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FOCUSED FEASIBILITY STUDY FOR SITE 7 FORMER SEWAGE TREATMENT PLANT NAS
SOUTH WEYMOUTH MA
1/5/2016
RESOLUTION CONSULTANTS

FOCUSED FEASIBILITY STUDY
Site 7, Former Sewage Treatment Plant
Former Naval Air Station
South Weymouth, Massachusetts

FINAL
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Prepared for:



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Appendix C	Revised Preliminary Remediation Goals
Appendix D	Cost Estimates

LIST OF ACRONYMS AND ABBREVIATIONS

µg/kg	Micrograms per kilogram
ARAR	Applicable or Relevant and Appropriate Requirements
BRAC	Base Realignment and Closure Act
bgs	Below ground surface
cm/sec	Centimeters per second
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act
COC	Contaminants of concern
DDD	dichloro diphenyl dichloroethane
DDT	dichlorodiphenyl-trichlorethane
ERH	electrical resistive heating
FFS	Focused Feasibility Study
FS	Feasibility Studies
GRAs	general response actions
HHRA	Human Health Risk Assessment
HRS	Hazard Ranking System
LUC	Land Use Controls
NAS	Naval Air Station
NAVFAC	Naval Facilities Engineering Command
PA	Preliminary Assessment
PAH	Polycyclic aromatic hydrocarbon
PCBs	Polychlorinated biphenyls
PDI	Pre-Design Investigation
PRGs	Preliminary remediation goals
RA	Remedial Action

RAOs	Remedial Action Objectives
RACR	Remedial Action Completion Report
RFH	Radio frequency heating
RI	Remedial Investigation
ROD	Record of Decision
SI	Site Investigation
STP	Sewage Treatment Plant
TPH	Total petroleum hydrocarbons
U.S. EPA	United States Environmental Protection Agency

1.0 INTRODUCTION

This Focused Feasibility Study (FFS) was prepared by Resolution Consultants for the Naval Facilities Engineering Command (NAVFAC) under Contract Task Order WE-27 under the Comprehensive Long-Term Environmental Action Navy Contract Number N62470-11-D-8013. This FFS develops and evaluates remedial alternatives for impacted soil that remains at the Former Sewage Treatment Plant (STP), Operable Unit 7/Site 7 (the Site) at the former Naval Air Station (NAS) South Weymouth, Massachusetts (the Base) after the conclusion of a remedial action that was completed in June 2015. The remedial action was completed in two separate mobilizations, herein referred to as the 2009 and the 2014-2015 mobilizations of the remedial action. This document was prepared to fulfill the requirements of the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) and is consistent with the United States Environmental Protection Agency (U.S. EPA) Guidance for Conducting Remedial Investigations (RIs) and Feasibility Studies (FSs) Under CERCLA (1988) and the Navy Environmental Restoration Program Manual (Navy, 2006).

1.1 Purpose

The purpose of this FFS is to evaluate potential remedial alternatives that will address impacted subsurface soil that remains at depth after the completion of the remedial action. The Navy recently completed the remedial action at the Site that included the excavation of impacted surface soil, unsaturated subsurface soil, sediment, and impacted former structures and piping. The remedial action was developed in the original FS for the Site titled, *Feasibility Study for Former Sewage Treatment Plant, Naval Air Station South Weymouth, Weymouth, Massachusetts* (TtNUS, April 2007) and was chosen as the remedy in the Record of Decision for the Site (Navy, April 2008). Details on the completed remedial action will be summarized in a forthcoming Remedial Action Completion Report (RACR).

This FFS includes a summary of the site history including previous environmental investigations and remedial actions, identifies the remaining impacts, summarizes the human health and ecological risk for these impacts, defines remedial action objectives (RAOs), identifies and screens remedial technologies and process options, develops site-specific remedial alternatives to address the impacted subsurface soils, and performs a detailed analysis of these alternatives.

1.2 Report Organization

This report has been organized as follows:

- Section 1 - Introduction

- Section 2 - Site Setting and Conceptual Site Model
- Section 3 - Remedial Action Objectives
- Section 4 - Identification and Screening of Technology and Process Options
- Section 5 - Development and Analysis of Remedial Alternatives
- Section 6 - References

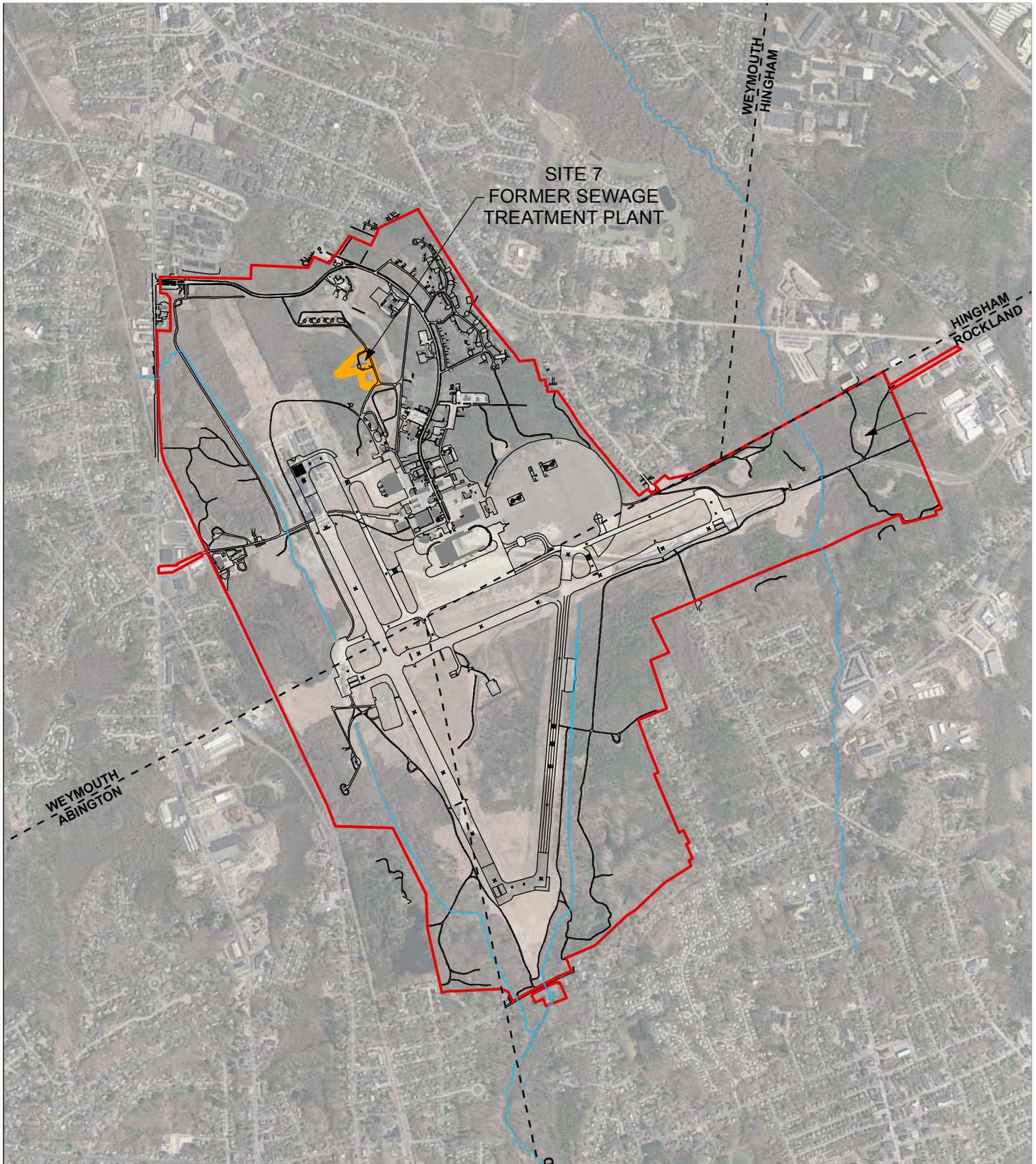
1.3 Naval Air Station South Weymouth

The former NAS South Weymouth is comprised of approximately 1,442 acres located approximately 20 miles southeast of Boston. The Base is located primarily in the Town of Weymouth, Norfolk County, Massachusetts. Portions of the Base also extend into the adjacent towns of Abington and Rockland, Massachusetts; the town of Hingham forms the northeast boundary of the Base. The Base is located in an urban area, with primary access from Route 18 in Weymouth. The base location is presented on Figure 1.

NAS South Weymouth was commissioned during the 1940s to support dirigible aircraft used to patrol the North Atlantic during World War II. The facility was closed in 1949 and then reopened in 1953 as a naval air station for aviation training. NAS South Weymouth was designated for closure under the Base Realignment and Closure Act of 1990 (BRAC), as part of the BRAC Commission's 1995 Base Closure List. In September 1996, operational closure of NAS South Weymouth began with the transfer of aircraft to other Navy facilities, and through personnel reduction. Between 1996 and 1997, NAS South Weymouth provided facilities for limited ground training to Marine and Naval reserve units (EA, 1998). NAS South Weymouth was closed administratively under BRAC on September 30, 1997. Because of the closure, the facility was placed in caretaker status under the supervision of the NAVFAC and is currently under the supervision of the NAVFAC BRAC Program Management Office PMO East. Portions of the Base property have been transferred by the Navy to the local redevelopment authority and are undergoing redevelopment.

1.4 Former Sewage Treatment Plant Site (IR Site 7)

The former STP presented on Figure 2, is comprised of two main areas encompassing approximately 3.3 acres: the former Tile Bed Area and the adjacent former sewage treatment plant area. The Site is unpaved and relatively flat with a gentle slope to the west, toward an adjacent drainage channel and wetland area. A small segment of the adjacent, downgradient/



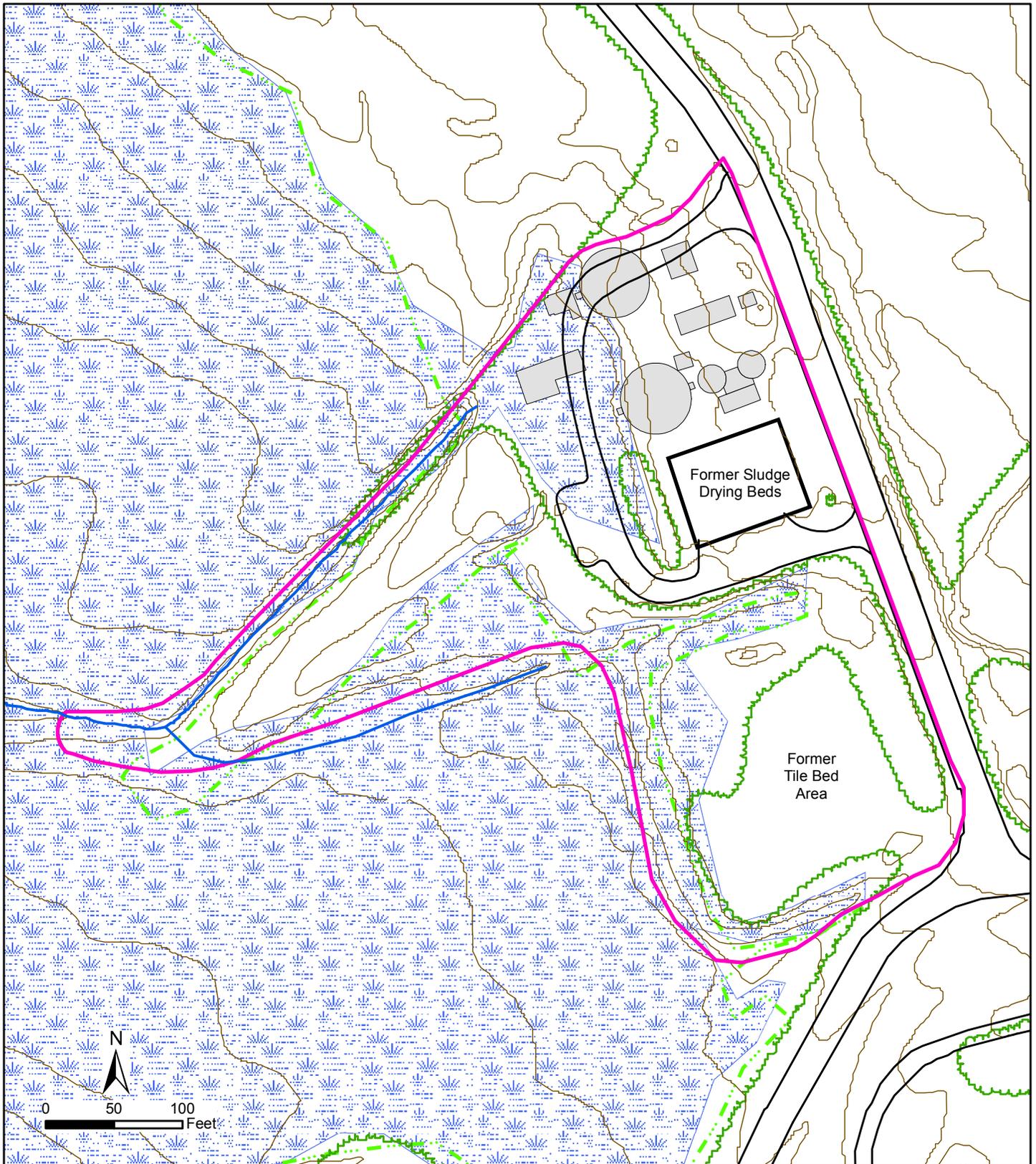

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 Approved: MS 05/29/2015
 Project #: 60274866

Legend

- - - Town Boundary
- + - Railroad
- - - Surface Water
- Site 7, Former Sewage Treatment Plant Boundary
- NAS South Weymouth Boundary
- Road/Runway
- Building




FIGURE 1
SITE MAP
 FOCUSED FEASIBILITY STUDY
 SITE 7
 FORMER SEWAGE TREATMENT PLANT
 FORMER NAVAL AIR STATION
 SOUTH WEYMOUTH, MASSACHUSETTS



Drawn: JB 07/02/2015

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Legend

- Approximate Site 7, Former Sewage Treatment Plant Boundary
- Former Structures
- Edge of Pavement
- 2ft Topographic Contour
- Tree Line
- Drainage Ditch
- Current Wetland Boundary
- ROD Wetland Boundary

**FIGURE 2
SITE LAYOUT**

FOCUSED FEASIBILITY STUDY
SITE 7
FORMER SEWAGE TREATMENT PLANT
FORMER NAVAL AIR STATION
SOUTH WEYMOUTH, MASSACHUSETTS

downstream wetland area is also included as part of the Site. The Site's ground surface is covered by grasses, shrubs, and mixed upland forest. A forested wetland, which contains several small intermittent stream channels, bounds the Site to the west. Forested areas bound the Site to the north, whereas paved roads bound the Site to the east and south.

The Tile Bed Area was part of the original wastewater treatment system installed in the 1940s during construction of the Base. The Tile Bed Area was the leaching field for the treatment system. The wastewater from the Base, mainly comprised of wash water from sink and shower drains, restrooms, and sanitary sewer inlets, received primary treatment at Building 7, the Sewage Lift Station, located south of the Site near Hangar 1. The partially-treated wastewater was piped from the Sewage Lift Station to the subsurface gravel layer in the Tile Bed Area for final treatment (i.e., filtration and biodegradation) and disposal (i.e., infiltration to groundwater). Building 7 and the Tile Bed Area were used by the Navy from approximately 1940 to 1941 until sometime later a settling tank and trickling filter (southernmost) was added.

In 1953, the Navy expanded the STP facility adjacent (north) of the Tile Bed Area. Use of the Tile Bed Area was discontinued and the STP was used as the wastewater treatment facility for the Base from 1953 to 1978. The STP initially consisted of a settling tank for primary (physical) treatment and a "trickling filter" for secondary (biological) treatment of wastewater. The treated wastewater was discharged through an outfall to a drainage ditch leading west. During the plant's 25 years of operation, the Navy completed various upgrades, including expansion of the secondary treatment system and construction of covered sludge drying beds for aerobic digestion (composting) of the wastewater sludge. Dried sludge from the drying beds was reportedly disposed at various remote locations on the west side of the Base, primarily north of Trotter Road. In 1978, the Navy decommissioned the STP and the Base wastewater was discharged to the municipal sanitary sewer system. From the 1980s until 2005, the covered sludge drying bed area was used by Navy for storage of road salt and sand. A more complete description of the STP can be found in Chapter 3 of the *Remedial Investigation (RI) Phase II Report* (TtNUS, 2002).

The Navy removed the above-grade portions of tanks and associated structures of the STP Site in 1992. Structures that remain on the Site include the digesters, primary and secondary settling tank foundations, and concrete walls of the former sludge drying bed area, an inactive transformer (polychlorinated biphenyls [PCB]-free), the clay tiles and riser pipes of the former Tile Bed Area, and the various groundwater monitoring wells installed as part of the Navy's investigations of the Site.

1.5 Summary of Previous Investigations and Remedial Actions

A number of environmental investigations, pre-design investigations, and a remedial action have been completed at the Site. Summaries are provided below.

Preliminary Assessment (PA), Argonne National Laboratory 1988. The PA included a records search, interviews, and a site walkover. The purposes of the PA were to identify and evaluate past waste practices at NAS South Weymouth and make an assessment of the associated potential for environmental contamination. As a result of the study, five sites (not including the STP site) were identified for further environmental study.

Site Investigation (SI), Baker Environmental 1991. The SI included site walkovers, geophysical surveys, installation of groundwater monitoring wells, and the collection of soil, sediment, surface water, and groundwater samples at eight sites at the NAS South Weymouth property. The SI was conducted for screening purposes to assess the potential for contaminant migration, provide data for Hazard Ranking System (HRS) scoring, and to provide the information necessary to develop a comprehensive work plan for further study. The SI included a site visit and literature review at the STP site, but no sampling. Further investigation of the STP site was recommended.

Phase I RI Study, Brown & Root Environmental 1998. The Phase I RI included a literature search, a geophysical survey; a soil-vapor survey; immunoassay testing; an ecological assessment; test pit excavation; installation of monitoring wells, well points, and piezometers; hydraulic conductivity testing; groundwater gauging and water level measurements; stream gauging; sampling of surface soil, subsurface soil, groundwater, sediment, surface water, and leachate; and a human health risk assessment.

Phase II RI, Tetra Tech NUS (TtNUS) 2002. The Phase II RI was conducted to address data gaps from the previous investigations. During the Phase II RI, the Tile Bed Area was incorporated into the sampling and investigation programs along with the STP area. The Phase II RI included further ecological assessment; groundwater gauging; water level measurements; sampling of surface soil, subsurface soil, groundwater, sediment, and surface water; and a human health risk assessment.

Supplemental Sampling Event and Risk Assessment Addendum, TtNUS 2006. The additional field investigation and associated risk calculations included sampling and analysis of soil beneath the former sludge drying beds and groundwater and calculating risk to evaluate the

potential risks to future residents from exposure to site surface soils. This supplemental field investigation and additional risk calculations were incorporated into the Final Feasibility Study (TtNUS 2007).

Feasibility Study (FS), TtNUS 2007. The FS identified the RAOs that would be protective of human health and the environment at the site, and developed and evaluated various cleanup alternatives to achieve those objectives.

Record of Decision (ROD), US Navy April 2008. The ROD set forth the selected remedy for the Site and included the following components:

- (1) a pre-design investigation (PDI) (to further delineate the types and extents of chemicals of concern (COCs) [i.e. arsenic, 4,4'-DDT, dieldrin, benz(a)anthracene, benzo(a)pyrene, and benzo(b)fluoranthene in surface soils and arsenic, 4,4'-DDD, 4,4'-DDE, 4,4'-DDT, dieldrin, and potentially methyl mercury in sediments]);
- (2) excavation of contaminated soil and sediment (containing COC concentrations exceeding preliminary remediation goals [PRGs]);
- (3) off-site disposal or recycling by asphalt batching;
- (4) a tiered monitoring program (to verify that post-remediation COC concentrations do not rebound in sediment); and,
- (5) pre- and post-remediation groundwater monitoring (to confirm that groundwater is not a medium of concern).

Since the ROD assumed that that the Site would be remediated to levels that would render the Site suitable for unrestricted use and unlimited exposure (because residual risks for current and future use scenarios would be within acceptable ranges), no groundwater restrictions, land use restrictions, or five-year reviews were required. (The remedy was subsequently modified in 2010, as described in an Explanation of Significant Differences [ESD], to permit use of the excavated materials from the Site as subgrade fill in the construction of the West Gate Landfill cover system.)

Pre-Design Investigation (PDI), LFR 2009. The PDI was conducted to further delineate the types and extent of contaminants of concern in soil and sediment requiring remediation, to verify that surface water is not a medium of concern, to evaluate groundwater flow and to inspect and determine whether there are potential migration pathways that have not been adequately

investigated. The PDI field activities were completed in February 2008; the final PDI Report was issued in February 2009 (LFR, 2009).

2009 Mobilization of the Remedial Action (RA), TetraTech, EC (TtEC) 2009. Based on results of the PDI, a remedial design was completed and the RA was initiated in 2009 to address COCs in surface soil and sediment in accordance with the 2008 ROD (Navy 2008). The PDI scope of work was presented *in the Final Remedial Action Work Plan for Soil Excavation at Site 7, Former Sewage Treatment Plant Location*, (TtEC 2009). Following removal of the impacted material, confirmatory samples were collected to document the remaining levels of the contaminants of concern. Confirmatory sampling results revealed COC contamination beyond the planned limits of excavation and a supplemental PDI effort was recommended to address data gaps and further delineate the extent of soil contamination.

Supplemental PDI, TtNUS 2012 The Final Supplemental PDI Project Report was issued in May 2012 that presented results of the field effort performed in April and May 2011. Based on the findings, the list of COCs, media of concern, and exposure scenarios had to be expanded from those originally identified in the ROD. A human health risk screening evaluation was performed, consistent with the process used for risk screenings previously completed for other sites at the former NAS South Weymouth, to support the selection of COCs and development of PRGs. Based on results of the risk screening (that identified potential health impacts for a hypothetical resident or industrial worker at the Site), additional CERCLA actions such as focused excavation or institutional controls were recommended.

Additional Soil Delineation Investigation, TtNUS 2014. In 2013, an Additional Soil Delineation investigation was performed to follow up on the 2009 RA mobilization and the 2011 Supplemental PDI results, which showed areas that needed further investigation. The investigation and report were completed between July 2013 and February 2014. Sample results indicated that contaminants of concern remained. The contaminants of concern for soil included arsenic, 4,4'-DDT, dieldrin, benzo(a)anthracene, benzo(a)pyrene, and benzo(b)fluoranthene. The contaminants of concern for sediment included arsenic, 4,4'-DDD, 4,4'-DDE, 4,4'- DDT, and dieldrin. An evaluation of prior remedial actions at STP Site 7 led to the determination that additional surface and subsurface contamination were present and that additional surface soils, discharge piping (and piping content), and associated contaminated soil and sediment needed to be removed to meet the RAOs for the site identified in the ROD (Navy 2008), allowing unrestricted land use following implementation of the remedy.

Test Pit Report, TtEC 2014a. A test pit investigation was completed to investigate former STP subgrade structures. The investigation consisted of the advancement of 11 test pits that targeted piping, connections, vaults, trickling filters, and tanks of the former sewage treatment system. The investigation identified impacted piping and structures with elevated concentrations of arsenic and polycyclic aromatic hydrocarbon (PAHs). The test pit report recommended that additional pipes be removed and that chambers that contain elevated levels of arsenic, along with material in the Former Primary Settling Tanks (TP-10) be removed or cleaned.

2014-2015 RA Mobilization, TtEC 2015. The Navy recently completed implementation of the 2014-2015 mobilization of the remedial action that included additional excavation of impacted surface soil, unsaturated subsurface soil, structures and piping, in the previously remediated upland area; excavation of headwall soils and piping; and sediment within the wetland and drainage ditch. The scope of the 2014-2015 mobilization was detailed in the *Final Addendum to Remedial Action Work Plan, Soil Excavation at Site 7 Former STP Location* (TtEC 2014b) This work will be summarized in a forthcoming RACR.

2.0 SITE SETTING AND CONCEPTUAL SITE MODEL

This section presents the site physical characteristics, geology, hydrogeology, nature and extent of the remaining contamination, and a summary of the risk assessment.

2.1 Physical Characteristics of the Study Area

2.1.1 Topography

Topographically, the Site is unpaved and relatively flat with a gentle slope to the west, toward an adjacent drainage channel and wetland area. Figure 2 depicts the constructed drainage channels present at the Site, as well the location of the wetland. Several stream channels within the wetland to the west transport surface water for eventual discharge into French Stream to the west. French Stream flows southward to off-Base property.

2.1.2 Ecological Setting

The following information is summarized from the 2007 Feasibility Study (TtNUS 2007). A canopy covered (since removed) former road salt storage area (the former sludge drying beds) and early successional growth currently occupy the central terrestrial portions of this Site. A forested palustrine wetland bounds the Site to the west. Several small intermittent stream channels flow through this wetland, beneath the northern end of NAS South Weymouth runway, toward French Stream. Topographical elevation at the Site ranges from approximately 170 to 180 ft in National Geodetic Vertical Datum.

The dominant canopy tree in this region is red maple (*Acer rubrum*), with subdominant trees including white pine (*Pinus strobus*), white cedar (*Chamaecyoparis thyoides*), oaks (*Quercus bicolor*, *Q. rubra*, and *Q. alba*), black gum (*Nyssa sylvatica*), and eastern hemlock (*Tsuga canadensis*).

There is no aquatic habitat suitable for fish at the Site. However, several amphibian and reptile species occur at and in the vicinity of the Site. Terrestrial species known or suspected to occur at the Site include the black racer snake (*Coluber constrictor*) and eastern garter snake (*Thamnophis sirtalis*). Wetland and aquatic species known or suspected to occur in the palustrine wetlands at the Site include the green frog (*Rana clamitans*) and the wood frog (*R. sylvatica*).

Potential vernal pool habitat, as defined in the Massachusetts Wetlands Protection Act (M.G.L. c. 141, s. 40) and its implementing regulations (310 CMR 10.00) occurs in a small depression located at the western end of the Tile Bed Area. A single egg mass of an obligate vernal pool species, the

yellow-spotted salamander (*Ambystoma maculatum*), has been observed in this pool. Several wood frogs (*R. sylvatica*) have also been observed at the Site.

2.1.3 Geology

The following geologic layers have been observed underlying the Site during previous investigations.

Topsoil

A thin layer of topsoil was present in most borings/wells advanced within the STP. This layer (generally between 0.5 and 1 ft thick) consists of brown sand with some silt and gravel. Roots and other organic materials are typically present.

Glacial Till

Immediately below the topsoil is a layer of till (where fill material was not encountered) consisting of brownish sediments with some gray coloration. Where present, iron-rich sediments were observed to be orange or rust-colored. The texture of these sediments consists of fine sand with silt, with some coarse sand, gravel, and/or rock fragments. During investigations in the STP area, the till was observed to be loose to compact, and had a mottled appearance in places.

For some STP borings/wells, the lower portion of the till is visually distinguishable from the upper portion. The lower till is composed of brownish sediments, noted on most boring/well logs for the Site, with some indications of an olive-gray/greenish-brown appearance. No iron discoloration was observed in this stratum, except associated with boulders or cobbles. These sediments consist of silty/sandy sediments with some clay and abundant rock fragments and gravel. Some well/boring logs for the Site (e.g., FSB-08 [MW-62D] and FSB-04) show increasing compaction or density with depth, while other logs show less contrast between upper and lower till. Till (directly above the bedrock) was present in all borings/wells that terminated in the bedrock.

Bedrock

Geologic deposits at the Base and surrounding area are underlain by bedrock of the Dedham Granite formation, an intrusive igneous rock of the Proterozoic age. The rock is described as a light grayish pink to greenish-gray, equigranular-to-slightly porphyritic, variably altered fractured granite.

2.1.4 Hydrogeology

The geologic origin and permeability of the sediments and the fracture orientation and morphology of the underlying bedrock influence groundwater flow throughout the STP area. There appears to be a relatively uniform placement of the upper and lower till above the bedrock. This suggests that there should be a relatively uniform groundwater flow pattern throughout the Site as the groundwater table is above the bedrock. An exception might be the Tile Bed Area, where gravel fill is present in the shallow overburden. Since the water table occurs within this gravel, at least under some conditions, possible local effects on groundwater flow may occur, but these would probably be small. A portion of the Site is located within a Massachusetts-mapped potentially productive, medium yield aquifer.

The Navy completed a Base-wide groundwater flow assessment in December 2000 (TtNUS, 2000). This investigation concluded that groundwater flows to the Site from the northeast and flows southwest across the Site. This investigation also determined that the horizontal hydraulic gradient of the water table in the overburden in the immediate vicinity of the STP Site is approximately 0.027 feet per foot (ft/ft).

2.2 Nature and Extent of Contamination

The 2014-2015 remedial action successfully removed contaminated surface soil and sediments to below PRGs. The following COCs remain above PRGs, however, in subsurface soils at depths below 11 feet below ground surface (bgs) in the eastern upland area in the vicinity of former STP structures (as shown on Figure 3) and in the wetland area at depths below 2 feet bgs:

- 4,4'-DDD
- 4,4'-DDT
- Benzo(a)anthracene
- Benzo(a)pyrene
- Benzo(b)fluoranthene
- Benzo(k)fluoranthene
- Dibenz(a,h)anthracene
- Aroclor 1016
- Aroclor 1260
- Arsenic

Tables summarizing the soil data collected at the site can be found in Appendix A.

2.3 Risk Assessment

The original human health risk assessment was summarized as part of the 2007 Feasibility Study (2012 TtNUS). This study was updated in the 2012 Supplemental PDI Report (2012 TtNUS). The remedial action removed impacted surface soils and eliminated the risk associated with contact to

impacted surface soils. Potential human receptors for contaminants in subsurface soil include potential future residents and future construction workers during potential hypothetical excavation or other invasive activities. Future construction workers were not identified as potential receptors within the original risk assessment; however, the residential exposure scenario is also protective of future construction workers.

The results of the original human health risk assessment (HHRA) showed that potential carcinogenic risks and non-carcinogenic risks under the current use scenarios were within or below the acceptable risk benchmarks at the Site. However, potential risks under the future scenarios were above acceptable carcinogenic and non-carcinogenic risk benchmarks for the future residential and recreational child receptors. The primary contributor to the non-cancer risk was dieldrin in surface soils. The dieldrin-impacted surface soils were addressed via excavation as part of the remedial action.

In April-May 2011, the human health risk was re-evaluated as part of the Supplemental PDI, and new Post-ROD PRGs were developed since it was recognized that some of the COCs, media, and exposure scenarios were different from those in the 2008 ROD; however these changes were never adopted. The 2014 Five Year Review (2014 TtNUS) indicated that contamination existed outside of the previously defined excavation boundary, noting that PAH concentrations exceeding the Post-ROD PRGs were widespread within Excavation Area A-2. Remaining concentrations of arsenic, pesticides, and PCBs were also found to exceed the Post-ROD PRGs.

The 2014 Five Year Review indicated that there were potential health impacts for a hypothetical resident or industrial worker due to the remaining impacted subsurface soil. Due to these potential human health impacts, additional actions such as excavation, implementation of institutional controls, confirmation sampling, and long term monitoring (LTM) were recommended for soil.

The 2014 Five-Year Review also identified remaining sediment impacted with COCs exceeding the ROD-specified RGs. Further sediment excavation was conducted as part of the 2014-2015 mobilization of the remedial action near location SD-05, which is near the headwall.

In addition to the HHRA described above, the Navy performed a Tier II Ecological Risk Assessment (ERA) for the Site. This study was presented in the *Phase II Remedial Investigation Sewage Treatment Plant, South Weymouth Naval Air Station* (TtNUS, 2002) and the following text was presented in the 2008 ROD (Navy 2008). The ERA evaluated potential risks to ecological receptors that may occur in the presence of chemical stressors in environmental media.

The ERA results indicated acceptable risks for terrestrial plants, terrestrial invertebrates, amphibians, wetland plants, and wetland invertebrates and indicated potential unacceptable risks for vertebrates from exposure to COCs in surface soil and sediment at the Site. Unacceptable risks were found for terrestrial vertebrates (birds and mammals) associated with exposure to several pesticides in surface soil and food items at the Site. 4,4'-DDE, 4,4'-DDT, arsenic, and dieldrin in terrestrial soil were identified as posing potential risk to birds (American Robin) and mammals (Short-tailed Shrew).

Potential unacceptable risks were found for birds and small mammals associated with exposure to pesticides and metals in sediment and food items at the Site. 4,4'-DDT, 4,4'-DDD, 4,4'-DDE, arsenic, and methyl mercury in sediment were identified as posing potential risk to birds (American Robin and Carolina Wren) and mammals (Short-tailed Shrew and Star-nosed Mole). Refer to Chapter 7 of the Phase II RI (TtNUS, 2002) for a comprehensive ERA presentation.

Similar to the HHRA, the ERA uses assumptions that have uncertainties associated with them, which influence the results and conclusions of the risk assessment. Some of the assumptions may underestimate potential risk, some have an unknown effect on potential risk, while some assumptions tend to overestimate potential risk. Uncertainties in the ecological risk assessment process for the Site are summarized in Table 7-39 of the Phase II RI (TtNUS, 2002). While these uncertainties generally tend to overestimate the potential ecological risks at the Site, the use of limited site-specific toxicity testing data results in fewer uncertainties than are often contained in ecological risk assessments.

After further evaluation of Site data during the FS, the Navy, with input from EPA, concluded that 4,4'-DDE, dieldrin, and arsenic in soil did not pose risk to populations of birds and mammals and should not be considered ecological COCs.

2.4 Conceptual Site Model

Groundwater, surface water, sediment, surface soil, and subsurface soil were sampled as part of various site investigations. The RI/FS characterized the nature and extent of contamination at the Site, included a HHRA and an Ecological Risk Assessment, and evaluated remedial alternatives to address unacceptable human health and ecological risks associated with potential exposures to COCs identified in Site surface soil and sediment where concentrations above the historical PRGs were found. A ROD was signed by stakeholders in 2008 (Navy, 2008). The Navy recently implemented a remedial action that included the excavation of impacted surface soil, unsaturated subsurface soil and sediment. Impacted soil within former STP structures and piping were also

excavated as part of the remedial action. The delineated wetland boundary changed after the ROD was issued, and now extends further east into the former STP area. The updated wetland boundary is shown on Figure 2 and Figure 3. To avoid significant impacts to the wetland area, it was decided that subsurface wetland soils would not be excavated.

At the conclusion of the remedial action, all impacted surface soil and sediment was remediated to unrestricted levels. Impacted subsurface soils below 11 ft bgs in the upland area and soils greater than two feet bgs in the intermittently wet area (wetland) will remain and are considered media of concern.

The following COCs have been observed in exceedance of historical PRGs in subsurface soil.

- PAHs (benzo(a)anthracene, benzo(a)pyrene, benzo(b)fluoranthene, benzo(k)fluoranthene, dibenzo (a,h)anthracene)
- Pesticides (4,4-DDD, 4,4-DDT)
- PCBs (Aroclor 1016, Aroclor 1260)
- Metals (Arsenic)

Groundwater and surface water were studied during previous investigations and were determined to not be media of concern. This determination was documented in the 2008 ROD, which included a provision for pre and post remedy sampling of groundwater and pre-remedy sampling of surface water to confirm that groundwater and surface water are not media of concern. The ROD also included a provision for post remedy sediment monitoring to verify that post remediation COC concentrations do not rebound in Site sediment. The Navy completed the pre remedy surface water sampling event which confirmed that surface water was not a media of concern. Results were presented in the 2009 PDI Report (LFR, 2009). The Navy is currently planning long term monitoring requirements for the Site which will include the post remedy groundwater and sediment sampling.

Because the STP was used for the treatment of wastewater generated at the Former NAS South Weymouth, it is likely that the presence of these COCs at the STP is attributable to residuals from sewage treatment operations. Potential sources of residual contamination from wastewater treatment at the STP include sludge from primary and secondary settling units, as well as potential residuals from equipment staging, splash, and other minor operational releases over its history.

Within the wastewater treatment portion of the Site, the Navy operated a primary settling tank, trickling filter, and secondary settling tank. These operational units removed sludge (solids) from untreated wastewater, prior to discharging the treated water. The sludge was placed under a steel-frame canopy within the treatment portion of the site, for aerobic digestion and volume reduction prior to ultimate disposal. It is possible that less-soluble chemicals would be retained in the treatment sludge.

In addition to the potential sources from treatment operations, it is likely that the Navy applied pesticides and herbicides to the STP area during its operation. Therefore, it is possible that routine pesticide application by the Navy contributed to the presence of these particular chemicals at the STP which may have been further distributed across the site during the 1992 facility demolition project.

Regarding specific sources of PAHs (and possibly arsenic and pesticides), it is possible that routine urban run-off from adjacent and upstream areas contributed to their presence in surficial media (specifically drainage channels) at the STP. In addition, structural drawings indicate that an underground storage tank was located in Building 87 that possibly contained fuel oil. This could potentially be a source of the PAH contamination.

Although the potential sources of the COCs at the STP could be attributable to wastewater treatment residuals, routine pesticide application, and urban run-off, there is still the potential that natural (background conditions) provided some contributions as well.

The impacts that remain include heavier PAHs, pesticides, and low level PCBs. These impacts are relatively immobile, as they have not been observed in site groundwater.

The remedial action addressed unacceptable risks in surface soils and sediments identified in the HHRA and the ERA. Upon completion of the remedial action, risks remain in the subsurface soils for a hypothetical resident or industrial worker. Remedial Alternatives to address these risks will be evaluated within this FFS.

3.0 REMEDIAL ACTION OBJECTIVES

This section presents the Applicable or Relevant and Appropriate Requirements (ARARs), RAOs, identifies the media of concern being addressed as part of this FFS, and presents the estimated remaining contaminated soil volume calculations.

3.1 Applicable or Relevant and Appropriate Requirements

The 2008 ROD presented a summary of the chemical-, location-, and action-specific ARARs. These ARARs have been updated and are presented in summary tables included as Appendix B.

3.2 Remedial Action Objectives

RAOs are statements that define the extent to which sites require cleanup to protect human health and the environment and comply with ARARs. The following RAO has been developed for the Site remedy:

- Prevent potential human and ecological exposure to COCs present in Site subsurface soil at concentrations above the selected PRGs.

3.3 Preliminary Remediation Goals

The original HHRA was completed as part of original RI/FS process and focused on risks associated with contact to impacted surface soils. The PRGs from the original HHRA, which were formalized in the 2008 ROD as Remedial Goals, focused on the residential land use scenario. Additional PRGs were developed in the 2012 Supplemental PDI Report (2012 TtNUS) as additional COCs and additional potential exposure pathways were identified; however the update was never fully adopted.

Updated human health PRGs have been developed for unrestricted/residential use and non-residential (Recreational, Commercial/Industrial, Construction Worker) uses. The updated PRGs are presented in Table 1. The updated PRGs are based on recent changes to U.S. EPA guidance on risk assessment methods and toxicological values, as well as an inclusion of the additional Future Construction worker exposure scenario. These PRGs differ from the Remedial Goals identified in the 2008 ROD and the PRGs identified in the 2012 Supplemental Pre-Design Investigation.

Table 1
 Revised Soil PRGs
 Focused Feasibility Study – Site 7, Sewage Treatment Plant
 Former NAS South Weymouth, MA

Chemical	CAS Number	Units	Revised Residential Land Use Cleanup Goal ^a and Basis		Revised Non-residential Land Use Cleanup Goal ^b and Basis	
			Goal	Basis	Goal	Basis
Aroclor 1016	12674-11-2	µg/kg	4,110	Revised HH PRG	19,200	Revised PRG
Aroclor 1260	11096-82-5	µg/kg	2,490	Revised HH PRG	10,300	Revised PRG
Arsenic, Inorganic	7440-38-2	mg/kg	6.8	Revised HH PRG	30	Revised PRG
Benz[a]anthracene	56-55-3	µg/kg	1,570	Revised HH PRG	7,340	Revised PRG
Benzo[a]pyrene	50-32-8	µg/kg	1,829	Background	1,829	Background
Benzo[b]fluoranthene	205-99-2	µg/kg	1,570	Revised HH PRG	7,340	Revised PRG
Benzo[k]fluoranthene	207-08-9	µg/kg	15,700	Revised HH PRG	73,400	Revised PRG
DDD	72-54-8	µg/kg	22,600	Revised HH PRG	95,700	Revised PRG
DDT	50-29-3	µg/kg	2,800	Ecological PRG	2,800	Ecological PRG
Dibenz[a,h]anthracene	53-70-3	µg/kg	157	Revised HH PRG	734	Revised PRG

Notes:

^a Revised cleanup goal for residential (unrestricted) land use from Appendix C, Table C-2

^b Revised cleanup goal for non-residential land use from Appendix C, Table C-3

µg/kg = micrograms per kilogram

mg/kg = milligrams per kilogram

DDD = dichloro diphenyl dichloroethane

DDT = dichlorodiphenyl-trichlorethane

HH = human health

Remedial Goals for dieldrin were presented in the ROD as dieldrin was identified as a COC in surface soil and sediment. Dieldrin was not identified as a COC in subsurface soil; therefore PRGs have not been developed in this FFS for dieldrin in subsurface soil.

Appendix C presents a technical memorandum that documents the development of the PRGs that can be used to clarify the administrative record and to facilitate future remedial decisions.

3.4 Media of Concern

This FFS is being developed to address impacted subsurface soil. In the upland area, impacts remain in the saturated subsurface soil, starting at approximately 9 feet bgs. In the wetland area, impacted soil remains below two feet bgs. The Remedial Action addressed impacted surface soils and unsaturated subsurface soils within the upland area as well as the top two feet of sediment in the wetland area. As such, surface soils and sediments are not considered media of concern.

Groundwater and surface water were not identified as media of concern in the 2008 ROD; however the ROD included a provision for pre and post remedy sampling of groundwater and pre-remedy sampling of surface water to confirm that groundwater and surface water were not media of concern. The ROD also included a provision for post remedy sediment monitoring to verify that

post remediation COC concentrations do not rebound in Site sediment. The Navy completed the pre remedy surface water sampling event which confirmed that surface water was not a media of concern. Results were presented in the 2009 PDI Report (LFR, 2009). The Navy is currently planning long term monitoring requirements for the Site which will include the post remedy groundwater and sediment sampling. The groundwater data will also be used to confirm that indoor air is not a media of concern.

3.5 Contaminated Volume Estimates

Impacted subsurface soils are present at three locations shown on Figure 3. One area is located in the upland portion of the site and two areas are located in the wetland.

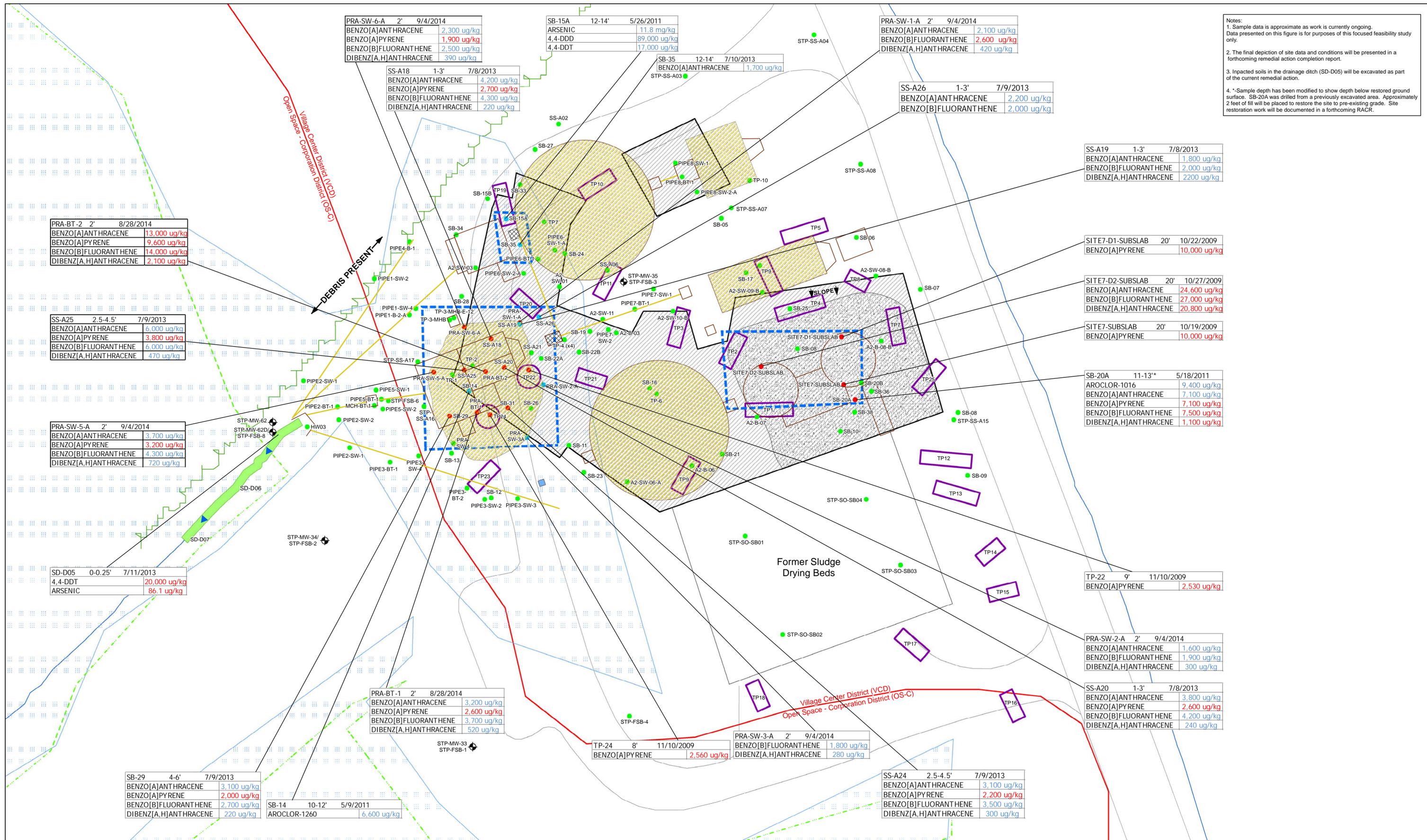
Laterally, approximately 4,190 square feet of the subsurface soil is impacted with COC concentrations above the Residential and Non-Residential PRGs. The depths of these impacts vary depending upon the area. Approximately 38,530 cubic feet of impacted saturated subsurface soils remain onsite.

Impacted subsurface soils in the upland area have been observed as shallow as 9 feet bgs (SB-20A) and as deep as 20 ft bgs (three sub slab locations). Impacted subsurface soils in the northern wetland area have been observed in the 12 to 14 feet bgs interval (SB-15A and SB-35). In the southern wetland area, impacted subsurface soils have been observed in the 1-3 feet bgs sample interval (SS-A20) and as deep as 12 feet (SB-14).

Volume calculations are presented in Table 2. Table 2 also includes a calculation of the required volume of soil that would need to be excavated to remove the impacted subsurface soils. Approximately 62,360 cubic feet of soils would need to be excavated to remove the impacted subsurface soils. The excavation volume is larger than the volume of impacted soils as clean soil overlying the impacted soils would need to be excavated in order to remove the impacted soils.

Table 2
 Volume Estimates
 Focused Feasibility Study – Site 7, Sewage Treatment Plant
 Former NAS South Weymouth, MA

Type	Area	Area (Square Feet)	Beginning Depth (Feet bgs)	Total Depth (Feet bgs)	Volume (Cubic Feet)	Volume (Cubic Yards)
Impacted Subsurface Soil Volumes	Upland Area	1,450	11	20	13,050	484
	Northern Wetland Area	240	12	14	480	18
	Southern Wetland Area	2,500	2	12	25,000	925
	Totals	4,190	—	—	38,530	1,427
Excavation Volumes (Includes impacted and clean soils)	Upland Area	1,450	0	20	29,000	1,074
	Northern Wetland Area	240	0	14	3,360	125
	Southern Wetland Area	2,500	0	12	30,000	1,111
	Totals	4,190	—	—	62,360	2,310



Notes:
 1. Sample data is approximate as work is currently ongoing. Data presented on this figure is for purposes of this focused feasibility study only.
 2. The final depiction of site data and conditions will be presented in a forthcoming remedial action completion report.
 3. Impacted soils in the drainage ditch (SD-D05) will be excavated as part of the current remedial action.
 4. *Sample depth has been modified to show depth below restored ground surface. SB-20A was drilled from a previously excavated area. Approximately 2 feet of fill will be placed to restore the site to pre-existing grade. Site restoration work will be documented in a forthcoming RACR.

PRA-BT-2	2'	8/28/2014
BENZO[A]ANTHRACENE	13,000 ug/kg	
BENZO[A]PYRENE	9,600 ug/kg	
BENZO[B]FLUORANTHENE	14,000 ug/kg	
DIBENZ[A,H]ANTHRACENE	2,100 ug/kg	

SS-A25	2.5-4.5'	7/9/2013
BENZO[A]ANTHRACENE	6,000 ug/kg	
BENZO[A]PYRENE	3,800 ug/kg	
BENZO[B]FLUORANTHENE	6,000 ug/kg	
DIBENZ[A,H]ANTHRACENE	470 ug/kg	

PRA-SW-5-A	2'	9/4/2014
BENZO[A]ANTHRACENE	3,700 ug/kg	
BENZO[A]PYRENE	3,200 ug/kg	
BENZO[B]FLUORANTHENE	4,300 ug/kg	
DIBENZ[A,H]ANTHRACENE	720 ug/kg	

SD-D05	0-0.25'	7/11/2013
4,4-DDT	20,000 ug/kg	
ARSENIC	86.1 ug/kg	

PRA-SW-6-A	2'	9/4/2014
BENZO[A]ANTHRACENE	2,300 ug/kg	
BENZO[A]PYRENE	1,900 ug/kg	
BENZO[B]FLUORANTHENE	2,500 ug/kg	
DIBENZ[A,H]ANTHRACENE	390 ug/kg	

SS-A18	1-3'	7/8/2013
BENZO[A]ANTHRACENE	4,200 ug/kg	
BENZO[A]PYRENE	2,700 ug/kg	
BENZO[B]FLUORANTHENE	4,300 ug/kg	
DIBENZ[A,H]ANTHRACENE	220 ug/kg	

SB-15A	12-14'	5/26/2011
ARSENIC	11.8 mg/kg	
4,4-DDD	89,000 ug/kg	
4,4-DDT	17,000 ug/kg	

SB-35	12-14'	7/10/2013
BENZO[A]ANTHRACENE	1,700 ug/kg	

PRA-SW-1-A	2'	9/4/2014
BENZO[A]ANTHRACENE	2,100 ug/kg	
BENZO[B]FLUORANTHENE	2,600 ug/kg	
DIBENZ[A,H]ANTHRACENE	420 ug/kg	

SS-A26	1-3'	7/9/2013
BENZO[A]ANTHRACENE	2,200 ug/kg	
BENZO[B]FLUORANTHENE	2,000 ug/kg	

SS-A19	1-3'	7/8/2013
BENZO[A]ANTHRACENE	1,800 ug/kg	
BENZO[B]FLUORANTHENE	2,000 ug/kg	
DIBENZ[A,H]ANTHRACENE	2200 ug/kg	

SITE7-D1-SUBSLAB	20'	10/22/2009
BENZO[A]PYRENE	10,000 ug/kg	

SITE7-D2-SUBSLAB	20'	10/27/2009
BENZO[A]ANTHRACENE	24,600 ug/kg	
BENZO[B]FLUORANTHENE	27,000 ug/kg	
DIBENZ[A,H]ANTHRACENE	20,800 ug/kg	

SITE7-SUBSLAB	20'	10/19/2009
BENZO[A]PYRENE	10,000 ug/kg	

SB-20A	11-13**	5/18/2011
AROCOLOR-1016	9,400 ug/kg	
BENZO[A]ANTHRACENE	7,100 ug/kg	
BENZO[A]PYRENE	7,100 ug/kg	
BENZO[B]FLUORANTHENE	7,500 ug/kg	
DIBENZ[A,H]ANTHRACENE	1,100 ug/kg	

TP-22	9'	11/10/2009
BENZO[A]PYRENE	2,530 ug/kg	

PRA-SW-2-A	2'	9/4/2014
BENZO[A]ANTHRACENE	1,600 ug/kg	
BENZO[B]FLUORANTHENE	1,900 ug/kg	
DIBENZ[A,H]ANTHRACENE	300 ug/kg	

SS-A20	1-3'	7/8/2013
BENZO[A]ANTHRACENE	3,800 ug/kg	
BENZO[A]PYRENE	2,600 ug/kg	
BENZO[B]FLUORANTHENE	4,200 ug/kg	
DIBENZ[A,H]ANTHRACENE	240 ug/kg	

PRA-BT-1	2'	8/28/2014
BENZO[A]ANTHRACENE	3,200 ug/kg	
BENZO[A]PYRENE	2,600 ug/kg	
BENZO[B]FLUORANTHENE	3,700 ug/kg	
DIBENZ[A,H]ANTHRACENE	520 ug/kg	

TP-24	8'	11/10/2009
BENZO[A]PYRENE	2,560 ug/kg	

PRA-SW-3-A	2'	9/4/2014
BENZO[B]FLUORANTHENE	1,800 ug/kg	
DIBENZ[A,H]ANTHRACENE	280 ug/kg	

SS-A24	2.5-4.5'	7/9/2013
BENZO[A]ANTHRACENE	3,100 ug/kg	
BENZO[A]PYRENE	2,200 ug/kg	
BENZO[B]FLUORANTHENE	3,500 ug/kg	
DIBENZ[A,H]ANTHRACENE	300 ug/kg	

SB-29	4-6'	7/9/2013
BENZO[A]ANTHRACENE	3,100 ug/kg	
BENZO[A]PYRENE	2,000 ug/kg	
BENZO[B]FLUORANTHENE	2,700 ug/kg	
DIBENZ[A,H]ANTHRACENE	220 ug/kg	

SB-14	10-12'	5/9/2011
AROCOLOR-1260	6,600 ug/kg	

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 Project #: 60274866

Legend

● Soil Sample Does Not Exceed Revised Clean-up Goals	Monitoring Well	Former Structures	Test Pit Locations	Extent of Excavation (2009 Mobilization)
● Soil Sample Exceeds Revised Non Residential Clean-up Goal	Trelline	Gravel/Cobble Backfill	Ditch Excavation	Extent of Excavation (2014/2015 Mobilization)
● Soil Sample Exceeds Revised Residential Clean-up Goal	Approximate Extent of Impacted Subsurface Soil	Current Wetland Boundary	Pipe Excavated (2014/2015 Mobilization)	
	Catch Basin	ROD Wetland Boundary		

N
 0 8 16 32
 Scale in Feet

FIGURE 3
 FOCUSED FEASIBILITY STUDY
 SITE 7, FORMER SEWAGE TREATMENT PLANT
 FORMER NAVAL AIR STATION
 SOUTH WEYMOUTH, MASSACHUSETTS

4.0 IDENTIFICATION AND SCREENING OF TECHNOLOGY AND PROCESS OPTIONS

In this section, remedial technologies are screened and selected for the development of remedial alternatives in general accordance with U.S. EPA guidance titled *Guidance for Conducting Remedial Investigations and Feasibility Studies Under CERCLA* (U.S. EPA 1988).

4.1 General Response Actions

General response actions (GRAs) are general actions that can be taken to meet the RAO. The first step in the remedy selection process is identifying applicable GRAs. The following GRAs have been identified and are included in this evaluation.

- No Action — As a requirement of CERCLA, No Action will be included as part of the evaluation.
- Limited Action — Limited action responses are capable of meeting the RAO and will be included as part of the evaluation. Impacted subsurface soils remain at depth, but are not affecting groundwater and sediment (to be confirmed during a post remedy sampling event) or surface water.
- Removal — Removal actions will be evaluated as the impacted material can be removed by conventional methods.
- In-Situ Treatment — In-situ treatment actions will be evaluated as impacted material can be remediated by certain in-situ actions.
- Containment — Containment actions will be included as part of the evaluation as they are effective at meeting the RAOs by restricting access to the impacted subsurface soils.

4.2 Identification and Screening of Technologies

A number of applicable remedial technologies and process options exist under each GRA. This section identifies these technologies and associated process options, screens them against the recommended screening criteria, and reduces them to only the most applicable. The most applicable technologies and process options will be carried forward to develop remedial alternatives. In accordance with U.S. EPA guidance (U.S. EPA 1988), each technology and process option are screened against the following criteria.

- Effectiveness — The effectiveness of technology process options ability at meeting the RAO is evaluated. This evaluation also takes into consideration the potential impact to human health and the environment during implementation.

- Implementability — Each technology process option identified is evaluated for both the technical and administrative feasibility of implementation.
- Cost — The relative cost of each technology process option identified is evaluated with respect to the other alternatives.

4.2.1 Identification of Technologies and Process Options

The applicable GRAs identified in Section 4.1 include No Action, Limited Action, Removal, Containment, and In-Situ Treatment. Each GRA includes technologies and process options that could potentially meet the RAOs.

No Action — CERCLA requires that a no action alternative is evaluated as part of an FS.

Limited Action — Limited action technologies that could potentially meet the RAOs include Land Use Controls (LUCs) and Monitoring. Types of LUC process options include engineered and administrative controls. Monitoring process options that are required as part of a LUC remedy include annual site inspection, monitoring of potentially impacted media, and certification and five-year reviews.

Containment — Containment technologies that could potentially meet the RAOs by restricting access to the impacted subsurface soils include ground cover and subsurface barriers. These technologies are effective at restricting access to and preventing potential migration of COCs. Ground cover process options include both soil cover and asphalt cover. There are various types of subsurface barrier wall process options including sheet pile, slurry walls, and reactive barriers, among others.

Removal — Excavation is a removal technology that could potentially meet the RAOs by removing the impacted subsurface soil. Mechanical excavation is an applicable process option and will be evaluated. This includes conventional excavation and offsite disposal using standard equipment.

In-Situ Treatment — In-situ treatment technologies that could potentially meet the RAOs by removing or solidifying the contaminants include biological, physical/chemical, and thermal treatments. Biological process options include both aerobic and anaerobic biodegradation. Physical/Chemical process option includes in-situ stabilization. Thermal treatment process options include steam injection, electrical resistive heating (ERH), and radio frequency heating (RFH).

4.2.2 Screening of Technologies Process Options

The technology process options identified in Section 4.2.1 were screened against the screening criteria. This evaluation is presented in Table 3. Based on the results of this evaluation, the following technology process options will be carried forward to the development of the remedial alternatives.

- No Action — A No Action alternative will be carried forward as CERCLA requires that a no action alternative is evaluated as part of an FS.
- Limited Action — LUCs including administrative controls and monitoring will be effective at meeting the RAOs and will be carried forward as part of a limited action alternative.
- Containment — Soil cover is currently in place on site and will be included as part the containment alternative.
- Removal — Mechanical excavation will be effective at meeting the RAOs and will be carried forward as part of a removal alternative.

Technologies that were not carried forward during the evaluation are presented below by GRA.

- Limited Action — Engineering controls will not be carried forward as they would not provide any additional benefit because the impacted soil remains at depth.
- Containment — Asphalt cover will not be carried forward as there is currently a soil cover in place onsite and subsurface soil contamination is residual and not affecting groundwater. The primary purpose of an asphalt cover is to prevent rainwater infiltration that would potentially cause COCs to leach into groundwater. Subsurface barrier walls will not be carried forward because the impacted subsurface soils are not affecting groundwater and there is not a need for containment or treatment. There are also implementation challenges associated with installing subsurface barriers due to the presence of subsurface obstructions.
- In-Situ Treatment — Biodegradation, in-situ stabilization (ISS), and thermal treatment technologies will not be carried forward. Both biodegradation and thermal treatment technologies would not have any effect on the inorganic COCs. ISS would solidify the COC mass and not remove or treat it and therefore, LUCs would still be required. Subsurface obstructions would also pose implementation challenges.

Table 3
Technology Screening
Focused Feasibility Study – Site 7, Sewage Treatment Plant
Former NAS South Weymouth, MA

General Response Action	Remedial Technology	Process Option	Effectiveness	Implementability	Cost	Comment
No Action	None	NA	Does not achieve the remedial action objectives.	NA	None	No Action is required to be carried forward under CERCLA for comparison purposes.
Limited Action	Land Use Controls	Engineered Controls (Physical Barriers)	Engineering Controls are effective measures that can be taken to restrict access to a contaminated media.	Engineering Controls are common and easily implemented.	Low	Not Retained. Engineering Controls would provide no additional benefit as the impacted soil that remains onsite is at depth.
		Administrative Controls (Deed or Site Use Restrictions)	Administrative controls are effective at restricting access to contaminated media and preventing human exposure.	Administrative controls are common and are easily implemented.	Low	Retained. Administrative controls will be retained for alternative development.
	Monitoring	Annual Inspection/5 Year Review/periodic monitoring of potentially impacted media	Monitoring, including annual site inspections and certifications are effective at monitoring the protectiveness of engineering and administrative controls.	Monitoring is required by CERCLA as part of administrative or engineered controls.	Low	Retained. Site inspections will be conducted as part of the administrative controls. Site media monitoring is not retained as soil contaminants are residual and not affecting groundwater.
Containment	Cover	Soil Cover	Effective at preventing exposure for non-construction related activities.	Applying a soil cover is common and easily implemented.	Low	Retained. Soil cover will be retained as part of the limited action remedy.
		Asphalt Cover	Effective at preventing exposure for non-construction activities. Also prevents groundwater infiltration.	Applying an asphalt cover is easily implementable.	Low	Not Retained. An asphalt cover will not be retained as leaching to groundwater is not a concern.
	Barrier Walls	Various Types including Sheet Pile, Slurry, Reactive barriers	Effective at containing potentially mobile COCs and source areas.	Common and easily implemented. There are some construction challenges onsite due to subsurface obstructions.	Moderate	Not Retained. The impacts at the Site are residual and not mobile. COCs are not leaching to groundwater.
Removal	Excavation	Mechanical	Effective at permanently removing soils contaminated with COCs.	Common and easily implemented. There are some construction challenges due to the depth of contaminants and the shallow groundwater table.	Moderate – High	Retained. Soil Excavation will be retained as part of a removal remedy.
In-Situ Treatment	Biological	Biodegradation	Effective at degrading organic COCs; however the organic COCs that remain onsite are heavier and will require a longer remedial time period. Will not affect inorganic COCs	Easily implemented.	Moderate	Not Retained. Biodegradation will not reduce the inorganic COCs. Also, the PAH COCs would be remediated using aerobic biodegradation. The pesticide COCs would be remediated using anaerobic degradation. These are conflicting technologies.
	Physical/Chemical	Stabilization	Effective at immobilizing COCs.	Implementable.	Moderate-high	Not retained. Site conditions may limit implementation due to the presence of subsurface structures.
	Thermal Treatment	(Steam Injection, ERH, RFH)	Effective at degrading organic COCs. Will not affect inorganic COCs	Implementable; however specialty vendor and specialty equipment is required.	Moderate-High	Not retained. Thermal technologies will not be effective at degrading the inorganic contaminants.

5.0 DEVELOPMENT AND ANALYSIS OF REMEDIAL ALTERNATIVES

This section presents the remedial alternatives that will be evaluated for the Site, evaluates them against the evaluation criteria, and then compares the alternatives against each other.

5.1 Development of Remedial Alternatives

The technology process options carried forward from Section 4 will be grouped into three separate remedial alternatives for the Site. A No Action alternative will be included as Alternative 1, a Limited Action alternative will be included as Alternative 2, and a Removal Alternative will be included as Alternative 3. The sections below describe the specific components of each remedial alternative.

5.1.1 Alternative 1 — No Action

As required by CERCLA, Alternative 1 — No Action will be evaluated as part of the FFS. Under this alternative, no remedial action would be taken.

5.1.2 Alternative 2 — LUCs and LTM

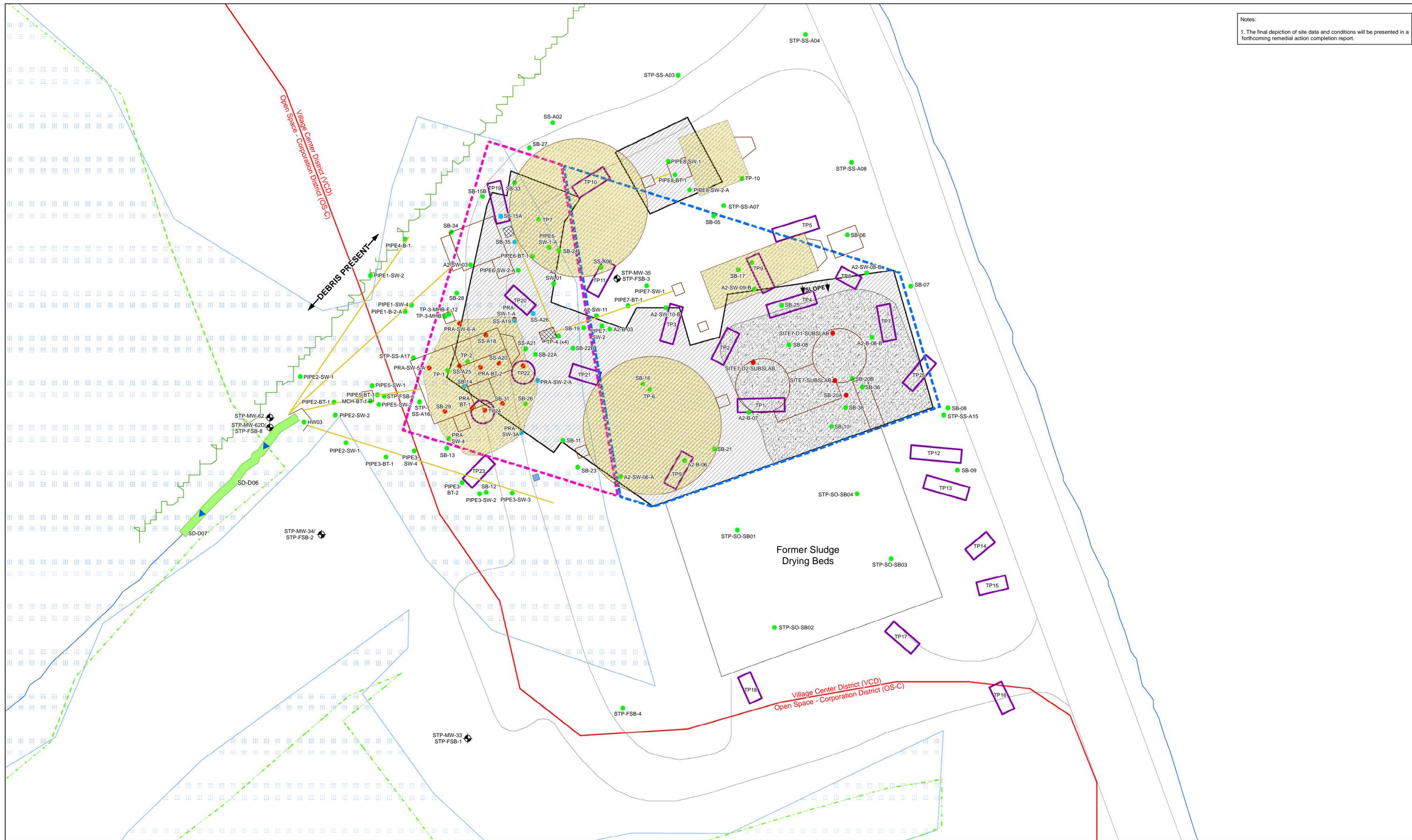
Alternative 2 is considered a Limited Action alternative as no active remedial activity would be completed as part of this alternative. This alternative would achieve the RAO by restricting access to the impacted subsurface soils by utilizing the existing soil cover and implementing administrative LUCs to restrict access to the remaining impacted subsurface soils and LTM to verify that groundwater and sediment do not become impacted from the disturbances caused by the implementation of the remedial action.. The main components of this alternative include the following:

- Apply administrative LUCs restricting access to subsurface soil below 9 feet bgs in the upland area and below two feet bgs in the wetland. The LUC would also restrict residential land use on the parcel. The proposed boundary of the LUC is shown on Figure 4.
- A provision of the LUC would require that the property owner develop a soil management plan to ensure impacted soils are managed properly and that any future construction work in these areas are completed by properly trained workers. The LUC will require that the management plan be submitted to the Navy, EPA, and MassDEP for approval.
- Annual Inspection/Certifications and five-year reviews would be completed to evaluate the remedy.

- Long term monitoring of groundwater and sediment which will include up to three annual groundwater and sediment sampling events to verify that groundwater and sediment do not become impacted from the disturbances caused by the implementation of the remedy. The initial groundwater monitoring event will also be used to assess the potential for vapor intrusion in future buildings.

As part of the remedial action, impacted surface soils, sediments, and unsaturated subsurface soils were excavated. The excavated areas were backfilled using clean fill. This clean fill and the native, non-impacted subsurface soils will act as a soil cover which will restrict access to the remaining impacted subsurface soils under existing conditions.

Notes:
 1. The final depiction of site data and conditions will be presented in a forthcoming remedial action completion report.



<p>Drawn: JB 08/17/2015 Approved: MS 08/17/2015 Project #: 60274866</p>	<p>Legend</p> <ul style="list-style-type: none"> Soil Sample Does Not Exceed Revised Clean-up Goals Soil Sample Exceeds Revised Non Residential Clean-up Goal Soil Sample Exceeds Revised Residential Clean-up Goal Monitoring Well Treeline Proposed Land Use Control Boundary (Below 9 Feet) Proposed Land Use Control Boundary (Below 2 Feet) Former Structures Gravel/Cobble Backfill Current Wetland Boundary ROD Wetland Boundary Test Pit Locations Ditch Excavation Catch Basin Former Structures Pipe Excavated (2014/2015 Mobilization) Extent of Excavation (2009 Mobilization) Extent of Excavation (2014/2015 Mobilization)
	<p>Scale in Feet</p> <p>0 8 16 32</p>

FOCUSED FEASIBILITY STUDY
 SITE 7, FORMER SEWAGE TREATMENT PLANT
 FORMER NAVAL AIR STATION
 SOUTH WEYMOUTH, MASSACHUSETTS

FIGURE 4
PROPOSED LUC BOUNDARY

P:\Govt\Projects\Navy\CLEAN AECOM-EnSafe JV\South Weymouth\GIS\Projects\STP\FSMXD\Fig_4_Proposed_LUC_Boundary.mxd

This alternative would not disturb the wetland. Over a long time period, residual organic COCs will naturally attenuate.

5.1.3 Alternative 3 — Additional Deep Excavation

Alternative 3 is a removal alternative that includes excavating the remaining impacted subsurface soils. This alternative would achieve the RAO by excavating the remaining subsurface soils that exceed the Residential and Non-Residential PRGs. The main components of this alternative include the following:

- Pre-excavation soil sampling/pre-design investigation.
- Excavation of soils that exceed the PRGs. The excavation areas are shown on Figure 5.
- Excavation support and dewatering will be required to achieve the excavation depth of 15 feet bgs.
- Confirmation Sampling.
- Off-site disposal/reuse/recycling of excavated soils.
- Site backfill and restoration to existing grade.
- Wetland restoration.

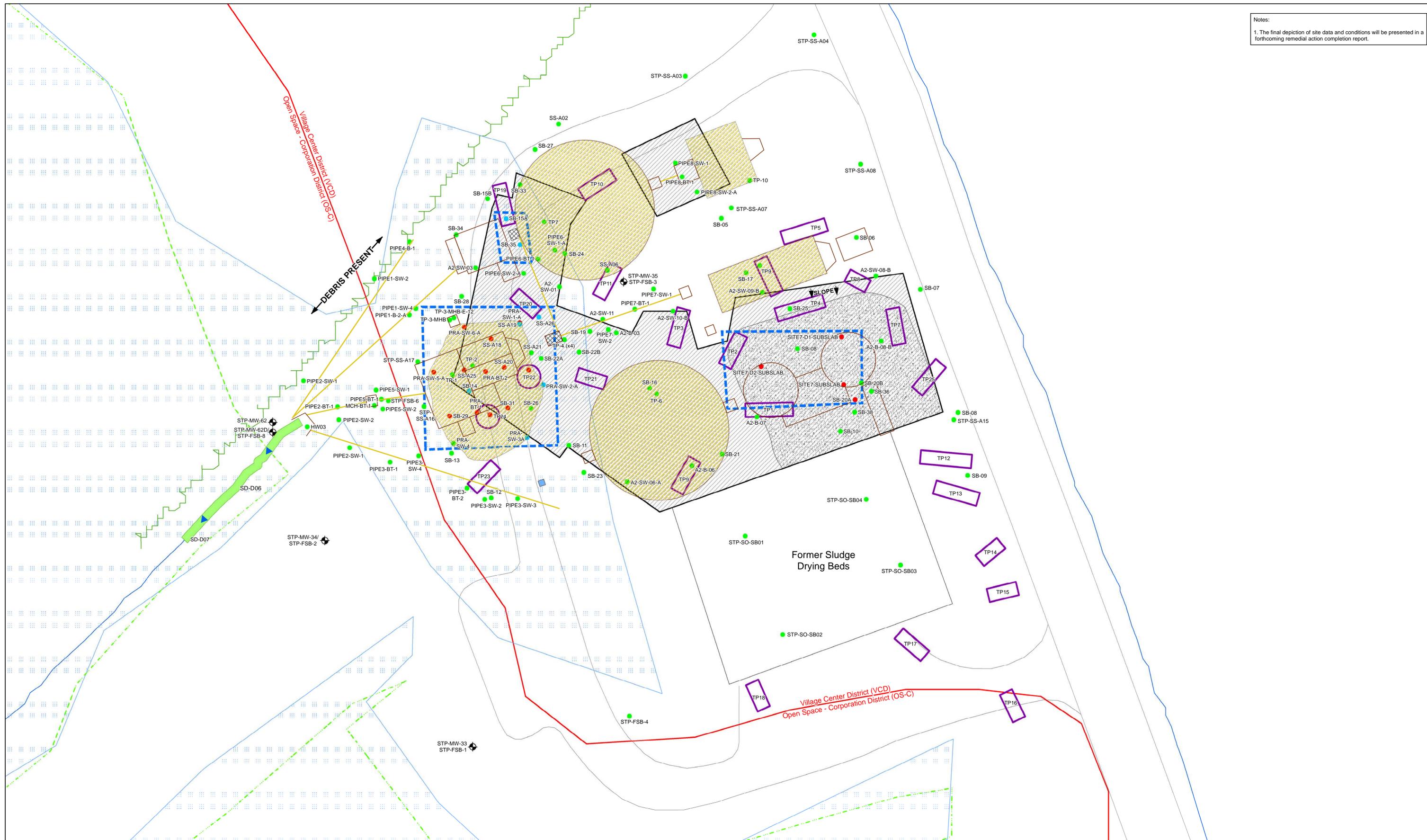
5.2 Detailed Evaluation of Each Alternative

This section includes a detailed evaluation of each alternative. Each alternative is evaluated against criteria specified in the U.S. EPA guidance (U.S. EPA 1988) and includes the following.

Threshold Criteria — These are statutory requirements that each alternative must satisfy in order to be selected.

- Overall Protection of Human Health and the Environment
- Compliance with ARARs

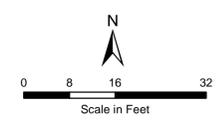
Notes:
 1. The final depiction of site data and conditions will be presented in a forthcoming remedial action completion report.



RESOLUTION CONSULTANTS
 Drawn: JB 08/17/2015
 Approved: MS 08/17/2015
 Project #: 60274866

Legend

- Soil Sample Does Not Exceed Revised Clean-up Goals
- Soil Sample Exceeds Revised Clean-up Goal
- Soil Sample Exceeds Non Residential Clean-up Goal
- Soil Sample Exceeds Revised Residential Clean-up Goal
- ⊕ Monitoring Well
- Treeline
- ▭ Proposed Deep Excavation Areas
- ▭ Catch Basin
- ▭ Former Structures
- ▭ Gravel/Cobble Backfill
- ▭ Current Wetland Boundary
- ▭ ROD Wetland Boundary
- ▭ Test Pit Locations
- ▭ Ditch Excavation
- ▭ Pipe Excavated (2014/2015 Mobilization)
- ▭ Extent of Excavation (2009 Mobilization)
- ▭ Extent of Excavation (2014/2015 Mobilization)



FOCUSED FEASIBILITY STUDY
 SITE 7, FORMER SEWAGE TREATMENT PLANT
 FORMER NAVAL AIR STATION
 SOUTH WEYMOUTH, MASSACHUSETTS

FIGURE 5
ALTERNATIVE 3
PROPOSED DEEP EXCAVATION AREAS

Primary Balancing Criteria — These are technical criteria upon which the detailed analysis is primarily based.

- Long-term effectiveness and permanence
- Reduction of toxicity, mobility, or volume through treatment
- Short-term Effectiveness
- Implementability
- Cost

Modifying Criteria — These criteria are assessed formally after the public comment period and prior to the issuance of the ROD. These criteria are not included as part of this evaluation.

- State/Agency Acceptance
- Community Acceptance

5.2.1 Alternative 1 — No Action

Alternative 1 consists of a no action alternative. Under this alternative, no remedial action would be taken and the site would remain as is. This alternative provides a baseline for comparison to other alternatives.

Overall Protection of Human Health and the Environment

Alternative 1 is not protective of human health and the environment. Impacted subsurface soil will remain at depth and could be accessed during future construction work. Residential exposure to shallow subsurface soils could also occur.

Compliance with ARARs

Alternative 1 does not comply with ARARs presented in Appendix B, Table B-1a, as impacted subsurface soil would remain above the PRGs.

Long-Term Effectiveness and Permanence

Alternative 1 is not effective or permanent as no action would be taken. Residual contamination exists in the subsurface soils and will remain in place. These impacted subsurface soils could be encountered during future construction activities on the parcel.

Reduction of Toxicity, Mobility, or Volume through Treatment

Alternative 1 does not include treatment.

Short-Term Effectiveness

This criterion does not apply to Alternative 1 as no remedial action is being taken.

Implementability

This criterion does not apply to Alternative 1 as no remedial action is being taken.

Cost

The cost of Alternative 1 is assumed to be \$0 as no remedial action will be taken.

5.2.2 Alternative 2 — LUCs and LTM

Alternative 2 consists of utilizing the existing soil cover and applying administrative LUCs and conducting LTM and five-year reviews to achieve the RAO. This remedial alternative will restrict access to the impacted subsurface soils by restricting the land use and requiring a health and safety and soil management plan to access impacted soils to ensure that impacted subsurface soils are managed properly should construction activity take place in the future. Residential use of the parcel would also be restricted to ensure that a future resident would not encounter the impacted subsurface soils. The remedial action removed impacted surface soils, sediment and unsaturated subsurface soils in the upland area.

LUCs would be maintained, monitored and enforced as long as contaminants are present above levels that allow for unrestricted use and unlimited exposure. Annual site inspections will be performed to verify the continued maintenance of LUCs until the cleanup levels have been achieved.

The LUCs will be established and implemented in accordance with the post-ROD LUCIP that will be prepared by the Navy. LUCs will be developed in accordance with the Principles and Procedures for Specifying, Monitoring, and Enforcement of Land Use Controls and Other Post-ROD Actions, per letter dated January 16, 2004, from Alex A. Beehler, Assistant Deputy Under Secretary of Defense (Environment, Safety and Occupational Health), and the requirements of the FFA.

LTM would be conducted to verify that groundwater and sediment do not become impacted from the disturbances caused by the implementation of the remedy. LTM requirements will be established and executed a post-ROD LTM Plan that will be prepared by the Navy.

Because contamination would remain in excess of levels that allow for unrestricted use and unlimited exposure at the Site, five-year reviews would be required under this alternative to evaluate the continued adequacy of the remedy. The five-year reviews would be performed as part of the facility-wide five-year reviews. Alternative 2 will also include a long term monitoring component for groundwater and sediment which will include up to three annual groundwater and sediment sampling events to verify that groundwater and sediment does not become impacted from the disturbances caused by the implementation of the remedial action.

Overall Protection of Human Health and the Environment

Alternative 2 is protective of human health and the environment. This alternative would meet the RAO by restricting residential development of the site and managing access to impacted subsurface soils below 9 feet bgs. The impacts that would remain are residual and deep and would only be encountered should construction activity take place in the future. If this were to happen, a health and safety and soil management plan would be in place to ensure that impacted soils are managed properly and that any future construction work in these areas are completed by properly trained workers. Residential use of the parcel would also be restricted to ensure that a future resident would not encounter the impacted subsurface soils. Annual site inspections and certifications would be completed to monitor the remedy and ensure the LUCs were being adhered to.

Compliance with ARARs

Alternative 2 does comply with ARARs as detailed in Appendix B, Table B-2a and B-2b.

Long-Term Effectiveness and Permanence

Alternative 2 will be effective at meeting the RAOs over the long-term. Under current site use, there is no potential exposure. Exposure pathways are only present during a future construction scenario; however, LUCs will be in place so that any future construction activity is conducted in accordance with a health and safety and site management plan. Residential use of the parcel will also be restricted to ensure that a future resident is not exposed to impacted subsurface soils. LTM, annual site inspections and certifications would be completed to monitor the remedy and ensure the LUCs were being adhered to. The effectiveness of the remedy would be evaluated as part of a 5 year review process.

Reduction of Toxicity, Mobility, or Volume through Treatment

Alternative 2 does not involve treatment.

Short-Term Effectiveness

Alternative 2 is effective in the short term as the impacted subsurface soils will remain in place, which eliminates the potential for a construction worker or resident to be exposed. Access to the impacted wetland soils would also be restricted as part of this alternative.

Implementability

Alternative 2 is easily implemented. The application of LUCs is common and can easily be implemented through a deed restriction.

Cost

The total cost for Alternative 2 is estimated to be approximately \$485,000. A preliminary cost estimate is included as Appendix D. This total cost includes capital costs, long-term operations, maintenance, and monitoring (OM&M) costs and contingency.

- Capital Cost — \$115,000
- Long-term OM&M Costs (Present Value) — \$307,000
- Contingency (15%) — \$63,000

5.2.3 Alternative 3 — Additional Deep Excavation

Alternative 3 consists excavating all impacted subsurface soils that exceed the Residential and Non-Residential PRGs. Subsurface soils within the wetland and upland portion of the Site would be excavated and disposed off-site. Excavation support and dewatering will be required to achieve the excavation depths. Excavated impacted soils would be disposed of offsite. This alternative will also include provisions for erosion control measures, dust control measures, perimeter air monitoring, confirmation sampling, backfill, and restoration of the Site and the wetland. This remedial alternative will allow for unlimited use of the site. The remedial action removed impacted surface soils, sediment, and unsaturated subsurface soils in the upland area.

Overall Protection of Human Health and the Environment

Alternative 3 is protective of human health and the environment. This alternative would meet the RAO by removing all impacted saturated subsurface soil. During implementation, the wetland would be disturbed and would need to be restored as part of the remedy.

Compliance with ARARs

Alternative 3 does comply with ARARs as detailed in Appendix B, Table 3a, 3b, and 3c.

Long-Term Effectiveness and Permanence

Alternative 3 will be effective long-term. All impacted subsurface soil would be excavated and disposed of off-site.

Reduction of Toxicity, Mobility, or Volume through Treatment

Alternative 3 will remove all impacted subsurface soils.

Short-Term effectiveness

In the short-term, Alternative 3 could potentially expose construction workers to COCs during implementation. The wetland would also be disturbed and would need to be restored.

Implementability

Alternative 3 can be implemented using conventional excavation equipment. Excavation support and dewatering systems would be required to achieve the excavation depth. The wetland would be disturbed during implementation.

Cost

The total cost for Alternative 3 is estimated to be approximately \$2,245,000. A preliminary cost estimate is included as Appendix D. This total cost includes capital costs and contingency. Long-term OM&M is not a part of this remedy as all impacted subsurface soils will be removed and monitoring will not be required. A larger percentage of contingency has been applied to this alternative as the potential for scope increases are greater than for Alternative 2.

- Capital Cost — \$1,727,000
- Contingency (30%) — \$518,000

5.3 Comparative Analysis of Alternatives

Each alternative in Section 5.2 is compared against the individual evaluation criteria. In this section, the ability of each alternative to meet each criterion will be compared against each other. Table 4 presents a summary of this evaluation. Each alternative is provided a score for its ability to meet each of the criteria. The scoring system is as follows:

- 0 points are awarded if the criterion is not met.
- 1 point is awarded if a portion of the criterion is met.
- 2 points are awarded if most of the criterion is met.
- 3 points are awarded if the criterion is fully met.

Overall Protection of Human Health and the Environment

Alternative 2 and Alternative 3 are protective of human health and the environment and received the maximum score of 3. Alternative 1 is not protective and received a score of zero. Alternative 2 meets this criterion by restricting access to the impacted subsurface soils. The environment is not effected as the impacts are deep, residual and immobile. Alternative 3 meets this criterion by removing all of the impacted subsurface soil.

Compliance with ARARs

Alternative 2 and Alternative 3 comply with each of the alternative-specific ARARs presented in Appendix B and received the maximum score of 3. Alternative 1 does not comply and received a score of zero.

Long-term Effectiveness and Permanence

Alternative 2 and Alternative 3 are each effective over the long-term. Alternative 3 received a maximum score of 3 as all impacted subsurface soils will be removed. Alternative 2 received a score of 2 as impacted subsurface soil will remain. Alternative 1 received a score of zero.

Reduction of Toxicity, Mobility, or Volume through Treatment

Alternative 3 received a maximum score of 3 as all impacted subsurface soils will be removed. Alternative 1 and Alternative 2 do not directly reduce the toxicity or volume; however the organic COCs will naturally attenuate over time. As such, Alternative 1 and 2 received a score of 1. The impacts are residual and not mobile.

Short-Term Effectiveness

Alternative 2 received a maximum score of 3 as there would be no exposure during implementation because impacted subsurface soils would remain in place. Also, the wetland would not be disturbed. Alternative 3 received a score of 1 because the impacted soil would be excavated, potentially exposing construction workers, and the wetland would be disturbed. Alternative 1 was not given a score as this criterion does not apply because no action is being taken.

Table 4
Comparative Analysis of Alternatives
Focused Feasibility Study – Site 7, Sewage Treatment Plant
Former NAS South Weymouth, MA

Evaluation Criterion	Alternative 1 No Action		Alternative 2 LUCs and LTM		Alternative 3 Additional Deep Excavation	
	Comment	Score	Comment	Score	Comment	Score
Protection of Human Health and the Environment	Not protective of human health and the environment. Impacted soil will remain at depth and could be accessed during future construction work and potential residential exposure to shallow subsurface soils.	0	Protective of human health and the environment. Impacted soil will remain at depth. Future residential use of the property will be restricted. Future construction work that disturbs impacted soils would be conducted by properly trained personnel.	3	Protective of human health and the environment. Impacted soils would be removed.	3
Compliance with ARARs	Does not comply with ARARs.	0	Complies with ARARs.	3	Complies with ARARs.	3
Long-term Effectiveness and Permanence	Not effective at meeting RAOs over the long-term.	0	Effective at meeting the RAOs over the long-term. Access to the impacted soil will be restricted. A minimum of two feet of clean surface soil will be in place. Residential use of the property will be restricted. Future construction work on the property will be conducted under a site management plan to ensure that impacted soils are handled properly by trained personnel.	2	Effective at meeting the RAOs over the long-term. All impacted soils will be excavated.	3
Reduction of Toxicity, Mobility, or Volume.	Site COCs are residual in soil and are not mobile. The organic COCs would attenuate naturally by currently ongoing biological processes. The inorganic COCs would not be reduced.	1	Site COCs are residual in soil and are not mobile. The organic COCs would attenuate naturally by currently ongoing biological processes. The inorganic COCs would not be reduced.	1	All impacted soils would be excavated.	3
Short-term Effectiveness	Does not apply as no action would be taken.	NA	Achieved RAOs by restricting access to impacted soils. Does not expose remedial construction worker to site COCs. Does not disturb the wetland.	3	Increases the potential for short term exposure to the remedial construction worker. Excavation activities would disturb the wetland.	1
Implementability	Does not apply as no action would be taken.	NA	Soil cover will be in place as part of the current remedy and LUCs are common and easily implemented.	3	Excavation is easily implemented; however care will need to be taken when excavating and restoring the wetland. Significant dewatering would need to be completed as part of this remedy due to the high groundwater table and the presence of the wetland.	2
Cost	No cost.	3	Alternative 2 would cost approximately \$485,000. A preliminary cost estimate is provided in Appendix D.	3	Alternative 3 would cost approximately \$2,245,000. A preliminary cost estimate is provided in Appendix D.	1
Total Score	4		18		16	

- Notes
- 0 = criterion is not met.
 - 1 = A portion of the criterion is met.
 - 2 = Most of the criterion is met.
 - 3 = All of the criterion is met.
 - NA = Not Applicable
 - LUC = Land Use Control
 - LTM = Long Term Monitoring
 - COC = Chemical of Concern
 - ARAR = Applicable or Relevant and Appropriate Requirements
 - RAO = Remedial Action Objective

Implementability

Alternative 2 received a maximum score of 3 as LUCs and LTM are common and easily implemented and the soil cover will already be in place as part of the existing remedial action. Alternative 3 received a score of 2 because excavation support and dewatering systems would be required. Subsurface obstructions also pose a challenge for the installation of excavation support. Alternative 1 was not given a score as this criterion does not apply because no action is being taken.

Cost

Alternative 1 received a score of 3 as it would not cost anything. Alternative 2 also received a score of 3 because it is the most cost effective alternative that meets the RAOs. Alternative 2 would meet the RAO and prevent potential future exposure to the deep, impacted subsurface soil for a low cost. Alternative 3 received a score of 1 because it is the least cost effective. The impacted subsurface soil is deep; the impacts are residual and immobile. The cost of excavating these impacted subsurface soils is high without a significant benefit.

5.4 Sustainability

As a policy of the Navy, the sustainability of each alternative is evaluated as part of the FS. The sustainability evaluation is completed to better understand the environmental footprint of each remedial alternative. Factors that are considered include the amount of greenhouse gas emissions, the amount of water used, and the amount of energy consumed. For the purposes of this document, the sustainability is being evaluated qualitatively as only one Alternative (Alternative 3) has a significant environmental footprint. Alternative 1 has no environmental footprint as no action would be taken. Alternative 2 has a minimal environmental footprint as only administrative action would be taken, with minimal site monitoring that would include annual travel to and from the site. Alternative 3 would have a substantial environmental footprint as it would remove all impacted subsurface soils from the site. Alternative three would include the use of heavy machinery to excavate approximately 2,310 cubic yards of soil. Approximately 1,430 cubic yards of this soil would be transported by truck to an offsite disposal facility. Approximately 90 trips would be made to dispose of the soil. An additional 90 truckloads of clean soil would need to be brought in for backfill. Machinery would also be used to install excavation support and for dewatering activities. Alternative 3 would also disturb the onsite wetland.

5.5 Summary and Conclusion

The comparative evaluation presented in Section 5.3 is summarized in Table 4. Alternative 2 — LUCs and LTM, scored the highest with a score of 18. Alternative 2 ranked the highest in protection of human health and the environment, compliance with ARARs, short-term effectiveness, implementability, and cost. This alternative is equally as protective as Alternative 3, easiest to implement, does not disturb the wetland or potentially expose construction workers during implementation. This alternative is also the most cost effective and more sustainable than Alternative 3. This alternative would restrict land use and also includes long-term monitoring.

Alternative 3 — Additional Deep Excavation received a total score of 16 in the comparative evaluation presented in Section 5.3. Alternative 3 ranked the highest in protection of human health and the environment, compliance with ARARs, long-term effectiveness and permanence, and reduction of toxicity, mobility, or volume. This alternative removes all impacted subsurface soils and allows for unlimited use of the Site, but at a high cost. This alternative would also disturb the wetland and is the least sustainable.

Alternative 1 — No Action, is not being considered for remedy selection.

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Appendix A

Historical Site Data

Relevant Data from NIRIS

Table A1
 Summary of Soil Analytical Results
 Data Retrieved from NIRIS
 South Weymouth

			Location ID	STP-FSB-1	STP-FSB-1	STP-FSB-10	STP-FSB-10	STP-FSB-11	STP-FSB-12
			Sample Date	2/12/1996	2/12/1996	5/25/1999	5/25/1999	8/20/1999	8/20/1999
			Sample ID	FSB1AA	FSB1BA	FSB10AA	FSB10BA	FSB11AA	FSB12AA
			Depth Interval	2 - 4 ft	8 - 10 ft	4 - 6 ft	8 - 10 ft	4 - 6 ft	4 - 6 ft
			Sample Type	N	N	N	N	N	N
Chemical Name	Unit	RPG Residential	RPG Non-Residential						
Metals									
ALUMINUM	MG_KG	NE	NE	5760	4200	4230 J7	3410 J7	3110	3960
ANTIMONY	MG_KG	NE	NE	< 3.6 UJ	< 3.7 UJ	< 0.25 UJ5	0.27 J5,8	< 0.28 UJ	< 0.25 U
ARSENIC	MG_KG	6.77	30	< 1.9 U	< 2.3 U	1.7	0.77	0.95	1.2
BARIUM	MG_KG	NE	NE	19.7	13.6	14 B	9.8 B	10.4 B	12.5 B
BERYLLIUM	MG_KG	NE	NE	0.81	0.35	0.29 B	0.2 B	1.2	0.36 J
CADMIUM	MG_KG	NE	NE	< 0.61 U	< 0.61 U	< 0.04 U	< 0.04 U	< 0.04 U	< 0.04 U
CALCIUM	MG_KG	NE	NE	1930	1180	786	1610	883	1110
CHROMIUM, TOTAL	MG_KG	NE	NE	6.6	11.8	6.5	6.8	4.1	6.8
COBALT	MG_KG	NE	NE	5.3	2.7	2.7 B	4.3 B	2.8 B	3.6 B
COPPER	MG_KG	NE	NE	8.2	4.7	5.5	6.7	4	5.1
IRON	MG_KG	NE	NE	12800	9540	7180 EB	8170 EB	6700	8810
LEAD	MG_KG	NE	NE	4	3.6	4.6 J5,7	1.8 J5,7	4.1	6
MAGNESIUM	MG_KG	NE	NE	2110	1590	1230	2080	1060	1410
MANGANESE	MG_KG	NE	NE	201 J	209 J	119 J5	143 J5	142	202
MERCURY	MG_KG	NE	NE	< 0.11 U	< 0.11 U	< 0.03 U	< 0.03 U	< 0.02 UJ	< 0.02 UJ
NICKEL	MG_KG	NE	NE	4.6 J	5.2 J	3.9	7.3	3 B	4.3
POTASSIUM	MG_KG	NE	NE	518	305	323 B	258 B	278 B	388 B
SELENIUM	MG_KG	NE	NE	< 0.63 U	< 0.64 U	R5	R5	< 1 U	< 1 U
SILVER	MG_KG	NE	NE	< 0.39 U	< 0.4 U	< 0.36 U	0.4 J8	< 0.67 UJ	0.94
SODIUM	MG_KG	NE	NE	106	130	< 57.6 UJ2,3,7	< 108 UJ2,3,7	48.8 J	51.3 J
THALLIUM	MG_KG	NE	NE	< 0.92 U	< 0.92 U	< 0.43 U	< 0.39 U	< 0.44 U	< 0.43 U
VANADIUM	MG_KG	NE	NE	18.9	10.8	10.3	11.4	9.7	12
ZINC	MG_KG	NE	NE	30.2 J	23.5 J	22.9	20.4	16.7	23.3
Pesticides/PCBs									
4,4-DDD	UG_KG	22600	95700	< 3.6 U	< 3.6 U	< 3.7 U	< 3.6 U	< 3.5 U	< 3.7 U
4,4-DDE	UG_KG	NE	NE	< 3.6 U	< 3.6 U	< 3.7 U	< 3.6 U	< 3.5 UJ	< 3.7 U
4,4-DDT	UG_KG	2800	2800	< 3.6 U	< 3.6 U	< 3.7 U	< 3.6 U	< 3.5 UJ	< 3.7 U
ALDRIN	UG_KG	NE	NE	< 1.8 U	< 1.9 U	< 1.9 U	< 1.9 U	< 1.8 UJ	< 1.9 U
ALPHA-CHLORDANE	UG_KG	NE	NE	< 1.8 U	< 1.9 U	< 1.9 U	< 1.9 U	< 1.8 UJ	3.7 J
AROCLOR-1016	UG_KG	4110	19200	< 36 U	< 36 U	< 37 U	< 36 U	< 35 U	< 36.9 U
AROCLOR-1260	UG_KG	2490	10300	< 36 U	< 36 U	< 37 U	< 36 U	< 35 U	< 36.9 U
BETA-BHC	UG_KG	NE	NE	< 1.8 U	< 1.9 U	< 1.9 U	< 1.9 U	< 1.8 UJ	< 1.9 UJ
DDT, TOTAL	UG_KG	NE	NE	< 3.6 U	< 3.6 U	< 3.7 U	< 3.6 U	< 3.5 UJ	< 3.7 U
DELTA-BHC	UG_KG	NE	NE	< 1.8 U	< 1.9 U	< 1.9 U	< 1.9 U	< 1.8 UJ	< 1.9 U
DIELDRIN	UG_KG	NE	NE	< 3.6 U	< 3.6 U	< 3.7 U	< 3.6 U	< 3.5 UJ	45 J
ENDOSULFAN I	UG_KG	NE	NE	< 1.8 U	< 1.9 U	< 1.9 UJ	< 1.9 UJ	< 1.8 U	< 1.9 UJ
ENDOSULFAN II	UG_KG	NE	NE	< 3.6 U	< 3.6 U	< 3.7 U	< 3.6 U	< 3.5 U	< 3.7 UJ
ENDOSULFAN SULFATE	UG_KG	NE	NE	< 3.6 U	< 3.6 U	< 3.7 U	< 3.6 U	< 3.5 U	< 3.7 U

Table A1
Summary of Soil Analytical Results
Data Retrieved from NIRIS
South Weymouth

			Location ID	STP-FSB-1	STP-FSB-1	STP-FSB-10	STP-FSB-10	STP-FSB-11	STP-FSB-12
			Sample Date	2/12/1996	2/12/1996	5/25/1999	5/25/1999	8/20/1999	8/20/1999
			Sample ID	FSB1AA	FSB1BA	FSB10AA	FSB10BA	FSB11AA	FSB12AA
			Depth Interval	2 - 4 ft	8 - 10 ft	4 - 6 ft	8 - 10 ft	4 - 6 ft	4 - 6 ft
			Sample Type	N	N	N	N	N	N
Chemical Name	Unit	RPG Residential	RPG Non-Residential						
ENDRIN	UG_KG	NE	NE	< 3.6 U	< 3.6 U	< 3.7 U	< 3.6 U	< 3.5 U	< 3.7 U
ENDRIN ALDEHYDE	UG_KG	NE	NE	< 3.6 U	< 3.6 U	< 3.7 U	< 3.6 U	< 3.5 U	< 3.7 U
ENDRIN KETONE	UG_KG	NE	NE	< 3.6 U	< 3.6 U	< 3.7 U	< 3.6 U	< 3.5 U	< 3.7 U
HEPTACHLOR	UG_KG	NE	NE	< 1.8 U	< 1.9 U	< 1.9 U	< 1.9 U	< 1.8 U	< 1.9 UJ
HEPTACHLOR EPOXIDE	UG_KG	NE	NE	< 1.8 U	< 1.9 U	< 1.9 U	< 1.9 U	< 1.8 U	< 1.9 U
LINDANE	UG_KG	NE	NE	< 1.8 U	< 1.9 U	< 1.9 U	< 1.9 U	< 1.8 U	< 1.9 UJ
METHOXYCHLOR	UG_KG	NE	NE	< 18 U	< 19 U	< 19 U	< 19 U	< 18 U	< 19 U
POLYCHLORINATED BIPHENYLS (PCBS)	UG_KG	NE	NE	< 41 U	< 41 U	< 43 U	< 41 U	< 40 U	< 42 U
TRANS-CHLORDANE	UG_KG	NE	NE	< 1.8 U	< 1.9 U	< 1.9 U	< 1.9 U	< 1.8 U	1.8 J
SVOCs									
2-METHYLNAPHTHALENE	UG_KG	NE	NE	< 360 U	< 360 U	< 180 U	< 180 U	< 170 UJ	< 170 UJ
ACENAPHTHENE	UG_KG	NE	NE	< 360 U	< 360 U	< 180 U	< 180 U	< 170 U	< 170 U
ACENAPHTHYLENE	UG_KG	NE	NE	< 360 U	< 360 U	< 180 U	< 180 U	< 170 U	< 170 U
ANTHRACENE	UG_KG	NE	NE	< 360 U	< 360 U	< 180 U	< 180 U	< 170 U	< 170 U
BENZO[A]ANTHRACENE	UG_KG	1570	7340	< 360 U	< 360 U	< 180 U	< 180 U	< 170 U	< 170 U
BENZO[A]PYRENE	UG_KG	1828.8	1828.8	< 360 U	< 360 U	1 J	< 4 UJ	< 4 U	< 4 U
BENZO[B]FLUORANTHENE	UG_KG	1570	7340	< 360 U	< 360 U	< 180 U	< 180 U	< 170 U	< 170 U
BENZO[G,H,I]PERYLENE	UG_KG	NE	NE	< 360 U	< 360 U	< 180 U	< 180 U	< 170 U	< 170 U
BENZO[K]FLUORANTHENE	UG_KG	15700	73400	< 360 U	< 360 U	< 180 U	< 180 U	< 170 U	< 170 U
BENZOIC ACID	UG_KG	NE	NE						
BIS(2-ETHYLHEXYL)PHTHALATE	UG_KG	NE	NE	47 J	40 J	44 J	90 J	51 J	< 170 U
CARBAZOLE	UG_KG	NE	NE	< 360 U	< 360 U	< 180 U	< 180 U	< 170 U	< 170 U
CHRYSENE	UG_KG	NE	NE	< 360 U	< 360 U	< 180 U	< 180 U	< 170 U	< 170 U
DIBENZ[A,H]ANTHRACENE	UG_KG	157	734	< 360 U	< 360 U	< 4 UJ	< 4 UJ	< 4 U	< 4 U
DIBENZOFURAN	UG_KG	NE	NE	< 360 U	< 360 U	< 180 U	< 180 U	< 170 U	< 170 U
DI-N-BUTYLPHTHALATE	UG_KG	NE	NE	< 360 U	< 360 U	68 J	< 180 U	< 170 U	< 170 U
DI-N-OCTYLPHTHALATE	UG_KG	NE	NE	< 360 U	< 360 U	< 180 U	52 J	< 170 U	< 170 U
FLUORANTHENE	UG_KG	NE	NE	< 360 U	< 360 U	< 180 U	< 180 U	< 170 U	< 170 U
FLUORENE	UG_KG	NE	NE	< 360 U	< 360 U	< 180 U	< 180 U	< 170 U	< 170 U
HPAH, TOTAL	UG_KG	NE	NE	< 360 U	< 360 U	1 J	< 140 UJ	< 140 U	< 140 U
INDENO[1,2,3-CD]PYRENE	UG_KG	NE	NE	< 360 U	< 360 U	< 180 U	< 180 U	< 170 U	< 170 U
LPAH, TOTAL	UG_KG	NE	NE	< 360 U	< 360 U	< 180 U	< 180 U	< 170 UJ	< 170 UJ
NAPHTHALENE	UG_KG	NE	NE	< 360 U	< 360 U	< 180 U	< 180 U	< 170 U	< 170 U
PAH, TOTAL	UG_KG	NE	NE	< 360 U	< 360 U	1 J	< 160 UJ	< 150 UJ	< 150 UJ
PHENANTHRENE	UG_KG	NE	NE	< 360 U	< 360 U	< 180 U	< 180 U	< 170 U	< 170 U
PYRENE	UG_KG	NE	NE	< 360 U	< 360 U	< 180 U	< 180 U	< 170 U	< 170 U
VOCs									
1,2-DICHLOROBENZENE	UG_KG	NE	NE						
1,3-DICHLOROBENZENE	UG_KG	NE	NE						
1,4-DICHLOROBENZENE	UG_KG	NE	NE						

Table A1

Summary of Soil Analytical Results
Data Retrieved from NIRIS
South Weymouth

			Location ID	STP-FSB-1	STP-FSB-1	STP-FSB-10	STP-FSB-10	STP-FSB-11	STP-FSB-12
			Sample Date	2/12/1996	2/12/1996	5/25/1999	5/25/1999	8/20/1999	8/20/1999
			Sample ID	FSB1AA	FSB1BA	FSB10AA	FSB10BA	FSB11AA	FSB12AA
			Depth Interval	2 - 4 ft	8 - 10 ft	4 - 6 ft	8 - 10 ft	4 - 6 ft	4 - 6 ft
			Sample Type	N	N	N	N	N	N
Chemical Name	Unit	RPG Residential	RPG Non-Residential						
2-BUTANONE	UG_KG	NE	NE	< 11 UJ	< 11 UJ	1 J	< 9 U	3 J	3 J
2-HEXANONE	UG_KG	NE	NE	< 11 U	< 11 U	< 9 U	< 9 U	< 9 U	< 9 U
4-METHYL-2-PENTANONE	UG_KG	NE	NE	< 11 U	< 11 U	< 9 U	< 9 U	0.9 J	< 9 U
ACETONE	UG_KG	NE	NE	< 17 UJ	< 11 UJ	< 20 UJ	< 15 UJ	50 JTB	23 JTB
CARBON DISULFIDE	UG_KG	NE	NE	< 11 U	< 11 U	< 5 U	< 4 U	< 4 U	< 4 U
CARBON TETRACHLORIDE	UG_KG	NE	NE	< 11 U	< 11 U	< 5 U	< 4 U	< 4 U	< 4 U
CHLOROBENZENE	UG_KG	NE	NE	< 11 U	< 11 U	< 5 U	< 4 U	< 4 U	< 4 U
CHLOROFORM	UG_KG	NE	NE	< 11 U	< 11 U	< 5 U	< 4 U	3 J	< 4 U
CYCLOHEXANE	UG_KG	NE	NE						
DICHLORODIFLUOROMETHANE	UG_KG	NE	NE						
ETHYLBENZENE	UG_KG	NE	NE	< 11 U	< 11 U	< 5 U	< 4 U	< 4 U	< 4 U
METHYL ACETATE	UG_KG	NE	NE						
METHYL CYCLOHEXANE	UG_KG	NE	NE						
METHYL TERT-BUTYL ETHER	UG_KG	NE	NE						
TETRACHLOROETHENE	UG_KG	NE	NE	< 11 U	< 11 U	< 5 U	< 4 U	< 4 U	< 4 U
TOLUENE	UG_KG	NE	NE	< 11 U	< 11 U	< 5 U	< 4 U	1 J	1 J
XYLENES, TOTAL	UG_KG	NE	NE	< 11 U	< 11 U	< 14 U	< 13 U	< 13 U	< 13 U

Notes:

- 1) U or < = Non-detect at laboratory
- 2) J = Estimated Value
- 3) B = The analyte was found in the associated blank at a significant level relative to the sample result.
- 4) E = The reported value exceeded the
- 5) F = The analyte was positively identified
- 6) T = Tentatively identified compound (using
- 7) R = Rejected data
- 8) Sample Type N = normal sample, FD =
- 9) MG_KG = milligrams per kilogram; UG_KG = micrograms per kilograms;
PCT = percent; SU = standard pH units
- 10) NE = not established
- 11) RPG Residential exceedances are bolded and highlighted; RPG Non-Residential exceedances are underlined and highlighted.
- 12) Only those compounds with at least one

Table A1
 Summary of Soil Analytical Results
 Data Retrieved from NIRIS
 South Weymouth

			Location ID	STP-FSB-13	STP-FSB-14	STP-FSB-2	STP-FSB-2	STP-FSB-2	STP-FSB-3
			Sample Date	8/20/1999	8/20/1999	2/12/1996	2/12/1996	2/12/1996	2/14/1996
			Sample ID	FSB13AA	FSB14AA	FSB2AA	FSB2BA	FSB2CA	FSB3AA
			Depth Interval	4 - 6 ft	4 - 6 ft	1 - 3 ft	3 - 5 ft	7 - 9 ft	2 - 4 ft
			Sample Type	N	N	N	N	N	N
Chemical Name	Unit	RPG Residential	RPG Non-Residential						
Metals									
ALUMINIUM	MG_KG	NE	NE	3670	3340		5410	5610	7000
ANTIMONY	MG_KG	NE	NE	< 0.25 U	< 0.26 U		< 3.7 UJ	< 3.6 UJ	< 3.6 UJ
ARSENIC	MG_KG	6.77	30	1.1	1.1		< 1.9 U	< 1.9 U	< 2 U
BARIUM	MG_KG	NE	NE	10.7 B	9.6 B		18	18.6	20
BERYLLIUM	MG_KG	NE	NE	0.27 J	0.21 J		0.34	0.5	0.41
CADMIUM	MG_KG	NE	NE	< 0.04 U	< 0.04 U		< 0.62 U	< 0.61 U	< 0.61 U
CALCIUM	MG_KG	NE	NE	1040	942		965	1500	1210
CHROMIUM, TOTAL	MG_KG	NE	NE	5.9	5.1		9.4	7.8	8.2
COBALT	MG_KG	NE	NE	3.2 B	3.5 B		3.8	4.1	4.3
COPPER	MG_KG	NE	NE	5.5	4.4		3.7	5.2	4.9
IRON	MG_KG	NE	NE	8090	7140		10100	11400	11600
LEAD	MG_KG	NE	NE	6	5.5		4.5	4.4	5.4
MAGNESIUM	MG_KG	NE	NE	1440	1210		1530	1820	2040
MANGANESE	MG_KG	NE	NE	143	146		146 J	218 J	198 J
MERCURY	MG_KG	NE	NE	< 0.02 UJ	< 0.03 UJ		< 0.11 U	< 0.11 U	0.12 J
NICKEL	MG_KG	NE	NE	4.7	4.7		3.9 J	3.8 J	5.2 J
POTASSIUM	MG_KG	NE	NE	316 B	274 B		297	458	329
SELENIUM	MG_KG	NE	NE	< 0.97 U	< 1.1 U		< 0.64 U	< 0.63 U	< 0.63 U
SILVER	MG_KG	NE	NE	< 0.51 UJ	< 0.4 UJ		< 0.4 U	< 0.39 U	< 0.39 U
SODIUM	MG_KG	NE	NE	50 J	46.1 J		80.1	114	83.7
THALLIUM	MG_KG	NE	NE	< 0.41 U	< 0.45 U		< 0.93 U	< 0.91 U	< 0.92 U
VANADIUM	MG_KG	NE	NE	11.8	10.4		15.3	15.6	16.9
ZINC	MG_KG	NE	NE	20.3	19.3		19.8 J	27.1 J	27.1 J
Pesticides/PCBs									
4,4-DDD	UG_KG	22600	95700	< 3.5 UJ	< 3.7 UJ		< 3.7 U	< 3.6 U	2 J
4,4-DDE	UG_KG	NE	NE	< 3.5 UJ	< 3.7 UJ		< 3.7 U	< 3.6 U	27
4,4-DDT	UG_KG	2800	2800	< 3.5 UJ	< 3.7 UJ		< 3.7 U	< 3.6 U	23 J
ALDRIN	UG_KG	NE	NE	< 1.8 UJ	< 1.9 UJ		< 1.9 U	< 1.8 U	< 1.8 U
ALPHA-CHLORDANE	UG_KG	NE	NE	< 1.8 UJ	< 1.9 UJ		< 1.9 U	< 1.8 U	< 1.8 U
AROCLOR-1016	UG_KG	4110	19200	< 35 U	< 37.3 U		< 37 U	< 36 U	< 36 U
AROCLOR-1260	UG_KG	2490	10300	< 35 U	< 37.3 U		< 37 U	< 36 U	< 36 U
BETA-BHC	UG_KG	NE	NE	< 1.8 UJ	< 1.9 UJ		< 1.9 U	< 1.8 U	< 1.8 U
DDT, TOTAL	UG_KG	NE	NE	< 3.5 UJ	< 3.7 UJ		< 3.7 U	< 3.6 U	52 J
DELTA-BHC	UG_KG	NE	NE	< 1.8 UJ	< 1.9 UJ		< 1.9 U	< 1.8 U	< 1.8 U
DIELDRIN	UG_KG	NE	NE	15	< 3.7 UJ		< 3.7 U	< 3.6 U	< 3.6 U
ENDOSULFAN I	UG_KG	NE	NE	< 1.8 UJ	< 1.9 UJ		< 1.9 U	< 1.8 U	< 1.8 U
ENDOSULFAN II	UG_KG	NE	NE	< 3.5 UJ	< 3.7 UJ		< 3.7 U	< 3.6 U	< 3.6 U
ENDOSULFAN SULFATE	UG_KG	NE	NE	< 3.5 UJ	< 3.7 UJ		< 3.7 U	< 3.6 U	< 3.6 U

Table A1
 Summary of Soil Analytical Results
 Data Retrieved from NIRIS
 South Weymouth

				Location ID	STP-FSB-13	STP-FSB-14	STP-FSB-2	STP-FSB-2	STP-FSB-2	STP-FSB-3
				Sample Date	8/20/1999	8/20/1999	2/12/1996	2/12/1996	2/12/1996	2/14/1996
				Sample ID	FSB13AA	FSB14AA	FSB2AA	FSB2BA	FSB2CA	FSB3AA
				Depth Interval	4 - 6 ft	4 - 6 ft	1 - 3 ft	3 - 5 ft	7 - 9 ft	2 - 4 ft
				Sample Type	N	N	N	N	N	N
Chemical Name	Unit	RPG Residential	RPG Non-Residential							
ENDRIN	UG_KG	NE	NE	< 3.5 UJ	< 3.7 UJ			< 3.7 U	< 3.6 U	< 3.6 U
ENDRIN ALDEHYDE	UG_KG	NE	NE	< 3.5 UJ	< 3.7 UJ			< 3.7 U	< 3.6 U	< 3.6 U
ENDRIN KETONE	UG_KG	NE	NE	< 3.5 UJ	< 3.7 UJ			< 3.7 U	< 3.6 U	< 3.6 U
HEPTACHLOR	UG_KG	NE	NE	< 1.8 UJ	< 1.9 UJ			< 1.9 U	< 1.8 U	< 1.8 U
HEPTACHLOR EPOXIDE	UG_KG	NE	NE	< 1.8 UJ	< 1.9 UJ			< 1.9 U	< 1.8 U	< 1.8 U
LINDANE	UG_KG	NE	NE	< 1.8 UJ	< 1.9 UJ			< 1.9 U	< 1.8 U	< 1.8 U
METHOXYCHLOR	UG_KG	NE	NE	< 1.8 UJ	< 1.9 UJ			< 1.9 U	< 1.8 U	< 1.8 U
POLYCHLORINATED BIPHENYLS (PCBS)	UG_KG	NE	NE	< 40 U	< 43 U			< 42 U	< 41 U	< 41 U
TRANS-CHLORDANE	UG_KG	NE	NE	< 1.8 UJ	< 1.9 UJ			< 1.9 U	< 1.8 U	< 1.8 U
SVOCS										
2-METHYLNAPHTHALENE	UG_KG	NE	NE	< 170 UJ	< 180 UJ			< 370 U	< 360 U	< 360 U
ACENAPHTHENE	UG_KG	NE	NE	< 170 U	< 180 U			< 370 U	< 360 U	< 360 U
ACENAPHTHYLENE	UG_KG	NE	NE	< 170 U	< 180 U			< 370 U	< 360 U	< 360 U
ANTHRACENE	UG_KG	NE	NE	< 170 U	< 180 U			< 370 U	< 360 U	< 360 U
BENZO[A]ANTHRACENE	UG_KG	1570	7340	< 170 U	< 180 U			< 370 U	< 360 U	< 360 U
BENZO[A]PYRENE	UG_KG	1828.8	1828.8	7	4			< 370 U	< 360 U	< 360 U
BENZO[B]FLUORANTHENE	UG_KG	1570	7340	< 170 U	< 180 U			< 370 U	< 360 U	< 360 U
BENZO[G,H,I]PERYLENE	UG_KG	NE	NE	< 170 U	< 180 U			< 370 U	< 360 U	< 360 U
BENZO[K]FLUORANTHENE	UG_KG	15700	73400	< 170 U	< 180 U			< 370 U	< 360 U	< 360 U
BENZOIC ACID	UG_KG	NE	NE							
BIS(2-ETHYLHEXYL)PHTHALATE	UG_KG	NE	NE	< 170 U	61 J			43 J	40 J	41 J
CARBAZOLE	UG_KG	NE	NE	< 170 U	< 180 U			< 370 U	< 360 U	< 360 U
CHRYSENE	UG_KG	NE	NE	< 170 U	< 180 U			< 370 U	< 360 U	< 360 U
DIBENZ[A,H]ANTHRACENE	UG_KG	157	734	< 3 U	< 4 U			< 370 U	< 360 U	< 360 U
DIBENZOFURAN	UG_KG	NE	NE	< 170 U	< 180 U			< 370 U	< 360 U	< 360 U
DI-N-BUTYLPHTHALATE	UG_KG	NE	NE	< 170 U	< 180 U			< 370 U	< 360 U	< 360 U
DI-N-OCTYLPHTHALATE	UG_KG	NE	NE	< 170 U	< 180 U			< 370 U	< 360 U	< 360 U
FLUORANTHENE	UG_KG	NE	NE	< 170 U	< 180 U			< 370 U	< 360 U	< 360 U
FLUORENE	UG_KG	NE	NE	< 170 U	< 180 U			< 370 U	< 360 U	< 360 U
HPAH, TOTAL	UG_KG	NE	NE	7	4			< 370 U	< 360 U	< 360 U
INDENO[1,2,3-CD]PYRENE	UG_KG	NE	NE	< 170 U	< 180 U			< 370 U	< 360 U	< 360 U
LPAH, TOTAL	UG_KG	NE	NE	< 170 UJ	< 180 UJ			< 370 U	< 360 U	< 360 U
NAPHTHALENE	UG_KG	NE	NE	< 170 U	< 180 U			< 370 U	< 360 U	< 360 U
PAH, TOTAL	UG_KG	NE	NE	7 J	4 J			< 370 U	< 360 U	< 360 U
PHENANTHRENE	UG_KG	NE	NE	< 170 U	< 180 U			< 370 U	< 360 U	< 360 U
PYRENE	UG_KG	NE	NE	< 170 U	< 180 U			< 370 U	< 360 U	< 360 U
VOCs										
1,2-DICHLOROBENZENE	UG_KG	NE	NE							
1,3-DICHLOROBENZENE	UG_KG	NE	NE							
1,4-DICHLOROBENZENE	UG_KG	NE	NE							

Table A1

Summary of Soil Analytical Results
Data Retrieved from NIRIS
South Weymouth

				Location ID	STP-FSB-13	STP-FSB-14	STP-FSB-2	STP-FSB-2	STP-FSB-2	STP-FSB-3
				Sample Date	8/20/1999	8/20/1999	2/12/1996	2/12/1996	2/12/1996	2/14/1996
				Sample ID	FSB13AA	FSB14AA	FSB2AA	FSB2BA	FSB2CA	FSB3AA
				Depth Interval	4 - 6 ft	4 - 6 ft	1 - 3 ft	3 - 5 ft	7 - 9 ft	2 - 4 ft
				Sample Type	N	N	N	N	N	N
Chemical Name	Unit	RPG Residential	RPG Non-Residential							
2-BUTANONE	UG_KG	NE	NE	4 J	< 9 U	< 9 U		< 11 UJ	< 11 UJ	< 11 UJ
2-HEXANONE	UG_KG	NE	NE	< 9 U	< 9 U	< 9 U		< 11 U	< 11 U	< 11 U
4-METHYL-2-PENTANONE	UG_KG	NE	NE	< 9 U	< 9 U	< 9 U		< 11 U	< 11 U	< 11 U
ACETONE	UG_KG	NE	NE	16 JTB	18 JTB	18 JTB		< 11 UJ	< 11 UJ	< 11 UJ
CARBON DISULFIDE	UG_KG	NE	NE	< 4 U	< 4 U	< 4 U		< 11 U	< 11 U	< 11 U
CARBON TETRACHLORIDE	UG_KG	NE	NE	< 4 U	< 4 U	< 4 U		< 11 U	< 11 U	< 11 U
CHLOROBENZENE	UG_KG	NE	NE	< 4 U	< 4 U	< 4 U		< 11 U	< 11 U	< 11 U
CHLOROFORM	UG_KG	NE	NE	< 4 U	< 4 U	< 4 U		< 11 U	< 11 U	< 11 U
CYCLOHEXANE	UG_KG	NE	NE							
DICHLORODIFLUOROMETHANE	UG_KG	NE	NE							
ETHYLBENZENE	UG_KG	NE	NE	< 4 U	< 4 U	< 4 U		< 11 U	< 11 U	< 11 U
METHYL ACETATE	UG_KG	NE	NE							
METHYL CYCLOHEXANE	UG_KG	NE	NE							
METHYL TERT-BUTYL ETHER	UG_KG	NE	NE							
TETRACHLOROETHENE	UG_KG	NE	NE	< 4 U	< 4 U	< 4 U		< 11 U	< 11 U	< 11 U
TOLUENE	UG_KG	NE	NE	2 J	< 4 U	< 4 U		< 11 U	< 11 U	< 11 U
XYLENES, TOTAL	UG_KG	NE	NE	< 13 U	< 13 U	< 13 U		< 11 U	< 11 U	< 11 U

Notes:

- 1) U or < = Non-detect at laboratory
- 2) J = Estimated Value
- 3) B = The analyte was found in the associated blank at a significant level relative to the sample result.
- 4) E = The reported value exceeded the
- 5) F = The analyte was positively identified
- 6) T = Tentatively identified compound (using
- 7) R = Rejected data
- 8) Sample Type N = normal sample, FD =
- 9) MG_KG = milligrams per kilogram; UG_KG = micrograms per kilograms; PCT = percent; SU = standard pH units
- 10) NE = not established
- 11) RPG Residential exceedances are bolded and highlighted; RPG Non-Residential exceedances are underlined and highlighted.
- 12) Only those compounds with at least one

Table A1
 Summary of Soil Analytical Results
 Data Retrieved from NIRIS
 South Weymouth

				Location ID	STP-FSB-3	STP-FSB-4	STP-FSB-4	STP-HW-03	STP-SB-05	STP-SB-05
				Sample Date	2/14/1996	5/10/1999	5/11/1999	5/13/2011	5/23/2011	5/23/2011
				Sample ID	FSB3CA	FSB04BA	FSB04AA	STP-HW-03-02.85	STP-SB-05-0406	STP-SB-05-1214
				Depth Interval	6 - 8 ft	8 - 10 ft	4 - 6 ft	2.85 - 2.85 ft	4 - 6 ft	12 - 14 ft
				Sample Type	N	N	N	N	N	N
Chemical Name	Unit	RPG Residential	RPG Non-Residential							
Metals										
ALUMINIUM	MG_KG	NE	NE	4610	3430 J7	5070 J7	4940	5690	6900	
ANTIMONY	MG_KG	NE	NE	< 3.7 UJ	0.22 J8,J5	0.19 J8,J5	0.12 J	0.03 J	0.04 J	
ARSENIC	MG_KG	6.77	30	< 2.1 U	0.8	1.4	3.8 J	0.76	1.6	
BARIUM	MG_KG	NE	NE	13.2	14.6 B	14.1 B	27.2	16.8	25	
BERYLLIUM	MG_KG	NE	NE	0.38	0.35	0.47	0.69	0.36	0.52	
CADMIUM	MG_KG	NE	NE	< 0.63 U	< 0.03 UJ10	< 0.03 UJ10	0.79	0.04 J	0.05 J	
CALCIUM	MG_KG	NE	NE	1470	1020	1260	1850	1230	1940	
CHROMIUM, TOTAL	MG_KG	NE	NE	7	6.9	9.3	5.9 J	7.4 J	10.9 J	
COBALT	MG_KG	NE	NE	3.5	2.8 B	3.9	4.9 J	3.3	4.1	
COPPER	MG_KG	NE	NE	4.3	5.4	5.5 J4	15.7 J	4.6 J	7 J	
IRON	MG_KG	NE	NE	9620	8190 EB	11200 EB	14300 J	9860	14000	
LEAD	MG_KG	NE	NE	3.1	3.6 J7,J5	5.1 J7,J5	20.6	111	6.7	
MAGNESIUM	MG_KG	NE	NE	1600	1150	1640	1580	1530	2270	
MANGANESE	MG_KG	NE	NE	198 J	166 J5	256 J5	442 J	199	379	
MERCURY	MG_KG	NE	NE	< 0.11 U	< 0.03 U	< 0.02 U	1.6 J	< 0.014 UJ	< 0.016 UJ	
NICKEL	MG_KG	NE	NE	3.1 J	3.5	5.2	5.7 J	5.1 J	6.2 J	
POTASSIUM	MG_KG	NE	NE	308	246 B	374	370	358	629	
SELENIUM	MG_KG	NE	NE	< 0.65 U	R5	R5	0.71	0.26 J	0.27 J	
SILVER	MG_KG	NE	NE	< 0.4 U	0.42 J8	0.42 J8	1.2	0.02 J	0.02 J	
SODIUM	MG_KG	NE	NE	107	195 J7	293 J7	< 62.2 UJ	63.1 J	104	
THALLIUM	MG_KG	NE	NE	< 0.94 U	< 0.34 U	< 0.32 U	0.06 J	0.03 J	0.03 J	
VANADIUM	MG_KG	NE	NE	12.3	9.8	14.5	14.4	13.9	17.6	
ZINC	MG_KG	NE	NE	22.1 J	24.8	28.1	92.3 J	20.4	35.8	
Pesticides/PCBs										
4,4-DDD	UG_KG	22600	95700	< 3.7 U	< 3.7 U	< 3.6 U	300	< 2.1 UJ	< 1.8 UJ	
4,4-DDE	UG_KG	NE	NE	< 3.7 U	< 3.7 U	< 3.6 U	47	1.1 J	0.51 J	
4,4-DDT	UG_KG	2800	2800	5.7	< 3.7 U	< 3.6 U	310	1.2 J	1.1 J	
ALDRIN	UG_KG	NE	NE	< 1.9 U	< 1.9 U	< 1.8 U	4.2	< 0.91 U	< 0.92 U	
ALPHA-CHLORDANE	UG_KG	NE	NE	< 1.9 U	< 1.9 U	< 1.8 U	14	< 0.91 U	< 0.92 U	
AROCLOR-1016	UG_KG	4110	19200	< 37 U	< 37 U	< 36 U	< 12 U	< 9.1 U	< 9.2 U	
AROCLOR-1260	UG_KG	2490	10300	< 37 U	< 37 U	< 36 U	< 12 U	< 9.1 U	< 9.2 U	
BETA-BHC	UG_KG	NE	NE	< 1.9 U	< 1.9 U	< 1.8 U	< 1.2 U	< 0.91 U	< 0.92 U	
DDT, TOTAL	UG_KG	NE	NE	5.7	< 3.7 U	< 3.6 U				
DELTA-BHC	UG_KG	NE	NE	< 1.9 U	< 1.9 U	< 1.8 U	< 1.2 U	< 0.91 U	< 0.92 U	
DIELDRIN	UG_KG	NE	NE	< 3.7 U	< 3.7 U	< 3.6 U	< 2.4 U	< 1.8 U	< 1.8 U	
ENDOSULFAN I	UG_KG	NE	NE	< 1.9 U	< 1.9 U	< 1.8 U	< 1.2 U	< 0.91 U	< 0.92 U	
ENDOSULFAN II	UG_KG	NE	NE	< 3.7 U	< 3.7 U	< 3.6 U	< 2.4 U	< 1.8 U	< 1.8 U	
ENDOSULFAN SULFATE	UG_KG	NE	NE	< 3.7 U	< 3.7 U	< 3.6 U	< 2.4 U	< 1.8 UJ	< 1.8 UJ	

Table A1
 Summary of Soil Analytical Results
 Data Retrieved from NIRIS
 South Weymouth

			Location ID	STP-FSB-3	STP-FSB-4	STP-FSB-4	STP-HW-03	STP-SB-05	STP-SB-05
			Sample Date	2/14/1996	5/10/1999	5/11/1999	5/13/2011	5/23/2011	5/23/2011
			Sample ID	FSB3CA	FSB04BA	FSB04AA	STP-HW-03-02.85	STP-SB-05-0406	STP-SB-05-1214
			Depth Interval	6 - 8 ft	8 - 10 ft	4 - 6 ft	2.85 - 2.85 ft	4 - 6 ft	12 - 14 ft
			Sample Type	N	N	N	N	N	N
Chemical Name	Unit	RPG Residential	RPG Non-Residential						
ENDRIN	UG_KG	NE	NE	< 3.7 U	< 3.7 U	< 3.6 U	< 2.4 U	< 1.8 U	< 1.8 U
ENDRIN ALDEHYDE	UG_KG	NE	NE	< 3.7 U	< 3.7 U	< 3.6 U	< 2.4 U	< 1.8 U	< 1.8 U
ENDRIN KETONE	UG_KG	NE	NE	< 3.7 U	< 3.7 U	< 3.6 U	< 2.4 U	< 1.8 U	< 1.8 U
HEPTACHLOR	UG_KG	NE	NE	< 1.9 U	< 1.9 U	< 1.8 U	< 1.2 U	< 0.91 U	< 0.92 U
HEPTACHLOR EPOXIDE	UG_KG	NE	NE	< 1.9 U	< 1.9 U	< 1.8 U	< 2 UJ	< 0.91 U	< 0.92 U
LINDANE	UG_KG	NE	NE	< 1.9 U	< 1.9 U	< 1.8 U	< 1.2 U	< 0.91 U	< 0.92 U
METHOXYCHLOR	UG_KG	NE	NE	< 19 U	< 19 U	< 18 U	< 12 U	< 9.1 U	< 9.2 U
POLYCHLORINATED BIPHENYLS (PCBS)	UG_KG	NE	NE	< 42 U	< 42 U	< 41 U	< 85 U	< 64 U	< 64 U
TRANS-CHLORDANE	UG_KG	NE	NE	< 1.9 U	< 1.9 U	< 1.8 U	15	< 0.91 U	< 0.92 U
SVOCs									
2-METHYLNAPHTHALENE	UG_KG	NE	NE	< 370 U	< 180 U	< 170 U	4.4 J	< 10 U	< 9.9 U
ACENAPHTHENE	UG_KG	NE	NE	< 370 U	< 180 U	< 170 U	63 J	1.7 J	< 9.9 U
ACENAPHTHYLENE	UG_KG	NE	NE	< 370 U	< 180 U	< 170 U	< 14 UJ	< 10 U	< 9.9 U
ANTHRACENE	UG_KG	NE	NE	< 370 U	< 180 U	< 170 U	130	1.9 J	< 9.9 U
BENZO[A]ANTHRACENE	UG_KG	1570	7340	< 370 U	< 180 U	< 170 U	470	5.8 J	< 9.9 U
BENZO[A]PYRENE	UG_KG	1828.8	1828.8	< 370 U	< 4 UJ	< 4 UJ	420	5.5 J	< 9.9 U
BENZO[B]FLUORANTHENE	UG_KG	1570	7340	< 370 U	< 180 U	< 170 U	480	9 J	< 9.9 U
BENZO[G,H,I]PERYLENE	UG_KG	NE	NE	< 370 U	< 180 U	< 170 U	180	3.9 J	< 9.9 U
BENZO[K]FLUORANTHENE	UG_KG	15700	73400	< 370 U	< 180 U	< 170 U	180	4.1 J	< 9.9 U
BENZOIC ACID	UG_KG	NE	NE						
BIS(2-ETHYLHEXYL)PHTHALATE	UG_KG	NE	NE	< 370 U	44 J	52 J			
CARBAZOLE	UG_KG	NE	NE	< 370 U	< 180 U	< 170 U			
CHRYSENE	UG_KG	NE	NE	< 370 U	< 180 U	< 170 U	390	3.9 J	< 9.9 U
DIBENZ[A,H]ANTHRACENE	UG_KG	157	734	< 370 U	< 4 U	< 4 U	67	< 10 U	< 9.9 U
DIBENZOFURAN	UG_KG	NE	NE	< 370 U	< 180 U	< 170 U			
DI-N-BUTYLPHTHALATE	UG_KG	NE	NE	< 370 U	< 180 U	< 170 U			
DI-N-OCTYLPHTHALATE	UG_KG	NE	NE	< 370 U	< 180 U	< 170 U			
FLUORANTHENE	UG_KG	NE	NE	< 370 U	< 180 U	< 170 U	1000	17 J	1.8 J
FLUORENE	UG_KG	NE	NE	< 370 U	< 180 U	< 170 U	56 J	< 10 U	< 9.9 U
HPAH, TOTAL	UG_KG	NE	NE	< 370 U	< 140 UJ	< 140 UJ			
INDENO[1,2,3-CD]PYRENE	UG_KG	NE	NE	< 370 U	< 180 U	< 170 U	320	< 10 U	< 9.9 UJ
HPAH, TOTAL	UG_KG	NE	NE	< 370 U	< 180 U	< 170 U			
NAPHTHALENE	UG_KG	NE	NE	< 370 U	< 180 U	< 170 U	6 J	< 10 U	< 9.9 U
PAH, TOTAL	UG_KG	NE	NE	< 370 U	< 160 UJ	< 150 UJ			
PHENANTHRENE	UG_KG	NE	NE	< 370 U	< 180 U	< 170 U	540	16 J	< 9.9 U
PYRENE	UG_KG	NE	NE	< 370 U	< 180 U	< 170 U	730	14 J	< 9.9 U
VOCs									
1,2-DICHLOROBENZENE	UG_KG	NE	NE				< 3.2 U	< 2.5 U	< 2.5 U
1,3-DICHLOROBENZENE	UG_KG	NE	NE				< 3.2 U	< 2.5 U	< 2.5 U
1,4-DICHLOROBENZENE	UG_KG	NE	NE				< 3.2 U	< 2.5 U	< 2.5 U

Table A1
 Summary of Soil Analytical Results
 Data Retrieved from NIRIS
 South Weymouth

				Location ID	STP-FSB-3	STP-FSB-4	STP-FSB-4	STP-HW-03	STP-SB-05	STP-SB-05
				Sample Date	2/14/1996	5/10/1999	5/11/1999	5/13/2011	5/23/2011	5/23/2011
				Sample ID	FSB3CA	FSB04BA	FSB04AA	STP-HW-03-02.85	STP-SB-05-0406	STP-SB-05-1214
				Depth Interval	6 - 8 ft	8 - 10 ft	4 - 6 ft	2.85 - 2.85 ft	4 - 6 ft	12 - 14 ft
				Sample Type	N	N	N	N	N	N
Chemical Name	Unit	RPG Residential	RPG Non-Residential							
2-BUTANONE	UG_KG	NE	NE	< 11 UJ			< 8 U	< 16 U	8.2 J	< 12 U
2-HEXANONE	UG_KG	NE	NE	< 11 U			< 8 U	< 16 U	< 12 U	< 12 U
4-METHYL-2-PENTANONE	UG_KG	NE	NE	< 11 U			< 8 U	< 16 U	< 12 U	< 12 U
ACETONE	UG_KG	NE	NE	< 11 UJ			< 11 UJ	< 98 U	95	< 12 UJ
CARBON DISULFIDE	UG_KG	NE	NE	< 11 U			< 4 U	< 3.2 UJ	0.84 J	< 2.5 U
CARBON TETRACHLORIDE	UG_KG	NE	NE	< 11 U			< 4 U	< 3.2 U	< 2.5 U	< 2.5 U
CHLOROBENZENE	UG_KG	NE	NE	< 11 U			< 4 U	< 3.2 U	< 2.5 U	< 2.5 U
CHLOROFORM	UG_KG	NE	NE	< 11 U			< 4 U	< 3.2 U	< 2.5 U	< 2.5 U
CYCLOHEXANE	UG_KG	NE	NE					< 3.2 U	< 2.5 U	< 2.5 U
DICHLORODIFLUOROMETHANE	UG_KG	NE	NE					< 6.5 U	< 5 U	< 5 U
ETHYLBENZENE	UG_KG	NE	NE	< 11 U			< 4 U	< 3.2 U	< 2.5 U	< 2.5 U
METHYL ACETATE	UG_KG	NE	NE					< 3.9 U	3 J	< 3 U
METHYL CYCLOHEXANE	UG_KG	NE	NE					< 3.2 U	< 2.5 U	< 2.5 U
METHYL TERT-BUTYL ETHER	UG_KG	NE	NE					< 3.2 U	< 2.5 U	< 2.5 U
TETRACHLOROETHENE	UG_KG	NE	NE	< 11 U			< 4 U	< 3.2 U	< 2.5 U	< 2.5 U
TOLUENE	UG_KG	NE	NE	< 11 U			< 4 U	< 3.2 U	< 2.5 U	< 2.5 U
XYLENES, TOTAL	UG_KG	NE	NE	< 11 U			< 12 U	< 9.8 U	< 7.5 U	< 7.5 U

Notes:

- 1) U or < = Non-detect at laboratory
- 2) J = Estimated Value
- 3) B = The analyte was found in the associated blank at a significant level relative to the sample result.
- 4) E = The reported value exceeded the
- 5) F = The analyte was positively identified
- 6) T = Tentatively identified compound (using
- 7) R = Rejected data
- 8) Sample Type N = normal sample, FD =
- 9) MG_KG = milligrams per kilogram; UG_KG = micrograms per kilograms; PCT = percent; SU = standard pH units
- 10) NE = not established
- 11) RPG Residential exceedances are bolded and highlighted; RPG Non-Residential exceedances are underlined and highlighted.
- 12) Only those compounds with at least one

Table A1

Summary of Soil Analytical Results
Data Retrieved from NIRIS
South Weymouth

			Location ID	STP-SB-06	STP-SB-07	STP-SB-08	STP-SB-09	STP-SB-10	STP-SB-10	STP-SB-10
			Sample Date	5/24/2011	5/13/2011	5/12/2011	5/12/2011	5/23/2011	5/23/2011	5/23/2011
			Sample ID	STP-SB-06-1214	STP-SB-07-1214	STP-SB-08-1214	STP-SB-09-1214	STP-SB-10-1315-D	STP-SB-10-0709	STP-SB-10-1315
			Depth Interval	12 - 14 ft	13 - 15 ft	7 - 9 ft	13 - 15 ft			
			Sample Type	N	N	N	N	FD	N	N
Chemical Name	Unit	RPG Residential	RPG Non-Residential							
Metals										
ALUMINUM	MG_KG	NE	NE	7160	4860	5030	4000	4060	6330	4420
ANTIMONY	MG_KG	NE	NE	0.02 J	< 0.048 UJ	< 0.029 UJ	< 0.033 UJ	0.02 J	0.03 J	0.02 J
ARSENIC	MG_KG	6.77	30	0.63	0.74 J	0.93 J	1.1 J	0.6	0.87	0.75
BARIUM	MG_KG	NE	NE	22	13.1	14	13.4	9.7	19.1	13.1
BERYLLIUM	MG_KG	NE	NE	0.48	0.28	0.34	0.29	0.23	0.42	0.31
CADMIUM	MG_KG	NE	NE	0.04 J	0.03 J	0.03 J	0.03 J	0.03 J	0.05 J	0.04 J
CALCIUM	MG_KG	NE	NE	1390	1310	1690	1670	1500	3590	1720
CHROMIUM, TOTAL	MG_KG	NE	NE	7.6 J	10.4 J	9.5 J	6.9 J	6.3 J	9.1 J	7.9 J
COBALT	MG_KG	NE	NE	5.6	2.8	3	2.3	2.4	3.1	2.5
COPPER	MG_KG	NE	NE	10.3 J	4.2 J	5.1 J	3.5 J	3.7 J	7 J	4 J
IRON	MG_KG	NE	NE	14800	9720	10600	8350	7910	10700	8990
LEAD	MG_KG	NE	NE	3	2.8	3.2	2.8	2.2	4.4	2.9
MAGNESIUM	MG_KG	NE	NE	3280	2110	1910	1330	1560	1960	1460
MANGANESE	MG_KG	NE	NE	294	166 J	173 J	141 J	194	184	166
MERCURY	MG_KG	NE	NE	< 0.017 UJ	< 0.017 UJ	< 0.017 UJ	< 0.017 UJ	< 0.016 UJ	0.04 J	< 0.015 UJ
NICKEL	MG_KG	NE	NE	9 J	5.2 J	5.7 J	3.6 J	5 J	6 J	4.3 J
POTASSIUM	MG_KG	NE	NE	455	338	422	402	314	518	413
SELENIUM	MG_KG	NE	NE	0.21 J	0.21 J	0.2 J	0.21 J	0.11 J	0.23 J	0.17 J
SILVER	MG_KG	NE	NE	0.02 J	< 0.038 UJ	< 0.023 UJ	< 0.026 UJ	0.007 J	0.02 J	0.01 J
SODIUM	MG_KG	NE	NE	61.6 J	< 95.9 U	< 122 U	< 108 U	105	149	125
THALLIUM	MG_KG	NE	NE	0.04 J	< 0.038 UJ	< 0.023 UJ	< 0.026 UJ	0.009 J	0.02 J	0.01 J
VANADIUM	MG_KG	NE	NE	18.6	12.7	10.9	11	9.5	14.4	13.3
ZINC	MG_KG	NE	NE	25.1	22 J	22.3 J	17.4 J	16	27.7	17.6
Pesticides/PCBs										
4,4-DDD	UG_KG	22600	95700	< 1.8 UJ	1.1 J	1.2 J	6.8	< 1.8 UJ	< 2.7 UJ	< 1.8 UJ
4,4-DDE	UG_KG	NE	NE	< 1.8 U	0.75 J	0.6 J	0.54 J	0.48 J	1.7 J	< 1.8 U
4,4-DDT	UG_KG	2800	2800	< 1.8 U	1.4 J	1.2 J	2.6 J	< 1.8 U	1.8 J	< 1.8 U
ALDRIN	UG_KG	NE	NE	< 0.92 U	< 0.9 U	< 0.91 U	< 0.9 U	< 0.93 U	< 0.93 U	< 0.92 U
ALPHA-CHLORDANE	UG_KG	NE	NE	< 0.92 U	< 0.9 U	< 0.91 U	< 0.9 U	< 0.93 U	< 0.93 U	< 0.92 U
AROCLOR-1016	UG_KG	4110	19200	< 9.2 U	< 9 U	< 9.1 U	< 9 U	< 9.3 U	< 9.3 U	< 9.2 U
AROCLOR-1260	UG_KG	2490	10300	< 9.2 U	< 9 U	< 9.1 U	< 9 U	< 9.3 U	< 9.3 U	< 9.2 U
BETA-BHC	UG_KG	NE	NE	< 0.92 U	< 0.9 U	< 0.91 U	< 0.9 U	< 0.93 U	< 0.93 U	< 0.92 U
DDT, TOTAL	UG_KG	NE	NE							
DELTA-BHC	UG_KG	NE	NE	< 0.92 U	< 0.9 U	< 0.91 U	< 0.9 U	< 0.93 U	< 0.93 U	< 0.92 U
DIELDRIN	UG_KG	NE	NE	< 1.8 U	< 1.8 U	< 1.8 U	< 1.7 U	0.64 J	1 J	0.64 J
ENDOSULFAN I	UG_KG	NE	NE	< 0.92 U	< 0.9 U	< 0.91 U	< 0.9 U	< 0.93 U	< 0.93 U	< 0.92 U
ENDOSULFAN II	UG_KG	NE	NE	< 1.8 U	< 1.8 U	< 1.8 U	< 1.7 U	< 1.8 U	< 1.8 U	< 1.8 U
ENDOSULFAN SULFATE	UG_KG	NE	NE	< 1.8 UJ	< 1.8 U	< 1.8 U	< 1.7 U	< 1.8 UJ	< 1.8 UJ	< 1.8 UJ

Table A1

Summary of Soil Analytical Results
Data Retrieved from NIRIS
South Weymouth

			Location ID	STP-SB-06	STP-SB-07	STP-SB-08	STP-SB-09	STP-SB-10	STP-SB-10	STP-SB-10
			Sample Date	5/24/2011	5/13/2011	5/12/2011	5/12/2011	5/23/2011	5/23/2011	5/23/2011
			Sample ID	STP-SB-06-1214	STP-SB-07-1214	STP-SB-08-1214	STP-SB-09-1214	STP-SB-10-1315-D	STP-SB-10-0709	STP-SB-10-1315
			Depth Interval	12 - 14 ft	13 - 15 ft	7 - 9 ft	13 - 15 ft			
			Sample Type	N	N	N	N	FD	N	N
Chemical Name	Unit	RPG Residential	RPG Non-Residential							
ENDRIN	UG_KG	NE	NE	< 1.8 U	< 1.8 U	< 1.8 U	< 1.7 U	< 1.8 U	< 1.8 U	< 1.8 U
ENDRIN ALDEHYDE	UG_KG	NE	NE	< 1.8 U	< 1.8 U	< 1.8 U	< 1.7 U	< 1.8 U	< 1.8 U	< 1.8 U
ENDRIN KETONE	UG_KG	NE	NE	< 1.8 U	< 1.8 U	< 1.8 U	< 1.7 U	< 1.8 U	< 1.8 U	< 1.8 U
HEPTACHLOR	UG_KG	NE	NE	< 0.92 U	< 0.9 U	< 0.91 U	< 0.9 U	< 0.93 U	< 0.93 U	< 0.92 U
HEPTACHLOR EPOXIDE	UG_KG	NE	NE	< 0.92 U	< 0.9 U	< 0.91 U	< 0.9 U	< 0.93 U	< 0.93 U	< 0.92 U
LINDANE	UG_KG	NE	NE	< 0.92 U	< 0.9 U	< 0.91 U	< 0.9 U	< 0.93 U	< 0.93 U	< 0.92 U
METHOXYCHLOR	UG_KG	NE	NE	< 9.2 U	< 9 U	< 9.1 U	< 9 U	< 9.3 U	< 9.3 U	< 9.2 U
POLYCHLORINATED BIPHENYLS (PCBS)	UG_KG	NE	NE	< 65 U	< 63 U	< 64 U	< 63 U	< 65 U	< 65 U	< 64 U
TRANS-CHLORDANE	UG_KG	NE	NE	< 0.92 U	< 0.9 U	< 0.91 U	< 0.9 U	< 0.93 U	< 0.93 U	< 0.92 U
SVOCs										
2-METHYLNAPHTHALENE	UG_KG	NE	NE	< 11 U	< 11 U	< 11 U	< 11 U	< 10 U	< 10 U	< 10 U
ACENAPHTHENE	UG_KG	NE	NE	< 11 U	< 11 U	< 11 U	< 11 U	< 10 U	< 10 U	< 10 U
ACENAPHTHYLENE	UG_KG	NE	NE	< 11 U	< 11 U	< 11 U	< 11 U	< 10 U	< 10 U	< 10 U
ANTHRACENE	UG_KG	NE	NE	< 11 U	< 11 U	1.9 J	1.4 J	< 10 U	1.4 J	< 10 U
BENZO[A]ANTHRACENE	UG_KG	1570	7340	< 11 U	2.1 J	8.5 J	6.1 J	< 10 U	3.8 J	< 10 U
BENZO[A]PYRENE	UG_KG	1828.8	1828.8	< 11 U	< 11 U	8 J	5.4 J	< 10 U	< 3.5 U	< 10 U
BENZO[B]FLUORANTHENE	UG_KG	1570	7340	< 11 U	2.7 J	12 J	8.2 J	< 10 U	5 J	< 10 U
BENZO[G,H,I]PERYLENE	UG_KG	NE	NE	< 11 U	< 11 U	3.7 J	3.2 J	< 10 U	< 10 U	< 10 U
BENZO[K]FLUORANTHENE	UG_KG	15700	73400	< 11 U	< 11 U	4.5 J	< 11 U	< 10 U	< 10 U	< 10 U
BENZOIC ACID	UG_KG	NE	NE							
BIS(2-ETHYLHEXYL)PHTHALATE	UG_KG	NE	NE							
CARBAZOLE	UG_KG	NE	NE							
CHRYSENE	UG_KG	NE	NE	< 11 U	2 J	8.7 J	6.2 J	< 10 U	< 10 U	< 10 U
DIBENZ[A,H]ANTHRACENE	UG_KG	157	734	< 11 U	< 11 U	< 11 U	< 11 U	< 10 U	< 10 U	< 10 U
DIBENZOFURAN	UG_KG	NE	NE							
DI-N-BUTYLPHTHALATE	UG_KG	NE	NE							
DI-N-OCTYLPHTHALATE	UG_KG	NE	NE							
FLUORANTHENE	UG_KG	NE	NE	< 11 U	4 J	15 J	13 J	< 10 U	9.1 J	< 10 U
FLUORENE	UG_KG	NE	NE	< 11 U	< 11 U	< 11 U	< 11 U	< 10 U	< 10 U	< 10 U
HPAH, TOTAL	UG_KG	NE	NE							
INDENO[1,2,3-CD]PYRENE	UG_KG	NE	NE	< 11 UJ	5.1 J	8.6 J	8 J	< 10 UJ	< 10 UJ	< 10 U
LPAH, TOTAL	UG_KG	NE	NE							
NAPHTHALENE	UG_KG	NE	NE	< 11 U	< 11 U	< 11 U	< 11 U	< 10 U	< 10 U	< 10 U
PAH, TOTAL	UG_KG	NE	NE							
PHENANTHRENE	UG_KG	NE	NE	< 11 U	2.2 J	7.8 J	5.9 J	< 10 U	5.6 J	< 10 U
PYRENE	UG_KG	NE	NE	< 11 U	3.3 J	11 J	9.6 J	< 10 U	6.6 J	< 10 U
VOCs										
1,2-DICHLOROBENZENE	UG_KG	NE	NE	< 2.2 U	< 2.2 U	< 2.8 U	< 2.5 U	< 2.4 U	< 2.8 U	< 2 U
1,3-DICHLOROBENZENE	UG_KG	NE	NE	< 2.2 U	< 2.2 U	< 2.8 U	< 2.5 U	< 2.4 U	< 2.8 U	< 2 U
1,4-DICHLOROBENZENE	UG_KG	NE	NE	< 2.2 U	< 2.2 U	< 2.8 U	< 2.5 U	< 2.4 U	< 2.8 U	< 2 U

Table A1

Summary of Soil Analytical Results
Data Retrieved from NIRIS
South Weymouth

			Location ID	STP-SB-06	STP-SB-07	STP-SB-08	STP-SB-09	STP-SB-10	STP-SB-10	STP-SB-10
			Sample Date	5/24/2011	5/13/2011	5/12/2011	5/12/2011	5/23/2011	5/23/2011	5/23/2011
			Sample ID	STP-SB-06-1214	STP-SB-07-1214	STP-SB-08-1214	STP-SB-09-1214	STP-SB-10-1315-D	STP-SB-10-0709	STP-SB-10-1315
			Depth Interval	12 - 14 ft	13 - 15 ft	7 - 9 ft	13 - 15 ft			
			Sample Type	N	N	N	N	FD	N	N
Chemical Name	Unit	RPG Residential	RPG Non-Residential							
2-BUTANONE	UG_KG	NE	NE	6 J	< 11 U	< 14 U	< 12 U	< 12 U	< 14 U	< 9.8 U
2-HEXANONE	UG_KG	NE	NE	< 11 U	< 11 U	< 14 U	< 12 U	< 12 U	< 14 U	< 9.8 U
4-METHYL-2-PENTANONE	UG_KG	NE	NE	< 11 U	< 11 U	< 14 U	< 12 U	< 12 U	< 14 U	< 9.8 U
ACETONE	UG_KG	NE	NE	< 67 U	< 16 UJ	< 24 UJ	< 12 UJ	< 12 UJ	< 21 UJ	< 10 UJ
CARBON DISULFIDE	UG_KG	NE	NE	0.9 J	< 2.2 U	< 2.8 U	< 2.5 U	1.7 J	6	0.98 J
CARBON TETRACHLORIDE	UG_KG	NE	NE	< 2.2 U	< 2.2 U	< 2.8 U	< 2.5 U	< 2.4 U	< 2.8 U	< 2 U
CHLOROBENZENE	UG_KG	NE	NE	< 2.2 U	< 2.2 U	< 2.8 U	< 2.5 U	< 2.4 U	< 2.8 U	< 2 U
CHLOROFORM	UG_KG	NE	NE	< 2.2 U	< 2.2 U	< 2.8 U	< 2.5 U	< 2.4 U	< 2.8 U	< 2 U
CYCLOHEXANE	UG_KG	NE	NE	< 2.2 U	< 2.2 U	< 2.8 U	< 2.5 U	< 2.4 U	< 2.8 U	< 2 U
DICHLORODIFLUOROMETHANE	UG_KG	NE	NE	< 4.4 U	< 4.4 U	< 5.5 U	< 5 U	< 4.7 U	5.4 J	< 3.9 U
ETHYLBENZENE	UG_KG	NE	NE	< 2.2 U	< 2.2 U	< 2.8 U	< 2.5 U	< 2.4 U	< 2.8 U	< 2 U
METHYL ACETATE	UG_KG	NE	NE	< 2.7 U	< 2.6 U	< 3.3 U	< 3 U	< 2.8 U	< 3.3 U	< 2.3 U
METHYL CYCLOHEXANE	UG_KG	NE	NE	< 2.2 U	< 2.2 U	< 2.8 U	< 2.5 U	< 2.4 U	< 2.8 U	< 2 U
METHYL TERT-BUTYL ETHER	UG_KG	NE	NE	< 2.2 U	< 2.2 U	< 2.8 U	< 2.5 U	< 2.4 U	< 2.8 U	< 2 U
TETRACHLOROETHENE	UG_KG	NE	NE	< 2.2 U	< 2.2 U	< 2.8 U	< 2.5 U	< 2.4 U	< 2.8 U	< 2 U
TOLUENE	UG_KG	NE	NE	< 2.2 U	< 2.2 U	< 2.8 U	< 2.5 U	< 2.4 U	< 2.8 U	< 2 U
XYLENES, TOTAL	UG_KG	NE	NE	< 6.7 U	< 6.6 U	< 8.2 U	< 7.5 U	< 7 U	< 8.2 U	< 5.8 U

Notes:

- 1) U or < = Non-detect at laboratory
- 2) J = Estimated Value
- 3) B = The analyte was found in the associated blank at a significant level relative to the sample result.
- 4) E = The reported value exceeded the
- 5) F = The analyte was positively identified
- 6) T = Tentatively identified compound (using
- 7) R = Rejected data
- 8) Sample Type N = normal sample, FD =
- 9) MG_KG = milligrams per kilogram; UG_KG = micrograms per kilograms; PCT = percent; SU = standard pH units
- 10) NE = not established
- 11) RPG Residential exceedances are bolded and highlighted; RPG Non-Residential exceedances are underlined and highlighted.
- 12) Only those compounds with at least one

Table A1
 Summary of Soil Analytical Results
 Data Retrieved from NIRIS
 South Weymouth

			Location ID	STP-SB-11	STP-SB-12	STP-SB-13	STP-SB-14	STP-SB-14	STP-SB-15A
			Sample Date	5/17/2011	5/5/2011	5/5/2011	5/9/2011	5/10/2011	5/26/2011
			Sample ID	STP-SB-11-1214	STP-SB-12-1214	STP-SB-13-1214	STP-SB-14-1012	STP-SB-14-1416	STP-SB-15-1214
			Depth Interval	12 - 14 ft	12 - 14 ft	12 - 14 ft	10 - 12 ft	14 - 16 ft	12 - 14 ft
			Sample Type	N	N	N	N	N	N
Chemical Name	Unit	RPG Residential	RPG Non-Residential						
Metals									
ALUMINUM	MG_KG	NE	NE	6380	6080	3300	13000		8120
ANTIMONY	MG_KG	NE	NE	0.03 J	< 0.037 UJ	< 0.034 UJ	0.33 J		0.46 J
ARSENIC	MG_KG	6.77	30	1.2	1.6 J	1.8 J	2.6 J		11.8
BARIUM	MG_KG	NE	NE	19.3	30.8	12.3	139		41.9
BERYLLIUM	MG_KG	NE	NE	0.45	0.52	0.36	0.77		0.36
CADMIUM	MG_KG	NE	NE	0.07 J	0.07 J	0.05 J	0.66		0.78
CALCIUM	MG_KG	NE	NE	2010	1630	1430	58200		16500
CHROMIUM, TOTAL	MG_KG	NE	NE	9 J	13.1 J	8.6 J	22.7 J		15.9 J
COBALT	MG_KG	NE	NE	5.1	4.7	2.1	5.3		8.1
COPPER	MG_KG	NE	NE	6.8 J	11.3 J	5.8 J	66.8 J		20.8 J
IRON	MG_KG	NE	NE	13000	14300	8600	24300		25900
LEAD	MG_KG	NE	NE	5.8	4.9	3.1	57		16.2
MAGNESIUM	MG_KG	NE	NE	2300	2520	1100	3330		4610
MANGANESE	MG_KG	NE	NE	254	435 J	166 J	282 J		604
MERCURY	MG_KG	NE	NE	< 0.016 UJ	< 0.016 UJ	< 0.016 UJ	3.5		6.3 J
NICKEL	MG_KG	NE	NE	6.8 J	5.9 J	5.4 J	11 J		14.3 J
POTASSIUM	MG_KG	NE	NE	556	686	307	979		470
SELENIUM	MG_KG	NE	NE	0.2 J	0.34 J	0.19 J	0.3 J		0.28 J
SILVER	MG_KG	NE	NE	0.02 J	< 0.03 UJ	< 0.027 UJ	0.72		2.6
SODIUM	MG_KG	NE	NE	107	< 101 U	< 104 U	663		1460
THALLIUM	MG_KG	NE	NE	0.02 J	0.05 J	< 0.027 UJ	0.03 J		0.02 J
VANADIUM	MG_KG	NE	NE	18.2	17.1	8.6	20.5		21.3
ZINC	MG_KG	NE	NE	32.8	32.8 J	15.5 J	212 J		79.1
Pesticides/PCBs									
4,4-DDD	UG_KG	22600	95700	< 2 UJ	< 1.5 U	0.89 J	160 J		89000
4,4-DDE	UG_KG	NE	NE	0.8 J	< 1.5 U	0.6 J	240 J		2000 J
4,4-DDT	UG_KG	2800	2800	2.2 J	< 1.5 U	1.3 J	210 J		17000
ALDRIN	UG_KG	NE	NE	< 0.92 U	< 0.76 U	< 0.81 U	2.8 J		< 0.95 U
ALPHA-CHLORDANE	UG_KG	NE	NE	0.4 J	< 0.76 U	< 0.81 U	< 1.1 U		< 0.95 U
AROCLOR-1016	UG_KG	4110	19200	< 9.2 U	< 7.6 U	< 8.1 U	< 55 U		< 9.5 U
AROCLOR-1260	UG_KG	2490	10300	< 9.2 U	< 7.6 U	< 8.1 U	6600 J		< 9.5 U
BETA-BHC	UG_KG	NE	NE	< 0.92 U	< 0.76 U	< 0.81 U	< 1.1 U		< 0.95 U
DDT, TOTAL	UG_KG	NE	NE						
DELTA-BHC	UG_KG	NE	NE	< 0.92 U	< 0.76 U	< 0.81 U	< 1.1 U		< 0.95 U
DIELDRIN	UG_KG	NE	NE	0.88 J	< 1.5 U	0.74 J	88 J		< 1.8 U
ENDOSULFAN I	UG_KG	NE	NE	< 0.92 U	< 0.76 U	< 0.81 U	< 1.1 U		< 0.95 U
ENDOSULFAN II	UG_KG	NE	NE	< 1.8 U	< 1.5 U	< 1.6 U	< 2.1 U		< 1.8 U
ENDOSULFAN SULFATE	UG_KG	NE	NE	< 1.8 U	< 1.5 U	< 1.6 U	< 2.1 U		< 1.8 UJ

Table A1
 Summary of Soil Analytical Results
 Data Retrieved from NIRIS
 South Weymouth

			Location ID	STP-SB-11	STP-SB-12	STP-SB-13	STP-SB-14	STP-SB-14	STP-SB-15A
			Sample Date	5/17/2011	5/5/2011	5/5/2011	5/9/2011	5/10/2011	5/26/2011
			Sample ID	STP-SB-11-1214	STP-SB-12-1214	STP-SB-13-1214	STP-SB-14-1012	STP-SB-14-1416	STP-SB-15-1214
			Depth Interval	12 - 14 ft	12 - 14 ft	12 - 14 ft	10 - 12 ft	14 - 16 ft	12 - 14 ft
			Sample Type	N	N	N	N	N	N
Chemical Name	Unit	RPG Residential	RPG Non-Residential						
ENDRIN	UG_KG	NE	NE	< 1.8 U	< 1.5 U	< 1.6 U	< 2.1 U		< 1.8 U
ENDRIN ALDEHYDE	UG_KG	NE	NE	< 1.8 U	< 1.5 U	< 1.6 U	< 2.1 U		< 1.8 U
ENDRIN KETONE	UG_KG	NE	NE	< 1.8 U	< 1.5 U	< 1.6 U	< 300 UJ		< 1.8 U
HEPTACHLOR	UG_KG	NE	NE	< 0.92 U	< 0.76 U	< 0.81 U	< 1.1 U		2.1 J
HEPTACHLOR EPOXIDE	UG_KG	NE	NE	< 0.92 U	< 0.76 UJ	10	< 1.1 U		< 0.95 U
LINDANE	UG_KG	NE	NE	< 0.92 U	< 0.76 U	< 0.81 U	< 1.1 U		< 0.95 U
METHOXYCHLOR	UG_KG	NE	NE	< 9.2 U	< 7.6 U	< 8.1 U	< 11 U		< 9.5 U
POLYCHLORINATED BIPHENYLS (PCBS)	UG_KG	NE	NE	< 65 U	< 54 U	< 57 U	6600		< 66 U
TRANS-CHLORDANE	UG_KG	NE	NE	0.49 J	< 0.76 U	< 0.81 U	< 1.1 U		< 0.95 U
SVOCs									
2-METHYLNAPHTHALENE	UG_KG	NE	NE	< 11 UJ	< 10 U	< 12 U	9.8 J	4 J	16000
ACENAPHTHENE	UG_KG	NE	NE	< 11 UJ	< 10 U	< 12 U	40	12 J	610 J
ACENAPHTHYLENE	UG_KG	NE	NE	< 11 UJ	< 10 U	< 12 U	< 13 U	< 11 U	< 11 U
ANTHRACENE	UG_KG	NE	NE	< 11 U	< 10 U	< 12 U	66	23	96
BENZO[A]ANTHRACENE	UG_KG	1570	7340	< 11 U	< 10 U	2.6 J	180	43	260 J
BENZO[A]PYRENE	UG_KG	1828.8	1828.8	< 11 U	< 10 U	< 12 U	150	36	240
BENZO[B]FLUORANTHENE	UG_KG	1570	7340	< 11 U	< 10 U	3.6 J	220	51	340 J
BENZO[G,H,I]PERYLENE	UG_KG	NE	NE	< 11 U	< 10 U	< 12 U	63	17 J	130
BENZO[K]FLUORANTHENE	UG_KG	15700	73400	< 11 U	< 10 U	< 12 U	78	16 J	140
BENZOIC ACID	UG_KG	NE	NE						
BIS(2-ETHYLHEXYL)PHTHALATE	UG_KG	NE	NE						
CARBAZOLE	UG_KG	NE	NE						
CHRYSENE	UG_KG	NE	NE	< 11 U	< 10 U	2.9 J	170	39	
DIBENZ[A,H]ANTHRACENE	UG_KG	157	734	< 11 U	< 10 U	< 12 U	21 J	5.6 J	43
DIBENZOFURAN	UG_KG	NE	NE						
DI-N-BUTYLPHTHALATE	UG_KG	NE	NE						
DI-N-OCTYLPHTHALATE	UG_KG	NE	NE						
FLUORANTHENE	UG_KG	NE	NE	2.2 J	< 10 U	5.9 J	540	100	610 J
FLUORENE	UG_KG	NE	NE	< 11 UJ	< 10 U	< 12 U	43	14 J	600 J
HPAH, TOTAL	UG_KG	NE	NE						
INDENO[1,2,3-CD]PYRENE	UG_KG	NE	NE	< 11 UJ	4.4 J	5.8 J	110 J	30 J	< 200 UJ
LPAH, TOTAL	UG_KG	NE	NE						
NAPHTHALENE	UG_KG	NE	NE	< 11 UJ	< 10 U	< 12 U	12 J	5.1 J	840 J
PAH, TOTAL	UG_KG	NE	NE						
PHENANTHRENE	UG_KG	NE	NE	< 11 U	< 10 U	3.8 J	430	100	380 J
PYRENE	UG_KG	NE	NE	< 11 U	< 10 U	4.7 J	410	83	450 J
VOCs									
1,2-DICHLOROBENZENE	UG_KG	NE	NE	< 2.5 U			3.2 J	< 2.2 U	< 140 U
1,3-DICHLOROBENZENE	UG_KG	NE	NE	< 2.5 U			< 2 U	< 2.2 U	< 140 U
1,4-DICHLOROBENZENE	UG_KG	NE	NE	< 2.5 U			2.5 J	< 2.2 U	< 140 U

Table A1
 Summary of Soil Analytical Results
 Data Retrieved from NIRIS
 South Weymouth

				Location ID	STP-SB-11	STP-SB-12	STP-SB-13	STP-SB-14	STP-SB-14	STP-SB-15A
				Sample Date	5/17/2011	5/5/2011	5/5/2011	5/9/2011	5/10/2011	5/26/2011
				Sample ID	STP-SB-11-1214	STP-SB-12-1214	STP-SB-13-1214	STP-SB-14-1012	STP-SB-14-1416	STP-SB-15-1214
				Depth Interval	12 - 14 ft	12 - 14 ft	12 - 14 ft	10 - 12 ft	14 - 16 ft	12 - 14 ft
				Sample Type	N	N	N	N	N	N
Chemical Name	Unit	RPG Residential	RPG Non-Residential							
2-BUTANONE	UG_KG	NE	NE	< 12 U				65 J	< 11 U	< 690 U
2-HEXANONE	UG_KG	NE	NE	< 12 U				< 10 U	< 11 U	< 690 U
4-METHYL-2-PENTANONE	UG_KG	NE	NE	< 12 U				< 10 U	< 11 U	< 690 UJ
ACETONE	UG_KG	NE	NE	< 15 UJ				< 200 UJ	< 16 UJ	< 690 UJ
CARBON DISULFIDE	UG_KG	NE	NE	< 2.5 U				24 J	< 2.2 UJ	< 140 U
CARBON TETRACHLORIDE	UG_KG	NE	NE	< 2.5 U				< 2 U	< 2.2 U	< 140 U
CHLOROBENZENE	UG_KG	NE	NE	< 2.5 U				2.2 J	< 2.2 U	< 140 U
CHLOROFORM	UG_KG	NE	NE	< 2.5 U				< 2 U	< 2.2 U	< 140 U
CYCLOHEXANE	UG_KG	NE	NE	< 2.5 U				5.3 J	< 2.2 U	< 140 U
DICHLORODIFLUOROMETHANE	UG_KG	NE	NE	< 5 U				< 4.1 U	< 4.5 U	< 280 U
ETHYLBENZENE	UG_KG	NE	NE	< 2.5 U				1.4 J	< 2.2 U	< 140 U
METHYL ACETATE	UG_KG	NE	NE	< 3 U				< 2.5 U	< 2.7 U	1300
METHYL CYCLOHEXANE	UG_KG	NE	NE	< 2.5 U				8.3 J	< 2.2 U	< 140 U
METHYL TERT-BUTYL ETHER	UG_KG	NE	NE	< 2.5 U				< 2 U	< 2.2 U	< 140 U
TETRACHLOROETHENE	UG_KG	NE	NE	< 2.5 U				< 2 U	< 2.2 U	< 140 U
TOLUENE	UG_KG	NE	NE	< 2.5 U				2.4 J	< 2.2 U	< 140 U
XYLENES, TOTAL	UG_KG	NE	NE	< 7.5 U				12 J	< 6.8 U	< 410 U

Notes:

- 1) U or < = Non-detect at laboratory
- 2) J = Estimated Value
- 3) B = The analyte was found in the associated blank at a significant level relative to the sample result.
- 4) E = The reported value exceeded the
- 5) F = The analyte was positively identified
- 6) T = Tentatively identified compound (using
- 7) R = Rejected data
- 8) Sample Type N = normal sample, FD =
- 9) MG_KG = milligrams per kilogram; UG_KG = micrograms per kilograms; PCT = percent; SU = standard pH units
- 10) NE = not established
- 11) RPG Residential exceedances are bolded and highlighted; RPG Non-Residential exceedances are underlined and highlighted.
- 12) Only those compounds with at least one

Table A1
 Summary of Soil Analytical Results
 Data Retrieved from NIRIS
 South Weymouth

			Location ID	STP-SB-15B	STP-SB-15B	STP-SB-16	STP-SB-17	STP-SB-17	STP-SB-18
			Sample Date	5/26/2011	5/26/2011	5/16/2011	5/24/2011	5/24/2011	5/19/2011
			Sample ID	STP-SB-15-1416-D	STP-SB-15-1416	STP-SB-16-11.514.0	STP-SB-17-0204	STP-SB-17-1214	STP-SB-18-0507
			Depth Interval	14 - 16 ft	14 - 16 ft	11.5 - 14 ft	2 - 4 ft	12 - 14 ft	5 - 7 ft
			Sample Type	FD	N	N	N	N	N
Chemical Name	Unit	RPG Residential	RPG Non-Residential						
Metals									
ALUMINUM	MG_KG	NE	NE	5140	3290	5440	5870		5570
ANTIMONY	MG_KG	NE	NE	0.02 J	0.02 J	0.02 J	0.04 J		0.03 J
ARSENIC	MG_KG	6.77	30	0.74	0.59		1		0.99
BARIUM	MG_KG	NE	NE	11.8	10.6	13.4	20.6		20.4
BERYLLIUM	MG_KG	NE	NE	0.31	0.26	0.33	0.36		0.34
CADMIUM	MG_KG	NE	NE	0.04 J	0.03 J	0.04 J	0.09		0.06 J
CALCIUM	MG_KG	NE	NE	1850	1500	1720	2760		1540
CHROMIUM, TOTAL	MG_KG	NE	NE	12.2 J	5.2 J	14.7 J	7.4 J		9.1 J
COBALT	MG_KG	NE	NE	3.8 J	2.1 J	3.6	2.7		3.1
COPPER	MG_KG	NE	NE	3.7 J	3.2 J	4.5 J	5.3 J		5.3 J
IRON	MG_KG	NE	NE	11600	7460	11000	9500		9650
LEAD	MG_KG	NE	NE	3.4	2.6	3.2	9.9		5.4
MAGNESIUM	MG_KG	NE	NE	2520 J	1200 J	2440	1500		1490
MANGANESE	MG_KG	NE	NE	234 J	129 J	187	163		159
MERCURY	MG_KG	NE	NE	< 0.017 UJ	0.03 J	< 0.017 UJ	0.009 J		0.01 J
NICKEL	MG_KG	NE	NE	6.5 J	3.7 J	8.8 J	4.4 J		5.1 J
POTASSIUM	MG_KG	NE	NE	304	313	386	493		413
SELENIUM	MG_KG	NE	NE	0.14 J	0.1 J	0.18 J	0.24 J		0.26 J
SILVER	MG_KG	NE	NE	0.02 J	0.02 J	0.02 J	0.06 J		0.02 J
SODIUM	MG_KG	NE	NE	90.4	82.7 J	76.7	74.9		83.5
THALLIUM	MG_KG	NE	NE	0.01 J	0.01 J	0.02 J	0.04 J		0.03 J
VANADIUM	MG_KG	NE	NE	16.2	10.6	15.8	14.6		13.6
ZINC	MG_KG	NE	NE	23.5	15.1	22.5	24.4		21.6
Pesticides/PCBs									
4,4-DDD	UG_KG	22600	95700	< 88 U	< 98 U	< 1.8 UJ	11 J		11
4,4-DDE	UG_KG	NE	NE	3 J	3.1 J	0.5 J	17 J		3.9
4,4-DDT	UG_KG	2800	2800	6.8	7	1.3 J	17 J		3.3 J
ALDRIN	UG_KG	NE	NE	< 0.92 U	< 0.93 U	< 0.91 U	< 0.9 U		< 0.98 U
ALPHA-CHLORDANE	UG_KG	NE	NE	< 0.92 U	< 0.93 U	< 0.91 U	2.7		2.6
AROCLOR-1016	UG_KG	4110	19200	< 9.2 U	< 9.3 U	< 9.1 U	< 9 U		< 9.8 U
AROCLOR-1260	UG_KG	2490	10300	< 9.2 U	< 9.3 U	< 9.1 U	< 9 U		< 9.8 U
BETA-BHC	UG_KG	NE	NE	< 0.92 U	< 0.93 U	< 0.91 U	< 0.9 U		< 0.98 U
DDT, TOTAL	UG_KG	NE	NE						
DELTA-BHC	UG_KG	NE	NE	< 0.92 U	< 0.93 U	< 0.91 U	< 0.9 U		< 0.98 U
DIELDRIN	UG_KG	NE	NE	< 1.8 U	< 1.8 U	< 1.8 U	17 J		< 1.9 U
ENDOSULFAN I	UG_KG	NE	NE	< 0.92 U	< 0.93 U	< 0.91 U	< 0.9 UJ		< 0.98 U
ENDOSULFAN II	UG_KG	NE	NE	< 1.8 U	< 1.8 U	< 1.8 U	0.97 J		< 1.9 U
ENDOSULFAN SULFATE	UG_KG	NE	NE	< 1.8 UJ	< 1.8 UJ	< 1.8 U	< 1.7 UJ		< 1.9 U

Table A1
 Summary of Soil Analytical Results
 Data Retrieved from NIRIS
 South Weymouth

			Location ID	STP-SB-15B	STP-SB-15B	STP-SB-16	STP-SB-17	STP-SB-17	STP-SB-18
			Sample Date	5/26/2011	5/26/2011	5/16/2011	5/24/2011	5/24/2011	5/19/2011
			Sample ID	STP-SB-15-1416-D	STP-SB-15-1416	STP-SB-16-11.514.0	STP-SB-17-0204	STP-SB-17-1214	STP-SB-18-0507
			Depth Interval	14 - 16 ft	14 - 16 ft	11.5 - 14 ft	2 - 4 ft	12 - 14 ft	5 - 7 ft
			Sample Type	FD	N	N	N	N	N
Chemical Name	Unit	RPG Residential	RPG Non-Residential						
ENDRIN	UG_KG	NE	NE	< 1.8 U	< 1.8 U	< 1.8 U	< 1.7 U		< 1.9 U
ENDRIN ALDEHYDE	UG_KG	NE	NE	< 1.8 U	< 1.8 U	< 1.8 U	< 1.7 U		< 1.9 U
ENDRIN KETONE	UG_KG	NE	NE	< 1.8 U	< 1.8 U	< 1.8 U	< 1.7 U		< 1.9 U
HEPTACHLOR	UG_KG	NE	NE	< 0.92 U	< 0.93 U	< 0.91 U	< 0.9 U		< 0.98 U
HEPTACHLOR EPOXIDE	UG_KG	NE	NE	< 0.92 U	< 0.93 U	< 0.91 U	1 J		< 0.98 U
LINDANE	UG_KG	NE	NE	< 0.92 U	< 0.93 U	< 0.91 U	< 0.9 U		< 0.98 U
METHOXYCHLOR	UG_KG	NE	NE	< 9.2 U	< 9.3 U	< 9.1 U	< 9 UJ		< 9.8 U
POLYCHLORINATED BIPHENYLS (PCBS)	UG_KG	NE	NE	< 65 U	< 65 U	< 64 U	< 63 U		< 68 U
TRANS-CHLORDANE	UG_KG	NE	NE	< 0.92 U	< 0.93 U	< 0.91 U	2.6 J		2.7
SVOCs									
2-METHYLNAPHTHALENE	UG_KG	NE	NE	< 10 U	2.6 J	< 11 UJ	< 9.9 U	< 10 U	2.8 J
ACENAPHTHENE	UG_KG	NE	NE	< 10 U	< 10 U	< 11 UJ	33	< 10 U	22 J
ACENAPHTHYLENE	UG_KG	NE	NE	< 10 U	< 10 U	< 11 UJ	< 9.9 U	< 10 U	< 11 U
ANTHRACENE	UG_KG	NE	NE	< 10 U	< 10 U	1.4 J	87	< 10 U	48
BENZO[A]ANTHRACENE	UG_KG	1570	7340	2.6 J	3.1 J	5.4 J	280	< 10 U	180
BENZO[A]PYRENE	UG_KG	1828.8	1828.8	< 10 U	< 10 U	< 11 U	240 J	< 10 U	180
BENZO[B]FLUORANTHENE	UG_KG	1570	7340	3.5 J	4.1 J	4.9 J	380	< 10 U	220
BENZO[G,H,I]PERYLENE	UG_KG	NE	NE	< 10 U	< 10 U	< 11 U	94 J	< 10 U	83 J
BENZO[K]FLUORANTHENE	UG_KG	15700	73400	< 10 U	< 10 U	< 11 U	110 J	< 10 U	84
BENZOIC ACID	UG_KG	NE	NE						
BIS(2-ETHYLHEXYL)PHTHALATE	UG_KG	NE	NE						
CARBAZOLE	UG_KG	NE	NE						
CHRYSENE	UG_KG	NE	NE	< 10 U	< 10 U	5.1 J	260	< 10 U	150
DIBENZ[A,H]ANTHRACENE	UG_KG	157	734	< 10 U	< 10 U	< 11 U	31	< 10 U	33
DIBENZOFURAN	UG_KG	NE	NE						
DI-N-BUTYLPHTHALATE	UG_KG	NE	NE						
DI-N-OCTYLPHTHALATE	UG_KG	NE	NE						
FLUORANTHENE	UG_KG	NE	NE	5.7 J	6.1 J	11 J	650	< 10 U	330 J
FLUORENE	UG_KG	NE	NE	< 10 U	< 10 U	< 11 UJ	38	< 10 U	23 J
HPAH, TOTAL	UG_KG	NE	NE						
INDENO[1,2,3-CD]PYRENE	UG_KG	NE	NE	< 10 UJ	< 10 UJ	< 11 UJ	170 J	< 10 UJ	160 J
LPAH, TOTAL	UG_KG	NE	NE						
NAPHTHALENE	UG_KG	NE	NE	< 10 U	< 10 U	< 11 UJ	7.6 J	< 10 U	< 11 U
PAH, TOTAL	UG_KG	NE	NE						
PHENANTHRENE	UG_KG	NE	NE	2.8 J	3.2 J	7.4 J	410	< 10 U	210
PYRENE	UG_KG	NE	NE	3.9 J	4.3 J	8.5 J	520	< 10 U	460
VOCs									
1,2-DICHLOROBENZENE	UG_KG	NE	NE	< 2.3 U	< 2.2 U	< 2.5 U	< 2.5 UJ	< 2.5 U	< 2.5 U
1,3-DICHLOROBENZENE	UG_KG	NE	NE	< 2.3 U	< 2.2 U	< 2.5 U	< 2.5 UJ	< 2.5 U	< 2.5 U
1,4-DICHLOROBENZENE	UG_KG	NE	NE	< 2.3 U	< 2.2 U	< 2.5 U	< 2.5 UJ	< 2.5 U	0.68 J

Table A1
 Summary of Soil Analytical Results
 Data Retrieved from NIRIS
 South Weymouth

			Location ID	STP-SB-15B	STP-SB-15B	STP-SB-16	STP-SB-17	STP-SB-17	STP-SB-18
			Sample Date	5/26/2011	5/26/2011	5/16/2011	5/24/2011	5/24/2011	5/19/2011
			Sample ID	STP-SB-15-1416-D	STP-SB-15-1416	STP-SB-16-11.514.0	STP-SB-17-0204	STP-SB-17-1214	STP-SB-18-0507
			Depth Interval	14 - 16 ft	14 - 16 ft	11.5 - 14 ft	2 - 4 ft	12 - 14 ft	5 - 7 ft
			Sample Type	FD	N	N	N	N	N
Chemical Name	Unit	RPG Residential	RPG Non-Residential						
2-BUTANONE	UG_KG	NE	NE	< 12 U	< 11 U	< 12 U	18 J	< 12 U	< 12 U
2-HEXANONE	UG_KG	NE	NE	< 12 U	< 11 U	< 12 U	10 J	< 12 U	< 12 U
4-METHYL-2-PENTANONE	UG_KG	NE	NE	< 12 U	< 11 U	< 12 U	< 12 U	< 12 U	< 12 U
ACETONE	UG_KG	NE	NE	< 12 U	< 12 UJ	< 22 UJ	< 63 U	< 24 UJ	< 38 U
CARBON DISULFIDE	UG_KG	NE	NE	1 J	0.85 J	< 2.5 U	3.7 J	< 2.5 U	3.6 J
CARBON TETRACHLORIDE	UG_KG	NE	NE	< 2.3 U	< 2.2 U	< 2.5 U	< 2.5 U	< 2.5 U	< 2.5 U
CHLOROBENZENE	UG_KG	NE	NE	< 2.3 U	< 2.2 U	< 2.5 U	< 2.5 UJ	< 2.5 U	< 2.5 U
CHLOROFORM	UG_KG	NE	NE	< 2.3 U	< 2.2 U	< 2.5 U	< 2.5 U	< 2.5 U	< 2.5 U
CYCLOHEXANE	UG_KG	NE	NE	< 2.3 U	< 2.2 U	< 2.5 U	< 2.5 U	< 2.5 U	< 2.5 U
DICHLORODIFLUOROMETHANE	UG_KG	NE	NE	< 4.6 U	< 4.4 U	< 5 U	< 5 U	< 5 U	< 5 U
ETHYLBENZENE	UG_KG	NE	NE	< 2.3 U	< 2.2 U	< 2.5 U	< 2.5 UJ	< 2.5 U	< 2.5 U
METHYL ACETATE	UG_KG	NE	NE	< 2.8 U	< 2.7 U	< 3 U	11	< 3 U	< 3 U
METHYL CYCLOHEXANE	UG_KG	NE	NE	< 2.3 U	< 2.2 U	< 2.5 U	< 2.5 U	< 2.5 U	< 2.5 U
METHYL TERT-BUTYL ETHER	UG_KG	NE	NE	< 2.3 U	< 2.2 U	< 2.5 U	< 2.5 U	< 2.5 U	< 2.5 U
TETRACHLOROETHENE	UG_KG	NE	NE	< 2.3 U	< 2.2 U	< 2.5 U	< 2.5 U	< 2.5 U	< 2.5 U
TOLUENE	UG_KG	NE	NE	< 2.3 U	< 2.2 U	< 2.5 U	< 2.5 U	< 2.5 U	< 2.5 U
XYLENES, TOTAL	UG_KG	NE	NE	< 6.9 U	< 6.7 U	< 7.5 U	< 7.4 UJ	< 7.5 U	< 7.5 U

Notes:

- 1) U or < = Non-detect at laboratory
- 2) J = Estimated Value
- 3) B = The analyte was found in the associated blank at a significant level relative to the sample result.
- 4) E = The reported value exceeded the
- 5) F = The analyte was positively identified
- 6) T = Tentatively identified compound (using
- 7) R = Rejected data
- 8) Sample Type N = normal sample, FD =
- 9) MG_KG = milligrams per kilogram; UG_KG = micrograms per kilograms; PCT = percent; SU = standard pH units
- 10) NE = not established
- 11) RPG Residential exceedances are bolded and highlighted; RPG Non-Residential exceedances are underlined and highlighted.
- 12) Only those compounds with at least one

Table A1
 Summary of Soil Analytical Results
 Data Retrieved from NIRIS
 South Weymouth

			Location ID	STP-SB-18	STP-SB-19	STP-SB-20A	STP-SB-20B	STP-SB-21	STP-SB-21	STP-SB-21
			Sample Date	5/19/2011	5/17/2011	5/18/2011	5/23/2011	5/16/2011	5/16/2011	5/16/2011
			Sample ID	STP-SB-18-1517	STP-SB-19-1214	STP-SB-20-0911	STP-SB-20-1315	STP-SB-21-01.503.5	STP-SB-21-0406	STP-SB-21-1214
			Depth Interval	15 - 17 ft	12 - 14 ft	9 - 11 ft	13 - 15 ft	1.5 - 3.5 ft	4 - 6 ft	12 - 14 ft
			Sample Type	N	N	N	N	N	N	N
Chemical Name	Unit	RPG Residential	RPG Non-Residential							
Metals										
ALUMINUM	MG_KG	NE	NE		5300	7480		6400	8310	5220
ANTIMONY	MG_KG	NE	NE		0.02 J	0.09 J		< 0.032 UJ	< 0.037 UJ	< 0.03 UJ
ARSENIC	MG_KG	6.77	30		1	3.8		3.8 J	2.1 J	0.86 J
BARIUM	MG_KG	NE	NE		18.3	42.1		17.2	20.2	13.3
BERYLLIUM	MG_KG	NE	NE		0.42	0.43		0.32	0.34	0.3
CADMIUM	MG_KG	NE	NE		0.05 J	0.12		0.05 J	0.06 J	0.04 J
CALCIUM	MG_KG	NE	NE		1740	18100		1180	1280	1480
CHROMIUM, TOTAL	MG_KG	NE	NE		8.8 J	10.8 J		8.4 J	9 J	8.9 J
COBALT	MG_KG	NE	NE		3.3	5.4		2.7	3	3.4
COPPER	MG_KG	NE	NE		5.6 J	9.7 J		5 J	5.4 J	4.9 J
IRON	MG_KG	NE	NE		11000	16200		9020	10200	10800
LEAD	MG_KG	NE	NE		4.1	11.1		6.2	7.9	3
MAGNESIUM	MG_KG	NE	NE		1790	3160		1560	1610	1950
MANGANESE	MG_KG	NE	NE		261	378		139 J	130 J	210 J
MERCURY	MG_KG	NE	NE		< 0.017 UJ	0.04 J		0.03 J	0.03 J	< 0.017 UJ
NICKEL	MG_KG	NE	NE		5.3 J	9.1 J		6.5 J	5.4 J	5.4 J
POTASSIUM	MG_KG	NE	NE		561	1320		319	353	364
SELENIUM	MG_KG	NE	NE		0.23 J	0.28 J		0.28 J	0.4	0.21 J
SILVER	MG_KG	NE	NE		0.02 J	0.04 J		0.11	0.04 J	< 0.023 UJ
SODIUM	MG_KG	NE	NE		98.8	98.8 J		< 60.3 UJ	< 66.3 UJ	< 81.7 U
THALLIUM	MG_KG	NE	NE		0.03 J	0.06 J		0.03 J	0.04 J	< 0.023 UJ
VANADIUM	MG_KG	NE	NE		13.5	21		13.1	16.4	13.5
ZINC	MG_KG	NE	NE		27.4	39.8		21.3 J	24.8 J	24.2 J
Pesticides/PCBs										
4,4-DDD	UG_KG	22600	95700		16	43		33 J	16	1.6 J
4,4-DDE	UG_KG	NE	NE		0.58 J	19		11 J	4.5	< 1.8 U
4,4-DDT	UG_KG	2800	2800		3.8	17		35 J	12	1.2 J
ALDRIN	UG_KG	NE	NE		< 0.91 U	< 1 U		< 0.92 U	< 0.94 U	< 0.92 U
ALPHA-CHLORDANE	UG_KG	NE	NE		< 0.91 U	12 J		1.6 J	0.55 J	< 0.92 U
AROCLOR-1016	UG_KG	4110	19200		< 9.1 U	9400 J		< 9.2 U	< 9.4 U	< 9.1 U
AROCLOR-1260	UG_KG	2490	10300		< 9.1 U	< 100 U		< 9.2 U	< 9.4 U	< 9.1 U
BETA-BHC	UG_KG	NE	NE		< 0.91 U	< 1 U		< 0.92 U	< 0.94 U	< 0.92 U
DDT, TOTAL	UG_KG	NE	NE							
DELTA-BHC	UG_KG	NE	NE		< 0.91 U	< 1 U		< 0.92 U	< 0.94 U	< 0.92 U
DIELDRIN	UG_KG	NE	NE		< 1.8 U	14 J		11	3 J	< 1.8 U
ENDOSULFAN I	UG_KG	NE	NE		< 0.91 U	< 1 U		< 0.92 U	< 0.94 U	< 0.92 U
ENDOSULFAN II	UG_KG	NE	NE		< 1.8 U	< 2 U		< 1.8 U	< 1.8 U	< 1.8 U
ENDOSULFAN SULFATE	UG_KG	NE	NE		< 1.8 U	< 2 U		< 1.8 U	< 1.8 U	< 1.8 U

Table A1
 Summary of Soil Analytical Results
 Data Retrieved from NIRIS
 South Weymouth

			Location ID	STP-SB-18	STP-SB-19	STP-SB-20A	STP-SB-20B	STP-SB-21	STP-SB-21	STP-SB-21
			Sample Date	5/19/2011	5/17/2011	5/18/2011	5/23/2011	5/16/2011	5/16/2011	5/16/2011
			Sample ID	STP-SB-18-1517	STP-SB-19-1214	STP-SB-20-0911	STP-SB-20-1315	STP-SB-21-01.503.5	STP-SB-21-0406	STP-SB-21-1214
			Depth Interval	15 - 17 ft	12 - 14 ft	9 - 11 ft	13 - 15 ft	1.5 - 3.5 ft	4 - 6 ft	12 - 14 ft
			Sample Type	N	N	N	N	N	N	N
Chemical Name	Unit	RPG Residential	RPG Non-Residential							
ENDRIN	UG_KG	NE	NE		< 1.8 U	< 2 U		< 1.8 U	< 1.8 U	< 1.8 U
ENDRIN ALDEHYDE	UG_KG	NE	NE		< 1.8 U	< 2 U		< 1.8 U	< 1.8 U	< 1.8 U
ENDRIN KETONE	UG_KG	NE	NE		< 1.8 U	< 2 U		< 1.8 U	< 1.8 U	< 1.8 U
HEPTACHLOR	UG_KG	NE	NE		< 0.91 U	< 1 U		< 0.92 U	< 0.94 U	< 0.92 U
HEPTACHLOR EPOXIDE	UG_KG	NE	NE		< 0.91 U	< 1 U		< 0.92 U	< 0.94 U	< 0.92 U
LINDANE	UG_KG	NE	NE		< 0.91 U	< 1 U		< 0.92 U	< 0.94 U	< 0.92 U
METHOXYCHLOR	UG_KG	NE	NE		< 9.1 U	< 10 U		< 9.2 U	< 9.4 U	< 9.2 U
POLYCHLORINATED BIPHENYLS (PCBS)	UG_KG	NE	NE		< 64 U	9400		< 64 U	< 66 U	< 64 U
TRANS-CHLORDANE	UG_KG	NE	NE		0.52 J	< 1 U		1.9	< 0.94 U	< 0.92 U
SVOCs										
2-METHYLNAPHTHALENE	UG_KG	NE	NE		< 11 U	< 11 UJ	120	< 10 U	< 11 UJ	< 11 UJ
ACENAPHTHENE	UG_KG	NE	NE		< 11 U	< 11 UJ	920 J	< 10 U	3.4 J	< 11 UJ
ACENAPHTHYLENE	UG_KG	NE	NE		< 11 U	< 11 UJ	< 12 U	< 10 U	< 11 UJ	< 11 UJ
ANTHRACENE	UG_KG	NE	NE		< 11 U	< 11 U	5000	< 10 U	13 J	< 11 U
BENZO[A]ANTHRACENE	UG_KG	1570	7340		4.4 J	< 11 U	7100	< 10 U	73	< 11 U
BENZO[A]PYRENE	UG_KG	1828.8	1828.8		< 11 U	< 11 U	7100	< 10 U	64	< 11 U
BENZO[B]FLUORANTHENE	UG_KG	1570	7340		7.7 J	< 11 U	7500	< 10 U	75	< 11 U
BENZO[G,H,I]PERYLENE	UG_KG	NE	NE		2.8 J	< 11 U	3500 J	< 10 U	40	< 11 U
BENZO[K]FLUORANTHENE	UG_KG	15700	73400		< 11 U	< 11 U	3300	< 10 U	28	< 11 U
BENZOIC ACID	UG_KG	NE	NE							
BIS(2-ETHYLHEXYL)PHTHALATE	UG_KG	NE	NE							
CARBAZOLE	UG_KG	NE	NE							
CHRYSENE	UG_KG	NE	NE		2.2 J	< 11 U	5900	< 10 U	63	39
DIBENZ[A,H]ANTHRACENE	UG_KG	157	734		< 11 U	< 11 U	1100 J	< 10 U	13 J	9 J
DIBENZOFURAN	UG_KG	NE	NE							
DI-N-BUTYLPHTHALATE	UG_KG	NE	NE							
DI-N-OCTYLPHTHALATE	UG_KG	NE	NE							
FLUORANTHENE	UG_KG	NE	NE		4.9 J	< 11 U	14000	< 10 U	130 J	100
FLUORENE	UG_KG	NE	NE		< 11 U	< 11 UJ	1300 J	< 10 U	3.8 J	< 11 UJ
HPAH, TOTAL	UG_KG	NE	NE							
INDENO[1,2,3-CD]PYRENE	UG_KG	NE	NE		5 J	< 11 UJ	< 12 UJ	< 10 U	78 J	52
LPAH, TOTAL	UG_KG	NE	NE							
NAPHTHALENE	UG_KG	NE	NE		< 11 U	< 11 UJ	260	< 10 U	< 11 UJ	< 11 UJ
PAH, TOTAL	UG_KG	NE	NE							
PHENANTHRENE	UG_KG	NE	NE		3.5 J	< 11 U	12000	< 10 U	45 J	33
PYRENE	UG_KG	NE	NE		4.5 J	< 11 U	18000	< 10 U	120 J	90
VOCs										
1,2-DICHLOROENZENE	UG_KG	NE	NE		< 2.4 U	< 2.5 U		< 2.4 U	< 2.5 U	< 2.4 U
1,3-DICHLOROENZENE	UG_KG	NE	NE		< 2.4 U	< 2.5 U		< 2.4 U	< 2.5 U	< 2.4 U
1,4-DICHLOROENZENE	UG_KG	NE	NE		< 2.4 U	< 2.5 U		< 2.4 U	< 2.5 U	< 2.4 U

Table A1
 Summary of Soil Analytical Results
 Data Retrieved from NIRIS
 South Weymouth

			Location ID	STP-SB-18	STP-SB-19	STP-SB-20A	STP-SB-20B	STP-SB-21	STP-SB-21	STP-SB-21
			Sample Date	5/19/2011	5/17/2011	5/18/2011	5/23/2011	5/16/2011	5/16/2011	5/16/2011
			Sample ID	STP-SB-18-1517	STP-SB-19-1214	STP-SB-20-0911	STP-SB-20-1315	STP-SB-21-01.503.5	STP-SB-21-0406	STP-SB-21-1214
			Depth Interval	15 - 17 ft	12 - 14 ft	9 - 11 ft	13 - 15 ft	1.5 - 3.5 ft	4 - 6 ft	12 - 14 ft
			Sample Type	N	N	N	N	N	N	N
Chemical Name	Unit	RPG Residential	RPG Non-Residential							
2-BUTANONE	UG_KG	NE	NE	< 12 U	< 12 U		< 12 U	< 12 U	< 12 U	< 12 U
2-HEXANONE	UG_KG	NE	NE	< 12 U	< 12 U		< 12 U	< 12 U	< 12 U	< 12 U
4-METHYL-2-PENTANONE	UG_KG	NE	NE	< 12 U	< 12 U		< 12 U	< 12 U	< 12 U	< 12 U
ACETONE	UG_KG	NE	NE	< 13 UJ	< 63 U		< 17 UJ	< 36 U	< 26 U	< 14 UJ
CARBON DISULFIDE	UG_KG	NE	NE	0.91 J	< 2.5 U		< 2.4 U	< 2.5 U	< 2.4 UJ	< 2.4 U
CARBON TETRACHLORIDE	UG_KG	NE	NE	< 2.4 U	< 2.5 U		< 2.4 U	< 2.5 U	< 2.4 U	< 2.4 U
CHLOROBENZENE	UG_KG	NE	NE	< 2.4 U	< 2.5 U		< 2.4 U	< 2.5 U	< 2.4 U	< 2.4 U
CHLOROFORM	UG_KG	NE	NE	< 2.4 U	< 2.5 U		< 2.4 U	< 2.5 U	< 2.4 U	< 2.4 U
CYCLOHEXANE	UG_KG	NE	NE	< 2.4 U	< 2.5 U		< 2.4 U	< 2.5 U	< 2.4 U	< 2.4 U
DICHLORODIFLUOROMETHANE	UG_KG	NE	NE	< 4.8 U	< 5 U		< 4.9 U	< 5 U	< 4.7 U	< 4.7 U
ETHYLBENZENE	UG_KG	NE	NE	< 2.4 U	< 2.5 U		< 2.4 U	< 2.5 U	< 2.4 U	< 2.4 U
METHYL ACETATE	UG_KG	NE	NE	< 2.9 U	< 3 U		< 2.9 U	< 3 U	< 2.8 U	< 2.8 U
METHYL CYCLOHEXANE	UG_KG	NE	NE	< 2.4 U	< 2.5 U		< 2.4 U	< 2.5 U	< 2.4 U	< 2.4 U
METHYL TERT-BUTYL ETHER	UG_KG	NE	NE	< 2.4 U	< 2.5 U		< 2.4 U	< 2.5 U	< 2.4 U	< 2.4 U
TETRACHLOROETHENE	UG_KG	NE	NE	< 2.4 U	< 2.5 U		< 2.4 U	< 2.5 U	< 2.4 U	< 2.4 U
TOLUENE	UG_KG	NE	NE	< 2.4 U	< 2.5 U		< 2.4 U	< 2.5 U	< 2.4 U	< 2.4 U
XYLENES, TOTAL	UG_KG	NE	NE	< 7.2 U	< 7.5 U		< 7.4 U	< 7.4 U	< 7 U	< 7 U

Notes:

- 1) U or < = Non-detect at laboratory
- 2) J = Estimated Value
- 3) B = The analyte was found in the associated blank at a significant level relative to the sample result.
- 4) E = The reported value exceeded the
- 5) F = The analyte was positively identified
- 6) T = Tentatively identified compound (using
- 7) R = Rejected data
- 8) Sample Type N = normal sample, FD =
- 9) MG_KG = milligrams per kilogram; UG_KG = micrograms per kilograms; PCT = percent; SU = standard pH units
- 10) NE = not established
- 11) RPG Residential exceedances are bolded and highlighted; RPG Non-Residential exceedances are underlined and highlighted.
- 12) Only those compounds with at least one

Table A1

Summary of Soil Analytical Results
Data Retrieved from NIRIS
South Weymouth

			Location ID	STP-SB-22A	STP-SB-22A	STP-SB-22B	STP-SB-23	STP-SB-24
			Sample Date	5/11/2011	5/11/2011	5/25/2011	5/6/2011	5/25/2011
			Sample ID	STP-SB-22-0204-D	STP-SB-22-0204	STP-SB-22-1214	STP-SB-23-1214	STP-SB-24-1214
			Depth Interval	2 - 4 ft	2 - 4 ft	12 - 14 ft	12 - 14 ft	12 - 14 ft
			Sample Type	FD	N	N	N	N
Chemical Name	Unit	RPG Residential	RPG Non-Residential					
Metals								
ALUMINIUM	MG_KG	NE	NE	7970	9020	6090	5020	4780
ANTIMONY	MG_KG	NE	NE	0.04 J	< 0.04 UJ	0.03 J	< 0.04 UJ	0.03 J
ARSENIC	MG_KG	6.77	30	2 J	1.9 J	1.3	0.85 J	0.93
BARIUM	MG_KG	NE	NE	19.4	16.4	22.5	14.4	14.8
BERYLLIUM	MG_KG	NE	NE	0.41	0.33	0.39	0.36	0.35
CADMIUM	MG_KG	NE	NE	0.08	0.06 J	0.05 J	0.04 J	0.04 J
CALCIUM	MG_KG	NE	NE	1720	1180	1920	1890	1560
CHROMIUM, TOTAL	MG_KG	NE	NE	10 J	9.6 J	9.9 J	5.9 J	7.6 J
COBALT	MG_KG	NE	NE	5	5.8	3.7	3.3	2.7
COPPER	MG_KG	NE	NE	11.1 J	11.2 J	6.1 J	4.4 J	4.6 J
IRON	MG_KG	NE	NE	13100	16000	11000	10700	9710
LEAD	MG_KG	NE	NE	8.1	9.7	4.2	3.3	3.3
MAGNESIUM	MG_KG	NE	NE	2990	3980	1970	2240	1500
MANGANESE	MG_KG	NE	NE	220 J	265 J	249	215 J	190
MERCURY	MG_KG	NE	NE	< 0.019 UJ	0.006 J	< 0.018 UJ	< 0.018 UJ	< 0.017 UJ
NICKEL	MG_KG	NE	NE	9 J	10.8 J	6.4 J	6.1 J	4.5 J
POTASSIUM	MG_KG	NE	NE	409	338	663	428	413
SELENIUM	MG_KG	NE	NE	0.3 J	0.22 J	0.16 J	0.21 J	0.17 J
SILVER	MG_KG	NE	NE	0.03 J	< 0.032 UJ	0.01 J	< 0.032 UJ	0.01 J
SODIUM	MG_KG	NE	NE	< 63.8 U	< 53.4 UJ	102	< 93.9 U	78.9
THALLIUM	MG_KG	NE	NE	0.02 J	< 0.032 UJ	0.04 J	< 0.032 UJ	0.02 J
VANADIUM	MG_KG	NE	NE	15.8	14.9	15.5	14.1	12.7
ZINC	MG_KG	NE	NE	32.1 J	38.7 J	24.6	24.8 J	22.3
Pesticides/PCBs								
4,4-DDD	UG_KG	22600	95700	4.8	5.1	< 1.8 UJ	0.91 J	< 1.8 UJ
4,4-DDE	UG_KG	NE	NE	3.8	4.1	< 1.8 U	0.48 J	0.52 J
4,4-DDT	UG_KG	2800	2800	3.2 J	6.7 J	< 1.8 U	1.1 J	1.2 J
ALDRIN	UG_KG	NE	NE	0.48 J	0.49 J	< 0.92 U	< 0.88 U	< 0.95 U
ALPHA-CHLORDANE	UG_KG	NE	NE	1.9	2	< 0.92 U	< 0.88 U	< 0.95 U
AROCLOR-1016	UG_KG	4110	19200	< 8.7 U	< 8.4 U	< 9.2 U	< 8.8 U	< 9.5 U
AROCLOR-1260	UG_KG	2490	10300	< 8.7 U	< 8.4 U	< 9.2 U	< 8.8 U	< 9.5 U
BETA-BHC	UG_KG	NE	NE	< 0.87 U	< 0.84 U	< 0.92 U	< 0.88 U	< 0.95 U
DDT, TOTAL	UG_KG	NE	NE					
DELTA-BHC	UG_KG	NE	NE	< 0.87 U	< 0.84 UJ	< 0.92 U	< 0.88 UJ	< 0.95 U
DIELDRIN	UG_KG	NE	NE	2.9 J	2.9 J	< 1.8 U	0.6 J	< 1.8 U
ENDOSULFAN I	UG_KG	NE	NE	< 0.87 U	< 0.84 U	< 0.92 U	< 0.88 U	< 0.95 U
ENDOSULFAN II	UG_KG	NE	NE	< 1.7 U	< 1.6 U	< 1.8 U	< 1.7 U	< 1.8 U
ENDOSULFAN SULFATE	UG_KG	NE	NE	< 1.7 U	< 1.6 U	< 1.8 UJ	< 1.7 U	< 1.8 UJ

Table A1
 Summary of Soil Analytical Results
 Data Retrieved from NIRIS
 South Weymouth

			Location ID	STP-SB-22A	STP-SB-22A	STP-SB-22B	STP-SB-23	STP-SB-24
			Sample Date	5/11/2011	5/11/2011	5/25/2011	5/6/2011	5/25/2011
			Sample ID	STP-SB-22-0204-D	STP-SB-22-0204	STP-SB-22-1214	STP-SB-23-1214	STP-SB-24-1214
			Depth Interval	2 - 4 ft	2 - 4 ft	12 - 14 ft	12 - 14 ft	12 - 14 ft
			Sample Type	FD	N	N	N	N
Chemical Name	Unit	RPG Residential	RPG Non-Residential					
ENDRIN	UG_KG	NE	NE	< 1.7 U	< 1.6 U	< 1.8 U	< 1.7 U	< 1.8 U
ENDRIN ALDEHYDE	UG_KG	NE	NE	< 1.7 U	< 1.6 U	< 1.8 U	< 1.7 U	< 1.8 U
ENDRIN KETONE	UG_KG	NE	NE	< 1.7 U	< 1.6 U	< 1.8 U	< 1.7 U	< 1.8 U
HEPTACHLOR	UG_KG	NE	NE	< 0.87 U	< 0.84 U	< 0.92 U	< 0.88 U	< 0.95 U
HEPTACHLOR EPOXIDE	UG_KG	NE	NE	< 0.87 UJ	< 0.84 UJ	< 0.92 U	< 0.88 UJ	< 0.95 U
LINDANE	UG_KG	NE	NE	< 0.87 U	< 0.84 U	< 0.92 U	< 0.88 U	< 0.95 U
METHOXYCHLOR	UG_KG	NE	NE	< 8.7 U	< 8.4 U	< 9.2 U	< 8.8 U	< 9.5 U
POLYCHLORINATED BIPHENYLS (PCBS)	UG_KG	NE	NE	< 61 U	< 58 U	< 65 U	< 62 U	< 66 U
TRANS-CHLORDANE	UG_KG	NE	NE	1.7 J	1.8	< 0.92 U	< 0.88 U	< 0.95 U
SVOCs								
2-METHYLNAPHTHALENE	UG_KG	NE	NE	< 12 U	4.9 J	< 10 U	< 11 U	< 11 U
ACENAPHTHENE	UG_KG	NE	NE	< 12 U	31	< 10 U	< 11 U	< 11 U
ACENAPHTHYLENE	UG_KG	NE	NE	< 12 U	< 12 U	< 10 U	< 11 U	< 11 U
ANTHRACENE	UG_KG	NE	NE	1.5 J	44	< 10 U	< 11 U	< 11 U
BENZO[A]ANTHRACENE	UG_KG	1570	7340	7.4 J	150 J	< 10 U	< 11 U	< 11 U
BENZO[A]PYRENE	UG_KG	1828.8	1828.8	7.2 J	120 J	< 10 U	< 11 U	< 11 U
BENZO[B]FLUORANTHENE	UG_KG	1570	7340	11 J	180 J	< 10 U	< 11 U	< 11 U
BENZO[G,H,I]PERYLENE	UG_KG	NE	NE	3.8 J	45	< 10 U	< 11 U	< 11 U
BENZO[K]FLUORANTHENE	UG_KG	15700	73400	3.9 J	69 J	< 10 U	< 11 U	< 11 U
BENZOIC ACID	UG_KG	NE	NE					
BIS(2-ETHYLHEXYL)PHTHALATE	UG_KG	NE	NE					
CARBAZOLE	UG_KG	NE	NE					
CHRYSENE	UG_KG	NE	NE	7.3 J	150 J	< 10 U	< 11 U	< 11 U
DIBENZ[A,H]ANTHRACENE	UG_KG	157	734	< 12 U	18 J	< 10 U	< 11 U	< 11 U
DIBENZOFURAN	UG_KG	NE	NE					
DI-N-BUTYLPHTHALATE	UG_KG	NE	NE					
DI-N-OCTYLPHTHALATE	UG_KG	NE	NE					
FLUORANTHENE	UG_KG	NE	NE	15 J	440 J	< 10 U	< 11 U	< 11 U
FLUORENE	UG_KG	NE	NE	< 12 U	24 J	< 10 U	< 11 U	< 11 U
HPAH, TOTAL	UG_KG	NE	NE					
INDENO[1,2,3-CD]PYRENE	UG_KG	NE	NE	9.4 J	78 J	< 10 UJ	< 11 UJ	< 11 UJ
LPAH, TOTAL	UG_KG	NE	NE					
NAPHTHALENE	UG_KG	NE	NE	< 12 U	11 J	< 10 U	< 11 U	7.4 J
PAH, TOTAL	UG_KG	NE	NE					
PHENANTHRENE	UG_KG	NE	NE	6.9 J	370 J	< 10 U	< 11 U	< 11 U
PYRENE	UG_KG	NE	NE	12 J	310 J	< 10 U	< 11 U	< 11 U
VOCs								
1,2-DICHLOROBENZENE	UG_KG	NE	NE	< 2.5 U	< 2.3 U	< 2.3 U	< 2.1 U	< 2.5 U
1,3-DICHLOROBENZENE	UG_KG	NE	NE	< 2.5 U	< 2.3 U	< 2.3 U	< 2.1 U	< 2.5 U
1,4-DICHLOROBENZENE	UG_KG	NE	NE	< 2.5 U	< 2.3 U	< 2.3 U	< 2.1 U	< 2.5 U

Table A1

Summary of Soil Analytical Results
Data Retrieved from NIRIS
South Weymouth

				Location ID	STP-SB-22A	STP-SB-22A	STP-SB-22B	STP-SB-23	STP-SB-24
				Sample Date	5/11/2011	5/11/2011	5/25/2011	5/6/2011	5/25/2011
				Sample ID	STP-SB-22-0204-D	STP-SB-22-0204	STP-SB-22-1214	STP-SB-23-1214	STP-SB-24-1214
				Depth Interval	2 - 4 ft	2 - 4 ft	12 - 14 ft	12 - 14 ft	12 - 14 ft
				Sample Type	FD	N	N	N	N
Chemical Name	Unit	RPG Residential	RPG Non-Residential						
2-BUTANONE	UG_KG	NE	NE	< 12 U	< 12 U	< 11 U	< 11 U	< 12 U	
2-HEXANONE	UG_KG	NE	NE	< 12 U	< 12 U	< 11 U	< 11 U	< 12 U	
4-METHYL-2-PENTANONE	UG_KG	NE	NE	< 12 U	< 12 U	< 11 U	< 11 U	< 12 U	
ACETONE	UG_KG	NE	NE	< 13 UJ	< 18 UJ	< 11 UJ	< 13 UJ	< 12 UJ	
CARBON DISULFIDE	UG_KG	NE	NE	< 2.5 U	< 2.3 U	< 2.3 U	< 2.1 UJ	< 2.5 U	
CARBON TETRACHLORIDE	UG_KG	NE	NE	< 2.5 U	< 2.3 U	< 2.3 U	< 2.1 U	< 2.5 U	
CHLOROBENZENE	UG_KG	NE	NE	< 2.5 U	< 2.3 U	< 2.3 U	< 2.1 U	< 2.5 U	
CHLOROFORM	UG_KG	NE	NE	< 2.5 U	< 2.3 U	< 2.3 U	< 2.1 U	< 2.5 U	
CYCLOHEXANE	UG_KG	NE	NE	< 2.5 U	< 2.3 U	< 2.3 U	< 2.1 U	< 2.5 U	
DICHLORODIFLUOROMETHANE	UG_KG	NE	NE	< 5 U	< 4.6 U	< 4.6 U	< 4.2 U	< 5 U	
ETHYLBENZENE	UG_KG	NE	NE	< 2.5 U	< 2.3 U	< 2.3 U	< 2.1 U	< 2.5 U	
METHYL ACETATE	UG_KG	NE	NE	< 3 U	< 2.8 U	< 2.7 U	< 2.6 U	< 3 U	
METHYL CYCLOHEXANE	UG_KG	NE	NE	< 2.5 U	< 2.3 U	< 2.3 U	< 2.1 U	< 2.5 U	
METHYL TERT-BUTYL ETHER	UG_KG	NE	NE	< 2.5 U	< 2.3 U	< 2.3 U	< 2.1 U	< 2.5 U	
TETRACHLOROETHENE	UG_KG	NE	NE	< 2.5 U	< 2.3 U	< 2.3 U	< 2.1 U	< 2.5 U	
TOLUENE	UG_KG	NE	NE	< 2.5 U	< 2.3 U	< 2.3 U	< 2.1 U	< 2.5 U	
XYLENES, TOTAL	UG_KG	NE	NE	< 7.5 U	< 6.9 U	< 6.8 U	< 6.4 U	< 7.5 U	

Notes:

- 1) U or < = Non-detect at laboratory
- 2) J = Estimated Value
- 3) B = The analyte was found in the associated blank at a significant level relative to the sample result.
- 4) E = The reported value exceeded the
- 5) F = The analyte was positively identified
- 6) T = Tentatively identified compound (using
- 7) R = Rejected data
- 8) Sample Type N = normal sample, FD =
- 9) MG_KG = milligrams per kilogram; UG_KG = micrograms per kilograms; PCT = percent; SU = standard pH units
- 10) NE = not established
- 11) RPG Residential exceedances are bolded and highlighted; RPG Non-Residential exceedances are underlined and highlighted.
- 12) Only those compounds with at least one

Table A1
 Summary of Soil Analytical Results
 Data Retrieved from NIRIS
 South Weymouth

				Location ID	STP-SB-25	STP-SB-26	STP-SB-27	STP-SB-27	STP-SB-28	STP-SB-29	STP-SB-29
				Sample Date	5/20/2011	5/9/2011	5/24/2011	5/24/2011	5/26/2011	7/9/2013	7/9/2013
				Sample ID	STP-SB-25-0305	STP-SB-26-0204	STP-SB-27-0002	STP-SB-27-0608	STP-SB-28-1214	STP-SB-29-0406	STP-SB-29-1012
				Depth Interval	3 - 5 ft	2 - 4 ft	0-2 ft	6 - 8 ft	12 - 14 ft	4 - 6 ft	10 - 12 ft
				Sample Type	N	N	N	N	N	N	N
Chemical Name	Unit	RPG Residential	RPG Non-Residential								
Metals											
ALUMINUM	MG_KG	NE	NE	6200	5100			4970	5040		
ANTIMONY	MG_KG	NE	NE	0.06 J	< 0.036 UJ			0.02 J	0.02 J		
ARSENIC	MG_KG	6.77	30	0.8	0.88 J			0.83	1.1		
BARIUM	MG_KG	NE	NE	21.3	16.7			28.8	17.9		
BERYLLIUM	MG_KG	NE	NE	0.33	0.37			0.48	0.34		
CADMIUM	MG_KG	NE	NE	0.05 J	0.04 J			0.09	0.04 J		
CALCIUM	MG_KG	NE	NE	1570	1350			1520	1870		
CHROMIUM, TOTAL	MG_KG	NE	NE	9.3 J	6.3 J			7 J	7.8 J		
COBALT	MG_KG	NE	NE	3	2.6			3.3	3.1		
COPPER	MG_KG	NE	NE	6 J	4.3 J			5.2 J	5.2 J		
IRON	MG_KG	NE	NE	9500	9070			11500	10000		
LEAD	MG_KG	NE	NE	4.8	3.5			5.1	3.5		
MAGNESIUM	MG_KG	NE	NE	1600	1540			1640	1680		
MANGANESE	MG_KG	NE	NE	141	146 J			546	218		
MERCURY	MG_KG	NE	NE	0.01 J	< 0.017 UJ			< 0.018 UJ	< 0.016 UJ		
NICKEL	MG_KG	NE	NE	5.4 J	4.2 J			4.9 J	5 J		
POTASSIUM	MG_KG	NE	NE	416	348			392	532		
SELENIUM	MG_KG	NE	NE	0.26 J	0.25 J			0.36	0.21 J		
SILVER	MG_KG	NE	NE	0.02 J	< 0.029 UJ			0.02 J	0.02 J		
SODIUM	MG_KG	NE	NE	75.2 J	< 78.5 U			84.3	93.9		
THALLIUM	MG_KG	NE	NE	0.04 J	< 0.029 UJ			0.04 J	0.02 J		
VANADIUM	MG_KG	NE	NE	15.4	12.5			12.6	14.1		
ZINC	MG_KG	NE	NE	22.6	19.4 J			37.5	21.3		
Pesticides/PCBs											
4,4-DDD	UG_KG	22600	95700						< 1.8 UJ		
4,4-DDE	UG_KG	NE	NE						0.52 J		
4,4-DDT	UG_KG	2800	2800						1.2 J		
ALDRIN	UG_KG	NE	NE						< 0.93 U		
ALPHA-CHLORDANE	UG_KG	NE	NE						< 0.93 U		
AROCLOR-1016	UG_KG	4110	19200						< 9.3 U		< 9.6 U
AROCLOR-1260	UG_KG	2490	10300						< 9.3 U		33 J
BETA-BHC	UG_KG	NE	NE						< 0.93 U		
DDT, TOTAL	UG_KG	NE	NE						< 0.93 U		
DELTA-BHC	UG_KG	NE	NE						< 0.93 U		
DIELDRIN	UG_KG	NE	NE						< 1.8 U		
ENDOSULFAN I	UG_KG	NE	NE						< 0.93 U		
ENDOSULFAN II	UG_KG	NE	NE						< 1.8 U		
ENDOSULFAN SULFATE	UG_KG	NE	NE						< 1.8 UJ		

Table A1
 Summary of Soil Analytical Results
 Data Retrieved from NIRIS
 South Weymouth

			Location ID	STP-SB-25	STP-SB-26	STP-SB-27	STP-SB-27	STP-SB-28	STP-SB-29	STP-SB-29
			Sample Date	5/20/2011	5/9/2011	5/24/2011	5/24/2011	5/26/2011	7/9/2013	7/9/2013
			Sample ID	STP-SB-25-0305	STP-SB-26-0204	STP-SB-27-0002	STP-SB-27-0608	STP-SB-28-1214	STP-SB-29-0406	STP-SB-29-1012
			Depth Interval	3 - 5 ft	2 - 4 ft	0-2 ft	6 - 8 ft	12 - 14 ft	4 - 6 ft	10 - 12 ft
			Sample Type	N	N	N	N	N	N	N
Chemical Name	Unit	RPG Residential	RPG Non-Residential							
ENDRIN	UG_KG	NE	NE					< 1.8 U		
ENDRIN ALDEHYDE	UG_KG	NE	NE					< 1.8 U		
ENDRIN KETONE	UG_KG	NE	NE					< 1.8 U		
HEPTACHLOR	UG_KG	NE	NE					< 0.93 U		
HEPTACHLOR EPOXIDE	UG_KG	NE	NE					< 0.93 U		
LINDANE	UG_KG	NE	NE					< 0.93 U		
METHOXYCHLOR	UG_KG	NE	NE					< 9.3 U		
POLYCHLORINATED BIPHENYLS (PCBS)	UG_KG	NE	NE					< 65 U		< 69 U
TRANS-CHLORDANE	UG_KG	NE	NE					< 0.93 U		
SVOCs										
2-METHYLNAPHTHALENE	UG_KG	NE	NE					< 10 U	180 J	< 11 U
ACENAPHTHENE	UG_KG	NE	NE					< 10 U	1000	15 J
ACENAPHTHYLENE	UG_KG	NE	NE					< 10 U	< 10 U	< 11 U
ANTHRACENE	UG_KG	NE	NE					< 10 U	2700	30
BENZO[A]ANTHRACENE	UG_KG	1570	7340			590		< 10 U	3100	65
BENZO[A]PYRENE	UG_KG	1828.8	1828.8			510		< 10 U	2000	44
BENZO[B]FLUORANTHENE	UG_KG	1570	7340			840		< 10 U	2700	65
BENZO[G,H,I]PERYLENE	UG_KG	NE	NE					< 10 U	680 J	21 J
BENZO[K]FLUORANTHENE	UG_KG	15700	73400					< 10 U	1700	33
BENZOIC ACID	UG_KG	NE	NE							
BIS(2-ETHYLHEXYL)PHTHALATE	UG_KG	NE	NE							
CARBAZOLE	UG_KG	NE	NE							
CHRYSENE	UG_KG	NE	NE			620		< 10 U	3600	74
DIBENZ[A,H]ANTHRACENE	UG_KG	157	734					< 10 U	220 J	5.1 J
DIBENZOFURAN	UG_KG	NE	NE							
DI-N-BUTYLPHTHALATE	UG_KG	NE	NE							
DI-N-OCTYLPHTHALATE	UG_KG	NE	NE							
FLUORANTHENE	UG_KG	NE	NE			1400		4.3 J	9100	170
FLUORENE	UG_KG	NE	NE					< 10 U	1700	15 J
HPAH, TOTAL	UG_KG	NE	NE							
INDENO[1,2,3-CD]PYRENE	UG_KG	NE	NE					< 10 UJ	930	27
LPAH, TOTAL	UG_KG	NE	NE							
NAPHTHALENE	UG_KG	NE	NE					< 10 U	170 J	3 J
PAH, TOTAL	UG_KG	NE	NE							
PHENANTHRENE	UG_KG	NE	NE			770		3.1 J	7700	110
PYRENE	UG_KG	NE	NE			1200		2.6 J	5900	120
VOCs										
1,2-DICHLOROBENZENE	UG_KG	NE	NE					< 2.5 U		
1,3-DICHLOROBENZENE	UG_KG	NE	NE					< 2.5 U		
1,4-DICHLOROBENZENE	UG_KG	NE	NE					< 2.5 U		

Table A1
 Summary of Soil Analytical Results
 Data Retrieved from NIRIS
 South Weymouth

				Location ID	STP-SB-25	STP-SB-26	STP-SB-27	STP-SB-27	STP-SB-28	STP-SB-29	STP-SB-29
				Sample Date	5/20/2011	5/9/2011	5/24/2011	5/24/2011	5/26/2011	7/9/2013	7/9/2013
				Sample ID	STP-SB-25-0305	STP-SB-26-0204	STP-SB-27-0002	STP-SB-27-0608	STP-SB-28-1214	STP-SB-29-0406	STP-SB-29-1012
				Depth Interval	3 - 5 ft	2 - 4 ft	0-2 ft	6 - 8 ft	12 - 14 ft	4 - 6 ft	10 - 12 ft
				Sample Type	N	N	N	N	N	N	N
Chemical Name	Unit	RPG Residential	RPG Non-Residential								
2-BUTANONE	UG_KG	NE	NE						< 12 U		
2-HEXANONE	UG_KG	NE	NE						< 12 U		
4-METHYL-2-PENTANONE	UG_KG	NE	NE						< 12 U		
ACETONE	UG_KG	NE	NE						< 12 UJ		
CARBON DISULFIDE	UG_KG	NE	NE						0.87 J		
CARBON TETRACHLORIDE	UG_KG	NE	NE						< 2.5 U		
CHLOROBENZENE	UG_KG	NE	NE						< 2.5 U		
CHLOROFORM	UG_KG	NE	NE						< 2.5 U		
CYCLOHEXANE	UG_KG	NE	NE						< 2.5 U		
DICHLORODIFLUOROMETHANE	UG_KG	NE	NE						< 5 U		
ETHYLBENZENE	UG_KG	NE	NE						< 2.5 U		
METHYL ACETATE	UG_KG	NE	NE						< 3 U		
METHYL CYCLOHEXANE	UG_KG	NE	NE						< 2.5 U		
METHYL TERT-BUTYL ETHER	UG_KG	NE	NE						< 2.5 U		
TETRACHLOROETHENE	UG_KG	NE	NE						< 2.5 U		
TOLUENE	UG_KG	NE	NE						< 2.5 U		
XYLENES, TOTAL	UG_KG	NE	NE						< 7.5 U		

- Notes:
- 1) U or < = Non-detect at laboratory
 - 2) J = Estimated Value
 - 3) B = The analyte was found in the associated blank at a significant level relative to the sample result.
 - 4) E = The reported value exceeded the
 - 5) F = The analyte was positively identified
 - 6) T = Tentatively identified compound (using
 - 7) R = Rejected data
 - 8) Sample Type N = normal sample, FD =
 - 9) MG_KG = milligrams per kilogram; UG_KG = micrograms per kilograms; PCT = percent; SU = standard pH units
 - 10) NE = not established
 - 11) RPG Residential exceedances are bolded and highlighted; RPG Non-Residential exceedances are underlined and highlighted.
 - 12) Only those compounds with at least one

Table A1
 Summary of Soil Analytical Results
 Data Retrieved from NIRIS
 South Weymouth

			Location ID	STP-SB-30	STP-SB-31	STP-SB-31	STP-SB-32	STP-SB-33	STP-SB-33
			Sample Date	7/9/2013	7/9/2013	7/9/2013	7/9/2013	7/10/2013	7/11/2013
			Sample ID	STP-SB-30-1012	STP-SB-31-1012-D	STP-SB-31-1012	STP-SB-32-1012	STP-SB-33-0008	STP-SB-33-1214
			Depth Interval	10 - 12 ft	10 - 12 ft	10 - 12 ft	10 - 12 ft	0 - 8 ft	12 - 14 ft
			Sample Type	N	FD	N	N	N	N
Chemical Name	Unit	RPG Residential	RPG Non-Residential						
Metals									
ALUMINUM	MG_KG	NE	NE						
ANTIMONY	MG_KG	NE	NE						
ARSENIC	MG_KG	6.77	30						
BARIUM	MG_KG	NE	NE						
BERYLLIUM	MG_KG	NE	NE						
CADMIUM	MG_KG	NE	NE						
CALCIUM	MG_KG	NE	NE						
CHROMIUM, TOTAL	MG_KG	NE	NE						
COBALT	MG_KG	NE	NE						
COPPER	MG_KG	NE	NE						
IRON	MG_KG	NE	NE						
LEAD	MG_KG	NE	NE						
MAGNESIUM	MG_KG	NE	NE						
MANGANESE	MG_KG	NE	NE						
MERCURY	MG_KG	NE	NE						
NICKEL	MG_KG	NE	NE						
POTASSIUM	MG_KG	NE	NE						
SELENIUM	MG_KG	NE	NE						
SILVER	MG_KG	NE	NE						
SODIUM	MG_KG	NE	NE						
THALLIUM	MG_KG	NE	NE						
VANADIUM	MG_KG	NE	NE						
ZINC	MG_KG	NE	NE						
Pesticides/PCBs									
4,4-DDD	UG_KG	22600	95700					18 J	47
4,4-DDE	UG_KG	NE	NE					0.54 J	7.7
4,4-DDT	UG_KG	2800	2800					< 0.47 U	19
ALDRIN	UG_KG	NE	NE					< 0.19 U	< 0.19 U
ALPHA-CHLORDANE	UG_KG	NE	NE					0.97	6.2
AROCLOR-1016	UG_KG	4110	19200	< 8.4 UJ	< 9.3 U	< 9.5 U	< 9.5 U		
AROCLOR-1260	UG_KG	2490	10300	< 8.4 UJ	< 9.3 U	< 9.5 U	< 9.5 U		
BETA-BHC	UG_KG	NE	NE					< 0.19 U	< 0.19 U
DDT, TOTAL	UG_KG	NE	NE						
DELTA-BHC	UG_KG	NE	NE					< 0.19 U	< 0.19 U
DIELDRIN	UG_KG	NE	NE					1.6 J	10 J
ENDOSULFAN I	UG_KG	NE	NE					< 0.19 U	< 0.19 U
ENDOSULFAN II	UG_KG	NE	NE					< 0.36 U	< 0.37 U
ENDOSULFAN SULFATE	UG_KG	NE	NE					< 0.36 U	< 0.37 U

Table A1
 Summary of Soil Analytical Results
 Data Retrieved from NIRIS
 South Weymouth

			Location ID	STP-SB-30	STP-SB-31	STP-SB-31	STP-SB-32	STP-SB-33	STP-SB-33
			Sample Date	7/9/2013	7/9/2013	7/9/2013	7/9/2013	7/10/2013	7/11/2013
			Sample ID	STP-SB-30-1012	STP-SB-31-1012-D	STP-SB-31-1012	STP-SB-32-1012	STP-SB-33-0008	STP-SB-33-1214
			Depth Interval	10 - 12 ft	10 - 12 ft	10 - 12 ft	10 - 12 ft	0 - 8 ft	12 - 14 ft
			Sample Type	N	FD	N	N	N	N
Chemical Name	Unit	RPG Residential	RPG Non-Residential						
ENDRIN	UG_KG	NE	NE					< 0.36 UJ	< 0.37 U
ENDRIN ALDEHYDE	UG_KG	NE	NE					< 0.36 U	< 0.37 U
ENDRIN KETONE	UG_KG	NE	NE					< 0.36 U	< 0.37 U
HEPTACHLOR	UG_KG	NE	NE					< 0.19 U	< 0.19 U
HEPTACHLOR EPOXIDE	UG_KG	NE	NE					< 0.19 U	< 0.19 U
LINDANE	UG_KG	NE	NE					< 0.19 U	< 0.19 U
METHOXYCHLOR	UG_KG	NE	NE					< 1.9 U	< 1.9 U
POLYCHLORINATED BIPHENYLS (PCBS)	UG_KG	NE	NE	< 60 UJ	< 67 U	< 68 U	< 68 U		
TRANS-CHLORDANE	UG_KG	NE	NE					1.7 J	6.3
SVOCs									
2-METHYLNAPHTHALENE	UG_KG	NE	NE	< 11 U		< 10 U	< 11 U	< 11 U	< 10 U
ACENAPHTHENE	UG_KG	NE	NE	2.4 J		22	39	< 11 U	3.8 J
ACENAPHTHYLENE	UG_KG	NE	NE	< 11 U		< 10 U	< 11 U	< 11 U	< 10 U
ANTHRACENE	UG_KG	NE	NE	4.8 J		42	84	< 11 U	13 J
BENZO[A]ANTHRACENE	UG_KG	1570	7340	19 J		120	240	2.3 J	28
BENZO[A]PYRENE	UG_KG	1828.8	1828.8	13 J		86	210	< 11 U	22
BENZO[B]FLUORANTHENE	UG_KG	1570	7340	24		140	280	3.3 J	30
BENZO[G,H,I]PERYLENE	UG_KG	NE	NE	5.2 J		31	72	< 11 U	10 J
BENZO[K]FLUORANTHENE	UG_KG	15700	73400	7.9 J		52	140	< 11 U	17 J
BENZOIC ACID	UG_KG	NE	NE						
BIS(2-ETHYLHEXYL)PHTHALATE	UG_KG	NE	NE						
CARBAZOLE	UG_KG	NE	NE						
CHRYSENE	UG_KG	NE	NE	15 J		120	260	< 11 U	32
DIBENZ[A,H]ANTHRACENE	UG_KG	157	734	< 11 U		16 J	36 J	< 11 U	3.5 J
DIBENZOFURAN	UG_KG	NE	NE						
DI-N-BUTYLPHTHALATE	UG_KG	NE	NE						
DI-N-OCTYLPHTHALATE	UG_KG	NE	NE						
FLUORANTHENE	UG_KG	NE	NE	42		320	600	3.9 J	64
FLUORENE	UG_KG	NE	NE	< 11 U		27	48	< 11 U	4.9 J
HPAH, TOTAL	UG_KG	NE	NE						
INDENO[1,2,3-CD]PYRENE	UG_KG	NE	NE	23		50	120	< 11 U	15 J
IPA, TOTAL	UG_KG	NE	NE						
NAPHTHALENE	UG_KG	NE	NE	< 11 U		< 10 U	< 11 U	< 11 U	< 10 U
PAH, TOTAL	UG_KG	NE	NE						
PHENANTHRENE	UG_KG	NE	NE	21 J		200	300	2.8 J	39
PYRENE	UG_KG	NE	NE	30 J		210	440	2.9 J	49
VOCs									
1,2-DICHLOROBENZENE	UG_KG	NE	NE						
1,3-DICHLOROBENZENE	UG_KG	NE	NE						
1,4-DICHLOROBENZENE	UG_KG	NE	NE						

Table A1

Summary of Soil Analytical Results
Data Retrieved from NIRIS
South Weymouth

			Location ID	STP-SB-30	STP-SB-31	STP-SB-31	STP-SB-32	STP-SB-33	STP-SB-33
			Sample Date	7/9/2013	7/9/2013	7/9/2013	7/9/2013	7/10/2013	7/11/2013
			Sample ID	STP-SB-30-1012	STP-SB-31-1012-D	STP-SB-31-1012	STP-SB-32-1012	STP-SB-33-0008	STP-SB-33-1214
			Depth Interval	10 - 12 ft	10 - 12 ft	10 - 12 ft	10 - 12 ft	0 - 8 ft	12 - 14 ft
			Sample Type	N	FD	N	N	N	N
Chemical Name	Unit	RPG Residential	RPG Non-Residential						
2-BUTANONE	UG_KG	NE	NE						
2-HEXANONE	UG_KG	NE	NE						
4-METHYL-2-PENTANONE	UG_KG	NE	NE						
ACETONE	UG_KG	NE	NE						
CARBON DISULFIDE	UG_KG	NE	NE						
CARBON TETRACHLORIDE	UG_KG	NE	NE						
CHLOROBENZENE	UG_KG	NE	NE						
CHLOROFORM	UG_KG	NE	NE						
CYCLOHEXANE	UG_KG	NE	NE						
DICHLORODIFLUOROMETHANE	UG_KG	NE	NE						
ETHYLBENZENE	UG_KG	NE	NE						
METHYL ACETATE	UG_KG	NE	NE						
METHYL CYCLOHEXANE	UG_KG	NE	NE						
METHYL TERT-BUTYL ETHER	UG_KG	NE	NE						
TETRACHLOROETHENE	UG_KG	NE	NE						
TOLUENE	UG_KG	NE	NE						
XYLENES, TOTAL	UG_KG	NE	NE						

Notes:

- 1) U or < = Non-detect at laboratory
- 2) J = Estimated Value
- 3) B = The analyte was found in the associated blank at a significant level relative to the sample result.
- 4) E = The reported value exceeded the
- 5) F = The analyte was positively identified
- 6) T = Tentatively identified compound (using
- 7) R = Rejected data
- 8) Sample Type N = normal sample, FD =
- 9) MG_KG = milligrams per kilogram; UG_KG = micrograms per kilograms;
PCT = percent; SU = standard pH units
- 10) NE = not established
- 11) RPG Residential exceedances are bolded and highlighted; RPG Non-Residential exceedances are underlined and highlighted.
- 12) Only those compounds with at least one

Table A1
 Summary of Soil Analytical Results
 Data Retrieved from NIRIS
 South Weymouth

			Location ID	STP-SB-34	STP-SB-35	STP-SB-35	STP-SB-36	STP-SB-36	STP-SB-38	STP-SO-SB01
			Sample Date	7/10/2013	7/10/2013	7/10/2013	8/6/2013	8/6/2013	8/6/2013	2/28/2006
			Sample ID	STP-SB-34-1214	STP-SB-35-1214-D	STP-SB-35-1214	STP-SB-36-1214-D	STP-SB-36-1214	STP-SB-38-1214	STP-SO-SB01-0001
			Depth Interval	12 - 14 ft	12 - 14 ft	12 - 14 ft	12 - 14 ft	12 - 14 ft	12 - 14 ft	0 - 1 ft
			Sample Type	N	FD	N	FD	N	N	N
Chemical Name	Unit	RPG Residential	RPG Non-Residential							
Metals										
ALUMINUM	MG_KG	NE	NE							3720
ANTIMONY	MG_KG	NE	NE							< 0.27 UJ
ARSENIC	MG_KG	6.77	30							2.8
BARIUM	MG_KG	NE	NE							9.6 J
BERYLLIUM	MG_KG	NE	NE							0.25 J
CADMIUM	MG_KG	NE	NE							< 0.053 U
CALCIUM	MG_KG	NE	NE							679 J
CHROMIUM, TOTAL	MG_KG	NE	NE							5.6
COBALT	MG_KG	NE	NE							1.9 J
COPPER	MG_KG	NE	NE							6.9
IRON	MG_KG	NE	NE							9120
LEAD	MG_KG	NE	NE							7.1
MAGNESIUM	MG_KG	NE	NE							1270 J
MANGANESE	MG_KG	NE	NE							105
MERCURY	MG_KG	NE	NE							0.06
NICKEL	MG_KG	NE	NE							4
POTASSIUM	MG_KG	NE	NE							313
SELENIUM	MG_KG	NE	NE							< 0.16 U
SILVER	MG_KG	NE	NE							< 0.11 U
SODIUM	MG_KG	NE	NE							1040 J
THALLIUM	MG_KG	NE	NE							< 0.21 UJ
VANADIUM	MG_KG	NE	NE							11.7
ZINC	MG_KG	NE	NE							20.5
Pesticides/PCBs										
4,4-DDD	UG_KG	22600	95700	55 J	270	270				2.8
4,4-DDE	UG_KG	NE	NE	2.8 J	11	16				0.71 J
4,4-DDT	UG_KG	2800	2800	170 J	160 J	380 J				1.9
ALDRIN	UG_KG	NE	NE	< 0.19 UJ	< 0.91 U	< 0.89 U				R
ALPHA-CHLORDANE	UG_KG	NE	NE	< 0.19 UJ	2.4	2.5				3.8
AROCLOR-1016	UG_KG	4110	19200				< 8.8 U	< 8.6 U	< 8.7 U	< 6.7 U
AROCLOR-1260	UG_KG	2490	10300				< 8.8 U	< 8.6 U	< 8.7 U	< 6.7 U
BETA-BHC	UG_KG	NE	NE	< 0.19 UJ	< 0.91 U	< 0.89 U				0.3 J
DDT, TOTAL	UG_KG	NE	NE							5.41 J
DELTA-BHC	UG_KG	NE	NE	< 0.19 UJ	< 0.91 U	< 0.89 U				< 0.67 U
DIELDRIN	UG_KG	NE	NE	8.6 J	6.5 J	5.2 J				48
ENDOSULFAN I	UG_KG	NE	NE	0.22 J	< 0.91 U	< 0.89 U				R
ENDOSULFAN II	UG_KG	NE	NE	< 0.36 UJ	< 1.8 U	< 1.7 U				1.5 J
ENDOSULFAN SULFATE	UG_KG	NE	NE	< 0.36 UJ	< 1.8 U	< 1.7 U				0.56 J

Table A1
 Summary of Soil Analytical Results
 Data Retrieved from NIRIS
 South Weymouth

			Location ID	STP-SB-34	STP-SB-35	STP-SB-35	STP-SB-36	STP-SB-36	STP-SB-38	STP-SO-SB01
			Sample Date	7/10/2013	7/10/2013	7/10/2013	8/6/2013	8/6/2013	8/6/2013	2/28/2006
			Sample ID	STP-SB-34-1214	STP-SB-35-1214-D	STP-SB-35-1214	STP-SB-36-1214-D	STP-SB-36-1214	STP-SB-38-1214	STP-SO-SB01-0001
			Depth Interval	12 - 14 ft	12 - 14 ft	12 - 14 ft	12 - 14 ft	12 - 14 ft	12 - 14 ft	0 - 1 ft
			Sample Type	N	FD	N	FD	N	N	N
Chemical Name	Unit	RPG Residential	RPG Non-Residential							
2-BUTANONE	UG_KG	NE	NE							< 11 U
2-HEXANONE	UG_KG	NE	NE							< 11 U
4-METHYL-2-PENTANONE	UG_KG	NE	NE							< 11 U
ACETONE	UG_KG	NE	NE							< 11 U
CARBON DISULFIDE	UG_KG	NE	NE							< 5.7 U
CARBON TETRACHLORIDE	UG_KG	NE	NE							< 5.7 U
CHLOROBENZENE	UG_KG	NE	NE							< 5.7 U
CHLOROFORM	UG_KG	NE	NE							< 5.7 U
CYCLOHEXANE	UG_KG	NE	NE							< 5.7 U
DICHLORODIFLUOROMETHANE	UG_KG	NE	NE							< 5.7 U
ETHYLBENZENE	UG_KG	NE	NE							< 5.7 U
METHYL ACETATE	UG_KG	NE	NE							< 5.7 U
METHYL CYCLOHEXANE	UG_KG	NE	NE							< 5.7 U
METHYL TERT-BUTYL ETHER	UG_KG	NE	NE							< 5.7 U
TETRACHLOROETHENE	UG_KG	NE	NE							< 5.7 U
TOLUENE	UG_KG	NE	NE							< 5.7 U
XYLENES, TOTAL	UG_KG	NE	NE							< 5.7 U

Notes:

- 1) U or < = Non-detect at laboratory
- 2) J = Estimated Value
- 3) B = The analyte was found in the associated blank at a significant level relative to the sample result.
- 4) E = The reported value exceeded the
- 5) F = The analyte was positively identified
- 6) T = Tentatively identified compound (using
- 7) R = Rejected data
- 8) Sample Type N = normal sample, FD =
- 9) MG_KG = milligrams per kilogram; UG_KG = micrograms per kilograms; PCT = percent; SU = standard pH units
- 10) NE = not established
- 11) RPG Residential exceedances are bolded and highlighted; RPG Non-Residential exceedances are underlined and highlighted.
- 12) Only those compounds with at least one

Table A1
 Summary of Soil Analytical Results
 Data Retrieved from NIRIS
 South Weymouth

				Location ID	STP-SO-SB01	STP-SO-SB01	STP-SO-SB01	STP-SO-SB02	STP-SO-SB02	STP-SO-SB02
				Sample Date	2/28/2006	2/28/2006	2/28/2006	2/28/2006	2/28/2006	2/28/2006
				Sample ID	STP-SO-SB01-0305	STP-SO-SB01-0305-D	STP-SO-SB01-1113	STP-SO-SB02-0001	STP-SO-SB02-0305	STP-SO-SB02-0305-D
				Depth Interval	3 - 5 ft	3 - 5 ft	11 - 13 ft	0 - 1 ft	3 - 5 ft	3 - 5 ft
				Sample Type	N	FD	N	N	N	FD
Chemical Name	Unit	RPG Residential	RPG Non-Residential							
Metals										
ALUMINUM	MG_KG	NE	NE	7190	6380	5040	2660	7000		
ANTIMONY	MG_KG	NE	NE	< 0.3 UJ	< 0.29 UJ	< 0.27 UJ	< 0.28 UJ	< 0.28 UJ		
ARSENIC	MG_KG	6.77	30	1.5	1.3	1.2	2.4	1.3		
BARIUM	MG_KG	NE	NE	17.4	14.1	21.5	7.4 J	17.4		
BERYLLIUM	MG_KG	NE	NE	0.42	0.38	0.36	0.23 J	0.44		
CADMIUM	MG_KG	NE	NE	0.083 J	0.6	< 0.054 U	< 0.057 U	< 0.056 U		
CALCIUM	MG_KG	NE	NE	923 J	800 J	1930 J	350 J	1380 J		
CHROMIUM, TOTAL	MG_KG	NE	NE	8.3	6.9	4.4	3.9	8.9		
COBALT	MG_KG	NE	NE	2.6 J	2.1 J	2.6 J	1.4 J	2.5 J		
COPPER	MG_KG	NE	NE	5.9	5	6.2	3.1	4.3		
IRON	MG_KG	NE	NE	9570	8090	8720	7080	11200		
LEAD	MG_KG	NE	NE	7.3	7.7	2.7	5.1	4.7		
MAGNESIUM	MG_KG	NE	NE	1560 J	1340 J	1900 J	843 J	1590 J		
MANGANESE	MG_KG	NE	NE	109	91.8	152	77.9	111		
MERCURY	MG_KG	NE	NE	0.02 J	0.016 J	0.011 J	0.015 J	0.013 J		
NICKEL	MG_KG	NE	NE	4.9	4.4	3.2	2.4	4.5		
POTASSIUM	MG_KG	NE	NE	414	363	603	326	372		
SELENIUM	MG_KG	NE	NE	< 0.18 U	< 0.17 U	< 0.16 U	< 0.17 U	< 0.17 U		
SILVER	MG_KG	NE	NE	0.89	0.9	< 0.22 U	< 0.057 U	< 0.17 U		
SODIUM	MG_KG	NE	NE	1820 J	1900 J	879 J	1910 J	2140 J		
THALLIUM	MG_KG	NE	NE	< 0.24 UJ	< 0.29 UJ	< 0.22 UJ	< 0.34 UJ	< 0.17 UJ		
VANADIUM	MG_KG	NE	NE	16.5	15	12.7	9.9	18		
ZINC	MG_KG	NE	NE	25.7	23.1	26.2	12.2	22.3		
Pesticides/PCBs										
4,4-DDD	UG_KG	22600	95700	14 J	5.4 J	0.12 J	1.1 J	0.34 J	0.65 J	
4,4-DDE	UG_KG	NE	NE	5.6 J	1.8 J	< 1.4 U	0.22 J	0.12 J	0.12 J	
4,4-DDT	UG_KG	2800	2800	2.2 J	0.6 J	< 1.4 U	1.4 J	< 1.4 U	< 1.4 U	
ALDRIN	UG_KG	NE	NE	0.64 JFB	0.53 JFB	< 0.68 U	< 0.74 U	< 0.71 UJ	< 0.68 U	
ALPHA-CHLORDANE	UG_KG	NE	NE	0.98	0.72 J	< 0.68 U	1.5 J	0.36 J	0.36 J	
AROCLOR-1016	UG_KG	4110	19200	< 7.6 U	< 7.2 U	< 6.8 U	< 7.4 U	< 7.1 U	< 6.8 U	
AROCLOR-1260	UG_KG	2490	10300	< 7.6 U	< 7.2 U	< 6.8 U	< 7.4 U	< 7.1 U	< 6.8 U	
BETA-BHC	UG_KG	NE	NE	< 0.76 UJ	< 0.72 U	< 0.68 U	< 0.74 U	< 0.71 UJ	< 0.68 U	
DDT, TOTAL	UG_KG	NE	NE	21.8 J	7.8 J	0.12 J	2.72 J	0.46 J	0.77 J	
DELTA-BHC	UG_KG	NE	NE	0.11 J	< 0.72 U	< 0.68 U	< 0.74 U	< 0.71 U	< 0.68 U	
DIELDRIN	UG_KG	NE	NE	130	98	3	18	8.4	16	
ENDOSULFAN I	UG_KG	NE	NE	0.39 J	0.29 J	< 0.68 U	< 0.74 U	< 0.71 U	< 0.68 U	
ENDOSULFAN II	UG_KG	NE	NE	< 1.5 U	< 1.4 U	< 1.4 U	< 1.5 UJ	< 1.4 U	< 1.4 U	
ENDOSULFAN SULFATE	UG_KG	NE	NE	< 1.5 U	< 1.4 U	< 1.4 U	< 1.5 U	< 1.4 U	< 1.4 U	

Table A1
 Summary of Soil Analytical Results
 Data Retrieved from NIRIS
 South Weymouth

			Location ID	STP-SO-SB01	STP-SO-SB01	STP-SO-SB01	STP-SO-SB02	STP-SO-SB02	STP-SO-SB02
			Sample Date	2/28/2006	2/28/2006	2/28/2006	2/28/2006	2/28/2006	2/28/2006
			Sample ID	STP-SO-SB01-0305	STP-SO-SB01-0305-D	STP-SO-SB01-1113	STP-SO-SB02-0001	STP-SO-SB02-0305	STP-SO-SB02-0305-D
			Depth Interval	3 - 5 ft	3 - 5 ft	11 - 13 ft	0 - 1 ft	3 - 5 ft	3 - 5 ft
			Sample Type	N	FD	N	N	N	FD
Chemical Name	Unit	RPG Residential	RPG Non-Residential						
ENDRIN	UG_KG	NE	NE	1.2 J	0.63 J	< 1.4 U	< 1.5 UJ	0.12 J	0.21 J
ENDRIN ALDEHYDE	UG_KG	NE	NE	< 1.5 U	0.33 J	< 1.4 U	0.32 J	< 1.4 U	< 1.4 U
ENDRIN KETONE	UG_KG	NE	NE	< 1.5 UJ	< 1.4 UJ	< 1.4 U	0.4 J	0.2 J	< 1.4 U
HEPTACHLOR	UG_KG	NE	NE	< 0.76 U	< 0.72 U	< 0.68 U	< 0.74 U	< 0.71 U	< 0.68 U
HEPTACHLOR EPOXIDE	UG_KG	NE	NE	< 0.76 U	< 0.72 U	< 0.68 U	0.19 J	< 0.71 U	< 0.68 U
LINDANE	UG_KG	NE	NE	< 0.76 U	< 0.72 U	< 0.68 U	< 0.74 U	< 0.71 U	< 0.68 U
METHOXYCHLOR	UG_KG	NE	NE	< 7.6 UJ	2.6 J	< 6.8 U	< 7.4 U	< 7.1 U	< 6.8 U
POLYCHLORINATED BIPHENYLS (PCBS)	UG_KG	NE	NE	< 7.6 U	< 7.2 U	< 6.8 U	< 7.4 U	< 7.1 U	< 6.8 U
TRANS-CHLORDANE	UG_KG	NE	NE	1.4	0.86	< 0.68 U	1.1	0.2 J	0.41 J
SVOCs									
2-METHYLNAPHTHALENE	UG_KG	NE	NE	2.8 J	3.7 J	< 7.2 U	< 7.5 U	< 7.4 U	
ACENAPHTHENE	UG_KG	NE	NE	< 7.7 U	1.8 J	< 7.2 U	< 7.5 U	< 7.4 U	
ACENAPHTHYLENE	UG_KG	NE	NE	1.2 J	1.6 J	< 7.2 U	< 7.5 U	< 7.4 U	
ANTHRACENE	UG_KG	NE	NE	< 7.7 U	1.4 J	< 7.2 U	< 7.5 U	< 7.4 U	
BENZO[A]ANTHRACENE	UG_KG	1570	7340	6.3 J	7.2 J	< 7.2 U	5.2 J	1.4 J	
BENZO[A]PYRENE	UG_KG	1828.8	1828.8	< 7.7 U	8.2	< 7.2 U	< 7.5 U	< 7.4 U	
BENZO[B]FLUORANTHENE	UG_KG	1570	7340	7 J	10	< 7.2 U	7.8	1.8 J	
BENZO[G,H,I]PERYLENE	UG_KG	NE	NE	< 7.7 U	4.9 J	< 7.2 U	4.7 J	< 7.4 U	
BENZO[K]FLUORANTHENE	UG_KG	15700	73400	7.4 J	7.3 J	< 7.2 U	6.7 J	1.1 J	
BENZOIC ACID	UG_KG	NE	NE						
BIS(2-ETHYLHEXYL)PHTHALATE	UG_KG	NE	NE	< 370 U	< 360 U	< 360 U	< 360 U	< 360 U	
CARBAZOLE	UG_KG	NE	NE	< 370 U	< 360 U	< 360 U	< 360 U	< 360 U	
CHRYSENE	UG_KG	NE	NE	9.7	10	< 7.2 U	7 J	1.7 J	
DIBENZ[A,H]ANTHRACENE	UG_KG	157	734	< 7.7 U	< 7.6 U	< 7.2 U	< 7.5 U	< 7.4 U	
DIBENZOFURAN	UG_KG	NE	NE	< 370 U	< 360 U	< 360 U	< 360 U	< 360 U	
DI-N-BUTYLPHTHALATE	UG_KG	NE	NE	< 370 U	< 360 U	120 JFB	< 360 U	< 360 U	
DI-N-OCTYLPHTHALATE	UG_KG	NE	NE	< 370 UJ	< 360 UJ	< 360 UJ	< 360 UJ	< 360 U	
FLUORANTHENE	UG_KG	NE	NE	14	19	< 7.2 U	12	3 J	
FLUORENE	UG_KG	NE	NE	< 7.7 U	1.7 J	< 7.2 U	< 7.5 U	< 7.4 U	
HPAH, TOTAL	UG_KG	NE	NE	58.4 J	82.6 J	< 42 U	54.4 J	11.8 J	
INDENO[1,2,3-CD]PYRENE	UG_KG	NE	NE	< 370 U	< 360 U	< 360 U	< 360 U	< 360 U	
LPAH, TOTAL	UG_KG	NE	NE	16.2 J	25.1 J	< 7.2 U	4.4 J	2.4 J	
NAPHTHALENE	UG_KG	NE	NE	3.6 J	3.9 J	< 7.2 U	< 7.5 U	< 7.4 U	
PAH, TOTAL	UG_KG	NE	NE	74.6 J	107.7 J	< 28 U	58.8 J	14.2 J	
PHENANTHRENE	UG_KG	NE	NE	8.6	11	< 7.2 U	4.4 J	2.4 J	
PYRENE	UG_KG	NE	NE	14	16	< 7.2 U	11	2.8 J	
VOCs									
1,2-DICHLOROBENZENE	UG_KG	NE	NE	< 4.9 U		< 4.3 U	< 4.8 U	< 4.2 U	< 4 U
1,3-DICHLOROBENZENE	UG_KG	NE	NE	< 4.9 U		< 4.3 U	< 4.8 U	< 4.2 U	< 4 U
1,4-DICHLOROBENZENE	UG_KG	NE	NE	< 4.9 U		< 4.3 U	< 4.8 U	< 4.2 U	< 4 U

Table A1
 Summary of Soil Analytical Results
 Data Retrieved from NIRIS
 South Weymouth

			Location ID	STP-SO-SB01	STP-SO-SB01	STP-SO-SB01	STP-SO-SB02	STP-SO-SB02	STP-SO-SB02
			Sample Date	2/28/2006	2/28/2006	2/28/2006	2/28/2006	2/28/2006	2/28/2006
			Sample ID	STP-SO-SB01-0305	STP-SO-SB01-0305-D	STP-SO-SB01-1113	STP-SO-SB02-0001	STP-SO-SB02-0305	STP-SO-SB02-0305-D
			Depth Interval	3 - 5 ft	3 - 5 ft	11 - 13 ft	0 - 1 ft	3 - 5 ft	3 - 5 ft
			Sample Type	N	FD	N	N	N	FD
Chemical Name	Unit	RPG Residential	RPG Non-Residential						
2-BUTANONE	UG_KG	NE	NE	13		< 8.6 U	< 9.6 U	1.8 J	2.7 J
2-HEXANONE	UG_KG	NE	NE	< 9.8 U		< 8.6 U	< 9.6 U	< 8.5 U	< 8 U
4-METHYL-2-PENTANONE	UG_KG	NE	NE	< 9.8 U		< 8.6 U	< 9.6 U	< 8.5 U	< 8 U
ACETONE	UG_KG	NE	NE	37 J		< 8.6 UJ	< 9.6 U	< 12 UJ	< 14 UJ
CARBON DISULFIDE	UG_KG	NE	NE	< 4.9 U		< 4.3 U	< 4.8 U	< 4.2 U	< 4 U
CARBON TETRACHLORIDE	UG_KG	NE	NE	< 4.9 U		< 4.3 U	< 4.8 U	< 4.2 U	< 4 U
CHLOROBENZENE	UG_KG	NE	NE	< 4.9 U		< 4.3 U	< 4.8 U	< 4.2 U	< 4 U
CHLOROFORM	UG_KG	NE	NE	< 4.9 U		< 4.3 U	< 4.8 U	< 4.2 U	< 4 U
CYCLOHEXANE	UG_KG	NE	NE	< 4.9 U		< 4.3 U	< 4.8 U	< 4.2 U	< 4 U
DICHLORODIFLUOROMETHANE	UG_KG	NE	NE	< 4.9 U		< 4.3 U	< 4.8 U	< 4.2 U	< 4 U
ETHYLBENZENE	UG_KG	NE	NE	7.1		< 4.3 U	< 4.8 U	< 4.2 U	< 4 U
METHYL ACETATE	UG_KG	NE	NE	< 4.9 U		< 4.3 U	< 4.8 U	< 4.2 U	< 4 U
METHYL CYCLOHEXANE	UG_KG	NE	NE	< 4.9 U		< 4.3 U	< 4.8 U	< 4.2 U	< 4 U
METHYL TERT-BUTYL ETHER	UG_KG	NE	NE	2.6 J		< 4.3 U	< 4.8 U	46	31
TETRACHLOROETHENE	UG_KG	NE	NE	< 4.9 U		< 4.3 U	< 4.8 U	< 4.2 U	< 4 U
TOLUENE	UG_KG	NE	NE	5.7		< 4.3 U	< 4.8 U	< 4.2 U	< 4 U
XYLENES, TOTAL	UG_KG	NE	NE	< 4.9 U		< 4.3 U	< 4.8 U	< 4.2 U	< 4 U

Notes:

- 1) U or < = Non-detect at laboratory
- 2) J = Estimated Value
- 3) B = The analyte was found in the associated blank at a significant level relative to the sample result.
- 4) E = The reported value exceeded the
- 5) F = The analyte was positively identified
- 6) T = Tentatively identified compound (using
- 7) R = Rejected data
- 8) Sample Type N = normal sample, FD =
- 9) MG_KG = milligrams per kilogram; UG_KG = micrograms per kilograms; PCT = percent; SU = standard pH units
- 10) NE = not established
- 11) RPG Residential exceedances are bolded and highlighted; RPG Non-Residential exceedances are underlined and highlighted.
- 12) Only those compounds with at least one

Table A1
Summary of Soil Analytical Results
Data Retrieved from NIRIS
South Weymouth

			Location ID	STP-SO-SB02	STP-SO-SB03	STP-SO-SB03	STP-SO-SB03	STP-SO-SB04	STP-SO-SB04
			Sample Date	2/28/2006	2/28/2006	2/28/2006	2/28/2006	2/28/2006	2/28/2006
			Sample ID	STP-SO-SB02-0810	STP-SO-SB03-0001	STP-SO-SB03-0305	STP-SO-SB03-0810	STP-SO-SB04-0001	STP-SO-SB04-0305
			Depth Interval	8 - 10 ft	0 - 1 ft	3 - 5 ft	8 - 10 ft	0 - 1 ft	3 - 5 ft
			Sample Type	N	N	N	N	N	N
Chemical Name	Unit	RPG Residential	RPG Non-Residential						
Metals									
ALUMINUM	MG_KG	NE	NE	5790	4900	6630	6870	5010	4980
ANTIMONY	MG_KG	NE	NE	< 0.28 UJ	< 0.27 UJ	< 0.27 UJ	< 0.27 UJ	< 0.27 UJ	< 0.28 UJ
ARSENIC	MG_KG	6.77	30	1.4	1.9	1.4	1.5	1.5	1
BARIUM	MG_KG	NE	NE	20.5	17.1	17.7	21.7	12.6	12.6
BERYLLIUM	MG_KG	NE	NE	0.41	0.35	0.5	0.52	0.24 J	0.33
CADMIUM	MG_KG	NE	NE	< 0.056 U	< 0.053 U	0.057 J	< 0.055 U	< 0.053 U	< 0.056 U
CALCIUM	MG_KG	NE	NE	1390 J	819 J	1350 J	1440 J	1060 J	914 J
CHROMIUM, TOTAL	MG_KG	NE	NE	8.4	6.2	7.3	6.9	6.1	6.3
COBALT	MG_KG	NE	NE	2.8 J	2.5 J	3	2.8	2.3 J	1.6 J
COPPER	MG_KG	NE	NE	5.2	5	5	5.6	7.7	3.7
IRON	MG_KG	NE	NE	10400	8550	10400	10000	8570	6990
LEAD	MG_KG	NE	NE	3.7	5.7	4.6	4.1	4.2	4.7
MAGNESIUM	MG_KG	NE	NE	1640 J	1370 J	1540 J	1600 J	1770 J	1020 J
MANGANESE	MG_KG	NE	NE	150	133	155	131	128	92.4
MERCURY	MG_KG	NE	NE	0.022 J	0.018 J	< 0.012 U	0.033	0.076	0.033
NICKEL	MG_KG	NE	NE	5.1	3.7	4.6	4.9	4.9	3.2
POTASSIUM	MG_KG	NE	NE	541	403	480	547	302	360
SELENIUM	MG_KG	NE	NE	< 0.17 U	< 0.16 U	< 0.16 U	< 0.16 U	< 0.16 U	< 0.17 U
SILVER	MG_KG	NE	NE	< 0.17 U	< 0.053 U	< 0.16 U	< 0.16 U	0.053 J	0.42 J
SODIUM	MG_KG	NE	NE	2680 J	4150 J	1870 J	717 J	824 J	2660 J
THALLIUM	MG_KG	NE	NE	< 0.22 UJ	< 0.32 UJ	< 0.27 UJ	< 0.27 UJ	< 0.27 UJ	< 0.28 UJ
VANADIUM	MG_KG	NE	NE	13	13.2	15.5	15.3	8.9	11.4
ZINC	MG_KG	NE	NE	29	19.6	23.2	23.9	19.1	16.4
Pesticides/PCBs									
4,4-DDD	UG_KG	22600	95700	58	0.71 J	6.4	18	27 J	8.1 J
4,4-DDE	UG_KG	NE	NE	52	0.14 J	0.89 J	2.6	25 J	4.5 J
4,4-DDT	UG_KG	2800	2800	55	< 1.4 U	0.4 J	4.9	10 J	2.1 J
ALDRIN	UG_KG	NE	NE	< 0.72 U	< 0.71 U	< 0.72 UJ	< 0.69 UJ	0.24 JFB	0.46 JFB
ALPHA-CHLORDANE	UG_KG	NE	NE	0.61 J	0.18 J	1.5	6.5	0.67 J	0.85
AROCLOR-1016	UG_KG	4110	19200	< 7.2 U	< 7.1 U	< 7.2 U	< 6.9 U	< 7.2 U	< 7.2 U
AROCLOR-1260	UG_KG	2490	10300	< 7.2 U	< 7.1 U	< 7.2 U	< 6.9 U	< 7.2 U	< 7.2 U
BETA-BHC	UG_KG	NE	NE	< 0.72 U	< 0.71 U	< 0.72 U	0.15 J	< 0.72 U	< 0.72 U
DDT, TOTAL	UG_KG	NE	NE	165	0.85 J	7.69 J	25.5	62 J	14.7 J
DELTA-BHC	UG_KG	NE	NE	< 0.72 U	0.16 J	< 0.72 U	< 0.69 U	< 0.72 U	< 0.72 U
DIELDRIN	UG_KG	NE	NE	150	7.8	57	300	84	110
ENDOSULFAN I	UG_KG	NE	NE	< 0.72 U	< 0.71 U	< 0.72 UJ	< 0.69 UJ	0.18 J	0.26 J
ENDOSULFAN II	UG_KG	NE	NE	< 1.4 U	< 1.4 U	< 1.4 U	< 1.4 UJ	< 1.4 U	< 1.4 U
ENDOSULFAN SULFATE	UG_KG	NE	NE	< 1.4 U	< 1.4 U	< 1.4 U	0.53 J	< 1.4 U	0.22 J

Table A1
Summary of Soil Analytical Results
Data Retrieved from NIRIS
South Weymouth

			Location ID	STP-SO-SB02	STP-SO-SB03	STP-SO-SB03	STP-SO-SB03	STP-SO-SB04	STP-SO-SB04
			Sample Date	2/28/2006	2/28/2006	2/28/2006	2/28/2006	2/28/2006	2/28/2006
			Sample ID	STP-SO-SB02-0810	STP-SO-SB03-0001	STP-SO-SB03-0305	STP-SO-SB03-0810	STP-SO-SB04-0001	STP-SO-SB04-0305
			Depth Interval	8 - 10 ft	0 -1 ft	3 - 5 ft	8 - 10 ft	0 - 1 ft	3 - 5 ft
			Sample Type	N	N	N	N	N	N
Chemical Name	Unit	RPG Residential	RPG Non-Residential						
ENDRIN	UG_KG	NE	NE	5.3	0.15 J	0.89 J	7	2.3	1.6 J
ENDRIN ALDEHYDE	UG_KG	NE	NE	< 1.4 U					
ENDRIN KETONE	UG_KG	NE	NE	1.1 J	< 1.4 U	0.46 J	1.3 J	1.2 J	1.7 J
HEPTACHLOR	UG_KG	NE	NE	< 0.72 U	< 0.71 U	< 0.72 U	0.32 J	< 0.72 U	< 0.72 U
HEPTACHLOR EPOXIDE	UG_KG	NE	NE	< 0.72 U	< 0.71 U	< 0.72 U	0.35 J	< 0.72 U	< 0.72 UJ
LINDANE	UG_KG	NE	NE	< 0.72 U	< 0.71 U	< 0.72 U	< 0.69 U	< 0.72 U	0.18 J
METHOXYCHLOR	UG_KG	NE	NE	< 7.2 U	< 7.1 U	0.18 J	< 6.9 U	< 7.2 U	< 7.2 U
POLYCHLORINATED BIPHENYLS (PCBS)	UG_KG	NE	NE	< 7.2 U	< 7.1 U	< 7.2 U	< 6.9 U	< 7.2 U	< 7.2 U
TRANS-CHLORDANE	UG_KG	NE	NE	2.7 J	0.22 J	2	8.3	1.8 J	1.1
SVOCs									
2-METHYLNAPHTHALENE	UG_KG	NE	NE	< 7.4 U	< 7 U	< 7 U	< 7.1 U	< 7 U	1.5 J
ACENAPHTHENE	UG_KG	NE	NE	< 7.4 U	< 7 U	< 7 U	< 7.1 U	< 7 U	< 7.3 U
ACENAPHTHYLENE	UG_KG	NE	NE	< 7.4 U	< 7 U	< 7 U	< 7.1 U	1 J	< 7.3 U
ANTHRACENE	UG_KG	NE	NE	< 7.4 U	< 7 U	< 7 U	< 7.1 U	< 7 U	< 7.3 U
BENZO[A]ANTHRACENE	UG_KG	1570	7340	< 7.4 U	3 J	1.7 J	3.2 J	9.8	4.3 J
BENZO[A]PYRENE	UG_KG	1828.8	1828.8	< 7.4 U	3.2 J	< 7 U	< 7.1 U	< 7 U	< 7.3 U
BENZO[B]FLUORANTHENE	UG_KG	1570	7340	< 7.4 U	5 J	1.5 J	2.5 J	19	5.6 J
BENZO[G,H,I]PERYLENE	UG_KG	NE	NE	< 7.4 U	2.5 J	< 7 U	< 7.1 U	< 7 U	< 7.3 U
BENZO[K]FLUORANTHENE	UG_KG	15700	73400	< 7.4 U	3 J	1.3 J	2.3 J	14	5.5 J
BENZOIC ACID	UG_KG	NE	NE						
BIS(2-ETHYLHEXYL)PHTHALATE	UG_KG	NE	NE	< 370 U	< 350 U	< 350 U	< 360 U	< 350 U	< 370 U
CARBAZOLE	UG_KG	NE	NE	< 370 U	< 350 U	< 350 U	< 360 U	< 350 U	< 370 U
CHRYSENE	UG_KG	NE	NE	< 7.4 U	4.3 J	1.8 J	3.6 J	20	6.8 J
DIBENZ[A,H]ANTHRACENE	UG_KG	157	734	< 7.4 U	< 7 U	< 7 U	< 7.1 U	< 7 U	< 7.3 U
DIBENZOFURAN	UG_KG	NE	NE	< 370 U	< 350 U	< 350 U	< 360 U	< 350 U	< 370 U
DI-N-BUTYLPHTHALATE	UG_KG	NE	NE	< 370 U	< 350 U	< 350 U	< 360 U	< 350 U	< 370 U
DI-N-OCTYLPHTHALATE	UG_KG	NE	NE	< 370 UJ	< 350 UJ	< 350 UJ	< 360 UJ	< 350 UJ	< 370 UJ
FLUORANTHENE	UG_KG	NE	NE	0.85 J	6 J	3.5 J	7.3	18	10
FLUORENE	UG_KG	NE	NE	< 7.4 U	< 7 U	< 7 U	< 7.1 U	< 7 U	< 7.3 U
HPAH, TOTAL	UG_KG	NE	NE	1.63 J	33.6 J	12.8 J	25.2 J	98.8	42.2 J
INDENO[1,2,3-CD]PYRENE	UG_KG	NE	NE	< 370 U	< 350 U	< 350 U	< 360 U	< 350 U	< 370 U
LPAH, TOTAL	UG_KG	NE	NE	< 7.4 U	2.8 J	3.8 J	4.4 J	11 J	8.4 J
NAPHTHALENE	UG_KG	NE	NE	< 7.4 U	< 7 U	1.5 J	< 7.1 U	< 7 U	1.6 J
PAH, TOTAL	UG_KG	NE	NE	1.63 J	36.4 J	16.6 J	29.6 J	109.8 J	50.6 J
PHENANTHRENE	UG_KG	NE	NE	< 7.4 U	2.8 J	2.3 J	4.4 J	10	5.3 J
PYRENE	UG_KG	NE	NE	0.78 J	6.6 J	3 J	6.3 J	18	10
VOCs									
1,2-DICHLOROBENZENE	UG_KG	NE	NE	< 3.8 U	< 5 U	< 4.1 U	< 5.4 UJ	< 4.3 U	< 4.8 U
1,3-DICHLOROBENZENE	UG_KG	NE	NE	< 3.8 U	< 5 U	< 4.1 U	< 5.4 UJ	< 4.3 U	< 4.8 U
1,4-DICHLOROBENZENE	UG_KG	NE	NE	< 3.8 U	< 5 U	< 4.1 U	< 5.4 UJ	< 4.3 U	< 4.8 U

Table A1
 Summary of Soil Analytical Results
 Data Retrieved from NIRIS
 South Weymouth

				Location ID	STP-SO-SB02	STP-SO-SB03	STP-SO-SB03	STP-SO-SB03	STP-SO-SB04	STP-SO-SB04
				Sample Date	2/28/2006	2/28/2006	2/28/2006	2/28/2006	2/28/2006	2/28/2006
				Sample ID	STP-SO-SB02-0810	STP-SO-SB03-0001	STP-SO-SB03-0305	STP-SO-SB03-0810	STP-SO-SB04-0001	STP-SO-SB04-0305
				Depth Interval	8 - 10 ft	0 - 1 ft	3 - 5 ft	8 - 10 ft	0 - 1 ft	3 - 5 ft
				Sample Type	N	N	N	N	N	N
Chemical Name	Unit	RPG Residential	RPG Non-Residential							
2-BUTANONE	UG_KG	NE	NE	< 7.6 U	< 10 U	1.4 J	< 11 UJ	< 8.5 U	< 9.7 U	
2-HEXANONE	UG_KG	NE	NE	< 7.6 U	< 10 U	< 8.3 U	< 11 UJ	< 8.5 U	< 9.7 U	
4-METHYL-2-PENTANONE	UG_KG	NE	NE	< 7.6 U	< 10 U	< 8.3 UJ	< 11 UJ	< 8.5 U	< 9.7 U	
ACETONE	UG_KG	NE	NE	< 7.6 U	< 10 UJ	< 29 UJ	< 11 UJ	< 8.5 U	< 9.7 U	
CARBON DISULFIDE	UG_KG	NE	NE	< 3.8 U	< 5 U	< 4.1 U	< 5.4 UJ	< 4.3 U	< 4.8 U	
CARBON TETRACHLORIDE	UG_KG	NE	NE	< 3.8 U	< 5 U	< 4.1 U	< 5.4 UJ	< 4.3 U	< 4.8 U	
CHLOROBENZENE	UG_KG	NE	NE	< 3.8 U	< 5 U	< 4.1 U	< 5.4 UJ	< 4.3 U	< 4.8 U	
CHLOROFORM	UG_KG	NE	NE	< 3.8 U	< 5 U	< 4.1 U	< 5.4 UJ	< 4.3 U	< 4.8 U	
CYCLOHEXANE	UG_KG	NE	NE	< 3.8 U	< 5 U	< 4.1 U	< 5.4 UJ	< 4.3 U	< 4.8 U	
DICHLORODIFLUOROMETHANE	UG_KG	NE	NE	< 3.8 U	< 5 U	< 4.1 U	< 5.4 UJ	< 4.3 U	< 4.8 U	
ETHYLBENZENE	UG_KG	NE	NE	< 3.8 U	< 5 U	< 4.1 U	< 5.4 UJ	< 4.3 U	< 4.8 U	
METHYL ACETATE	UG_KG	NE	NE	< 3.8 U	< 5 U	< 4.1 U	< 5.4 UJ	< 4.3 U	< 4.8 U	
METHYL CYCLOHEXANE	UG_KG	NE	NE	< 3.8 U	< 5 U	< 4.1 U	< 5.4 UJ	< 4.3 U	< 4.8 U	
METHYL TERT-BUTYL ETHER	UG_KG	NE	NE	71	< 5 U	< 4.1 U	< 5.4 UJ	< 4.3 U	< 4.8 U	
TETRACHLOROETHENE	UG_KG	NE	NE	< 3.8 U	< 5 U	< 4.1 U	< 5.4 UJ	< 4.3 U	< 4.8 U	
TOLUENE	UG_KG	NE	NE	< 3.8 U	< 5 U	< 4.1 U	< 5.4 UJ	< 4.3 U	< 4.8 U	
XYLENES, TOTAL	UG_KG	NE	NE	< 3.8 U	< 5 U	< 4.1 U	< 5.4 UJ	< 4.3 U	< 4.8 U	

Notes:

- 1) U or < = Non-detect at laboratory
- 2) J = Estimated Value
- 3) B = The analyte was found in the associated blank at a significant level relative to the sample result.
- 4) E = The reported value exceeded the
- 5) F = The analyte was positively identified
- 6) T = Tentatively identified compound (using
- 7) R = Rejected data
- 8) Sample Type N = normal sample, FD =
- 9) MG_KG = milligrams per kilogram; UG_KG = micrograms per kilograms; PCT = percent; SU = standard pH units
- 10) NE = not established
- 11) RPG Residential exceedances are bolded and highlighted; RPG Non-Residential exceedances are underlined and highlighted.
- 12) Only those compounds with at least one

Table A1
 Summary of Soil Analytical Results
 Data Retrieved from NIRIS
 South Weymouth

			Location ID	STP-SO-SB04	STP-SO-SB04	STP-SS-A01	STP-SS-A02	STP-SS-A03	STP-SS-A04
			Sample Date	2/28/2006	2/28/2006	2/14/2008	2/14/2008	2/14/2008	2/14/2008
			Sample ID	STP-SO-SB04-0305-D	STP-SO-SB04-1113	STP-SS-A01-0208	STP-SS-A02-0208	STP-SS-A03-0208	STP-SS-A04-0208
			Depth Interval	3 - 5 ft	11 - 13 ft	0 - 1 ft	0 - 1 ft	0 - 1 ft	0 - 1 ft
			Sample Type	FD	N	N	N	N	N
Chemical Name	Unit	RPG Residential	RPG Non-Residential						
Metals									
ALUMINUM	MG_KG	NE	NE	4860	4120	6630	7010	7660	7240
ANTIMONY	MG_KG	NE	NE	< 0.28 UJ	< 0.28 UJ	< 0.06 UJ	< 0.11 UJ	< 0.02 UJ	< 0.03 UJ
ARSENIC	MG_KG	6.77	30	1.1	0.96	9 J	4.4 J	2 J	1.4 J
BARIUM	MG_KG	NE	NE	13.2	13	25.8	27.9	19.2	19
BERYLLIUM	MG_KG	NE	NE	0.42	0.34	0.43	0.39	0.35	0.39
CADMIUM	MG_KG	NE	NE	< 0.056 U	< 0.056 U	0.31	0.31	0.05 J	0.13
CALCIUM	MG_KG	NE	NE	805 J	1180 J	1860	1820	1110	1420
CHROMIUM, TOTAL	MG_KG	NE	NE	8.5	5.5	10.5	10.7	12.1	10.5
COBALT	MG_KG	NE	NE	1.6 J	1.7 J	3.6	4.5	5.1	4.2
COPPER	MG_KG	NE	NE	3.3	3.5	12.4	18.6	10.3	8.5
IRON	MG_KG	NE	NE	9060	7270	11200	12900	12800	12000
LEAD	MG_KG	NE	NE	5.3	2.9	46.6	41	7.6	20.4
MAGNESIUM	MG_KG	NE	NE	1220 J	1180 J	1920	2270	2580	2200
MANGANESE	MG_KG	NE	NE	126	97.8	227	317	251	238
MERCURY	MG_KG	NE	NE	0.019 J	< 0.012 U	0.28	0.77	0.01 J	0.03
NICKEL	MG_KG	NE	NE	2.9	3.5	7.3	11	9.2	7.3
POTASSIUM	MG_KG	NE	NE	389	351	417	431	328	387
SELENIUM	MG_KG	NE	NE	< 0.17 U	< 0.17 U	0.26 J	0.31 J	0.16 J	0.23 J
SILVER	MG_KG	NE	NE	0.35 J	< 0.17 U	0.81	7.1	0.06	0.23
SODIUM	MG_KG	NE	NE	2010 J	1190 J	< 53.7 UJ	< 55 UJ	< 48.7 UJ	< 58.3 UJ
THALLIUM	MG_KG	NE	NE	< 0.28 UJ	< 0.17 UJ	< 0.02 UJ	< 0.02 UJ	< 0.01 UJ	< 0.02 UJ
VANADIUM	MG_KG	NE	NE	11.5	10.4	17.2	19	15.8	17.8
ZINC	MG_KG	NE	NE	20.7	17.6	62.4 J	66.7 J	30.1 J	31.4 J
Pesticides/PCBs									
4,4-DDD	UG_KG	22600	95700	0.89 J					
4,4-DDE	UG_KG	NE	NE	0.12 J					
4,4-DDT	UG_KG	2800	2800	0.14 J					
ALDRIN	UG_KG	NE	NE	< 0.72 U					
ALPHA-CHLORDANE	UG_KG	NE	NE	< 0.72 UJ					
AROCLOR-1016	UG_KG	4110	19200	< 7.2 U					
AROCLOR-1260	UG_KG	2490	10300	< 7.2 U					
BETA-BHC	UG_KG	NE	NE	0.1 J					
DDT, TOTAL	UG_KG	NE	NE	1.15 J					
DELTA-BHC	UG_KG	NE	NE	< 0.72 U					
DIELDRIN	UG_KG	NE	NE	19					
ENDOSULFAN I	UG_KG	NE	NE	< 0.72 U					
ENDOSULFAN II	UG_KG	NE	NE	< 1.4 U					
ENDOSULFAN SULFATE	UG_KG	NE	NE	< 1.4 U					

Table A1
Summary of Soil Analytical Results
Data Retrieved from NIRIS
South Weymouth

			Location ID	STP-SO-SB04	STP-SO-SB04	STP-SS-A01	STP-SS-A02	STP-SS-A03	STP-SS-A04
			Sample Date	2/28/2006	2/28/2006	2/14/2008	2/14/2008	2/14/2008	2/14/2008
			Sample ID	STP-SO-SB04-0305-D	STP-SO-SB04-1113	STP-SS-A01-0208	STP-SS-A02-0208	STP-SS-A03-0208	STP-SS-A04-0208
			Depth Interval	3 - 5 ft	11 - 13 ft	0 - 1 ft	0 - 1 ft	0 - 1 ft	0 - 1 ft
			Sample Type	FD	N	N	N	N	N
Chemical Name	Unit	RPG Residential	RPG Non-Residential						
ENDRIN	UG_KG	NE	NE	0.36 J					
ENDRIN ALDEHYDE	UG_KG	NE	NE	< 1.4 U					
ENDRIN KETONE	UG_KG	NE	NE	0.16 J					
HEPTACHLOR	UG_KG	NE	NE	< 0.72 U					
HEPTACHLOR EPOXIDE	UG_KG	NE	NE	< 0.72 U					
LINDANE	UG_KG	NE	NE	< 0.72 U					
METHOXYCHLOR	UG_KG	NE	NE	< 7.2 U					
POLYCHLORINATED BIPHENYLS (PCBS)	UG_KG	NE	NE	< 7.2 U					
TRANS-CHLORDANE	UG_KG	NE	NE	0.34 J					
SVOCs									
2-METHYLNAPHTHALENE	UG_KG	NE	NE	< 7.2 U	< 7.3 U	11 J	4.8 J	< 25 U	< 23 U
ACENAPHTHENE	UG_KG	NE	NE	< 7.2 U	< 7.3 U	94	42	2.6 J	< 23 U
ACENAPHTHYLENE	UG_KG	NE	NE	< 7.2 U	< 7.3 U	< 26 U	21 J	2.6 J	< 23 U
ANTHRACENE	UG_KG	NE	NE	< 7.2 U	< 7.3 U	210	95	9 J	< 23 U
BENZO[A]ANTHRACENE	UG_KG	1570	7340	4.7 J	< 7.3 U	1200	300	46	21 J
BENZO[A]PYRENE	UG_KG	1828.8	1828.8	< 7.2 U	< 7.3 U	770	250	35	15 J
BENZO[B]FLUORANTHENE	UG_KG	1570	7340	5.9 J	< 7.3 U	760	270	30	15 J
BENZO[G,H,I]PERYLENE	UG_KG	NE	NE	< 7.2 U	< 7.3 U	230	76	11 J	3.7 J
BENZO[K]FLUORANTHENE	UG_KG	15700	73400	5.7 J	< 7.3 U	420 J	170 J	17 J	8.7 J
BENZOIC ACID	UG_KG	NE	NE						
BIS(2-ETHYLHEXYL)PHTHALATE	UG_KG	NE	NE	< 360 U	< 360 U				
CARBAZOLE	UG_KG	NE	NE	< 360 U	< 360 U				
CHRYSENE	UG_KG	NE	NE	6.7 J	< 7.3 U	930	300	28	11 J
DIBENZ[A,H]ANTHRACENE	UG_KG	157	734	< 7.2 U	< 7.3 U	120 J	51 J	5.9 J	2.9 J
DIBENZOFURAN	UG_KG	NE	NE	< 360 U	< 360 U				
DI-N-BUTYLPHTHALATE	UG_KG	NE	NE	< 360 U	< 360 U				
DI-N-OCTYLPHTHALATE	UG_KG	NE	NE	< 360 UJ	< 360 UJ				
FLUORANTHENE	UG_KG	NE	NE	12	< 7.3 U	1500	490	67	31
FLUORENE	UG_KG	NE	NE	< 7.2 U	< 7.3 U	110	44	2.4 J	< 23 U
HPAH, TOTAL	UG_KG	NE	NE	44.4 J	< 43 U	7630 J	2427 J	299.9 J	129.9 J
INDENO[1,2,3-CD]PYRENE	UG_KG	NE	NE	< 360 U	< 360 U	300	110	20 J	8.6 J
LPAH, TOTAL	UG_KG	NE	NE	5.3 J	< 7.3 U	1440 J	499.1 J	46.6 J	9.4 J
NAPHTHALENE	UG_KG	NE	NE	< 7.2 U	< 7.3 U	15 J	2.3 J	< 25 U	< 23 U
PAH, TOTAL	UG_KG	NE	NE	49.7 J	< 28 U	9070 J	2926.1 J	346.5 J	139.3 J
PHENANTHRENE	UG_KG	NE	NE	5.3 J	< 7.3 U	1000	290	30	9.4 J
PYRENE	UG_KG	NE	NE	9.4	< 7.3 U	1400	410	40	13 J
VOCs									
1,2-DICHLOROBEZENE	UG_KG	NE	NE	< 4.2 U	< 3.8 U				
1,3-DICHLOROBEZENE	UG_KG	NE	NE	< 4.2 U	< 3.8 U				
1,4-DICHLOROBEZENE	UG_KG	NE	NE	0.89 J	< 3.8 U				

Table A1
 Summary of Soil Analytical Results
 Data Retrieved from NIRIS
 South Weymouth

			Location ID	STP-SO-SB04	STP-SO-SB04	STP-SS-A01	STP-SS-A02	STP-SS-A03	STP-SS-A04
			Sample Date	2/28/2006	2/28/2006	2/14/2008	2/14/2008	2/14/2008	2/14/2008
			Sample ID	STP-SO-SB04-0305-D	STP-SO-SB04-1113	STP-SS-A01-0208	STP-SS-A02-0208	STP-SS-A03-0208	STP-SS-A04-0208
			Depth Interval	3 - 5 ft	11 - 13 ft	0 - 1 ft	0 - 1 ft	0 - 1 ft	0 - 1 ft
			Sample Type	FD	N	N	N	N	N
Chemical Name	Unit	RPG Residential	RPG Non-Residential						
2-BUTANONE	UG_KG	NE	NE	< 8.5 U	< 7.7 U				
2-HEXANONE	UG_KG	NE	NE	< 8.5 U	< 7.7 U				
4-METHYL-2-PENTANONE	UG_KG	NE	NE	< 8.5 U	< 7.7 U				
ACETONE	UG_KG	NE	NE	< 8.5 U	< 7.7 U				
CARBON DISULFIDE	UG_KG	NE	NE	< 4.2 U	< 3.8 U				
CARBON TETRACHLORIDE	UG_KG	NE	NE	< 4.2 U	< 3.8 U				
CHLOROBENZENE	UG_KG	NE	NE	< 4.2 U	< 3.8 U				
CHLOROFORM	UG_KG	NE	NE	< 4.2 U	< 3.8 U				
CYCLOHEXANE	UG_KG	NE	NE	< 4.2 U	< 3.8 U				
DICHLORODIFLUOROMETHANE	UG_KG	NE	NE	< 4.2 U	< 3.8 U				
ETHYLBENZENE	UG_KG	NE	NE	< 4.2 U	< 3.8 U				
METHYL ACETATE	UG_KG	NE	NE	< 4.2 U	< 3.8 U				
METHYL CYCLOHEXANE	UG_KG	NE	NE	< 4.2 U	< 3.8 U				
METHYL TERT-BUTYL ETHER	UG_KG	NE	NE	< 4.2 U	< 3.8 U				
TETRACHLOROETHENE	UG_KG	NE	NE	< 4.2 U	< 3.8 U				
TOLUENE	UG_KG	NE	NE	< 4.2 U	< 3.8 U				
XYLENES, TOTAL	UG_KG	NE	NE	< 4.2 U	< 3.8 U				

Notes:

- 1) U or < = Non-detect at laboratory
- 2) J = Estimated Value
- 3) B = The analyte was found in the associated blank at a significant level relative to the sample result.
- 4) E = The reported value exceeded the
- 5) F = The analyte was positively identified
- 6) T = Tentatively identified compound (using
- 7) R = Rejected data
- 8) Sample Type N = normal sample, FD =
- 9) MG_KG = milligrams per kilogram; UG_KG = micrograms per kilograms; PCT = percent; SU = standard pH units
- 10) NE = not established
- 11) RPG Residential exceedances are bolded and highlighted; RPG Non-Residential exceedances are underlined and highlighted.
- 12) Only those compounds with at least one

Table A1
 Summary of Soil Analytical Results
 Data Retrieved from NIRIS
 South Weymouth

			Location ID	STP-SS-A05	STP-SS-A06	STP-SS-A06	STP-SS-A07	STP-SS-A08	STP-SS-A09	STP-SS-A10
			Sample Date	2/14/2008	2/14/2008	2/14/2008	2/14/2008	2/14/2008	2/14/2008	2/14/2008
			Sample ID	STP-SS-A05-0208	STP-SS-A06-0208	STP-SS-A06-0208-D	STP-SS-A07-0208	STP-SS-A08-0208	STP-SS-A09-0208	STP-SS-A10-0208
			Depth Interval	0 - 1 ft	0 - 1 ft	0 - 1 ft	0 - 1 ft	0 - 1 ft	0 - 1 ft	0 - 1 ft
			Sample Type	N	N	FD	N	N	N	N
Chemical Name	Unit	RPG Residential	RPG Non-Residential							
Metals										
ALUMINUM	MG_KG	NE	NE	6700	6690	6700	5580	6150	6920	7360
ANTIMONY	MG_KG	NE	NE	< 0.07 UJ	< 0.08 UJ	< 0.06 UJ	< 0.02 UJ	< 0.04 UJ	< 0.06 UJ	< 0.07 UJ
ARSENIC	MG_KG	6.77	30	1.9	3.8 J	2.9 J	1.1 J	1.5 J	2.2	2.9 J
BARIIUM	MG_KG	NE	NE	19.5	26.1	27.1	18	19.6	26.7	37.1
BERYLLIUM	MG_KG	NE	NE	0.3	0.35	0.38	0.31	0.33	0.29	0.41
CADMIUM	MG_KG	NE	NE	0.19	0.22	0.22	0.05 J	0.1	0.21	0.31
CALCIUM	MG_KG	NE	NE	1630	1680	1530	1290	1420	1960	3280
CHROMIUM, TOTAL	MG_KG	NE	NE	11.3	10.7	9.6	8.2	10.7	8.4	11.8
COBALT	MG_KG	NE	NE	3	3	2.9	3.2	3	3	3.5
COPPER	MG_KG	NE	NE	8.8	10.3	10.4	5.3	6.6	9.8	11.8
IRON	MG_KG	NE	NE	9160	10000	11500	9290	9310	9970	12300
LEAD	MG_KG	NE	NE	35.8 J	32.7	37.7	7	15.2	47.1 J	55.5
MAGNESIUM	MG_KG	NE	NE	1730	1770	1610	1550	1780	1930	2100
MANGANESE	MG_KG	NE	NE	145	155	242	186	169	201	201
MERCURY	MG_KG	NE	NE	0.08	0.29	0.39	< 0.023 U	0.04	0.35	0.12
NICKEL	MG_KG	NE	NE	7.1	6.6	6.4	5.2	6.8	6.1	7.8
POTASSIUM	MG_KG	NE	NE	364	428	423	361	450	328	532
SELENIUM	MG_KG	NE	NE	0.23 J	0.27 J	0.34	0.21 J	0.19 J	0.3 J	0.33 J
SILVER	MG_KG	NE	NE	0.12	0.52	0.51	0.03 J	< 0.05 UJ	0.2	0.19
SODIUM	MG_KG	NE	NE	66 J	< 63.1 UJ	< 51.8 UJ	< 56.6 UJ	< 68.8 UJ	63 J	< 61.2 U
THALLIUM	MG_KG	NE	NE	< 0.02 UJ	< 0.04 UJ	< 0.03 UJ	0.11 J	< 0.02 UJ	< 0.02 UJ	< 0.02 UJ
VANADIUM	MG_KG	NE	NE	16	18.1	17	14.5	15.5	16.2	20.6
ZINC	MG_KG	NE	NE	48.1 J	45.9 J	57.8 J	22 J	26.9 J	58 J	56.7 J
Pesticides/PCBs										
4,4-DDD	UG_KG	22600	95700							
4,4-DDE	UG_KG	NE	NE							
4,4-DDT	UG_KG	2800	2800							
ALDRIN	UG_KG	NE	NE							
ALPHA-CHLORDANE	UG_KG	NE	NE							
AROCLOR-1016	UG_KG	4110	19200							
AROCLOR-1260	UG_KG	2490	10300							
BETA-BHC	UG_KG	NE	NE							
DDT, TOTAL	UG_KG	NE	NE							
DELTA-BHC	UG_KG	NE	NE							
DIELDRIN	UG_KG	NE	NE							
ENDOSULFAN I	UG_KG	NE	NE							
ENDOSULFAN II	UG_KG	NE	NE							
ENDOSULFAN SULFATE	UG_KG	NE	NE							

Table A1
 Summary of Soil Analytical Results
 Data Retrieved from NIRIS
 South Weymouth

			Location ID	STP-SS-A05	STP-SS-A06	STP-SS-A06	STP-SS-A07	STP-SS-A08	STP-SS-A09	STP-SS-A10
			Sample Date	2/14/2008	2/14/2008	2/14/2008	2/14/2008	2/14/2008	2/14/2008	2/14/2008
			Sample ID	STP-SS-A05-0208	STP-SS-A06-0208	STP-SS-A06-0208-D	STP-SS-A07-0208	STP-SS-A08-0208	STP-SS-A09-0208	STP-SS-A10-0208
			Depth Interval	0 - 1 ft	0 - 1 ft	0 - 1 ft	0 - 1 ft	0 - 1 ft	0 - 1 ft	0 - 1 ft
			Sample Type	N	N	FD	N	N	N	N
Chemical Name	Unit	RPG Residential	RPG Non-Residential							
ENDRIN	UG_KG	NE	NE							
ENDRIN ALDEHYDE	UG_KG	NE	NE							
ENDRIN KETONE	UG_KG	NE	NE							
HEPTACHLOR	UG_KG	NE	NE							
HEPTACHLOR EPOXIDE	UG_KG	NE	NE							
LINDANE	UG_KG	NE	NE							
METHOXYCHLOR	UG_KG	NE	NE							
POLYCHLORINATED BIPHENYLS (PCBS)	UG_KG	NE	NE							
TRANS-CHLORDANE	UG_KG	NE	NE							
SVOCs										
2-METHYLNAPHTHALENE	UG_KG	NE	NE	120	13 J	35 J	< 22 U	4 J	24 J	37
ACENAPHTHENE	UG_KG	NE	NE	1200 J	100 J	180 J	2.2 J	10 J	260	450 J
ACENAPHTHYLENE	UG_KG	NE	NE	< 26 U	< 23 U	< 23 U	3.1 J	6.3 J	< 27 U	< 23 U
ANTHRACENE	UG_KG	NE	NE	2500	240 J	700 J	17 J	30	950	1700
BENZO[A]ANTHRACENE	UG_KG	1570	7340	6500 J	1200	1900	120	170	2000	4400
BENZO[A]PYRENE	UG_KG	1828.8	1828.8	4000	780	1300 J	94	120 J	1600	3100
BENZO[B]FLUORANTHENE	UG_KG	1570	7340	4800 J	720	1200 J	88	110 J	170 J	< 23 U
BENZO[G,H,I]PERYLENE	UG_KG	NE	NE	2200	260	280	46	50 J	490 J	1300
BENZO[K]FLUORANTHENE	UG_KG	15700	73400	3000 J	420 J	660 J	51	67	870	1800
BENZOIC ACID	UG_KG	NE	NE							
BIS(2-ETHYLHEXYL)PHTHALATE	UG_KG	NE	NE							
CARBAZOLE	UG_KG	NE	NE							
CHRYSENE	UG_KG	NE	NE	5100	880	1400	96	140	1700	3500
DIBENZ[A,H]ANTHRACENE	UG_KG	157	734	200	120 J	130 J	17 J	20 J	400 J	100 J
DIBENZOFURAN	UG_KG	NE	NE							
DI-N-BUTYLPHTHALATE	UG_KG	NE	NE							
DI-N-OCTYLPHTHALATE	UG_KG	NE	NE							
FLUORANTHENE	UG_KG	NE	NE	15000	1400 J	2500 J	150	190 J	3800	7200
FLUORENE	UG_KG	NE	NE	1200 J	120 J	230 J	2.3 J	9.3 J	270	520 J
HPAH, TOTAL	UG_KG	NE	NE	56800 J	7620 J	12220 J	842 J	1124 J	15580 J	28200 J
INDENO[1,2,3-CD]PYRENE	UG_KG	NE	NE	3000 J	440 J	750 J	60	67 J	850	1800
LPAH, TOTAL	UG_KG	NE	NE	14660 J	1488 J	3245 J	86.6 J	181 J	4034 J	6752 J
NAPHTHALENE	UG_KG	NE	NE	140	15 J	100 J	< 22 U	1.4 J	30	45
PAH, TOTAL	UG_KG	NE	NE	71460 J	9108 J	15465 J	928.6 J	1305 J	19614 J	34952 J
PHENANTHRENE	UG_KG	NE	NE	9500	1000 J	2000 J	62	120 J	2500	4000
PYRENE	UG_KG	NE	NE	13000	1400 J	2100 J	120	190 J	3700	5000
VOCs										
1,2-DICHLOROBENZENE	UG_KG	NE	NE							
1,3-DICHLOROBENZENE	UG_KG	NE	NE							
1,4-DICHLOROBENZENE	UG_KG	NE	NE							

Table A1
 Summary of Soil Analytical Results
 Data Retrieved from NIRIS
 South Weymouth

				Location ID	STP-SS-A05	STP-SS-A06	STP-SS-A06	STP-SS-A07	STP-SS-A08	STP-SS-A09	STP-SS-A10
				Sample Date	2/14/2008	2/14/2008	2/14/2008	2/14/2008	2/14/2008	2/14/2008	2/14/2008
				Sample ID	STP-SS-A05-0208	STP-SS-A06-0208	STP-SS-A06-0208-D	STP-SS-A07-0208	STP-SS-A08-0208	STP-SS-A09-0208	STP-SS-A10-0208
				Depth Interval	0 - 1 ft	0 - 1 ft	0 - 1 ft	0 - 1 ft	0 - 1 ft	0 - 1 ft	0 - 1 ft
				Sample Type	N	N	FD	N	N	N	N
Chemical Name	Unit	RPG Residential	RPG Non-Residential								
2-BUTANONE	UG_KG	NE	NE								
2-HEXANONE	UG_KG	NE	NE								
4-METHYL-2-PENTANONE	UG_KG	NE	NE								
ACETONE	UG_KG	NE	NE								
CARBON DISULFIDE	UG_KG	NE	NE								
CARBON TETRACHLORIDE	UG_KG	NE	NE								
CHLOROBENZENE	UG_KG	NE	NE								
CHLOROFORM	UG_KG	NE	NE								
CYCLOHEXANE	UG_KG	NE	NE								
DICHLORODIFLUOROMETHANE	UG_KG	NE	NE								
ETHYLBENZENE	UG_KG	NE	NE								
METHYL ACETATE	UG_KG	NE	NE								
METHYL CYCLOHEXANE	UG_KG	NE	NE								
METHYL TERT-BUTYL ETHER	UG_KG	NE	NE								
TETRACHLOROETHENE	UG_KG	NE	NE								
TOLUENE	UG_KG	NE	NE								
XYLENES, TOTAL	UG_KG	NE	NE								

- Notes:
- 1) U or < = Non-detect at laboratory
 - 2) J = Estimated Value
 - 3) B = The analyte was found in the associated blank at a significant level relative to the sample result.
 - 4) E = The reported value exceeded the
 - 5) F = The analyte was positively identified
 - 6) T = Tentatively identified compound (using
 - 7) R = Rejected data
 - 8) Sample Type N = normal sample, FD =
 - 9) MG_KG = milligrams per kilogram; UG_KG = micrograms per kilograms; PCT = percent; SU = standard pH units
 - 10) NE = not established
 - 11) RPG Residential exceedances are bolded and highlighted; RPG Non-Residential exceedances are underlined and highlighted.
 - 12) Only those compounds with at least one

Table A1
 Summary of Soil Analytical Results
 Data Retrieved from NIRIS
 South Weymouth

			Location ID	STP-SS-A11	STP-SS-A12	STP-SS-A13	STP-SS-A14	STP-SS-A15	STP-SS-A15	STP-SS-A16
			Sample Date	2/14/2008	2/14/2008	2/14/2008	2/14/2008	2/14/2008	2/14/2008	2/14/2008
			Sample ID	STP-SS-A11-0208	STP-SS-A12-0208	STP-SS-A13-0208	STP-SS-A14-0208	STP-SS-A15-0208	STP-SS-A15-0208-D	STP-SS-A16-0208
			Depth Interval	0 - 1 ft	0 - 1 ft					
			Sample Type	N	N	N	N	N	FD	N
Chemical Name	Unit	RPG Residential	RPG Non-Residential							
Metals										
ALUMINUM	MG_KG	NE	NE	8120	6380	6240	5920	6360	6340	7900
ANTIMONY	MG_KG	NE	NE	< 0.07 UJ	< 0.06 UJ	< 0.08 UJ	< 0.05 UJ	< 0.04 UJ	< 0.04 UJ	< 0.04 UJ
ARSENIC	MG_KG	6.77	30	2.2 J	1.8 J	2.5 J	1.4 J	2.6	2.4	2.3
BARIUM	MG_KG	NE	NE	44.4	21.8	42.6	20.3	25.3	28.2	19.6
BERYLLIUM	MG_KG	NE	NE	0.34	0.46	0.38	0.31	0.28	0.32	0.41
CADMIUM	MG_KG	NE	NE	0.35	0.13	0.22	0.15	< 0.08 UJ	0.09	0.1
CALCIUM	MG_KG	NE	NE	1680	1620	1320	1500	1510	1670	1720
CHROMIUM, TOTAL	MG_KG	NE	NE	15.8	9.6	17.3	8.2	10	9.8	10.1
COBALT	MG_KG	NE	NE	4.9	3.2	3.2	3.1	4.8	4.6	3.4
COPPER	MG_KG	NE	NE	10.9	7.2	10.8	9	7.5	7.6	7.5
IRON	MG_KG	NE	NE	15800	11300	9650	9420	12700	12400	12000
LEAD	MG_KG	NE	NE	266	21.2	62.1	25	49.2 J	44.3 J	11.2 J
MAGNESIUM	MG_KG	NE	NE	3280	1740	1680	1610	2160	1980	2410
MANGANESE	MG_KG	NE	NE	260	180	158	139	224	187	238
MERCURY	MG_KG	NE	NE	0.05	0.3	0.08	0.05	0.07	0.08	0.03
NICKEL	MG_KG	NE	NE	10.5	6.2	7	5.6	6.6	6.7	7.8
POTASSIUM	MG_KG	NE	NE	476	405	446	353	572	550	348
SELENIUM	MG_KG	NE	NE	0.22 J	0.24 J	0.31 J	0.34 J	0.18 J	0.19 J	0.35 J
SILVER	MG_KG	NE	NE	< 0.05 UJ	0.05 J	0.22	0.42	0.09	0.06 J	< 0.04 UJ
SODIUM	MG_KG	NE	NE	< 50.9 UJ	< 54.6 UJ	< 62 UJ	< 57.9 UJ	93 J	99.6 J	86.6
THALLIUM	MG_KG	NE	NE	< 0.02 UJ	< 0.02 UJ	< 0.04 UJ	< 0.04 UJ	< 0.02 UJ	< 0.02 UJ	< 0.02 UJ
VANADIUM	MG_KG	NE	NE	22.4	18.3	18.1	19.8	24.8	26.5	16.9
ZINC	MG_KG	NE	NE	52.9 J	30.8 J	68.1 J	29.1 J	30.1 J	30.7 J	29.8 J
Pesticides/PCBs										
4,4-DDD	UG_KG	22600	95700							
4,4-DDE	UG_KG	NE	NE							
4,4-DDT	UG_KG	2800	2800							
ALDRIN	UG_KG	NE	NE							
ALPHA-CHLORDANE	UG_KG	NE	NE							
AROCLOR-1016	UG_KG	4110	19200							
AROCLOR-1260	UG_KG	2490	10300							
BETA-BHC	UG_KG	NE	NE							
DDT, TOTAL	UG_KG	NE	NE							
DELTA-BHC	UG_KG	NE	NE							
DIELDRIN	UG_KG	NE	NE							
ENDOSULFAN I	UG_KG	NE	NE							
ENDOSULFAN II	UG_KG	NE	NE							
ENDOSULFAN SULFATE	UG_KG	NE	NE							

Table A1
 Summary of Soil Analytical Results
 Data Retrieved from NIRIS
 South Weymouth

			Location ID	STP-SS-A11	STP-SS-A12	STP-SS-A13	STP-SS-A14	STP-SS-A15	STP-SS-A15	STP-SS-A16
			Sample Date	2/14/2008	2/14/2008	2/14/2008	2/14/2008	2/14/2008	2/14/2008	2/14/2008
			Sample ID	STP-SS-A11-0208	STP-SS-A12-0208	STP-SS-A13-0208	STP-SS-A14-0208	STP-SS-A15-0208	STP-SS-A15-0208-D	STP-SS-A16-0208
			Depth Interval	0 - 1 ft	0 - 1 ft					
			Sample Type	N	N	N	N	N	FD	N
Chemical Name	Unit	RPG Residential	RPG Non-Residential							
ENDRIN	UG_KG	NE	NE							
ENDRIN ALDEHYDE	UG_KG	NE	NE							
ENDRIN KETONE	UG_KG	NE	NE							
HEPTACHLOR	UG_KG	NE	NE							
HEPTACHLOR EPOXIDE	UG_KG	NE	NE							
LINDANE	UG_KG	NE	NE							
METHOXYCHLOR	UG_KG	NE	NE							
POLYCHLORINATED BIPHENYLS (PCBS)	UG_KG	NE	NE							
TRANS-CHLORDANE	UG_KG	NE	NE							
SVOCs										
2-METHYLNAPHTHALENE	UG_KG	NE	NE	36	6.8 J	< 240 U	120 J	< 25 U	< 25 U	9.3 J
ACENAPHTHENE	UG_KG	NE	NE	340	62	440	1700	4.3 J	11 J	75
ACENAPHTHYLENE	UG_KG	NE	NE	< 230 U	< 23 U	< 240 U	< 230 U	4.9 J	7.2 J	< 28 U
ANTHRACENE	UG_KG	NE	NE	680	160	1100	5900	9.1 J	26	120
BENZO[A]ANTHRACENE	UG_KG	1570	7340	2400	910	3600	12000	68 J	130 J	610 J
BENZO[A]PYRENE	UG_KG	1828.8	1828.8	1600	650	2500	8700	55 J	100 J	400
BENZO[B]FLUORANTHENE	UG_KG	1570	7340	1900 J	780	2800	9400	72 J	130 J	550 J
BENZO[G,H,I]PERYLENE	UG_KG	NE	NE	950 J	390	1800	4200	42 J	70 J	220 J
BENZO[K]FLUORANTHENE	UG_KG	15700	73400	900 J	490 J	1500 J	6000 J	37 J	65 J	240 J
BENZOIC ACID	UG_KG	NE	NE							
BIS(2-ETHYLHEXYL)PHTHALATE	UG_KG	NE	NE							
CARBAZOLE	UG_KG	NE	NE							
CHRYSENE	UG_KG	NE	NE	2000	700	2700	10000	55 J	100 J	500
DIBENZ[A,H]ANTHRACENE	UG_KG	157	734	< 230 U	230	1300 J	1600 J	24 J	44 J	170
DIBENZOFURAN	UG_KG	NE	NE							
DI-N-BUTYLPHTHALATE	UG_KG	NE	NE							
DI-N-OCTYLPHTHALATE	UG_KG	NE	NE							
FLUORANTHENE	UG_KG	NE	NE	5100	1700	8000	21000	110 J	260 J	1300
FLUORENE	UG_KG	NE	NE	360	62	470	1700	5.7 J	14 J	68
HPAH, TOTAL	UG_KG	NE	NE	18450 J	8130 J	32200 J	96700 J	659 J	1257 J	5590 J
INDENO[1,2,3-CD]PYRENE	UG_KG	NE	NE	< 230 U	680	2300	5800	56 J	98 J	300
LPAH, TOTAL	UG_KG	NE	NE	4858 J	970.8 J	5710	23590 J	87 J	208.2 J	957.3 J
NAPHTHALENE	UG_KG	NE	NE	42 J	< 23 U	< 240 U	170 J	< 25 U	< 25 U	15 J
PAH, TOTAL	UG_KG	NE	NE	23308 J	9100.8 J	37910 J	120290 J	746 J	1465.2 J	6547.3 J
PHENANTHRENE	UG_KG	NE	NE	3400	680	3700	14000	63 J	150 J	670
PYRENE	UG_KG	NE	NE	3600	1600	5700	18000	140 J	260 J	1300
VOCs										
1,2-DICHLOROBENZENE	UG_KG	NE	NE							
1,3-DICHLOROBENZENE	UG_KG	NE	NE							
1,4-DICHLOROBENZENE	UG_KG	NE	NE							

Table A1
 Summary of Soil Analytical Results
 Data Retrieved from NIRIS
 South Weymouth

			Location ID	STP-SS-A11	STP-SS-A12	STP-SS-A13	STP-SS-A14	STP-SS-A15	STP-SS-A15	STP-SS-A16
			Sample Date	2/14/2008	2/14/2008	2/14/2008	2/14/2008	2/14/2008	2/14/2008	2/14/2008
			Sample ID	STP-SS-A11-0208	STP-SS-A12-0208	STP-SS-A13-0208	STP-SS-A14-0208	STP-SS-A15-0208	STP-SS-A15-0208-D	STP-SS-A16-0208
			Depth Interval	0 - 1 ft	0 - 1 ft					
			Sample Type	N	N	N	N	N	FD	N
Chemical Name	Unit	RPG Residential	RPG Non-Residential							
2-BUTANONE	UG_KG	NE	NE							
2-HEXANONE	UG_KG	NE	NE							
4-METHYL-2-PENTANONE	UG_KG	NE	NE							
ACETONE	UG_KG	NE	NE							
CARBON DISULFIDE	UG_KG	NE	NE							
CARBON TETRACHLORIDE	UG_KG	NE	NE							
CHLOROBENZENE	UG_KG	NE	NE							
CHLOROFORM	UG_KG	NE	NE							
CYCLOHEXANE	UG_KG	NE	NE							
DICHLORODIFLUOROMETHANE	UG_KG	NE	NE							
ETHYLBENZENE	UG_KG	NE	NE							
METHYL ACETATE	UG_KG	NE	NE							
METHYL CYCLOHEXANE	UG_KG	NE	NE							
METHYL TERT-BUTYL ETHER	UG_KG	NE	NE							
TETRACHLOROETHENE	UG_KG	NE	NE							
TOLUENE	UG_KG	NE	NE							
XYLENES, TOTAL	UG_KG	NE	NE							

- Notes:
- 1) U or < = Non-detect at laboratory
 - 2) J = Estimated Value
 - 3) B = The analyte was found in the associated blank at a significant level relative to the sample result.
 - 4) E = The reported value exceeded the
 - 5) F = The analyte was positively identified
 - 6) T = Tentatively identified compound (using
 - 7) R = Rejected data
 - 8) Sample Type N = normal sample, FD =
 - 9) MG_KG = milligrams per kilogram; UG_KG = micrograms per kilograms; PCT = percent; SU = standard pH units
 - 10) NE = not established
 - 11) RPG Residential exceedances are bolded and highlighted; RPG Non-Residential exceedances are underlined and highlighted.
 - 12) Only those compounds with at least one

Table A1
 Summary of Soil Analytical Results
 Data Retrieved from NIRIS
 South Weymouth

			Location ID	STP-SS-A17	STP-SS-A18	STP-SS-A19	STP-SS-A20	STP-SS-A21	STP-SS-A22	STP-SS-A23
			Sample Date	2/14/2008	7/8/2013	7/8/2013	7/8/2013	7/8/2013	7/9/2013	7/9/2013
			Sample ID	STP-SS-A17-0208	STP-SS-A18-0713	STP-SS-A19-0713	STP-SS-A20-0713	STP-SS-A21-0713	STP-SS-A22-0713	STP-SS-A23-0713
			Depth Interval	0 - 1 ft	1-3'	1-3'	1-3'	1-3'	0-2'	0-2'
			Sample Type	N	N	N	N	N	N	N
Chemical Name	Unit	RPG Residential	RPG Non-Residential							
Metals										
ALUMINUM	MG_KG	NE	NE	7010						
ANTIMONY	MG_KG	NE	NE	< 0.04 UJ						
ARSENIC	MG_KG	6.77	30	1.5						
BARIUM	MG_KG	NE	NE	23.8						
BERYLLIUM	MG_KG	NE	NE	0.67						
CADMIUM	MG_KG	NE	NE	0.16						
CALCIUM	MG_KG	NE	NE	1730						
CHROMIUM, TOTAL	MG_KG	NE	NE	8						
COBALT	MG_KG	NE	NE	2.6						
COPPER	MG_KG	NE	NE	9.2						
IRON	MG_KG	NE	NE	9450						
LEAD	MG_KG	NE	NE	19.4 J						
MAGNESIUM	MG_KG	NE	NE	1670						
MANGANESE	MG_KG	NE	NE	173						
MERCURY	MG_KG	NE	NE	0.05						
NICKEL	MG_KG	NE	NE	5.3						
POTASSIUM	MG_KG	NE	NE	389						
SELENIUM	MG_KG	NE	NE	0.31 J						
SILVER	MG_KG	NE	NE	0.06 J						
SODIUM	MG_KG	NE	NE	83.4						
THALLIUM	MG_KG	NE	NE	< 0.02 UJ						
VANADIUM	MG_KG	NE	NE	15.2						
ZINC	MG_KG	NE	NE	35.7 J						
Pesticides/PCBs										
4,4-DDD	UG_KG	22600	95700							
4,4-DDE	UG_KG	NE	NE							
4,4-DDT	UG_KG	2800	2800							
ALDRIN	UG_KG	NE	NE							
ALPHA-CHLORDANE	UG_KG	NE	NE							
AROCLOR-1016	UG_KG	4110	19200							
AROCLOR-1260	UG_KG	2490	10300							
BETA-BHC	UG_KG	NE	NE							
DDT, TOTAL	UG_KG	NE	NE							
DELTA-BHC	UG_KG	NE	NE							
DIELDRIN	UG_KG	NE	NE							
ENDOSULFAN I	UG_KG	NE	NE							
ENDOSULFAN II	UG_KG	NE	NE							
ENDOSULFAN SULFATE	UG_KG	NE	NE							

Table A1
 Summary of Soil Analytical Results
 Data Retrieved from NIRIS
 South Weymouth

			Location ID	STP-SS-A17	STP-SS-A18	STP-SS-A19	STP-SS-A20	STP-SS-A21	STP-SS-A22	STP-SS-A23
			Sample Date	2/14/2008	7/8/2013	7/8/2013	7/8/2013	7/8/2013	7/9/2013	7/9/2013
			Sample ID	STP-SS-A17-0208	STP-SS-A18-0713	STP-SS-A19-0713	STP-SS-A20-0713	STP-SS-A21-0713	STP-SS-A22-0713	STP-SS-A23-0713
			Depth Interval	0 - 1 ft	1-3'	1-3'	1-3'	1-3'	0-2'	0-2'
			Sample Type	N	N	N	N	N	N	N
Chemical Name	Unit	RPG Residential	RPG Non-Residential							
ENDRIN	UG_KG	NE	NE							
ENDRIN ALDEHYDE	UG_KG	NE	NE							
ENDRIN KETONE	UG_KG	NE	NE							
HEPTACHLOR	UG_KG	NE	NE							
HEPTACHLOR EPOXIDE	UG_KG	NE	NE							
LINDANE	UG_KG	NE	NE							
METHOXYCHLOR	UG_KG	NE	NE							
POLYCHLORINATED BIPHENYLS (PCBS)	UG_KG	NE	NE							
TRANS-CHLORDANE	UG_KG	NE	NE							
SVOCs										
2-METHYLNAPHTHALENE	UG_KG	NE	NE	8.4 J	160	40	56	< 11 U	2700 J	27
ACENAPHTHENE	UG_KG	NE	NE	67	680 J	410 J	710 J	29 J	12000	450 J
ACENAPHTHYLENE	UG_KG	NE	NE	< 26 U	< 11 U	< 11 U	< 11 U	< 11 U	< 110 U	< 11 U
ANTHRACENE	UG_KG	NE	NE	110	1800	990	1900	49 J	28000	1300
BENZO[A]ANTHRACENE	UG_KG	1570	7340	340	4200	1800	3800	250	32000	3000
BENZO[A]PYRENE	UG_KG	1828.8	1828.8	210	2700	1300	2600 J	150 J	18000	2100 J
BENZO[B]FLUORANTHENE	UG_KG	1570	7340	250 J	4300	2000	4200 J	370	26000	3100 J
BENZO[G,H,I]PERYLENE	UG_KG	NE	NE	100 J	970	530	1000 J	69 J	6000 J	760 J
BENZO[K]FLUORANTHENE	UG_KG	15700	73400	150 J	1700	1000	1600 J	73 J	14000	1500 J
BENZOIC ACID	UG_KG	NE	NE							
BIS(2-ETHYLHEXYL)PHTHALATE	UG_KG	NE	NE							
CARBAZOLE	UG_KG	NE	NE							
CHRYSENE	UG_KG	NE	NE	270	4100	2100	4000	220	31000	3200
DIBENZO[A,H]ANTHRACENE	UG_KG	157	734	110	220 J	220 J	240 J	20 J	2700	250 J
DIBENZOFURAN	UG_KG	NE	NE							
DI-N-BUTYLPHTHALATE	UG_KG	NE	NE							
DI-N-OCTYLPHTHALATE	UG_KG	NE	NE							
FLUORANTHENE	UG_KG	NE	NE	740	9300	4700	10000	460	86000	7300
FLUORENE	UG_KG	NE	NE	60	890	440	860 J	25	17000	480 J
HPAH, TOTAL	UG_KG	NE	NE	2940 J						
INDENO[1,2,3-CD]PYRENE	UG_KG	NE	NE	180	1400	700	1400 J	100 J	8500 J	1000 J
LPAH, TOTAL	UG_KG	NE	NE	747.4 J						
NAPHTHALENE	UG_KG	NE	NE	12 J	84	85	96	4.8 J	3400 J	46
PAH, TOTAL	UG_KG	NE	NE	3687.4 J						
PHENANTHRENE	UG_KG	NE	NE	490	6000	3200	5500	260	81000	3700
PYRENE	UG_KG	NE	NE	590	7700	3500	6000	430	58000	5300
VOCs										
1,2-DICHLOROBEZENE	UG_KG	NE	NE							
1,3-DICHLOROBEZENE	UG_KG	NE	NE							
1,4-DICHLOROBEZENE	UG_KG	NE	NE							

Table A1
 Summary of Soil Analytical Results
 Data Retrieved from NIRIS
 South Weymouth

			Location ID	STP-SS-A17	STP-SS-A18	STP-SS-A19	STP-SS-A20	STP-SS-A21	STP-SS-A22	STP-SS-A23
			Sample Date	2/14/2008	7/8/2013	7/8/2013	7/8/2013	7/8/2013	7/9/2013	7/9/2013
			Sample ID	STP-SS-A17-0208	STP-SS-A18-0713	STP-SS-A19-0713	STP-SS-A20-0713	STP-SS-A21-0713	STP-SS-A22-0713	STP-SS-A23-0713
			Depth Interval	0 - 1 ft	1-3'	1-3'	1-3'	1-3'	0-2'	0-2'
			Sample Type	N	N	N	N	N	N	N
Chemical Name	Unit	RPG Residential	RPG Non-Residential							
2-BUTANONE	UG_KG	NE	NE							
2-HEXANONE	UG_KG	NE	NE							
4-METHYL-2-PENTANONE	UG_KG	NE	NE							
ACETONE	UG_KG	NE	NE							
CARBON DISULFIDE	UG_KG	NE	NE							
CARBON TETRACHLORIDE	UG_KG	NE	NE							
CHLOROBENZENE	UG_KG	NE	NE							
CHLOROFORM	UG_KG	NE	NE							
CYCLOHEXANE	UG_KG	NE	NE							
DICHLORODIFLUOROMETHANE	UG_KG	NE	NE							
ETHYLBENZENE	UG_KG	NE	NE							
METHYL ACETATE	UG_KG	NE	NE							
METHYL CYCLOHEXANE	UG_KG	NE	NE							
METHYL TERT-BUTYL ETHER	UG_KG	NE	NE							
TETRACHLOROETHENE	UG_KG	NE	NE							
TOLUENE	UG_KG	NE	NE							
XYLENES, TOTAL	UG_KG	NE	NE							

- Notes:
- 1) U or < = Non-detect at laboratory
 - 2) J = Estimated Value
 - 3) B = The analyte was found in the associated blank at a significant level relative to the sample result.
 - 4) E = The reported value exceeded the
 - 5) F = The analyte was positively identified
 - 6) T = Tentatively identified compound (using
 - 7) R = Rejected data
 - 8) Sample Type N = normal sample, FD =
 - 9) MG_KG = milligrams per kilogram; UG_KG = micrograms per kilograms; PCT = percent; SU = standard pH units
 - 10) NE = not established
 - 11) RPG Residential exceedances are bolded and highlighted; RPG Non-Residential exceedances are underlined and highlighted.
 - 12) Only those compounds with at least one

Table A1
 Summary of Soil Analytical Results
 Data Retrieved from NIRIS
 South Weymouth

			Location ID	STP-SS-A24	STP-SS-A24	STP-SS-A25	STP-SS-A26	STP-SS-A27
			Sample Date	7/9/2013	7/9/2013	7/9/2013	7/9/2013	7/10/2013
			Sample ID	STP-SS-A24-0713-D	STP-SS-A24-0713	STP-SS-A25-0713	STP-SS-A26-0713	STP-SS-A27-0713
			Depth Interval	2.5-4.5'	2.5-4.5'	2.5-4.5'	1-3'	0-2'
			Sample Type	FD	N	N	N	N
Chemical Name	Unit	RPG Residential	RPG Non-Residential					
Metals								
ALUMINUM	MG_KG	NE	NE					
ANTIMONY	MG_KG	NE	NE					
ARSENIC	MG_KG	6.77	30					
BARIUM	MG_KG	NE	NE					
BERYLLIUM	MG_KG	NE	NE					
CADMIUM	MG_KG	NE	NE					
CALCIUM	MG_KG	NE	NE					
CHROMIUM, TOTAL	MG_KG	NE	NE					
COBALT	MG_KG	NE	NE					
COPPER	MG_KG	NE	NE					
IRON	MG_KG	NE	NE					
LEAD	MG_KG	NE	NE					
MAGNESIUM	MG_KG	NE	NE					
MANGANESE	MG_KG	NE	NE					
MERCURY	MG_KG	NE	NE					
NICKEL	MG_KG	NE	NE					
POTASSIUM	MG_KG	NE	NE					
SELENIUM	MG_KG	NE	NE					
SILVER	MG_KG	NE	NE					
SODIUM	MG_KG	NE	NE					
THALLIUM	MG_KG	NE	NE					
VANADIUM	MG_KG	NE	NE					
ZINC	MG_KG	NE	NE					
Pesticides/PCBs								
4,4-DDD	UG_KG	22600	95700					
4,4-DDE	UG_KG	NE	NE					
4,4-DDT	UG_KG	2800	2800					
ALDRIN	UG_KG	NE	NE					
ALPHA-CHLORDANE	UG_KG	NE	NE					
AROCLOR-1016	UG_KG	4110	19200					
AROCLOR-1260	UG_KG	2490	10300					
BETA-BHC	UG_KG	NE	NE					
DDT, TOTAL	UG_KG	NE	NE					
DELTA-BHC	UG_KG	NE	NE					
DIELDRIN	UG_KG	NE	NE					
ENDOSULFAN I	UG_KG	NE	NE					
ENDOSULFAN II	UG_KG	NE	NE					
ENDOSULFAN SULFATE	UG_KG	NE	NE					

Table A1
 Summary of Soil Analytical Results
 Data Retrieved from NIRIS
 South Weymouth

			Location ID	STP-SS-A24	STP-SS-A24	STP-SS-A25	STP-SS-A26	STP-SS-A27
			Sample Date	7/9/2013	7/9/2013	7/9/2013	7/9/2013	7/10/2013
			Sample ID	STP-SS-A24-0713-D	STP-SS-A24-0713	STP-SS-A25-0713	STP-SS-A26-0713	STP-SS-A27-0713
			Depth Interval	2.5-4.5'	2.5-4.5'	2.5-4.5'	1-3'	0-2'
			Sample Type	FD	N	N	N	N
Chemical Name	Unit	RPG Residential	RPG Non-Residential					
ENDRIN	UG_KG	NE	NE					
ENDRIN ALDEHYDE	UG_KG	NE	NE					
ENDRIN KETONE	UG_KG	NE	NE					
HEPTACHLOR	UG_KG	NE	NE					
HEPTACHLOR EPOXIDE	UG_KG	NE	NE					
LINDANE	UG_KG	NE	NE					
METHOXYCHLOR	UG_KG	NE	NE					
POLYCHLORINATED BIPHENYLS (PCBS)	UG_KG	NE	NE					
TRANS-CHLORDANE	UG_KG	NE	NE					
SVOCs								
2-METHYLNAPHTHALENE	UG_KG	NE	NE	120 J	180	140	33	170
ACENAPHTHENE	UG_KG	NE	NE	940 J	800 J	1200 J	420 J	1100 J
ACENAPHTHYLENE	UG_KG	NE	NE	< 10 U	< 11 U	< 9.8 U	< 10 U	< 11 U
ANTHRACENE	UG_KG	NE	NE	2800	1700	3300	920	2400
BENZO[A]ANTHRACENE	UG_KG	1570	7340	4400	3100	6000	2200 J	4700
BENZO[A]PYRENE	UG_KG	1828.8	1828.8	3000	2200	3800 J	1400 J	3000
BENZO[B]FLUORANTHENE	UG_KG	1570	7340	4500	3500	6000 J	2000 J	4000
BENZO[G,H,I]PERYLENE	UG_KG	NE	NE	1200 J	780 J	1300 J	500 J	1200 J
BENZO[K]FLUORANTHENE	UG_KG	15700	73400	2400	1600	2800 J	1200 J	2700
BENZOIC ACID	UG_KG	NE	NE					
BIS(2-ETHYLHEXYL)PHTHALATE	UG_KG	NE	NE					
CARBAZOLE	UG_KG	NE	NE					
CHRYSENE	UG_KG	NE	NE	5400	3800	6100	2000 J	4500
DIBENZ[A,H]ANTHRACENE	UG_KG	157	734	300 J	300 J	470 J	120 J	280 J
DIBENZOFURAN	UG_KG	NE	NE					
DI-N-BUTYLPHTHALATE	UG_KG	NE	NE					
DI-N-OCTYLPHTHALATE	UG_KG	NE	NE					
FLUORANTHENE	UG_KG	NE	NE	14000	9500	15000	4900	11000
FLUORENE	UG_KG	NE	NE	1100 J	830 J	1500	420 J	1100 J
HPAH, TOTAL	UG_KG	NE	NE					
INDENO[1,2,3-CD]PYRENE	UG_KG	NE	NE	1700	1100	1900 J	700 J	1600 J
LPAH, TOTAL	UG_KG	NE	NE					
NAPHTHALENE	UG_KG	NE	NE	130 J	280 J	190	74	360 J
PAH, TOTAL	UG_KG	NE	NE					
PHENANTHRENE	UG_KG	NE	NE	7600	6400	9600	3000	8400
PYRENE	UG_KG	NE	NE	8200	6000	10000	3300 J	8800
VOCs								
1,2-DICHLOROBENZENE	UG_KG	NE	NE					
1,3-DICHLOROBENZENE	UG_KG	NE	NE					
1,4-DICHLOROBENZENE	UG_KG	NE	NE					

Table A1
 Summary of Soil Analytical Results
 Data Retrieved from NIRIS
 South Weymouth

			Location ID	STP-SS-A24	STP-SS-A24	STP-SS-A25	STP-SS-A26	STP-SS-A27
			Sample Date	7/9/2013	7/9/2013	7/9/2013	7/9/2013	7/10/2013
			Sample ID	STP-SS-A24-0713-D	STP-SS-A24-0713	STP-SS-A25-0713	STP-SS-A26-0713	STP-SS-A27-0713
			Depth Interval	2.5-4.5'	2.5-4.5'	2.5-4.5'	1-3'	0-2'
			Sample Type	FD	N	N	N	N
Chemical Name	Unit	RPG Residential	RPG Non-Residential					
2-BUTANONE	UG_KG	NE	NE					
2-HEXANONE	UG_KG	NE	NE					
4-METHYL-2-PENTANONE	UG_KG	NE	NE					
ACETONE	UG_KG	NE	NE					
CARBON DISULFIDE	UG_KG	NE	NE					
CARBON TETRACHLORIDE	UG_KG	NE	NE					
CHLOROBENZENE	UG_KG	NE	NE					
CHLOROFORM	UG_KG	NE	NE					
CYCLOHEXANE	UG_KG	NE	NE					
DICHLORODIFLUOROMETHANE	UG_KG	NE	NE					
ETHYLBENZENE	UG_KG	NE	NE					
METHYL ACETATE	UG_KG	NE	NE					
METHYL CYCLOHEXANE	UG_KG	NE	NE					
METHYL TERT-BUTYL ETHER	UG_KG	NE	NE					
TETRACHLOROETHENE	UG_KG	NE	NE					
TOLUENE	UG_KG	NE	NE					
XYLENES, TOTAL	UG_KG	NE	NE					

Notes:

- 1) U or < = Non-detect at laboratory
- 2) J = Estimated Value
- 3) B = The analyte was found in the associated blank at a significant level relative to the sample result.
- 4) E = The reported value exceeded the
- 5) F = The analyte was positively identified
- 6) T = Tentatively identified compound (using
- 7) R = Rejected data
- 8) Sample Type N = normal sample, FD =
- 9) MG_KG = milligrams per kilogram; UG_KG = micrograms per kilograms;
- PCT = percent; SU = standard pH units
- 10) NE = not established
- 11) RPG Residential exceedances are bolded and highlighted; RPG Non-Residential exceedances are underlined and highlighted.
- 12) Only those compounds with at least one

Relevant Data From Tetra Tech Tables

Table A2
 Summary of Soil Analytical Results
 Tetra Tech Site 7
 South Weymouth

			Location ID	MANHOLE	MANHOLE	MANHOLE	PIPE 1	PIPE 1
			Sample Date	9/9/2014	9/9/2014	9/10/2014	9/17/2014	10/9/2014
			Sample ID	C-SITE7-MHC-BT-1	C-SITE7-MHC-N-1	C-SITE7-MHC-S-1	C-SITE7-PIPE1-4-C	C-SITE7-PIPE1-B-3
			Depth BGS* (ft)	4	4	4	NA	4
			Sample Type	N	N	N	N	N
Chemical Name	Unit	RPG Residential	RPG Non-Residential					
Metals								
ARSENIC	MG_KG	6.77	<u>30</u>	2.9	1.78 J	1.7	3	5
MERCURY	MG_KG	NE	NE					
PCBs								
AROCLOR-1260	UG_KG	2490	10300	92	71	< 11 U	64	< 8.9 U
Pest								
4,4-DDD	UG_KG	22600	<u>95700</u>	170 J	300 J	140	160 J	430
4,4-DDE	UG_KG	NE	NE	140 J	230 J	46	46 J	230
4,4-DDT	UG_KG	2800	<u>2800</u>	240 J	250 J	28	120 J	1800
DIELDRIN	UG_KG	NE	NE	31 J	86 J	14 J	16 J	71 J
SVOCs								
BENZO[A]ANTHRACENE	UG_KG	1570	<u>7340</u>	230	240	170	58 J	46
BENZO[A]PYRENE	UG_KG	1828.8	<u>1828.8</u>	170	160	120	48	34
BENZO[B]FLUORANTHENE	UG_KG	1570	<u>7340</u>	260	240	200	77	65
DIBENZ[A,H]ANTHRACENE	UG_KG	157	<u>734</u>	37 J	38 J	30 J	7.1 J	7.7 J
INDENO[1,2,3-CD]PYRENE	UG_KG	NE	NE	190 J	170 J	150 J	67 J	29

Notes:

- 1) U or < = Non-detect at laboratory detection limit
- 2) J = Estimated Value
- 3) Sample Type N = normal sample, FD = duplicate sample
- 4) MG_KG = milligrams per kilogram; UG_KG = micrograms per kilograms
- 5) NE = not established
- 6) RPG Residential exceedances are bolded and highlighted; RPG Non-Residential exceedances are underlined and highlighted.
- 7) Only those compounds with at least one detection are shown.
- 8) *Estimated depth below ground surface (BGS) at the time of excavation.

Table A2
 Summary of Soil Analytical Results
 Tetra Tech Site 7
 South Weymouth

			Location ID	PIPE 1	PIPE 1	PIPE 1	PIPE 1	PIPE 1
			Sample Date	10/9/2014	10/9/2014	10/9/2014	10/14/2014	11/10/2014
			Sample ID	C-SITE7-PIPE1-SW-1	C-SITE7-PIPE1-SW-2	C-SITE7-PIPE1-SW-4	C-SITE7-PIPE1-C	C-SITE7-PIPE1-B-1-A
			Depth BGS* (ft)	4	4	4	NA	5
			Sample Type	N	N	N	N	N
Chemical Name	Unit	RPG Residential	RPG Non-Residential					
Metals								
ARSENIC	MG_KG	6.77	<u>30</u>	2.1	1.95	1.48	1.47	1.89
MERCURY	MG_KG	NE	NE					
PCBs								
AROCLOR-1260	UG_KG	2490	10300	< 9.2 U	< 9 UJ	< 8.6 U	< 9.2 UJ	12 J
Pest								
4,4-DDD	UG_KG	22600	<u>95700</u>	67 J	4.5 J	3.2 J	12 J	7
4,4-DDE	UG_KG	NE	NE	56 J	1.2 J	1.1 J	9 J	13
4,4-DDT	UG_KG	2800	<u>2800</u>	410 J	15 J	4	15 J	40
DIELDRIN	UG_KG	NE	NE	14 J	0.67 J	< 1.7 U	2.1 J	1.7 J
SVOCs								
BENZO[A]ANTHRACENE	UG_KG	1570	<u>7340</u>	85	2.8 J	18 J	72	27 J
BENZO[A]PYRENE	UG_KG	1828.8	<u>1828.8</u>	76	< 10 U	12 J	61	22
BENZO[B]FLUORANTHENE	UG_KG	1570	<u>7340</u>	110	< 10 U	24	84	34
DIBENZ[A,H]ANTHRACENE	UG_KG	157	<u>734</u>	21 J	< 10 UJ	3.8 J	7.4 J	4.2 J
INDENO[1,2,3-CD]PYRENE	UG_KG	NE	NE	58	< 10 U	< 10 U	34	13 J

Notes:

- 1) U or < = Non-detect at laboratory detection limit
- 2) J = Estimated Value
- 3) Sample Type N = normal sample, FD = duplicate sample
- 4) MG_KG = milligrams per kilogram; UG_KG = micrograms per kilograms
- 5) NE = not established
- 6) RPG Residential exceedances are bolded and highlighted; RPG Non-Residential exceedances are underlined and highlighted.
- 7) Only those compounds with at least one detection are shown.
- 8) *Estimated depth below ground surface (BGS) at the time of excavation.

Table A2

Summary of Soil Analytical Results

Tetra Tech Site 7

South Weymouth

			Location ID	PIPE 1	PIPE 1	PIPE 2	PIPE 2
			Sample Date	11/10/2014	11/10/2014	9/9/2014	9/9/2014
			Sample ID	C-SITE7-PIPE1-SW-3-A	C-SITE7-PIPE1-B-2-A	C-SITE7-PIPE2-BT-1	C-SITE7-PIPE2-SW-1
			Depth BGS* (ft)	4	5	4	4
			Sample Type	N	N	N	N
Chemical Name	Unit	RPG Residential	RPG Non-Residential				
Metals							
ARSENIC	MG_KG	6.77	<u>30</u>	1.48	1.92	2.52	2.65
MERCURY	MG_KG	NE	NE				
PCBs							
AROCLOR-1260	UG_KG	2490	10300	< 9 U	< 9.1 U	12 J	< 8.9 U
Pest							
4,4-DDD	UG_KG	22600	<u>95700</u>	3.9 J	4.1 J	6.5 J	2.4 J
4,4-DDE	UG_KG	NE	NE	2.8 J	0.78 J	30 J	3.3 J
4,4-DDT	UG_KG	2800	<u>2800</u>	2.6 J	21 J	100 J	4.6 J
DIELDRIN	UG_KG	NE	NE	0.69 J	0.96 J	2.3 J	1.1 J
SVOCs							
BENZO[A]ANTHRACENE	UG_KG	1570	<u>7340</u>	7.8 J	2.2 J	22	56
BENZO[A]PYRENE	UG_KG	1828.8	<u>1828.8</u>	< 10 U	< 11 U	20 J	51
BENZO[B]FLUORANTHENE	UG_KG	1570	<u>7340</u>	17 J	< 11 U	32	73
DIBENZ[A,H]ANTHRACENE	UG_KG	157	<u>734</u>	4.4 J	< 11 U	6.5 J	7.9 J
INDENO[1,2,3-CD]PYRENE	UG_KG	NE	NE	< 10 U	< 11 U	28 J	66 J

Notes:

- 1) U or < = Non-detect at laboratory detection limit
- 2) J = Estimated Value
- 3) Sample Type N = normal sample, FD = duplicate sample
- 4) MG_KG = milligrams per kilogram; UG_KG = micrograms per kilograms
- 5) NE = not established
- 6) RPG Residential exceedances are bolded and highlighted; RPG Non-Residential exceedances are underlined and highlighted.
- 7) Only those compounds with at least one detection are shown.
- 8) *Estimated depth below ground surface (BGS) at the time of excavation.

Table A2
 Summary of Soil Analytical Results
 Tetra Tech Site 7
 South Weymouth

				Location ID	PIPE 2	PIPE 2	PIPE 3	PIPE 3	PIPE 3
				Sample Date	9/9/2014	9/17/2014	9/10/2014	9/10/2014	9/10/2014
				Sample ID	C-SITE7-PIPE2-SW-2	C-SITE7-PIPE2-3-C	C-SITE7-PIPE3-BT-1	C-SITE7-PIPE3-SW-1	C-SITE7-PIPE3-SW-2
				Depth BGS* (ft)	4	NA	4	4	4
				Sample Type	N	N	N	N	N
Chemical Name	Unit	RPG Residential	RPG Non-Residential						
Metals									
ARSENIC	MG_KG	6.77	<u>30</u>	2.22	1.62	1.91	1.65	1.83	
MERCURY	MG_KG	NE	NE						
PCBs									
AROCLOR-1260	UG_KG	2490	10300	< 8.7 U	54	< 9.1 U	7.4 J	39	
Pest									
4,4-DDD	UG_KG	22600	<u>95700</u>	1.8 J	120 J	2.4 J	1.7 J	8.6	
4,4-DDE	UG_KG	NE	NE	4.1 J	75 J	1.9 J	1.3 J	8	
4,4-DDT	UG_KG	2800	<u>2800</u>	13 J	200 J	5.9	1.8 J	14	
DIELDRIN	UG_KG	NE	NE	1.4 J	52 J	< 1.8 U	0.92 J	0.36 J	
SVOCs									
BENZO[A]ANTHRACENE	UG_KG	1570	<u>7340</u>	94	390	80	24	29 J	
BENZO[A]PYRENE	UG_KG	1828.8	<u>1828.8</u>	66	300	57	20 J	25 J	
BENZO[B]FLUORANTHENE	UG_KG	1570	<u>7340</u>	99	550	87	42	42 J	
DIBENZ[A,H]ANTHRACENE	UG_KG	157	<u>734</u>	9.6 J	95 J	14 J	< 11 UJ	< 11 UJ	
INDENO[1,2,3-CD]PYRENE	UG_KG	NE	NE	73 J	160 J	68 J	30 J	34 J	

Notes:

- 1) U or < = Non-detect at laboratory detection limit
- 2) J = Estimated Value
- 3) Sample Type N = normal sample, FD = duplicate sample
- 4) MG_KG = milligrams per kilogram; UG_KG = micrograms per kilograms
- 5) NE = not established
- 6) RPG Residential exceedances are bolded and highlighted; RPG Non-Residential exceedances are underlined and highlighted.
- 7) Only those compounds with at least one detection are shown.
- 8) *Estimated depth below ground surface (BGS) at the time of excavation.

Table A2
 Summary of Soil Analytical Results
 Tetra Tech Site 7
 South Weymouth

			Location ID	PIPE 3	PIPE 3	PIPE 3	PIPE 3
			Sample Date	9/10/2014	9/10/2014	9/10/2014	9/10/2014
			Sample ID	C-SITE7-PIPE3-SW-2-FD	C-SITE7-PIPE3-SW-3	C-SITE7-PIPE3-SW-4	C-SITE7-PIPE3-BT-2
			Depth BGS* (ft)	4	4	4	4
			Sample Type	FD	N	N	N
Chemical Name	Unit	RPG Residential	RPG Non-Residential				
Metals							
ARSENIC	MG_KG	6.77	<u>30</u>	1.58	1.49	1.52	1.78
MERCURY	MG_KG	NE	NE				
PCBs							
AROCLOR-1260	UG_KG	2490	10300	44	11 J	7.2 J	< 9 UJ
Pest							
4,4-DDD	UG_KG	22600	<u>95700</u>	8.9	3.3 J	1.7 J	5.8 J
4,4-DDE	UG_KG	NE	NE	8.3	1.4 J	1 J	4.8 J
4,4-DDT	UG_KG	2800	<u>2800</u>	15	1.6 J	1.9 J	8.2 J
DIELDRIN	UG_KG	NE	NE	0.52 J	< 1.7 UJ	< 1.8 UJ	2.1 J
SVOCs							
BENZO[A]ANTHRACENE	UG_KG	1570	<u>7340</u>	180 J	39	11 J	210
BENZO[A]PYRENE	UG_KG	1828.8	<u>1828.8</u>	110 J	26	6.3 J	130 J
BENZO[B]FLUORANTHENE	UG_KG	1570	<u>7340</u>	180 J	22 J	16 J	210 J
DIBENZ[A,H]ANTHRACENE	UG_KG	157	<u>734</u>	29 J	< 10 UJ	< 10 UJ	30 J
INDENO[1,2,3-CD]PYRENE	UG_KG	NE	NE	130 J	29 J	9.6 J	140 J

Notes:

- 1) U or < = Non-detect at laboratory detection limit
- 2) J = Estimated Value
- 3) Sample Type N = normal sample, FD = duplicate sample
- 4) MG_KG = milligrams per kilogram; UG_KG = micrograms per kilograms
- 5) NE = not established
- 6) RPG Residential exceedances are bolded and highlighted; RPG Non-Residential exceedances are underlined and highlighted.
- 7) Only those compounds with at least one detection are shown.
- 8) *Estimated depth below ground surface (BGS) at the time of excavation.

Table A2
 Summary of Soil Analytical Results
 Tetra Tech Site 7
 South Weymouth

			Location ID	PIPE 4	PIPE 5	PIPE 5	PIPE 5	PIPE 6
			Sample Date	10/9/2014	12/29/2014	12/29/2014	12/29/2014	12/31/2014
			Sample ID	C-SITE7-PIPE4-B-1	C-SITE7-PIPE5-BT-1	C-SITE7-PIPE5-SW-1	C-SITE7-PIPE5-SW-2	C-SITE7-PIPE6-BT-1
			Depth BGS* (ft)	1	4	4	4	2
			Sample Type	N	N	N	N	N
Chemical Name	Unit	RPG Residential	RPG Non-Residential					
Metals								
ARSENIC	MG_KG	6.77	<u>30</u>	2.67	1.91	1.96	2.69	1.55
MERCURY	MG_KG	NE	NE					0.018 J
PCBs								
AROCLOR-1260	UG_KG	2490	10300	< 9.3 U	< 8.9 UJ	< 9.2 U	140	< 9.8 U
Pest								
4,4-DDD	UG_KG	22600	<u>95700</u>	6.9 J	15 J	300 J	200 J	50
4,4-DDE	UG_KG	NE	NE	41	12 J	72 J	230 J	8.9
4,4-DDT	UG_KG	2800	<u>2800</u>	64	3.6 J	120 J	250 J	31
DIELDRIN	UG_KG	NE	NE	4.9	< 1.7 U	54 J	65 J	9.4 J
SVOCs								
BENZO[A]ANTHRACENE	UG_KG	1570	<u>7340</u>	28	240	200	310	42
BENZO[A]PYRENE	UG_KG	1828.8	<u>1828.8</u>	25	150	120	210	33
BENZO[B]FLUORANTHENE	UG_KG	1570	<u>7340</u>	46	260	200	370	66
DIBENZ[A,H]ANTHRACENE	UG_KG	157	<u>734</u>	4.4 J	40	31	55	4.5 J
INDENO[1,2,3-CD]PYRENE	UG_KG	NE	NE	19 J	110	77	150	25 J

Notes:

- 1) U or < = Non-detect at laboratory detection limit
- 2) J = Estimated Value
- 3) Sample Type N = normal sample, FD = duplicate sample
- 4) MG_KG = milligrams per kilogram; UG_KG = micrograms per kilograms
- 5) NE = not established
- 6) RPG Residential exceedances are bolded and highlighted; RPG Non-Residential exceedances are underlined and highlighted.
- 7) Only those compounds with at least one detection are shown.
- 8) *Estimated depth below ground surface (BGS) at the time of excavation.

Table A2 Summary of Soil Analytical Results Tetra Tech Site 7 South Weymouth								
			Location ID	PIPE 6	PIPE 6	PIPE 6	PIPE 7	PIPE 7
			Sample Date	12/31/2014	1/14/2015	1/14/2015	3/2/2015	3/2/2015
			Sample ID	C-SITE7-PIPE6-C	C-SITE7-PIPE6-SW-1-A	C-SITE7-PIPE6-SW-2-A	C-SITE7-PIPE7-BT-1	C-SITE7-PIPE7-SW-1
			Depth BGS* (ft)	NA	2	2	5	4
			Sample Type	N	N	N	N	N
Chemical Name	Unit	RPG Residential	RPG Non-Residential					
Metals								
ARSENIC	MG_KG	6.77	<u>30</u>	2.91	2.09	2.22	2.14	3.16
MERCURY	MG_KG	NE	NE	0.139			< 0.015	0.029
PCBs								
AROCLOR-1260	UG_KG	2490	10300	84	< 9.3 U	< 9.3 U	< 9	< 9.4
Pest								
4,4-DDD	UG_KG	22600	<u>95700</u>	7000 J	110	47 J	< 1.7	0.65
4,4-DDE	UG_KG	NE	NE	620 J	36	10 J	0.47	13
4,4-DDT	UG_KG	2800	<u>2800</u>	<u>11000 J</u>	100	11 J	< 1.7	16
DIELDRIN	UG_KG	NE	NE	1700 J	18	6.4 J	< 1.7	2.8
SVOCs								
BENZO[A]ANTHRACENE	UG_KG	1570	<u>7340</u>	700	27	2.2 J	< 10	23
BENZO[A]PYRENE	UG_KG	1828.8	<u>1828.8</u>	470	18 J	< 10 UJ	< 10	21
BENZO[B]FLUORANTHENE	UG_KG	1570	<u>7340</u>	770	35	< 10 U	< 10	28
DIBENZ[A,H]ANTHRACENE	UG_KG	157	<u>734</u>	140 J	< 11 U	< 10 U	< 10	3.6
INDENO[1,2,3-CD]PYRENE	UG_KG	NE	NE	350 J	14 J	2.6 J	4.3	20

Notes:

- 1) U or < = Non-detect at laboratory detection limit
- 2) J = Estimated Value
- 3) Sample Type N = normal sample, FD = duplicate sample
- 4) MG_KG = milligrams per kilogram; UG_KG = micrograms per kilograms
- 5) NE = not established
- 6) RPG Residential exceedances are bolded and highlighted; RPG Non-Residential exceedances are underlined and highlighted.
- 7) Only those compounds with at least one detection are shown.
- 8) *Estimated depth below ground surface (BGS) at the time of excavation.

Table A2
 Summary of Soil Analytical Results
 Tetra Tech Site 7
 South Weymouth

			Location ID	PIPE 7	PIPE 7	PIPE 8	PIPE 8	PIPE 8
			Sample Date	3/2/2015	3/2/2015	3/7/2015	3/7/2015	3/13/2015
			Sample ID	C-SITE7-PIPE7-SW-2	C-SITE7-PIPE7-C	C-SITE7-PIPE8-BT-1	C-SITE7-PIPE8-SW-1	C-SITE7-PIPE8-SW-2A
			Depth BGS* (ft)	5	NA	3	3	NA
			Sample Type	N	N	N	N	N
Chemical Name	Unit	RPG Residential	RPG Non-Residential					
Metals								
ARSENIC	MG_KG	6.77	<u>30</u>	2.93	2.51	1.3	1.69	2.18
MERCURY	MG_KG	NE	NE	0.0044	0.018	0.0038	0.014	< 0.016
PCBs								
AROCLOR-1260	UG_KG	2490	10300	< 9	19	< 9	9	< 9
Pest								
4,4-DDD	UG_KG	22600	<u>95700</u>	< 1.8	4.1	0.89	1.9	< 1.8
4,4-DDE	UG_KG	NE	NE	6.3	38	< 1.7	0.75	< 1.8
4,4-DDT	UG_KG	2800	<u>2800</u>	3.6	36	< 1.7	0.9	< 1.8
DIELDRIN	UG_KG	NE	NE	< 1.8	7.4	< 1.7	0.53	< 1.8
SVOCs								
BENZO[A]ANTHRACENE	UG_KG	1570	<u>7340</u>	4.8	85	4.3	8	< 10
BENZO[A]PYRENE	UG_KG	1828.8	<u>1828.8</u>	6.6	66	< 11	< 10	< 10
BENZO[B]FLUORANTHENE	UG_KG	1570	<u>7340</u>	5.1	110	15	< 10	3
DIBENZ[A,H]ANTHRACENE	UG_KG	157	<u>734</u>	< 9.8	9.6	< 11	< 10	< 10
INDENO[1,2,3-CD]PYRENE	UG_KG	NE	NE	6.4	72	< 11	< 10	3.3

Notes:

- 1) U or < = Non-detect at laboratory detection limit
- 2) J = Estimated Value
- 3) Sample Type N = normal sample, FD = duplicate sample
- 4) MG_KG = milligrams per kilogram; UG_KG = micrograms per kilograms
- 5) NE = not established
- 6) RPG Residential exceedances are bolded and highlighted; RPG Non-Residential exceedances are underlined and highlighted.
- 7) Only those compounds with at least one detection are shown.
- 8) *Estimated depth below ground surface (BGS) at the time of excavation.

Table A2
 Summary of Soil Analytical Results
 Tetra Tech Site 7
 South Weymouth

			Location ID	PRA	PRA	PRA	PRA	PRA
			Sample Date	8/28/2014	8/28/2014	9/4/2014	9/4/2014	9/4/2014
			Sample ID	C-SITE7-PRA-BT-1	C-SITE7-PRA-BT-2	C-SITE7-PRA-SW-1-A	C-SITE7-PRA-SW-2-A	C-SITE7-PRA-SW-2-A-FD
			Depth BGS* (ft)	2	2	2	2	2
			Sample Type	N	N	N	N	FD
Chemical Name	Unit	RPG Residential	RPG Non-Residential					
Metals								
ARSENIC	MG_KG	6.77	<u>30</u>	2.94	2.84	3.42	1.95	1.83
MERCURY	MG_KG	NE	NE					
PCBs								
AROCLOR-1260	UG_KG	2490	10300	220 J	760 J	130	100	83
Pest								
4,4-DDD	UG_KG	22600	<u>95700</u>	42 J	190 J	110 J	260 J	200 J
4,4-DDE	UG_KG	NE	NE	16 J	92 J	31 J	37 J	30 J
4,4-DDT	UG_KG	2800	<u>2800</u>	23 J	59 J	44 J	77 J	55 J
DIELDRIN	UG_KG	NE	NE	32 J	370 J	49 J	40 J	30 J
SVOCs								
BENZO[A]ANTHRACENE	UG_KG	1570	<u>7340</u>	3200	<u>13000</u>	2100	1600	1900
BENZO[A]PYRENE	UG_KG	1828.8	<u>1828.8</u>	2600	<u>9600</u>	1800	1300	1600
BENZO[B]FLUORANTHENE	UG_KG	1570	<u>7340</u>	3700	<u>14000</u>	2600	1900	2400
DIBENZ[A,H]ANTHRACENE	UG_KG	157	<u>734</u>	520	<u>2100</u>	420 J	300 J	380
INDENO[1,2,3-CD]PYRENE	UG_KG	NE	NE	1900	6800 J	1300 J	960	1100

Notes:

- 1) U or < = Non-detect at laboratory detection limit
- 2) J = Estimated Value
- 3) Sample Type N = normal sample, FD = duplicate sample
- 4) MG_KG = milligrams per kilogram; UG_KG = micrograms per kilograms
- 5) NE = not established
- 6) RPG Residential exceedances are bolded and highlighted; RPG Non-Residential exceedances are underlined and highlighted.
- 7) Only those compounds with at least one detection are shown.
- 8) *Estimated depth below ground surface (BGS) at the time of excavation.

Table A2
 Summary of Soil Analytical Results
 Tetra Tech Site 7
 South Weymouth

			Location ID	PRA	PRA	PRA	TEST PITS	TEST PITS
			Sample Date	9/4/2014	9/4/2014	9/4/2014	9/16/2014	9/16/2014
			Sample ID	C-SITE7-PRA-SW-3-A	C-SITE7-PRA-SW-5-A	C-SITE7-PRA-SW-6-A	C-SITE7-TP-8-N-1	C-SITE7-TP-8
			Depth BGS* (ft)	2	2	2	8	8
			Sample Type	N	N	N	N	N
Chemical Name	Unit	RPG Residential	RPG Non-Residential					
Metals								
ARSENIC	MG_KG	6.77	<u>30</u>	2.1	3.76 J	3.52	1.92	1.73
MERCURY	MG_KG	NE	NE					
PCBs								
AROCLOR-1260	UG_KG	2490	10300	98	260 J	140 J	8.5 J	< 8.6 U
Pest								
4,4-DDD	UG_KG	22600	<u>95700</u>	13	82 J	170 J	3.6 J	13 J
4,4-DDE	UG_KG	NE	NE	4.1	32 J	59 J	36 J	270 J
4,4-DDT	UG_KG	2800	<u>2800</u>	11 J	49 J	170 J	38 J	540 J
DIELDRIN	UG_KG	NE	NE	2.8 J	9.9 J	22 J	42 J	98 J
SVOCs								
BENZO[A]ANTHRACENE	UG_KG	1570	<u>7340</u>	1500	3700 J	2300	33 J	49 J
BENZO[A]PYRENE	UG_KG	1828.8	<u>1828.8</u>	1300	3200	1900	30	39
BENZO[B]FLUORANTHENE	UG_KG	1570	<u>7340</u>	1800	4300	2500	61	73
DIBENZ[A,H]ANTHRACENE	UG_KG	157	<u>734</u>	280 J	720 J	390 J	4.9 J	6.8 J
INDENO[1,2,3-CD]PYRENE	UG_KG	NE	NE	920	2200 J	1400 J	43 J	55 J

Notes:

- 1) U or < = Non-detect at laboratory detection limit
- 2) J = Estimated Value
- 3) Sample Type N = normal sample, FD = duplicate sample
- 4) MG_KG = milligrams per kilogram; UG_KG = micrograms per kilograms
- 5) NE = not established
- 6) RPG Residential exceedances are bolded and highlighted; RPG Non-Residential exceedances are underlined and highlighted.
- 7) Only those compounds with at least one detection are shown.
- 8) *Estimated depth below ground surface (BGS) at the time of excavation.

Relevant Tables from STP Interim Remedial Action Completion Report
May 2011

Table 3-3
Site 07 - Former Sewage Treatment Plant Confirmatory Sampling
Area A-2 PAH Analytical Data

SAMPLE ID	MATRIX	PARAMETER	QUAL	QUANT	Result (µg/kg)	Site-Specific Remedial Goals (µg/kg)	Exceed Remedial Goals? Y/N	MCP S-1 Criteria (µg/kg)	Exceed MCP S-1 Criteria? Y/N
C-SITE7-A2-B-01	Soil	Naphthalene		8	U	NA	NA	4000	N
		Acenaphthylene		8	30	NA	NA	100000	N
		Acenaphthene		8	34	NA	NA	2000	N
		Fluorene		8	80	NA	NA	4000000	N
		Phenanthrene		294	1020	NA	NA	1000000	N
		Anthracene		294	293	NA	NA	1000000	N
		Fluoranthene		294	2340	NA	NA	1000000	N
		Pyrene		294	1830	NA	NA	1000000	N
		Benzo[a]anthracene		294	1300	14500	N	7000	N
		Chrysene		294	1180	NA	NA	7000	N
		Benzo[b]fluoranthene		294	1960	14500	N	7000	N
		Benzo[k]fluoranthene		294	740	NA	NA	70000	N
		Benzo[a]pyrene		294	1160	1829	N	2000	N
		Dibenz[a,h]anthracene		8	111	NA	NA	700	N
		Benzo[g,h,i]perylene		8	249	NA	NA	1000000	N
		Indeno[1,2,3-cd]pyrene		294	373	NA	NA	7000	N
2-Methylnaphthalene		8	U	NA	NA	4000	N		

SAMPLE ID	MATRIX	PARAMETER	QUAL	QUANT	Result (µg/kg)	Site-Specific Remedial Goals (µg/kg)	Exceed Remedial Goals? Y/N	MCP S-1 Criteria (µg/kg)	Exceed MCP S-1 Criteria? Y/N
C-SITE7-A2-B-02	Soil	Naphthalene		8	143	NA	NA	4000	N
		Acenaphthylene		8	89	NA	NA	100000	N
		Acenaphthene		1170	1340	NA	NA	2000	N
		Fluorene		1170	1470	NA	NA	4000000	N
		Phenanthrene		1170	13700	NA	NA	1000000	N
		Anthracene		1170	3540	NA	NA	1000000	N
		Fluoranthene		1170	20000	NA	NA	1000000	N
		Pyrene		1170	16400	NA	NA	1000000	N
		Benzo[a]anthracene		1170	9380	14500	N	7000	Y
		Chrysene		1170	9460	NA	NA	7000	Y
		Benzo[b]fluoranthene		1170	11800	14500	N	7000	Y
		Benzo[k]fluoranthene		1170	3640	NA	NA	70000	N
		Benzo[a]pyrene		1170	8480	1829	Y	2000	Y
		Dibenz[a,h]anthracene		1170	1390	NA	NA	700	Y
		Benzo[g,h,i]perylene		1170	4100	NA	NA	1000000	N
		Indeno[1,2,3-cd]pyrene		1170	5200	NA	NA	7000	N
2-Methylnaphthalene		8	126	NA	NA	4000	N		

SAMPLE ID	MATRIX	PARAMETER	QUAL	QUANT	Result (µg/kg)	Site-Specific Remedial Goals (µg/kg)	Exceed Remedial Goals? Y/N	MCP S-1 Criteria (µg/kg)	Exceed MCP S-1 Criteria? Y/N
C-SITE7-A2-B-02-A	Soil	Naphthalene		31	56	NA	NA	4000	N
		Acenaphthylene		31	45	NA	NA	100000	N
		Acenaphthene		31	560	NA	NA	2000	N
		Fluorene		31	567	NA	NA	4000000	N
		Phenanthrene		1100	5120	NA	NA	1000000	N
		Anthracene		1100	1180	NA	NA	1000000	N
		Fluoranthene		1100	9180	NA	NA	1000000	N
		Pyrene		1100	7110	NA	NA	1000000	N
		Benzo[a]anthracene		1100	3740	14500	N	7000	N
		Chrysene		1100	3810	NA	NA	7000	N
		Benzo[b]fluoranthene		1100	5360	14500	N	7000	N
		Benzo[k]fluoranthene		1100	1460	NA	NA	70000	N
		Benzo[a]pyrene		1100	3150	1829	Y	2000	Y
		Dibenz[a,h]anthracene		31	428	NA	NA	700	N
		Benzo[g,h,i]perylene		31	1110	NA	NA	1000000	N
		Indeno[1,2,3-cd]pyrene		1100	1380	NA	NA	7000	N
2-Methylnaphthalene		31	41	NA	NA	4000	N		

Table 3-3
Site 07 - Former Sewage Treatment Plant Confirmatory Sampling
Area A-2 PAH Analytical Data

SAMPLE ID	MATRIX	PARAMETER	QUAL	QUANT	Result (µg/kg)	Site-Specific Remedial Goals (µg/kg)	Exceed Remedial Goals? Y/N	MCP S-1 Criteria (µg/kg)	Exceed MCP S-1 Criteria? Y/N
C-SITE7-A2-B-03	Soil	Naphthalene		7	52	NA	NA	4000	N
		Acenaphthylene		7	U	NA	NA	100000	N
		Acenaphthene		7	81	NA	NA	2000	N
		Fluorene		7	91	NA	NA	4000000	N
		Phenanthrene		7	593	NA	NA	1000000	N
		Anthracene		7	173	NA	NA	1000000	N
		Fluoranthene		7	600	NA	NA	1000000	N
		Pyrene		7	450	NA	NA	1000000	N
		Benzo[a]anthracene		7	245	14500	N	7000	N
		Chrysene		7	250	NA	NA	7000	N
		Benzo[b]fluoranthene		7	364	14500	N	7000	N
		Benzo[k]fluoranthene		7	127	NA	NA	70000	N
		Benzo[a]pyrene		7	222	1829	N	2000	N
		Dibenz[a,h]anthracene		7	19	NA	NA	700	N
		Benzo[g,h,i]perylene		7	43	NA	NA	1000000	N
		Indeno[1,2,3-cd]pyrene		7	76	NA	NA	7000	N
		2-Methylnaphthalene		7	19	NA	NA	4000	N

SAMPLE ID	MATRIX	PARAMETER	QUAL	QUANT	Result (µg/kg)	Site-Specific Remedial Goals (µg/kg)	Exceed Remedial Goals? Y/N	MCP S-1 Criteria (µg/kg)	Exceed MCP S-1 Criteria? Y/N
C-SITE7-A2-B-04	Soil	Naphthalene		7	135	NA	NA	4000	N
		Acenaphthylene		7	224	NA	NA	100000	N
		Acenaphthene		1120	1150	NA	NA	2000	N
		Fluorene		1120	1190	NA	NA	4000000	N
		Phenanthrene		1120	11300	NA	NA	1000000	N
		Anthracene		1120	2790	NA	NA	1000000	N
		Fluoranthene		1120	17100	NA	NA	1000000	N
		Pyrene		1120	14200	NA	NA	1000000	N
		Benzo[a]anthracene		1120	8150	14500	N	7000	Y
		Chrysene		1120	8310	NA	NA	7000	Y
		Benzo[b]fluoranthene		1120	10200	14500	N	7000	Y
		Benzo[k]fluoranthene		1120	3920	NA	NA	70000	N
		Benzo[a]pyrene		1120	7660	1829	Y	2000	Y
		Dibenz[a,h]anthracene		1120	1150	NA	NA	700	Y
		Benzo[g,h,i]perylene		1120	3520	NA	NA	1000000	N
		Indeno[1,2,3-cd]pyrene		1120	4420	NA	NA	7000	N
		2-Methylnaphthalene		7	101	NA	NA	4000	N

SAMPLE ID	MATRIX	PARAMETER	QUAL	QUANT	Result (µg/kg)	Site-Specific Remedial Goals (µg/kg)	Exceed Remedial Goals? Y/N	MCP S-1 Criteria (µg/kg)	Exceed MCP S-1 Criteria? Y/N
C-SITE7-A2-B-04-A	Soil	Naphthalene		31	124	NA	NA	4000	N
		Acenaphthylene		31	94	NA	NA	100000	N
		Acenaphthene		31	1220	NA	NA	2000	N
		Fluorene		1100	1120	NA	NA	4000000	N
		Phenanthrene		1100	11300	NA	NA	1000000	N
		Anthracene		1100	2740	NA	NA	1000000	N
		Fluoranthene		1100	20600	NA	NA	1000000	N
		Pyrene		1100	15300	NA	NA	1000000	N
		Benzo[a]anthracene		1100	8230	14500	N	7000	Y
		Chrysene		1100	8800	NA	NA	7000	Y
		Benzo[b]fluoranthene		1100	11300	14500	N	7000	Y
		Benzo[k]fluoranthene		1100	4170	NA	NA	70000	N
		Benzo[a]pyrene		1100	7580	1829	Y	2000	Y
		Dibenz[a,h]anthracene		31	849	NA	NA	700	Y
		Benzo[g,h,i]perylene		1100	2090	NA	NA	1000000	N
		Indeno[1,2,3-cd]pyrene		1100	2790	NA	NA	7000	N
		2-Methylnaphthalene		31	94	NA	NA	4000	N

Table 3-3
Site 07 - Former Sewage Treatment Plant Confirmatory Sampling
Area A-2 PAH Analytical Data

SAMPLE ID	MATRIX	PARAMETER	QUAL	QUANT	Result (µg/kg)	Site-Specific Remedial Goals (µg/kg)	Exceed Remedial Goals? Y/N	MCP S-1 Criteria (µg/kg)	Exceed MCP S-1 Criteria? Y/N
C-SITE7-A2-B-04-B	Soil	Naphthalene		30	1660	NA	NA	4000	N
		Acenaphthylene		30	142	NA	NA	100000	N
		Acenaphthene		2700	4710	NA	NA	2000	Y
		Fluorene		2700	5220	NA	NA	4000000	N
		Phenanthrene		2700	43100	NA	NA	1000000	N
		Anthracene		2700	9760	NA	NA	1000000	N
		Fluoranthene		2700	52500	NA	NA	1000000	N
		Pyrene		2700	39100	NA	NA	1000000	N
		Benzo[a]anthracene		2700	21400	14500	Y	7000	Y
		Chrysene		2700	20900	NA	NA	7000	Y
		Benzo[b]fluoranthene		2700	23600	14500	Y	7000	Y
		Benzo[k]fluoranthene		2700	8060	NA	NA	70000	N
		Benzo[a]pyrene		2700	16600	1829	Y	2000	Y
		Dibenz[a,h]anthracene		30	2160	NA	NA	700	Y
		Benzo[g,h,i]perylene		2700	5280	NA	NA	1000000	N
		Indeno[1,2,3-cd]pyrene		2700	7160	NA	NA	7000	Y
2-Methylnaphthalene		30	793	NA	NA	4000	N		

SAMPLE ID	MATRIX	PARAMETER	QUAL	QUANT	Result (µg/kg)	Site-Specific Remedial Goals (µg/kg)	Exceed Remedial Goals? Y/N	MCP S-1 Criteria (µg/kg)	Exceed MCP S-1 Criteria? Y/N
C-SITE7-A2-B-04-B-D	Soil	Naphthalene		30	337	NA	NA	4000	N
		Acenaphthylene		30	115	NA	NA	100000	N
		Acenaphthene		30	2530	NA	NA	2000	Y
		Fluorene		30	2460	NA	NA	4000000	N
		Phenanthrene		2700	21300	NA	NA	1000000	N
		Anthracene		2700	6290	NA	NA	1000000	N
		Fluoranthene		2700	35800	NA	NA	1000000	N
		Pyrene		2700	26900	NA	NA	1000000	N
		Benzo[a]anthracene		2700	14700	14500	Y	7000	Y
		Chrysene		2700	14800	NA	NA	7000	Y
		Benzo[b]fluoranthene		2700	18300	14500	Y	7000	Y
		Benzo[k]fluoranthene		2700	6390	NA	NA	70000	N
		Benzo[a]pyrene		2700	13000	1829	Y	2000	Y
		Dibenz[a,h]anthracene		30	1720	NA	NA	700	Y
		Benzo[g,h,i]perylene		2700	4220	NA	NA	1000000	N
		Indeno[1,2,3-cd]pyrene		2700	5570	NA	NA	7000	N
2-Methylnaphthalene		30	231	NA	NA	4000	N		

SAMPLE ID	MATRIX	PARAMETER	QUAL	QUANT	Result (µg/kg)	Site-Specific Remedial Goals (µg/kg)	Exceed Remedial Goals? Y/N	MCP S-1 Criteria (µg/kg)	Exceed MCP S-1 Criteria? Y/N
C-SITE7-A2-B-05	Soil	Naphthalene		7	45	NA	NA	4000	N
		Acenaphthylene		7	50	NA	NA	100000	N
		Acenaphthene		7	511	NA	NA	2000	N
		Fluorene		7	497	NA	NA	4000000	N
		Phenanthrene		561	5420	NA	NA	1000000	N
		Anthracene		561	1350	NA	NA	1000000	N
		Fluoranthene		561	8870	NA	NA	1000000	N
		Pyrene		561	6870	NA	NA	1000000	N
		Benzo[a]anthracene		561	4210	14500	N	7000	N
		Chrysene		561	4170	NA	NA	7000	N
		Benzo[b]fluoranthene		561	5270	14500	N	7000	N
		Benzo[k]fluoranthene		561	1740	NA	NA	70000	N
		Benzo[a]pyrene		561	3730	1829	Y	2000	Y
		Dibenz[a,h]anthracene		7	316	NA	NA	700	N
		Benzo[g,h,i]perylene		561	1520	NA	NA	1000000	N
		Indeno[1,2,3-cd]pyrene		561	1980	NA	NA	7000	N
2-Methylnaphthalene		7	36	NA	NA	4000	N		

Table 3-3
Site 07 - Former Sewage Treatment Plant Confirmatory Sampling
Area A-2 PAH Analytical Data

SAMPLE ID	MATRIX	PARAMETER	QUAL	QUANT	Result (µg/kg)	Site-Specific Remedial Goals (µg/kg)	Exceed Remedial Goals? Y/N	MCP S-1 Criteria (µg/kg)	Exceed MCP S-1 Criteria? Y/N
C-SITE7-A2-B-05-A	Soil	Naphthalene		15	204	NA	NA	4000	N
		Acenaphthylene		15	126	NA	NA	100000	N
		Acenaphthene		1300	1800	NA	NA	2000	N
		Fluorene		1300	1800	NA	NA	4000000	N
		Phenanthrene		1300	19800	NA	NA	1000000	N
		Anthracene		1300	4270	NA	NA	1000000	N
		Fluoranthene		1300	32700	NA	NA	1000000	N
		Pyrene		1300	25200	NA	NA	1000000	N
		Benzo[a]anthracene		1300	13800	14500	N	7000	Y
		Chrysene		1300	14700	NA	NA	7000	Y
		Benzo[b]fluoranthene		1300	17000	14500	Y	7000	Y
		Benzo[k]fluoranthene		1300	6550	NA	NA	70000	N
		Benzo[a]pyrene		1300	12400	1829	Y	2000	Y
		Dibenz[a,h]anthracene		1300	1790	NA	NA	700	Y
		Benzo[g,h,i]perylene		1300	5980	NA	NA	1000000	N
		Indeno[1,2,3-cd]pyrene		1300	7100	NA	NA	7000	Y
2-Methylnaphthalene		15	155	NA	NA	4000	N		

SAMPLE ID	MATRIX	PARAMETER	QUAL	QUANT	Result (µg/kg)	Site-Specific Remedial Goals (µg/kg)	Exceed Remedial Goals? Y/N	MCP S-1 Criteria (µg/kg)	Exceed MCP S-1 Criteria? Y/N
C-SITE7-A2-B-05-B	Soil	Naphthalene		15	120	NA	NA	4000	N
		Acenaphthylene		15	46	NA	NA	100000	N
		Acenaphthene		1100	1230	NA	NA	2000	N
		Fluorene		1100	1240	NA	NA	4000000	N
		Phenanthrene		1100	12500	NA	NA	1000000	N
		Anthracene		1100	3450	NA	NA	1000000	N
		Fluoranthene		1100	18900	NA	NA	1000000	N
		Pyrene		1100	14100	NA	NA	1000000	N
		Benzo[a]anthracene		1100	7590	14500	N	7000	Y
		Chrysene		1100	7840	NA	NA	7000	Y
		Benzo[b]fluoranthene		1100	9180	14500	N	7000	Y
		Benzo[k]fluoranthene		1100	3310	NA	NA	70000	N
		Benzo[a]pyrene		1100	6300	1829	Y	2000	Y
		Dibenz[a,h]anthracene		15	730	NA	NA	700	Y
		Benzo[g,h,i]perylene		1100	1980	NA	NA	1000000	N
		Indeno[1,2,3-cd]pyrene		1100	2630	NA	NA	7000	N
2-Methylnaphthalene		15	93	NA	NA	4000	N		

SAMPLE ID	MATRIX	PARAMETER	QUAL	QUANT	Result (µg/kg)	Site-Specific Remedial Goals (µg/kg)	Exceed Remedial Goals? Y/N	MCP S-1 Criteria (µg/kg)	Exceed MCP S-1 Criteria? Y/N
C-SITE7-A2-B-06	Soil	Naphthalene		7	57	NA	NA	4000	N
		Acenaphthylene		7	58	NA	NA	100000	N
		Acenaphthene		534	557	NA	NA	2000	N
		Fluorene		7	489	NA	NA	4000000	N
		Phenanthrene		534	4950	NA	NA	1000000	N
		Anthracene		534	1250	NA	NA	1000000	N
		Fluoranthene		534	8780	NA	NA	1000000	N
		Pyrene		534	6580	NA	NA	1000000	N
		Benzo[a]anthracene		534	3960	14500	N	7000	N
		Chrysene		534	4040	NA	NA	7000	N
		Benzo[b]fluoranthene		534	5070	14500	N	7000	N
		Benzo[k]fluoranthene		534	1790	NA	NA	70000	N
		Benzo[a]pyrene		534	3610	1829	Y	2000	Y
		Dibenz[a,h]anthracene		7	334	NA	NA	700	N
		Benzo[g,h,i]perylene		534	1430	NA	NA	1000000	N
		Indeno[1,2,3-cd]pyrene		534	1910	NA	NA	7000	N
2-Methylnaphthalene		7	52	NA	NA	4000	N		

Table 3-3
Site 07 - Former Sewage Treatment Plant Confirmatory Sampling
Area A-2 PAH Analytical Data

SAMPLE ID	MATRIX	PARAMETER	QUAL	QUANT	Result (µg/kg)	Site-Specific Remedial Goals (µg/kg)	Exceed Remedial Goals? Y/N	MCP S-1 Criteria (µg/kg)	Exceed MCP S-1 Criteria? Y/N
C-SITE7-A2-B-06-A	Soil	Naphthalene		16	49	NA	NA	4000	N
		Acenaphthylene		16	35	NA	NA	100000	N
		Acenaphthene		16	394	NA	NA	2000	N
		Fluorene		16	375	NA	NA	4000000	N
		Phenanthrene		560	3420	NA	NA	1000000	N
		Anthracene		560	790	NA	NA	1000000	N
		Fluoranthene		560	6510	NA	NA	1000000	N
		Pyrene		560	4910	NA	NA	1000000	N
		Benzo[a]anthracene		560	2660	14500	N	7000	N
		Chrysene		560	2690	NA	NA	7000	N
		Benzo[b]fluoranthene		560	3760	14500	N	7000	N
		Benzo[k]fluoranthene		560	1370	NA	NA	70000	N
		Benzo[a]pyrene		560	2340	1829	Y	2000	Y
		Dibenz[a,h]anthracene		16	271	NA	NA	700	N
		Benzo[g,h,i]perylene		560	654	NA	NA	1000000	N
		Indeno[1,2,3-cd]pyrene		560	922	NA	NA	7000	N
2-Methylnaphthalene		16	34	NA	NA	4000	N		

SAMPLE ID	MATRIX	PARAMETER	QUAL	QUANT	Result (µg/kg)	Site-Specific Remedial Goals (µg/kg)	Exceed Remedial Goals? Y/N	MCP S-1 Criteria (µg/kg)	Exceed MCP S-1 Criteria? Y/N
C-SITE7-A2-B-06-B	Soil	Naphthalene		8	U	NA	NA	4000	N
		Acenaphthylene		8	U	NA	NA	100000	N
		Acenaphthene		8	U	NA	NA	2000	N
		Fluorene		8	U	NA	NA	4000000	N
		Phenanthrene		8	32	NA	NA	1000000	N
		Anthracene		8	U	NA	NA	1000000	N
		Fluoranthene		8	80	NA	NA	1000000	N
		Pyrene		8	65	NA	NA	1000000	N
		Benzo[a]anthracene		8	34	14500	N	7000	N
		Chrysene		8	42	NA	NA	7000	N
		Benzo[b]fluoranthene		8	54	14500	N	7000	N
		Benzo[k]fluoranthene		8	21	NA	NA	70000	N
		Benzo[a]pyrene		8	32	1829	N	2000	N
		Dibenz[a,h]anthracene		8	U	NA	NA	700	N
		Benzo[g,h,i]perylene		8	24	NA	NA	1000000	N
		Indeno[1,2,3-cd]pyrene		8	29	NA	NA	7000	N
2-Methylnaphthalene		8	U	NA	NA	4000	N		

SAMPLE ID	MATRIX	PARAMETER	QUAL	QUANT	Result (µg/kg)	Site-Specific Remedial Goals (µg/kg)	Exceed Remedial Goals? Y/N	MCP S-1 Criteria (µg/kg)	Exceed MCP S-1 Criteria? Y/N
C-SITE7-A2-B-07	Soil	Naphthalene		7	301	NA	NA	4000	N
		Acenaphthylene		7	135	NA	NA	100000	N
		Acenaphthene		2670	3080	NA	NA	2000	Y
		Fluorene		2670	3190	NA	NA	4000000	N
		Phenanthrene		2670	26500	NA	NA	1000000	N
		Anthracene		2670	6740	NA	NA	1000000	N
		Fluoranthene		2670	41800	NA	NA	1000000	N
		Pyrene		2670	32800	NA	NA	1000000	N
		Benzo[a]anthracene		2670	18900	14500	Y	7000	Y
		Chrysene		2670	18800	NA	NA	7000	Y
		Benzo[b]fluoranthene		2670	24100	14500	Y	7000	Y
		Benzo[k]fluoranthene		2670	8950	NA	NA	70000	N
		Benzo[a]pyrene		2670	17000	1829	Y	2000	Y
		Dibenz[a,h]anthracene		7	1300	NA	NA	700	Y
		Benzo[g,h,i]perylene		2670	6820	NA	NA	1000000	N
		Indeno[1,2,3-cd]pyrene		2670	9040	NA	NA	7000	Y
2-Methylnaphthalene		7	226	NA	NA	4000	N		

Table 3-3
Site 07 - Former Sewage Treatment Plant Confirmatory Sampling
Area A-2 PAH Analytical Data

SAMPLE ID	MATRIX	PARAMETER	QUAL	QUANT	Result (µg/kg)	Site-Specific Remedial Goals (µg/kg)	Exceed Remedial Goals? Y/N	MCP S-1 Criteria (µg/kg)	Exceed MCP S-1 Criteria? Y/N
C-SITE7-A2-B-07-A	Soil	Naphthalene		76	189	NA	NA	4000	N
		Acenaphthylene		76	123	NA	NA	100000	N
		Acenaphthene		76	1750	NA	NA	2000	N
		Fluorene		76	1730	NA	NA	4000000	N
		Phenanthrene		2700	15200	NA	NA	1000000	N
		Anthracene		2700	3700	NA	NA	1000000	N
		Fluoranthene		2700	27100	NA	NA	1000000	N
		Pyrene		2700	20900	NA	NA	1000000	N
		Benzo[a]anthracene		2700	11000	14500	N	7000	Y
		Chrysene		2700	11800	NA	NA	7000	Y
		Benzo[b]fluoranthene		2700	16100	14500	Y	7000	Y
		Benzo[k]fluoranthene		2700	4880	NA	NA	70000	N
		Benzo[a]pyrene		2700	9780	1829	Y	2000	Y
		Dibenz[a,h]anthracene		76	1310	NA	NA	700	Y
		Benzo[g,h,i]perylene		2700	3360	NA	NA	1000000	N
		Indeno[1,2,3-cd]pyrene		2700	4260	NA	NA	7000	N
2-Methylnaphthalene		76	139	NA	NA	4000	N		

SAMPLE ID	MATRIX	PARAMETER	QUAL	QUANT	Result (µg/kg)	Site-Specific Remedial Goals (µg/kg)	Exceed Remedial Goals? Y/N	MCP S-1 Criteria (µg/kg)	Exceed MCP S-1 Criteria? Y/N
C-SITE7-A2-B-07-A-D	Soil	Naphthalene		77	153	NA	NA	4000	N
		Acenaphthylene		77	103	NA	NA	100000	N
		Acenaphthene		77	1480	NA	NA	2000	N
		Fluorene		77	1490	NA	NA	4000000	N
		Phenanthrene		2800	13400	NA	NA	1000000	N
		Anthracene		2800	3500	NA	NA	1000000	N
		Fluoranthene		2800	25100	NA	NA	1000000	N
		Pyrene		2800	18800	NA	NA	1000000	N
		Benzo[a]anthracene		2800	10000	14500	N	7000	Y
		Chrysene		2800	10600	NA	NA	7000	Y
		Benzo[b]fluoranthene		2800	14900	14500	Y	7000	Y
		Benzo[k]fluoranthene		2800	5500	NA	NA	70000	N
		Benzo[a]pyrene		2800	9110	1829	Y	2000	Y
		Dibenz[a,h]anthracene		77	860	NA	NA	700	Y
		Benzo[g,h,i]perylene		77	2710	NA	NA	1000000	N
		Indeno[1,2,3-cd]pyrene		2800	3590	NA	NA	7000	N
2-Methylnaphthalene		77	113	NA	NA	4000	N		

SAMPLE ID	MATRIX	PARAMETER	QUAL	QUANT	Result (µg/kg)	Site-Specific Remedial Goals (µg/kg)	Exceed Remedial Goals? Y/N	MCP S-1 Criteria (µg/kg)	Exceed MCP S-1 Criteria? Y/N
C-SITE7-A2-B-07-B	Soil	Naphthalene		7	U	NA	NA	4000	N
		Acenaphthylene		7	U	NA	NA	100000	N
		Acenaphthene		7	U	NA	NA	2000	N
		Fluorene		7	U	NA	NA	4000000	N
		Phenanthrene		7	10	NA	NA	1000000	N
		Anthracene		7	U	NA	NA	1000000	N
		Fluoranthene		7	24	NA	NA	1000000	N
		Pyrene		7	20	NA	NA	1000000	N
		Benzo[a]anthracene		7	14	14500	N	7000	N
		Chrysene		7	13	NA	NA	7000	N
		Benzo[b]fluoranthene		7	19	14500	N	7000	N
		Benzo[k]fluoranthene		7	7	NA	NA	70000	N
		Benzo[a]pyrene		7	11	1829	N	2000	N
		Dibenz[a,h]anthracene		7	U	NA	NA	700	N
		Benzo[g,h,i]perylene		7	8	NA	NA	1000000	N
		Indeno[1,2,3-cd]pyrene		7	10	NA	NA	7000	N
2-Methylnaphthalene		7	U	NA	NA	4000	N		

Table 3-3
Site 07 - Former Sewage Treatment Plant Confirmatory Sampling
Area A-2 PAH Analytical Data

SAMPLE ID	MATRIX	PARAMETER	QUAL	QUANT	Result (µg/kg)	Site-Specific Remedial Goals (µg/kg)	Exceed Remedial Goals? Y/N	MCP S-1 Criteria (µg/kg)	Exceed MCP S-1 Criteria? Y/N
C-SITE7-A2-B-08	Soil	Naphthalene		8	106	NA	NA	4000	N
		Acenaphthylene		8	65	NA	NA	100000	N
		Acenaphthene		8	957	NA	NA	2000	N
		Fluorene		8	922	NA	NA	4000000	N
		Phenanthrene		1400	9710	NA	NA	1000000	N
		Anthracene		1400	2400	NA	NA	1000000	N
		Fluoranthene		1400	15300	NA	NA	1000000	N
		Pyrene		1400	11500	NA	NA	1000000	N
		Benzo[a]anthracene		1400	6640	14500	N	7000	N
		Chrysene		1400	6830	NA	NA	7000	N
		Benzo[b]fluoranthene		1400	7760	14500	N	7000	Y
		Benzo[k]fluoranthene		1400	3130	NA	NA	70000	N
		Benzo[a]pyrene		1400	6000	1829	Y	2000	Y
		Dibenz[a,h]anthracene		8	583	NA	NA	700	N
		Benzo[g,h,i]perylene		1400	3290	NA	NA	1000000	N
		Indeno[1,2,3-cd]pyrene		1400	4010	NA	NA	7000	N
		2-Methylnaphthalene		8	90	NA	NA	4000	N

SAMPLE ID	MATRIX	PARAMETER	QUAL	QUANT	Result (µg/kg)	Site-Specific Remedial Goals (µg/kg)	Exceed Remedial Goals? Y/N	MCP S-1 Criteria (µg/kg)	Exceed MCP S-1 Criteria? Y/N
C-SITE7-A2-B-08-A	Soil	Naphthalene		38	3290	NA	NA	4000	N
		Acenaphthylene		38	296	NA	NA	100000	N
		Acenaphthene		5400	6590	NA	NA	2000	Y
		Fluorene		5400	8610	NA	NA	4000000	N
		Phenanthrene		5400	75900	NA	NA	1000000	N
		Anthracene		5400	16300	NA	NA	1000000	N
		Fluoranthene		5400	85300	NA	NA	1000000	N
		Pyrene		5400	60200	NA	NA	1000000	N
		Benzo[a]anthracene		5400	31300	14500	Y	7000	Y
		Chrysene		5400	31100	NA	NA	7000	Y
		Benzo[b]fluoranthene		5400	36200	14500	Y	7000	Y
		Benzo[k]fluoranthene		5400	12000	NA	NA	70000	N
		Benzo[a]pyrene		5400	24400	1829	Y	2000	Y
		Dibenz[a,h]anthracene		38	2530	NA	NA	700	Y
		Benzo[g,h,i]perylene		5400	12600	NA	NA	1000000	N
		Indeno[1,2,3-cd]pyrene		5400	14200	NA	NA	7000	Y
		2-Methylnaphthalene		38	1460	NA	NA	4000	N

SAMPLE ID	MATRIX	PARAMETER	QUAL	QUANT	Result (µg/kg)	Site-Specific Remedial Goals (µg/kg)	Exceed Remedial Goals? Y/N	MCP S-1 Criteria (µg/kg)	Exceed MCP S-1 Criteria? Y/N
C-SITE7-A2-B-08-B	Soil	Naphthalene		8	13	NA	NA	4000	N
		Acenaphthylene		8	U	NA	NA	100000	N
		Acenaphthene		8	46	NA	NA	2000	N
		Fluorene		8	51	NA	NA	4000000	N
		Phenanthrene		8	444	NA	NA	1000000	N
		Anthracene		8	123	NA	NA	1000000	N
		Fluoranthene		8	838	NA	NA	1000000	N
		Pyrene		8	605	NA	NA	1000000	N
		Benzo[a]anthracene		8	351	14500	N	7000	N
		Chrysene		8	362	NA	NA	7000	N
		Benzo[b]fluoranthene		8	458	14500	N	7000	N
		Benzo[k]fluoranthene		8	144	NA	NA	70000	N
		Benzo[a]pyrene		8	327	1829	N	2000	N
		Dibenz[a,h]anthracene		8	70	NA	NA	700	N
		Benzo[g,h,i]perylene		8	228	NA	NA	1000000	N
		Indeno[1,2,3-cd]pyrene		8	301	NA	NA	7000	N
		2-Methylnaphthalene		8	9	NA	NA	4000	N

Table 3-3
Site 07 - Former Sewage Treatment Plant Confirmatory Sampling
Area A-2 PAH Analytical Data

SAMPLE ID	MATRIX	PARAMETER	QUAL	QUANT	Result (µg/kg)	Site-Specific Remedial Goals (µg/kg)	Exceed Remedial Goals? Y/N	MCP S-1 Criteria (µg/kg)	Exceed MCP S-1 Criteria? Y/N
C-SITE7-A2-SW-01	Soil	Naphthalene		8	14	NA	NA	4000	N
		Acenaphthylene		8	18	NA	NA	100000	N
		Acenaphthene		8	102	NA	NA	2000	N
		Fluorene		8	125	NA	NA	4000000	N
		Phenanthrene		8	1020	NA	NA	1000000	N
		Anthracene		8	290	NA	NA	1000000	N
		Fluoranthene		8	1410	NA	NA	1000000	N
		Pyrene		8	1200	NA	NA	1000000	N
		Benzo[a]anthracene		8	639	14500	N	7000	N
		Chrysene		8	629	NA	NA	7000	N
		Benzo[b]fluoranthene		8	1130	14500	N	7000	N
		Benzo[k]fluoranthene		8	389	NA	NA	70000	N
		Benzo[a]pyrene		8	587	1829	N	2000	N
		Dibenz[a,h]anthracene		8	56	NA	NA	700	N
		Benzo[g,h,i]perylene		8	138	NA	NA	1000000	N
		Indeno[1,2,3-cd]pyrene		8	208	NA	NA	7000	N
		2-Methylnaphthalene		8	11	NA	NA	4000	N

SAMPLE ID	MATRIX	PARAMETER	QUAL	QUANT	Result (µg/kg)	Site-Specific Remedial Goals (µg/kg)	Exceed Remedial Goals? Y/N	MCP S-1 Criteria (µg/kg)	Exceed MCP S-1 Criteria? Y/N
C-SITE7-A2-SW-02	Soil	Naphthalene		7	99	NA	NA	4000	N
		Acenaphthylene		7	67	NA	NA	100000	N
		Acenaphthene		534	848	NA	NA	2000	N
		Fluorene		534	899	NA	NA	4000000	N
		Phenanthrene		534	7750	NA	NA	1000000	N
		Anthracene		534	2060	NA	NA	1000000	N
		Fluoranthene		534	11400	NA	NA	1000000	N
		Pyrene		534	8790	NA	NA	1000000	N
		Benzo[a]anthracene		534	5580	14500	N	7000	N
		Chrysene		534	5380	NA	NA	7000	N
		Benzo[b]fluoranthene		534	7180	14500	N	7000	Y
		Benzo[k]fluoranthene		534	2550	NA	NA	70000	N
		Benzo[a]pyrene		534	4950	1829	Y	2000	Y
		Dibenz[a,h]anthracene		534	608	NA	NA	700	N
		Benzo[g,h,i]perylene		534	1700	NA	NA	1000000	N
		Indeno[1,2,3-cd]pyrene		534	2370	NA	NA	7000	N
		2-Methylnaphthalene		7	90	NA	NA	4000	N

SAMPLE ID	MATRIX	PARAMETER	QUAL	QUANT	Result (µg/kg)	Site-Specific Remedial Goals (µg/kg)	Exceed Remedial Goals? Y/N	MCP S-1 Criteria (µg/kg)	Exceed MCP S-1 Criteria? Y/N
C-SITE7-A2-SW-02-A	Soil	Naphthalene		15	U	NA	NA	4000	N
		Acenaphthylene		15	U	NA	NA	100000	N
		Acenaphthene		550	563	NA	NA	2000	N
		Fluorene		550	563	NA	NA	4000000	N
		Phenanthrene		550	5930	NA	NA	1000000	N
		Anthracene		550	1350	NA	NA	1000000	N
		Fluoranthene		550	10000	NA	NA	1000000	N
		Pyrene		550	7310	NA	NA	1000000	N
		Benzo[a]anthracene		550	3980	14500	N	7000	N
		Chrysene		550	4160	NA	NA	7000	N
		Benzo[b]fluoranthene		550	5620	14500	N	7000	N
		Benzo[k]fluoranthene		550	2160	NA	NA	70000	N
		Benzo[a]pyrene		550	3590	1829	Y	2000	Y
		Dibenz[a,h]anthracene		15	U	NA	NA	700	N
		Benzo[g,h,i]perylene		550	836	NA	NA	1000000	N
		Indeno[1,2,3-cd]pyrene		550	1170	NA	NA	7000	N
		2-Methylnaphthalene		15	U	NA	NA	4000	N

Table 3-3
Site 07 - Former Sewage Treatment Plant Confirmatory Sampling
Area A-2 PAH Analytical Data

SAMPLE ID	MATRIX	PARAMETER	QUAL	QUANT	Result (µg/kg)	Site-Specific Remedial Goals (µg/kg)	Exceed Remedial Goals? Y/N	MCP S-1 Criteria (µg/kg)	Exceed MCP S-1 Criteria? Y/N
C-SITE7-A2-SW-03	Soil	Naphthalene		8	12	NA	NA	4000	N
		Acenaphthylene		8	28	NA	NA	100000	N
		Acenaphthene		8	78	NA	NA	2000	N
		Fluorene		8	83	NA	NA	4000000	N
		Phenanthrene		8	740	NA	NA	1000000	N
		Anthracene		8	216	NA	NA	1000000	N
		Fluoranthene		8	1300	NA	NA	1000000	N
		Pyrene		8	1120	NA	NA	1000000	N
		Benzo[a]anthracene		8	606	14500	N	7000	N
		Chrysene		8	651	NA	NA	7000	N
		Benzo[b]fluoranthene		8	1260	14500	N	7000	N
		Benzo[k]fluoranthene		8	383	NA	NA	70000	N
		Benzo[a]pyrene		8	638	1829	N	2000	N
		Dibenz[a,h]anthracene		8	60	NA	NA	700	N
		Benzo[g,h,i]perylene		8	144	NA	NA	1000000	N
		Indeno[1,2,3-cd]pyrene		8	218	NA	NA	7000	N
		2-Methylnaphthalene		8	10	NA	NA	4000	N

SAMPLE ID	MATRIX	PARAMETER	QUAL	QUANT	Result (µg/kg)	Site-Specific Remedial Goals (µg/kg)	Exceed Remedial Goals? Y/N	MCP S-1 Criteria (µg/kg)	Exceed MCP S-1 Criteria? Y/N
C-SITE7-A2-SW-04	Soil	Naphthalene		8	28	NA	NA	4000	N
		Acenaphthylene		8	31	NA	NA	100000	N
		Acenaphthene		8	248	NA	NA	2000	N
		Fluorene		8	263	NA	NA	4000000	N
		Phenanthrene		290	2490	NA	NA	1000000	N
		Anthracene		290	670	NA	NA	1000000	N
		Fluoranthene		570	3860	NA	NA	1000000	N
		Pyrene		570	3110	NA	NA	1000000	N
		Benzo[a]anthracene		290	1880	14500	N	7000	N
		Chrysene		290	1880	NA	NA	7000	N
		Benzo[b]fluoranthene		290	3230	14500	N	7000	N
		Benzo[k]fluoranthene		290	1080	NA	NA	70000	N
		Benzo[a]pyrene		290	1720	1829	N	2000	N
		Dibenz[a,h]anthracene		8	175	NA	NA	700	N
		Benzo[g,h,i]perylene		290	472	NA	NA	1000000	N
		Indeno[1,2,3-cd]pyrene		290	612	NA	NA	7000	N
		2-Methylnaphthalene		8	22	NA	NA	4000	N

SAMPLE ID	MATRIX	PARAMETER	QUAL	QUANT	Result (µg/kg)	Site-Specific Remedial Goals (µg/kg)	Exceed Remedial Goals? Y/N	MCP S-1 Criteria (µg/kg)	Exceed MCP S-1 Criteria? Y/N
C-SITE7-A2-SW-05	Soil	Naphthalene		8	199	NA	NA	4000	N
		Acenaphthylene		8	90	NA	NA	100000	N
		Acenaphthene		8	1160	NA	NA	2000	N
		Fluorene		1200	1240	NA	NA	4000000	N
		Phenanthrene		1200	12600	NA	NA	1000000	N
		Anthracene		1200	2910	NA	NA	1000000	N
		Fluoranthene		1200	18300	NA	NA	1000000	N
		Pyrene		1200	13500	NA	NA	1000000	N
		Benzo[a]anthracene		1200	7410	14500	N	7000	Y
		Chrysene		1200	7650	NA	NA	7000	Y
		Benzo[b]fluoranthene		1200	9200	14500	N	7000	Y
		Benzo[k]fluoranthene		1200	3510	NA	NA	70000	N
		Benzo[a]pyrene		1200	6400	1829	Y	2000	Y
		Dibenz[a,h]anthracene		8	589	NA	NA	700	N
		Benzo[g,h,i]perylene		1200	2330	NA	NA	1000000	N
		Indeno[1,2,3-cd]pyrene		1200	3080	NA	NA	7000	N
		2-Methylnaphthalene		8	137	NA	NA	4000	N

Table 3-3
Site 07 - Former Sewage Treatment Plant Confirmatory Sampling
Area A-2 PAH Analytical Data

SAMPLE ID	MATRIX	PARAMETER	QUAL	QUANT	Result (µg/kg)	Site-Specific Remedial Goals (µg/kg)	Exceed Remedial Goals? Y/N	MCP S-1 Criteria (µg/kg)	Exceed MCP S-1 Criteria? Y/N
C-SITE7-A2-SW-05-D	Soil	Naphthalene		8	344	NA	NA	4000	N
		Acenaphthylene		8	92	NA	NA	100000	N
		Acenaphthene		1200	1460	NA	NA	2000	N
		Fluorene		1200	1480	NA	NA	4000000	N
		Phenanthrene		1200	15100	NA	NA	1000000	N
		Anthracene		1200	3290	NA	NA	1000000	N
		Fluoranthene		1200	20600	NA	NA	1000000	N
		Pyrene		1200	14500	NA	NA	1000000	N
		Benzo[a]anthracene		1200	8500	14500	N	7000	Y
		Chrysene		1200	8350	NA	NA	7000	Y
		Benzo[b]fluoranthene		1200	10100	14500	N	7000	Y
		Benzo[k]fluoranthene		1200	3660	NA	NA	70000	N
		Benzo[a]pyrene		1200	6780	1829	Y	2000	Y
		Dibenz[a,h]anthracene		8	708	NA	NA	700	Y
		Benzo[g,h,i]perylene		1200	2340	NA	NA	1000000	N
		Indeno[1,2,3-cd]pyrene		1200	3210	NA	NA	7000	N
2-Methylnaphthalene		8	193	NA	NA	4000	N		

SAMPLE ID	MATRIX	PARAMETER	QUAL	QUANT	Result (µg/kg)	Site-Specific Remedial Goals (µg/kg)	Exceed Remedial Goals? Y/N	MCP S-1 Criteria (µg/kg)	Exceed MCP S-1 Criteria? Y/N
C-SITE7-A2-SW-05-A	Soil	Naphthalene		32	49	NA	NA	4000	N
		Acenaphthylene	J	32	31	NA	NA	100000	N
		Acenaphthene		32	579	NA	NA	2000	N
		Fluorene		32	609	NA	NA	4000000	N
		Phenanthrene		1100	5210	NA	NA	1000000	N
		Anthracene		1100	1270	NA	NA	1000000	N
		Fluoranthene		1100	8920	NA	NA	1000000	N
		Pyrene		1100	6800	NA	NA	1000000	N
		Benzo[a]anthracene		1100	3540	14500	N	7000	N
		Chrysene		1100	3440	NA	NA	7000	N
		Benzo[b]fluoranthene		1100	5110	14500	N	7000	N
		Benzo[k]fluoranthene		1100	1670	NA	NA	70000	N
		Benzo[a]pyrene		1100	2970	1829	Y	2000	Y
		Dibenz[a,h]anthracene		32	335	NA	NA	700	N
		Benzo[g,h,i]perylene		32	780	NA	NA	1000000	N
		Indeno[1,2,3-cd]pyrene		32	1200	NA	NA	7000	N
2-Methylnaphthalene		32	39	NA	NA	4000	N		

SAMPLE ID	MATRIX	PARAMETER	QUAL	QUANT	Result (µg/kg)	Site-Specific Remedial Goals (µg/kg)	Exceed Remedial Goals? Y/N	MCP S-1 Criteria (µg/kg)	Exceed MCP S-1 Criteria? Y/N
C-SITE7-A2-SW-06	Soil	Naphthalene		7	109	NA	NA	4000	N
		Acenaphthylene		7	78	NA	NA	100000	N
		Acenaphthene		561	898	NA	NA	2000	N
		Fluorene		561	877	NA	NA	4000000	N
		Phenanthrene		561	7920	NA	NA	1000000	N
		Anthracene		561	2000	NA	NA	1000000	N
		Fluoranthene		561	11900	NA	NA	1000000	N
		Pyrene		561	9230	NA	NA	1000000	N
		Benzo[a]anthracene		561	5530	14500	N	7000	N
		Chrysene		561	5480	NA	NA	7000	N
		Benzo[b]fluoranthene		561	8090	14500	N	7000	Y
		Benzo[k]fluoranthene		561	2690	NA	NA	70000	N
		Benzo[a]pyrene		561	5080	1829	Y	2000	Y
		Dibenz[a,h]anthracene		561	565	NA	NA	700	N
		Benzo[g,h,i]perylene		561	1450	NA	NA	1000000	N
		Indeno[1,2,3-cd]pyrene		561	2070	NA	NA	7000	N
2-Methylnaphthalene		7	85	NA	NA	4000	N		

Table 3-3
Site 07 - Former Sewage Treatment Plant Confirmatory Sampling
Area A-2 PAH Analytical Data

SAMPLE ID	MATRIX	PARAMETER	QUAL	QUANT	Result (µg/kg)	Site-Specific Remedial Goals (µg/kg)	Exceed Remedial Goals? Y/N	MCP S-1 Criteria (µg/kg)	Exceed MCP S-1 Criteria? Y/N
C-SITE7-A2-SW-06-A	Soil	Naphthalene		8	U	NA	NA	4000	N
		Acenaphthylene		8	U	NA	NA	100000	N
		Acenaphthene		8	U	NA	NA	2000	N
		Fluorene		8	U	NA	NA	4000000	N
		Phenanthrene		8	78	NA	NA	1000000	N
		Anthracene		8	17	NA	NA	1000000	N
		Fluoranthene		8	163	NA	NA	1000000	N
		Pyrene		8	129	NA	NA	1000000	N
		Benzo[a]anthracene		8	66	14500	N	7000	N
		Chrysene		8	79	NA	NA	7000	N
		Benzo[b]fluoranthene		8	99	14500	N	7000	N
		Benzo[k]fluoranthene		8	40	NA	NA	70000	N
		Benzo[a]pyrene		8	68	1829	N	2000	N
		Dibenz[a,h]anthracene		8	14	NA	NA	700	N
		Benzo[g,h,i]perylene		8	57	NA	NA	1000000	N
		Indeno[1,2,3-cd]pyrene		8	63	NA	NA	7000	N
		2-Methylnaphthalene		8	U	NA	NA	4000	N

SAMPLE ID	MATRIX	PARAMETER	QUAL	QUANT	Result (µg/kg)	Site-Specific Remedial Goals (µg/kg)	Exceed Remedial Goals? Y/N	MCP S-1 Criteria (µg/kg)	Exceed MCP S-1 Criteria? Y/N
C-SITE7-A2-SW-07	Soil	Naphthalene		11	137	NA	NA	4000	N
		Acenaphthylene		11	99	NA	NA	100000	N
		Acenaphthene		1400	1650	NA	NA	2000	N
		Fluorene		1400	1840	NA	NA	4000000	N
		Phenanthrene		1400	13700	NA	NA	1000000	N
		Anthracene		1400	3710	NA	NA	1000000	N
		Fluoranthene		1400	19000	NA	NA	1000000	N
		Pyrene		1400	14700	NA	NA	1000000	N
		Benzo[a]anthracene		1400	8270	14500	N	7000	Y
		Chrysene		1400	8400	NA	NA	7000	Y
		Benzo[b]fluoranthene		1400	9650	14500	N	7000	Y
		Benzo[k]fluoranthene		1400	3990	NA	NA	70000	N
		Benzo[a]pyrene		1400	7510	1829	Y	2000	Y
		Dibenz[a,h]anthracene		11	914	NA	NA	700	Y
		Benzo[g,h,i]perylene		1400	4130	NA	NA	1000000	N
		Indeno[1,2,3-cd]pyrene		1400	4790	NA	NA	7000	N
		2-Methylnaphthalene		11	114	NA	NA	4000	N

SAMPLE ID	MATRIX	PARAMETER	QUAL	QUANT	Result (µg/kg)	Site-Specific Remedial Goals (µg/kg)	Exceed Remedial Goals? Y/N	MCP S-1 Criteria (µg/kg)	Exceed MCP S-1 Criteria? Y/N
C-SITE7-A2-SW-07-A	Soil	Naphthalene		38	196	NA	NA	4000	N
		Acenaphthylene		38	98	NA	NA	100000	N
		Acenaphthene		1300	1550	NA	NA	2000	N
		Fluorene		1300	1540	NA	NA	4000000	N
		Phenanthrene		1300	16900	NA	NA	1000000	N
		Anthracene		1300	3710	NA	NA	1000000	N
		Fluoranthene		1300	30900	NA	NA	1000000	N
		Pyrene		1300	22400	NA	NA	1000000	N
		Benzo[a]anthracene		1300	11700	14500	N	7000	Y
		Chrysene		1300	12500	NA	NA	7000	Y
		Benzo[b]fluoranthene		1300	16700	14500	Y	7000	Y
		Benzo[k]fluoranthene		1300	5400	NA	NA	70000	N
		Benzo[a]pyrene		1300	10600	1829	Y	2000	Y
		Dibenz[a,h]anthracene		38	1120	NA	NA	700	Y
		Benzo[g,h,i]perylene		1300	2460	NA	NA	1000000	N
		Indeno[1,2,3-cd]pyrene		1300	3470	NA	NA	7000	N
		2-Methylnaphthalene		38	142	NA	NA	4000	N

Table 3-3
Site 07 - Former Sewage Treatment Plant Confirmatory Sampling
Area A-2 PAH Analytical Data

SAMPLE ID	MATRIX	PARAMETER	QUAL	QUANT	Result (µg/kg)	Site-Specific Remedial Goals (µg/kg)	Exceed Remedial Goals? Y/N	MCP S-1 Criteria (µg/kg)	Exceed MCP S-1 Criteria? Y/N
C-SITE7-A2-SW-07-B	Soil	Naphthalene		8	13	NA	NA	4000	N
		Acenaphthylene		8	U	NA	NA	100000	N
		Acenaphthene		8	63	NA	NA	2000	N
		Fluorene		8	68	NA	NA	4000000	N
		Phenanthrene		8	602	NA	NA	1000000	N
		Anthracene		8	159	NA	NA	1000000	N
		Fluoranthene		8	1050	NA	NA	1000000	N
		Pyrene		8	765	NA	NA	1000000	N
		Benzo[a]anthracene		8	449	14500	N	7000	N
		Chrysene		8	453	NA	NA	7000	N
		Benzo[b]fluoranthene		8	574	14500	N	7000	N
		Benzo[k]fluoranthene		8	184	NA	NA	70000	N
		Benzo[a]pyrene		8	408	1829	N	2000	N
		Dibenz[a,h]anthracene		8	81	NA	NA	700	N
		Benzo[g,h,i]perylene		8	265	NA	NA	1000000	N
		Indeno[1,2,3-cd]pyrene		8	354	NA	NA	7000	N
		2-Methylnaphthalene		8	8	NA	NA	4000	N

SAMPLE ID	MATRIX	PARAMETER	QUAL	QUANT	Result (µg/kg)	Site-Specific Remedial Goals (µg/kg)	Exceed Remedial Goals? Y/N	MCP S-1 Criteria (µg/kg)	Exceed MCP S-1 Criteria? Y/N
C-SITE7-A2-SW-08	Soil	Naphthalene		11	137	NA	NA	4000	N
		Acenaphthylene		11	99	NA	NA	100000	N
		Acenaphthene		1360	1390	NA	NA	2000	N
		Fluorene		1360	1380	NA	NA	4000000	N
		Phenanthrene		1360	13700	NA	NA	1000000	N
		Anthracene		1360	3450	NA	NA	1000000	N
		Fluoranthene		1360	24400	NA	NA	1000000	N
		Pyrene		1360	18100	NA	NA	1000000	N
		Benzo[a]anthracene		1360	10700	14500	N	7000	Y
		Chrysene		1360	11100	NA	NA	7000	Y
		Benzo[b]fluoranthene		1360	15200	14500	Y	7000	Y
		Benzo[k]fluoranthene		1360	5410	NA	NA	70000	N
		Benzo[a]pyrene		1360	10200	1829	Y	2000	Y
		Dibenz[a,h]anthracene		11	914	NA	NA	700	Y
		Benzo[g,h,i]perylene		1360	3530	NA	NA	1000000	N
		Indeno[1,2,3-cd]pyrene		1360	4760	NA	NA	7000	N
		2-Methylnaphthalene		11	114	NA	NA	4000	N

SAMPLE ID	MATRIX	PARAMETER	QUAL	QUANT	Result (µg/kg)	Site-Specific Remedial Goals (µg/kg)	Exceed Remedial Goals? Y/N	MCP S-1 Criteria (µg/kg)	Exceed MCP S-1 Criteria? Y/N
C-SITE7-A2-SW-08-A	Soil	Naphthalene		38	373	NA	NA	4000	N
		Acenaphthylene		38	184	NA	NA	100000	N
		Acenaphthene		2700	3620	NA	NA	2000	Y
		Fluorene		2700	3430	NA	NA	4000000	N
		Phenanthrene		2700	36600	NA	NA	1000000	N
		Anthracene		2700	8430	NA	NA	1000000	N
		Fluoranthene		2700	61300	NA	NA	1000000	N
		Pyrene		2700	45500	NA	NA	1000000	N
		Benzo[a]anthracene		2700	24800	14500	Y	7000	Y
		Chrysene		2700	26000	NA	NA	7000	Y
		Benzo[b]fluoranthene		2700	30600	14500	Y	7000	Y
		Benzo[k]fluoranthene		2700	9630	NA	NA	70000	N
		Benzo[a]pyrene		2700	21500	1829	Y	2000	Y
		Dibenz[a,h]anthracene		2700	3140	NA	NA	700	Y
		Benzo[g,h,i]perylene		2700	10300	NA	NA	1000000	N
		Indeno[1,2,3-cd]pyrene		2700	12200	NA	NA	7000	Y
		2-Methylnaphthalene		38	284	NA	NA	4000	N

Table 3-3
Site 07 - Former Sewage Treatment Plant Confirmatory Sampling
Area A-2 PAH Analytical Data

SAMPLE ID	MATRIX	PARAMETER	QUAL	QUANT	Result (µg/kg)	Site-Specific Remedial Goals (µg/kg)	Exceed Remedial Goals? Y/N	MCP S-1 Criteria (µg/kg)	Exceed MCP S-1 Criteria? Y/N
C-SITE7-A2-SW-08-B	Soil	Naphthalene		8	14	NA	NA	4000	N
		Acenaphthylene		8	12	NA	NA	100000	N
		Acenaphthene		8	57	NA	NA	2000	N
		Fluorene		8	93	NA	NA	4000000	N
		Phenanthrene		8	879	NA	NA	1000000	N
		Anthracene		8	204	NA	NA	1000000	N
		Fluoranthene		8	1140	NA	NA	1000000	N
		Pyrene		8	824	NA	NA	1000000	N
		Benzo[a]anthracene		8	466	14500	N	7000	N
		Chrysene		8	508	NA	NA	7000	N
		Benzo[b]fluoranthene		8	632	14500	N	7000	N
		Benzo[k]fluoranthene		8	218	NA	NA	70000	N
		Benzo[a]pyrene		8	434	1829	N	2000	N
		Dibenz[a,h]anthracene		8	69	NA	NA	700	N
		Benzo[g,h,i]perylene		8	238	NA	NA	1000000	N
		Indeno[1,2,3-cd]pyrene		8	312	NA	NA	7000	N
2-Methylnaphthalene		8	9	NA	NA	4000	N		

SAMPLE ID	MATRIX	PARAMETER	QUAL	QUANT	Result (µg/kg)	Site-Specific Remedial Goals (µg/kg)	Exceed Remedial Goals? Y/N	MCP S-1 Criteria (µg/kg)	Exceed MCP S-1 Criteria? Y/N
C-SITE7-A2-SW-09	Soil	Naphthalene		11	143	NA	NA	4000	N
		Acenaphthylene		11	110	NA	NA	100000	N
		Acenaphthene		1360	1680	NA	NA	2000	N
		Fluorene		1360	1750	NA	NA	4000000	N
		Phenanthrene		1360	16100	NA	NA	1000000	N
		Anthracene		1360	4100	NA	NA	1000000	N
		Fluoranthene		1360	25900	NA	NA	1000000	N
		Pyrene		1360	18800	NA	NA	1000000	N
		Benzo[a]anthracene		1360	11200	14500	N	7000	Y
		Chrysene		1360	11400	NA	NA	7000	Y
		Benzo[b]fluoranthene		1360	15000	14500	Y	7000	Y
		Benzo[k]fluoranthene		1360	5680	NA	NA	70000	N
		Benzo[a]pyrene		1360	10100	1829	Y	2000	Y
		Dibenz[a,h]anthracene		11	1130	NA	NA	700	Y
		Benzo[g,h,i]perylene		1360	3280	NA	NA	1000000	N
		Indeno[1,2,3-cd]pyrene		1360	4580	NA	NA	7000	N
2-Methylnaphthalene		11	149	NA	NA	4000	N		

SAMPLE ID	MATRIX	PARAMETER	QUAL	QUANT	Result (µg/kg)	Site-Specific Remedial Goals (µg/kg)	Exceed Remedial Goals? Y/N	MCP S-1 Criteria (µg/kg)	Exceed MCP S-1 Criteria? Y/N
C-SITE7-A2-SW-09-A	Soil	Naphthalene		40	155	NA	NA	4000	N
		Acenaphthylene		40	204	NA	NA	100000	N
		Acenaphthene		1400	2410	NA	NA	2000	Y
		Fluorene		1400	2240	NA	NA	4000000	N
		Phenanthrene		1400	20000	NA	NA	1000000	N
		Anthracene		1400	4620	NA	NA	1000000	N
		Fluoranthene		1400	30900	NA	NA	1000000	N
		Pyrene		1400	22200	NA	NA	1000000	N
		Benzo[a]anthracene		1400	10300	14500	N	7000	Y
		Chrysene		1400	11800	NA	NA	7000	Y
		Benzo[b]fluoranthene		1400	15400	14500	Y	7000	Y
		Benzo[k]fluoranthene		1400	4940	NA	NA	70000	N
		Benzo[a]pyrene		1400	9380	1829	Y	2000	Y
		Dibenz[a,h]anthracene		40	891	NA	NA	700	Y
		Benzo[g,h,i]perylene		1400	1940	NA	NA	1000000	N
		Indeno[1,2,3-cd]pyrene		1400	2810	NA	NA	7000	N
2-Methylnaphthalene		40	848	NA	NA	4000	N		

Table 3-3
Site 07 - Former Sewage Treatment Plant Confirmatory Sampling
Area A-2 PAH Analytical Data

SAMPLE ID	MATRIX	PARAMETER	QUAL	QUANT	Result (µg/kg)	Site-Specific Remedial Goals (µg/kg)	Exceed Remedial Goals? Y/N	MCP S-1 Criteria (µg/kg)	Exceed MCP S-1 Criteria? Y/N
C-SITE7-A2-SW-09-B	Soil	Naphthalene		8	16	NA	NA	4000	N
		Acenaphthylene		8	33	NA	NA	100000	N
		Acenaphthene		8	151	NA	NA	2000	N
		Fluorene		8	149	NA	NA	4000000	N
		Phenanthrene		280	1400	NA	NA	1000000	N
		Anthracene		280	409	NA	NA	1000000	N
		Fluoranthene		280	2540	NA	NA	1000000	N
		Pyrene		280	2130	NA	NA	1000000	N
		Benzo[a]anthracene		280	1220	14500	N	7000	N
		Chrysene		280	1250	NA	NA	7000	N
		Benzo[b]fluoranthene		280	1490	14500	N	7000	N
		Benzo[k]fluoranthene		280	549	NA	NA	70000	N
		Benzo[a]pyrene		280	1030	1829	N	2000	N
		Dibenz[a,h]anthracene		8	157	NA	NA	700	N
		Benzo[g,h,i]perylene		280	461	NA	NA	1000000	N
		Indeno[1,2,3-cd]pyrene		280	568	NA	NA	7000	N
		2-Methylnaphthalene		8	12	NA	NA	4000	N

SAMPLE ID	MATRIX	PARAMETER	QUAL	QUANT	Result (µg/kg)	Site-Specific Remedial Goals (µg/kg)	Exceed Remedial Goals? Y/N	MCP S-1 Criteria (µg/kg)	Exceed MCP S-1 Criteria? Y/N
C-SITE7-A2-SW-10	Soil	Naphthalene		10	26	NA	NA	4000	N
		Acenaphthylene		10	72	NA	NA	100000	N
		Acenaphthene		267	300	NA	NA	2000	N
		Fluorene		267	283	NA	NA	4000000	N
		Phenanthrene		267	3000	NA	NA	1000000	N
		Anthracene		267	768	NA	NA	1000000	N
		Fluoranthene		267	5540	NA	NA	1000000	N
		Pyrene		267	4660	NA	NA	1000000	N
		Benzo[a]anthracene		267	2630	14500	N	7000	N
		Chrysene		267	2750	NA	NA	7000	N
		Benzo[b]fluoranthene		267	3940	14500	N	7000	N
		Benzo[k]fluoranthene		267	1490	NA	NA	70000	N
		Benzo[a]pyrene		267	2470	1829	Y	2000	Y
		Dibenz[a,h]anthracene		10	248	NA	NA	700	N
		Benzo[g,h,i]perylene		267	609	NA	NA	1000000	N
		Indeno[1,2,3-cd]pyrene		267	880	NA	NA	7000	N
		2-Methylnaphthalene		10	27	NA	NA	4000	N

SAMPLE ID	MATRIX	PARAMETER	QUAL	QUANT	Result (µg/kg)	Site-Specific Remedial Goals (µg/kg)	Exceed Remedial Goals? Y/N	MCP S-1 Criteria (µg/kg)	Exceed MCP S-1 Criteria? Y/N
C-SITE7-A2-SW-10-A	Soil	Naphthalene		8	32	NA	NA	4000	N
		Acenaphthylene		8	120	NA	NA	100000	N
		Acenaphthene		8	236	NA	NA	2000	N
		Fluorene		8	228	NA	NA	4000000	N
		Phenanthrene		280	2630	NA	NA	1000000	N
		Anthracene		8	705	NA	NA	1000000	N
		Fluoranthene		280	5620	NA	NA	1000000	N
		Pyrene		280	4270	NA	NA	1000000	N
		Benzo[a]anthracene		280	2340	14500	N	7000	N
		Chrysene		280	2630	NA	NA	7000	N
		Benzo[b]fluoranthene		280	3570	14500	N	7000	N
		Benzo[k]fluoranthene		8	1230	NA	NA	70000	N
		Benzo[a]pyrene		280	2310	1829	Y	2000	Y
		Dibenz[a,h]anthracene		8	199	NA	NA	700	N
		Benzo[g,h,i]perylene		8	452	NA	NA	1000000	N
		Indeno[1,2,3-cd]pyrene		8	693	NA	NA	7000	N
		2-Methylnaphthalene		8	30	NA	NA	4000	N

Table 3-3
Site 07 - Former Sewage Treatment Plant Confirmatory Sampling
Area A-2 PAH Analytical Data

SAMPLE ID	MATRIX	PARAMETER	QUAL	QUANT	Result (µg/kg)	Site-Specific Remedial Goals (µg/kg)	Exceed Remedial Goals? Y/N	MCP S-1 Criteria (µg/kg)	Exceed MCP S-1 Criteria? Y/N
C-SITE7-A2-SW-10-B	Soil	Naphthalene		8	U	NA	NA	4000	N
		Acenaphthylene		8	U	NA	NA	100000	N
		Acenaphthene		8	21	NA	NA	2000	N
		Fluorene		8	17	NA	NA	4000000	N
		Phenanthrene		8	300	NA	NA	1000000	N
		Anthracene		8	100	NA	NA	1000000	N
		Fluoranthene		8	852	NA	NA	1000000	N
		Pyrene		8	650	NA	NA	1000000	N
		Benzo[a]anthracene		8	346	14500	N	7000	N
		Chrysene		8	417	NA	NA	7000	N
		Benzo[b]fluoranthene		8	423	14500	N	7000	N
		Benzo[k]fluoranthene		8	156	NA	NA	70000	N
		Benzo[a]pyrene		8	254	1829	N	2000	N
		Dibenz[a,h]anthracene		8	39	NA	NA	700	N
		Benzo[g,h,i]perylene		8	129	NA	NA	1000000	N
		Indeno[1,2,3-cd]pyrene		8	168	NA	NA	7000	N
		2-Methylnaphthalene		8	U	NA	NA	4000	N

SAMPLE ID	MATRIX	PARAMETER	QUAL	QUANT	Result (µg/kg)	Site-Specific Remedial Goals (µg/kg)	Exceed Remedial Goals? Y/N	MCP S-1 Criteria (µg/kg)	Exceed MCP S-1 Criteria? Y/N
C-SITE7-A2-SW-11	Soil	Naphthalene		8	28	NA	NA	4000	N
		Acenaphthylene		8	14	NA	NA	100000	N
		Acenaphthene		8	75	NA	NA	2000	N
		Fluorene		8	86	NA	NA	4000000	N
		Phenanthrene		8	699	NA	NA	1000000	N
		Anthracene		8	186	NA	NA	1000000	N
		Fluoranthene		8	939	NA	NA	1000000	N
		Pyrene		8	723	NA	NA	1000000	N
		Benzo[a]anthracene		8	415	14500	N	7000	N
		Chrysene		8	426	NA	NA	7000	N
		Benzo[b]fluoranthene		8	652	14500	N	7000	N
		Benzo[k]fluoranthene		8	218	NA	NA	70000	N
		Benzo[a]pyrene		8	392	1829	N	2000	N
		Dibenz[a,h]anthracene		8	45	NA	NA	700	N
		Benzo[g,h,i]perylene		8	94	NA	NA	1000000	N
		Indeno[1,2,3-cd]pyrene		8	159	NA	NA	7000	N
		2-Methylnaphthalene		8	13	NA	NA	4000	N

Table 3-4
Site 07 - Former Sewage Treatment Plant Confirmatory Sampling
Subslab PAH Analytical Data

SAMPLE ID	MATRIX	PARAMETER	QUAL	QUANT	Result (µg/kg)	Site-Specific Remedial Goals (µg/kg)	Exceed Remedial Goals? Y/N	MCP S-1 Criteria (µg/kg)	Exceed MCP S-1 Criteria? Y/N
SITE7-SUBSLAB	Soil	Naphthalene		8	254	NA	NA	4000	N
		Acenaphthylene		8	88	NA	NA	100000	N
		Acenaphthene		1200	1820	NA	NA	2000	N
		Fluorene		1200	1960	NA	NA	4000000	N
		Phenanthrene		1200	18700	NA	NA	1000000	N
		Anthracene		1200	4810	NA	NA	1000000	N
		Fluoranthene		1200	26000	NA	NA	1000000	N
		Pyrene		1200	20800	NA	NA	1000000	N
		Benzo[a]anthracene		1200	11400	14500	N	7000	Y
		Chrysene		1200	12100	NA	NA	7000	Y
		Benzo[b]fluoranthene		1200	13400	14500	N	7000	Y
		Benzo[k]fluoranthene		1200	5160	NA	NA	70000	N
		Benzo[a]pyrene		1200	10000	1829	Y	2000	Y
		Dibenz[a,h]anthracene		1200	1290	NA	NA	700	Y
		Benzo[g,h,i]perylene		1200	4280	NA	NA	1000000	N
		Indeno[1,2,3-cd]pyrene		1200	5380	NA	NA	7000	N
		2-Methylnaphthalene		8	175	NA	NA	4000	N

SAMPLE ID	MATRIX	PARAMETER	QUAL	QUANT	Result (µg/kg)	Site-Specific Remedial Goals (µg/kg)	Exceed Remedial Goals? Y/N	MCP S-1 Criteria (µg/kg)	Exceed MCP S-1 Criteria? Y/N
SITE7-D1-SUBSLAB	Soil	Naphthalene		39	151	NA	NA	4000	N
		Acenaphthylene		39	46	NA	NA	100000	N
		Acenaphthene		39	930	NA	NA	2000	N
		Fluorene		39	924	NA	NA	4000000	N
		Phenanthrene		1400	7660	NA	NA	1000000	N
		Anthracene		1400	2000	NA	NA	1000000	N
		Fluoranthene		1400	11400	NA	NA	1000000	N
		Pyrene		1400	8770	NA	NA	1000000	N
		Benzo[a]anthracene		1400	4680	14500	N	7000	N
		Chrysene		1400	5020	NA	NA	7000	N
		Benzo[b]fluoranthene		1400	5580	14500	N	7000	N
		Benzo[k]fluoranthene		1400	2610	NA	NA	70000	N
		Benzo[a]pyrene		1400	4050	1829	Y	2000	Y
		Dibenz[a,h]anthracene		39	658	NA	NA	700	N
		Benzo[g,h,i]perylene		1400	2300	NA	NA	1000000	N
		Indeno[1,2,3-cd]pyrene		1400	2720	NA	NA	7000	N
		2-Methylnaphthalene		39	111	NA	NA	4000	N

SAMPLE ID	MATRIX	PARAMETER	QUAL	QUANT	Result (µg/kg)	Site-Specific Remedial Goals (µg/kg)	Exceed Remedial Goals? Y/N	MCP S-1 Criteria (µg/kg)	Exceed MCP S-1 Criteria? Y/N
SITE7-D2-SUBSLAB	Soil	Naphthalene		78	2580	NA	NA	4000	N
		Acenaphthylene		78	120	NA	NA	100000	N
		Acenaphthene		2800	5970	NA	NA	2000	Y
		Fluorene		2800	7130	NA	NA	4000000	N
		Phenanthrene		2800	64400	NA	NA	1000000	N
		Anthracene		2800	16300	NA	NA	1000000	N
		Fluoranthene		2800	70200	NA	NA	1000000	N
		Pyrene		2800	49700	NA	NA	1000000	N
		Benzo[a]anthracene		2800	24600	14500	Y	7000	Y
		Chrysene		2800	24300	NA	NA	7000	Y
		Benzo[b]fluoranthene		2800	27000	14500	Y	7000	Y
		Benzo[k]fluoranthene		2800	7310	NA	NA	70000	N
		Benzo[a]pyrene		2800	20800	1829	Y	2000	Y
		Dibenz[a,h]anthracene		2800	2970	NA	NA	700	Y
		Benzo[g,h,i]perylene		2800	11600	NA	NA	1000000	N
		Indeno[1,2,3-cd]pyrene		2800	12900	NA	NA	7000	Y
		2-Methylnaphthalene		78	1190	NA	NA	4000	N

Table 3-5
Site 07 - Former Sewage Treatment Plant Confirmatory Sampling
Test Pit PAH Analytical Data

SAMPLE ID	MATRIX	PARAMETER	QUAL	QUANT	Result (µg/kg)	Site-Specific Remedial Goals (µg/kg)	Exceed Remedial Goals? Y/N	MCP S-1 Criteria (µg/kg)	Exceed MCP S-1 Criteria? Y/N
SITE07-TP02-13.5	Soil	Naphthalene		8	U	NA	NA	4000	N
		Acenaphthylene		8	U	NA	NA	100000	N
		Acenaphthene		8	U	NA	NA	2000	N
		Fluorene		8	U	NA	NA	4000000	N
		Phenanthrene		8	U	NA	NA	1000000	N
		Anthracene		8	U	NA	NA	1000000	N
		Fluoranthene		8	U	NA	NA	1000000	N
		Pyrene		8	U	NA	NA	1000000	N
		Benzo[a]anthracene		8	U	14500	N	7000	N
		Chrysene		8	U	NA	NA	7000	N
		Benzo[b]fluoranthene		8	U	14500	N	7000	N
		Benzo[k]fluoranthene		8	U	NA	NA	70000	N
		Benzo[a]pyrene		8	U	1829	N	2000	N
		Dibenz[a,h]anthracene		8	U	NA	NA	700	N
		Benzo[g,h,i]perylene		8	U	NA	NA	1000000	N
		Indeno[1,2,3-cd]pyrene		8	U	NA	NA	7000	N
		2-Methylnaphthalene		8	U	NA	NA	4000	N

SAMPLE ID	MATRIX	PARAMETER	QUAL	QUANT	Result (µg/kg)	Site-Specific Remedial Goals (µg/kg)	Exceed Remedial Goals? Y/N	MCP S-1 Criteria (µg/kg)	Exceed MCP S-1 Criteria? Y/N
SITE07-TP02-11	Soil	Naphthalene		7	U	NA	NA	4000	N
		Acenaphthylene		7	U	NA	NA	100000	N
		Acenaphthene		7	73	NA	NA	2000	N
		Fluorene		7	75	NA	NA	4000000	N
		Phenanthrene		7	643	NA	NA	1000000	N
		Anthracene		7	182	NA	NA	1000000	N
		Fluoranthene		7	1130	NA	NA	1000000	N
		Pyrene		7	898	NA	NA	1000000	N
		Benzo[a]anthracene		7	526	14500	N	7000	N
		Chrysene		7	505	NA	NA	7000	N
		Benzo[b]fluoranthene		7	642	14500	N	7000	N
		Benzo[k]fluoranthene		7	215	NA	NA	70000	N
		Benzo[a]pyrene		7	437	1829	N	2000	N
		Dibenz[a,h]anthracene		7	77	NA	NA	700	N
		Benzo[g,h,i]perylene		7	280	NA	NA	1000000	N
		Indeno[1,2,3-cd]pyrene		7	354	NA	NA	7000	N
		2-Methylnaphthalene		7	U	NA	NA	4000	N

SAMPLE ID	MATRIX	PARAMETER	QUAL	QUANT	Result (µg/kg)	Site-Specific Remedial Goals (µg/kg)	Exceed Remedial Goals? Y/N	MCP S-1 Criteria (µg/kg)	Exceed MCP S-1 Criteria? Y/N
SITE07-TP08-12.5	Soil	Naphthalene		8	U	NA	NA	4000	N
		Acenaphthylene		8	U	NA	NA	100000	N
		Acenaphthene		8	U	NA	NA	2000	N
		Fluorene		8	U	NA	NA	4000000	N
		Phenanthrene		8	18	NA	NA	1000000	N
		Anthracene		8	U	NA	NA	1000000	N
		Fluoranthene		8	33	NA	NA	1000000	N
		Pyrene		8	25	NA	NA	1000000	N
		Benzo[a]anthracene		8	16	14500	N	7000	N
		Chrysene		8	12	NA	NA	7000	N
		Benzo[b]fluoranthene		8	15	14500	N	7000	N
		Benzo[k]fluoranthene		8	U	NA	NA	70000	N
		Benzo[a]pyrene		8	10	1829	N	2000	N
		Dibenz[a,h]anthracene		8	U	NA	NA	700	N
		Benzo[g,h,i]perylene		8	U	NA	NA	1000000	N
		Indeno[1,2,3-cd]pyrene	J	8	7.8	NA	NA	7000	N
		2-Methylnaphthalene		8	U	NA	NA	4000	N

Table 3-5
Site 07 - Former Sewage Treatment Plant Confirmatory Sampling
Test Pit PAH Analytical Data

SAMPLE ID	MATRIX	PARAMETER	QUAL	QUANT	Result (µg/kg)	Site-Specific Remedial Goals (µg/kg)	Exceed Remedial Goals? Y/N	MCP S-1 Criteria (µg/kg)	Exceed MCP S-1 Criteria? Y/N
SITE07-TP09-13.5	Soil	Naphthalene		8	U	NA	NA	4000	N
		Acenaphthylene		8	U	NA	NA	100000	N
		Acenaphthene		8	U	NA	NA	2000	N
		Fluorene		8	U	NA	NA	4000000	N
		Phenanthrene		8	12	NA	NA	1000000	N
		Anthracene		8	U	NA	NA	1000000	N
		Fluoranthene		8	31	NA	NA	1000000	N
		Pyrene		8	28	NA	NA	1000000	N
		Benzo[a]anthracene		8	19	14500	N	7000	N
		Chrysene		8	14	NA	NA	7000	N
		Benzo[b]fluoranthene		8	22	14500	N	7000	N
		Benzo[k]fluoranthene	J	8	7.9	NA	NA	70000	N
		Benzo[a]pyrene		8	13	1829	N	2000	N
		Dibenz[a,h]anthracene		8	U	NA	NA	700	N
		Benzo[g,h,i]perylene		8	11	NA	NA	1000000	N
		Indeno[1,2,3-cd]pyrene		8	11	NA	NA	7000	N
		2-Methylnaphthalene		8	U	NA	NA	4000	N

SAMPLE ID	MATRIX	PARAMETER	QUAL	QUANT	Result (µg/kg)	Site-Specific Remedial Goals (µg/kg)	Exceed Remedial Goals? Y/N	MCP S-1 Criteria (µg/kg)	Exceed MCP S-1 Criteria? Y/N
SITE07-TP10-5	Soil	Naphthalene		7	U	NA	NA	4000	N
		Acenaphthylene		7	U	NA	NA	100000	N
		Acenaphthene		7	U	NA	NA	2000	N
		Fluorene		7	U	NA	NA	4000000	N
		Phenanthrene		7	U	NA	NA	1000000	N
		Anthracene		7	U	NA	NA	1000000	N
		Fluoranthene		7	U	NA	NA	1000000	N
		Pyrene		7	U	NA	NA	1000000	N
		Benzo[a]anthracene		7	U	14500	N	7000	N
		Chrysene		7	U	NA	NA	7000	N
		Benzo[b]fluoranthene		7	U	14500	N	7000	N
		Benzo[k]fluoranthene		7	U	NA	NA	70000	N
		Benzo[a]pyrene		7	U	1829	N	2000	N
		Dibenz[a,h]anthracene		7	U	NA	NA	700	N
		Benzo[g,h,i]perylene		7	U	NA	NA	1000000	N
		Indeno[1,2,3-cd]pyrene		7	U	NA	NA	7000	N
		2-Methylnaphthalene		7	U	NA	NA	4000	N

SAMPLE ID	MATRIX	PARAMETER	QUAL	QUANT	Result (µg/kg)	Site-Specific Remedial Goals (µg/kg)	Exceed Remedial Goals? Y/N	MCP S-1 Criteria (µg/kg)	Exceed MCP S-1 Criteria? Y/N
SITE07-TP11-11	Soil	Naphthalene		8	U	NA	NA	4000	N
		Acenaphthylene		8	U	NA	NA	100000	N
		Acenaphthene		8	U	NA	NA	2000	N
		Fluorene		8	U	NA	NA	4000000	N
		Phenanthrene		8	U	NA	NA	1000000	N
		Anthracene		8	U	NA	NA	1000000	N
		Fluoranthene		8	U	NA	NA	1000000	N
		Pyrene		8	U	NA	NA	1000000	N
		Benzo[a]anthracene		8	U	14500	N	7000	N
		Chrysene		8	U	NA	NA	7000	N
		Benzo[b]fluoranthene		8	U	14500	N	7000	N
		Benzo[k]fluoranthene		8	U	NA	NA	70000	N
		Benzo[a]pyrene		8	U	1829	N	2000	N
		Dibenz[a,h]anthracene		8	U	NA	NA	700	N
		Benzo[g,h,i]perylene		8	U	NA	NA	1000000	N
		Indeno[1,2,3-cd]pyrene		8	U	NA	NA	7000	N
		2-Methylnaphthalene		8	U	NA	NA	4000	N

Table 3-5
Site 07 - Former Sewage Treatment Plant Confirmatory Sampling
Test Pit PAH Analytical Data

SAMPLE ID	MATRIX	PARAMETER	QUAL	QUANT	Result (µg/kg)	Site-Specific Remedial Goals (µg/kg)	Exceed Remedial Goals? Y/N	MCP S-1 Criteria (µg/kg)	Exceed MCP S-1 Criteria? Y/N
SITE07-TP14-10	Soil	Naphthalene		7	U	NA	NA	4000	N
		Acenaphthylene		7	U	NA	NA	100000	N
		Acenaphthene		7	U	NA	NA	2000	N
		Fluorene		7	U	NA	NA	4000000	N
		Phenanthrene		7	U	NA	NA	1000000	N
		Anthracene		7	U	NA	NA	1000000	N
		Fluoranthene		7	U	NA	NA	1000000	N
		Pyrene		7	U	NA	NA	1000000	N
		Benzo[a]anthracene		7	U	14500	N	7000	N
		Chrysene		7	U	NA	NA	7000	N
		Benzo[b]fluoranthene		7	U	14500	N	7000	N
		Benzo[k]fluoranthene		7	U	NA	NA	70000	N
		Benzo[a]pyrene		7	U	1829	N	2000	N
		Dibenz[a,h]anthracene		7	U	NA	NA	700	N
		Benzo[g,h,i]perylene		7	U	NA	NA	1000000	N
		Indeno[1,2,3-cd]pyrene		7	U	NA	NA	7000	N
		2-Methylnaphthalene		7	U	NA	NA	4000	N

SAMPLE ID	MATRIX	PARAMETER	QUAL	QUANT	Result (µg/kg)	Site-Specific Remedial Goals (µg/kg)	Exceed Remedial Goals? Y/N	MCP S-1 Criteria (µg/kg)	Exceed MCP S-1 Criteria? Y/N
SITE07-TP16-11	Soil	Naphthalene		8	U	NA	NA	4000	N
		Acenaphthylene		8	U	NA	NA	100000	N
		Acenaphthene		8	U	NA	NA	2000	N
		Fluorene		8	U	NA	NA	4000000	N
		Phenanthrene		8	U	NA	NA	1000000	N
		Anthracene		8	U	NA	NA	1000000	N
		Fluoranthene		8	U	NA	NA	1000000	N
		Pyrene		8	U	NA	NA	1000000	N
		Benzo[a]anthracene		8	U	14500	N	7000	N
		Chrysene		8	U	NA	NA	7000	N
		Benzo[b]fluoranthene		8	U	14500	N	7000	N
		Benzo[k]fluoranthene		8	U	NA	NA	70000	N
		Benzo[a]pyrene		8	U	1829	N	2000	N
		Dibenz[a,h]anthracene		8	U	NA	NA	700	N
		Benzo[g,h,i]perylene		8	U	NA	NA	1000000	N
		Indeno[1,2,3-cd]pyrene		8	U	NA	NA	7000	N
		2-Methylnaphthalene		8	U	NA	NA	4000	N

SAMPLE ID	MATRIX	PARAMETER	QUAL	QUANT	Result (µg/kg)	Site-Specific Remedial Goals (µg/kg)	Exceed Remedial Goals? Y/N	MCP S-1 Criteria (µg/kg)	Exceed MCP S-1 Criteria? Y/N
SITE07-TP18-8	Soil	Naphthalene		8	U	NA	NA	4000	N
		Acenaphthylene		8	U	NA	NA	100000	N
		Acenaphthene		8	U	NA	NA	2000	N
		Fluorene		8	U	NA	NA	4000000	N
		Phenanthrene		8	U	NA	NA	1000000	N
		Anthracene		8	U	NA	NA	1000000	N
		Fluoranthene		8	8.5	NA	NA	1000000	N
		Pyrene	J	8	7.4	NA	NA	1000000	N
		Benzo[a]anthracene		8	U	14500	N	7000	N
		Chrysene		8	U	NA	NA	7000	N
		Benzo[b]fluoranthene		8	U	14500	N	7000	N
		Benzo[k]fluoranthene		8	U	NA	NA	70000	N
		Benzo[a]pyrene		8	U	1829	N	2000	N
		Dibenz[a,h]anthracene		8	U	NA	NA	700	N
		Benzo[g,h,i]perylene		8	U	NA	NA	1000000	N
		Indeno[1,2,3-cd]pyrene		8	U	NA	NA	7000	N
		2-Methylnaphthalene		8	U	NA	NA	4000	N

Table 3-5
Site 07 - Former Sewage Treatment Plant Confirmatory Sampling
Test Pit PAH Analytical Data

SAMPLE ID	MATRIX	PARAMETER	QUAL	QUANT	Result (µg/kg)	Site-Specific Remedial Goals (µg/kg)	Exceed Remedial Goals? Y/N	MCP S-1 Criteria (µg/kg)	Exceed MCP S-1 Criteria? Y/N
SITE07-TP19-10.5	Soil	Naphthalene		8	U	NA	NA	4000	N
		Acenaphthylene		8	U	NA	NA	100000	N
		Acenaphthene		8	U	NA	NA	2000	N
		Fluorene		8	U	NA	NA	4000000	N
		Phenanthrene		8	U	NA	NA	1000000	N
		Anthracene		8	U	NA	NA	1000000	N
		Fluoranthene		8	U	NA	NA	1000000	N
		Pyrene		8	U	NA	NA	1000000	N
		Benzo[a]anthracene		8	U	14500	N	7000	N
		Chrysene		8	U	NA	NA	7000	N
		Benzo[b]fluoranthene		8	U	14500	N	7000	N
		Benzo[k]fluoranthene		8	U	NA	NA	70000	N
		Benzo[a]pyrene		8	U	1829	N	2000	N
		Dibenz[a,h]anthracene		8	U	NA	NA	700	N
		Benzo[g,h,i]perylene		8	U	NA	NA	1000000	N
		Indeno[1,2,3-cd]pyrene		8	U	NA	NA	7000	N
		2-Methylnaphthalene		8	U	NA	NA	4000	N

SAMPLE ID	MATRIX	PARAMETER	QUAL	QUANT	Result (µg/kg)	Site-Specific Remedial Goals (µg/kg)	Exceed Remedial Goals? Y/N	MCP S-1 Criteria (µg/kg)	Exceed MCP S-1 Criteria? Y/N
SITE07-TP22-9	Soil	Naphthalene		8	74	NA	NA	4000	N
		Acenaphthylene		8	30	NA	NA	100000	N
		Acenaphthene		8	511	NA	NA	2000	N
		Fluorene		8	489	NA	NA	4000000	N
		Phenanthrene		270	4370	NA	NA	1000000	N
		Anthracene		8	1010	NA	NA	1000000	N
		Fluoranthene		270	7130	NA	NA	1000000	N
		Pyrene		270	5190	NA	NA	1000000	N
		Benzo[a]anthracene		270	3040	14500	N	7000	N
		Chrysene		270	2940	NA	NA	7000	N
		Benzo[b]fluoranthene		270	3520	14500	N	7000	N
		Benzo[k]fluoranthene		8	965	NA	NA	70000	N
		Benzo[a]pyrene		270	2350	1829	Y	2000	Y
		Dibenz[a,h]anthracene		8	305	NA	NA	700	N
		Benzo[g,h,i]perylene		8	852	NA	NA	1000000	N
		Indeno[1,2,3-cd]pyrene		8	1220	NA	NA	7000	N
		2-Methylnaphthalene		8	106	NA	NA	4000	N

SAMPLE ID	MATRIX	PARAMETER	QUAL	QUANT	Result (µg/kg)	Site-Specific Remedial Goals (µg/kg)	Exceed Remedial Goals? Y/N	MCP S-1 Criteria (µg/kg)	Exceed MCP S-1 Criteria? Y/N
SITE07-TP23-9.5	Soil	Naphthalene		7	323	NA	NA	4000	N
		Acenaphthylene		7	7.1	NA	NA	100000	N
		Acenaphthene		7	564	NA	NA	2000	N
		Fluorene		7	681	NA	NA	4000000	N
		Phenanthrene		260	5480	NA	NA	1000000	N
		Anthracene		7	1380	NA	NA	1000000	N
		Fluoranthene		260	5430	NA	NA	1000000	N
		Pyrene		260	3630	NA	NA	1000000	N
		Benzo[a]anthracene		260	2220	14500	N	7000	N
		Chrysene		260	1870	NA	NA	7000	N
		Benzo[b]fluoranthene		260	1840	14500	N	7000	N
		Benzo[k]fluoranthene		7	576	NA	NA	70000	N
		Benzo[a]pyrene		7	1350	1829	N	2000	N
		Dibenz[a,h]anthracene		7	219	NA	NA	700	N
		Benzo[g,h,i]perylene		7	598	NA	NA	1000000	N
		Indeno[1,2,3-cd]pyrene		7	853	NA	NA	7000	N
		2-Methylnaphthalene		7	111	NA	NA	4000	N

Table 3-5
Site 07 - Former Sewage Treatment Plant Confirmatory Sampling
Test Pit PAH Analytical Data

SAMPLE ID	MATRIX	PARAMETER	QUAL	QUANT	Result (µg/kg)	Site-Specific Remedial Goals (µg/kg)	Exceed Remedial Goals? Y/N	MCP S-1 Criteria (µg/kg)	Exceed MCP S-1 Criteria? Y/N
SITE07-TP24-8	Soil	Naphthalene		7	16	NA	NA	4000	N
		Acenaphthylene		7	26	NA	NA	100000	N
		Acenaphthene		7	56	NA	NA	2000	N
		Fluorene		7	68	NA	NA	4000000	N
		Phenanthrene		7	569	NA	NA	1000000	N
		Anthracene		7	133	NA	NA	1000000	N
		Fluoranthene		7	836	NA	NA	1000000	N
		Pyrene		7	633	NA	NA	1000000	N
		Benzo[a]anthracene		7	27	14500	N	7000	N
		Chrysene		7	300	NA	NA	7000	N
		Benzo[b]fluoranthene		7	359	14500	N	7000	N
		Benzo[k]fluoranthene		7	125	NA	NA	70000	N
		Benzo[a]pyrene		7	223	1829	N	2000	N
		Dibenz[a,h]anthracene		7	42	NA	NA	700	N
		Benzo[g,h,i]perylene		7	156	NA	NA	1000000	N
		Indeno[1,2,3-cd]pyrene		7	189	NA	NA	7000	N
		2-Methylnaphthalene		7	U	NA	NA	4000	N

SAMPLE ID	MATRIX	PARAMETER	QUAL	QUANT	Result (µg/kg)	Site-Specific Remedial Goals (µg/kg)	Exceed Remedial Goals? Y/N	MCP S-1 Criteria (µg/kg)	Exceed MCP S-1 Criteria? Y/N
SITE07-TP25-2.5	Soil	Naphthalene		8	U	NA	NA	4000	N
		Acenaphthylene		8	U	NA	NA	100000	N
		Acenaphthene		8	U	NA	NA	2000	N
		Fluorene		8	U	NA	NA	4000000	N
		Phenanthrene	J	8	7.8	NA	NA	1000000	N
		Anthracene		8	U	NA	NA	1000000	N
		Fluoranthene		8	21	NA	NA	1000000	N
		Pyrene		8	18	NA	NA	1000000	N
		Benzo[a]anthracene		8	14	14500	N	7000	N
		Chrysene		8	10	NA	NA	7000	N
		Benzo[b]fluoranthene		8	16	14500	N	7000	N
		Benzo[k]fluoranthene		8	U	NA	NA	70000	N
		Benzo[a]pyrene		8	10	1829	N	2000	N
		Dibenz[a,h]anthracene		8	U	NA	NA	700	N
		Benzo[g,h,i]perylene		8	8.3	NA	NA	1000000	N
		Indeno[1,2,3-cd]pyrene		8	8.7	NA	NA	7000	N
		2-Methylnaphthalene		8	U	NA	NA	4000	N

SAMPLE ID	MATRIX	PARAMETER	QUAL	QUANT	Result (µg/kg)	Site-Specific Remedial Goals (µg/kg)	Exceed Remedial Goals? Y/N	MCP S-1 Criteria (µg/kg)	Exceed MCP S-1 Criteria? Y/N
SITE07-TP25-10.5	Soil	Naphthalene		7	U	NA	NA	4000	N
		Acenaphthylene		7	U	NA	NA	100000	N
		Acenaphthene		7	U	NA	NA	2000	N
		Fluorene		7	U	NA	NA	4000000	N
		Phenanthrene		7	U	NA	NA	1000000	N
		Anthracene		7	U	NA	NA	1000000	N
		Fluoranthene		7	U	NA	NA	1000000	N
		Pyrene		7	U	NA	NA	1000000	N
		Benzo[a]anthracene		7	U	14500	N	7000	N
		Chrysene		7	U	NA	NA	7000	N
		Benzo[b]fluoranthene		7	U	14500	N	7000	N
		Benzo[k]fluoranthene		7	U	NA	NA	70000	N
		Benzo[a]pyrene		7	U	1829	N	2000	N
		Dibenz[a,h]anthracene		7	U	NA	NA	700	N
		Benzo[g,h,i]perylene		7	U	NA	NA	1000000	N
		Indeno[1,2,3-cd]pyrene		7	U	NA	NA	7000	N
		2-Methylnaphthalene		7	U	NA	NA	4000	N

Table 3-7
Site 07 - Former Sewage Treatment Plant Confirmatory Sampling
Test Pit EPH Analytical Data

SAMPLE ID	MATRIX	PARAMETER	QUAL	QUANT	Result (µg/kg)	Site-Specific Remedial Goals (µg/kg)	Exceed Remedial Goals? Y/N	MCP S-1 Criteria (µg/kg)	Exceed MCP S-1 Criteria? Y/N
SITE07-TP02-11	Soil	Naphthalene		291	U	NA	NA	4000	N
		Acenaphthylene		291	U	NA	NA	100000	N
		Acenaphthene		291	U	NA	NA	2000	N
		Fluorene		291	U	NA	NA	4000000	N
		Phenanthrene		291	732	NA	NA	1000000	N
		Anthracene	J	291	244	NA	NA	1000000	N
		Fluoranthene		291	1370	NA	NA	1000000	N
		Pyrene		291	1060	NA	NA	1000000	N
		Benzo[a]anthracene		291	488	14500	N	7000	N
		Chrysene		291	520	NA	NA	7000	N
		Benzo[b]fluoranthene		291	573	14500	N	7000	N
		Benzo[k]fluoranthene	J	291	228	NA	NA	70000	N
		Benzo[a]pyrene		291	423	1829	N	2000	N
		Dibenz[a,h]anthracene		291	U	NA	NA	700	N
		Benzo[g,h,i]perylene		291	U	NA	NA	1000000	N
		Indeno[1,2,3-cd]pyrene		291	372	NA	NA	7000	N
		2-Methylnaphthalene		291	U	NA	NA	4000	N
		C9-C18 Aliphatic Hydrocarbons		29100	U	NA	NA	1000000	N
		C19-C36 Aliphatic Hydrocarbons		29100	U	NA	NA	3000000	N
		C11-C22 Aromatic Hydrocarbons		29100	U	NA	NA	1000000	N

SAMPLE ID	MATRIX	PARAMETER	QUAL	QUANT	Result (µg/kg)	Site-Specific Remedial Goals (µg/kg)	Exceed Remedial Goals? Y/N	MCP S-1 Criteria (µg/kg)	Exceed MCP S-1 Criteria? Y/N
SITE07-TP09-13.5	Soil	Naphthalene		296	U	NA	NA	4000	N
		Acenaphthylene		296	U	NA	NA	100000	N
		Acenaphthene		296	U	NA	NA	2000	N
		Fluorene		296	U	NA	NA	4000000	N
		Phenanthrene		296	U	NA	NA	1000000	N
		Anthracene		296	U	NA	NA	1000000	N
		Fluoranthene		296	U	NA	NA	1000000	N
		Pyrene		296	U	NA	NA	1000000	N
		Benzo[a]anthracene		296	U	14500	N	7000	N
		Chrysene		296	U	NA	NA	7000	N
		Benzo[b]fluoranthene		296	U	14500	N	7000	N
		Benzo[k]fluoranthene		296	U	NA	NA	70000	N
		Benzo[a]pyrene		296	U	1829	N	2000	N
		Dibenz[a,h]anthracene		296	U	NA	NA	700	N
		Benzo[g,h,i]perylene		296	U	NA	NA	1000000	N
		Indeno[1,2,3-cd]pyrene		296	U	NA	NA	7000	N
		2-Methylnaphthalene		296	U	NA	NA	4000	N
		C9-C18 Aliphatic Hydrocarbons		29600	U	NA	NA	1000000	N
		C19-C36 Aliphatic Hydrocarbons		29600	U	NA	NA	3000000	N
		C11-C22 Aromatic Hydrocarbons		29600	U	NA	NA	1000000	N

SAMPLE ID	MATRIX	PARAMETER	QUAL	QUANT	Result (µg/kg)	Site-Specific Remedial Goals (µg/kg)	Exceed Remedial Goals? Y/N	MCP S-1 Criteria (µg/kg)	Exceed MCP S-1 Criteria? Y/N
SITE07-TP14-10	Soil	Naphthalene		283	U	NA	NA	4000	N
		Acenaphthylene		283	U	NA	NA	100000	N
		Acenaphthene		283	U	NA	NA	2000	N
		Fluorene		283	U	NA	NA	4000000	N
		Phenanthrene		283	U	NA	NA	1000000	N
		Anthracene		283	U	NA	NA	1000000	N
		Fluoranthene		283	U	NA	NA	1000000	N
		Pyrene		283	U	NA	NA	1000000	N
		Benzo[a]anthracene		283	U	14500	N	7000	N
		Chrysene		283	U	NA	NA	7000	N
		Benzo[b]fluoranthene		283	U	14500	N	7000	N
		Benzo[k]fluoranthene		283	U	NA	NA	70000	N
		Benzo[a]pyrene		283	U	1829	N	2000	N
		Dibenz[a,h]anthracene		283	U	NA	NA	700	N
		Benzo[g,h,i]perylene		283	U	NA	NA	1000000	N
		Indeno[1,2,3-cd]pyrene		283	U	NA	NA	7000	N
		2-Methylnaphthalene		283	U	NA	NA	4000	N
		C9-C18 Aliphatic Hydrocarbons		28300	U	NA	NA	1000000	N
		C19-C36 Aliphatic Hydrocarbons		28300	U	NA	NA	3000000	N
		C11-C22 Aromatic Hydrocarbons		28300	U	NA	NA	1000000	N

Table 3-7
Site 07 - Former Sewage Treatment Plant Confirmatory Sampling
Test Pit EPH Analytical Data

SAMPLE ID	MATRIX	PARAMETER	QUAL	QUANT	Result (µg/kg)	Site-Specific Remedial Goals (µg/kg)	Exceed Remedial Goals? Y/N	MCP S-1 Criteria (µg/kg)	Exceed MCP S-1 Criteria? Y/N
SITE07-TP19-10.5	Soil	Naphthalene		294	U	NA	NA	4000	N
		Acenaphthylene		294	U	NA	NA	100000	N
		Acenaphthene		294	U	NA	NA	2000	N
		Fluorene		294	U	NA	NA	4000000	N
		Phenanthrene		294	U	NA	NA	1000000	N
		Anthracene		294	U	NA	NA	1000000	N
		Fluoranthene		294	U	NA	NA	1000000	N
		Pyrene		294	U	NA	NA	1000000	N
		Benzo[a]anthracene		294	U	14500	N	7000	N
		Chrysene		294	U	NA	NA	7000	N
		Benzo[b]fluoranthene		294	U	14500	N	7000	N
		Benzo[k]fluoranthene		294	U	NA	NA	70000	N
		Benzo[a]pyrene		294	U	1829	N	2000	N
		Dibenz[a,h]anthracene		294	U	NA	NA	700	N
		Benzo[g,h,i]perylene		294	U	NA	NA	1000000	N
		Indeno[1,2,3-cd]pyrene		294	U	NA	NA	7000	N
		2-Methylnaphthalene		294	U	NA	NA	4000	N
		C9-C18 Aliphatic Hydrocarbons		29400	U	NA	NA	1000000	N
		C19-C36 Aliphatic Hydrocarbons		29400	U	NA	NA	3000000	N
		C11-C22 Aromatic Hydrocarbons		29400	U	NA	NA	1000000	N

SAMPLE ID	MATRIX	PARAMETER	QUAL	QUANT	Result (µg/kg)	Site-Specific Remedial Goals (µg/kg)	Exceed Remedial Goals? Y/N	MCP S-1 Criteria (µg/kg)	Exceed MCP S-1 Criteria? Y/N
SITE07-TP22-9	Soil	Naphthalene		293	U	NA	NA	4000	N
		Acenaphthylene		293	U	NA	NA	100000	N
		Acenaphthene		293	449	NA	NA	2000	N
		Fluorene		293	515	NA	NA	4000000	N
		Phenanthrene		293	U	NA	NA	1000000	N
		Anthracene		293	1100	NA	NA	1000000	N
		Fluoranthene		293	7270	NA	NA	1000000	N
		Pyrene		293	5510	NA	NA	1000000	N
		Benzo[a]anthracene		293	2590	14500	N	7000	N
		Chrysene		293	2530	NA	NA	7000	N
		Benzo[b]fluoranthene		293	3150	14500	N	7000	N
		Benzo[k]fluoranthene		293	1130	NA	NA	70000	N
		Benzo[a]pyrene		293	2290	1829	Y	2000	Y
		Dibenz[a,h]anthracene		293	383	NA	NA	700	N
		Benzo[g,h,i]perylene		293	1860	NA	NA	1000000	N
		Indeno[1,2,3-cd]pyrene		293	2040	NA	NA	7000	N
		2-Methylnaphthalene		293	U	NA	NA	4000	N
		C9-C18 Aliphatic Hydrocarbons		117000	U	NA	NA	1000000	N
		C19-C36 Aliphatic Hydrocarbons		117000	131000	NA	NA	3000000	N
		C11-C22 Aromatic Hydrocarbons		29300	54700	NA	NA	1000000	N

SAMPLE ID	MATRIX	PARAMETER	QUAL	QUANT	Result (µg/kg)	Site-Specific Remedial Goals (µg/kg)	Exceed Remedial Goals? Y/N	MCP S-1 Criteria (µg/kg)	Exceed MCP S-1 Criteria? Y/N
SITE07-TP23-9.5	Soil	Naphthalene		291	U	NA	NA	4000	N
		Acenaphthylene		291	U	NA	NA	100000	N
		Acenaphthene		291	U	NA	NA	2000	N
		Fluorene	J	291	146	NA	NA	4000000	N
		Phenanthrene		291	991	NA	NA	1000000	N
		Anthracene		291	375	NA	NA	1000000	N
		Fluoranthene		291	1150	NA	NA	1000000	N
		Pyrene		291	817	NA	NA	1000000	N
		Benzo[a]anthracene		291	443	14500	N	7000	N
		Chrysene		291	403	NA	NA	7000	N
		Benzo[b]fluoranthene		291	426	14500	N	7000	N
		Benzo[k]fluoranthene	J	291	183	NA	NA	70000	N
		Benzo[a]pyrene		291	323	1829	N	2000	N
		Dibenz[a,h]anthracene		291	U	NA	NA	700	N
		Benzo[g,h,i]perylene		291	U	NA	NA	1000000	N
		Indeno[1,2,3-cd]pyrene	J	291	258	NA	NA	7000	N
		2-Methylnaphthalene		291	U	NA	NA	4000	N
		C9-C18 Aliphatic Hydrocarbons		29100	U	NA	NA	1000000	N
		C19-C36 Aliphatic Hydrocarbons	J	29100	17400	NA	NA	3000000	N
		C11-C22 Aromatic Hydrocarbons		29100	U	NA	NA	1000000	N

Table 3-7
Site 07 - Former Sewage Treatment Plant Confirmatory Sampling
Test Pit EPH Analytical Data

SAMPLE ID	MATRIX	PARAMETER	QUAL	QUANT	Result (µg/kg)	Site-Specific Remedial Goals (µg/kg)	Exceed Remedial Goals? Y/N	MCP S-1 Criteria (µg/kg)	Exceed MCP S-1 Criteria? Y/N
SITE07-TP24-8	Soil	Naphthalene		290	291	NA	NA	4000	N
		Acenaphthylene		290	U	NA	NA	100000	N
		Acenaphthene		290	745	NA	NA	2000	N
		Fluorene		290	632	NA	NA	4000000	N
		Phenanthrene		290	9840	NA	NA	1000000	N
		Anthracene		290	1190	NA	NA	1000000	N
		Fluoranthene		290	10700	NA	NA	1000000	N
		Pyrene		290	7770	NA	NA	1000000	N
		Benzo[a]anthracene		290	2950	14500	N	7000	N
		Chrysene		290	3530	NA	NA	7000	N
		Benzo[b]fluoranthene		290	3890	14500	N	7000	N
		Benzo[k]fluoranthene		290	1460	NA	NA	70000	N
		Benzo[a]pyrene		290	2560	1829	Y	2000	Y
		Dibenz[a,h]anthracene		290	469	NA	NA	700	N
		Benzo[g,h,i]perylene		290	2200	NA	NA	1000000	N
		Indeno[1,2,3-cd]pyrene		290	2210	NA	NA	7000	N
		2-Methylnaphthalene		290	U	NA	NA	4000	N
		C9-C18 Aliphatic Hydrocarbons		29000	U	NA	NA	1000000	N
		C19-C36 Aliphatic Hydrocarbons	J	29000	20600	NA	NA	3000000	N
		C11-C22 Aromatic Hydrocarbons		29000	40100	NA	NA	1000000	N

SAMPLE ID	MATRIX	PARAMETER	QUAL	QUANT	Result (µg/kg)	Site-Specific Remedial Goals (µg/kg)	Exceed Remedial Goals? Y/N	MCP S-1 Criteria (µg/kg)	Exceed MCP S-1 Criteria? Y/N
SITE07-TP25-2.5	Soil	Naphthalene		293	U	NA	NA	4000	N
		Acenaphthylene		293	U	NA	NA	100000	N
		Acenaphthene		293	U	NA	NA	2000	N
		Fluorene		293	U	NA	NA	4000000	N
		Phenanthrene		293	U	NA	NA	1000000	N
		Anthracene		293	U	NA	NA	1000000	N
		Fluoranthene		293	U	NA	NA	1000000	N
		Pyrene		293	U	NA	NA	1000000	N
		Benzo[a]anthracene		293	U	14500	N	7000	N
		Chrysene		293	U	NA	NA	7000	N
		Benzo[b]fluoranthene		293	U	14500	N	7000	N
		Benzo[k]fluoranthene		293	U	NA	NA	70000	N
		Benzo[a]pyrene		293	U	1829	N	2000	N
		Dibenz[a,h]anthracene		293	U	NA	NA	700	N
		Benzo[g,h,i]perylene		293	U	NA	NA	1000000	N
		Indeno[1,2,3-cd]pyrene		293	U	NA	NA	7000	N
		2-Methylnaphthalene		293	U	NA	NA	4000	N
		C9-C18 Aliphatic Hydrocarbons		29300	U	NA	NA	1000000	N
		C19-C36 Aliphatic Hydrocarbons		29300	U	NA	NA	3000000	N
		C11-C22 Aromatic Hydrocarbons		29300	U	NA	NA	1000000	N

Relevant Tables from STP Soil Delineation Investigation Data Report
February 2014

**TABLE 3-3
SEDIMENT RESULTS COMPARED TO ROD RGS
FORMER SEWAGE TREATMENT PLANT
FORMER NAS SOUTH WEYMOUTH, WEYMOUTH, MASSACHUSETTS**

SAMPLE ID	RGs	STP-SD-D05-0713	STP-SD-D06-0713	STP-SD-D07-0713	STP-SD-D07-0713-D	STP-SD-D07-0713-AVG
		STP-SD-D05	STP-SD-D06	STP-SD-D07		
LOCATION		7/11/2013	7/11/2013	7/11/2013	7/11/2013	7/11/2013
SAMPLE DATE		NORMAL	NORMAL	ORIG	DUP	AVG
SAMPLE CODE		SD	SD	SD	SD	SD
MATRIX		0 - 0.25	0 - 0.25	0 - 0.25	0 - 0.25	0 - 0.25
2013 SAMPLE DEPTH (FT BGS)		3 - 3.25	3 - 3.25	3 - 3.25	3 - 3.25	3 - 3.25
2009 SAMPLE DEPTH (FT BGS)*						
PESTICIDES (UG/KG)						
4,4'-DDD	730	11000	200 J	1100	1000	1100
4,4'-DDE	234	660	11 J	75	56	75
4,4'-DDT	290	20000	140 J	1900 J	1000 J	1900 J
ALPHA-CHLORDANE	NC	35 J	1.3 J	6.6 J	6.6	6.6 J
GAMMA-CHLORDANE	NC	170	3.6 J	21	22	21
POLYCYCLIC AROMATIC HYDROCARBONS (UG/KG)						
ACENAPHTHENE	NC	11 J	12 U	15 J	11 J	15 J
ANTHRACENE	NC	20 J	2.9 J	20	18 J	20
BENZO(A)ANTHRACENE	NC	44	7.4 J	64	66	64
BENZO(A)PYRENE	NC	31	5.7 J	43	49	43
BENZO(B)FLUORANTHENE	NC	56	9.6 J	72	78	72
BENZO(G,H,I)PERYLENE	NC	14 J	2.5 J	17 J	21 J	17 J
BENZO(K)FLUORANTHENE	NC	18 J	12 U	24	29	24
CHRYSENE	NC	42	2.6 J	57	61	57
DIBENZO(A,H)ANTHRACENE	NC	6.2 J	12 U J	6.4 J	8.1 J	6.4 J
FLUORANTHENE	NC	100	16 J	120	140	120
FLUORENE	NC	10 J	12 U	11 J	11 J	11 J
INDENO(1,2,3-CD)PYRENE	NC	21 J	3.7 J	24	30	24
PHENANTHRENE	NC	84	8.2 J	92	94	92
PYRENE	NC	76	12 J	100	110	100
METALS (MG/KG)						
ALUMINUM	NC	4210	4150	4470	3830	4470
ARSENIC	23.7	86.1	2.2	5.6	4.7	5.6
BARIIUM	NC	14.2	15.4	22.8	18.5	22.8
BERYLLIUM	NC	0.26	0.29	0.3	0.29	0.3
CADMIUM	NC	0.54	0.09	0.2	0.22	0.2
CALCIUM	NC	1400	1410	1430	1490	1430
CHROMIUM	NC	5.6	6.5	5.4	5.7	5.4
COBALT	NC	4.7	2.7	3.5	2.9	3.5
COPPER	NC	17.7	4.4	5.8	6.6	5.8
IRON	NC	19000	8600	11300	8930	11300
LEAD	NC	10.3	3.9	6	7.2	6
MAGNESIUM	NC	1630 J	1350 J	1790 J	1250 J	1790 J
MANGANESE	NC	448 J	161 J	199 J	197 J	199 J
MERCURY	NC	0.19 J	0.1 J	0.35 J	0.44 J	0.35 J
NICKEL	NC	5.8	4.2	4.1	4	4.1
POTASSIUM	NC	158	313	526	308	526
SILVER	NC	0.53	0.11	0.27	0.42	0.27
SODIUM	NC	49.2 U	64.4 J	53.7 U	70 J	53.7 U
THALLIUM	NC	0.033 U	0.034 U	0.04 J	0.03 J	0.04 J
VANADIUM	NC	12.2	12	12.7	11.3	12.7
ZINC	NC	159	23.2	55.9	45	55.9
MISCELLANEOUS PARAMETERS (%)						
TOTAL SOLIDS	NA	76	79	78	72	78

Notes:

Black - Exceeds the RG (Remediation Goal) in the 2008 ROD

Gray - Detected but less than the RG; U - Not Detected; J- Quantitation Approximate; NA - Not Applicable; NC- Not Calculated

* - 2009 sample depth information is presented for information purposes only.

Appendix B

Applicable or Relevant and Appropriate Requirements

Table B-1a
 Chemical-Specific ARARS and TBCS
 Site 7 — Former Sewage Treatment Plant Feasibility Study
 NAS South Weymouth, Weymouth, Massachusetts
 Alternative 1: No Action

Requirement	Citation	Status	Requirement Synopsis	Action to Be Taken to Attain Requirement
Federal				
Human Health Assessment Cancer Slope Factors (CSFs)	None	To Be Considered	CSFs are estimates of the upper-bound probability of an individual developing cancer as a result of a lifetime exposure to a particular concentration of a potential carcinogen.	This alternative would not prevent exposure to subsurface soil contaminants which contribute to a calculated carcinogenic risk, developed using this guidance.
EPA Risk Reference Doses (RfDs)	None	To Be Considered	Guidance used to compute human health hazard resulting from exposure to non-carcinogens in site media. RfDs are considered to be the levels unlikely to cause significant adverse health effects associated with a threshold mechanism of action in human exposure for a lifetime.	This alternative would not prevent exposure to subsurface soil contaminants which contribute to a calculated non-carcinogenic risk, developed using this guidance.
Guidelines for Carcinogenic Risk Assessment	EPA/630/P-03/001F (March 2005)	To Be Considered	These guidelines provide guidance on conducting risk assessments involving carcinogens.	This alternative would not prevent exposure to subsurface soil contaminants which contribute to a calculated carcinogenic risk, developed using this guidance.
Supplemental Guidance for Assessing Susceptibility from Early-Life Exposure to Carcinogens	EPA/630/R-03/003F (March 2005)	To Be Considered	This provides guidance on assessing risk to children from carcinogens.	This alternative would not prevent exposure to subsurface soil contaminants which contribute to a calculated carcinogenic risk to children, developed using this guidance.

Note:

For Alternative 1, there are no location- or action-specific ARARs.

Table B-2a
 Chemical-Specific ARARs and TBCs
 Site 7 — Former Sewage Treatment Plant Feasibility Study
 NAS South Weymouth, Weymouth, Massachusetts
 Alternative 2: LUCs and LTM

Requirement	Citation	Status	Requirement Synopsis	Action to Be Taken to Attain Requirement
Federal				
Human Health Assessment Cancer Slope Factors (CSFs)	None	To Be Considered	CSFs are estimates of the upper-bound probability of an individual developing cancer as a result of a lifetime exposure to a particular concentration of a potential carcinogen.	Used to compute the potential carcinogenic risks caused by exposure to contaminants in subsurface soil. Land use controls will prevent exposure to site contaminants exceeding PRGs.
EPA Risk Reference Doses (RfDs)	None	To Be Considered	Guidance used to compute human health hazard resulting from exposure to non-carcinogens in site media. RfDs are considered to be the levels unlikely to cause significant adverse health effects associated with a threshold mechanism of action in human exposure for a lifetime.	Used to calculate potential non-carcinogenic hazards caused by exposure to contaminants in subsurface soil. Land use controls will prevent exposure to site contaminants exceeding PRGs.
Guidelines for Carcinogenic Risk Assessment	EPA/630/P-03/001F (March 2005)	To Be Considered	These guidelines provide guidance on conducting risk assessments involving carcinogens.	Used to calculate potential carcinogenic risks caused by exposure to contaminants in subsurface soil. Land use controls will prevent exposure to site contaminants exceeding PRGs.
Supplemental Guidance for Assessing Susceptibility from Early-Life Exposure to Carcinogens	EPA/630/R-03/003F (March 2005)	To Be Considered	This provides guidance on assessing risk to children from carcinogens.	Used to calculate potential carcinogenic risks to children caused by exposure to contaminants in subsurface soil. Land use controls will prevent exposure to site contaminants exceeding PRGs.

Table B-2b
Location-Specific ARARs and TBCs
Site 7 — Former Sewage Treatment Plant Feasibility Study
NAS South Weymouth, Weymouth, Massachusetts
Alternative 2: LUCs and LTM

Requirement	Citation	Status	Requirement Synopsis	Action to Be Taken to Attain Requirement
Federal				
Floodplain Management and Protection of Wetlands	44 C.F.R. Part 9	Relevant and Appropriate	FEMA regulations that set forth the policy, procedure and responsibilities to implement and enforce Executive Order 11988 (Floodplain Management) and Executive Order 11990 (Protection of Wetlands). Prohibits activities that adversely affect a federally-regulated wetland unless there is no practicable alternative and the proposed action includes all practicable measures to minimize harm to wetlands that may result from such use. Requires the avoidance of impacts associated with the occupancy and modification of federally-designated 100-year and 500-year floodplain and to avoid development within floodplain wherever there is a practicable alternative. An assessment of impacts to 500-year floodplain is required for critical actions – which includes siting hazardous waste facilities in a floodplain. Requires public notice when proposing any action in or affecting floodplain or wetlands.	Impacts related to long-term monitoring will be minimized and/or mitigated as necessary.
State				
Wetlands Protection Act	Wetlands Protection Act, 310 Chapters 10.51 – 10.60, specifically: § 10.54: Banks, § 10.55: Bordering Vegetated Wetlands, § 10.57: Land Subject to Flooding.	Applicable	These regulations set performance standards for work within state-regulated wetland resources and their buffer zones (including within 100 feet of a bordering vegetated wetland and within 200 feet of a waterway).	Impacts related to long-term monitoring will be minimized and/or mitigated as necessary.

Table B-2c
 Action-Specific ARARs and TBCs
 Site 7 — Former Sewage Treatment Plant Feasibility Study
 NAS South Weymouth, Weymouth, Massachusetts
 Alternative 2: LUCs and LTM

Requirement	Citation	Status	Requirement Synopsis	Action to Be Taken to Attain Requirement
Federal				
Toxic Substances Control Act (TSCA)	15 U.S.C. 2601 <i>et seq.</i> ; PCB Remediation Waste 40 C.F.R 761.61(c)	Applicable	This section of the TSCA regulations provides risk-based cleanup and disposal options for PCB remediation waste based on the risks posed by the concentrations at which the PCBs are found. Written approval for the proposed risk-based cleanup must be obtained from the Director, Office of Site Remediation and Restoration, USEPA Region 1.	PCBs have been detected at low concentrations in site soils. All soil exceeding identified PCB cleanup levels will remain inaccessible through the use of institutional controls, which meets TSCA protectiveness standards. The CERCLA decision document will include a finding by the Director, Office of Site Remediation and Restoration, USEPA Region 1, that the remedy's soil PCB cleanup levels, along with implementation of institutional controls will not pose an unreasonable risk to human health or the environment.

Table B-3a
 Chemical-Specific ARARs and TBCs
 Site 7 — Former Sewage Treatment Plant Feasibility Study
 NAS South Weymouth, Weymouth, Massachusetts
 Alternative 3: Additional Deep Excavation

Requirement	Citation	Status	Requirement Synopsis	Action to Be Taken to Attain Requirement
Federal				
Human Health Assessment Cancer Slope Factors (CSFs)	None	To Be Considered	CSFs are estimates of the upper-bound probability of an individual developing cancer as a result of a lifetime exposure to a particular concentration of a potential carcinogen.	Used to compute the potential carcinogenic risks caused by exposure to contaminants in subsurface soil. Soil excavation and off-site disposal of impacted soil will prevent exposure to site contaminants exceeding PRGs.
EPA Risk Reference Doses (RfDs)	None	To Be Considered	Guidance used to compute human health hazard resulting from exposure to non-carcinogens in site media. RfDs are considered to be the levels unlikely to cause significant adverse health effects associated with a threshold mechanism of action in human exposure for a lifetime.	Used to calculate potential non-carcinogenic hazards caused by exposure to contaminants in subsurface soil. Soil excavation and off-site disposal of impacted soil will prevent exposure to site contaminants exceeding PRGs.
Guidelines for Carcinogenic Risk Assessment	EPA/630/P-03/001F (March 2005)	To Be Considered	These guidelines provide guidance on conducting risk assessments involving carcinogens.	Used to calculate potential carcinogenic risks caused by exposure to contaminants in subsurface soil. Soil excavation and off-site disposal of impacted soil will prevent exposure to site contaminants exceeding PRGs.
Supplemental Guidance for Assessing Susceptibility from Early-Life Exposure to Carcinogens	EPA/630/R-03/003F (March 2005)	To Be Considered	This provides guidance on assessing risk to children from carcinogens.	Used to calculate potential carcinogenic risks to children caused by exposure to contaminants in subsurface soil. Soil excavation and off-site disposal of impacted soil will prevent exposure to site contaminants exceeding PRGs.
State				
Massachusetts Contingency Plan (MCP) Subpart I: Risk Characterization	310 CMR 40.0902(2)(b)	To Be Considered	Establishes criteria used in determination of a level of No Significant Risk.	Cumulative risk criteria used during development of PRGs. Soil excavation and off-site disposal of impacted soil will prevent exposure to site contaminants exceeding PRGs.

Table B-3b
Location-Specific ARARs and TBCs
Site 7 — Former Sewage Treatment Plant Feasibility Study
NAS South Weymouth, Weymouth, Massachusetts
Alternative 3: Additional Deep Excavation

Requirement	Citation	Status	Requirement Synopsis	Action to Be Taken to Attain Requirement
Federal				
Clean Water Act, Section 404	Section 404(b)(1) Guidelines for Specification of Disposal Sites for Dredged or Fill Material, 33 U.S.C. § 1344; 40 C.F.R. Part 230, 231 and 33 C.F.R. Parts 320-323	Applicable	Controls discharges of dredged or fill material to protect aquatic ecosystem. This alternative includes work to be performed in or near a wetland. Under this requirement, no activity that adversely affects a wetland shall be permitted if a practicable alternative with lesser effects is available. If activity takes place, impacts must be minimized to the maximum extent.	This alternative includes excavation within a wetland. Mitigation of altered wetlands will follow applicable standards.
Floodplain Management and Protection of Wetlands	44 C.F.R. Part 9	Relevant and Appropriate	FEMA regulations that set forth the policy, procedure and responsibilities to implement and enforce Executive Order 11988 (Floodplain Management) and Executive Order 11990 (Protection of Wetlands). Prohibits activities that adversely affect a federally-regulated wetland unless there is no practicable alternative and the proposed action includes all practicable measures to minimize harm to wetlands that may result from such use. Requires the avoidance of impacts associated with the occupancy and modification of federally-designated 100-year and 500-year floodplain and to avoid development within floodplain wherever there is a practicable alternative. An assessment of impacts to 500-year floodplain is required for critical actions – which includes siting hazardous waste facilities in a floodplain. Requires public notice when proposing any action in or affecting floodplain or wetlands.	This alternative includes excavation within a wetland and floodplain. Impacts to wetlands from remedial actions will be mitigated, to the extent practicable. This alternative includes excavation within a wetland, which may be within the 500-year floodplain. If the site is within the 500-year floodplain, (1) appropriate federal agencies would be contacted and allowed to review the proposed work plan for the remedial action prior to implementation of the action and (2) remedial activities would be scheduled and designed to minimize harm to the floodplains and prevent downstream flooding. Even if it is determined that the wetland is not within the 500-year floodplain, however, excavation work will be conducted in a manner that prevents downstream flooding within a downstream 500-year floodplain.
Fish and Wildlife Coordination Act of 1958, Protection of Habitats	16 U.S.C. 661	Applicable	Requires consultation with federal and state conservation agencies during planning and decision-making processes that may impact waterbodies, including wetlands.	The Navy will consult with the U.S. Fish and Wildlife Service should remedial activities involve the modification to wetlands or waterways.
State				

Table B-3b
 Location-Specific ARARs and TBCs
 Site 7 — Former Sewage Treatment Plant Feasibility Study
 NAS South Weymouth, Weymouth, Massachusetts
 Alternative 3: Additional Deep Excavation

Requirement	Citation	Status	Requirement Synopsis	Action to Be Taken to Attain Requirement
Wetlands Protection Act	Wetlands Protection Act, 310 Chapters 10.51 – 10.60, specifically: § 10.54: Banks, § 10.55: Bordering Vegetated Wetlands, § 10.57: Land Subject to Flooding.	Applicable	These regulations set performance standards for work within state-regulated wetland resources and their buffer zones (including within 100 feet of a bordering vegetated wetland and within 200 feet of a waterway).	This alternative includes excavation within state-regulated wetland (including floodplain) and buffer zones. Impacts to state-protected resource areas from remedial actions will be mitigated, to the extent practicable. Impacts to banks, bordering vegetated wetlands and land subject to flooding, as well as buffer zones, will be managed in accordance with these regulations.
Massachusetts Endangered Species Act	321 CMR 10.00	Applicable	Prohibits the "taking" of any rare plants or animals listed as Endangered, Threatened, or Special Concern by the Massachusetts Division of Fisheries and Wildlife. This also protects designated endangered/threatened species populations.	No state-listed endangered species have been identified at the site. However, appropriate measure must be taken during remedial actions to ensure that a state-listed "species of special concern" identified in other areas of the base (eastern box turtle) and habitat are not adversely affected by the remedial action.

Table B-3c
Action-Specific ARARs and TBCs
Site 7 — Former Sewage Treatment Plant Feasibility Study
NAS South Weymouth, Weymouth, Massachusetts
Alternative 3: Additional Deep Excavation

Requirement	Citation	Status	Requirement Synopsis	Action to Be Taken to Attain Requirement
Federal				
Resource Conservation and Recovery Act (RCRA)	42 U.S.C. § 6901 <i>et seq.</i>	Applicable	Federal standards used to identify, manage, and dispose of hazardous waste. Massachusetts has been delegated the authority to administer these RCRA standards through its state hazardous waste management regulations. These provisions have been adopted by the Commonwealth of Massachusetts.	Waste generated as part of excavation or monitoring activities will be characterized as hazardous or non-hazardous. If determined to be hazardous waste, then it will be stored, transported, and disposed in accordance with these standards. Please refer to enforceable state standards below under Massachusetts' Hazardous Waste Management Rules.
Clean Air Act (CAA), Hazardous Air Pollutants; National Emission Standards for Hazardous Air Pollutants (NESHAPS)	42 U.S.C. § 112(b)(1); 40 C.F.R. Part 61	Applicable	The regulations establish emissions standards for 189 hazardous air pollutants. Standards set for dust and other release sources.	Emissions of fugitive dust will be managed through engineering and other controls during remedial actions.
Toxic Substances Control Act (TSCA)	15 U.S.C. 2601 <i>et seq.</i> ; PCB Remediation Waste 40 C.F.R 761.61(c)	Applicable	This section of the TSCA regulations provides risk-based cleanup and disposal options for PCB remediation waste. Written approval for the proposed risk-based cleanup must be obtained from the Director, Office of Site Remediation and Restoration, USEPA Region 1.	PCBs have been detected at low concentrations in site soils. The excavation, transportation, and management of PCB-contaminated media will be performed in a manner to comply with TSCA, including air monitoring during remedial activities. The ROD Amendment will include a finding by the Director, Office of Site Remediation and Restoration, USEPA Region 1, that the excavation and management of the contaminated media will not pose an unreasonable risk to human health or the environment.
Clean Water Act; National Pollution Discharge Elimination System (NPDES)	33 U.S.C. § 1251 <i>et seq.</i> ; 40 C.F.R 122-125, 131	Applicable	These standards address water discharges that may be directed to surface water. Federal standards that are health-based and ecologically-based criteria developed for numerous carcinogenic and non-carcinogenic compounds. Used by State to establish water quality standards for protection of human health and aquatic life.	The disposal of any water waste generated in the remedial action (including dewatering of excavations) that is discharged to surface waters must be conducted consistent with this section, including discharge limitations, monitoring requirements and best management practices, as necessary.
Pre-treatment Regulations for Indirect Discharges to POTWs	40 C.F.R. Part 403	Applicable	These regulations control the discharge of pollutants into POTWs, including specific and general prohibitions. If water from dewatering operations is discharged to sewer, these regulations will be applicable, and the remedy will comply through pre-treatment.	If water from dewatering operations is discharge to the local sewer system, the water would be treated, if necessary, and discharged in accordance with pre-treatment program requirements.

Table B-3c
Action-Specific ARARs and TBCs
Site 7 — Former Sewage Treatment Plant Feasibility Study
NAS South Weymouth, Weymouth, Massachusetts
Alternative 3: Additional Deep Excavation

Requirement	Citation	Status	Requirement Synopsis	Action to Be Taken to Attain Requirement
State				
Hazardous Waste Rules for Identification and Listing of Hazardous Wastes	310 CMR 30.100	Applicable	These regulations establish requirements for determining whether wastes are hazardous.	The determination of whether wastes generated as a part of this remedial action are hazardous will be done according to these regulations.
Hazardous Waste Management Rules; Requirements for Generators	310 CMR 30.300	Applicable	These regulations contain requirements for generators of hazardous waste. The regulations apply to generators of sampling waste and also apply to the accumulation of waste prior to offsite disposal.	Wastes generated during remedial actions that are determined to be hazardous would be managed in accordance with these requirements.
Hazardous Waste Management Rules - General standards for hazardous waste facilities	310 CMR 30.500	Relevant and Appropriate	General facility requirements for waste analysis, security measures, inspections, personnel training, and closure/post-closure.	Remedial activities to address hazardous wastes will be conducted in accordance with this requirement. Specifically, storage of wastes on site will be conducted in accordance with this regulation. All workers will be properly trained. Closure/post-closure standards will be met since all wastes will be excavated and removed from the site.
Hazardous Waste Regulations – Use of Containers	310 CMR 30.680	Applicable	Establishes requirements for the management of containers, such as drums, that would hold field-generated hazardous wastes.	Any hazardous waste containers used during the remedial action would comply with these requirements.
Hazardous Waste Management Rules, Management, Storage, and Treatment in Tanks	310 CMR 30.690	Applicable	These regulations establish requirements for the use and management of tanks at hazardous waste facilities.	It is anticipated that storage of hazardous waste will be done in a portable roll-off container. However, if the remedial action requires storage of hazardous waste in tanks, then management procedure requirements will be followed.
Massachusetts Clean Water Act Surface Water Discharge Permit Regulations	314 CMR 3.04	Applicable	These regulations limit or prohibit discharges of pollutants to surface waters to ensure that the surface water quality standards of the receiving waters are protected and maintained or attained. Discharges to water of the Commonwealth shall not result in exceedances of MA Surface Water Quality Standards (MSWQS).	Any discharge to surface waters during remedial activities will be designed and operated so that it will not cause or contribute to an exceedance of the MSWQS. Engineering controls would be used during excavation in and near drainage ditches to limit migration/runoff of sediment into surface water.
Massachusetts Erosion and Sediment Control Guidelines for Urban and Suburban Areas	None	To Be Considered	This guidance includes standards for preventing erosion and sedimentation.	Remedial actions, such as soil excavation, will be managed to control erosion and sedimentation.

Table B-3c
 Action-Specific ARARs and TBCs
 Site 7 — Former Sewage Treatment Plant Feasibility Study
 NAS South Weymouth, Weymouth, Massachusetts
 Alternative 3: Additional Deep Excavation

Requirement	Citation	Status	Requirement Synopsis	Action to Be Taken to Attain Requirement
Massachusetts Ambient Air Quality Standards	310 CMR 6.00	Applicable	These regulations set primary and secondary standards for emissions of certain contaminants, including particulate matter.	Emissions of fugitive dust will be managed through engineering and other controls during remedial activities.
Air Pollution Control Regulations	310 CMR 7.09	Applicable	This regulation requires control of dust generation to prevent air pollution.	Emissions of fugitive dust will be managed through engineering and other controls during remedial activities.

Appendix C

Revised Preliminary Remediation Goals

Introduction

This appendix updates the Preliminary Remediation Goals (PRGs) for the Focused Feasibility Study (FFS) for Site 7, the Sewage Treatment Plant (STP), at Naval Air Station (NAS) South Weymouth. Historically, PRGs used were based on residential land use. Land Use Controls (LUCs) are being considered, so other land use scenarios might be applicable. Consequently, additional scenarios have been included in this appendix. Revised human health PRGs incorporate recent changes to U.S. Environmental Protection Agency (U.S. EPA) guidance on risk assessment methods and toxicological values cited below. Existing ecological PRGs based on food web models for mammals and birds were reviewed and are still relevant, so they have not been revised. Existing ecological PRGs have been included in this appendix as well to document the PRGs in one location.

As reported in the Record of Decision (ROD), a human health risk assessment (HHRA) was completed as part of the original RI/FS process and focused on risks associated with contact to impacted surface soils. Historical PRGs focused on the residential land use scenario (Tetra Tech NUS, 2008). This study was updated in the 2012 Supplemental Pre-Design Investigation Report (Tetra Tech NUS, 2012); however the update was not finalized. This appendix documents the development of PRGs to clarify the administrative record and to facilitate future remedial decisions.

Site Background and Historical Land Use

The STP was constructed in 1953 and was used for treatment and disposal of Naval Base sanitary wastewater until it was decommissioned in 1978, after which effluent was discharged into the Town of Weymouth municipal sanitary sewer system (Tetra Tech NUS, 2014). The STP consisted of a primary settling tank that employed a trickling filter for physical treatment and secondary settling tanks for biological treatment. Treated effluent was discharged through an outfall to a drainage ditch that slopes towards the west (Tetra Tech NUS, 2014). A biological treatment system and covered sludge drying beds for aerobic digestion of wastewater sludge were added over the course of 25 years. Covered sludge drying beds were used as storage area for road salt and sand after 1978 until 2005 (Tetra Tech NUS, 2014). The above ground structures and buildings were demolished in 1992.

Groundwater, surface water, sediment, surface soil, and subsurface soil were sampled as part of various site investigations. The RI/FS characterized the nature and extent of contamination at the Site, included a HHRA and an Ecological Risk Assessment, and evaluated remedial alternatives to address unacceptable human health and ecological risks associated with potential exposures to COCs identified in Site surface soil and sediment where concentrations above the historical PRGs

were found. A ROD was signed by stakeholders in 2008 which included Remedial Action Objectives to eliminate potential human and ecological receptor exposure to Chemicals of Concern (COCs) identified in Site surface soil and sediment where concentrations above the historical PRGs were found (Tetra Tech NUS, 2008). The Navy's proposed remedy was removal and off-site disposal of COC-impacted surface soil and sediment.

A Remedial Action Work Plan for the STP was finalized in July 2009 and Remedial Action was implemented at that time until it saw completion in September 2010 (Tetra Tech NUS, 2014). Confirmatory samples were collected to document the remaining levels of the contaminants of concern. Several post-excavation investigations were conducted to assess the extent of contamination remaining at the Site. The Navy recently completed implementation of an additional remedial action that included additional excavation of impacted surface soil, unsaturated subsurface soil, structures, piping, and sediment. The scope of the 2014-2015 remedial action was detailed in the *Final Addendum to Remedial Action Work Plan, Soil Excavation at Site 7 Former STP Location* (TtEC 2014) and included removal of surface soil impacted COCs at concentrations above PRGs.

Physical Characteristics and Current Land Use

Site 7 is comprised of two main areas encompassing approximately 3.3 acres: the former Tile Bed Area and the adjacent former sewage treatment plant area. The Site is unpaved and relatively flat with a gentle slope to the west, toward an adjacent drainage channel and wetland area. A small segment of the adjacent, downgradient/downstream wetland area is also included as part of the Site. Topographically, the Site is unpaved and relatively flat with a gentle slope to the west, toward an adjacent drainage channel and wetland area. The Site's ground surface is covered by grasses, shrubs, and mixed upland forest. A forested wetland, which contains several small intermittent stream channels, bounds the Site to the west. Forested areas bound the Site to the north, whereas paved roads bound the Site to the east and south.

Groundwater flow throughout the STP area is influenced by the fracture orientation and morphology of the underlying bedrock, resulting in a relatively uniform groundwater flow towards the southwest, in the direction of French Stream (Tetra Tech NUS, 2014; Tetra Tech NUS, 2000). Water levels generally range from 4 to 6 feet below ground surface (as of February 2008), and the monitoring well network present at STP consists of 18 monitoring wells and 7 piezometers (Tetra Tech NUS, 2014). Wetlands area adjacent to the west of the TBA are forested and pocked with small hillocks and depressions (Tetra Tech NUS, 2007). Groundwater is outside the scope of this appendix.

The STP area has been zoned for a combination of open space and village commercial use purposes (STTDC, 2005). Open Space-Corporation District's promotes the preservation of wetland areas and open spaces for parks, active and passive recreation, community gardens, rivers, and streams with the vision of protecting these open space resources to enhance the quality of life for local residents and visitors. The commercial use zoning allows uses for light industry, biopharmaceutical commercial uses, and parking areas. Several constructed drainage ditches run through and along the borders of the area, and these generally drain westward towards the wetland area adjacent to the TBA in the southwestern portion of the Site (Tetra Tech NUS, 2014).

Two issues and recommendations pertaining to the Site 7 remedy were identified in the Five-Year Review of NAS South Weymouth (Tetra Tech NUS, 2014).

1. Shallow soil and sediment results exceed post-ROD cleanup goals and recommends additional remedial action to remove shallow soil/sediment.

2. Additional investigations conducted post-ROD indicate that soil contamination was found in deep subsurface soil and recommends the implementation Land Use Controls (LUCs) by an amendment to the ROD or Explanation of Significant Differences.

The Five-Year review recommended soil and sediment excavation as a remedy protective of both human health and the environment in the short-term and indicated that longer term protective measures should include additional LUCs and/or changes to the Long-Term Monitoring plan (Tetra Tech NUS, 2014).

Future Land Use

Future land use could be a combination of open space and commercial/industrial use. The STP area has been zoned for a combination of open space and village commercial use purposes, and the preservation of wetland areas and open spaces for parks, active and passive recreation, community gardens, rivers, and streams with the vision of protecting these open space resources to enhance the quality of life for local residents and visitors is promoted for the area (STTDC, 2005). The commercial use zoning allows uses for light industry, biopharmaceutical commercial uses, and parking areas. Consequently, LUCs could be implemented in the future at Site 7 to prevent residential land use, so other scenarios and PRGs might be more appropriate, depending upon future risk management decisions regarding LUCs. Land use scenarios for the revised PRGs include the following:

- Hypothetical residential (unrestricted) land use
- Commercial/Industrial land use
- Construction worker (excavation) land use
- Recreational land use

Revised human health PRGs were developed based on recent changes to EPA guidance on risk assessment methods and toxicological values, including the U.S. EPA *Human Health Evaluation Manual, Supplemental Guidance: Update of Standard Default Exposure Factors* (U.S. EPA, 2014). Additionally, U.S. EPA and Oak Ridge National Laboratory Risk Assessment Information System (RAIS) exposure models and online tools were used, which reference current methods and current toxicological values. PRGs were developed for the following compounds previously identified as COCs:

- 4,4'-DDD
- 4,4'-DDT
- Benzo(a)anthracene
- Benzo(a)pyrene
- Benzo(b)fluoranthene
- Benzo(k)fluoranthene
- Dibenz(a,h)anthracene
- Aroclor 1016
- Aroclor 1260
- Arsenic

Exposure model input parameters are documented in Attachments 1 through 4, which include model output files from the RAIS to show the information used for each land use scenario. The Code of Massachusetts Regulations (CMR) Massachusetts Contingency Plan (MCP) Subpart I: Risk Characterization, 310 CMR 0902(2)(b), indicates that the target cancer risk of 1-in-100,000 and target hazard index threshold of 1 should be used. Exposure pathways included incidental ingestion, dermal contact, and inhalation. Bioavailability of arsenic in soil was addressed by RAIS using U.S. EPA's recommended 60 percent relative bioavailability of arsenic in soil for arsenic ingestion calculations. PRGs were calculated using the RAIS and are documented in Attachments 1 through 4. Each land use scenario is discussed below.

Hypothetical Residential Land Use

Residential (unrestricted) land use was built on the premise that Site 7 would be replaced with dwellings. For this scenario, potential receptors include both adults and children. Residential exposure factors from the U.S. EPA *Human Health Evaluation Manual, Supplemental Guidance: Update of Standard Default Exposure Factors* were used (U.S. EPA, 2014).

Hypothetical Commercial/Industrial Land Use

Hypothetical commercial/industrial Site workers are possible future human receptors if Site 7 is developed for commercial or industrial use. Site workers could frequently be exposed to soil. For this scenario, the potential receptor is the adult Site worker. Updated industrial land use exposure factors were used in accordance with U.S. EPA's supplemental guidance (U.S. EPA, 2014).

Hypothetical Construction Worker (Excavation) Land Use

Exposure to subsurface soil could occur if the current or a future owner conducts construction and/or excavation projects, repairs or installs new underground utilities, or performs some other invasive activity. This assumption was built on the premise that exposure to subsurface soil could occur during a hypothetical construction project, so future construction workers are potential human receptors for contaminants in subsurface soil during hypothetical excavation or other invasive activities and were therefore added when revising PRGs. Updated excavation worker exposure factors from the RAIS and U.S. EPA were used in accordance with U.S. EPA's supplemental guidance to represent this land use scenario (U.S. EPA, 2014).

Hypothetical Recreational Land Use

As previously discussed, plans for the area include a portion of Site 7 and indicate that future land use might be open land or some other recreational scenario (STTDC, 2005). Consequently, hypothetical recreational use is possible for future human receptors. This assumption was built on the premise that the area would be maintained as an open area for walking and recreational use. For this scenario, the exposure population was assumed to include both adults and children. Recreational exposure factors from the RAIS and U.S. EPA were used in accordance with U.S. EPA's supplemental guidance (U.S. EPA, 2014).

Revised Soil Preliminary Remediation Goals

Table C-1 shows PRGs calculated for hypothetical residential land use, commercial/industrial land use, construction worker (excavation) land use, and recreational land use. The PRGs summarized in Table C-1 were developed using the MCP target risk of 1E-5 and a target hazard quotient of 1.0, as documented in Attachments 1 through 4.

Existing ecological PRGs based on food web models for mammals and birds are still relevant and were tabulated for comparison, as shown in Table C-2, which includes revised ecological PRGs for soil, revised human health risk based PRGs, and background values identified in the *Supplement to Final Summary Report of Background Data Summary Statistics for NAS South Weymouth* (Stone & Webster 2002). If residential (unrestricted) land use is determined to be a goal for

Table C-1
 Revised PRGs Based on Human Health Risk
 NAS South Weymouth

Chemical	CAS Number	Resident		Industrial Composite Worker		Excavation Worker		Recreator	
		Carcinogenic PRG TR=1E-5 ^a (mg/kg)	Noncarcinogenic Child PRG HI = 1 (mg/kg)	Carcinogenic PRG TR=1E-5 ^a (mg/kg)	Noncarcinogenic PRG HI = 1 (mg/kg)	Carcinogenic PRG TR=1E-5 ^a (mg/kg)	Noncarcinogenic PRG HI = 1 (mg/kg)	Carcinogenic PRG TR=1E-5 ^a (mg/kg)	Noncarcinogenic Child PRG HI = 1 (mg/kg)
Aroclor 1016	12674-11-2	71.3	4.11	293	51.3	30500	214	333	19.2
Aroclor 1260	11096-82-5	2.49	NA	10.3	NA	1070	NA	11.6	NA
Arsenic, Inorganic	7440-38-2	6.8	35.0	30	482	2970	1910	32	163
Benz[a]anthracene	56-55-3	1.57	NA	28.9	NA	2990	NA	7.34	NA
Benzo[a]pyrene	50-32-8	0.157	NA	2.89	NA	299	NA	0.734	NA
Benzo[b]fluoranthene	205-99-2	1.57	NA	28.9	NA	2990	NA	7.34	NA
Benzo[k]fluoranthene	207-08-9	15.7	NA	289	NA	29900	NA	73.4	NA
DDD	72-54-8	22.6	126	95.7	1640	9770	6700	106	590
DDT	50-29-3	18.9	36.5	85.4	518	8310	2020	88	170
Dibenz[a,h]anthracene	53-70-3	0.157	NA	2.89	NA	299	NA	0.734	NA

Notes:

^a Code of Massachusetts Regulations Subpart I: 310 CMR 0902(2)(b).

NA indicates not applicable

Arsenic PRGs adjusted by RAIS using USEPA's *Recommendations for Default Value for Relative Bioavailability of Arsenic in Soil, OSWER 9200.1.113.*

Table C-2
 Unrestricted Land Use PRG Summary
 NAS South Weymouth

Chemical	CAS Number	Units	Ecological Risk-Based PRGs, Soil ^a	Background Value ^a	Revised PRG ^b	Basis for Revised Human Health PRG ^b	Revised Cleanup Goal ^c	Basis ^c
Aroclor 1016	12674-11-2	µg/kg	NA	NA	4110	Residential, noncancer child target hazard index = 1.0	4110	Revised PRG
Aroclor 1260	11096-82-5	µg/kg	NA	106	2490	Residential, cancer target risk = 1E-5	2490	Revised PRG
Arsenic, Inorganic	7440-38-2	mg/kg	NA	5	6.8	Residential, cancer target risk = 1E-5	7	Revised PRG
Benz[a]anthracene	56-55-3	µg/kg	NA	810	1570	Residential, cancer target risk = 1E-5	1570	Revised PRG
Benzo[a]pyrene	50-32-8	µg/kg	NA	1829	157	Residential, cancer target risk = 1E-5	1829	Background
Benzo[b]fluoranthene	205-99-2	µg/kg	NA	770	1570	Residential, cancer target risk = 1E-5	1570	Revised PRG
Benzo[k]fluoranthene	207-08-9	µg/kg	NA	NA	15700	Residential, cancer target risk = 1E-5	15700	Revised PRG
DDD	72-54-8	µg/kg	NA	730	22600	Residential, cancer target risk = 1E-5	22600	Revised PRG
DDT	50-29-3	µg/kg	2800	290	18900	Residential, cancer target risk = 1E-5	2800	Ecological PRG
Dibenz[a,h]anthracene	53-70-3	µg/kg	NA	NA	157	Residential, cancer target risk = 1E-5	157	Revised PRG

Notes:

^a FS Former Sewage Treatment Plant NAS South Weymouth Massachusetts, Tetra Tech NUS, 2007

^b Revised PRG for residential land use from Table C-1

^c Revised Cleanup Goal for residential land use considering the revised PRG and background value

NA indicates not applicable

remedial planning in the future, the revised residential PRGs and background may be relevant. Corresponding PRGs are summarized for the residential scenario in Table C-2.

Ecological and revised human health soil PRGs were compared when developing Table C-2. The lower of the two PRGs was compared to the background value, and the lower PRG was identified as the revised cleanup goal unless the background value was greater than the PRG. If the background value was greater than the PRG, the background value was identified as the revised cleanup goal instead of the PRG.

If LUCs are implemented to prevent future residential use, PRGs from the remaining non-residential scenarios (industrial, construction [excavation], and recreational) may be more relevant and applicable for remedial planning and evaluating data. Table C-3 summarizes revised PRGs for non-residential land use. The commercial/industrial worker and recreational scenarios resulted in the most conservative non-residential PRGs and would therefore be protective for other non-residential land use scenarios.

As shown in both Tables C-2 and C-3, the ecological PRG for DDT in soil is relevant for remedial decisions. Historical background values are less than the corresponding ecological PRG, so the ecological PRG for DDT was selected. The background value is greater than the corresponding PRGs for benzo(a)pyrene, so Tables C-2 and C-3 indicate that the background value for benzo(a)pyrene is relevant for remedial decisions.

Table C-4 shows historical PRGs, cites their sources and includes revised cleanup goals identified in Tables C-2 and C-3 for comparison purposes.

Table C-3
 Non-Residential PRG Summary
 NAS South Weymouth

Chemical	CAS Number	Units	Ecological Risk-Based PRGs, Soil ^a	Background Value ^a	Revised PRG ^b	Basis for Revised Human Health PRG ^b	Revised Cleanup Goal ^c	Basis ^c
Aroclor 1016	12674-11-2	µg/kg	NA	NA	19200	Recreator, noncancer target hazard index = 1.0	19200	Revised PRG
Aroclor 1260	11096-82-5	µg/kg	NA	106	10300	Industrial Composite Worker, cancer target risk = 1E-5	10300	Revised PRG
Arsenic, Inorganic	7440-38-2	mg/kg	NA	5	30	Industrial Composite Worker, cancer target risk = 1E-5	30	Revised PRG
Benz[a]anthracene	56-55-3	µg/kg	NA	810	7340	Recreator, cancer target risk = 1E-5	7340	Revised PRG
Benzo[a]pyrene	50-32-8	µg/kg	NA	1829	734	Recreator, cancer target risk = 1E-5	1829	Background
Benzo[b]fluoranthene	205-99-2	µg/kg	NA	770	7340	Recreator, cancer target risk = 1E-5	7340	Revised PRG
Benzo[k]fluoranthene	207-08-9	µg/kg	NA	NA	73400	Recreator, cancer target risk = 1E-5	73400	Revised PRG
DDD	72-54-8	µg/kg	NA	730	95700	Industrial Composite Worker, cancer target risk = 1E-5	95700	Revised PRG
DDT	50-29-3	µg/kg	2800	290	85400	Industrial Composite Worker, cancer target risk = 1E-5	2800	Ecological PRG
Dibenz[a,h]anthracene	53-70-3	µg/kg	NA	NA	734	Recreator, cancer target risk = 1E-5	734	Revised PRG

Notes:

^a FS Former Sewage Treatment Plant NAS South Weymouth Massachusetts, Tetra Tech NUS, 2007

^b Revised PRG for non-residential land use from Table C-1

^c Revised Cleanup Goal for non-residential land use considering the revised PRG and background value

NA indicates not applicable

Table C-4
 PRG Values, Historical and Current
 NAS South Weymouth

Chemical	CAS Number	Units	2007 FS Eco PRGs, Soil ^a	2007 FS HH PRGs, Soil ^a	Historical Hypothetical Resident PRG ^b	Revised Residential Land Use Cleanup Goal ^c and Basis		Revised Non-Residential Land Use Cleanup Goal ^d and Basis	
Aroclor 1016	12674-11-2	µg/kg	NA	NA	3900	4110	THQ	19200	Recreator THQ
Aroclor 1260	11096-82-5	µg/kg	NA	NA	2200	2490	TCR	10300	Industrial Worker TCR
Arsenic, Inorganic	7440-38-2	mg/kg	NA	9	4	7	TCR	30	Industrial Worker TCR
Benz[a]anthracene	56-55-3	µg/kg	NA	14500	1500	1570	TCR	7340	Recreator TCR
Benzo[a]pyrene	50-32-8	µg/kg	NA	1450	150	1829	Background	1829	Background
Benzo[b]fluoranthene	205-99-2	µg/kg	NA	14500	1500	1570	TCR	7340	Recreator TCR
Benzo[k]fluoranthene	207-08-9	µg/kg	NA	NA	15000	15700	TCR	73400	Recreator TCR
DDD	72-54-8	µg/kg	NA	NA	20000	22600	TCR	95700	Industrial Worker TCR
DDT	50-29-3	µg/kg	2800	40100	17000	2800	Ecological PRG	2800	Industrial Worker TCR
Dibenz[a,h]anthracene	53-70-3	µg/kg	NA	NA	150	157	TCR	734	Recreator TCR

Notes:

^a FS Former Sewage Treatment Plant NAS South Weymouth Massachusetts, Tetra Tech NUS, 2007

^b Supplemental Pre-Design Investigation Report, Former Sewage Treatment Plant, NAS South Weymouth, Naval Facilities Engineering Command, Mid-Atlantic, 2012

^c Revised cleanup goal for residential (unrestricted) land use from Table C-2

^d Revised cleanup goal for non-residential land use from Table C-3

THQ indicates a noncancer Target Hazard Quotient = 1.0

TCR indicates a Target Cancer Risk = 1E-5

NA indicates not applicable

References

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Attachments 1 through 4
Documentation of Oak Ridge National Laboratory
Risk Assessment Information System
Preliminary Remedial Goal Calculations

Attachment 1

Resident Equation Inputs for Soil

Variable	Value
TR (target cancer risk) unitless	0.00001
ED _{ress} (exposure duration - resident) year	26
ED _{ressc} (exposure duration - child) year	6
ED _{ressa} (exposure duration - adult) year	20
ET _{ress} (exposure time - resident) hour	24
ET _{ressc} (exposure time - child) hour	24
ET _{ressa} (exposure time - adult) hour	24
BW _{ressa} (body weight - adult) kg	80
BW _{ressc} (body weight - child) kg	15
SA _{ressa} (skin surface area - adult) cm ² /day	6032
SA _{ressc} (skin surface area - child) cm ² /day	2373
THQ (target hazard quotient) unitless	1
LT (lifetime - resident) year	70
EF _{ress} (exposure frequency - resident) day/year	350
EF _{ressc} (exposure frequency - child) day/year	350
EF _{ressa} (exposure frequency - adult) day/year	350
IRS _{ressa} (soil intake rate - adult) mg/day	100
IRS _{ressc} (soil intake rate - child) mg/day	200
AF _{ressa} (skin adherence factor - adult) mg/cm ²	0.07
AF _{ressc} (skin adherence factor - child) mg/cm ²	0.2
IFS _{res-adj} (age-adjusted soil ingestion factor) mg/kg	36750
DFS _{res-adj} (age-adjusted soil dermal factor) mg/kg	103390
IFSM _{res-adj} (mutagenic age-adjusted soil ingestion factor) mg/kg	166833.3
DFSM _{res-adj} (mutagenic age-adjusted soil dermal factor) mg/kg	428260
AF ₀₋₂ (skin adherence factor) mg/cm ²	0.2
AF ₂₋₆ (skin adherence factor) mg/cm ²	0.2
AF ₆₋₁₆ (skin adherence factor) mg/cm ²	0.07
AF ₁₆₋₃₀ (skin adherence factor) mg/cm ²	0.07
BW ₀₋₂ (body weight) kg	15
BW ₂₋₆ (body weight) kg	15
BW ₆₋₁₆ (body weight) kg	80
BW ₁₆₋₃₀ (body weight) kg	80
ED ₀₋₂ (exposure duration) year	2
ED ₂₋₆ (exposure duration) year	4
ED ₆₋₁₆ (exposure duration) year	10
ED ₁₆₋₃₀ (exposure duration) year	10
EF ₀₋₂ (exposure frequency) day/year	350
EF ₂₋₆ (exposure frequency) day/year	350
EF ₆₋₁₆ (exposure frequency) day/year	350
EF ₁₆₋₃₀ (exposure frequency) day/year	350
ET ₀₋₂ (exposure time) hour/day	24
ET ₂₋₆ (exposure time) hour/day	24
ET ₆₋₁₆ (exposure time) hour/day	24
ET ₁₆₋₃₀ (exposure time) hour/day	24
IRS ₀₋₂ (soil intake rate) mg/day	200
IRS ₂₋₆ (soil intake rate) mg/day	200
IRS ₆₋₁₆ (soil intake rate) mg/day	100

Attachment 1

Resident Equation Inputs for Soil

Variable	Value
IRS ₁₆₋₃₀ (soil intake rate) mg/day	100
SA ₀₋₂ (skin surface area) cm ² /day	2373
SA ₂₋₆ (skin surface area) cm ² /day	2373
SA ₆₋₁₆ (skin surface area) cm ² /day	6032
SA ₁₆₋₃₀ (skin surface area) cm ² /day	6032
City (Climate Zone) PEF Selection	Hartford, CT (8)
A _s (acres) PEF Selection	0.5
Q/C _{wp} (g/m ² -s per kg/m ³) PEF Selection	73.95045
PEF (particulate emission factor) m ³ /kg	10982401812
A (PEF Dispersion Constant)	12.5907
B (PEF Dispersion Constant)	18.8368
C (PEF Dispersion Constant)	215.4377
V (fraction of vegetative cover) unitless	0.5
U _m (mean annual wind speed) m/s	3.84
U _t (equivalent threshold value)	11.32
F(x) (function dependant on U _m /U _t) unitless	0.0345
City (Climate Zone) VF Selection	Hartford, CT (8)
A _s (acres) VF Selection	0.5
A (VF Dispersion Constant)	12.5907
B (VF Dispersion Constant)	18.8368
C (VF Dispersion Constant)	215.4377
Q/C _{wp} (g/m ² -s per kg/m ³) VF Selection	73.95045
foc (fraction organic carbon in soil) g/g	0.006
ρ _b (dry soil bulk density) g/cm ³	1.5
ρ _s (soil particle density) g/cm ³	2.65
θ _w (water-filled soil porosity) L _{water} /L _{soil}	0.15
T (exposure interval) s	819936000

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Attachment 1
Resident PRG for Soil

Chemical	CAS Number	Mutagen?	VOC?	Chronic RfD (mg/kg-day)	RfD Reference	Chronic RfC (mg/m ³)	RfC Reference	Ingestion SF (mg/kg-day) ⁻¹
Aroclor 1016	12674-11-2	No	No	0.00007	IRIS	NA	NA	0.07
Aroclor 1260	11096-82-5	No	No	NA	NA	NA	NA	2
Arsenic, Inorganic	7440-38-2	No	No	0.0003	IRIS	0.000015	CALEPA	1.5
Benzo[a]anthracene	56-55-3	Yes	No	NA	NA	NA	NA	0.73
Benzo[a]pyrene	50-32-8	Yes	No	NA	NA	NA	NA	7.3
Benzo[b]fluoranthene	205-99-2	Yes	No	NA	NA	NA	NA	0.73
Benzo[k]fluoranthene	207-08-9	Yes	No	NA	NA	NA	NA	0.073
DDD	72-54-8	No	No	0.002	PPRTV A	NA	NA	0.24
DDT	50-29-3	No	No	0.0005	IRIS	NA	NA	0.34
Dibenz[a,h]anthracene	53-70-3	Yes	No	NA	NA	NA	NA	7.3

Notes:

NA indicates not applicable

Output generated 13APR2015:12:47:26

Attachment 1
Resident PRG for Soil

Chemical	CAS Number	SFO Reference	Inhalation Unit Risk ($\mu\text{g}/\text{m}^3$) ⁻¹	IUR Reference	ABS _{derm}	ABS _{gi}	Volatilization Factor (m^3/kg)
Aroclor 1016	12674-11-2	SURROGA	0.00002	SURROGA	0.14	1	NA
Aroclor 1260	11096-82-5	SURROGA	0.000571	SURROGA	0.14	1	NA
Arsenic, Inorganic	7440-38-2	IRIS	0.0043	IRIS	0.03	1	NA
Benz[a]anthracene	56-55-3	Surroga	0.00011	CALEPA	0.13	1	NA
Benzo[a]pyrene	50-32-8	IRIS	0.0011	CALEPA	0.13	1	NA
Benzo[b]fluoranthene	205-99-2	Surroga	0.00011	CALEPA	0.13	1	NA
Benzo[k]fluoranthene	207-08-9	Surroga	0.00011	CALEPA	0.13	1	NA
DDD	72-54-8	IRIS	0.000069	CALEPA	0.1	1	NA
DDT	50-29-3	IRIS	0.000097	IRIS	0.03	1	NA
Dibenz[a,h]anthracene	53-70-3	Surroga	0.0012	CALEPA	0.13	1	NA

Notes:

NA indicates not applicable

Output generated 13APR2015:12:47:26

Attachment 1

Resident PRG for Soil

Chemical	CAS Number	Particulate Emission Factor (m ³ /kg)	Soil Saturation Concentration (mg/kg)	RBA	Ingestion PRG TR=1.0E-5 (mg/kg)	Inhalation PRG TR=1.0E-5 (mg/kg)	Dermal PRG TR=1.0E-5 (mg/kg)
Aroclor 1016	12674-11-2	11000000000	NA	1	99.3	15400000	252
Aroclor 1260	11096-82-5	11000000000	NA	1	3.48	540000	8.83
Arsenic, Inorganic	7440-38-2	11000000000	NA	0.6	7.72	71700	54.9
Benz[a]anthracene	56-55-3	11000000000	NA	1	2.1	1010000	6.29
Benzo[a]pyrene	50-32-8	11000000000	NA	1	0.21	101000	0.629
Benzo[b]fluoranthene	205-99-2	11000000000	NA	1	2.1	1010000	6.29
Benzo[k]fluoranthene	207-08-9	11000000000	NA	1	21	1010000	62.9
DDD	72-54-8	11000000000	NA	1	29	4470000	103
DDT	50-29-3	11000000000	NA	1	20.4	3180000	242
Dibenz[a,h]anthracene	53-70-3	11000000000	NA	1	0.21	92800	0.629

Notes:

NA indicates not applicable

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Attachment 1

Resident PRG for Soil

Chemical	CAS Number	Carcinogenic PRG TR=1.0E-5 (mg/kg)	Child Ingestion PRG HQ=1 (mg/kg)	Child Inhalation PRG HQ=1 (mg/kg)	Child Dermal PRG HQ=1 (mg/kg)
Aroclor 1016	12674-11-2	71.3	5.48	NA	16.5
Aroclor 1260	11096-82-5	2.49	NA	NA	NA
Arsenic, Inorganic	7440-38-2	6.77	39.10	172000	330
Benz[a]anthracene	56-55-3	1.57	NA	NA	NA
Benzo[a]pyrene	50-32-8	0.157	NA	NA	NA
Benzo[b]fluoranthene	205-99-2	1.57	NA	NA	NA
Benzo[k]fluoranthene	207-08-9	15.7	NA	NA	NA
DDD	72-54-8	22.6	156	NA	659
DDT	50-29-3	18.9	39.1	NA	549
Dibenz[a,h]anthracene	53-70-3	0.157	NA	NA	NA

Notes:

NA indicates not applicable

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Attachment 1

Resident PRG for Soil

Chemical	CAS Number	Noncarcinogenic Child PRG HI=1 (mg/kg)	Adult Ingestion PRG HQ=1 (mg/kg)	Adult Inhalation PRG HQ=1 (mg/kg)	Adult Dermal PRG HQ=1 (mg/kg)
Aroclor 1016	12674-11-2	4.11	58.4	NA	98.8
Aroclor 1260	11096-82-5	NA	NA	NA	NA
Arsenic, Inorganic	7440-38-2	35.00	417	172000	1980
Benz[a]anthracene	56-55-3	NA	NA	NA	NA
Benzo[a]pyrene	50-32-8	NA	NA	NA	NA
Benzo[b]fluoranthene	205-99-2	NA	NA	NA	NA
Benzo[k]fluoranthene	207-08-9	NA	NA	NA	NA
DDD	72-54-8	126	1670	NA	3950
DDT	50-29-3	36.5	417	NA	3290
Dibenz[a,h]anthracene	53-70-3	NA	NA	NA	NA

Notes:

NA indicates not applicable

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Attachment 1

Resident PRG for Soil

Chemical	CAS Number	Noncarcinogenic Adult PRG HI=1 (mg/kg)	Adjusted Ingestion PRG HQ=1 (mg/kg)	Adjusted Inhalation PRG HQ=1 (mg/kg)
Aroclor 1016	12674-11-2	36.7	18.1	NA
Aroclor 1260	11096-82-5	NA	NA	NA
Arsenic, Inorganic	7440-38-2	344.0	129	172000
Benz[a]anthracene	56-55-3	NA	NA	NA
Benzo[a]pyrene	50-32-8	NA	NA	NA
Benzo[b]fluoranthene	205-99-2	NA	NA	NA
Benzo[k]fluoranthene	207-08-9	NA	NA	NA
DDD	72-54-8	1170	516	NA
DDT	50-29-3	370	129	NA
Dibenz[a,h]anthracene	53-70-3	NA	NA	NA

Notes:

NA indicates not applicable

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Attachment 1

Resident PRG for Soil

Chemical	CAS Number	Adjusted Dermal PRG HQ=1 (mg/kg)	Noncarcinogenic Adjusted PRG HI=1 (mg/kg)
Aroclor 1016	12674-11-2	45.9	13
Aroclor 1260	11096-82-5	NA	NA
Arsenic, Inorganic	7440-38-2	918	113.00
Benz[a]anthracene	56-55-3	NA	NA
Benzo[a]pyrene	50-32-8	NA	NA
Benzo[b]fluoranthene	205-99-2	NA	NA
Benzo[k]fluoranthene	207-08-9	NA	NA
DDD	72-54-8	1840	403
DDT	50-29-3	1530	119
Dibenz[a,h]anthracene	53-70-3	NA	NA

Notes:

NA indicates not applicable

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Attachment 2

Composite Worker Equation Inputs for Soil

Variable	Value
TR (target cancer risk) unitless	0.00001
THQ (target hazard quotient) unitless	1
AT _w (averaging time – composite worker)	365
EF _w (exposure frequency – composite worker) day/yr	250
ED _w (exposure duration – composite worker) yr	25
ET _w (exposure time – composite worker) hr	8
LT (lifetime) yr	70
BW _w (body weight – composite worker)	80
IR _w (soil ingestion rate – composite worker) mg/day	100
SA _w (surface area – composite worker) cm ² /day	3527
AF _w (skin adherence factor – composite worker) mg/cm ²	0.12
City (Climate Zone) PEF Selection	Hartford, CT (8)
A _s (acres) PEF Selection	0.5
Q/C _{wp} (g/m ² -s per kg/m ³) PEF Selection	73.95045
PEF (particulate emission factor) m ³ /kg	10982401812
A (PEF Dispersion Constant)	12.5907
B (PEF Dispersion Constant)	18.8368
C (PEF Dispersion Constant)	215.4377
V (fraction of vegetative cover) unitless	0.5
U _m (mean annual wind speed) m/s	3.84
U _t (equivalent threshold value)	11.32
F(x) (function dependant on U _m /U _t) unitless	0.0345
City (Climate Zone) VF Selection	Hartford, CT (8)
A _s (acres) VF Selection	0.5
A (VF Dispersion Constant)	12.5907
B (VF Dispersion Constant)	18.8368
C (VF Dispersion Constant)	215.4377
Q/C _{wp} (g/m ² -s per kg/m ³) VF Selection	73.95045
foc (fraction organic carbon in soil) g/g	0.006
ρ _b (dry soil bulk density) g/cm ³	1.5
ρ _s (soil particle density) g/cm ³	2.65
θ _w (water-filled soil porosity) L _{water} /L _{soil}	0.15
T (exposure interval) s	819936000

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Attachment 2

Composite Worker PRG for Soil

Chemical	CAS Number	Mutagen?	VOC?	Chronic RfD (mg/kg-day)	RfD Reference	Chronic RfC (mg/m ³)	RfC Reference	Ingestion SF (mg/kg-day) ⁻¹
Aroclor 1016	12674-11-2	No	No	0.00007	IRIS	NA	NA	0.07
Aroclor 1260	11096-82-5	No	No	NA	NA	NA	NA	2
Arsenic, Inorganic	7440-38-2	No	No	0.0003	IRIS	0.000015	CALEPA	1.5
Benz[a]anthracene	56-55-3	Yes	No	NA	NA	NA	NA	0.73
Benzo[a]pyrene	50-32-8	Yes	No	NA	NA	NA	NA	7.3
Benzo[b]fluoranthene	205-99-2	Yes	No	NA	NA	NA	NA	0.73
Benzo[k]fluoranthene	207-08-9	Yes	No	NA	NA	NA	NA	0.073
DDD	72-54-8	No	No	0.002	PPRTV A	NA	NA	0.24
DDT	50-29-3	No	No	0.0005	IRIS	NA	NA	0.34
Dibenz[a,h]anthracene	53-70-3	Yes	No	NA	NA	NA	NA	7.3

Notes:

NA indicates not applicable

Output generated 13APR2015:13:44:08

Attachment 2

Composite Worker PRG for Soil

Chemical	CAS Number	SFO Reference	Inhalation Unit Risk ($\mu\text{g}/\text{m}^3$) ⁻¹	IUR Reference	ABS _d	ABS _{gi}	Volatilization Factor (m^3/kg)
Aroclor 1016	12674-11-2	SURROGA	0.00002	SURROGA	0.14	1	NA
Aroclor 1260	11096-82-5	SURROGA	0.000571	SURROGA	0.14	1	NA
Arsenic, Inorganic	7440-38-2	IRIS	0.0043	IRIS	0.03	1	NA
Benz[a]anthracene	56-55-3	Surroga	0.00011	CALEPA	0.13	1	NA
Benzo[a]pyrene	50-32-8	IRIS	0.0011	CALEPA	0.13	1	NA
Benzo[b]fluoranthene	205-99-2	Surroga	0.00011	CALEPA	0.13	1	NA
Benzo[k]fluoranthene	207-08-9	Surroga	0.00011	CALEPA	0.13	1	NA
DDD	72-54-8	IRIS	0.000069	CALEPA	0.1	1	NA
DDT	50-29-3	IRIS	0.000097	IRIS	0.03	1	NA
Dibenz[a,h]anthracene	53-70-3	Surroga	0.0012	CALEPA	0.13	1	NA

Notes:

NA indicates not applicable

Output generated 13APR2015:13:44:08

Attachment 2

Composite Worker PRG for Soil

Chemical	CAS Number	Particulate Emission Factor (m ³ /kg)	Soil Saturation Concentration (mg/kg)	RBA	Ingestion PRG TR=1.0E-5 (mg/kg)	Inhalation PRG TR=1.0E-5 (mg/kg)	Dermal PRG TR=1.0E-5 (mg/kg)
Aroclor 1016	12674-11-2	11000000000	NA	1	467	67300000	788
Aroclor 1260	11096-82-5	11000000000	NA	1	16.4	2360000	27.6
Arsenic, Inorganic	7440-38-2	11000000000	NA	0.6	36.3	313000	172
Benz[a]anthracene	56-55-3	11000000000	NA	1	44.8	12200000	81.4
Benzo[a]pyrene	50-32-8	11000000000	NA	1	4.48	1220000	8.14
Benzo[b]fluoranthene	205-99-2	11000000000	NA	1	44.8	12200000	81.4
Benzo[k]fluoranthene	207-08-9	11000000000	NA	1	448	12200000	814
DDD	72-54-8	11000000000	NA	1	136	19500000	322
DDT	50-29-3	11000000000	NA	1	96.2	13900000	758
Dibenz[a,h]anthracene	53-70-3	11000000000	NA	1	4.48	1120000	8.14

Notes:

NA indicates not applicable

Output generated 13APR2015:13:44:08

Attachment 2

Composite Worker PRG for Soil

Chemical	CAS Number	Carcinogenic PRG TR=1.0E-5 (mg/kg)	Ingestion PRG HQ=1 (mg/kg)	Inhalation PRG HQ=1 (mg/kg)	Dermal PRG HQ=1 (mg/kg)	Noncarcinogenic PRG HI=1 (mg/kg)
Aroclor 1016	12674-11-2	293	81.8	NA	138	51.3
Aroclor 1260	11096-82-5	10.3	NA	NA	NA	NA
Arsenic, Inorganic	7440-38-2	30.0	584.0	722000	2760	482.0
Benz[a]anthracene	56-55-3	28.9	NA	NA	NA	NA
Benzo[a]pyrene	50-32-8	2.89	NA	NA	NA	NA
Benzo[b]fluoranthene	205-99-2	28.9	NA	NA	NA	NA
Benzo[k]fluoranthene	207-08-9	289	NA	NA	NA	NA
DDD	72-54-8	95.7	2340	NA	5520	1640
DDT	50-29-3	85.4	584	NA	4600	518
Dibenz[a,h]anthracene	53-70-3	2.89	NA	NA	NA	NA

Notes:

NA indicates not applicable

Output generated 13APR2015:13:44:08

Attachment 3

Excavation Worker Equation Inputs for Soil

Variable	Value
TR (target cancer risk) unitless	0.00001
THQ (target hazard quotient) unitless	1
AT _{cw} (averaging time – excavation worker)	365
EF _{cw} (exposure frequency – excavation worker) day/yr	20
ED _{cw} (exposure duration – excavation worker) yr	1
ET _{cw} (exposure time – excavation worker) hr	8
LT (lifetime) yr	70
BW _{cw} (body weight – excavation worker) kg	80
IR _{cw} (soil ingestion rate – excavation worker) mg/day	330
SA _{cw} (surface area – excavation worker) cm ² /day	3527
AF _{cw} (skin adherence factor – excavation worker) mg/cm ²	0.3
City (Climate Zone) PEF Selection	Hartford, CT (8)
A _s (acres) PEF Selection	0.5
Q/C _{wp} (g/m ² -s per kg/m ³) PEF Selection	73.95045
PEF (particulate emission factor) m ³ /kg	10982401812
A (PEF Dispersion Constant)	12.5907
B (PEF Dispersion Constant)	18.8368
C (PEF Dispersion Constant)	215.4377
V (fraction of vegetative cover) unitless	0.5
U _m (mean annual wind speed) m/s	3.84
U _t (equivalent threshold value)	11.32
F(x) (function dependant on U _m /U _t) unitless	0.0345
City (Climate Zone) VF Selection	Hartford, CT (8)
A _s (acres) VF Selection	0.5
A (VF Dispersion Constant)	12.5907
B (VF Dispersion Constant)	18.8368
C (VF Dispersion Constant)	215.4377
Q/C _{wp} (g/m ² -s per kg/m ³) VF Selection	73.95045
foc (fraction organic carbon in soil) g/g	0.006
ρ _b (dry soil bulk density) g/cm ³	1.5
ρ _s (soil particle density) g/cm ³	2.65
θ _w (water-filled soil porosity) L _{water} /L _{soil}	0.15
T (exposure interval) s	819936000

Output generated 13APR2015:13:52:33

Attachment 3

Excavation Worker PRG for Soil

Chemical	CAS Number	Mutagen?	VOC?	Chronic RfD (mg/kg-day)	RfD Reference	Chronic RfC (mg/m ³)	RfC Reference	Ingestion SF (mg/kg-day) ⁻¹	SFO Reference
Aroclor 1016	12674-11-2	No	No	0.00007	IRIS	NA	NA	0.07	SURROGA
Aroclor 1260	11096-82-5	No	No	NA	NA	NA	NA	2	SURROGA
Arsenic, Inorganic	7440-38-2	No	No	0.0003	IRIS	0.000015	CALEPA	1.5	IRIS
Benz[a]anthracene	56-55-3	Yes	No	NA	NA	NA	NA	0.73	Surroga
Benzo[a]pyrene	50-32-8	Yes	No	NA	NA	NA	NA	7.3	IRIS
Benzo[b]fluoranthene	205-99-2	Yes	No	NA	NA	NA	NA	0.73	Surroga
Benzo[k]fluoranthene	207-08-9	Yes	No	NA	NA	NA	NA	0.073	Surroga
DDD	72-54-8	No	No	0.002	PPRTV A	NA	NA	0.24	IRIS
DDT	50-29-3	No	No	0.0005	IRIS	NA	NA	0.34	IRIS
Dibenz[a,h]anthracene	53-70-3	Yes	No	NA	NA	NA	NA	7.3	Surroga

Notes:

NA indicates not applicable

Output generated 13APR2015:13:52:33

Attachment 3

Excavation Worker PRG for Soil

Chemical	CAS Number	Inhalation Unit Risk ($\mu\text{g}/\text{m}^3$) ⁻¹	IUR Reference	ABS _d	ABS _{gi}	Volatilization Factor (m^3/kg)	Particulate Emission Factor (m^3/kg)	Soil Saturation Concentration (mg/kg)
Aroclor 1016	12674-11-2	0.00002	SURROGA	0.14	1	NA	11000000000	NA
Aroclor 1260	11096-82-5	0.000571	SURROGA	0.14	1	NA	11000000000	NA
Arsenic, Inorganic	7440-38-2	0.0043	IRIS	0.03	1	NA	11000000000	NA
Benz[a]anthracene	56-55-3	0.00011	CALEPA	0.13	1	NA	11000000000	NA
Benzo[a]pyrene	50-32-8	0.0011	CALEPA	0.13	1	NA	11000000000	NA
Benzo[b]fluoranthene	205-99-2	0.00011	CALEPA	0.13	1	NA	11000000000	NA
Benzo[k]fluoranthene	207-08-9	0.00011	CALEPA	0.13	1	NA	11000000000	NA
DDD	72-54-8	0.000069	CALEPA	0.1	1	NA	11000000000	NA
DDT	50-29-3	0.000097	IRIS	0.03	1	NA	11000000000	NA
Dibenz[a,h]anthracene	53-70-3	0.0012	CALEPA	0.13	1	NA	11000000000	NA

Notes:

NA indicates not applicable

Output generated 13APR2015:13:52:33

Attachment 3

Excavation Worker PRG for Soil

Chemical	CAS Number	RBA	Ingestion PRG TR=1.0E-5 (mg/kg)	Inhalation PRG TR=1.0E-5 (mg/kg)	Dermal PRG TR=1.0E-5 (mg/kg)	Carcinogenic PRG TR=1.0E-5 (mg/kg)	Ingestion PRG HQ=1 (mg/kg)	Inhalation PRG HQ=1 (mg/kg)
Aroclor 1016	12674-11-2	1	44200	21000000000	98600	30500	310	NA
Aroclor 1260	11096-82-5	1	1550	737000000	3450	1070	NA	NA
Arsenic, Inorganic	7440-38-2	0.6	3440	97900000	21500	2970	2210	9020000
Benz[a]anthracene	56-55-3	1	4240	3830000000	10200	2990	NA	NA
Benzo[a]pyrene	50-32-8	1	424	383000000	1020	299	NA	NA
Benzo[b]fluoranthene	205-99-2	1	4240	3830000000	10200	2990	NA	NA
Benzo[k]fluoranthene	207-08-9	1	42400	3830000000	102000	29900	NA	NA
DDD	72-54-8	1	12900	6100000000	40200	9770	8850	NA
DDT	50-29-3	1	9110	4340000000	94700	8310	2210	NA
Dibenz[a,h]anthracene	53-70-3	1	424	351000000	1020	299	NA	NA

Notes:

NA indicates not applicable

Output generated 13APR2015:13:52:33

Attachment 3

Excavation Worker PRG for Soil

Chemical	CAS Number	Dermal PRG HQ=1 (mg/kg)	Noncarcinogenic PRG HI =1 (mg/kg)
Aroclor 1016	12674-11-2	690	214
Aroclor 1260	11096-82-5	NA	NA
Arsenic, Inorganic	7440-38-2	13800	1910
Benz[a]anthracene	56-55-3	NA	NA
Benzo[a]pyrene	50-32-8	NA	NA
Benzo[b]fluoranthene	205-99-2	NA	NA
Benzo[k]fluoranthene	207-08-9	NA	NA
DDD	72-54-8	27600	6700
DDT	50-29-3	23000	2020
Dibenz[a,h]anthracene	53-70-3	NA	NA

Notes:

NA indicates not applicable

Output generated 13APR2015:13:52:33

Attachment 4

Recreator Equation Inputs for Soil/Sediment

Variable	Value
TR (target cancer risk) unitless	0.00001
ED _r (exposure duration – recreator) years	26
ET _r (exposure time – recreator) hours	1
ED _c (exposure duration – child) years	6
BW _a (body weight – adult) kg	80
BW _c (body weight – child) kg	15
SA _a (skin surface area – adult) cm ² /day	6032
SA _c (skin surface area – child) cm ² /day	2373
THQ (target hazard quotient) unitless	1
LT (lifetime – recreator) yr	70
EF _r (exposure frequency) d/yr	75
IRS _a (soil intake rate – adult) mg/day	100
IRS _c (soil intake rate – child) mg/day	200
AF _a (skin adherence factor – adult) mg/cm ²	0.07
AF _c (skin adherence factor – child) mg/cm ²	0.2
IFS _{adj} (age-adjusted soil ingestion factor) mg/kg	7875
DFS _{adj} (age-adjusted soil dermal factor) mg/kg	22155
IFSM _{adj} (mutagenic age-adjusted soil ingestion factor) mg/kg	35750
DFSM _{adj} (mutagenic age-adjusted soil dermal factor) mg/kg	91770
AF ₀₋₂ (skin adherence factor) mg/cm ²	0.2
AF ₂₋₆ (skin adherence factor) mg/cm ²	0.2
AF ₆₋₁₆ (skin adherence factor) mg/cm ²	0.07
AF ₁₆₋₃₀ (skin adherence factor) mg/cm ²	0.07
BW ₀₋₂ (body weight) kg	15
BW ₂₋₆ (body weight) kg	15
BW ₆₋₁₆ (body weight) kg	80
BW ₁₆₋₃₀ (body weight) kg	80
ED ₀₋₂ (exposure duration) year	2
ED ₂₋₆ (exposure duration) year	4
ED ₆₋₁₆ (exposure duration) year	10
ED ₁₆₋₃₀ (exposure duration) year	10
EF ₀₋₂ (exposure frequency) day/year	75
EF ₂₋₆ (exposure frequency) day/year	75
EF ₆₋₁₆ (exposure frequency) day/year	75
EF ₁₆₋₃₀ (exposure frequency) day/year	75
ET ₀₋₂ (exposure time) hour/day	1
ET ₂₋₆ (exposure time) hour/day	1
ET ₆₋₁₆ (exposure time) hour/day	1
ET ₁₆₋₃₀ (exposure time) hour/day	1
IRS ₀₋₂ (soil intake rate) mg/day	200
IRS ₂₋₆ (soil intake rate) mg/day	200
IRS ₆₋₁₆ (soil intake rate) mg/day	100

Attachment 4

Recreator Equation Inputs for Soil/Sediment

Variable	Value
IRS ₁₆₋₃₀ (soil intake rate) mg/day	100
SA ₀₋₂ (skin surface area) cm ² /day	2373
SA ₂₋₆ (skin surface area) cm ² /day	2373
SA ₆₋₁₆ (skin surface area) cm ² /day	6032
SA ₁₆₋₃₀ (skin surface area) cm ² /day	6032
City (Climate Zone) PEF Selection	Hartford, CT (8)
A _s (acres) PEF Selection	0.5
Q/C _{wp} (g/m ² -s per kg/m ³) PEF Selection	73.95045
PEF (particulate emission factor) m ³ /kg	10982401812
A (PEF Dispersion Constant)	12.5907
B (PEF Dispersion Constant)	18.8368
C (PEF Dispersion Constant)	215.4377
V (fraction of vegetative cover) unitless	0.5
U _m (mean annual wind speed) m/s	3.84
U _t (equivalent threshold value)	11.32
F(x) (function dependant on U _m /U _t) unitless	0.0345
City (Climate Zone) VF Selection	Hartford, CT (8)
A _s (acres) VF Selection	0.5
A (VF Dispersion Constant)	12.5907
B (VF Dispersion Constant)	18.8368
C (VF Dispersion Constant)	215.4377
Q/C _{wp} (g/m ² -s per kg/m ³) VF Selection	73.95045
foc (fraction organic carbon in soil) g/g	0.006
ρ _b (dry soil bulk density) g/cm ³	1.5
ρ _s (soil particle density) g/cm ³	2.65
θ _w (water-filled soil porosity) L _{water} /L _{soil}	0.15
T (exposure interval) s	819936000

Output generated 13APR2015:14:01:18

Attachment 4

Recreator PRG for Soil/Sediment

Chemical	CAS Number	Mutagen?	VOC?	Chronic RfD (mg/kg-day)	RfD Reference	Chronic RfC (mg/m ³)	RfC Reference	Ingestion SF (mg/kg-day) ⁻¹
Aroclor 1016	12674-11-2	No	No	0.00007	IRIS	NA	NA	0.07
Aroclor 1260	11096-82-5	No	No	NA	NA	NA	NA	2
Arsenic, Inorganic	7440-38-2	No	No	0.0003	IRIS	0.000015	CALEPA	1.5
Benz[a]anthracene	56-55-3	Yes	No	NA	NA	NA	NA	0.73
Benzo[a]pyrene	50-32-8	Yes	No	NA	NA	NA	NA	7.3
Benzo[b]fluoranthene	205-99-2	Yes	No	NA	NA	NA	NA	0.73
Benzo[k]fluoranthene	207-08-9	Yes	No	NA	NA	NA	NA	0.073
DDD	72-54-8	No	No	0.002	PPRTV A	NA	NA	0.24
DDT	50-29-3	No	No	0.0005	IRIS	NA	NA	0.34
Dibenz[a,h]anthracene	53-70-3	Yes	No	NA	NA	NA	NA	7.3

Notes:

NA indicates not applicable

Output generated 13APR2015:14:01:18

Attachment 4

Recreator PRG for Soil/Sediment

Chemical	CAS Number	SFO Reference	Inhalation Unit Risk ($\mu\text{g}/\text{m}^3$) ⁻¹	IUR Reference	ABS _{derm}	ABS _{gi}	Volatilization Factor (m^3/kg)
Aroclor 1016	12674-11-2	SURROGA	0.00002	SURROGA	0.14	1	NA
Aroclor 1260	11096-82-5	SURROGA	0.000571	SURROGA	0.14	1	NA
Arsenic, Inorganic	7440-38-2	IRIS	0.0043	IRIS	0.03	1	NA
Benz[a]anthracene	56-55-3	Surroga	0.00011	CALEPA	0.13	1	NA
Benzo[a]pyrene	50-32-8	IRIS	0.0011	CALEPA	0.13	1	NA
Benzo[b]fluoranthene	205-99-2	Surroga	0.00011	CALEPA	0.13	1	NA
Benzo[k]fluoranthene	207-08-9	Surroga	0.00011	CALEPA	0.13	1	NA
DDD	72-54-8	IRIS	0.000069	CALEPA	0.1	1	NA
DDT	50-29-3	IRIS	0.000097	IRIS	0.03	1	NA
Dibenz[a,h]anthracene	53-70-3	Surroga	0.0012	CALEPA	0.13	1	NA

Notes:

NA indicates not applicable

Output generated 13APR2015:14:01:18

Attachment 4

Recreator PRG for Soil/Sediment

Chemical	CAS Number	Particulate Emission Factor (m ³ /kg)	Soil Saturation Concentration (mg/kg)	RBA	Ingestion PRG TR=1.0E-5 (mg/kg)	Inhalation PRG TR=1.0E-5 (mg/kg)	Dermal PRG TR=1.0E-5 (mg/kg)
Aroclor 1016	12674-11-2	11000000000	NA	1	463	1730000000	1180
Aroclor 1260	11096-82-5	11000000000	NA	1	16.2	60400000	41.2
Arsenic, Inorganic	7440-38-2	11000000000	NA	0.6	36	8030000	256
Benz[a]anthracene	56-55-3	11000000000	NA	1	9.79	113000000	29.3
Benzo[a]pyrene	50-32-8	11000000000	NA	1	0.979	11300000	2.93
Benzo[b]fluoranthene	205-99-2	11000000000	NA	1	9.79	113000000	29.3
Benzo[k]fluoranthene	207-08-9	11000000000	NA	1	97.9	113000000	293
DDD	72-54-8	11000000000	NA	1	135	501000000	481
DDT	50-29-3	11000000000	NA	1	95.4	356000000	1130
Dibenz[a,h]anthracene	53-70-3	11000000000	NA	1	0.979	10400000	2.93

Notes:

NA indicates not applicable

Output generated 13APR2015:14:01:18

Attachment 4

Recreator PRG for Soil/Sediment

Chemical	CAS Number	Carcinogenic PRG TR=1.0E-5 (mg/kg)	Child Ingestion PRG HQ=1 (mg/kg)	Child Inhalation PRG HQ=1 (mg/kg)	Child Dermal PRG HQ=1 (mg/kg)	Noncarcinogenic Child PRG HI =1 (mg/kg)
Aroclor 1016	12674-11-2	333	25.6	NA	76.9	19.2
Aroclor 1260	11096-82-5	11.6	NA	NA	NA	NA
Arsenic, Inorganic	7440-38-2	31.60	183	19200000	1540	163.00
Benz[a]anthracene	56-55-3	7.34	NA	NA	NA	NA
Benzo[a]pyrene	50-32-8	0.734	NA	NA	NA	NA
Benzo[b]fluoranthene	205-99-2	7.34	NA	NA	NA	NA
Benzo[k]fluoranthene	207-08-9	73.4	NA	NA	NA	NA
DDD	72-54-8	106	730	NA	3080	590
DDT	50-29-3	88	183	NA	2560	170
Dibenz[a,h]anthracene	53-70-3	0.734	NA	NA	NA	NA

Notes:

NA indicates not applicable

Output generated 13APR2015:14:01:18

Attachment 4

Recreator PRG for Soil/Sediment

Chemical	CAS Number	Adult Ingestion PRG HQ=1 (mg/kg)	Adult Inhalation PRG HQ=1 (mg/kg)	Adult Dermal PRG HQ=1 (mg/kg)	Noncarcinogenic Adult PRG HI=1 (mg/kg)	Adjusted Ingestion PRG HQ=1 (mg/kg)
Aroclor 1016	12674-11-2	273	NA	461	171	84.4
Aroclor 1260	11096-82-5	NA	NA	NA	NA	NA
Arsenic, Inorganic	7440-38-2	1950	19200000	9220	1610.00	603
Benz[a]anthracene	56-55-3	NA	NA	NA	NA	NA
Benzo[a]pyrene	50-32-8	NA	NA	NA	NA	NA
Benzo[b]fluoranthene	205-99-2	NA	NA	NA	NA	NA
Benzo[k]fluoranthene	207-08-9	NA	NA	NA	NA	NA
DDD	72-54-8	7790	NA	18400	5470	2410
DDT	50-29-3	1950	NA	15400	1730	603
Dibenz[a,h]anthracene	53-70-3	NA	NA	NA	NA	NA

Notes:

NA indicates not applicable

Output generated 13APR2015:14:01:18

Attachment 4

Recreator PRG for Soil/Sediment

Chemical	CAS Number	Adjusted Inhalation PRG HQ=1 (mg/kg)	Adjusted Dermal PRG HQ=1 (mg/kg)	Noncarcinogenic Adjusted PRG HI =1 (mg/kg)
Aroclor 1016	12674-11-2	NA	214	60.5
Aroclor 1260	11096-82-5	NA	NA	NA
Arsenic, Inorganic	7440-38-2	19200000	4280	528.00
Benz[a]anthracene	56-55-3	NA	NA	NA
Benzo[a]pyrene	50-32-8	NA	NA	NA
Benzo[b]fluoranthene	205-99-2	NA	NA	NA
Benzo[k]fluoranthene	207-08-9	NA	NA	NA
DDD	72-54-8	NA	8570	1880
DDT	50-29-3	NA	7140	556
Dibenz[a,h]anthracene	53-70-3	NA	NA	NA

Notes:

NA indicates not applicable

Output generated 13APR2015:14:01:18

Appendix D

Cost Estimates



FINAL

January 2016

Appendix D
 Preliminary Cost Estimate
 Alternative 3 – Additional Deep Excavation
 Site 7-STP, Former NAS South Weymouth
 South Weymouth, Massachusetts

FS Level Cost Estimate

Alternative Description: This cost estimate has been developed for Alternative 3: Additional, deep soil excavation. This alternative includes the excavation and disposal of the remaining impacted soil above the PRGs. Soils will be excavated to a depth of 15 feet bgs. Excavation support and dewatering will be needed to achieve the desired depth. The excavated areas will be backfilled to grade. The site will be restored with topsoil and seed.

Item Description	Quantity	Units	Unit Price	Estimated Costs	Totals	Assumptions
CONSTRUCTION COSTS						
Preparation						
Submittals/Implementation Plans	1	LS	\$ 50,000.00	\$ 50,000.00		
Mobilization	1	LS	\$ 25,000.00	\$ 25,000.00		Previous Project Experience
Temporary Facilities	3	MONTH	\$ 500.00	\$ 1,500.00		RS Means with Engineer Adjustment
Survey & Utility Locations	1	LS	\$ 10,000.00	\$ 10,000.00		Previous Project Experience
Clearing and Grubbing	0.25	Acre	\$ 5,033.00	\$ 1,258.25		RS Means
Privacy Fencing/Erosion Controls	400	LF	\$ 25.00	\$ 10,000.00		RS Means with Engineer Adjustment
Subtotal					\$ 97,758.25	
Earthwork						
Excavation	2,310	CY	\$ 30.00	\$ 69,300.00		Contractor Input
Backfill (import)	1,427	CY	\$ 27.00	\$ 38,529.00		RS Means
Backfill (placement and compaction)	2,310	CY	\$ 18.00	\$ 41,580.00		Contractor Input
Excavation Support	14,180	SF	\$ 40.00	\$ 567,200.00		RS Means and Previous Project Experience
Transportation and Disposal - Landfill	2,426	Ton	\$ 60.00	\$ 145,554.00		Previous Project Experience
Dewatering and Water Treatment System - Mobe/Install	1	Each	\$ 150,000.00	\$ 150,000.00		RS Means - 200 Ft Header, well points 5 ft OC
Dewatering and Water Treatment System - Operation	15	Day	\$ 2,500.00	\$ 37,500.00		RS Means - 200 Ft Header, well points 5 ft OC
Subtotal					\$ 1,049,663.00	
Restoration						
Restore Grass	1,000	SY	\$ 4.08	\$ 4,080.00		RS Means
Subtotal					\$ 4,080.00	
Total Construction Costs						
					\$ 1,151,501.25	
NON CONSTRUCTION COSTS						
Design	1	LS	15%	\$ 172,725.19		Assumed costs as a percentage of the total construction costs. Percentages are industry standard adjusted for project complexity and size.
Permitting	1	LS	5%	\$ 57,575.06		
Project/Construction Management	1	LS	20%	\$ 230,300.25		
Environmental Monitoring/Confirmation Sampling	1	LS	10%	\$ 115,150.13		
Total Non Construction Costs					\$ 575,750.63	
Total Project Estimated Cost without Contingency					\$ 1,727,251.88	
Total Contingency (30%)					\$ 518,175.56	
Total Project Estimated Cost with Contingency					\$ 2,245,427.44	

The information in this cost estimate summary table is based on the best available information and data collected during the development of the remedial alternative. Changes in the cost elements are likely to occur as a result of new information and data collected during the design of the remedial alternative. Major changes may be documented in the form of a memorandum in the administrative record file, an explanation of significant differences, or a ROD amendment. This is an order-of-magnitude engineering cost estimate that is expected to be within -30 to +50 percent of the actual project cost.

Assumptions:

1. Impacted soil will be excavated to a depth of 20 feet bgs.
2. Excavation support is required and assumed to be sheet pile.
3. Sheet piles will be embedded 2 times the excavation depth.
4. Excavation support costed for perimeter of the entire excavation area.
5. A dewatering system will be needed to dewater the excavation and to treat the water prior to discharge.
6. Assumes treated groundwater will be discharged to sewers on-site.
7. Assumes 22 working days per calendar month.
8. Assumes that soils placed in the previously remediated areas will be excavated, stockpiled, and reused as backfill.
9. Duration of excavation and backfill work from RS Means (288 CY/day for excavation, 200 CY/day for backfill; performed independently) and material is 1.7 tons/CY.
10. Long-term monitoring and five year reviews will not be required upon completion of the remedy.



January 2016

Appendix D
 Preliminary Cost Estimate
 Alternative 2 – LUCs and LTM
 Site 7-STP, Former NAS South Weymouth
 South Weymouth, Massachusetts

FS Level Cost Estimate

Remedial Action Description: This cost estimate has been developed for Alternative 2: Soil Cover and Land Use Controls. As part of this remedy, Land Use Controls will be used to restrict access to the remaining impacted soil. Single Family residential Use will be restricted on the property. A site management plan will be in place to ensure that contaminated soil will be handled properly in the event that future construction work takes place in the impacted areas.

Item Description	Quantity	Units	Unit Price	Estimated Costs	Totals	Assumptions
LUC COSTS						
Preparation						
Submittals/Implementation Plans	1	LS	\$ 25,000.00	\$ 25,000.00		LUCIP/Institutional Control Plan/Site Management Plan
Property Easement/Deed Notice	1	LS	\$ 50,000.00	\$ 50,000.00		Restrict Residential Use
Longterm Monitoring Plan	1	LS	\$ 30,000.00	\$ 30,000.00		Includes wetland survey, groundwater and sediment monitoring.
Survey & Utility Locations	1	LS	\$ 10,000.00	\$ 10,000.00		Property Survey
Subtotal					\$ 115,000.00	
Total Construction Costs					\$ 115,000.00	
Long Term OM&M and Five-year Review Costs						
Groundwater and sediment sampling event (3 years)	3	per year	\$ 25,000.00	\$ 75,000.00		
Annual OM&M Cost	1	LS	\$ 3,000.00			Site Inspection and Certification
Total OM&M Costs — Present Worth Given a 30 Year Period, 4% Effective Rate	1	LS	\$ 168,240.00	\$ 168,240.00		
Cost to Produce a 5 Year Review	1	LS	\$ 20,000.00			
First 5 Year Review Costs — Present Worth Given a 5 Year Period, 4% Effective Rate	1	LS	\$ 16,438.00	\$ 16,438.00		
Second 5 Year Review Costs — Present Worth Given a 10 Year Period, 4% Effective Rate	1	LS	\$ 13,512.00	\$ 13,512.00		
Third 5 Year Review Costs — Present Worth Given a 15 Year Period, 4% Effective Rate	1	LS	\$ 11,106.00	\$ 11,106.00		
Fourth 5 Year Review Costs — Present Worth Given a 20 Year Period, 4% Effective Rate	1	LS	\$ 9,128.00	\$ 9,128.00		
Fifth 5 Year Review Costs — Present Worth Given a 25 Year Period, 4% Effective Rate	1	LS	\$ 7,502.00	\$ 7,502.00		
Sixth 5 Year Review Costs — Present Worth Given a 30 Year Period, 4% Effective Rate	1	LS	\$ 6,166.00	\$ 6,166.00		
Total Long Term OM&M and Five-Year Review Costs					\$ 307,092.00	
Total Project Estimated Cost without Contingency					\$ 422,092.00	
Total Contingency (15%)					\$ 63,313.80	
Total Project Estimated Cost with Contingency					\$ 485,405.80	

The information in this cost estimate summary table is based on the best available information and data collected during the development of the remedial alternative. Changes in the cost elements are likely to occur as a result of new information and data collected during the design of the remedial alternative. Major changes may be documented in the form of a memorandum in the administrative record file, an explanation of significant differences, or a ROD amendment. This is an order-of-magnitude engineering cost estimate that is expected to be within -30 to +50 percent of the actual project cost.

Assumptions:

1. OM&M Costs include five year reviews, annual site visit, and certification.
2. Project duration assumed to be 30 years.
3. Existing soil cover is sufficient for protectiveness.
4. The effective rate was selected as the 2014, 30 year rate referenced in Appendix C of Office of Management and Budget Circular A-94.