND	ND	ND	0.7 J	ND	ND	0.81 J	0.41 J	ND	0.73 J	ND	ND	
1,4-Dioxane	NR	NR	NR	ND	ND	ND	0.7 J	0.7 J	0.6 J	ND	ND	ND	ND	ND	ND	ND	ND	
2,2,4-Trimethylpentane	NR	NR	NR	NR	NR	NR	NR	NR	NR	ND	ND	ND	0.97 J	ND	ND	ND	1.1 J	
2-Butanone	NR	NR	NR	4	1	6	6	2	1	3.6 J	ND	ND	3.3 J	ND	2.4 J	ND	ND	
2-Hexanone	NR	NR	NR	ND	ND	ND	0.7 J	0.6 J	0.4 J	ND	ND	ND	ND	ND	ND	ND	ND	
2-Propanol	NR	NR	NR	NR	NR	NR	NR	NR	NR	ND	ND	ND	ND	ND	ND	ND	ND	
3-Chloro-1-propene	NR	NR	NR	ND	ND	ND	0.4 J	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	
4-Ethyltoluene	NR	NR	NR	7	ND	ND	3	0.8 J	1	0.94 J	0.53 J	1.3 J	1.6 J	ND	0.40 J	0.73 J	ND	
4-Methyl-2-pentanone	NR	NR	NR	NR	NR	NR	NR	NR	NR	ND	ND	ND	ND	ND	ND	ND	ND	
Acetone	NR	NR	NR	11	3	15	27	9	4	25	4.7 J	7.8 J	17 J	6.2 J	30	10 J	8.0 J	
alpha-Chlorotoluene	NR	NR	NR	ND	ND	ND	0.5 J	ND	0.7 J	ND	ND	ND	ND	ND	ND	ND	ND	
Acrylonitrile	NR	NR	NR	ND	ND	ND	0.3 J	0.4 J	ND	NR	NR	NR	NR	NR	NR	NR	NR	
Benzene	NR	NR	NR	ND	ND	4	1	0.6 J	0.6 J	ND	ND	0.63 J	1.0 J	ND	ND	ND	0.42 J	
Benzyl Chloride	NR	NR	NR	ND	ND	ND	ND	ND	ND	NR	NR	NR	NR	NR	NR	NR	NR	
Bromodichloromethane	NR	NR	NR	ND	ND	ND	1 J	1 J	0.9 J	ND	ND	ND	ND	ND	ND	ND	ND	
Bromoform	NR	NR	NR	ND	ND	ND	1 J	1 J	1 J	ND	ND	ND	ND	ND	ND	ND	ND	
Bromomethane	NR	NR	NR	ND	ND	ND	0.8	0.6 J	0.5 J	ND	ND	ND	ND	ND	ND	ND	1.3 J	
Carbon Disulfide	NR	NR	NR	ND	ND	ND	0.8	0.6 J	0.6 J	ND	ND	1.8 J	6.9 J	ND	3.7 J	ND	ND	
Carbon Tetrachloride	NR	NR	NR	ND	ND	ND	1	1 J	1	ND	ND	ND	ND	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	ND	ND	ND	ND	
Chlorodibromomethane	NR	NR	NR	ND	ND	ND	1 J	0.9 J	1 J	NR	NR	NR	NR	NR	NR	NR	NR	
Chloroethane	NR	NR	NR	ND	ND	ND	0.7	0.4 J	0.4 J	ND	ND	ND	ND	ND	ND	ND	ND	
Chloroform	NR	NR	NR	ND	2	ND	0.9 J	4	3	0.78 J	1.0 J	3.2 J	ND	ND	1.9 J	3.1 J	1.1 J	
Chloromethane	NR	NR	NR	0.9	ND	ND	3	0.5	0.4	ND	ND	ND	ND	ND	ND	ND	ND	
cis-1,2-Dichloroethene	ND	6.6	20	ND	ND	ND	1	10	16	8.1	9.7	13	16	13	14	14	7.4	
cis-1,3-Dichloropropene	NR	NR	NR	ND	13	ND	0.5 J	ND	0.5 J	ND	ND	ND	ND	ND	ND	ND	ND	
Cumene	NR	NR	NR	NR	NR	NR	NR	NR	NR	ND	ND	ND	ND	ND	ND	ND	ND	
Cyclohexane	NR	NR	NR	ND	ND	3	0.7 J	0.6 J	0.5 J	ND	ND	ND	0.91 J	ND	ND	ND	ND	
Dichlorodifluoromethane	NR	NR	NR	2	2	2	3	2	3	ND	ND	ND	ND	ND	ND	ND	ND	
Diisopropyl ether	NR	NR	NR	ND	ND	ND	ND	0.6 J	ND	NR	NR	NR	NR	NR	NR	NR	NR	
Ethanol	NR	NR	NR	5	1	37	19	3	2	15	1.1 J	2.8 J	15	ND	ND	ND	ND	
Ethyl Acetate	NR	NR	NR	ND	ND	2	ND	ND	ND	NR	NR	NR	NR	NR	NR	NR	NR	
Ethyl tert-butyl ether	NR	NR	NR	ND	ND	ND	0.5 J	0.5 J	0.4 J	NR	NR	NR	NR	NR	NR	NR	NR	
Ethylbenzene	NR	NR	NR	4	ND	3	3	0.9	1	ND	ND	ND	ND	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	1.6 J	1.2 J	1.3 J	1.5 J	
Freon 113	NR	NR	NR	ND	2	ND	2	3	3	1.8 J	5.5 J	3.2 J	11	8.1	3.7 J	4.2 J	13	
Freon 114	NR	NR	NR	ND	ND	ND	1 J	1 J	1 J	ND	ND	ND	ND	ND	ND	ND	ND	
Freon 12	NR	NR	NR	NR	NR	NR	NR	NR	NR	2.3 J	1.8 J	2.0 J	2.7 J	3.1 J	2.4 J	2.4 J	3.0 J	
Heptane	NR	NR	NR	ND	ND	3	3	0.5 J	0.5 J	ND	ND	ND	1.2 J	ND	ND	ND	ND	
Hexachlorobutadiene	NR	NR	NR	ND	ND	ND	2 J	1 J	2 J	ND	ND	ND	ND	ND	ND	ND	ND	
Hexane	NR	NR	NR	2	ND	11	2	1	0.5 J	ND	ND	ND	2.5 J	ND	ND	ND	ND	
Iso-Octane	NR	NR	NR	ND	ND	4	1	0.7 J	0.7 J	NR	NR	NR	NR	NR	NR	NR	NR	
Isopropylbenzene	NR	NR	NR	ND	ND	ND	0.8 J	0.6 J	0.8 J	NR	NR	NR	NR	NR	NR	NR	NR	
Isopropyl alcohol	NR	NR	NR	ND	ND	6	9	2	7	NR	NR	NR	NR	NR	NR	NR	NR	
m,p-Xylene	NR	NR	NR	NR	NR	NR	NR	NR	NR	0.91 J	1.0 J	2.0 J	3.1 J	ND	0.77 J	ND	0.72 J	
Methyl Methacrylate	NR	NR	NR	ND	ND	ND	0.6 J	0.5 J	0.4 J	NR	NR	NR	NR	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	ND	ND	ND	ND	
Methylene Chloride	NR	NR	NR	6	0.8	48	7	5	1	0.94 J	ND	ND	1.0 J	ND	ND	ND	ND	
MIBK	NR	NR	NR	ND	ND	ND	0.8 J	0.6 J	0.5 J	NR	NR	NR	NR	NR	NR	NR	NR	
Naphthalene	NR	NR	NR	3	ND	1	6	0.8 J	8	NR	NR	NR	NR	NR	NR	NR	NR	
n-Butane	NR	NR	NR	0.5	ND	23	2	0.6	ND	NR	NR	NR	NR	NR	NR	NR	NR	
o-Xylene	NR	NR	NR	NR	NR	NR	NR	NR	NR	0.49 J	ND	ND	1.0 J	ND	0.56 J	ND	ND	
p-Isopropyltoluene	NR	NR	NR	ND	ND	ND	0.9 J	0.6 J	0.7 J	NR	NR	NR	NR	NR	NR	NR	NR	
n-Propylbenzene	NR	NR	NR	4	ND	ND	2	0.7 J	1	ND	ND	0.68 J	ND	ND	ND	ND	ND	
Propylene	NR	NR	NR	ND	ND	ND	ND	ND	ND	NR	NR	NR	NR	NR	NR	NR	NR	
Styrene	NR	NR	NR	ND	ND	ND	0.5 J	ND	0.5 J	ND	ND	ND	ND	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	NR	NR	NR	NR	
tert-Butyl Alcohol	NR	NR	NR	1	ND	ND	4	0.6 J	0.4 J	NR	NR	NR	NR	NR	NR	NR	NR	
Tetrachloroethene	70	9.1	240	ND	55	5	2	95	100	31	43	100	77	66	38	91	57	
Tetrahydrofuran	NR	NR	NR	5	2	ND	4	2	2	1.0 J	0.99 J	ND	3.1	2.0 J	ND	ND	ND	
Toluene	NR	NR	NR	4	ND	14	5	2	1	0.60 J	ND	0.79 J	6.6	ND	1.2 J	ND	3.4	
Total Xylenes	NR	NR	NR	28	ND	11	17	4	6	NR	NR	NR	NR	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	ND	ND	ND	1.0 J	
trans-1,3-Dichloropropene	NR	NR	NR	ND	ND	ND	0.5 J	ND	0.5 J	ND	ND	ND	ND	ND	ND	ND	ND	
Trichloroethene	76	6.3	370	ND	120	7	1	170	200	110	140	260	180	160	94	220	140	
Trichlorofluoromethane	NR	NR	NR	1	1	2	2	2	2	NR	NR	NR	NR	NR	NR	NR	NR	
Vinyl Acetate	NR	NR	NR	ND	ND	ND	3	ND	ND	NR	NR	NR	NR	NR	NR	NR	NR	
Vinyl Bromide	NR	NR	NR	ND	ND	ND	0.7 J	ND	0.6 J	NR	NR	NR	NR	NR	NR	NR	NR	
Vinyl Chloride	ND	ND	ND	ND	ND	ND	0.4 J	0.4 J	0.3 J	ND	ND	ND	ND	ND	ND	ND	ND	

Notes:

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

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

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	03/15/13	05/16/13	08/27/13	11/08/13
Analysis by TO-15 (µg/m³)																	
1,1,1-Trichloroethane	550	47	320	1000	590	ND	1 J	490	930	350	320	270	380	430	160	110	120
1,1,2,2-Tetrachloroethane	NR	NR	NR	ND	ND	ND	0.9 J	8 J	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,1,2-Trichloroethane	NR	NR	NR	ND	ND	ND	0.8 J	6 J	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,1-Dichloroethane	300	28	270	250	ND	ND	0.6 J	74	150	69	78	72	110	110	46	45	70
1,1-Dichloroethene	3.9	ND	ND	2	4	4	0.6 J	6 J	ND	ND	ND	ND	ND	ND	ND	ND	1.5 J
1,2,3-Trichloropropane	NR	NR	NR	ND	ND	ND	0.9 J	7 J	ND	NR	NR	NR	NR	NR	NR	NR	NR
1,2,3-Trimethylbenzene	NR	NR	NR	8	ND	ND	3	ND	ND	NR	NR	NR	NR	NR	NR	NR	NR
1,2,4-Trichlorobenzene	NR	NR	NR	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,2,4-Trimethylbenzene	NR	NR	NR	30	4	2	8	ND	ND	ND	3.4 J	2.8 J	ND	ND	ND	1.0 J	ND
1,2-Dibromoethane	NR	NR	NR	ND	ND	ND	1 J	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,2-Dichlorobenzene	NR	NR	NR	ND	ND	ND	4	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,2-Dichloroethane	NR	ND	ND	ND	ND	ND	4	5 J	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,2-Dichloropropane	NR	NR	NR	ND	ND	ND	0.7 J	5 J	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,3,5-Trimethylbenzene	NR	NR	NR	5	ND	ND	2	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,3-Butadiene	NR	NR	NR	ND	ND	ND	0.4	3 J	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,3-Dichlorobenzene	NR	NR	NR	ND	ND	ND	0.6 J	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,4-Dichlorobenzene	NR	NR	NR	ND	ND	ND	0.7 J	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,4-Dioxane	NR	NR	NR	ND	ND	ND	0.8	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	ND	ND	ND	ND	ND	ND
2-Butanone	NR	NR	NR	7	2	2	4	6 J	ND	ND	ND	ND	ND	ND	ND	ND	ND
2-Hexanone	NR	NR	NR	ND	ND	ND	0.7 J	7 J	ND	ND	ND	ND	ND	ND	ND	ND	ND
2-Propanol	NR	NR	NR	NR	NR	NR	NR	NR	NR	ND	ND	ND	ND	ND	7.9	ND	2.6 J
3-Chloro-1-propene	NR	NR	NR	ND	ND	ND	0.5 J	3 J	ND	ND	ND	ND	ND	ND	ND	ND	ND
4-Ethyltoluene	NR	NR	NR	5	ND	ND	2	ND	ND	ND	ND	ND	ND	ND	0.33 J	0.64 J	0.76 J
4-Methyl-2-pentanone	NR	NR	NR	NR	NR	NR	NR	NR	NR	ND	ND	ND	ND	ND	ND	ND	ND
Acetone	NR	NR	NR	35	5	11	22	10	5	ND	15 J	10 J	5.3 J	ND	10 J	11 J	7.4 J
alpha-Chlorotoluene	NR	NR	NR	ND	ND	ND	0.7 J	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Acrylonitrile	NR	NR	NR	ND	ND	ND	0.4 J	4 J	ND	NR	NR	NR	NR	NR	NR	NR	NR
Benzene	NR	NR	NR	ND	1	3	1	4 J	ND	ND	ND	ND	ND	ND	ND	ND	0.50 J
Benzyl Chloride	NR	NR	NR	ND	ND	ND	ND	ND	ND	NR	NR	NR	NR	NR	NR	NR	NR
Bromodichloromethane	NR	NR	NR	6	ND	ND	1 J	8 J	ND	ND	ND	ND	ND	ND	ND	ND	ND
Bromoform	NR	NR	NR	ND	ND	ND	1 J	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Bromomethane	NR	NR	NR	ND	ND	ND	0.6 J	6 J	ND	ND	ND	ND	ND	ND	ND	ND	ND
Carbon Disulfide	NR	NR	NR	ND	ND	ND	0.8	4 J	ND	ND	ND	3.9 J	ND	ND	1.6 J	ND	2.4 J
Carbon Tetrachloride	NR	NR	NR	3	6	ND	1	10 J	ND	4.0 J	8.1 J	ND	ND	6.3 J	14	7.2	6.3
Chlorobenzene	NR	NR	NR	NO	ND	ND	1	ND	ND	ND	ND	5.9 J, B	ND	ND	ND	ND	ND
Chlorodibromomethane	NR	NR	NR	ND	ND	ND	1 J	9 J	ND	NR	NR	NR	NR	NR	NR	NR	NR
Chloroethane	NR	NR	NR	1	1	ND	0.5 J	4 J	ND	ND	ND	ND	ND	ND	NO	ND	ND
Chloroform	NR	NR	NR	ND	4	ND	0.8 J	10 J	3 J	NO	2.7 J	3.8 J	ND	ND	1.9 J	3.9	4.6
Chloromethane	NR	NR	NR	1	ND	ND	2	3 J	ND	NO	ND	ND	ND	ND	ND	ND	ND
cis-1,2-Dichloroethene	61	36	85	300	ND	ND	0.7 J	150	380	190	220	150	210	200	73	76	85
cis-1,3-Dichloropropene	NR	NR	NR	ND	ND	ND	0.6 J	ND	ND	NO	NO	ND	ND	ND	ND	ND	ND
Cumene	NR	NR	NR	NR	NR	NR	NR	NR	NR	NO	NO	NO	ND	ND	ND	ND	ND
Cyclohexane	NR	NR	NR	ND	ND	1	0.8	ND	ND	ND	ND	ND	ND	ND	4.6	ND	4.1
Dichlorodifluoromethane	NR	NR	NR	2	5	2	3	9 J	3 J	ND	ND	ND	ND	ND	ND	ND	ND
Diisopropyl ether	NR	NR	NR	2	ND	ND	ND	ND	ND	NR	NR	NR	NR	NR	NR	NR	NR
Ethanol	NR	NR	NR	8	2	26	12	10	10	5.2 J	ND	ND	ND	ND	5.2 J	9.6	ND
Ethyl Acetate	NR	NR	NR	2	ND	ND	ND	ND	ND	NR	NR	NR	NR	NR	NR	NR	NR
Ethyl tert-butyl ether	NR	NR	NR	ND	ND	ND	0.6 J	4 J	ND	NR	NR	NR	NR	NR	NR	NR	NR
Ethylbenzene	NR	NR	NR	4	ND	2	3	ND	ND	ND	ND	ND	ND	ND	0.60 J	ND	ND
Freon 11	NR	NR	NR	NR	NR	NR	NR	NR	NR	ND	ND	ND	ND	ND	1.4 J	1.4 J	1.5 J
Freon 113	NR	NR	NR	81	89	ND	2	62	40	15 J	43	37	64	58	19	21	170
Freon 114	NR	NR	NR	ND	ND	ND	1 J	10 J	ND	ND	ND	ND	ND	ND	ND	ND	ND
Freon 12	NR	NR	NR	NR	NR	NR	NR	NR	NR	ND	ND	2.9 J	ND	4.4 J	3.8	2.5 J	3.0 J
Heptane	NR	NR	NR	ND	ND	1	0.9	5 J	ND	ND	ND	ND	ND	ND	ND	ND	0.75 J
Hexachlorobutadiene	NR	NR	NR	ND	ND	ND	2 J	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Hexane	NR	NR	NR	5	2	5	2	4 J	ND	ND	ND	ND	ND	ND	1.5 J	ND	1.2 J
iso-Octane	NR	NR	NR	ND	ND	2	1	7 J	ND	NR	NR	NR	NR	NR	NR	NR	NR
Isopropylbenzene	NR	NR	NR	ND	ND	ND	0.8 J	ND	ND	NR	NR	NR	NR	NR	NR	NR	NR
Isopropyl alcohol	NR	NR	NR	2	ND	2	2	6	ND	NR	NR	NR	NR	NR	NR	NR	NR
m,p-Xylene	NR	NR	NR	NR	NR	NR	NR	NR	NR	ND	1.9 J	3.1 J	ND	ND	1.8 J	ND	0.84 J
Methyl Methacrylate	NR	NR	NR	ND	ND	ND	0.7 J	4 J	ND	NR	NR	NR	NR	NR	NR	NR	NR
Methyl-tert-Butyl-Ether	NR	NR	NR	ND	ND	ND	0.7 J	4 J	ND	ND	ND	NO	ND	ND	ND	ND	ND
Methylene Chloride	NR	NR	NR	16	5	2	6	8	3 J	8.4 J	ND	ND	ND	ND	18 J	ND	ND
MIBK	NR	NR	NR	ND	ND	ND	0.8 J	5 J	ND	NR	NR	NR	NR	NR	NR	NR	NR
Naphthalene	NR	NR	NR	9	ND	ND	4	ND	ND	NR	NR	NR	NR	NR	NR	NR	NR
n-Butane	NR	NR	NR	ND	2	13	2	4 J	ND	NR	NR	NR	NR	NR	NR	NR	NR
o-Xylene	NR	NR	NR	NR	NR	NR	NR	NR	NR	ND	ND	NO	ND	ND	0.56 J	ND	ND
p-Isopropyltoluene	NR	NR	NR	ND	ND	ND	0.8 J	ND	ND	NR	NR	NR	NR	NR	NR	NR	NR
n-Propylbenzene	NR	NR	NR	3	ND	ND	1	NO	ND	ND	ND	ND	ND	ND	ND	ND	ND
Propylene	NR	NR	NR	2	ND	1	ND	ND	ND	NR	NR	NR	NR	NR	NR	NR	NR
Styrene	NR	NR	NR	ND	ND	ND	0.7 J	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
tert-Amyl methyl ether	NR	NR	NR	ND	ND	ND	0.6 J	5 J	ND	NR	NR	NR	NR	NR	NR	NR	NR
tert-Butyl Alcohol	NR	NR	NR	3	ND	ND	0.9	4 J	ND	NR	NR	NR	NR	NR	NR	NR	NR
Tetrachloroethene	2100	1.1	650	270	420	ND	2	240	330	140	220	270	350	330	100	140	260
Tetrahydrofuran	NR	NR	NR	6	3	2	3	5 J	2 J	ND	1.6 J	1.3 J	ND	ND	ND	1.8 J	1.7 J
Toluene	NR	NR	NR	3	2	8	14	4 J	ND	ND	ND	ND	ND	ND	17	ND	21
Total Xylenes	NR	NR	NR	22	ND	10	20	ND	ND	NR	NR	NR	NR	NR	NR	NR	NR
trans-1,2-Dichloroethene	19	1.1	3.1	3	ND	ND	0.6 J	7 J	3 J	ND	ND	ND	ND	ND	1.4 J	2.4 J	3.6
trans-1,3-Dichloropropene	NR	NR	NR	ND	ND	ND	0.5 J	ND	ND	NO	ND	ND	ND	ND	ND	ND	ND
Trichloroethene	1700	68	200	1100	1400	1	2	3800	7000	3600	4500	2200	3800	3800	1400	900	1200
Trichlorofluoromethane	NR	NR	NR	ND	3	1	2	9 J	ND	NR	NR	NR	NR	NR	NR	NR	NR
Vinyl Acetate	NR	NR	NR	2	ND	ND	ND	4 J	ND	NR	NR	NR	NR	NR	NR	NR	NR
Vinyl Bromide	NR	NR	NR	ND	ND	ND	0.8 J	6 J	ND	NR	NR	NR	NR	NR	NR	NR	NR
Vinyl Chloride	ND	ND	ND	ND	ND	ND	0.4 J	4 J	ND	ND	ND	ND	ND	ND	ND	NO	ND

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

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

Sample ID	SVE 106I																
SampleDate	12/21/09	03/31/10	06/09/10	09/16/10	12/08/10	03/30/11	06/28/11	09/06/11	10/14/11	02/10/12	05/11/12	09/11/12	12/05/12	01/15/13	05/16/13	08/27/13	11/08/13
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	ND	ND	ND	15
1,1,2,2-Tetrachloroethane	NR	NR	NR	ND	ND	NA	1 J	0.8 J	1 J	ND	ND	ND	ND	ND	ND	ND	ND
1,1,2-Trichloroethane	NR	NR	NR	ND	ND	NA	0.7 J	0.6 J	0.8 J	ND	ND	ND	ND	ND	ND	ND	ND
1,1-Dichloroethane	120	ND	ND	1	ND	NA	1	0.5 J	1	0.62 J	0.70 J	1.6 J	2.5 J	1.9 J	ND	ND	3.8
1,1-Dichloroethene	ND	ND	ND	ND	ND	NA	0.6 J	2	0.6 J	ND	ND	ND	ND	ND	ND	ND	ND
1,2,3-Trichloropropene	NR	NR	NR	ND	ND	NA	0.9 J	0.6 J	0.9 J	NR	NR	NR	NR	NR	NR	NR	NR
1,2,3-Trimethylbenzene	NR	NR	NR	9	ND	NA	9	1	2	NR	NR	NR	NR	NR	NR	NR	NR
1,2,4-Trichlorobenzene	NR	NR	NR	2	ND	NA	2	ND	0.8 J	ND	ND	ND	ND	ND	ND	ND	ND
1,2,4-Trimethylbenzene	NR	NR	NR	29	ND	NA	29	3	6	1.1 J	2.2 J	3.2 J	1.2 J	ND	ND	0.97 J	1.6 J
1,2-Dibromoethane	NR	NR	NR	ND	ND	NA	1 J	ND	1 J	ND	ND	ND	ND	ND	ND	ND	ND
1,2-Dichlorobenzene	NR	NR	NR	1	ND	NA	0.7 J	ND	0.9 J	ND	ND	ND	ND	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	ND	ND	ND	ND
1,2-Dichloropropane	NR	NR	NR	ND	ND	NA	0.7 J	ND	0.7 J	ND	ND	ND	ND	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	ND	ND	ND	ND
1,3-Butadiene	NR	NR	NR	1	ND	NA	ND	2	0.6	ND	0.87 J	ND	ND	ND	ND	ND	ND
1,3-Dichlorobenzene	NR	NR	NR	ND	ND	NA	ND	ND	0.7 J	ND	ND	ND	ND	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	ND	ND	ND	ND
1,4-Dioxane	NR	NR	NR	ND	ND	NA	0.7	0.5 J	0.6 J	ND	ND	ND	ND	ND	ND	ND	ND
2,2,4-Trimethylpentane	NR	NR	NR	NR	NR	NR	NR	NR	NR	ND	120	ND	ND	620	ND	ND	0.77 J
2-Butanone	NR	NR	NR	4	ND	NA	7	0.5 J	2	0.70 J	ND	ND	ND	ND	ND	ND	3.6 J
2-Hexanone	NR	NR	NR	ND	ND	NA	1	0.6 J	0.5 J	ND	ND	ND	ND	ND	ND	ND	ND
2-Propanol	NR	NR	NR	NR	NR	NR	NR	NR	NR	ND	ND	ND	ND	2.1 J	5.5 J	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	ND	ND	ND	ND
4-Ethyltoluene	NR	NR	NR	5	ND	NA	5	1	1	0.37 J	2.0 J	2.5 J	0.93 J	ND	ND	0.82 J	1.9 J
4-Methyl-2-pentanone	NR	NR	NR	NR	NR	NR	NR	NR	NR	ND	ND	ND	ND	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	8.6 J	16 J	23	14 J
alpha-Chlorotoluene	NR	NR	NR	ND	ND	NA	0.6 J	ND	0.7 J	ND	ND	ND	ND	ND	ND	ND	ND
Acrylonitrile	NR	NR	NR	0.4	ND	NA	0.4 J	0.4 J	ND	NR	NR	NR	NR	NR	NR	NR	NR
Benzene	NR	NR	NR	0.8	ND	NA	0.9	0.9	0.6 J	ND	ND	ND	ND	3.7	0.94 J	ND	0.38 J
Benzyl Chloride	NR	NR	NR	1	ND	NA	0.7 J	ND	ND	NR	NR	NR	NR	NR	NR	NR	NR
Bromodichloromethane	NR	NR	NR	ND	ND	NA	0.8 J	0.5 J	1 J	ND	ND	ND	ND	ND	ND	ND	ND
Bromoform	NR	NR	NR	ND	ND	NA	1 J	0.3 J	2 J	ND	ND	ND	ND	ND	ND	ND	ND
Bromomethane	NR	NR	NR	0.9	ND	NA	0.6 J	2	0.6 J	ND	ND	ND	ND	ND	ND	ND	ND
Carbon Disulfide	NR	NR	NR	0.8	ND	NA	0.8	0.51	0.6	ND	ND	2.2 J	ND	ND	6.3 J	ND	ND
Carbon Tetrachloride	NR	NR	NR	2	ND	NA	1	ND	3	0.91 J	0.55 J	ND	2.9 J	2.0 J	ND	ND	ND
Chlorobenzene	NR	NR	NR	ND	ND	NA	0.7 J	0.3 J	0.7 J	ND	ND	2.5 J, B	ND	ND	ND	ND	ND
Chlorodibromomethane	NR	NR	NR	ND	ND	NA	1 J	1	1 J	NR	NR	NR	NR	NR	NR	NR	NR
Chloroethane	NR	NR	NR	0.6	ND	NA	0.7	0.8	0.5 J	ND	ND	ND	ND	ND	ND	ND	ND
Chloroform	NR	NR	NR	1	ND	NA	2	0.4 J	2	ND	1.4 J	1.5 J	ND	ND	ND	ND	0.85 J
Chloromethane	NR	NR	NR	0.8	08	NA	2	ND	0.4	ND	ND	ND	ND	ND	ND	ND	ND
cis-1,2-Dichloroethene	46	ND	ND	4	ND	NA	5	0.8 J	4	1.6 J	2.3 J	7.5	5.4	3.7	ND	ND	8.3
cis-1,3-Dichloropropene	NR	NR	NR	ND	ND	NA	0.6 J	ND	0.5 J	ND	ND	ND	ND	ND	ND	ND	ND
Cumene	NR	NR	NR	NR	NR	NR	NR	NR	NR	ND	ND	ND	ND	ND	ND	ND	ND
Cyclohexane	NR	NR	NR	ND	ND	NA	0.6 J	ND	0.4 J	ND	2.9	ND	ND	ND	1.1 J	ND	1.3 J
Dichlorodifluoromethane	NR	NR	NR	3	2	NA	3	0.8 J	3	ND	ND	ND	ND	ND	ND	ND	ND
Diisopropyl ether	NR	NR	NR	ND	ND	NA	ND	ND	ND	NR	NR	NR	NR	NR	NR	NR	NR
Ethanol	NR	NR	NR	3	2	NA	15	9	1	1.6 J	ND	ND	ND	3.4 J	8.8	ND	ND
Ethyl Acetate	NR	NR	NR	ND	ND	NA	ND	ND	ND	NR	NR	NR	NR	NR	NR	NR	NR
Ethyl tert-butyl ether	NR	NR	NR	ND	ND	NA	0.6 J	0.4 J	0.5 J	NR	NR	NR	NR	NR	NR	NR	NR
Ethylbenzene	NR	NR	NR	3	ND	NA	4	2	1	ND	3.6	1.4 J	ND	ND	ND	ND	ND
Freon 11	NR	NR	NR	NR	NR	NR	NR	NR	NR	1.2 J	0.96 J	1.5 J	1.3 J	1.4 J	1.6 J	1.0 J	1.2 J
Freon 113	NR	NR	NR	4	ND	NA	5	4	12	12	6.5	3.0 J	13	22	ND	ND	11
Freon 114	NR	NR	NR	2	ND	NA	1 J	0.9 J	1 J	ND	ND	ND	ND	ND	ND	ND	ND
Freon 12	NR	NR	NR	NR	NR	NR	NR	NR	NR	2.1 J	2.2 J	2.9 J	2.7 J	3.0 J	2.4 J	2.1 J	2.5 J
Heptane	NR	NR	NR	ND	ND	NA	0.8 J	0.7 J	0.5 J	ND	7.6	ND	ND	29	1.0 J	ND	ND
Hexachlorobutadiene	NR	NR	NR	2	ND	NA	2 J	1 J	2 J	ND	ND	ND	ND	ND	ND	ND	ND
Hexane	NR	NR	NR	0.8	ND	NA	1	1	1	ND	ND	ND	ND	7.4	1.6 J	ND	0.70 J
Iso-Octane	NR	NR	NR	1	ND	NA	19	0.9 J	0.8 J	NR	NR	NR	NR	NR	NR	NR	NR
Isopropylbenzene	NR	NR	NR	1	ND	NA	1	0.5 J	0.7 J	NR	NR	NR	NR	NR	NR	NR	NR
Isoproyl alcohol	NR	NR	NR	1	ND	NA	13	1	1	NR	NR	NR	NR	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	0.90 J	0.82 J	ND	1.4 J
Methyl Methacrylate	NR	NR	NR	ND	ND	NA	0.5 J	ND	0.5 J	NR	NR	NR	NR	NR	NR	NR	NR
Methyl-tert-Butyl-Ether	NR	NR	NR	ND	ND	NA	0.7 J	0.5 J	0.7	ND	ND	ND	ND	ND	ND	ND	ND
Methylene Chloride	NR	NR	NR	2	0.8	NA	6	2	5	0.71 J	2.0 J	ND	ND	1.2 J	7.8 J	ND	ND
MIBK	NR	NR	NR	ND	ND	NA	0.8 J	0.4 J	0.5 J	NR	NR	NR	NR	NR	NR	NR	NR
Naphthalene	NR	NR	NR	6	ND	NA	26	1	2	NR	NR	NR	NR	NR	NR	NR	NR
n-Butane	NR	NR	NR	0.8	0.5	NA	1	0.5 J	ND	NR	NR	NR	NR	NR	NR	NR	NR
o-Xylene	NR	NR	NR	NR	NR	NA	NR	NR	NR	ND	5.9	0.93 J	ND	ND	ND	ND	0.63 J
p-Isopropyltoluene	NR	NR	NR	2	ND	NA	1	ND	0.8 J	NR	NR	NR	NR	NR	NR	NR	NR
n-Propylbenzene	NR	NR	NR	3	ND	NA	3	0.7 J	0.9 J	ND	0.48 J	0.54 J	ND	ND	ND	ND	0.48 J
Propylene	NR	NR	NR	ND	ND	NA	ND	ND	ND	NR	NR	NR	NR	NR	NR	NR	NR
Styrene	NR	NR	NR	ND	ND	NA	0.7 J	ND	0.5 J	ND	ND	ND	ND	ND	ND	ND	ND
tert-Amyl methyl ether	NR	NR	NR	ND	ND	NA	0.6 J	0.4 J	0.6 J	NR	NR	NR	NR	NR	NR	NR	NR
tert-Butyl Alcohol	NR	NR	NR	0.9	ND	NA	2	1 J	08	NR	NR	NR	NR	NR	NR	NR	NR
Tetrachloroethene	390	35	ND	15	ND	NA	15	7	19	4.3 J	7.2	27	14	7.0	0.73 J	ND	19
Tetrahydrofuran	NR	NR	NR	6	ND	NA	8	2	2	0.87 J	1.2 J	ND	2.5	ND	ND	ND	2.0 J
Toluene	NR	NR	NR	2	ND	NA	5	3	1	0.44 J	3.4	0.93 J	0.73 J	4.8	7.5	ND	4.2
Total Xylenes	NR	NR	NR	17	ND	NA	22	8	6	NR	NR	NR	NR	NR	NR	NR	NR
trans-1,2-Dichloroethene	7.9	ND	3.1	0.9	ND	NA	0.8	0.5 J	0.7 J	ND	ND	ND	ND	ND	ND	ND	ND
trans-1,3-Dichloropropene	NR	NR	NR	ND	ND	NA	0.6 J	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Trichloroethene	1900	41	ND	140	10	NA	210	92	190	69	110	250	180	110	5.5	ND	210
Trichlorofluoromethane	NR	NR	NR	2	1	NA	2	2	2	NR	NR	NR	NR	NR	NR	NR	NR
Vinyl Acetate	NR	NR	NR	1	ND	NA	3	ND	ND	NR	NR	NR	NR	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	NR	NR	NR	NR
Vinyl Chloride	ND	ND	ND	0.5	ND	NA	0.4 J	0.3 J	0.4 J	ND	ND	ND	ND	ND	ND	ND	ND

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

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

Sample ID	SVE 106D																
Sample Date	12/21/09	03/30/10	06/08/10	09/16/10	12/08/10	03/30/11	06/28/11	09/06/11	10/14/11	02/10/12	05/11/12	08/11/12	12/05/12	01/15/13	05/16/13	08/27/13	11/06/13
Analysis by TO-15 (µg/m³)																	
1,1,1-Trichloroethane	340	32	30	20	12	9	20	23	29	ND	11	26	18	ND	ND	27	25
1,1,2,2-Tetrachloroethane	NR	NR	NR	ND	ND	ND	ND	0.9 J	1 J	ND	ND	ND	ND	ND	ND	ND	ND
1,1,2-Trichloroethane	NR	NR	NR	ND	ND	ND	ND	0.7 J	0.9 J	ND	ND	ND	ND	ND	ND	ND	ND
1,1-Dichloroethane	250	5.3	ND	5	2	5	4	3	3	ND	3.0	4.3	5.8	ND	ND	4.9	11
1,1-Dichloroethene	ND	ND	ND	ND	ND	ND	0.5 J	0.7 J	0.8	ND	ND	ND	ND	ND	ND	ND	ND
1,2,3-Trichloropropane	NR	NR	NR	ND	ND	ND	ND	0.7 J	1 J	NR	NR	NR	NR	NR	NR	NR	NR
1,2,3-Trimethylbenzene	NR	NR	NR	8	ND	ND	6	ND	2	NR	NR	NR	NR	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	ND	ND	ND	ND
1,2,4-Trimethylbenzene	NR	NR	NR	17	2	2	23	ND	4	ND	ND	3.6 J	1.3 J	ND	ND	0.77 J	ND
1,2-Dibromoethane	NR	NR	NR	ND	ND	ND	ND	ND	1 J	ND	ND	ND	ND	ND	ND	ND	ND
1,2-Dichlorobenzene	NR	NR	NR	ND	ND	ND	ND	ND	1 J	ND	ND	ND	ND	ND	ND	ND	ND
1,2-Dichloroethane	NR	ND	ND	ND	ND	ND	ND	0.6 J	0.7 J	ND	ND	ND	ND	ND	ND	ND	2.5 J
1,2-Dichloropropane	NR	NR	NR	ND	ND	ND	ND	0.6 J	0.8 J	ND	ND	ND	ND	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	ND	ND	ND	ND
1,3-Butadiene	NR	NR	NR	ND	ND	ND	ND	0.3 J	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,3-Dichlorobenzene	NR	NR	NR	ND	ND	ND	ND	ND	0.8 J	ND	ND	ND	ND	ND	ND	ND	ND
1,4-Dichlorobenzene	NR	NR	NR	ND	ND	ND	ND	ND	0.8 J	ND	ND	0.87 J	ND	ND	ND	ND	ND
1,4-Dioxane	NR	NR	NR	ND	ND	ND	0.5 J	0.7 J	0.7 J	ND	ND	ND	ND	ND	ND	ND	ND
2,2,4-Trimethylpentane	NR	NR	NR	NR	NR	NR	NR	NR	NR	ND	390	1.2 J	ND	0.76 J	ND	ND	ND
2-Butanone	NR	NR	NR	8	2	0.8	5	1	2	ND	ND	4.0 J	ND	ND	ND	ND	2.6 J
2-Hexanone	NR	NR	NR	ND	ND	ND	ND	0.5 J	0.8 J	ND	ND	ND	ND	ND	ND	ND	ND
2-Propanol	NR	NR	NR	NR	NR	NR	NR	NR	NR	ND	ND	ND	ND	ND	1.8 J	ND	1.9 J
3-Chloro-1-propene	NR	NR	NR	ND	ND	ND	ND	0.4 J	0.4 J	ND	ND	ND	ND	ND	ND	ND	ND
4-Ethyltoluene	NR	NR	NR	6	ND	ND	4	ND	1	ND	2.8 J	2.9 J	ND	ND	0.67 J	ND	ND
4-Methyl-2-pentanone	NR	NR	NR	NR	NR	NR	NR	NR	NR	ND	ND	ND	ND	ND	ND	ND	ND
Acetone	NR	NR	NR	25	9	5	11	6	6	4.8 J	13 J	11 J	5.8 J	5.4 J	10 J	5.1 J	9.0 J
alpha-Chlorotoluene	NR	NR	NR	ND	ND	ND	ND	ND	0.9 J	ND	ND	ND	ND	ND	ND	ND	ND
Acrylonitrile	NR	NR	NR	ND	ND	ND	0.4 J	0.4 J	ND	NR	NR	NR	NR	NR	NR	NR	NR
Benzene	NR	NR	NR	ND	ND	ND	2	0.5 J	0.6 J	0.58 J	1.5 J	1.1 J	ND	0.66 J	1.1 J	ND	ND
Benzyl Chloride	NR	NR	NR	ND	ND	ND	ND	ND	0.6 J	NR	NR	NR	NR	NR	NR	NR	NR
Bromodichloromethane	NR	NR	NR	ND	ND	ND	ND	0.9 J	1 J	ND	ND	ND	ND	ND	ND	ND	ND
Bromoform	NR	NR	NR	ND	ND	ND	ND	ND	2 J	ND	ND	ND	ND	ND	ND	ND	ND
Bromomethane	NR	NR	NR	ND	ND	ND	ND	0.6 J	0.7 J	ND	ND	ND	ND	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	ND	1.3 J	ND	ND
Carbon Tetrachloride	NR	NR	NR	8	26	17	9	6	18	ND	18	5.6	19	ND	ND	6.1	6.0
Chlorobenzene	NR	NR	NR	ND	ND	ND	ND	0.5 J	0.8 J	ND	ND	3.1 J, 8	1.0 J	ND	ND	ND	ND
Chlorodibromomethane	NR	NR	NR	ND	ND	ND	ND	1 J	1 J	NR	NR	NR	NR	NR	NR	NR	NR
Chloroethane	NR	NR	NR	ND	ND	ND	0.4 J	0.4 J	0.4 J	ND	ND	ND	ND	ND	ND	ND	ND
Chloroform	NR	NR	NR	ND	2	2	5	5	5	ND	6.4	6.9	6.6	ND	ND	4.1	3.9
Chloromethane	NR	NR	NR	3	1	0.5	0.7	0.5	0.6	1.2 J	ND	ND	ND	ND	ND	ND	ND
cis-1,2-Dichloroethene	79	13	11	13	2	11	11	5	4	ND	4.1	7.1	8.2	ND	ND	10	15
cis-1,3-Dichloropropene	NR	NR	NR	ND	ND	ND	ND	ND	0.7 J	ND	ND	ND	ND	ND	ND	ND	ND
Cumene	NR	NR	NR	NR	NR	NR	NR	NR	NR	ND	1.4 J	ND	ND	ND	ND	ND	ND
Cyclohexane	NR	NR	NR	ND	ND	ND	1	0.4 J	0.4 J	ND	7.0	ND	0.83 J	ND	ND	ND	1.2 J
Dichlorodifluoromethane	NR	NR	NR	6	3	3	4	2	3	ND	ND	ND	ND	ND	ND	ND	ND
Diisopropyl ether	NR	NR	NR	ND	ND	ND	ND	ND	1 J	NR	NR	NR	NR	NR	NR	NR	NR
Ethanol	NR	NR	NR	8	3	2	17	4	ND	2.3 J	ND	8.8	2.3 J	3.7 J	7.7	ND	2.9 J
Ethyl Acetate	NR	NR	NR	ND	ND	ND	ND	ND	ND	NR	NR	NR	NR	NR	NR	NR	NR
Ethyl tert-butyl ether	NR	NR	NR	ND	ND	ND	ND	0.6 J	0.6 J	NR	NR	NR	NR	NR	NR	NR	NR
Ethylbenzene	NR	NR	NR	5	ND	ND	5	ND	1	ND	6.3	1.2 J	ND	ND	ND	ND	ND
Freon 11	NR	NR	NR	NR	NR	NR	NR	NR	NR	1.2 J	1.3 J	2.7 J	2.0 J	1.4 J	1.3 J	1.8 J	1.7 J
Freon 113	NR	NR	NR	ND	38	30	16	25	25	ND	15	13	24	ND	ND	13	48
Freon 114	NR	NR	NR	ND	ND	ND	ND	1 J	1 J	ND	ND	ND	ND	ND	ND	ND	ND
Freon 12	NR	NR	NR	NR	NR	NR	NR	NR	NR	1.1 J	2.3 J	3.3 J	2.6 J	2.8 J	2.5 J	3.9 J	2.9 J
Heptane	NR	NR	NR	ND	ND	ND	1	0.4 J	0.6 J	0.82 J	18	1.0 J	ND	ND	ND	ND	0.63 J
Hexachlorobutadiene	NR	NR	NR	ND	ND	ND	ND	1 J	2 J	ND	ND	ND	ND	ND	ND	ND	ND
Hexane	NR	NR	NR	3	ND	ND	3	2	0.6 J	ND	ND	1.8 J	0.59 J	ND	1.5 J	ND	1.0 J
Iso-Octane	NR	NR	NR	ND	ND	ND	130	0.7 J	0.8 J	NR	NR	NR	NR	NR	NR	NR	NR
Isopropylbenzene	NR	NR	NR	ND	ND	ND	ND	0.5 J	0.8 J	NR	NR	NR	NR	NR	NR	NR	NR
Isopropyl alcohol	NR	NR	NR	5	ND	2	3	2	ND	NR	NR	NR	NR	NR	NR	NR	NR
m,p-Xylene	NR	NR	NR	NR	NR	NR	NR	NR	NR	ND	21	4.2	1.1 J	ND	2.8 J	ND	0.68 J
Methyl Methacrylate	NR	NR	NR	ND	ND	ND	ND	0.4 J	0.4 J	NR	NR	NR	NR	NR	NR	NR	NR
Methyl-tert-Butyl-Ether	NR	NR	NR	ND	ND	ND	ND	1	0.5 J	ND	ND	ND	ND	ND	ND	ND	ND
Methylene Chloride	NR	NR	NR	4	2	4	5	17	1	3.9	ND	1.7 J	1.2 J	0.72 J	0.86 J	ND	ND
MIBK	NR	NR	NR	ND	ND	ND	0.5 J	0.4 J	0.6 J	NR	NR	NR	NR	NR	NR	NR	NR
Naphthalene	NR	NR	NR	8	ND	ND	25	ND	3	NR	NR	NR	NR	NR	NR	NR	NR
n-Butane	NR	NR	NR	ND	1	0.9	6	0.9	ND	NR	NR	NR	NR	NR	NR	NR	NR
o-Xylene	NR	NR	NR	NR	NR	NR	NR	NR	NR	ND	24	1.9 J	ND	ND	0.60 J	ND	ND
p-Isopropyltoluene	NR	NR	NR	ND	ND	ND	0.7 J	ND	0.9 J	NR	NR	NR	NR	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	ND	ND	ND	ND
Propylene	NR	NR	NR	ND	ND	ND	ND	ND	ND	NR	NR	NR	NR	NR	NR	NR	NR
Styrene	NR	NR	NR	ND	ND	ND	ND	ND	0.6 J	ND	ND	ND	ND	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	NR	NR	NR	NR
tert-Butyl Alcohol	NR	NR	NR	4	ND	ND	0.6 J	0.5 J	ND	NR	NR	NR	NR	NR	NR	NR	NR
Tetrachloroethene	720	65	70	ND	13	19	41	8	66	ND	28	52	48	ND	1.3 J	50	58
Tetrahydrofuran	NR	NR	NR	8	2	1	7	2	2	ND	1.1 J	4.0	1.8 J	ND	ND	1.4 J	2.0 J
Toluene	NR	NR	NR	5	2	2	11	0.5 J	3	0.81 J	11	15	6.6	0.60 J	5.5	ND	13
Total Xylenes	NR	NR	NR	21	ND	ND	25	ND	6	NR	NR	NR	NR	NR	NR	NR	NR
trans-1,2-Dichloroethene	15	ND	ND	ND	ND	ND	0.6 J	0.8	0.5	ND	ND	ND	ND	ND	ND	ND	1.1 J
trans-1,3-Dichloropropene	NR	NR	NR	ND	ND	ND	ND	ND	0.6 J	ND	ND	ND	ND	ND	ND	ND	ND
Trichloroethene	3400	600	900	230	130	170	210	260	320	ND	180	380	300	ND	ND	460	440
Trichlorofluoromethane	NR	NR	NR	6	2	2	3	2	3	NR	NR	NR	NR	NR	NR	NR	NR
Vinyl Acetate	NR	NR	NR	4	ND	ND	ND	ND	ND	NR	NR	NR	NR	NR	NR	NR	NR
Vinyl Bromide	NR	NR	NR	ND	ND	ND	ND	0.6 J	0.9	NR	NR	NR	NR	NR	NR	NR	NR
Vinyl Chloride	ND	1.6	ND	ND	ND	ND	ND	0.4 J	0.5 J	ND	ND	ND	ND	ND	ND	ND	ND

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

Table 9
Soil Vapor Extraction Containment System
Site 1, Former Drum Marshalling Yard
Naval Weapons Industrial Reserve Plant - Bethpage, NY
Annual Off-site Vapor Analytical Results Summary of SVPMs
January 2013

SampleID	Screening Value [2]	SVPM 2001S	SVPM 2001I	SVPM 2001D		SVPM 2002S	SVPM 2002I	SVPM 2002D	SVPM 2003S	SVPM 2003I	SVPM 2003D	SVPM 2004S	SVPM 2004I	SVPM 2004D	SVPM 2006S	SVPM 2006I	SVPM 2006D	SVPM 2007S	SVPM 2007I	SVPM 2007D	
Sample Date		01/15/13	01/15/13	01/15/13	1/15/13 - Duplicate	01/15/13	01/15/13	01/15/13	01/16/13	01/16/13	01/16/13	01/16/13	01/16/13	01/16/13	01/16/13	01/16/13	01/16/13	01/16/13	01/16/13	01/16/13	1/16/13 - Duplicate
Analysis by TO-15 (µg/m³)																					
1,1,1-Trichloroethane [1]	1,000	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	1.3 J	1.1 J
2,2,4-Trimethylpentane	--	ND	ND	ND	ND	ND	ND	ND	1.5 J	ND	ND	0.42 J	ND	ND	ND	ND	0.42 J	ND	ND	1.8 J	ND
2-Butanone	--	ND	ND	ND	ND	ND	ND	ND	2.8 J	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Acetone	--	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	48 J	ND
Benzene	--	ND	2.1 J	1.5 J	1.7 J	0.98 J	1.8 J	12	1.1 J	ND	0.95 J	ND	ND	ND	ND	ND	ND	ND	3.6	1.3 J	ND
Carbon Tetrachloride	250	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	1.6 J	ND	ND	ND	ND	ND	ND	ND
Chloroform	--	ND	ND	ND	ND	ND	ND	ND	ND	39	ND	ND	ND	4.4	ND	4.2	3.5 J	ND	0.76 J	2.1 J	2.5 J
cis-1,2-Dichloroethene [1]	--	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	5.4	340	190	13	ND	9.8	11
Cumene	--	ND	ND	ND	ND	ND	ND	20	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.89 J	ND	ND
Cyclohexane	--	ND	2.1 J	ND	ND	ND	ND	ND	2.2 J	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	2.5 J	ND
Ethanol	--	ND	ND	ND	ND	ND	ND	ND	17	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Ethylbenzene	--	ND	ND	ND	ND	ND	ND	ND	1.6 J	ND	ND	ND	0.66 J	ND	ND	ND	ND	ND	ND	1.3 J	ND
Freon 12	--	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	9.5	12
Heptane	--	ND	ND	ND	ND	ND	ND	ND	2.2 J	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	3.4	ND
Hexane	--	ND	ND	ND	ND	ND	ND	ND	1.8 J	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	1.7 J	ND
o-Xylene	--	ND	ND	ND	ND	ND	ND	ND	2.0 J	ND	ND	0.45 J	0.46 J	ND	ND	ND	ND	ND	ND	1.7 J	ND
Propylbenzene	--	ND	ND	ND	ND	ND	ND	ND	0.36 J	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Tetrachloroethene [1]	1,000	ND	ND	ND	ND	ND	ND	ND	1.6 J	0.97 J	ND	1.0 J	0.68 J	2.3 J	1.0 J	1.9 J	1.4 J	1.1 J	1.8 J	2.2 J	1.8 J
Tetrahydrofuran	--	1.8 J	ND	1.7 J	ND	1.9 J	3.1	ND	1.4 J	1.4 J	ND	0.87 J	ND	ND	ND	ND	ND	ND	ND	ND	ND
Toluene	--	ND	9.4	6.6	6.2	ND	ND	ND	15	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	10 J	ND
trans-1,2-Dichloroethene [1]	--	ND	ND	ND	ND	ND	ND	ND	2.3 J	ND	ND	ND	ND	ND	ND	4.6	2.2 J	ND	ND	1.3 J	ND
Trichloroethene [1]	250	ND	ND	ND	ND	ND	12	ND	4.9	ND	ND	ND	ND	ND	ND	47	17	5.0	ND	5.5 J	2.9 J

Notes:
All samples were analyzed for full list VOCs by modified method TO-15. Only detected analytes are presented above.
µg/m³ = micrograms per cubic meter
J = Estimated value
ND = Not detected above laboratory method detection limit (MDL)
SVPM = soil vapor pressure monitor
Bolded value indicates detected analyte.
(1) Site specific compound specified in the *Final Supplemental Offsite Soil Vapor Intrusion Monitoring Plan for the Soil Vapor Extraction Containment System Site 1 – Former Drum Marshalling Area, NWIRP Bethpage, New York* (Tetra Tech 2012).
(2) Screening Value is the New York State Department of Health (NYSDOH) air guideline value for subslab.

Table 10
Soil Vapor Extraction Containment System
Site 1, Former Drum Marshalling Yard
Naval Weapons Industrial Reserve Plant - Bethpage, NY
Historical Off-site Vapor Analytical Results Summary of SVPMs
Through January 2013

Sample ID	Screening Value [2]	SVPM 2001S		SVPM 2001I		SVPM 2001D			SVPM 2002S	
Sample Date		Oct 2008	01/15/13	Oct 2008	01/15/13	Oct 2008	01/15/13	1/15/13 - Duplicate	Oct 2008	01/15/13
Analysis by TO-15 (µg/m³)										
1,1,1-Trichloroethane [1]	1,000	1,300	ND	1,700	ND	1,400	ND	ND	21,000	ND
1,1,2,2-Tetrachloroethane	--	NS	ND	NS	ND	NS	ND	ND	NS	ND
1,1,2-Trichloroethane	--	NS	ND	NS	ND	NS	ND	ND	NS	ND
1,1-Dichloroethane [1]	--	11	ND	29	ND	26	ND	ND	170	ND
1,1-Dichloroethene [1]	--	9.2 J	ND	16	ND	17	ND	ND	220	ND
1,2,4-Trichlorobenzene	--	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,2,4-Trimethylbenzene	--	NS	ND	NS	ND	NS	ND	ND	NS	ND
1,2-Dibromoethane	--	NS	ND	NS	ND	NS	ND	ND	NS	ND
1,2-Dichlorobenzene	--	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,2-Dichloroethane [1]	--	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,2-Dichloropropane	--	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,3,5-Trimethylbenzene	--	NS	ND	NS	ND	NS	ND	ND	NS	ND
1,3-Butadiene	--	NS	ND	NS	ND	NS	ND	ND	NS	ND
1,3-Dichlorobenzene	--	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,4-Dichlorobenzene	--	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,4-Dioxane	--	NS	ND	NS	ND	NS	ND	ND	NS	ND
2,2,4-Trimethylpentane	--	NS	ND	NS	ND	NS	ND	ND	NS	ND
2-Butanone	--	50	ND	56	ND	65	ND	ND	78	ND
2-Hexanone	--	NS	ND	NS	ND	NS	ND	ND	NS	ND
2-Propanol	--	NS	ND	NS	ND	NS	ND	ND	NS	ND
3-Chloro-1propene	--	NS	ND	NS	ND	NS	ND	ND	NS	ND
4-ethyltoluene	--	NS	ND	NS	ND	NS	ND	ND	NS	ND
4-Methyl-2-pentanone	--	2.3 J	ND	ND	ND	ND	ND	ND	ND	ND
Acetone	--	470	ND	440	ND	500	ND	ND	300	ND
alpha-Chlorotoluene	--	NS	ND	NS	ND	NS	ND	ND	NS	ND
Benzene	--	7.8 J	ND	4.7 J	2.1 J	9.1	1.5 J	1.7 J	28 J	0.98 J
Bromodichloromethane	--	NS	ND	NS	ND	NS	ND	ND	NS	ND
Bromoform	--	NS	ND	NS	ND	NS	ND	ND	NS	ND
Bromomethane	--	ND	ND	ND	ND	ND	ND	ND	ND	ND
Carbon Disulfide	--	3.0 J	ND	3.3 J	ND	ND	ND	ND	ND	ND
Carbon Tetrachloride	250	ND	ND	ND	ND	0.13 J	ND	ND	ND	ND
Chlorobenzene	--	ND	ND	ND	ND	ND	ND	ND	ND	ND
Chloroethane	--	ND	ND	ND	ND	ND	ND	ND	ND	ND
Chloroform	--	110	ND	24	ND	8.2	ND	ND	41 J	ND
Chloromethane	--	ND	ND	ND	ND	ND	ND	ND	ND	ND
cis-1,2-Dichloroethene [1]	--	20	ND	94	ND	73	ND	ND	49 J	ND
cis1,3-Dichloropropene	--	NS	ND	NS	ND	NS	ND	ND	NS	ND
Cumene	--	NS	ND	NS	ND	NS	ND	ND	NS	ND
Cyclohexane	--	NS	ND	NS	2.1 J	NS	ND	ND	NS	ND
Dichlorodifluoromethane	--	NS	ND	NS	ND	NS	ND	ND	NS	ND
Ethanol	--	NS	ND	NS	ND	NS	ND	ND	NS	ND
Ethylbenzene	--	4.7 J	ND	4.4 J	ND	7.9	ND	ND	170	ND
Freon 11	--	6.5 J	ND	6.1 J	ND	6.5 J	ND	ND	ND	ND
Freon 113	--	2,200	ND	2,800	ND	2,500	ND	ND	ND	ND
Freon 114	--	NS	ND	NS	ND	NS	ND	ND	NS	ND
Freon 12	--	2.9 J	ND	2.8 J	ND	2.6 J	ND	ND	ND	ND
Heptane	--	NS	ND	NS	ND	NS	ND	ND	NS	ND
Hexachlorobutadiene	--	NS	ND	NS	ND	NS	ND	ND	NS	ND
Hexane	--	NS	ND	NS	ND	NS	ND	ND	NS	ND
m,p-Xylene	--	12	ND	14	ND	26	ND	ND	290	ND
Methyl-tert-Butyl-Ether	--	ND	ND	ND	ND	ND	ND	ND	ND	ND
Methylene Chloride	--	ND	ND	ND	ND	ND	ND	ND	ND	ND
o-Xylene	--	3.5 J	ND	3.4 J	ND	9.2	ND	ND	80 J	ND
Propylbenzene	--	NS	ND	NS	ND	NS	ND	ND	NS	ND
Styrene	--	1.2 J	ND	1.8 J	ND	17	ND	ND	ND	ND
Tetrachloroethene [1]	1,000	4,000	ND	5,000	ND	720	ND	ND	420	ND
Tetrahydrofuran	--	NS	1.8 J	NS	ND	NS	1.7 J	ND	NS	1.9 J
Toluene	--	33	ND	32	9.4	65	6.6	6.2	500	ND
trans-1,2-Dichloroethene [1]	--	7.9 J	ND	16	ND	11	ND	ND	ND	ND
trans-1,3-Dichloropropene	--	NS	ND	NS	ND	NS	ND	ND	NS	ND
Trichloroethene [1]	250	1,700	ND	2,700	ND	1,500	ND	ND	34,000	ND
Vinyl Chloride [1]	--	NS	ND	NS	ND	NS	ND	ND	NS	ND

Table 10
Soil Vapor Extraction Containment System
Site 1, Former Drum Marshalling Yard
Naval Weapons Industrial Reserve Plant - Bethpage, NY
Historical Off-site Vapor Analytical Results Summary of SVPMs
Through January 2013

Sample ID	Screening Value [2]	SVPM 2002I		SVPM 2002D		SVPM 2003S		SVPM 2003I		SVPM 2003D	
Sample Date		Oct 2008	01/15/13	Oct 2008	01/15/13	Oct 2008	01/16/13	Oct 2008	01/16/13	Oct 2008	01/16/13
Analysis by TO-15 (µg/m³)											
1,1,1-Trichloroethane [1]	1,000	52,000	ND	27,000	ND	66	ND	170 J	ND	720 J	ND
1,1,2,2-Tetrachloroethane	--	NS	ND	NS	ND	NS	ND	NS	ND	NS	ND
1,1,2-Trichloroethane	--	NS	ND	NS	ND	NS	ND	NS	ND	NS	ND
1,1-Dichloroethane [1]	--	680	ND	490	ND	ND	ND	0.49 J	ND	8.6	ND
1,1-Dichloroethene [1]	--	890	ND	480	ND	ND	ND	2	ND	23	ND
1,2,4-Trichlorobenzene	--	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,2,4-Trimethylbenzene	--	NS	ND	NS	ND	NS	ND	NS	ND	NS	ND
1,2-Dibromoethane	--	NS	ND	NS	ND	NS	ND	NS	ND	NS	ND
1,2-Dichlorobenzene	--	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,2-Dichloroethane [1]	--	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,2-Dichloropropane	--	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,3,5-Trimethylbenzene	--	NS	ND	NS	ND	NS	ND	NS	ND	NS	ND
1,3-Butadiene	--	NS	ND	NS	ND	NS	ND	NS	ND	NS	ND
1,3-Dichlorobenzene	--	ND	ND	ND	ND	0.25 J	ND	0.26 J	ND	ND	ND
1,4-Dichlorobenzene	--	ND	ND	ND	ND	0.33 J	ND	0.31 J	ND	ND	ND
1,4-Dioxane	--	NS	ND	NS	ND	NS	ND	NS	ND	NS	ND
2,2,4Trimethylpentane	--	NS	ND	NS	ND	NS	1.5 J	NS	ND	NS	ND
2-Butanone	--	ND	ND	78	ND	19	2.8 J	31	ND	47	ND
2-Hexanone	--	NS	ND	NS	ND	NS	ND	NS	ND	NS	ND
2-Propanol	--	NS	ND	NS	ND	NS	ND	NS	ND	NS	ND
3-Chloro-1-propene	--	NS	ND	NS	ND	NS	ND	NS	ND	NS	ND
4-ethyltoluene	--	NS	ND	NS	ND	NS	ND	NS	ND	NS	ND
4-Methyl-2-pentanone	--	ND	ND	ND	ND	2	ND	ND	ND	ND	ND
Acetone	--	250	ND	1,200	ND	120	ND	170 J	ND	410 J	ND
alpha-Chlorotoluene	--	NS	ND	NS	ND	NS	ND	NS	ND	NS	ND
Benzene	--	ND	1.8 J	11 J	12	3.5	1.1 J	6.4	ND	8.5	0.95 J
Bromodichloromethane	--	NS	ND	NS	ND	NS	ND	NS	ND	NS	ND
Bromoform	--	NS	ND	NS	ND	NS	ND	NS	ND	NS	ND
Bromomethane	--	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Carbon Disulfide	--	ND	ND	ND	ND	2	ND	3	ND	2.5 J	ND
Carbon Tetrachloride	250	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Chlorobenzene	--	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Chloroethane	--	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Chloroform	--	32 J	ND	19 J	ND	4.6	ND	3	39	9.4	ND
Chloromethane	--	ND	ND	ND	ND	0.23 J	ND	0.13 J	ND	0.46 J	ND
cis-1,2-Dichloroethene [1]	--	170	ND	130	ND	ND	ND	ND	ND	1.6	ND
cis1,3-Dichloropropene	--	NS	ND	NS	ND	NS	ND	NS	ND	NS	ND
Cumene	--	NS	ND	NS	20	NS	ND	NS	ND	NS	ND
Cyclohexane	--	NS	ND	NS	ND	NS	2.2 J	NS	ND	NS	ND
Dichlorodifluoromethane	--	NS	ND	NS	ND	NS	ND	NS	ND	NS	ND
Ethanol	--	NS	ND	NS	ND	NS	17	NS	ND	NS	ND
Ethylbenzene	--	ND	ND	12 J	ND	6	1.6 J	8	ND	7.8	ND
Freon 11	--	ND	ND	ND	ND	13	ND	13	ND	40	ND
Freon 113	--	ND	ND	34 J	ND	1	ND	2	ND	4	ND
Freon 114	--	NS	ND	NS	ND	NS	ND	NS	ND	NS	ND
Freon 12	--	ND	ND	ND	ND	1.3	ND	1.2	ND	3.9	ND
Heptane	--	NS	ND	NS	ND	NS	2.2 J	NS	ND	NS	ND
Hexachlorobutadiene	--	NS	ND	NS	ND	NS	ND	NS	ND	NS	ND
Hexane	--	NS	ND	NS	ND	NS	1.8 J	NS	ND	NS	ND
m,p-Xylene	--	32 J	ND	40 J	ND	20	ND	25	ND	25	ND
Methyl-tert-Butyl-Ether	--	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Methylene Chloride	--	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
o-Xylene	--	ND	ND	16 J	ND	8.4	2.0 J	9.8	ND	10	ND
Propylbenzene	--	NS	ND	NS	ND	NS	0.36 J	NS	ND	NS	ND
Styrene	--	ND	ND	ND	ND	21	ND	26	ND	24	ND
Tetrachloroethene [1]	1,000	740	ND	48 J	ND	19	1.6 J	14	0.97 J	8.9	ND
Tetrahydrofuran	--	NS	3.1	NS	ND	NS	1.4 J	NS	1.4 J	NS	ND
Toluene	--	46 J	ND	65 J	ND	20	15	35	ND	63	ND
trans-1,2-Dichloroethene [1]	--	ND	ND	ND	ND	ND	2.3 J	ND	ND	ND	ND
trans-1,3-Dichloropropene	--	NS	ND	NS	ND	NS	ND	NS	ND	NS	ND
Trichloroethene [1]	250	89,000	12	26,000	ND	20	4.9	82	ND	710	ND
Vinyl Chloride [1]	--	NS	ND	NS	ND	NS	ND	NS	ND	NS	ND

Table 10
Soil Vapor Extraction Containment System
Site 1, Former Drum Marshalling Yard
Naval Weapons Industrial Reserve Plant - Bethpage, NY
Historical Off-site Vapor Analytical Results Summary of SVPMs
Through January 2013

Sample ID	Screening Value [2]	SVPM 2004S		SVPM 2004I		SVPM 2004D		SVPM 2006S	
Sample Date		Oct 2008	01/16/13	Oct 2008	01/16/13	Oct 2008	01/16/13	Oct 2008	01/16/13
Analysis by TO-15 (µg/m³)									
1,1,1-Trichloroethane [1]	1,000	1.4	ND	460	ND	480	ND	12	ND
1,1,2,2-Tetrachloroethane	--	NS	ND	NS	ND	NS	ND	NS	ND
1,1,2-Trichloroethane	--	NS	ND	NS	ND	NS	ND	NS	ND
1,1-Dichloroethane [1]	--	ND	ND	44	ND	74	ND	ND	ND
1,1-Dichloroethene [1]	--	ND	ND	7.1	ND	ND	ND	ND	ND
1,2,4-Trichlorobenzene	--	ND	ND	ND	ND	ND	ND	ND	ND
1,2,4-Trimethylbenzene	--	NS	ND	NS	ND	NS	ND	NS	ND
1,2-Dibromoethane	--	NS	ND	NS	ND	NS	ND	NS	ND
1,2-Dichlorobenzene	--	ND	ND	ND	ND	ND	ND	ND	ND
1,2-Dichloroethane [1]	--	0.25 J	ND	ND	ND	ND	ND	ND	ND
1,2-Dichloropropane	--	0.59 J	ND	ND	ND	ND	ND	ND	ND
1,3,5-Trimethylbenzene	--	NS	ND	NS	ND	NS	ND	NS	ND
1,3-Butadiene	--	NS	ND	NS	ND	NS	ND	NS	ND
1,3-Dichlorobenzene	--	ND	ND	ND	ND	ND	ND	ND	ND
1,4-Dichlorobenzene	--	0.36 J	ND	ND	ND	ND	ND	ND	ND
1,4-Dioxane	--	NS	ND	NS	ND	NS	ND	NS	ND
2,2,4-Trimethylpentane	--	NS	0.42 J	NS	ND	NS	ND	NS	ND
2-Butanone	--	4	ND	30	ND	100	ND	68	ND
2-Hexanone	--	NS	ND	NS	ND	NS	ND	NS	ND
2-Propanol	--	NS	ND	NS	ND	NS	ND	NS	ND
3-Chloro-1-propene	--	NS	ND	NS	ND	NS	ND	NS	ND
4-ethyltoluene	--	NS	ND	NS	ND	NS	ND	NS	ND
4-Methyl-2-pentanone	--	0.47 J	ND	ND	ND	1.2 J	ND	0.47 J	ND
Acetone	--	29	ND	240	ND	640	ND	1,200 J	ND
alpha-Chlorotoluene	--	NS	ND	NS	ND	NS	ND	NS	ND
Benzene	--	1.1	ND	3.5	ND	15	ND	2.5	ND
Bromodichloromethane	--	NS	ND	NS	ND	NS	ND	NS	ND
Bromoform	--	NS	ND	NS	ND	NS	ND	NS	ND
Bromomethane	--	ND	ND	ND	ND	ND	ND	2.3	ND
Carbon Disulfide	--	1.1	ND	2.2 J	ND	3.4 J	ND	2.1 J	ND
Carbon Tetrachloride	250	0.55 J	ND	ND	ND	ND	1.6 J	0.94 J	ND
Chlorobenzene	--	ND	ND	ND	ND	ND	ND	ND	ND
Chloroethane	--	ND	ND	ND	ND	ND	ND	ND	ND
Chloroform	--	0.25 J	ND	25	ND	24	4.4	3	ND
Chloromethane	--	1	ND	ND	ND	ND	ND	ND	ND
cis-1,2Dichloroethene [1]	--	ND	ND	4.6	ND	ND	ND	4.1	5.4
cis-1,3-Dichloropropene	--	NS	ND	NS	ND	NS	ND	NS	ND
Cumene	--	NS	ND	NS	ND	NS	ND	NS	ND
Cyclohexane	--	NS	ND	NS	ND	NS	ND	NS	ND
Dichlorodifluoromethane	--	NS	ND	NS	ND	NS	ND	NS	ND
Ethanol	--	NS	ND	NS	ND	NS	ND	NS	ND
Ethylbenzene	--	1	ND	3.6	0.66 J	7.3	ND	8.8	ND
Freon 11	--	1.5	ND	4.7	ND	3.4 J	ND	2.3 J	ND
Freon 113	--	0.79 J	ND	1,200	ND	1,300	ND	170 J	ND
Freon 114	--	NS	ND	NS	ND	NS	ND	NS	ND
Freon 12	--	2.5	ND	3.6	ND	2.9 J	ND	2.3	ND
Heptane	--	NS	ND	NS	ND	NS	ND	NS	ND
Hexachlorobutadiene	--	NS	ND	NS	ND	NS	ND	NS	ND
Hexane	--	NS	ND	NS	ND	NS	ND	NS	ND
m,p-Xylene	--	3.1	ND	12	ND	21	ND	33	ND
Methyl-tert-Butyl-Ether	--	ND	ND	1.7 J	ND	11	ND	ND	ND
Methylene Chloride	--	ND	ND	ND	ND	ND	ND	ND	ND
o-Xylene	--	1.2	0.45 J	3.3	0.46 J	5.8	ND	12	ND
Propylbenzene	--	NS	ND	ND	ND	NS	ND	NS	ND
Styrene	--	1.4	ND	2.0 J	ND	ND	ND	37	ND
Tetrachloroethene [1]	1,000	1.8	1.0 J	1,000	0.68 J	580	2.3 J	14	1.0 J
Tetrahydrofuran	--	NS	0.87 J	NS	ND	NS	ND	NS	ND
Toluene	--	6.7	ND	24	ND	52	ND	35	ND
trans-1,2-Dichloroethene [1]	--	ND	ND	3.9	ND	ND	ND	ND	ND
trans-1,3Dichloropropene	--	NS	ND	NS	ND	NS	ND	NS	ND
Trichloroethene [1]	250	1.0	ND	550	ND	600	ND	32	ND
Vinyl Chloride [1]	--	NS	ND	NS	ND	NS	ND	NS	ND

Table 10
Soil Vapor Extraction Containment System
Site 1, Former Drum Marshalling Yard
Naval Weapons Industrial Reserve Plant - Bethpage, NY
Historical Off-site Vapor Analytical Results Summary of SVPMs
Through January 2013

Sample ID	Screening Value [2]	SVPM 2006I		SVPM 2006D		SVPM 2007S		SVPM 2007I		SVPM 2007D		
Sample Date		Oct 2008	01/16/13	Oct 2008	01/16/13	Oct 2008	01/16/13	Oct 2008	01/16/13	Oct 2008	01/16/13	1/16/13 - Duplicate
Analysis by TO-15 (µg/m³)												
1,1,1-Trichloroethane [1]	1,000	22	ND	35	ND	150	ND	260	ND	870	1.3 J	1.1 J
1,1,2,2-Tetrachloroethane	--	NS	ND	NS	ND	NS	ND	NS	ND	NS	ND	ND
1,1,2-Trichloroethane	--	NS	ND	NS	ND	NS	ND	NS	ND	NS	ND	ND
1,1-Dichloroethane [1]	--	ND	ND	ND	ND	ND	ND	ND	ND	3.0 J	ND	ND
1,1-Dichloroethene [1]	--	0.62	ND	1.2	ND	0.26 J	ND	0.69 J	ND	13	ND	ND
1,2,4-Trichlorobenzene	--	ND	ND	ND	ND	ND	ND	0.37 J	ND	ND	ND	ND
1,2,4-Trimethylbenzene	--	NS	ND	NS	ND	NS	ND	NS	ND	NS	ND	ND
1,2-Dibromoethane	--	NS	ND	NS	ND	NS	ND	NS	ND	NS	ND	ND
1,2-Dichlorobenzene	--	ND	ND	ND	ND	0.19 J	ND	ND	ND	ND	ND	ND
1,2-Dichloroethane [1]	--	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,2-Dichloropropane	--	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,3,5-Trimethylbenzene	--	NS	ND	NS	ND	NS	ND	NS	ND	NS	ND	ND
1,3-Butadiene	--	NS	ND	NS	ND	NS	ND	NS	ND	NS	ND	ND
1,3-Dichlorobenzene	--	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,4-Dichlorobenzene	--	ND	ND	0.35 J	ND	0.26 J	ND	ND	ND	ND	ND	ND
1,4-Dioxane	--	NS	ND	NS	ND	NS	ND	NS	ND	NS	ND	ND
2,2,4-Trimethylpentane	--	NS	ND	NS	0.42 J	NS	ND	NS	ND	NS	1.8 J	ND
2-Butanone	--	59	ND	140	ND	58	ND	41	ND	200	ND	ND
2-Hexanone	--	NS	ND	NS	ND	NS	ND	NS	ND	NS	ND	ND
2-Propanol	--	NS	ND	NS	ND	NS	ND	NS	ND	NS	ND	ND
3-Chloro-1-propene	--	NS	ND	NS	ND	NS	ND	NS	ND	NS	ND	ND
4-ethyltoluene	--	NS	ND	NS	ND	NS	ND	NS	ND	NS	ND	ND
4-Methyl-2-pentanone	--	1.1	ND	0.8	ND	0.62	ND	0.67 J	ND	2.0 J	ND	ND
Acetone	--	860 J	ND	1,100 J	ND	850 J	ND	630 J	ND	3,400 J	48 J	ND
alpha-Chlorotoluene	--	NS	ND	NS	ND	NS	ND	NS	ND	NS	ND	ND
Benzene	--	7	ND	5.4	ND	5.7	ND	5.8	3.6	11	1.3 J	ND
Bromodichloromethane	--	NS	ND	NS	ND	NS	ND	NS	ND	NS	ND	ND
Bromoform	--	NS	ND	NS	ND	NS	ND	NS	ND	NS	ND	ND
Bromomethane	--	0.73	ND	ND	ND	0.93	ND	0.78 J	ND	ND	ND	ND
Carbon Disulfide	--	1.5 J	ND	2.2	ND	2.7 J	ND	2.5 J	ND	4.9 J	ND	ND
Carbon Tetrachloride	250	2.1	ND	2.5	ND	0.33 J	ND	ND	ND	ND	ND	ND
Chlorobenzene	--	0.15 J	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Chloroethane	--	0.15 J	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Chloroform	--	3.7	4.2	6.1	3.5 J	1	ND	0.72 J	0.76 J	4.1 J	2.1 J	2.5 J
Chloromethane	--	0.27 J	ND	0.25 J	ND	0.11 J	ND	ND	ND	ND	ND	ND
cis-1,2-Dichloroethene [1]	--	45	340	89	190	ND	13	ND	ND	ND	9.8	11
cis-1,3-Dichloropropene	--	NS	ND	NS	ND	NS	ND	NS	ND	NS	ND	ND
Cumene	--	NS	ND	NS	ND	NS	ND	NS	0.89 J	NS	ND	ND
Cyclohexane	--	NS	ND	NS	ND	NS	ND	NS	ND	NS	2.5 J	ND
Dichlorodifluoromethane	--	NS	ND	NS	ND	NS	ND	NS	ND	NS	ND	ND
Ethanol	--	NS	ND	NS	ND	NS	ND	NS	ND	NS	ND	ND
Ethylbenzene	--	6.2	ND	6.5	ND	1.5	ND	2.9	ND	7.3	1.3 J	ND
Freon 11	--	2.3 J	ND	2.8 J	ND	2.5 J	ND	2.7	ND	2.6 J	ND	ND
Freon 113	--	280 J	ND	300 J	ND	11 J	ND	16 J	ND	41	ND	ND
Freon 114	--	NS	ND	NS	ND	NS	ND	NS	ND	NS	ND	ND
Freon 12	--	1.2	ND	1.5	ND	1.1	ND	2.8	ND	ND	9.5	12
Heptane	--	NS	ND	NS	ND	NS	ND	NS	ND	NS	3.4	ND
Hexachlorobutadiene	--	NS	ND	NS	ND	NS	ND	NS	ND	NS	ND	ND
Hexane	--	NS	ND	NS	ND	NS	ND	NS	ND	NS	1.7 J	ND
m,p-Xylene	--	20	ND	19	ND	3.6	ND	10	ND	27	ND	ND
Methyl-tert-Butyl-Ether	--	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Methylene Chloride	--	ND	ND	ND	ND	0.66 J	ND	ND	ND	ND	ND	ND
o-Xylene	--	7.2	ND	5.3	ND	0.60 J	ND	2.3	ND	8.4	1.7 J	ND
Propylbenzene	--	NS	ND	NS	ND	NS	ND	NS	ND	NS	ND	ND
Styrene	--	21	ND	2.1	ND	0.12 J	ND	0.84 J	ND	2.1	ND	ND
Tetrachloroethene [1]	1,000	29	1.9 J	11	1.4 J	13	1.1 J	25	1.8 J	5.3 J	2.2 J	1.8 J
Tetrahydrofuran	--	NS	ND	NS	ND	NS	ND	NS	ND	NS	ND	ND
Toluene	--	34	ND	60	ND	20	ND	20	ND	65	10 J	ND
trans-1,2-Dichloroethene [1]	--	1.4 J	4.6	2.7	2.2 J	ND	ND	ND	ND	ND	1.3 J	ND
trans-1,3-Dichloropropene	--	NS	ND	NS	ND	NS	ND	NS	ND	NS	ND	ND
Trichloroethene [1]	250	71	47	61	17	29	5.0	87	ND	400	5.5 J	2.9 J
Vinyl Chloride [1]	--	NS	ND	NS	ND	NS	ND	NS	ND	NS	ND	ND

Notes:

µg/m³ = micrograms per cubic meter

J = Estimated value

ND = Not detected above laboratory method detection limit (MDL)

NS = Not sampled

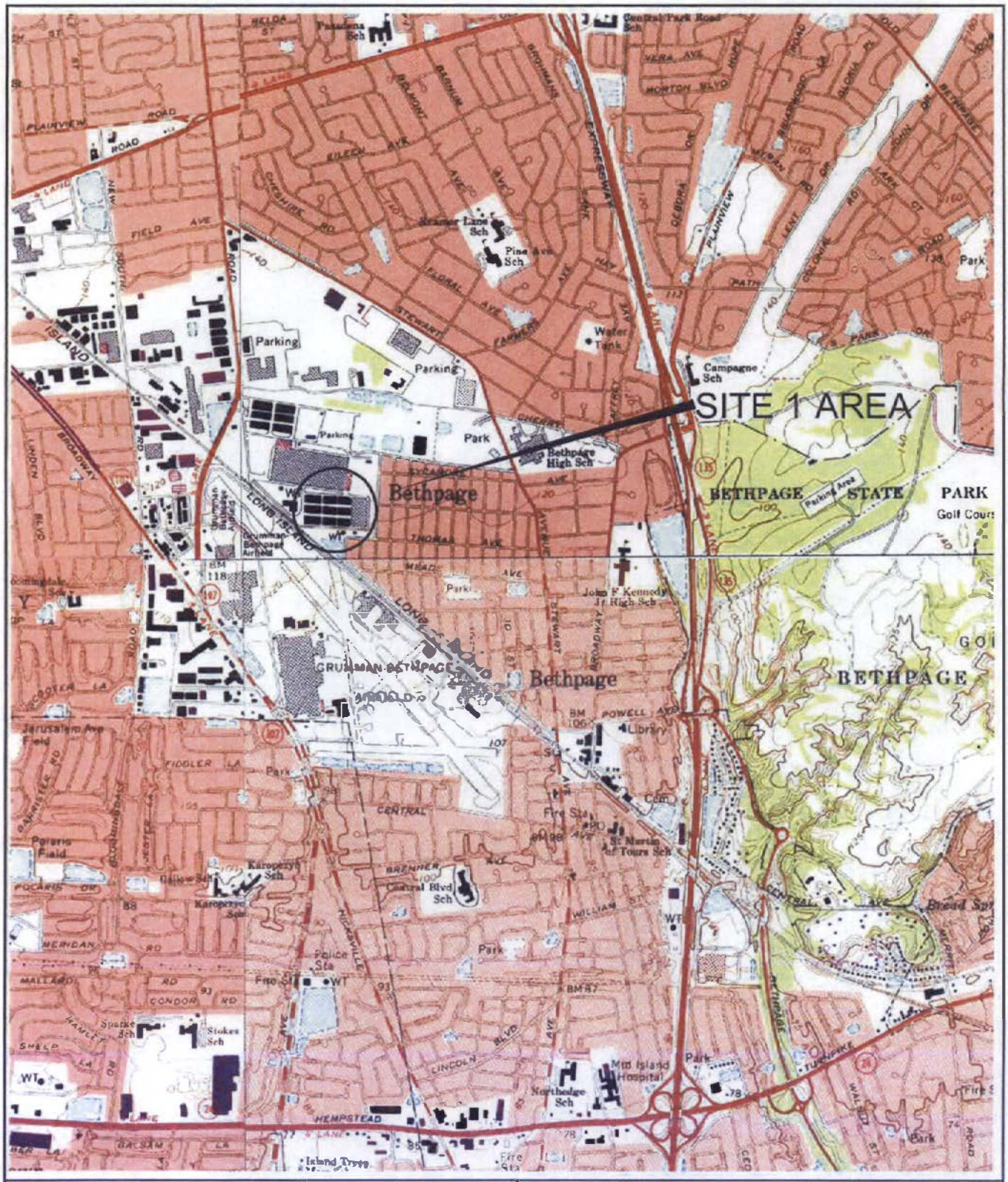
SVPM = soil vapor pressure monitor

Bolded value indicates detected analyte.

(1) Site specific compound specified in the *Final Supplemental Offsite Soil Vapor Intrusion Monitoring Plan for the Soil Vapor Extraction Containment System Site 1 – Former Drum Marshalling Area, NWIRP Bethpage, New York* (Tetra Tech

(2) Screening Value is the New York State Department of Health (NYSDOH) air guideline value for subslab.

FIGURES



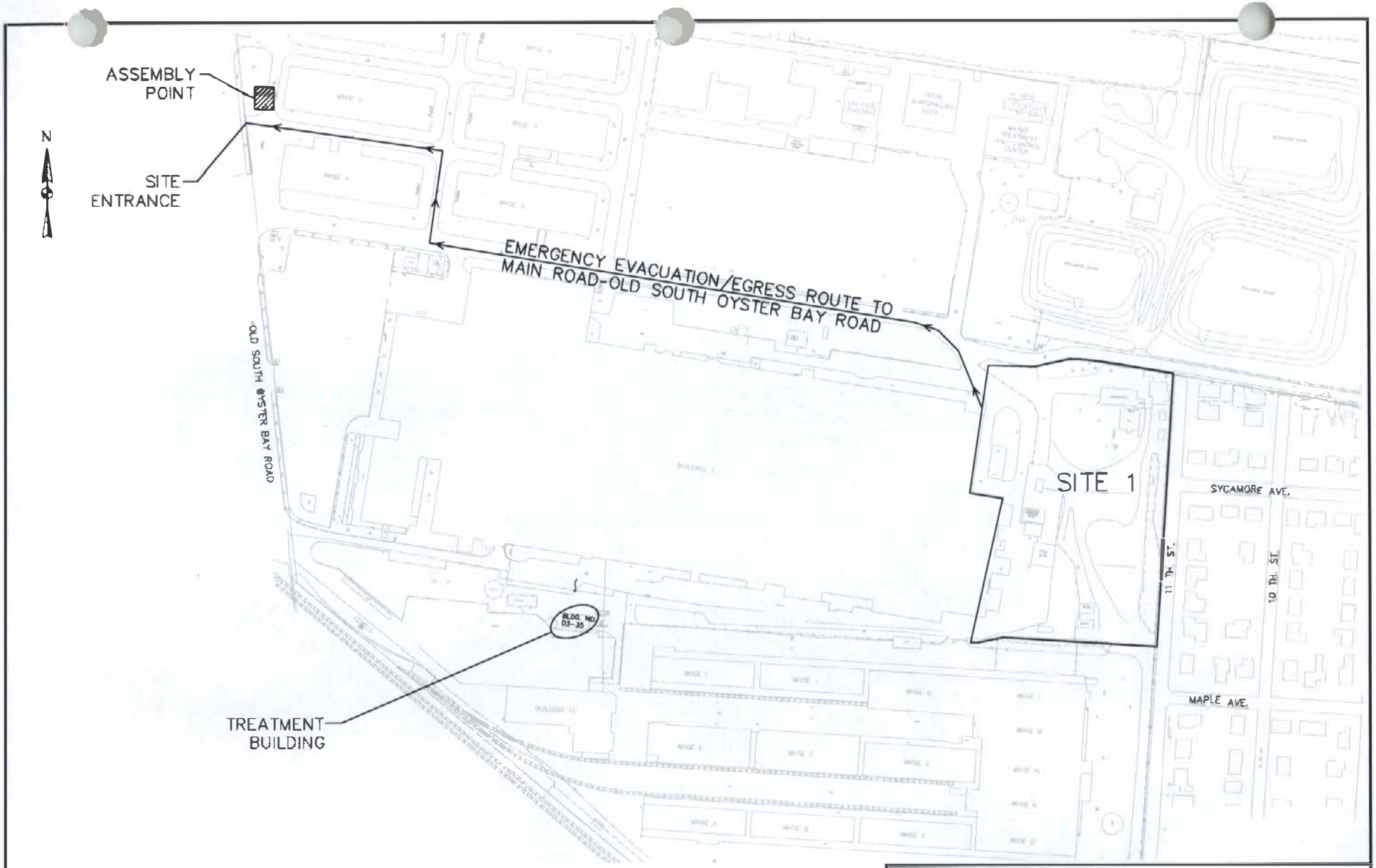
Source: U.S.G.S. Topographic Maps (7.5 Minute)
Amityville, Freeport, Hicksville, Huntington, NY Quadrangles

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

SVPM-2004D
SVPM-2004I
SVPM-2004S
SVPM-2001S
SVPM-2001I
SVPM-2001D
SVPM-2006S
SVPM-2006I
SVPM-2006D
SVPM-2002D
SVPM-2002I
SVPM-2002S
SVPM-2007I
SVPM-2007D
SVPM-2007S
SVPM-2003D
SVPM-2003S
SVPM-2003I

Sycamore Ave
11th ST
10th ST
9th ST
Maple Ave

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 N
WAREHOUSE E
WAREHOUSE F
WAREHOUSE G
WAREHOUSE H
WAREHOUSE A
WAREHOUSE B
WAREHOUSE C
WAREHOUSE D

LEGEND

- FORMER NWIRP BOUNDARY
- CURRENT NWIRP BOUNDARY
- SVE CONTAINMENT WELL LOCATION
- SOIL VAPOR PRESSURE MONITOR

SITE PLAN
EXISTING LAYOUT

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

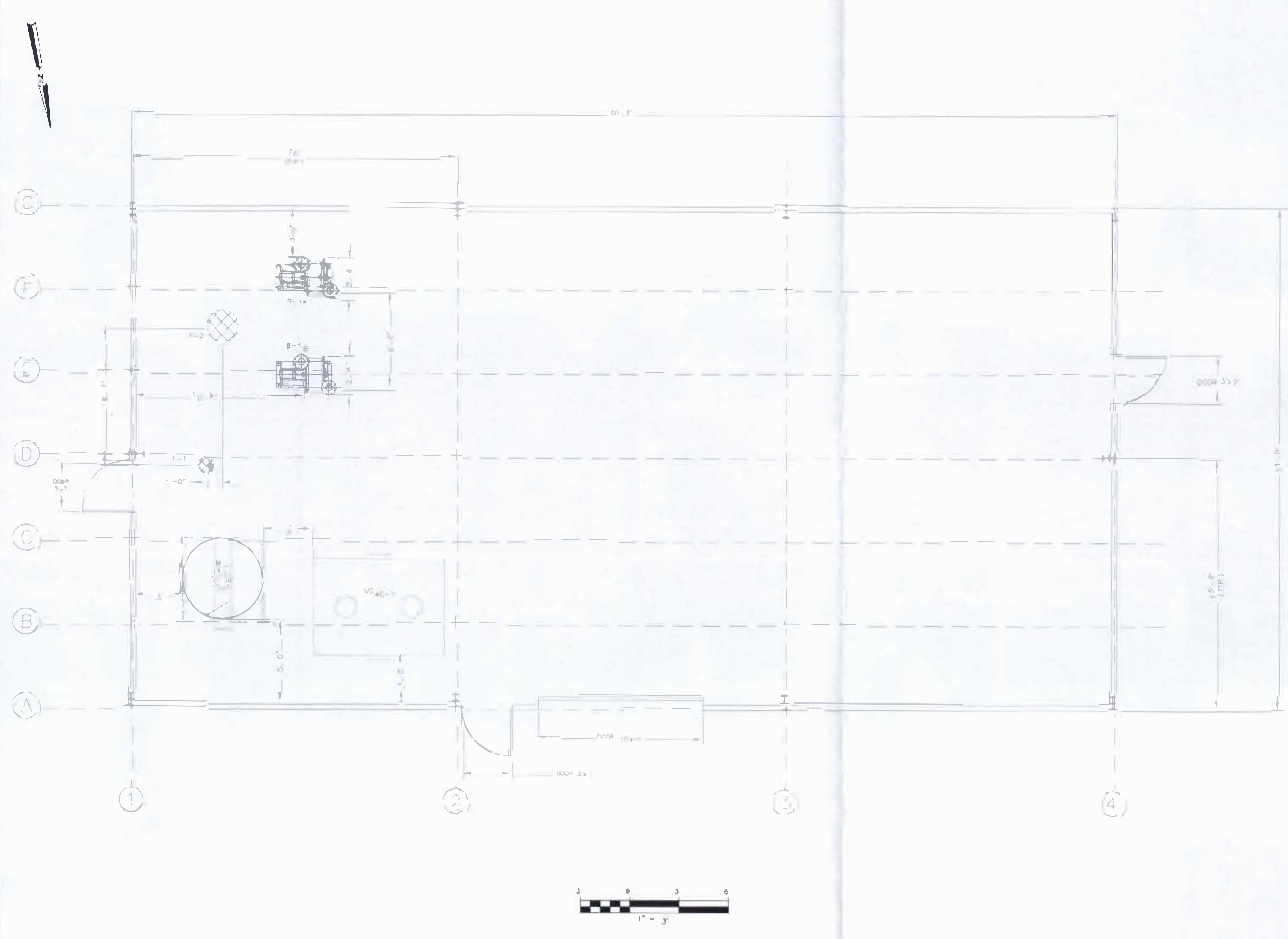
H&S Environmental, Inc.
160 East Main Street, Suite 2F, Westborough, MA 01581

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

BETHPAGE_SitePlan_Fig3.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
MS-1	1	MOISTURE SEPARATOR CONFIGURATION: VERTICAL, CYLINDRICAL MATERIAL OF CONSTRUCTION: CARBON STEEL, EPOXY INTERIOR COATING, PAINTED 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 RESISTANT 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 36 IW, 10 INCH FLANGED CONNECTION
B-1A, B-1B	2	SOIL VAPOR EXTRACTION BLOWER CONFIGURATION: HORIZONTAL CENTRIFUGAL RATING: 800 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 RATINGS: 1,000 CFM AT 4 IW, 2,000 CFM AT 6 IW CAPACITY: 5,000 LBS CARBON DIMENSIONS: 8' X 8' FOOTPRINT, 8' HT

REV	DESCRIPTION	PREP BY	DATE	APPR'D
0	ISSUED FOR CONSTRUCTION	DLB	10-14-09	SCP

TETRA TECH ENGINEERING CORPORATION PC

NAVAL FACILITIES ENGINEERING COMMAND, MID-ATLANTIC

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

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

NAVFAC DRAWING NO. Figure 4

SIZE D

SHEET NO. 1 - 3

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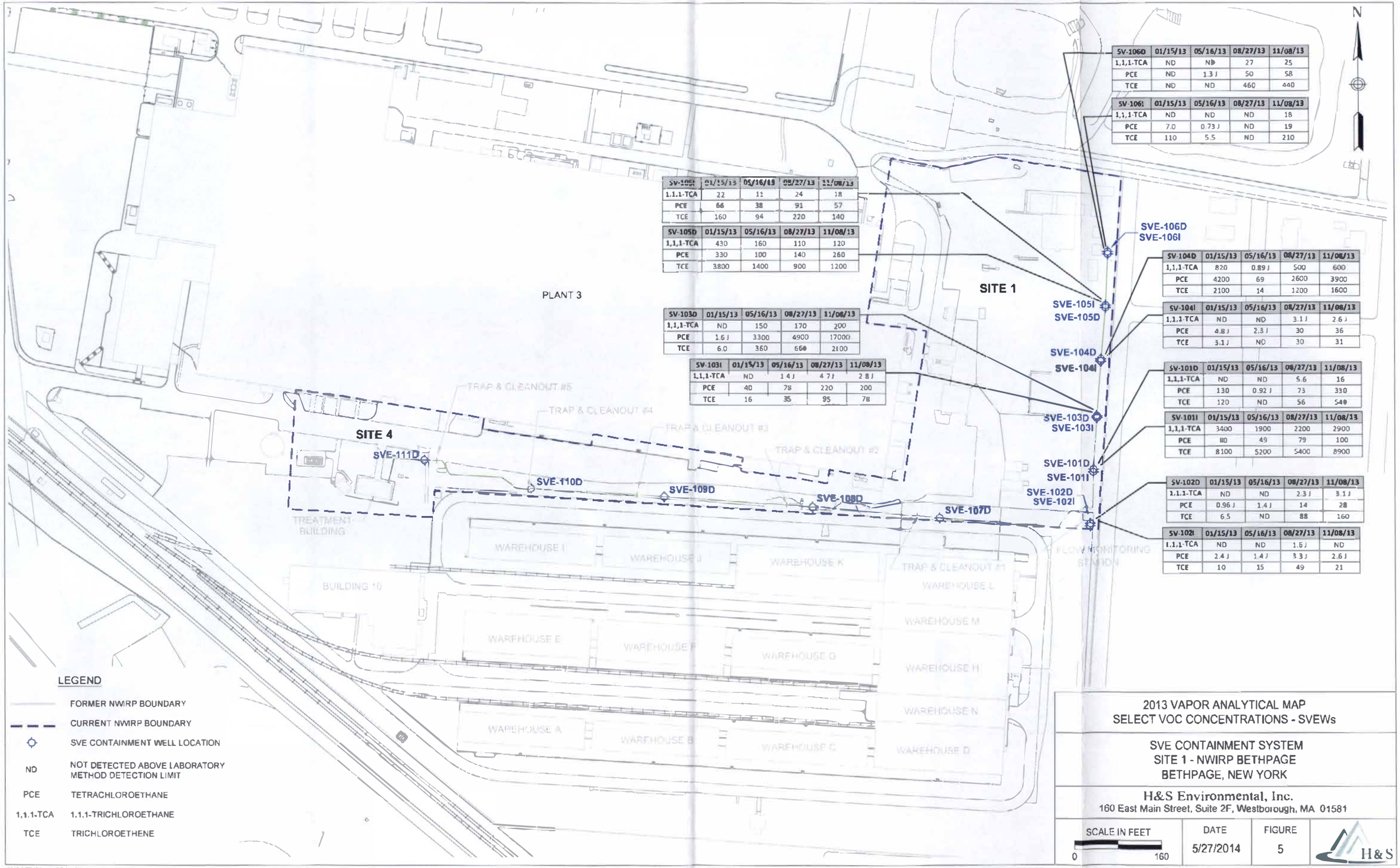


SV-106D	01/15/13	05/16/13	08/27/13	11/08/13
1,1,1-TCA	ND	ND	27	25
PCE	ND	1.3 J	50	58
TCE	ND	ND	460	440

SV-106I	01/15/13	05/16/13	08/27/13	11/08/13
1,1,1-TCA	ND	ND	ND	18
PCE	7.0	0.73 J	ND	19
TCE	110	5.5	ND	210

SV-105I	01/15/13	05/16/13	08/27/13	11/08/13
1,1,1-TCA	22	11	24	18
PCE	66	38	91	57
TCE	160	94	220	140

SV-105D	01/15/13	05/16/13	08/27/13	11/08/13
1,1,1-TCA	430	160	110	120
PCE	330	100	140	260
TCE	3800	1400	900	1200

SV-104D	01/15/13	05/16/13	08/27/13	11/08/13
1,1,1-TCA	820	0.89 J	500	600
PCE	4200	69	2600	3900
TCE	2100	14	1200	1600

SV-104I	01/15/13	05/16/13	08/27/13	11/08/13
1,1,1-TCA	ND	ND	3.1 J	2.6 J
PCE	4.8 J	2.3 J	30	36
TCE	3.1 J	ND	30	31

SV-103D	01/15/13	05/16/13	08/27/13	11/08/13
1,1,1-TCA	ND	150	170	200
PCE	1.6 J	3300	4900	17000
TCE	6.0	360	660	2100

SV-103I	01/15/13	05/16/13	08/27/13	11/08/13
1,1,1-TCA	ND	14 J	47 J	28 J
PCE	40	78	220	200
TCE	16	35	95	78

SV-101D	01/15/13	05/16/13	08/27/13	11/08/13
1,1,1-TCA	ND	ND	5.6	16
PCE	130	0.92 J	73	330
TCE	120	ND	56	540

SV-101I	01/15/13	05/16/13	08/27/13	11/08/13
1,1,1-TCA	3400	1900	2200	2900
PCE	80	49	79	100
TCE	8100	5200	5400	8900

SV-102D	01/15/13	05/16/13	08/27/13	11/08/13
1,1,1-TCA	ND	ND	2.3 J	3.1 J
PCE	0.96 J	1.4 J	14	28
TCE	6.5	ND	88	160

SV-102I	01/15/13	05/16/13	08/27/13	11/08/13
1,1,1-TCA	ND	ND	1.6 J	ND
PCE	2.4 J	1.4 J	3.3 J	2.6 J
TCE	10	15	49	21

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

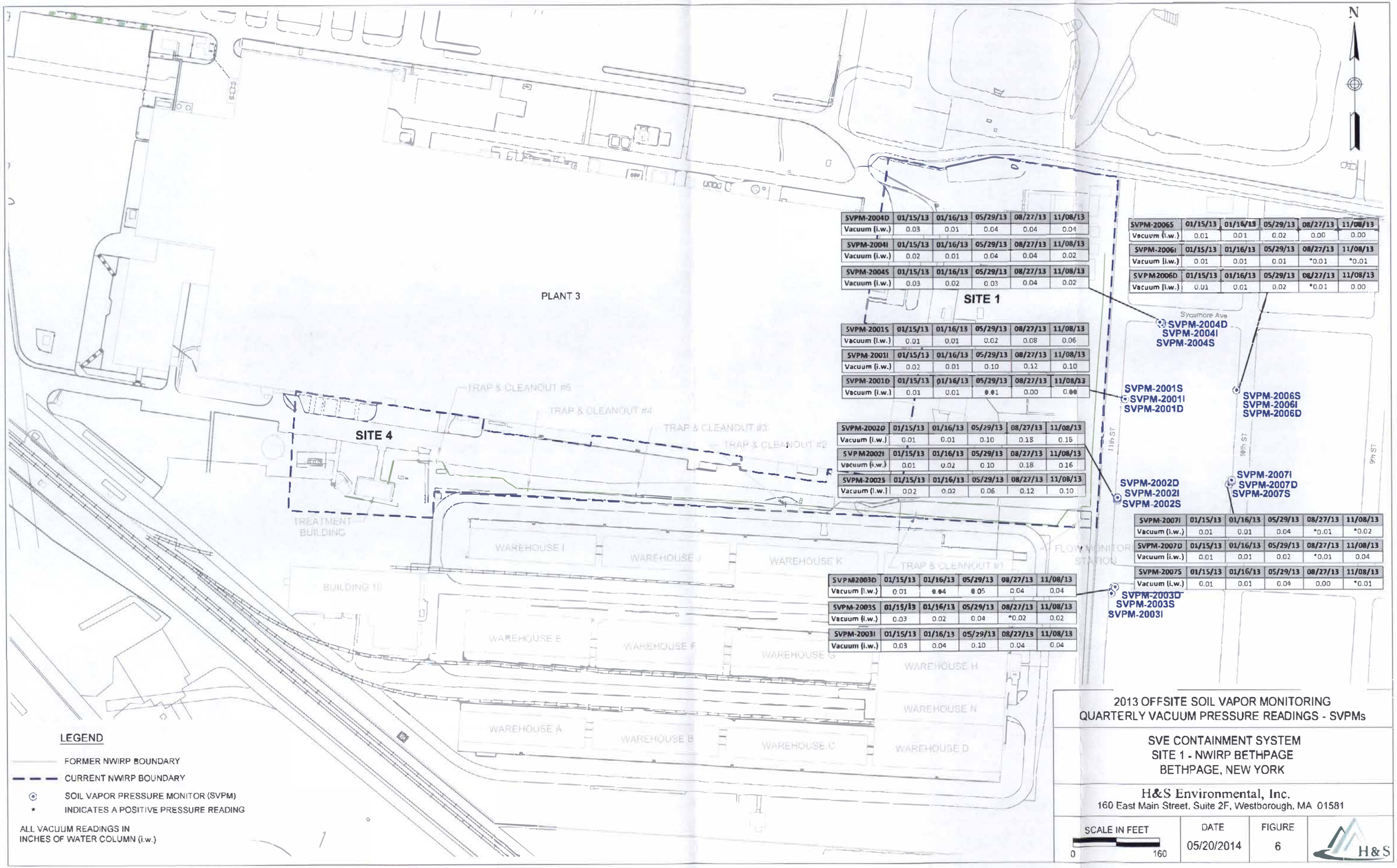
2013 VAPOR ANALYTICAL MAP
SELECT VOC CONCENTRATIONS - SVEWs

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

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

SCALE IN FEET: 0 — 160 | DATE: 5/27/2014 | FIGURE: 5

2013 BETHPAGE VOC.DWG



SVPM-2004D	01/15/13	01/16/13	05/29/13	08/27/13	11/08/13
Vacuum (i.w.)	0.03	0.01	0.04	0.04	0.04

SVPM-2004I	01/15/13	01/16/13	05/29/13	08/27/13	11/08/13
Vacuum (i.w.)	0.02	0.01	0.04	0.04	0.02

SVPM-2004S	01/15/13	01/16/13	05/29/13	08/27/13	11/08/13
Vacuum (i.w.)	0.03	0.02	0.03	0.04	0.02

SVPM-2001S	01/15/13	01/16/13	05/29/13	08/27/13	11/08/13
Vacuum (i.w.)	0.01	0.01	0.02	0.08	0.06

SVPM-2001I	01/15/13	01/16/13	05/29/13	08/27/13	11/08/13
Vacuum (i.w.)	0.02	0.01	0.10	0.12	0.10

SVPM-2001D	01/15/13	01/16/13	05/29/13	08/27/13	11/08/13
Vacuum (i.w.)	0.01	0.01	0.01	0.00	0.00

SVPM-2002D	01/15/13	01/16/13	05/29/13	08/27/13	11/08/13
Vacuum (i.w.)	0.01	0.01	0.10	0.18	0.16

SVPM-2002I	01/15/13	01/16/13	05/29/13	08/27/13	11/08/13
Vacuum (i.w.)	0.01	0.02	0.10	0.18	0.16

SVPM-2002S	01/15/13	01/16/13	05/29/13	08/27/13	11/08/13
Vacuum (i.w.)	0.02	0.02	0.06	0.12	0.10

SVPM-2003D	01/15/13	01/16/13	05/29/13	08/27/13	11/08/13
Vacuum (i.w.)	0.01	0.04	0.05	0.04	0.04

SVPM-2003S	01/15/13	01/16/13	05/29/13	08/27/13	11/08/13
Vacuum (i.w.)	0.03	0.02	0.04	*0.02	0.02

SVPM-2003I	01/15/13	01/16/13	05/29/13	08/27/13	11/08/13
Vacuum (i.w.)	0.03	0.04	0.10	0.04	0.04

SVPM-2006S	01/15/13	01/16/13	05/29/13	08/27/13	11/08/13
Vacuum (i.w.)	0.01	0.01	0.02	0.00	0.00

SVPM-2006I	01/15/13	01/16/13	05/29/13	08/27/13	11/08/13
Vacuum (i.w.)	0.01	0.01	0.01	*0.01	*0.01

SVPM-2006D	01/15/13	01/16/13	05/29/13	08/27/13	11/08/13
Vacuum (i.w.)	0.01	0.01	0.02	*0.01	0.00

SVPM-2007I	01/15/13	01/16/13	05/29/13	08/27/13	11/08/13
Vacuum (i.w.)	0.01	0.01	0.04	*0.01	*0.02

SVPM-2007D	01/15/13	01/16/13	05/29/13	08/27/13	11/08/13
Vacuum (i.w.)	0.01	0.01	0.02	*0.01	0.04

SVPM-2007S	01/15/13	01/16/13	05/29/13	08/27/13	11/08/13
Vacuum (i.w.)	0.01	0.01	0.04	0.00	*0.01

LEGEND

- FORMER NWIRP BOUNDARY
- CURRENT NWIRP BOUNDARY
- SOIL VAPOR PRESSURE MONITOR (SVPM)
- * INDICATES A POSITIVE PRESSURE READING

ALL VACUUM READINGS IN INCHES OF WATER COLUMN (i.w.)

2013 OFFSITE SOIL VAPOR MONITORING QUARTERLY VACUUM PRESSURE READINGS - SVPMs

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

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

SCALE IN FEET	DATE	FIGURE	
0 — 160	05/20/2014	6	H&S

2013-BETHPAGE PRESSURE Fig6.dwg

APPENDIX A

NYSDEC AIR PERMIT
EQUIVALENT APPROVAL

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

Website: www.dec.state.ny.us

February 5, 2010

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

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

Dear Ms. Fly:

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

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

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

Sincerely,

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

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

New York State Department of Environmental Conservation
Air Permit Application

DEC ID	APPLICATION ID	OFFICE USE ONLY

Section I - Certification

Title V Certification

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

Responsible Official	Title
Signature	Date / /

State Facility Certification

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

Responsible Official	Title
Signature	Date / /

Section II - Identification Information

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

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

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

Owner/Firm

Name US Navy / NAVFAC Midlant

Street Address 9742 Maryland Ave, Bldg Z-144

City Norfolk	State VA	Country US	Zip 23511-3095

Owner Classification ☒ Federal ☐ State ☐ Municipal ☐ Corporation/Partnership ☐ Individual

Taxpayer ID

Facility

☐ Confidential

Name Naval Weapons Industrial Reserve Plant (NWIRP) Site 1

Location Address Bethpage

☐ City / ☒ Town / ☐ Village Oyster Bay, New York Zip 11714

Project Description

☐ Continuation Sheet(s)

Vapor phase granular activated carbon to remove VOCs from soil gas

Owner/Firm Contact Mailing Address

Name (Last, First, Middle Initial) Fly, Lora		Phone No. (757) 444-0751
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	1322		
NY100 - 00 - 0	HAP	1213		
00071 - 55 - 6	1,1,1-Trichloroethane (Methyl Chloroform)	591		
00127 - 18 - 4	Tetrachloroethylene	8		
00079 - 01 - 6	Trichloroethylene	115		
00075 - 34 - 3	1,1-Dichloroethane	11		
00075 - 35 - 4	1,1-Dichloroethylene (Vinylidene Chloride)	16		

New York State Department of Environmental Conservation
Air Permit Application

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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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New York State Department of Environmental Conservation
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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)	Cross Section Width (in)
	36	6	8	70		
Exit Velocity (FPS)	**Exit Flow (ACFM)**	**NYTM (E) (KM)**	**NYTM (N) (KM)**	**Building**	**Distance to Property Line (ft)**	**Date of Removal**
	1,000			03-35	100'	

EMISSION PT

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

Emission Source/Control

❑ Continuation Sheet(s)

Emission Source ID	Type	Date of Construction	Date of Operation	Date of Removal	Control Type Code	Control Type Description	Manufacturer's Name/Model No.
BL-1	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	Type	Date of Construction	Date of Operation	Date of Removal	Control Type Code	Control Type Description	Manufacturer's Name/Model No.

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

New York State Department of Environmental Conservation
Air Permit Application

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[| | | | - | | | |]

Section IV - Emission Unit Information (continued)

Process Information

❑ Continuation Sheet(s)

EMISSION UNIT [1-C0EU1] 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 (SSTA). 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	C3-35	Main

Emission Source/Control Identifier(s)

BL-1	BL-2						

EMISSION UNIT [-] PROCESS [ ]

Description

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

❑ Confidential ❑ Operating at Maximum Capacity ❑ Activity with Insignificant Emissions	Operating Schedule		Building	Floor/Location
	Hrs/Day	Days/Yr		

Emission Source/Control Identifier(s)

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

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

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

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	00ST1	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

New York State Department of Environmental Conservation
Air Permit Application

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1-

Section IV - Emission Unit Information (continued)

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

Rule Citation

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

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

Description

Rule Citation

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

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

Description

Process Emissions Summary ☒ Continuation Sheet(s)

EMISSION UNIT 1-0CEU1 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 1-0CEU1 PROCESS SVE

CAS No.	Contaminant Name	% Thruput	% Capture	% Control	ERP (lbs/hr)	ERP How Determined
00127-18-4	Tetrachloroethylene			80	0.00	03

PTE (lbs/hr)	PTE (lbs/yr)	PTE (standard units)	Standard Units	PTE How Determined	Actual (lbs/hr)	Actual (lbs/yr)
~~0.00~~ BRT	8			03		

EMISSION UNIT 1-0CEU1 PROCESS SVE

CAS No.	Contaminant Name	% Thruput	% Capture	% Control	ERP (lbs/hr)	ERP How Determined
00079-01-6	Trichloroethylene			80	0.07	03

PTE (lbs/hr)	PTE (lbs/yr)	PTE (standard units)	Standard Units	PTE How Determined	Actual (lbs/hr)	Actual (lbs/yr)
0.13	1,181			03		

New York State Department of Environmental Conservation
Air Permit Application

DEC ID
1-1111-11111

Section IV - Emission Unit Information (continued)

EMISSION UNIT 1-1C1EU1

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 (Vinylidene 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

DEC ID
- -

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)

New York State Department of Environmental Conservation
Air Permit Application

DEC ID

Section IV - Emission Unit Information (continued)

Request for Emission Reduction Credits

❑ Continuation Sheet(s)

EMISSION UNIT

Emission Reduction Description

Contaminant Emission Reduction Data

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

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

Facility to Use Future Reduction

Name | APPLICATION ID

Location Address

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

Use of Emission Reduction Credits

❑ Continuation Sheet(s)

EMISSION UNIT

Proposed Project Description

Contaminant Emissions Increase Data

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

Statement of Compliance

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

Source of Emission Reduction Credit - Facility

Name | PERMIT ■

Location Address

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

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

New York State Department of Environmental Conservation
Air Permit Application

DEC ID

Supporting Documentation

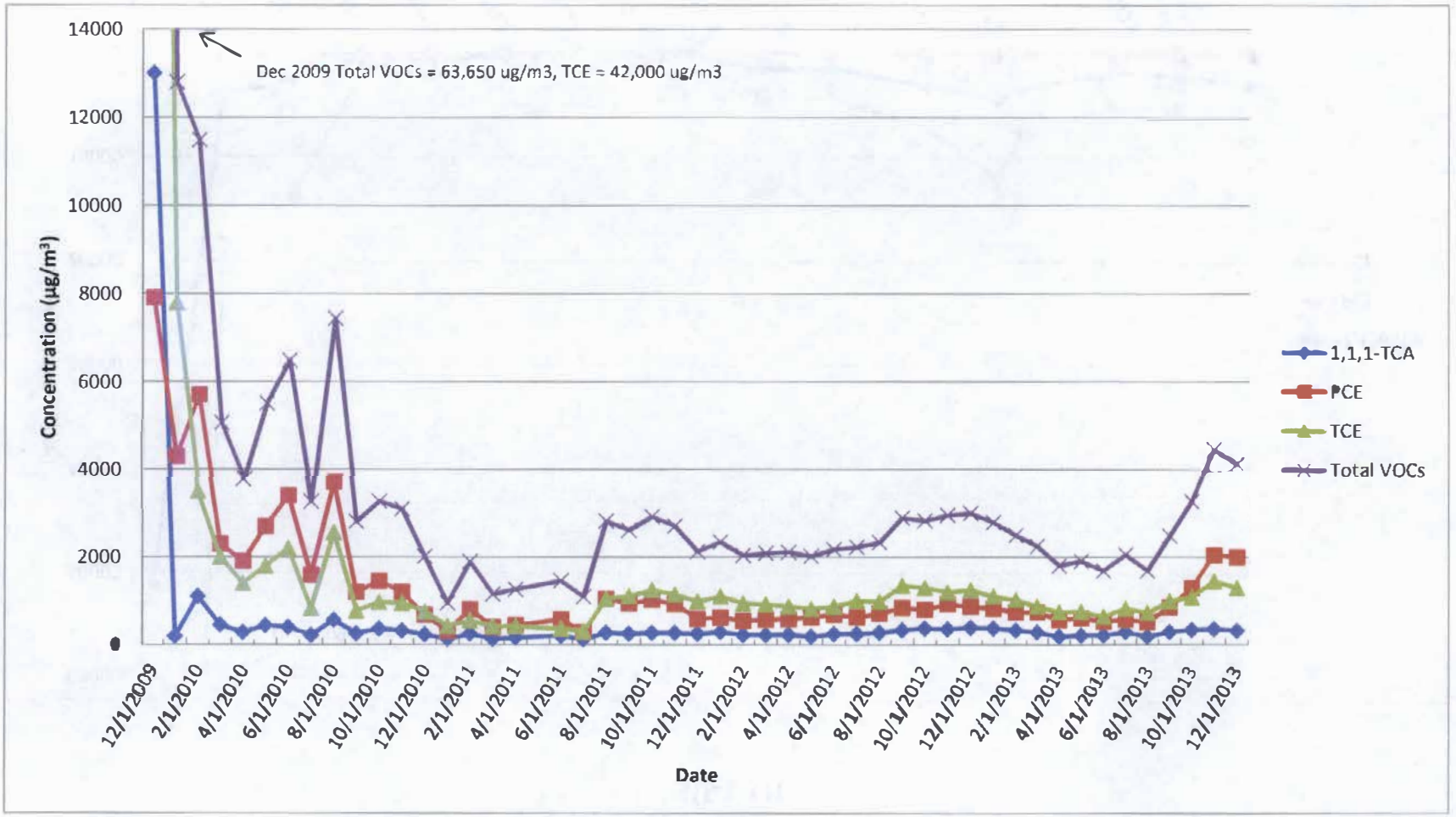
- ☐ P.E. Certification (form attached)
- ☐ List of Exempt Activities (form attached)
- ☐ Plot Plan
- ☐ Methods Used to Determine Compliance (form attached)
- ☒ Calculations
- ☐ Air Quality Model (_____ / _____ / _____)
- ☐ Confidentiality Justification
- ☐ Ambient Air Monitoring Plan (_____ / _____ / _____)
- ☐ 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): _____ (/ /)

APPENDIX B

VAPOR CONCENTRATION TREND GRAPHS

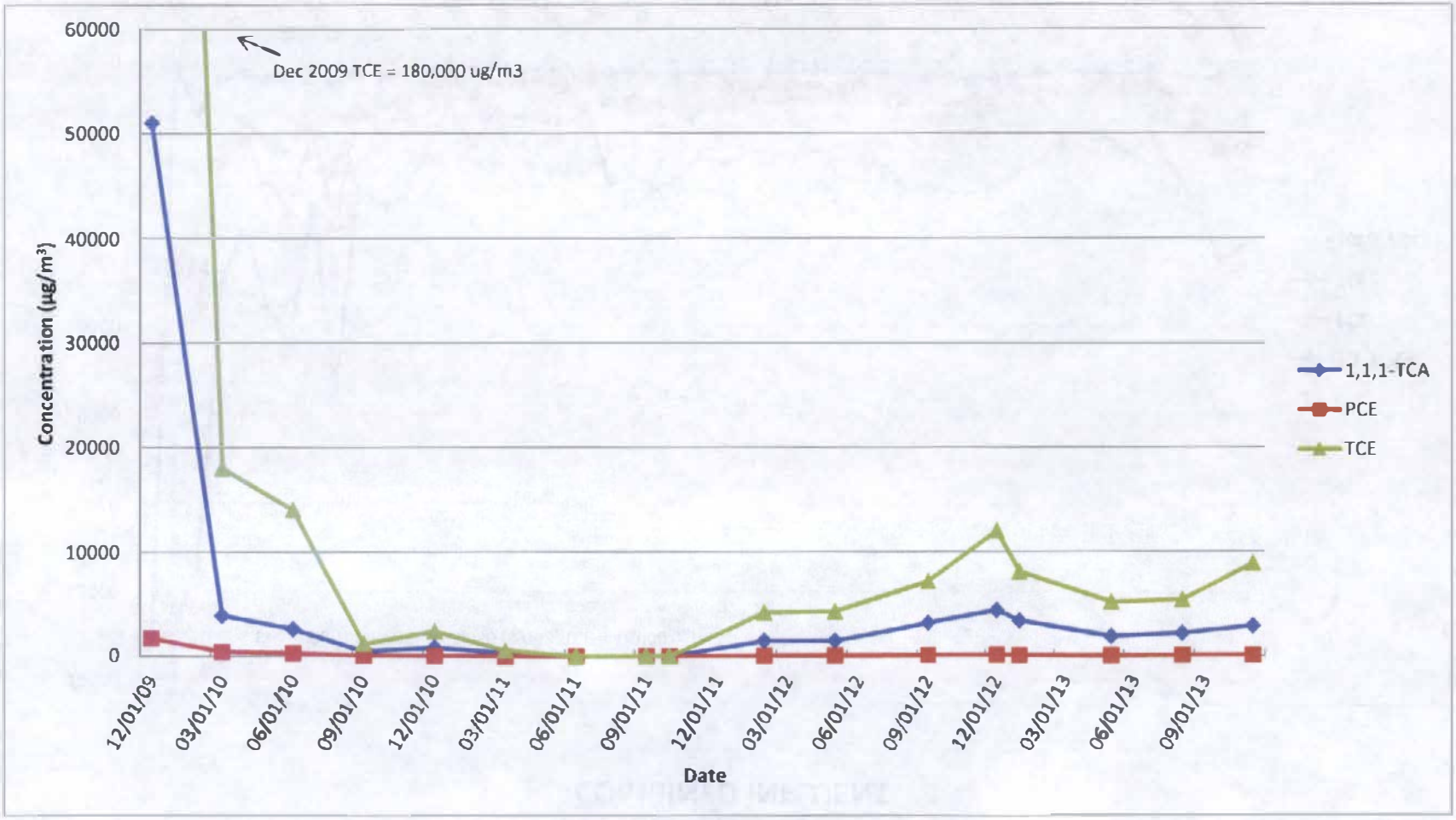
Soil Vapor Extraction Containment System
Site 1, Former Drum Marshalling Yard
Naval Weapons Industrial Reserve Plant - Bethpage, NY
Vapor Concentration Trends of Select and Total VOCs

COMBINED INFLUENT



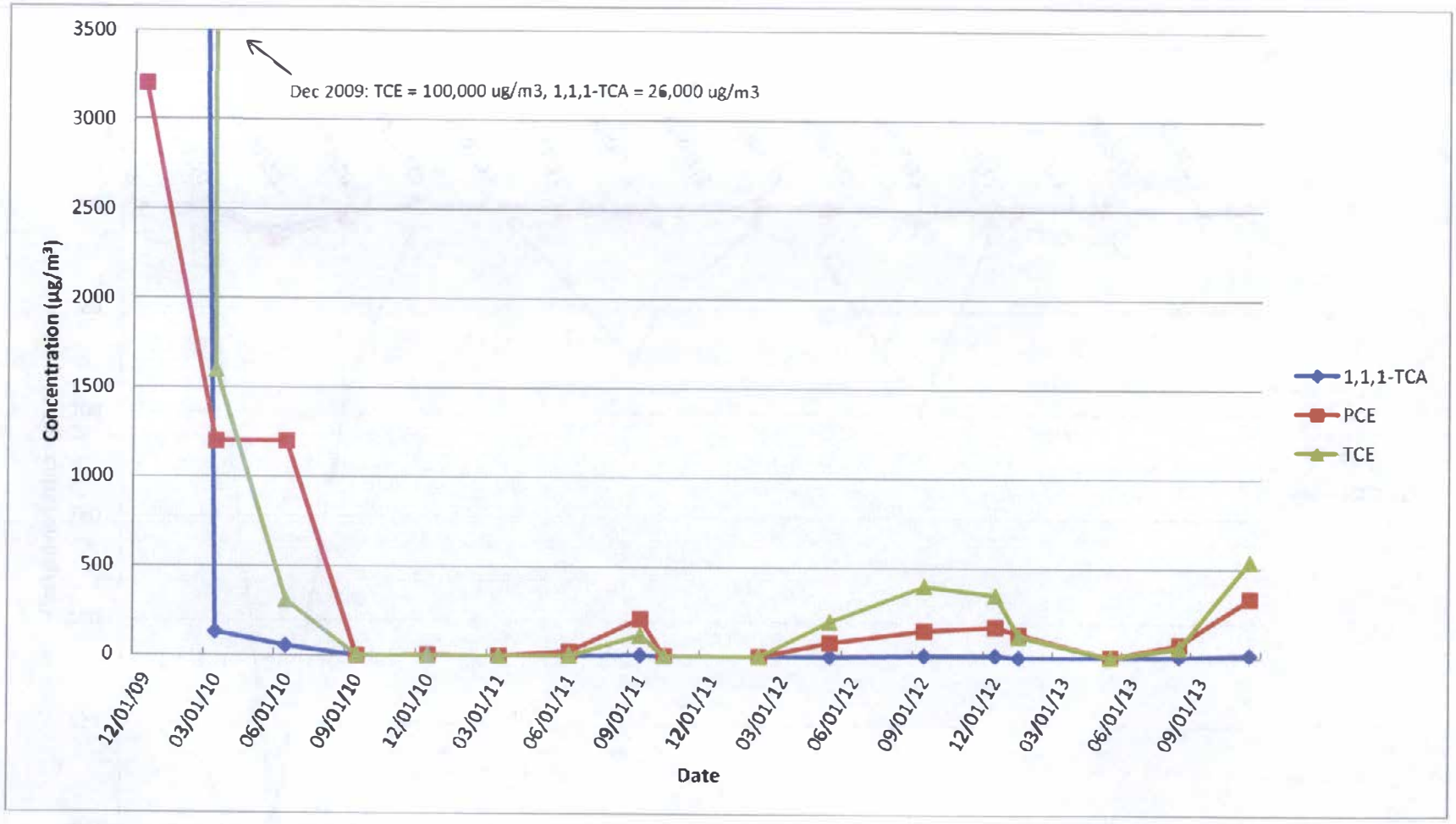
Soil Vapor Extraction Containment System
Site 1, Former Drum Marshalling Yard
Naval Weapons Industrial Reserve Plant - Bethpage, NY
Groundwater Concentration Trends of Select VOCs

SV-101I



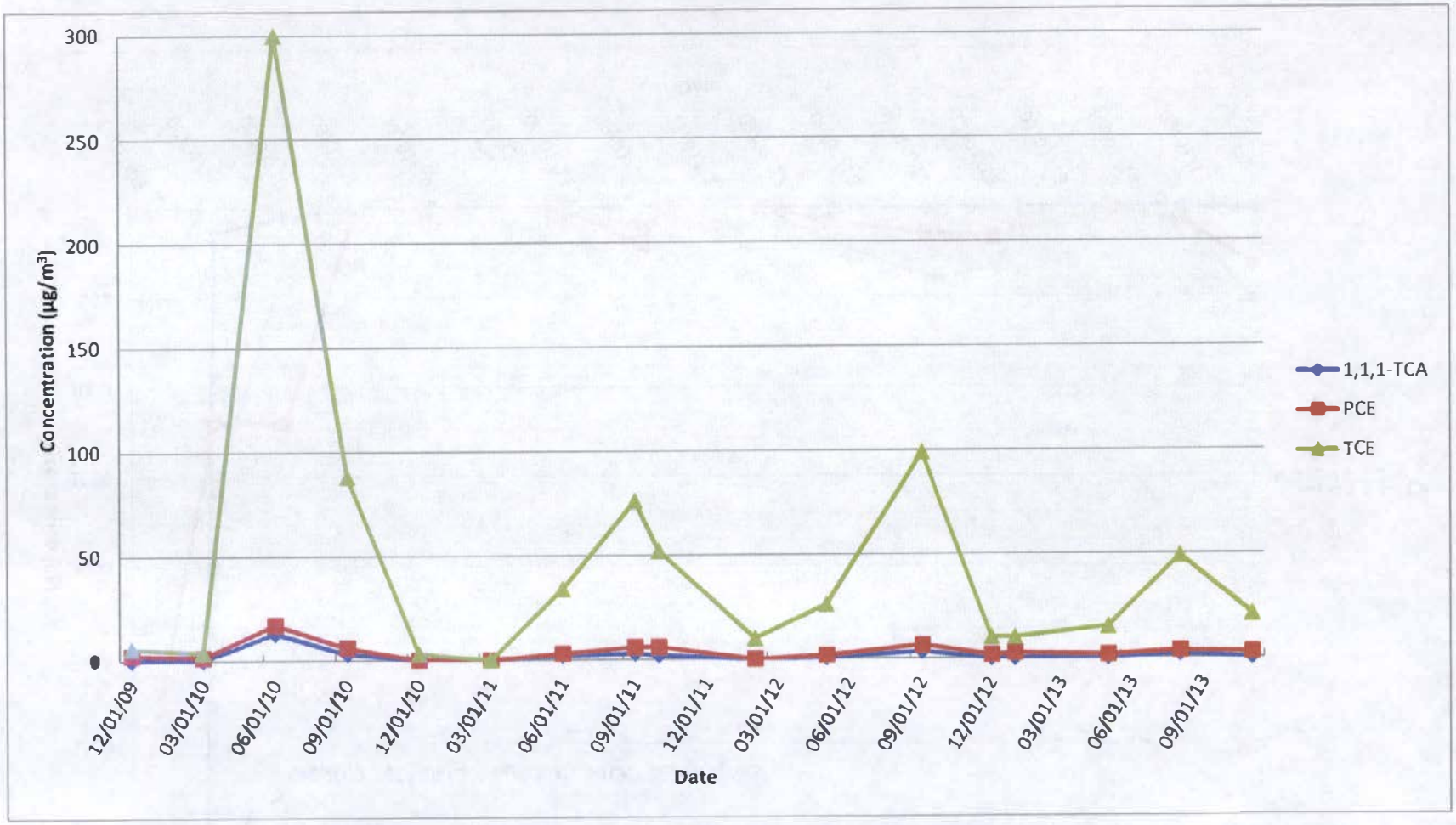
Soil Vapor Extraction Containment System
Site 1, Former Drum Marshalling Yard
Naval Weapons Industrial Reserve Plant - Bethpage, NY
Groundwater Concentration Trends of Select VOCs

SV-101D



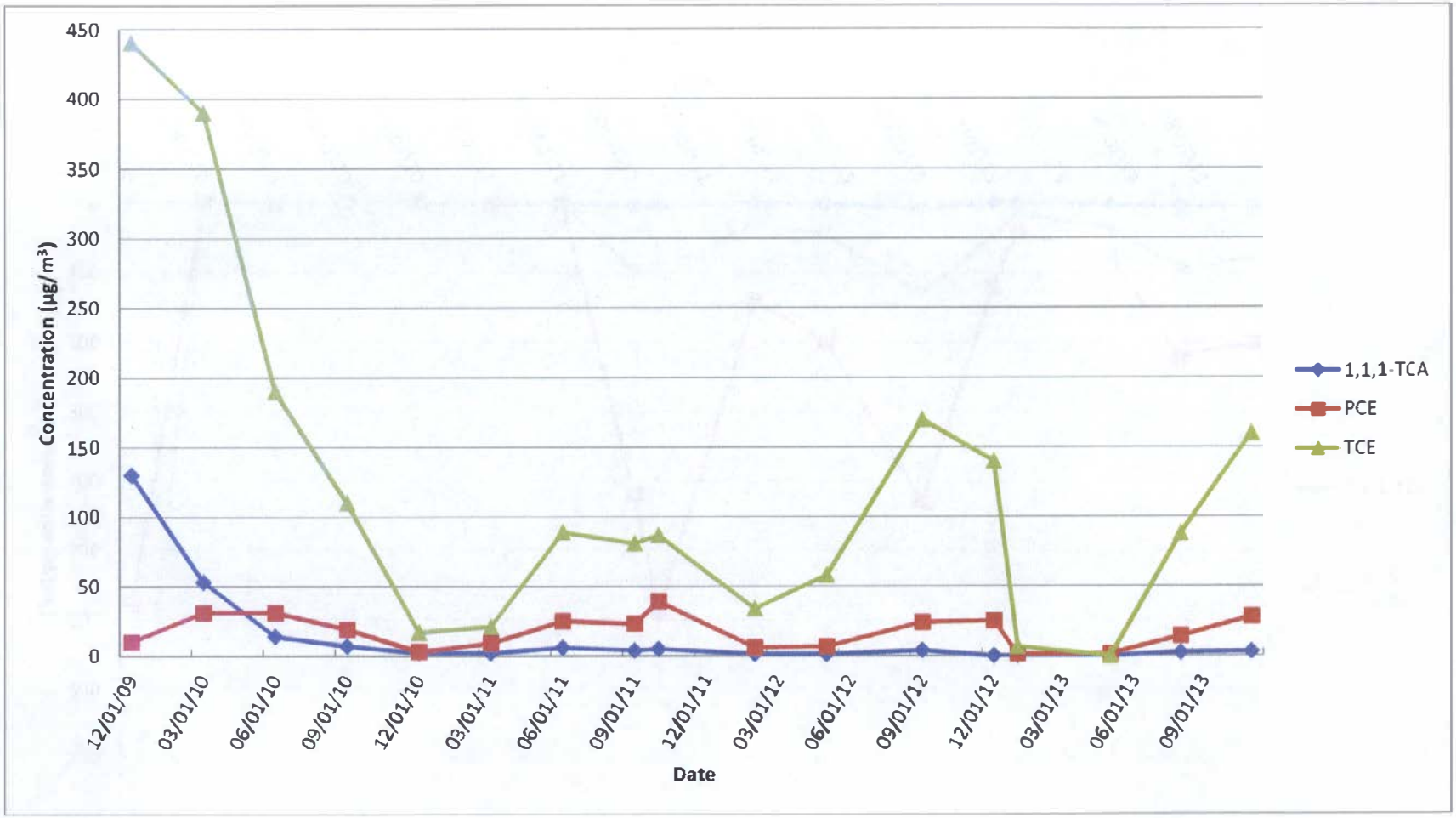
Soil Vapor Extraction Containment System
Site 1, Former Drum Marshalling Yard
Naval Weapons Industrial Reserve Plant - Bethpage, NY
Groundwater Concentration Trends of Select VOCs

SV-102I



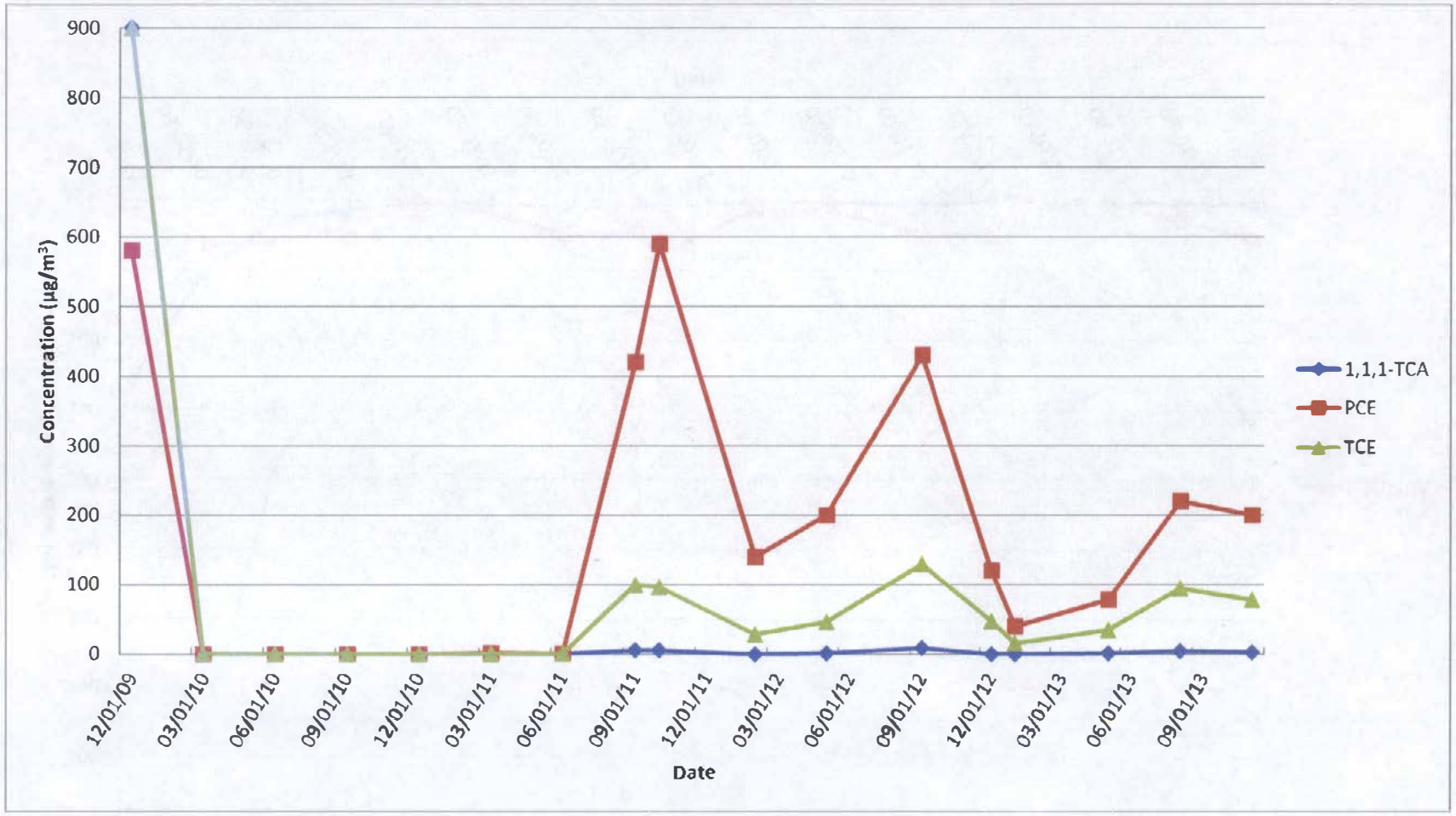
Soil Vapor Extraction Containment System
Site 1, Former Drum Marshalling Yard
Naval Weapons Industrial Reserve Plant - Bethpage, NY
Groundwater Concentration Trends of Select VOCs

SV-102D



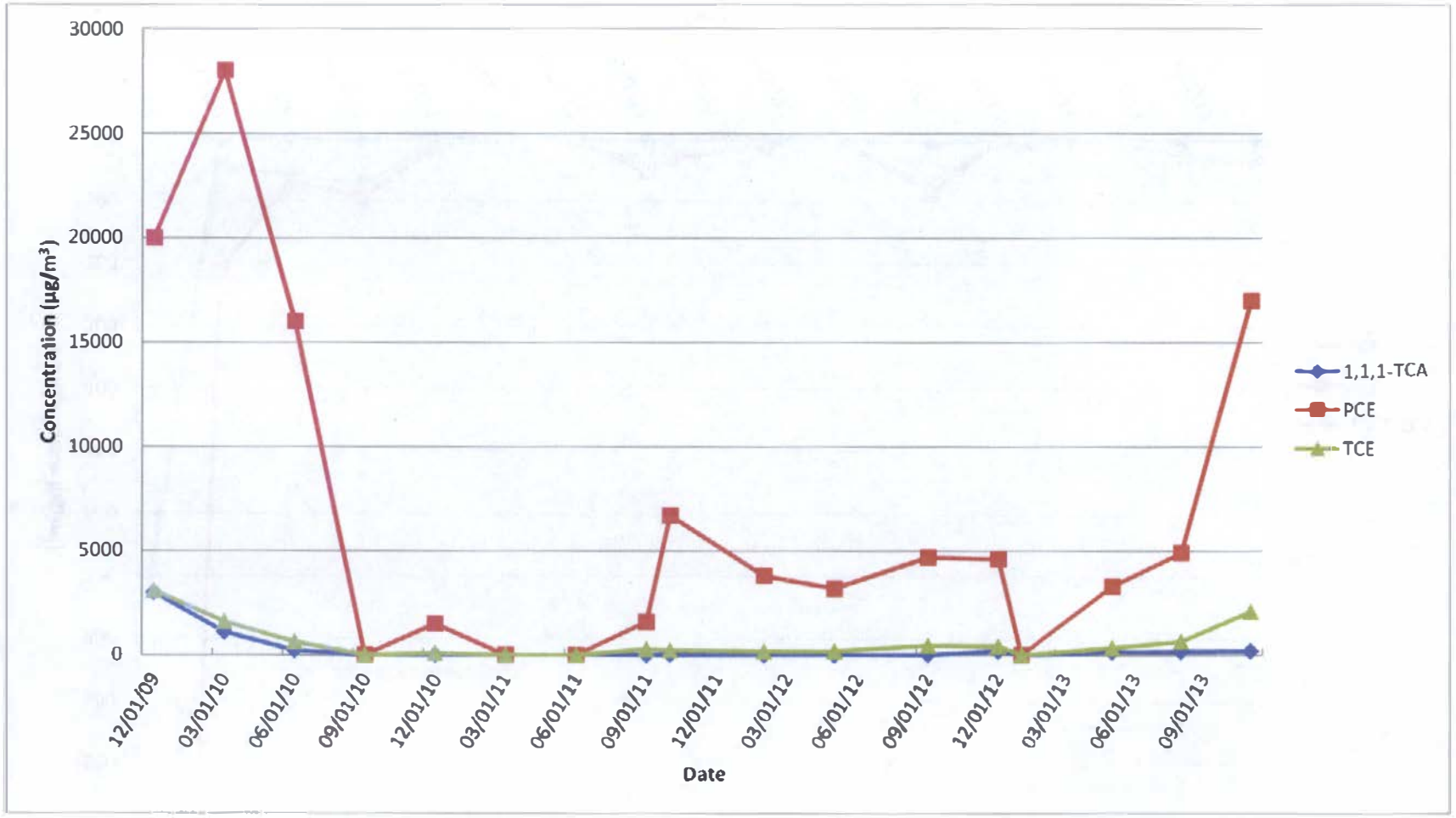
Soil Vapor Extraction Containment System
Site 1, Former Drum Marshalling Yard
Naval Weapons Industrial Reserve Plant - Bethpage, NY
Groundwater Concentration Trends of Select VOCs

SV-103I



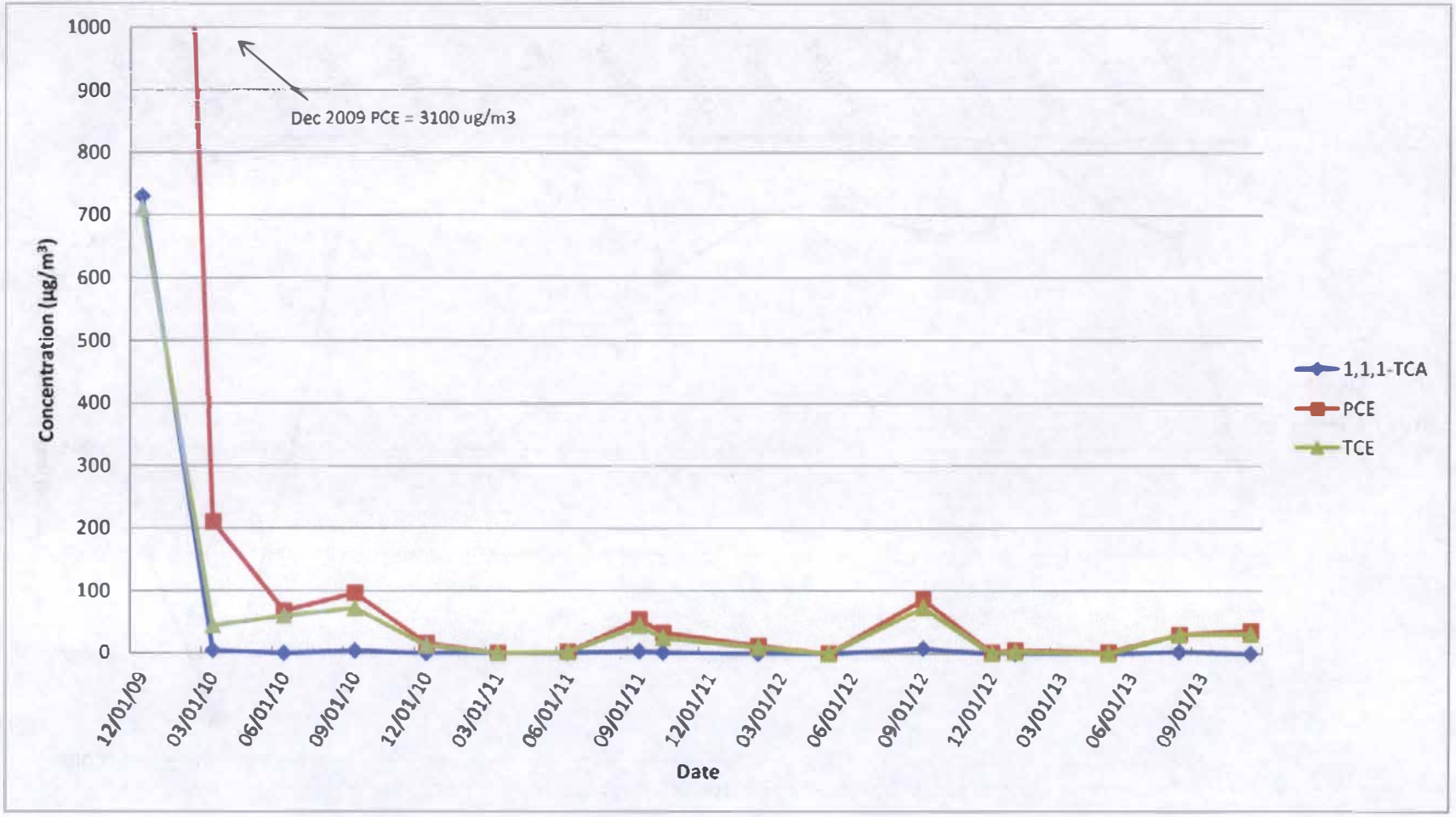
Soil Vapor Extractio... Containment System
Site 1, Former Drum Marshalling Yard
Naval Weapons Industrial Reserve Plant - Bethpage, NY
Groundwater Concentration Trends of Select VOCs

SV-103D



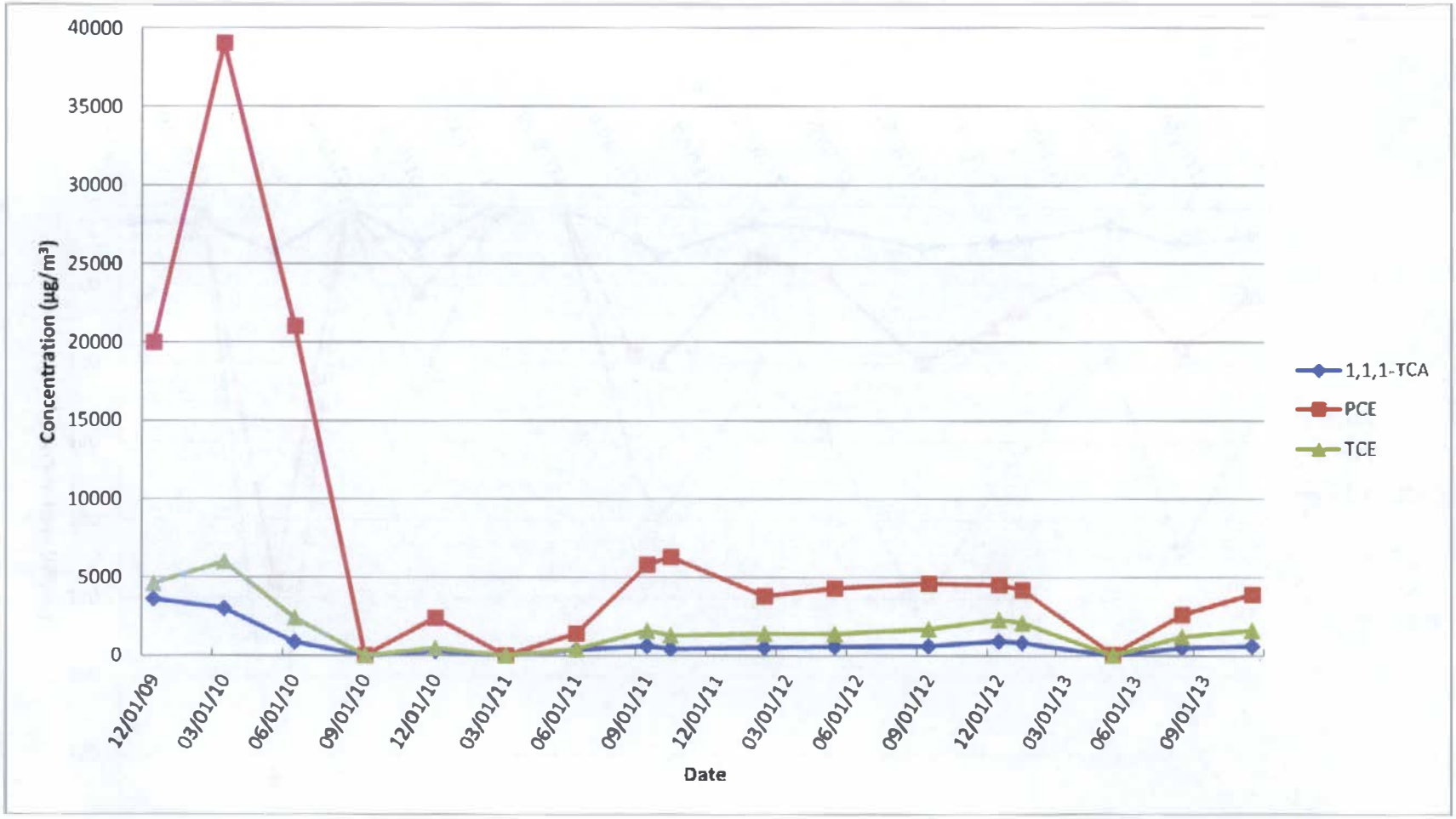
Soil Vapor Extraction Containment System
Site 1, Former Drum Marshalling Yard
Naval Weapons Industrial Reserve Plant - Bethpage, NY
Groundwater Concentration Trends of Select VOCs

SV-104I



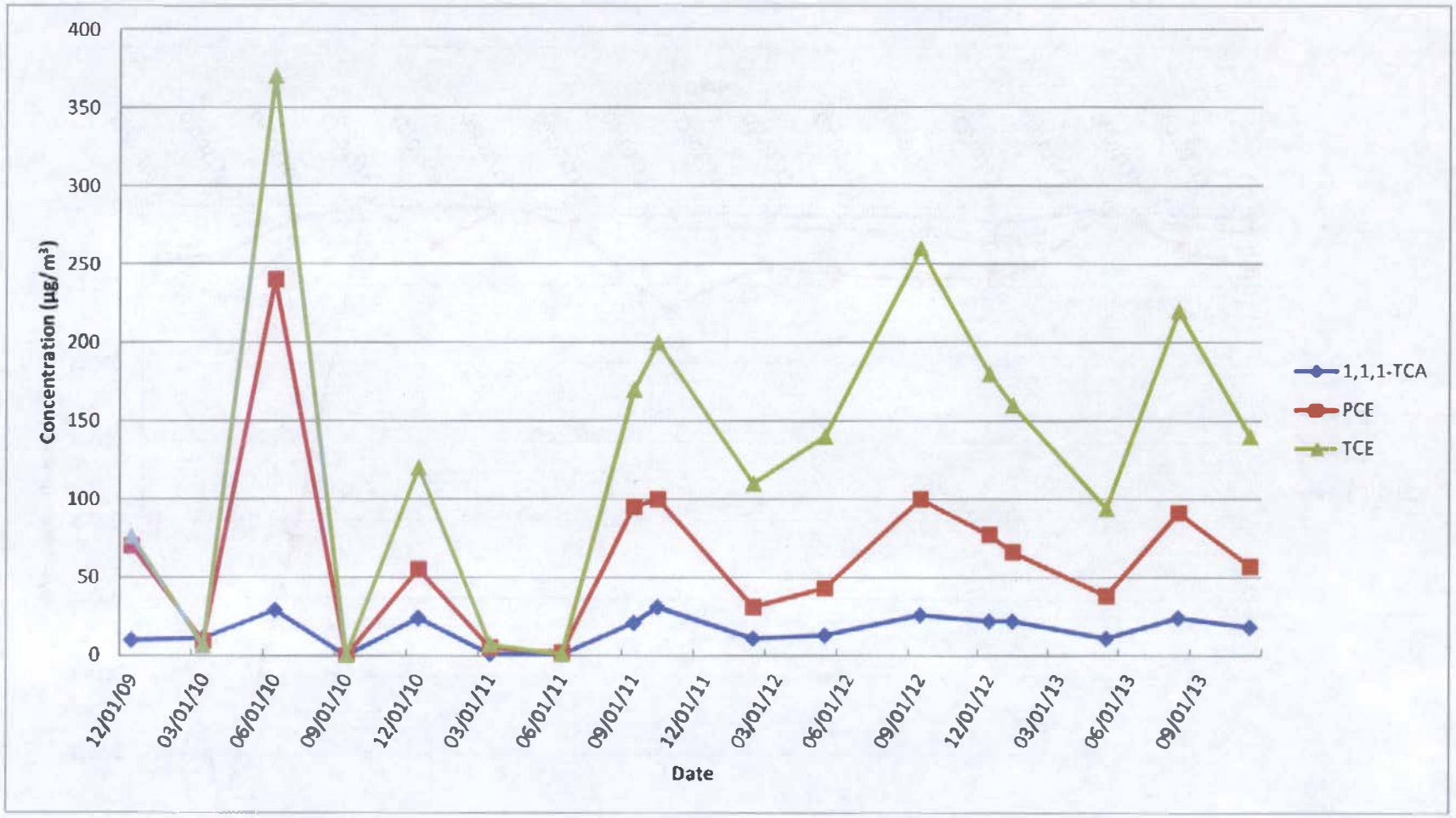
Soil Vapor Extractio. ontainment System
Site 1, Former Drum Marshalling Yard
Naval Weapons Industrial Reserve Plant - Bethpage, NY
Groundwater Concentration Trends of Select VOCs

SV-104D



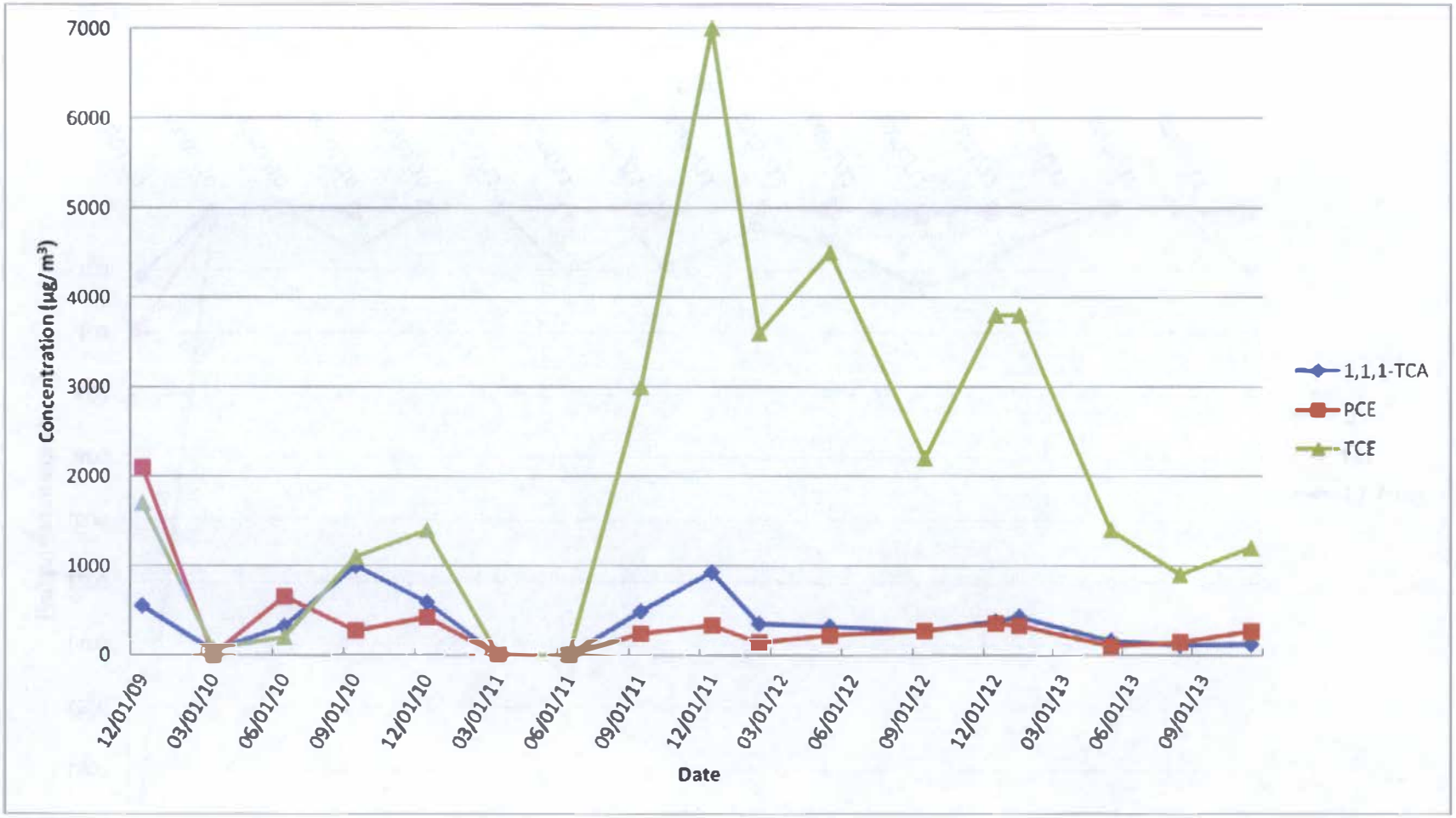
Soil Vapor Extraction Containment System
Site 1, Former Drum Marshalling Yard
Naval Weapons Industrial Reserve Plant - Bethpage, NY
Groundwater Concentration Trends of Select VOCs

SV-105I



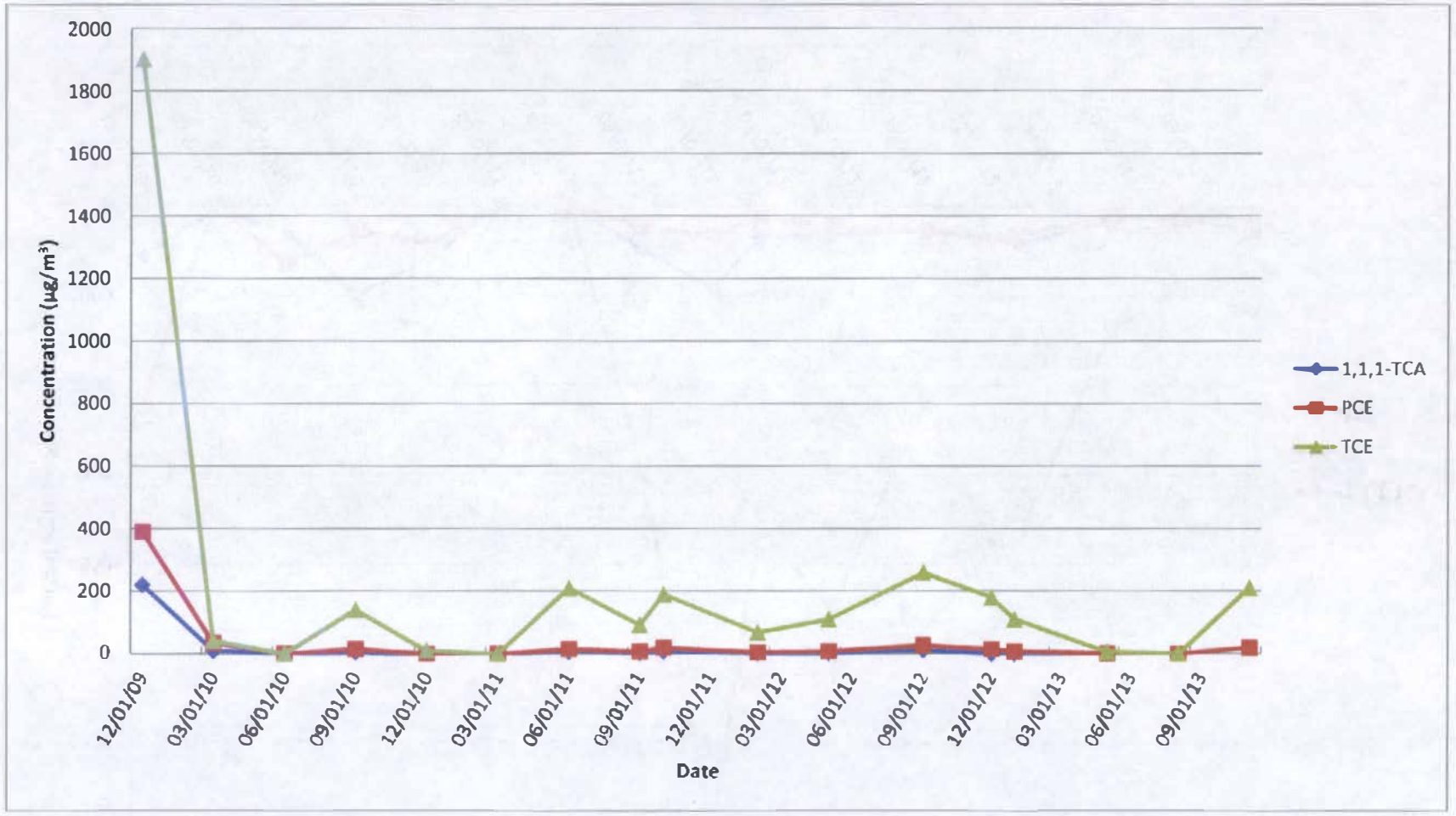
Soil Vapor Extraction Containment System
Site 1, Former Drum Marshalling Yard
Naval Weapons Industrial Reserve Plant - Bethpage, NY
Groundwater Concentration Trends of Select VOCs

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

SV-106D