# ACTION MEMORANDUM
# TIME-CRITICAL REMOVAL ACTION

## AREA OF CONCERN 32 –
## PCE AND TCE STORAGE TANKS

**NAVAL WEAPONS INDUSTRIAL RESERVE PLANT**
**BETHPAGE**
**BETHPAGE, NEW YORK**

**Prepared for:**


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**Contract Number N62470-11-D-8013**
**CTO WE08-01**


**July 18, 2013**

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## List of Acronyms

| | |
|---|---|
| AM | Action Memorandum |
| AOC | Area of Concern |
| ARAR | Applicable or Relevant and Appropriate Requirements |
| CERCLA | Comprehensive Environmental Response, Compensation, and Liability Act |
| CFR | Code of Federal Regulations |
| ER | Environmental Restoration |
| ESA | Environmental Site Assessment |
| GOCO | Government-Owned Contractor Operated |
| IR | Installation Restoration |
| Navy | U.S. Navy |
| NAVFAC | Naval Facilities Engineering Command |
| NCP | National Contingency Plan |
| NG | Northrop Grumman |
| NPL | National Priorities List |
| NWIRP | Naval Weapons Industrial Reserve Plant |
| NYSDEC | New York State Department of Environmental Conservation |
| NYSDOH | New York State Department of Health |
| OSHA | Occupational Safety and Health Administration |
| PCB | Polychlorinated biphenyl |
| PCE | Tetrachloroethene |
| TAGM | Technical and Administrative Guidance Memorandum |
| TCE | Trichloroethylene |
| TCLP | Toxicity Characteristic Leaching Procedure |
| TCRA | Time-critical removal action |
| UST | Underground storage tanks |
| VOC | Volatile organic compounds |

## 1.0 PURPOSE

The purpose of this Action Memorandum (AM) is to document the decision by the U.S. Navy (Navy) to conduct a time-critical removal action (TCRA) at Area of Concern 32 — PCE Underground Storage Tank and TCE Above Storage Tank at the Naval Weapons Industrial Reserve Plant (NWIRP) Bethpage, New York and to provide notification that the TCRA has been completed. This AM identifies the need for a TCRA, which consisted of the removal of two underground storage tanks [(USTs); identified historically as 1090 and 1091, and as Tanks 1 and 2, respectively during the removal action], explains the rationale for and expected outcome of the removal action, and documents that the removal action was completed in November 2012.

This action will reduce potential risks to the public health, welfare, and the environment posed by the presence of volatile organic compounds (VOCs) in the two abandoned USTs. Removal of the USTs will reduce a potential release of any residual VOCs remaining inside the tanks to the environment. The two USTs and soils surrounding the tanks were removed and disposed of in accordance with the Applicable or Relevant and Appropriate Requirements (ARARs). The removal action efforts are documented in the Construction Completion Report (H&S 2013).

This TCRA was conducted by the Navy under the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) and the New York State Department of Environmental Conservation's (NYSDEC) Investigation and Remediation of Hazardous Material Releases.

There are no nationally significant or precedent-setting issues associated with the response action.

## 2.0 SITE CONDITIONS AND BACKGROUND

This Section presents an overview of the site history and site conditions for Site 1 — Former Drum Marshaling Area at NWIRP Bethpage and specifically Area of Concern (AOC) 32 where two abandoned USTs were previously identified.

### 2.1 Site Description

NWIRP Bethpage was originally situated on approximately 109 acres in Nassau County in the Hamlet of Bethpage, Town of Oyster Bay, New York (Appendix A, Figure 1) and was a Government-Owned Contractor Operated (GOCO) facility that was operated by the Northrop Grumman (NG) until operations ceased in September 1998. The majority of the NWIRP Bethpage facility was transferred to Nassau County for economic redevelopment in 2002 and 2008. The remaining 9 acres were leased to Nassau County, but ownership was retained by the Navy for environmental investigations and remediation. The County subsequently provided a sublease of these 9 acres to Steel Equities in 2011. Site 1 — Former Drum Marshaling Area is located on this 9 acre parcel.

Site 1 — Former Drum Marshaling Area is relatively flat with a 4-foot vegetated windrow located along the eastern end of the site, and is mounded on the north to partially bury an abandoned sanitary settling tank. Site 1 originally consisted of two former drum marshaling pads that were used to store drums containing waste materials from operations at Plant 3 and potentially other sources at the facility. AOC 32 is located within Site 1 — Former Drum Marshaling Area and includes two USTs, 1090 and 1091, that were used as part of the operations at Plant 3.

#### 2.1.1 Removal Site Evaluation

Previous activities and investigation pertaining to AOC 32 provide information regarding the proposed TCRA area and are summarized in this section.

AOC 32 was investigated and then closed out by NG in the 1980s. Based on information provided by NG, the two USTs, 1090 and 1091, stored toluene, which was used in Plant 3 as a solvent carrier for maskant rubber. At some point in the late 1970s or early 1980s, the operation changed and the toluene was replaced by tetrachloroethene (PCE). In the mid-1980s, an above ground storage tank was constructed adjacent to the two underground storage tanks and the use of the USTs was discontinued in January 1984. NG's records also indicated that the tanks were steel; each have a capacity of 6,000 gallons and had the following dimensions: 6 feet in diameter by 24 feet in length

and 6 feet in diameter by 16 feet in length (Radian, 1997). No other information is available regarding when the USTs were installed, nor the process of their abandonment.

As a result of NG's decision to terminate its operations at NWIRP Bethpage, in 1997, Congress passed special legislation authorizing conveyance of 105 acres of the property to Nassau County, New York for economic development. A series of investigations were conducted by NG including a Phase II Environmental Site Assessment for Plant 3 (Radian, 1998). In 1997, two soil borings were completed adjacent to USTs 1090 and 1091 and subsurface soils were analyzed for VOCs. No VOCs were identified above the NYSDEC Technical and Administrative Guidance Memorandum (TAGM) # 4046 criteria in any of the samples.

In 2011, Steel Equities bought 96 acres of the former NWIRP property from Nassau County for economic development and has been renovating the property to attract new tenants. In April 2012, while grading the road that surrounds Plant 3, Steel Equities uncovered an UST man-way and two pipes that were used to transfer the PCE to Plant 3. The UST man-way was missing its cover. Upon further investigation, it appeared that the tank (1090) was filled with sand, but a void allowed liquids to collect near the top of the tank. On April 17, 2012, the liquid in this tank was sampled and determined to contain several VOCs. A summary of the detected compounds is provided in Appendix B, Table 1. Detected VOCs included cis-1,2-dichloroethene (22,000 μg/L), vinyl chloride (19,000 μg/L), trichloroethene (1,400 μg/L), tetrachloroethene (1,300 μg/L), trans-1,2-dichloroethene (470 μg/L), and methylene chloride (480 μg/L). NYSDEC was notified of the tank and was provided analytical results on April 26, 2012.

A second tank (1091) was discovered north of the first tank (1090). It was also determined that this tank was filled with sand and had voids present that were filled with liquid. In August 2012, the liquid in this tank was sampled and found to contain VOCs, however, the levels reported were significantly less than those reported in UST 1090 (Appendix B, Table 1).

### 2.1.2 Physical Location

NWIRP Bethpage is located in Nassau County approximately 20 miles east of New York City (Appendix A, Figure 1). The area surrounding NWIRP Bethpage consists of a mix of industrial, commercial, and residential areas. There are no surface water bodies in the immediate vicinity. Based on a groundwater sampling event conducted by Resolution Consultants in June 2013, the depth to groundwater was found to be 48 to 50 feet.

### 2.1.3 Site Characteristics

Site 1 — Former Drum Marshaling Area (Appendix A, Figure 2) is enclosed by a facility perimeter fence along the north, east, and south and an interior facility fence along the west. Waste drums that reportedly contained chlorinated and non-chlorinated solvents and liquid cadmium and chromium wastes, as well as transformers and polychlorinated biphenyl (PCB)-filled autoclaves, were all previously stored at the site. In addition, underlying most of Site 1 is approximately 120 abandoned cesspools that were designed to discharge sanitary wastewater from Plant 3. Based on field observations, the cesspools are currently filled with soil. USTs 1090 and 1091 were located approximately 70-80 feet east of the Plant 3 building in the west-central portion of Site 1 (Appendix A, Figure 2).

### 2.1.4 Release or Threatened Release into the Environment of a Hazardous Substance, or Pollutant or Contaminant

The liquid in tank 1090 was sampled and determined to contain several VOCs (Appendix B, Table 1). Detected VOCs include cis-1,2-dichloroethene (22,000 μg/L), vinyl chloride (19,000 μg/L), trichloroethene (1,400 μg/L), tetrachloroethene (1,300 μg/L), trans-1,2-dichloroethene (470 μg/L), and methylene chloride (480 μg/L). The liquid in tank 1091 was sampled and determined to contain several VOCs, as well, including cis-1,2-dichloroethene (1,300 μg/L), trichloroethene (16 μg/L), tetrachloroethene (9.7 μg/L), and trans-1,2-dichloroethene (11 μg/L). The Navy determined that potential releases from these tanks could pose an immediate risk to underlying soil and groundwater. Therefore, the removal action was implemented. Upon completion, a total of 16 soil samples were collected and analyzed for VOCs to document post-tank removal site conditions and to determine if the USTs had leaked. These results are summarized in Appendix B, Table 2 and on Figure 5 in Appendix A. Although residual VOCs were detected in the post excavation soil samples, visual inspection of the tanks indicated no compromise in their integrity. This and the fact that the primary residual VOC detected (PCE) is present in the soil at Site 1 from other releases indicates there is no clear evidence that a release from the tanks had occurred. PCE remaining in soil at Site 1 is currently being managed by Land Use Controls restricting access and the use of groundwater, and operation of a soil vapor extraction system.

### 2.1.5 NPL Status

NWIRP Bethpage is not on the National Priorities List (NPL).

### 2.1.6 Maps, Pictures, and Other Graphic Representations

Figures 1, 2, 3, 4 in Appendix A depict the general location map, Site 1 layout map, the NWIRP Bethpage Property Outline, and the Confirmation Sample Results for the AOC 32 PCE and TCE Tanks, respectively.

## 2.2 Other Actions to Date

### 2.2.1 Previous Actions

Based on the recommendation from the Phase I Environmental Site Assessment (ESA) for Plant 3 (Radian, 1998) soil samples were collected during the Phase II ESA (Radian, 1998) in 1997 "because of the potential for release of organic chemicals into the subsurface". Two soil borings were collected at locations adjacent to USTs 1090 and 1091 and four samples were collected near the above ground storage tanks. All subsurface soils were analyzed for VOCs. No VOCs were identified above the NYSDEC TAGM # 4046 criteria in any of the samples.

### 2.2.2 Current Actions

The removal of the two USTs was completed in November 2012.

## 2.3 State and Local Authorities' Role

### 2.3.1 State and Local Actions to Date

The site is located on property held by the Navy, and as such the Navy holds responsibility for removal actions, risk reduction and remediation of the site as needed. The site was incorporated into the Installation Restoration (IR) Program for NWIRP between 1986 and 1991. State and local authorities have not undertaken any removal action at the site. NWIRP Bethpage is classified as an "Inactive Hazardous Waste Disposal Site" under NYSDEC 6 NYCRR Part 375 (Registry No. 1-30-003B) and is subject to NYSDEC's Permit to Operate a Hazardous Waste Management Facility under state implementing regulations 6 NYCRR Part 373. Current requirements of the Part 373 permit are for corrective action components only. The Part 375 program is a risk-based program and closely parallels the United States Environmental Protection Agency's Superfund Program. New York State Department of Health (NYSDOH) and NYSDEC provide oversight of actions and review of documents for sites under the Environmental Restoration (ER) Program.

### 2.3.2 Potential for Continued State/Local Response

NYSDEC will continue to oversee investigations under the ER Program, including any removal actions. NYSDEC is supported by NYSDOH and Nassau County Department of Health. The local community will continue to provide input on actions conducted at the site through the

Restoration Advisory Board, which is a group of community members who meet with Navy representatives periodically to discuss progress and provide input on ER Program sites. The TCRA was completed in November 2012 and the Construction Completion Report was prepared and submitted to the NYSDEC.

## 3.0 THREATS TO PUBLIC HEALTH OR WELFARE OR THE ENVIRONMENT AND STATUTORY AND REGULATORY AUTHORITIES

Potential threats to public health, welfare, or the environment posed by the site contaminants are discussed below and were found to meet the conditions for a TCRA as stated in the National Contingency Plan (NCP), Title 40 Code of Federal Regulations (CFR), Section 300.415(b)(2).

### 3.1 Threats to Public Health or Welfare

Liquid containing several chlorinated VOCs was identified near the top of previously abandoned UST 1090 (Appendix A, Figure 2). Detected VOCs included cis-1,2-dichloroethene (22,000 μg/L), vinyl chloride (19,000 μg/L), trichloroethene (1,400 μg/L), tetrachloroethene (1,300 μg/L), trans-1,2-dichloroethene (470 μg/L), and methylene chloride (480 μg/L). A second tank (UST 1091), located immediately north of the first UST, was also found to contain contaminated liquid. Detected VOCs included cis-1,2-dichloroethene (1,300 μg/L), trichloroethene (16 μg/L), tetrachloroethene (9.7 μg/L), and trans-1,2-dichloroethene (11 μg/L). Analytical results for the detected compounds are summarized in Appendix B, Table 1. The integrity of both USTs was unknown; therefore, the presence of the VOC-contaminated liquid in the UST(s) posed a threat of release to the surrounding environment. If released, the liquid could have acted as a source of contamination to soil and groundwater around and under the USTs.

### 3.2 Threats to the Environment

A formal ecological risk assessment was not conducted for the site because sensitive ecological receptors are not present at NWIRP Bethpage.

### 3.3 Statutory and Regulatory Authorities

Site 1 is being addressed under the Navy's IR Program. NYSDEC provides regulatory oversight through the Corrective Action portion of the RCRA Permit (Section 373) and the State Superfund Program (Section 375). In addition, the EPA reviews site documents.

## 4.0 ENDANGERMENT DETERMINATION

Actual or threatened releases of pollutants and contaminants from this site may have presented an imminent and substantial endangerment to public health, welfare, or the environment. Therefore, the Navy determined that this threat could be eliminated by undertaking the removal action prescribed in this Action Memorandum. After the tanks were removed the bottom of the excavations were sampled to document post-tank removal site conditions. A total of 16 soil samples were collected and analyzed for VOCs to document post-tank removal site conditions and to determine if the USTs had leaked. These results are summarized in Appendix B, Table 2 and on Figure 5 in Appendix A. Although residual VOCs were detected in the post excavation soil samples, visual inspection of the tanks indicated no compromise in their integrity. This and the fact that the primary residual VOC detected (PCE) is present in the soil across Site 1 from other releases indicates there is no clear evidence that a release from the tanks had occurred. PCE remaining in soil at Site 1 is currently being managed by Land Use Controls restricting access and the use of groundwater, and operation of a soil vapor extraction system.

## 5.0 PROPOSED ACTIONS AND ESTIMATED COSTS

Removal of the abandoned USTs and soils above and around the USTs was determined to be the only feasible solution for mitigating threats posed by the situation. Leaving the USTs could allow the potential release of contaminants to the environment.

### 5.1 Proposed Actions

The proposed action consisted of the removal and disposal of the two USTs and associated soils and liquids encountered during the operation. The proposed actions were completed in November 2012.

#### 5.1.1 Proposed Action Description

The actions were completed as proposed and consisted of removing the overburden soils above the tanks to expose the USTs. This soil was placed in lined roll off boxes for disposal and characterization. The tops of the tanks were then removed so the sand could be removed from inside the tanks along with the liquids. Approximately 4,500 gallons of liquid and 60 tons of solids (sands) were removed from both tanks. These materials were containerized for characterization and disposal. The tanks were removed from the excavation and cleaned before disposal. Both USTs were inspected, photographed, and documented following removal. A NYSDEC inspector was onsite to view and inspect the tanks, as well. The dismantled tanks were transported off-site for disposal/recycling at Liotta & Sons Metal Recycling. After removal of the USTs, a total of 16 samples were collected on September 14, 2012 to document post-tank removal site conditions. After confirmation samples were collected in the excavated area, a fabric barrier was placed in the bottom of the excavation and it was backfilled with 60 tons of certified clean fill.

#### 5.1.2 Contribution to Remedial Performance

The completion of the removal action provides an interim remedy at Site 1 by removing and disposing of the USTs and removing the VOC contaminated liquids and solids inside the tanks to prevent the potential release of these contaminants to the environment.

#### 5.1.3 ARARs (Applicable or Relevant and Appropriate Requirements)

Federal ARARs were reviewed and identified as practicable for this project and are listed below:

**Chemical Specific:**

- RCRA Subtitle C (40 CFR 261): Treatment, storage, and/or disposal of wastes that exhibits the characteristics of ignitability, corrosivity, reactivity, or toxicity, or is listed as a hazardous waste

- RCRA Subtitle C (40 CFR 268): Disposal of soils containing hazardous waste

- EPA National Screening Values (Nov 2012)

**Action Specific:**

- Solid Waste (40 CFR 262.11): Hazardous waste temporarily held on-site prior to offsite disposal

- OSHA (20 CFR 1910, 1926, and 1904): Site Workers during construction and operation of remedial activities

- Hazardous Materials Transportation (49 CFR 107 and 171-179): Transportation of Hazardous Materials offsite

State ARARs were reviewed and identified as practicable for this project and are listed below:

**NY State Chemical Specific:**

- Soil Cleanup Guidance (NYSDEC, 2010, CP-51/Soil Cleanup Guidance)

**NY State Action Specific:**

- New York Hazardous Substance Bulk Storage Regulations (6 NYCRR 596): Spill Response, Investigation and Correction Action

- New York Waste Transport Permit Regulations (6 NYCRR 364): Waste Transport

- New York Identification and Listing of Hazardous Wastes Regulations (6 NYCRR 371): Hazardous Waste

- New York Hazardous Waste Manifest System Regulations (6 NYCRR 372): Waste Transport

### 5.1.4 Project Schedule

The field effort began on August 21 2012 with all confirmation sampling completed by September 17, 2012. Due to a delay caused by Superstorm Sandy, final disposition of liquids occurred on November 2, 2012 and the solid wastes occurred on November 29, 2012. Validation of the analytical results and preparation of the project closeout report was completed in March 2013. The Final Construction Completion Report was approved on April 8, 2013.

## 5.2 Estimated Costs

The cost for the removal action, inclusive of labor, testing, decommissioning and disposal, was $316,847.

## 6.0 EXPECTED CHANGE IN THE SITUATION SHOULD ACTION BE DELAYED OR NOT TAKEN

It was determined that if the TCRA was not conducted, contaminated liquids contained within the USTs could be released to the environment, thereby increasing risks to the soil and groundwater surrounding the USTs.

## 7.0 OUTSTANDING POLICY ISSUES

No outstanding policy issues have been identified at this time.

## 8.0 ENFORCEMENT

The accelerated action is being undertaken voluntarily by the Navy. Regulatory agencies are anticipated to remain in an oversight role reviewing completion reports to assure compliance with regulations under the ER Program.

## 9.0 RECOMMENDATION

This decision document supports the removal of two PCE-containing underground storage tanks and the TCE-contaminated soils near those tanks at Site 1 (AOC 32). This decision is based on the administrative record for the site. Conditions at the site met the removal action criteria at 40 CFR 300.415(b)(2). Therefore, the Navy recommended the implementation and completion of the proposed time critical removal action.

Approvals:

Date: 31 JULY 2013

William F. Cords
Director of Infrastructure Business Operations
Naval Air Systems Command

## 10.0 REFERENCES

H&S. *Construction Completion Report for Time Critical Removal Action AOC32 — PCE Underground Storage Tanks at Naval Weapons Industrial Reserve Plant Bethpage, New York*, Prepare for NAVFAC Mid-Atlantic, March 2013.

Radian International, LLC (Radian). *Final Phase II Environmental Site Assessment for Plant 3 GOCO Facility Bethpage, New York*, Prepared for Northrop Grumman, August 1998.

Radian. *Final Phase I Environmental Site Assessment for Plant 3 GOCO Facility Bethpage, New York*, Prepared for Northrop Grumman, April 1997.

# Appendix A
# Figures

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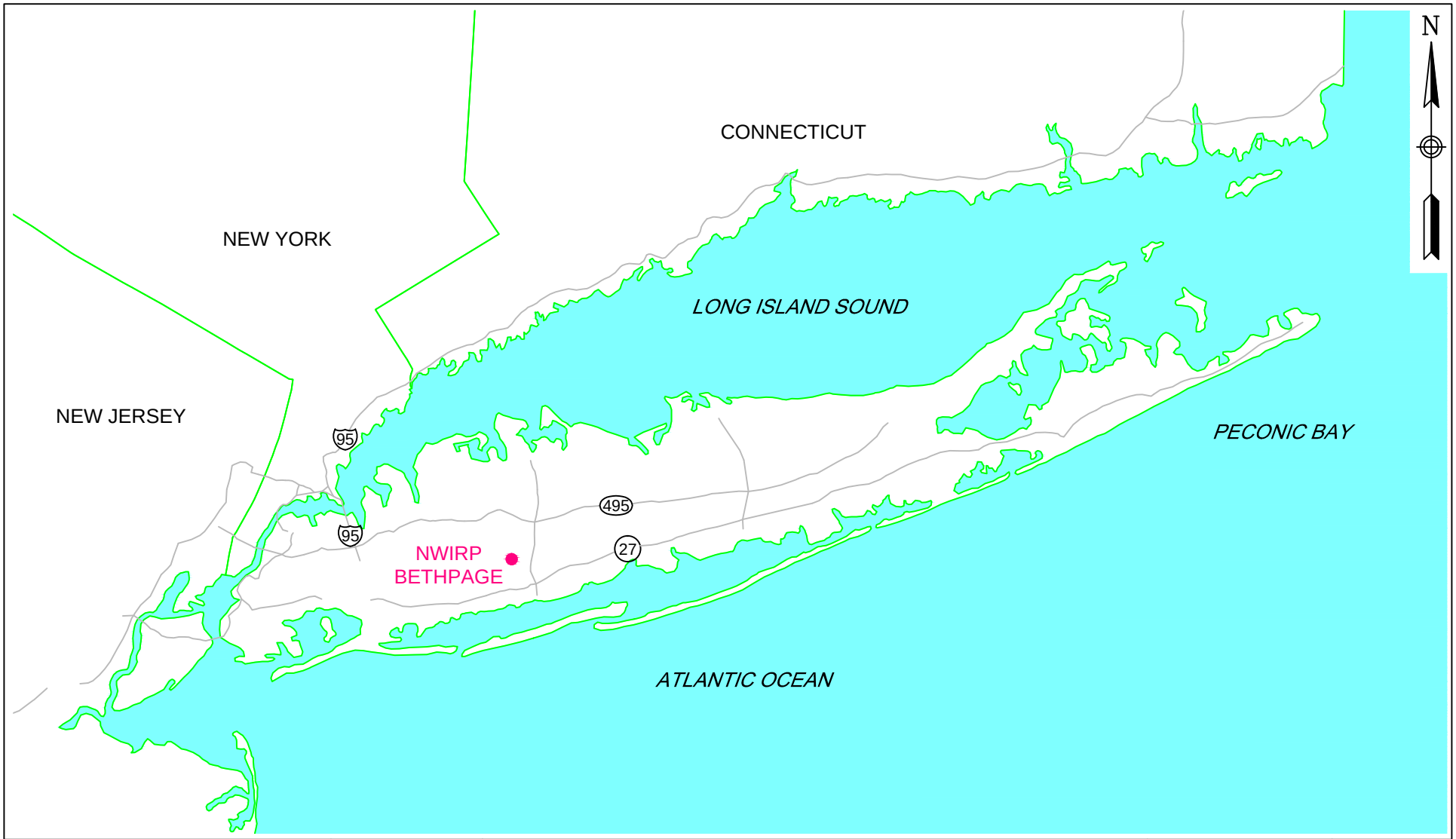


0 15 30
SCALE IN MILES

NAVFAC

GENERAL LOCATION MAP
NWIRP BETHPAGE
BETHPAGE, NEW YORK

| CONTRACT NUMBER | CTO NUMBER |
|---|---|
| N62470-11-D-8018 | WXE08 |
| APPROVED BY -- | DATE -- |
| APPROVED BY -- | DATE -- |
| FIGURE NO. 1 | REV 0 |

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| DRAWN BY | DATE |
|---|---|
| TT/MC | 8/3/11 |
| CHECKED BY | DATE |
| TT/DB | 8/3/11 |
| REVISED BY | DATE |
| RC/CH | 6/20/13 |
| SCALE | |
| AS NOTED | |

NAVFAC

SITE 1 - FORMER DRUM MARSHALLING AREA
LAYOUT MAP
NAVA WEAPONS INDUSTRIAL RESERVE PLANT
BETHPAGE, NEW YORK

| CONTRACT NUMBER | CTO NUMBER |
|---|---|
| N62470-11-D-8018 | WXE08 |
| APPROVED BY | DATE |
| — | — |
| APPROVED BY | DATE |
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| FIGURE NO. | REV |
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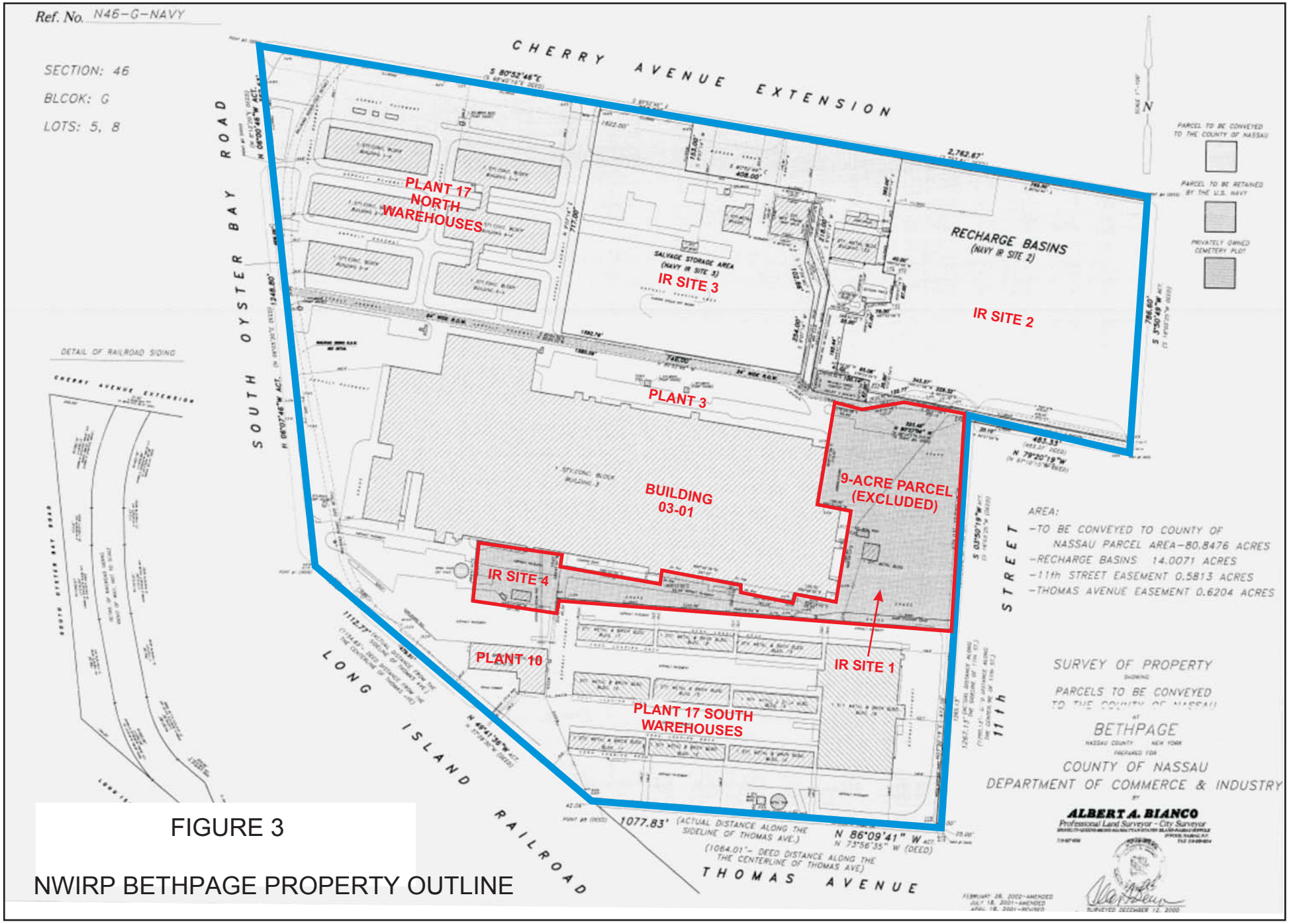


FIGURE 3

NWIRP BETHPAGE PROPERTY OUTLINE

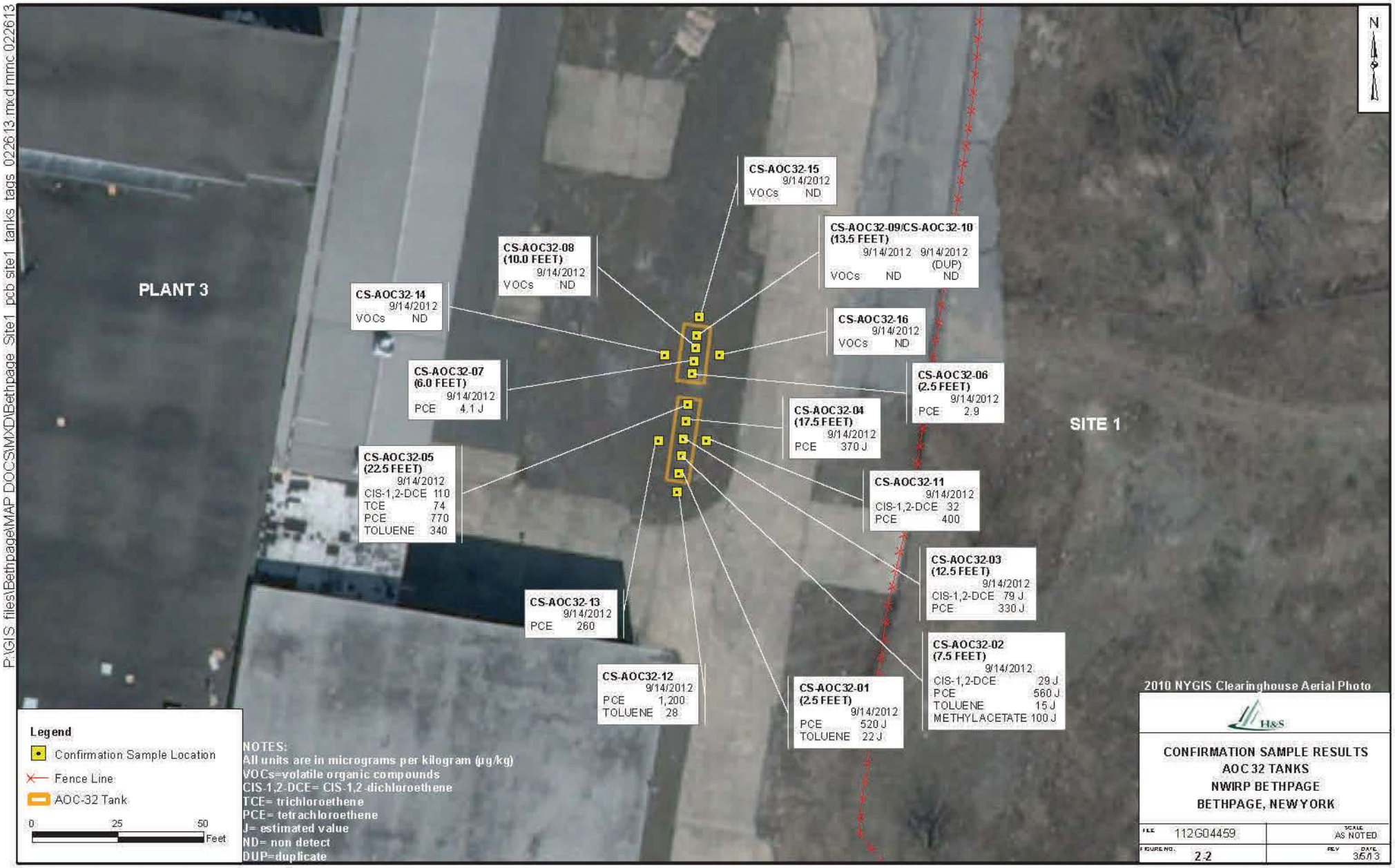


**Figure 4**
**Confirmation Sample Results AOC 32 PCE and TCE Storage Tanks**
***Source*: Construction Completion Report (H&S 2013)**

# Appendix B
# Tables

| Table 1<br>Pre-Excavation Sample Results for AOC 32 — PCE and TCE Storage Tanks | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| **Sample ID** | **AOC 32-UST-GRAB** | | **AOC 32-1/1A** | | **AOC 32-3/3A** | | **AOC 32-5** | | **AOC 32-6** | |
| **Tank — Description** | T1 (South) | | T1 (South) | | T2 (North) | | T1 (South) | | T2 (North) | |
| **Matrix** | Water | | Water | | Water | | Soil, ** | | Soil, ** | |
| **Sample Date** | 4/17/2012 | | 8/21/2012 | | 8/21/2012 | | 8/21/2012 | | 8/21/2012 | |
| **Parameter** | (ug/l) | | (ug/l) | | (ug/l) | | (TCLP – MG/L) | | (TCLP – MG/L) | |
| **Vinyl Chloride** | 19,000 | D | 8,800 | | | | | | | |
| **Methylene Chloride** | 480 | J | | | | | NA | | NA | |
| **Tran-1, 20Dichlorethene** | 470 | J | 73 | J | 11 | | NA | | NA | |
| **CIS-1, 2-Dichloroethene** | 22,000 | | 17,000 | | 1,300 | | NA | | NA | |
| **Trichlorethene** | 140 | J | 170 | | 16 | | | | | |
| **Tetrachloroethene** | 1,300 | | 140 | | 9.7 | J | | | | |
| **1, 1-Dichloroethene** | | | 33 | J | | | NA | | NA | |
| **Acetone** | | | 92 | J | | | NA | | NA | |
| **Diesel Range Organics** | NA | | 920 | | 330 | | 26 | a. | 7.2 | a. |
| **PCB-1248** | NA | | | | 12 | | | | 1 | a. |
| **PBC-1260** | NA | | | | 1.9 | | 0.11 | a. | 0.27 | a. |
| **4,4" DDT** | NA | | | | 0.042 | J | 0.0022 | J, a. | 0.0069 | J, a. |
| **Chlordane** | NA | | | | | | 24 | | | |
| **Pentachlorophenol** | NA | | | | 0.16 | J | 1.1 | J, a. | | |
| **pH** | NA | | 7.3 | | 7.93 | | 7.17 | | 7.33 | |
| **Cyanide** | NA | | | | 11 | | 0.28 | J, a. | 0.88 | a. |
| **Arsenic** | NA | | 6.7 | | 10 | | | | | |
| **Barium** | NA | | 85 | | 69 | | | | | |
| **Chromium** | NA | | 20 | | 79 | | | | | |
| **Cadmium** | NA | | 0.72 | | 2.6 | | | | | |
| **Lead** | NA | | 22 | | 55 | | | | | |
| **Mercury** | NA | | 0.12 | J | 0.092 | J | | | | |
| **Selenium** | NA | | 14 | | 1.2 | J | | | | |
| **Silver** | NA | | 1.3 | | | | | | | |

*Source:* Construction Completion Report, Table 1 (H&S 2013)
Only positive detections are shown. For metals, only the 8 RCRA metals are reported on this table. Other metals were detected, see Appendix B of the Construction Completion Report (H&S 2013).
Blank indicates there was no reported detection for that parameter

J Estimated
UG/L micrograms per liter.
MG/L milligrams per liter.
NA Not analyzed.
** Toxicity Characteristic Leaching Procedure (TCLP) Result, results are in MG/L unless otherwise noted.
a. Result in miligrams per kilogram (MG/KG)

**Table 2**
**Confirmation Sample Result for AOC 32 — PCE and TCE Storage Tanks**

| Sample ID | Sample Date | Tank, Location | Matrix | Parameter | Cis-1, 2-Dichloroethene | | Trichloroethene | | Tetrachloroethene | | Toluene | | Methyl acetate | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **CS-AOC32-01** | 9/14/2012 | T1, BOT, 2.5 FT | Soil | (ug/kg) | | | | | 520 | | 22 | J | | |
| **CS-AOC32-02** | 9/14/2012 | T1, BOT, 7.5 FT | Soil | (ug/kg) | 29 | J | | | 560 | J | 15 | J | 100 | J |
| **CS-AOC32-03** | 9/14/2012 | T1, BOT, 12.5 FT | Soil | (ug/kg) | 79 | J | | | 330 | J | | | | |
| **CS-AOC32-04** | 9/14/2012 | T1, BOT, 17.5 FT | Soil | (ug/kg) | | | | | 370 | J | | | | |
| **CS-AOC32-05** | 9/14/2012 | T1, BOT, 22.5 FT | Soil | (ug/kg) | 110 | | 74 | | 770 | | 340 | | | |
| **CS-AOC32-06** | 9/14/2012 | T1, BOT, 2.5 FT | Soil | (ug/kg) | | | | | 2.9 | | | | | |
| **CS-AOC32-07** | 9/14/2012 | T1, BOT, 6.0 FT | Soil | (ug/kg) | | | | | 4.1J | | | | | |
| **CS-AOC32-08** | 9/14/2012 | T2, BOT, 10.0 FT | Soil | (ug/kg) | | | | | | | | | | |
| **CS-AOC32-09** | 9/14/2012 | T2, BOT, 13.5 FT | Soil | (ug/kg) | | | | | | | | | | |
| **CS-AOC32-09 DUP** | 9/14/2012 | T2, BOT, 13.5 FT | Soil | (ug/kg) | | | | | | | | | | |
| **CS-AOC32-11** | 9/14/2012 | T1, SIDE, EAST | Soil | (ug/kg) | 32 | | | | 400 | | | | | |
| **CS-AOC32-12** | 9/14/2012 | T1, SIDE, SOUTH | Soil | (ug/kg) | | | | | 1,200 | | 28 | | | |
| **CS-AOC32-13** | 9/14/2012 | T1, SIDE, WEST | Soil | (ug/kg) | | | | | 260 | | | | | |
| **CS-AOC32-14** | 9/14/2012 | T2, SIDE, WEST | Soil | (ug/kg) | | | | | | | | | | |
| **CS-AOC32-15** | 9/14/2012 | T2, SIDE, NOR | Soil | (ug/kg) | | | | | | | | | | |
| **CS-AOC32-16** | 9/14/2012 | T2, SIDE, EAST | Soil | (ug/kg) | | | | | | | | | | |

*Source:* Construction Completion Report, Table 2 (H&S 2013)
Only positive detections are shown.
Blank indicates there was no reported detection for that parameter
J Estimated
UG/KG micrograms per kilogram.