

**Fourth Five-Year Report  
For  
American Creosote Works, Inc. (Pensacola Plant)  
FLD008161994**

**Pensacola  
Escambia County, Florida**

September 2016


United States Environmental Protection Agency  
Region 4  
Atlanta, Georgia

Approved by:

Date:



9/29/16

 Franklin E. Hill, Director  
Superfund Division



11050380

**Fourth Five-Year Review Report  
for  
American Creosote Works, Inc. (Pensacola Plant)  
701 South J Street  
Pensacola  
Escambia County, Florida**

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## List of Acronyms

ACL	Alternate Concentration Limit
ACW	American Creosote Works, Inc.
ARAR	Applicable or Relevant and Appropriate Requirement
bgs	Below Ground Surface
BRA	Baseline Risk Assessment
CERCLA	Comprehensive Environmental Response, Compensation and Liability Act
CFR	Code of Federal Regulations
CIC	Community Involvement Coordinator
COC	Contaminant of Concern
cPAH	Carcinogenic Polynuclear Aromatic Hydrocarbon
DNAPL	Dense Non-Aqueous Phase Liquid
EPA	U.S. Environmental Protection Agency
ESD	Explanation of Significant Differences
FDEP	Florida Department of Environmental Protection
FDER	Florida Department of Environmental Regulation
FS	Feasibility Study
FYR	Five-Year Review
HI	Hazard Index
HQ	Hazard Quotient
IC	Institutional Control
LTRA	Long-Term Response Action
MCL	Maximum Contaminant Level
µg/L	Micrograms per Liter
mg/kg	Milligrams per Kilogram
NCP	National Oil and Hazardous Substances Pollution Contingency Plan
ng/kg	Nanograms per Kilogram
NPL	National Priorities List
NFWMD	Northwest Florida Water Management District
O&M	Operation and Maintenance
OU	Operable Unit
PAH	Polynuclear Aromatic Hydrocarbon
PCP	Pentachlorophenol
PRP	Potentially Responsible Party
PYC	Pensacola Yacht Club
RA	Remedial Action
RAO	Remedial Action Objective
RCRA	Resource Conservation and Recovery Act
RI	Remedial Investigation
ROD	Record of Decision
RPM	Remedial Project Manager
RSL	Regional Screening Level
SVOC	Semi-Volatile Organic Compound
SWCTL	State of Florida Surface Water Cleanup Target Levels
TCDD	Tetrachlorodibenzo-p-Dioxin
TEQ	Toxicity Equivalents
VISL	Vapor Intrusion Screening Level
VOC	Volatile Organic Compound



## Executive Summary

The American Creosote Works, Inc. (Pensacola Plant) Superfund site (the Site) is located in downtown Pensacola, Escambia County, Florida at 701 South J Street. From 1902 until 1981, a wood treating facility operated on the Site. During operation, American Creosote Works, Inc. (ACW) used creosote and pentachlorophenol (PCP) to treat wood. Improper management of these chemicals resulted in contamination of soil, sediment and groundwater.

The U.S. Environmental Protection Agency designated three operable units (OUs) for the Site's cleanup: OU1 addresses on-facility and select off-facility surface soil, subsurface soil, sludge and sediment contamination; OU2 addresses groundwater contamination; and OU3 addresses off-facility, dioxin-impacted soils. The EPA selected the remedy for OU1 in the 1985 and 1989 Records of Decision (RODs) and later modified those selections in the 1999 ROD Amendment. The selected remedy includes disposal of process area foundations and debris in an off-facility landfill; excavation of contaminated surface soils, subsurface soils and sediments from off-facility residential areas, the Pensacola Yacht Club (PYC) and the PYC Ditch; consolidation of excavated material onto the former facility property; restoration of excavated areas; construction of a surface cap over on-facility consolidated materials; installation of a surface water drainage system; groundwater monitoring for 30 years to evaluate effectiveness of containment system; and implementation of institutional controls. To date, the OU1 remedy has been partially implemented; it will be completed based on a planned sitewide ROD.

The EPA selected the remedy for OU2 in a 1994 ROD, which included two phases: Dense Non-Aqueous Phase Liquid (DNAPL) recovery and groundwater treatment. In 2012, the EPA issued a remedy failure notice for the DNAPL recovery. The EPA plans to issue an interim ROD to address containment of source materials and a subsequent final sitewide ROD to address residual contamination.

The EPA has not selected the remedy for OU3, so OU3 is not subject to this five-year review (FYR). A final remedy for OU3 will be selected in the planned sitewide ROD.

The triggering action for this statutory review is the signing of the Site's third FYR on September 19, 2011.

The remedy at OU1 is expected to be protective of human health and the environment upon completion. In the interim, remedial activities completed to date have adequately addressed all exposure pathways that could result in unacceptable risks in these areas. The former facility area is fenced, and warning signage is in place. The EPA remediated the PYC Ditch and returned it to unrestricted use. The OU1 off-facility soil confirmation samples indicate that there are still exceedances of COCs; these are on vacant, non-residential areas and are expected to be addressed in the final sitewide ROD. A screening-level risk evaluation also indicated that several soil cleanup goals exceeded acceptable risks, and there are currently no OU1 land use restrictions; however, it is expected that the EPA will address these outstanding issues in the final sitewide ROD.

The remedy at OU2 is currently not protective, but it is expected to be protective of human health and the environment upon completion of the final sitewide ROD. In the interim, remedial activities completed to date have addressed all exposure pathways that could result in unacceptable risks in these areas. The amount of free product was reduced by the groundwater treatment system and there are ICs in place to prevent anyone from installing a drinking water well in the area. OU2 will be protective after evaluating the vapor intrusion pathway using multiple lines of evidence and implementing a new remedy

to address the remaining groundwater contamination. It is expected that the EPA will address these outstanding issues in the final sitewide ROD.

## Five-Year Review Summary Form

SITE IDENTIFICATION		
Site Name: American Creosote Works, Inc. (Pensacola Plant)		
EPA ID: FLD008161994		
Region: 4	State: FL	City/County: Pensacola/ Escambia County
SITE STATUS		
NPL Status: Final		
Multiple OUs? Yes	Has the site achieved construction completion? No	
REVIEW STATUS		
Lead agency: EPA		
Author name: Peter Thorpe (EPA), Sabrina Foster and Kelly MacDonald (Skeo)		
Author affiliation: EPA and Skeo		
Review period: 11/17/2015 – 09/19/2016		
Date of site inspection: 03/29/2016		
Type of review: Statutory		
Review number: 4		
Triggering action date: 09/19/2011		
Due date ( <i>five years after triggering action date</i> ): 09/19/2016		

## Five-Year Review Summary Form (continued)

### Issues/Recommendations

#### OU(s) without Issues/Recommendations Identified in the Five-Year Review:

None.

#### Issues and Recommendations Identified in the Five-Year Review:

OU(s): 1 & 2	<b>Issue Category: Remedy Performance</b>			
	<b>Issue:</b> The OU1 remedy has not been fully implemented and the EPA has declared a remedy failure of the groundwater extraction and treatment system for OU2.			
	<b>Recommendation:</b> Evaluate cleanup options/cleanup levels and implement a final sitewide remedy that addresses remaining cleanup needs for all OUs.			
<b>Affect Current Protectiveness</b>	<b>Affect Future Protectiveness</b>	<b>Implementing Party</b>	<b>Oversight Party</b>	<b>Milestone Date</b>
Yes	Yes	EPA	EPA	09/30/2017

OU(s): 2	<b>Issue Category: Remedy Performance</b>			
	<b>Issue:</b> The screening-level vapor intrusion evaluation indicates additional information is needed to determine if this exposure pathway is complete.			
	<b>Recommendation:</b> Conduct a more detailed vapor intrusion evaluation utilizing multiple lines of evidence to determine if any additional response action is warranted.			
<b>Affect Current Protectiveness</b>	<b>Affect Future Protectiveness</b>	<b>Implementing Party</b>	<b>Oversight Party</b>	<b>Milestone Date</b>
Yes	Yes	EPA	EPA	09/30/2017

## Protectiveness Statements

*Operable Unit:*

1

*Protectiveness Determination:*

Partially Protective

*Protectiveness Statement:*

The remedy at OU1 is expected to be protective of human health and the environment upon completion. In the interim, remedial activities completed to date have adequately addressed all exposure pathways that could result in unacceptable risks in these areas. The former facility area is fenced, and warning signage is in place. The EPA remediated the PYC Ditch and returned it to unrestricted use. The OU1 off-facility soil confirmation samples indicate that there are still exceedances of COCs; these are on vacant, non-residential areas and are expected to be addressed in the final sitewide ROD. A screening-level risk evaluation also indicated that several soil cleanup goals exceeded acceptable risks, and there are currently no OU1 land use restrictions; however, it is expected that the EPA will address these outstanding issues in the final sitewide ROD.

*Operable Unit:*

2

*Protectiveness Determination:*

Not Protective

*Addendum Due Date:*

09/30/2017

*Protectiveness Statement:*

The remedy at OU2 is currently not protective, but it is expected to be protective of human health and the environment upon completion of the final sitewide ROD. In the interim, remedial activities completed to date have addressed all exposure pathways that could result in unacceptable risks in these areas. The amount of free product was reduced by the groundwater treatment system and there are ICs in place to prevent anyone from installing a drinking water well in the area. OU2 will be protective after evaluating the vapor intrusion pathway using multiple lines of evidence and implementing a new remedy to address the remaining groundwater contamination. It is expected that the EPA will address these outstanding issues in the final sitewide ROD.

## Environmental Indicators

- Current human exposures at the Site are not under control.
- Current groundwater migration is under control.

## Are Necessary Institutional Controls in Place?

☐ All ☒ Some ☐ None

## Has EPA Designated the Site as Sitewide Ready for Anticipated Use?

☐ Yes ☒ No

## Has the Site Been Put into Reuse?

☐ Yes ☒ No

# **Fourth Five-Year Review Report for American Creosote Works, Inc. (Pensacola Plant) Superfund Site**

## **1.0 Introduction**

The purpose of a five-year review (FYR) is to evaluate the implementation and performance of a remedy in order to determine if the remedy will continue to be protective of human health and the environment. FYR reports document FYR methods, findings and conclusions. In addition, FYR reports identify issues found during the review, if any, and document recommendations to address them.

The U.S. Environmental Protection Agency prepares FYRs pursuant to the Comprehensive Environmental Response, Compensation and Liability Act (CERCLA) Section 121 and the National Oil and Hazardous Substances Pollution Contingency Plan (NCP). CERCLA Section 121 states:

If the President selects a remedial action that results in any hazardous substances, pollutants, or contaminants remaining at the site, the President shall review such remedial action no less often than each 5 years after the initiation of such remedial action to assure that human health and the environment are being protected by the remedial action being implemented. In addition, if upon such review it is the judgment of the President that action is appropriate at such site in accordance with section [104] or [106], the President shall take or require such action. The President shall report to the Congress a list of facilities for which such review is required, the results of all such reviews, and any actions taken as a result of such reviews.

The EPA interpreted this requirement further in the NCP, 40 Code of Federal Regulations (CFR) Section 300.430(f)(4)(ii), which states:

If a remedial action is selected that results in hazardous substances, pollutants, or contaminants remaining at the site above levels that allow for unlimited use and unrestricted exposure, the lead agency shall review such action no less often than every five years after initiation of the selected remedial action.

Skeo, an EPA Region 4 contractor, conducted the FYR and prepared this report regarding the remedy implemented at the American Creosote Works, Inc. (Pensacola Plant) Superfund site (the Site) in Pensacola, Escambia County, Florida. The EPA's contractor conducted this FYR from November 2015 to September 2016. The EPA is the lead agency for developing and implementing the remedy for the Superfund-financed cleanup at the Site. The Florida Department of Environmental Protection (FDEP), as the support agency representing the State of Florida, has reviewed all supporting documentation and provided input to the EPA during the FYR process.

This is the fourth FYR for the Site. The triggering action for this statutory review is the previous FYR. The FYR is required because hazardous substances, pollutants or contaminants remain at the Site above levels that allow for unlimited use and unrestricted exposure. The Site consists of three operable units (OUs): on-facility and select off-facility soil, sediment and sludge contamination (OU1), groundwater contamination (OU2), and off-facility dioxin soil contamination (OU3). A remedy has not been selected for OU3; therefore, OU3 will not be subject to this FYR. This FYR report will review remedial actions and performance at OU1 and OU2.

## 2.0 Site Chronology

Table 1 lists the dates of important events for the Site.

**Table 1: Chronology of Site Events**

Event	Date
Earliest documented spill from American Creosote Works, Inc. (ACW)	1978
Spill from ACW due to flooding	March 1979
Initial City of Pensacola discovery of creosote contamination in groundwater	January 1981
United States Geological Survey installed groundwater monitoring wells	July 1981
ACW ceased facility operations and filed for bankruptcy	May 1982
The EPA proposed the Site to the National Priorities List (NPL)	December 30, 1982
Sitewide removal action start date	February 16, 1983
Sitewide removal action completion date	February 19, 1983
Sitewide removal action start date	April 7, 1983
Sitewide removal action completion date	April 8, 1983
The EPA initiated OU1 combined remedial investigation and feasibility study (RI/FS)	August 18, 1983
The EPA finalized the Site on the NPL	September 8, 1983
Immediate removal action performed by the EPA to dewater the main and overflow ponds and stabilize and cap the sludge resulting from the ponds	September 20, 1983
Immediate removal action completed	November 20, 1983
State of Florida conducted site inspection	June 1, 1984
The EPA completed OU1 combined RI/FS; The EPA issued OU1 Record of Decision (ROD)	September 30, 1985
Sitewide removal action start date (railroad spur on right of way)	November 18, 1985
Sitewide removal action completion date (railroad spur on right of way)	April 18, 1986
The EPA issued Consent Decree	August 4, 1988
The EPA conducted post-RI	1988
The EPA completed post-FS and OU1 baseline risk assessment (BRA)	1989
The EPA initiated first OU1 remedial design (RD)	September 25, 1989
The EPA completed revised OU1 ROD and initiated second OU1 RD	September 28, 1989
The EPA initiated OU2 combined RI/FS	November 28, 1989
The EPA initiated OU1 treatability study	February 15, 1990
The EPA issued an Explanation of Significant Differences (ESD) to the 1989 OU1 ROD	August 1990
The EPA completed first OU1 RD	August 13, 1990
The EPA initiated OU1 remedial action (RA)	September 10, 1990
The EPA completed OU1 treatability study	September 11, 1990
Second OU1 RD completed	February 28, 1992
The EPA completed OU1 ecological risk assessment and OU1 health risk assessment	August 2, 1993
The EPA completed OU2 combined RI/FS and issued OU2 ROD	February 3, 1994
The EPA initiated OU2 RD	April 18, 1994
OU2 RD completed	May 15, 1997
The EPA initiated OU2 RA	September 11, 1997
The EPA completed OU1 ROD Amendment	May 21, 1999
The EPA initiated third OU1 RD (additional characterization of contamination)	September 28, 1999
The EPA completed OU2 RA; The EPA initiated OU2 long-term response action	September 30, 1999

Event	Date
The EPA completed third OU1 RD (additional characterization of contamination)	September 22, 2000
The EPA completed first FYR	September 25, 2001
OU1 removal action initiated by the EPA	February 24, 2003
OU1 removal action completed	March 5, 2003
Hurricane Ivan disabled OU2 remedy	September 16, 2004
Fourth OU1 RD (soil and sediment excavation) initiated by the EPA	September 24, 2004
OU2 remedy re-initiated by the EPA	December 2005
The EPA initiated OU2 RD	August 14, 2006
The EPA completed the second FYR	September 21, 2006
OU3 combined RI/FS initiated by the EPA	April 6, 2007
Fourth OU1 RD (soil and sediment excavation) completed	November 25, 2009
OU1 RA (southeast drainage ditch) initiated by the EPA	January 11, 2010
OU1 RA (southeast drainage ditch) completed	January 29, 2010
The EPA completed the third FYR	September 19, 2011
The EPA shut down the OU2 dense non-aqueous phase liquid (DNAPL) extraction system	December 2011
The City of Pensacola rerouted the stormwater drainage from the Pensacola Yacht Club (PYC) ditch	August 2012
The EPA completed sitewide FS	November 2012
The EPA issued OU2 remedy failure letter	December 2012
The EPA initiated cleanup of the PYC Ditch	June 1, 2016
The EPA completed cleanup of the PYC Ditch	August 2016

## 3.0 Background

### 3.1 Physical Characteristics

The Site is located in downtown Pensacola, Escambia County, Florida at 701 South J Street. It is about 600 yards north of Pensacola Bay and Bayou Chico (Figure 1). As of 2010, the Census population estimate within 1 mile of the Site was 3,503. The Site includes several main areas: the former facility area, the Pensacola Yacht Club (PYC) ditch and the Southeast Ditch (Figures 1 and 2). Before cleanup, a railroad spur, plant buildings, equipment and surface impoundments occupied the 18-acre former facility area, but it is now cleared, vacant and fenced off. The former facility area now contains the former groundwater treatment shed, two empty aboveground storage tanks (previously used to hold extracted dense non-aqueous phase liquid (DNAPL)), and an on-site office trailer. The EPA consolidated contaminated soil and debris under a black fabric liner and clay cap cover within the fenced former facility area (Figure 2). The PYC Ditch formerly drained surface water from streets and storm drains into Pensacola Bay. In 2012, the City of Pensacola redirected stormwater to flow via underground piping under J Street instead. The EPA remediated the PYC Ditch from June to August 2016 and left a level grassy area. The Southeast Ditch is currently a flat, grassy unfenced area. The Site's remedy has been divided into three OUs: OU1 addresses on-facility and select off-facility surface soil, subsurface soil, sludge and sediment contamination (Figure 2); OU2 addresses groundwater contamination; and OU3 will address off-facility, dioxin-impacted soils.

There are three major aquifers in the site area: the shallow Sand-and-Gravel Aquifer and the deep upper and lower limestones of the Floridan Aquifer. The Pensacola Clay, a thick section of relatively impermeable clay, separates the Sand-and-Gravel Aquifer from the upper Floridan Aquifer.



The Sand-and-Gravel Aquifer is a shallow aquifer of sand and gravel with interbedded layers of silt and clay; it is recharged by rainfall with relatively high infiltration rates because of the sandy aquifer and overlying soils. The direction of groundwater flow is south, with discharge to Pensacola Bay.

### **3.2 Land and Resource Use**

American Creosote Works, Inc. (ACW) operated as a wood treating facility on the Site from 1902 until 1981. The company filed for bankruptcy in 1982. Most of the former facility area has been vacant and unused since ACW ceased operations. The City of Pensacola filed a tax deed application for the former facility area in May 2016. There is a privately-owned parcel in the southwestern portion of the former facility area that was used for temporary storage, but is now vacant. According to the Escambia County Property Appraiser GIS website, most of the former facility area is zoned as M-2, Heavy Industrial, but the privately-owned parcel is zoned R-2, Residential/Office.<sup>1</sup> The PYC parcel is also zoned R-2. The City of Pensacola changed the future anticipated land use to recreational use.

The City of Pensacola completed a reuse plan for the Site in 2003 and EPA updated that plan in 2010. It is anticipated that the former facility area will be reused. The EPA is currently drafting an interim Record of Decision (ROD) to address contaminant source areas and anticipates finalizing it in fall 2016. The EPA will then select a subsequent ROD to address remaining contamination. Because remedial components may change, reuse options may be revisited after implementation of the revised remedy.

The Site is in a primarily residential area. There is also commercial development near the Site, including a lighting manufacturer immediately north of the Site. Two recreational facilities, the PYC and the Sanders Beach - Corinne Jones Resource Center, are located southwest and south of the Site, respectively.

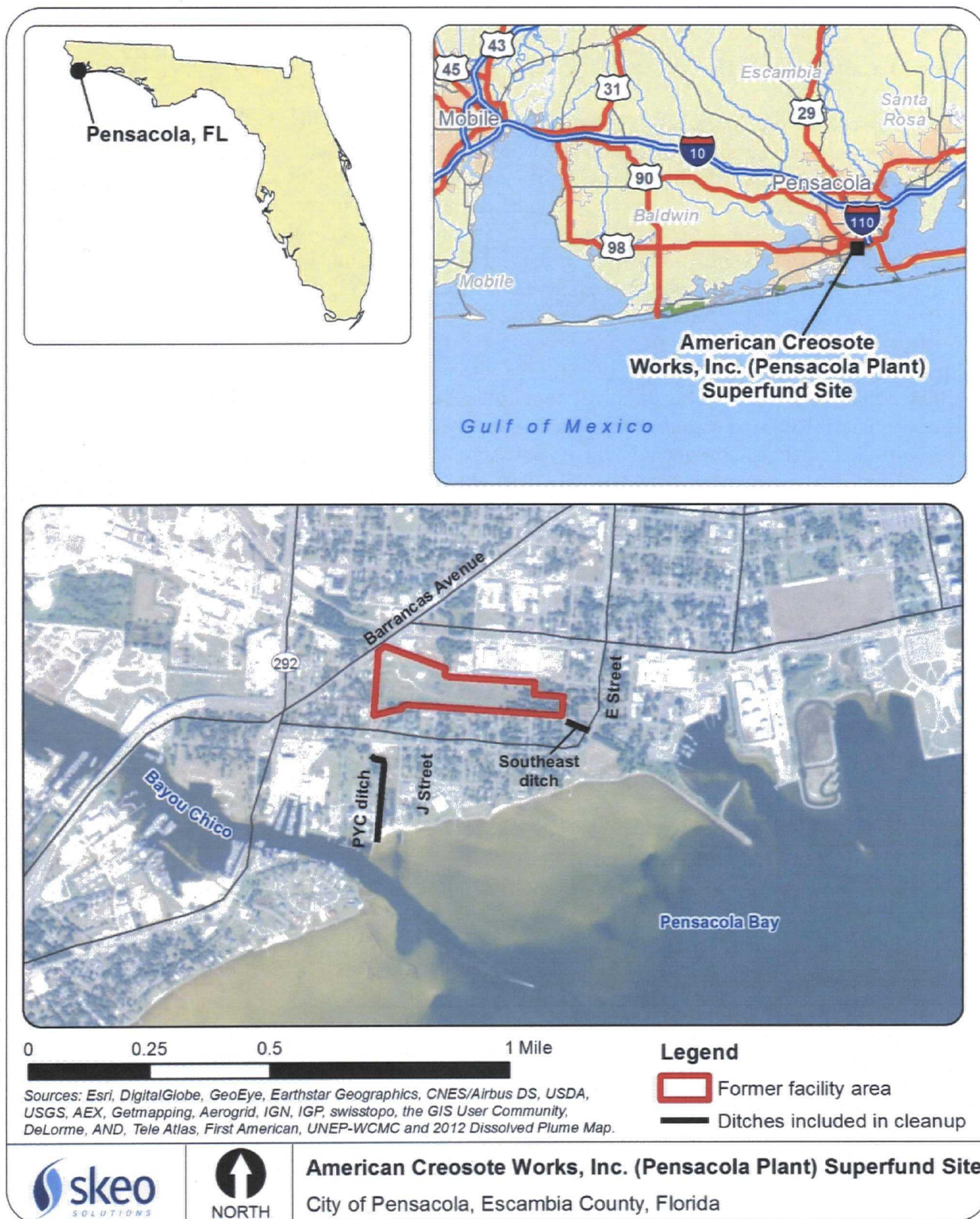
The Sand-and-Gravel Aquifer is the primary source of public water for the area, including the City of Pensacola. Area residents are connected to the city water supply. According to the Emerald Coast Utility Authority in 2016, their nearest public well is about 1.1 miles north of the Site. The EPA performed a well survey in 2013 that identified several active, inactive and possible irrigation wells on residential properties downgradient of the former facility area.<sup>2</sup>

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<sup>1</sup> <http://www.escpa.org/CAMAGIS/>

<sup>2</sup> Possible wells are wells that were previously identified, but could not be verified during this survey.

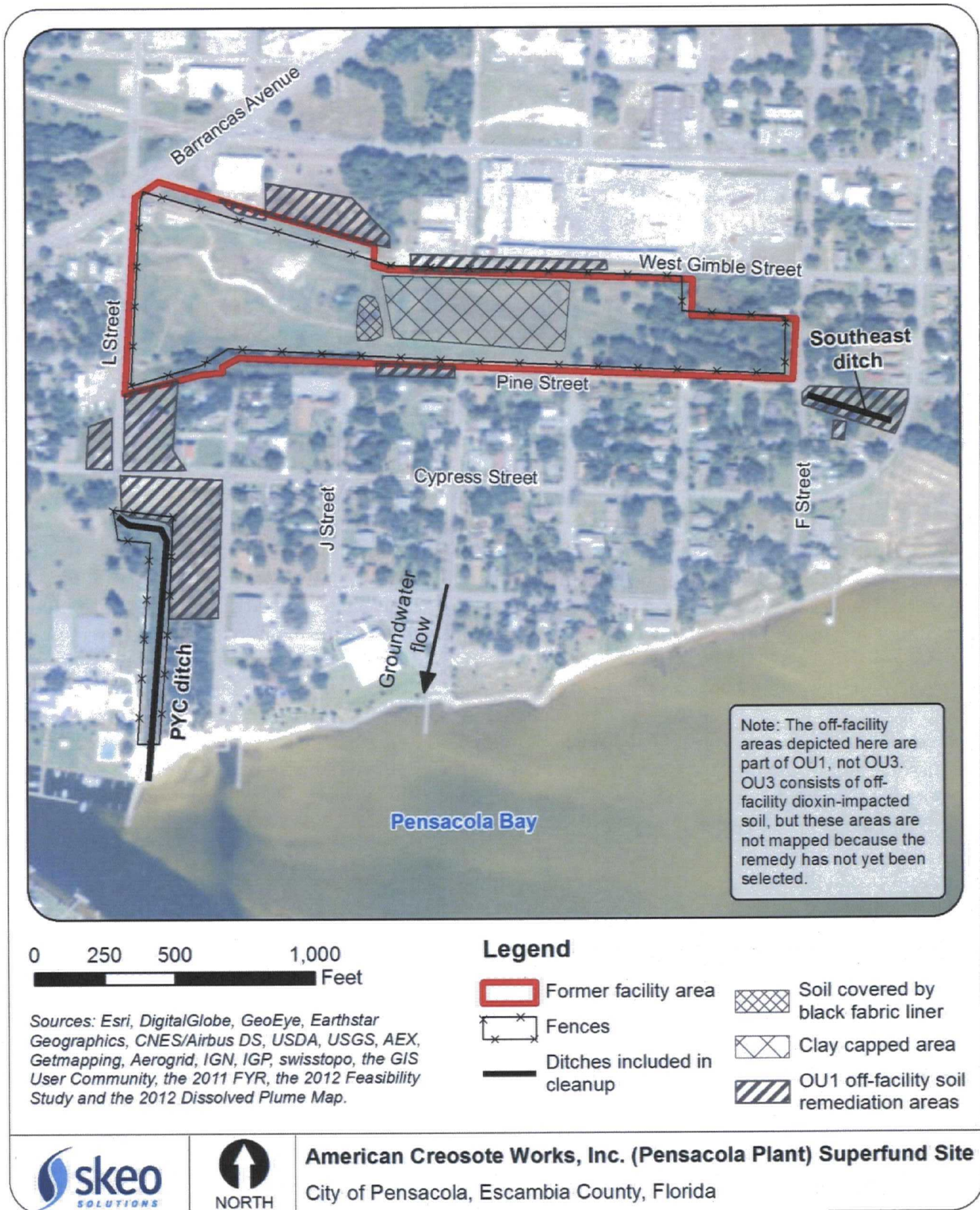
**Figure 1: Site Location Map**



Disclaimer: This map and any boundary lines within the map are approximate and subject to change. The map is not a survey. The map is for informational purposes only regarding the EPA's response actions at the Site.



**Figure 2: Detailed Site Map**



Disclaimer: This map and any boundary lines within the map are approximate and subject to change. The map is not a survey. The map is for informational purposes only regarding the EPA's response actions at the Site.

### **3.3 History of Contamination**

Before 1950, ACW used creosote to treat wood poles at the former facility. Beginning in 1950, ACW used pentachlorophenol (PCP) to treat wood. The use of PCP led to dioxin contamination at the Site; dioxins are a common impurity in commercial-grade PCP.

There were four surface impoundments in the western portion of the former facility area. The larger impoundments, the main pond and the overflow pond, were used for disposal of process wastes. Before about 1970, wastewaters in these ponds were allowed to overflow through a spillway and follow a drainage course on the PYC property into Pensacola Bay and Bayou Chico. In subsequent years, wastewater was periodically drawn off of the larger impoundments and collected in the smaller railroad impoundment and holding pond, which were south and southeast, respectively, of the main and overflow ponds. Wastewater was also discharged to a designated "spillage area" on the northeast portion of the former facility area. Additional discharges occurred during heavy rainfall and flooding when the ponds overflowed the containment dikes.

### **3.4 Initial Response**

After documented releases from the ACW property in 1978 and 1979, the Florida Department of Environmental Regulation (FDER, predecessor to the current FDEP) began monitoring the Site.

In 1981, FDER issued a notice of violation for corrective action, alleging soil and groundwater contamination. FDER subsequently entered an Administrative Order on Consent for ACW to address violations and construct a wastewater treatment system. The United States Geological Survey installed nine groundwater monitoring wells in the site area; samples identified a contaminant plume moving from the facility toward Pensacola Bay. In April 1981, FDER filed for enforcement and civil penalties against ACW for non-compliance. ACW filed for organizational bankruptcy in May 1982.

In 1984, the bankruptcy court presented a final court stipulation that if the former facility area was leased or sold, half of the proceeds would go to the EPA and FDER and half would go to the Savings Life Insurance Company, which held a \$675,000 mortgage on the property. The stipulation was finalized, and the Consent Decree was entered by the court in August 1988.

The EPA proposed the Site for listing on the National Priorities List (NPL) on December 30, 1982. The EPA conducted a site investigation in 1983 that found site-related contamination in groundwater, on-facility soils and the PYC drainage ditch. The major contaminants found were polynuclear aromatic hydrocarbons (PAHs), which are common creosote constituents.

The Site was finalized on the NPL on September 8, 1983. Because of the threat to human health and the environment by frequent overflows from the impoundments, the EPA Region 4 Emergency Response and Control Section and FDER performed an emergency cleanup during September and October 1983. The immediate cleanup work included treatment and discharge of wastewater in the two large impoundments; stabilization of contaminated soil and sludge; placement of a temporary clay cap; and revegetation. FDER installed a fence and warning signs around the former facility area. In 1985, the EPA sent a notice letter to Burlington Northern Railroad requesting removal of a railroad spur line along their right of way on the former facility area; the railroad company completed the removal in 1986.

### 3.5 Basis for Taking Action

The EPA performed separate baseline risk assessments (BRAs) in 1989 and 1993, respectively.<sup>3</sup> The 1989 BRA evaluated risks associated with on-facility and off-facility (residential) surface soil and PYC Ditch sediment. The 1993 BRA evaluated risks associated with subsurface soil, solidified material (stabilized sludge) and groundwater.

The 1989 BRA evaluated risks posed by potential exposure to surface soil contamination from zero to three feet bgs in several areas. Excess lifetime cancer risks associated with ingestion and dermal exposure to dioxins and cPAHs in surface soil by a trespasser on the former facility property exceeded the EPA's acceptable risk range. The 1989 BRA indicated the potential for non-carcinogenic health risks on the former facility property and in the Yachtsman Cove Condominium block (south of the facility area) due to ingestion and dermal exposure to dioxins and dibenzofurans. The 1989 BRA also included an ecological risk evaluation for Pensacola Bay and Bayou Chico; sediment data suggested that polynuclear aromatic hydrocarbon (PAH) and carcinogenic polynuclear aromatic hydrocarbon (cPAH) contamination in the PYC Ditch and its delta represented a potentially unacceptable risk to human and environmental receptors.

The EPA completed a 1993 BRA to evaluate subsurface soil, solidified material (stabilized sludge) and groundwater. The BRA evaluated exposure to contaminated groundwater through inhalation, ingestion and dermal contact for both on-facility and off-facility child and adult residents. The non-carcinogenic hazard quotients (HQs) for all residents were above the acceptable limit for all pathways. The excess lifetime cancer risks exceeded the acceptable range for ingestion and dermal contact with groundwater for all residents; these risks are primarily associated with PAHs in the groundwater. The carcinogenic risk from inhalation of contaminated groundwater was acceptable for on-facility residents, but unacceptable for off-facility residents.

The 1993 BRA also discussed environmental risks; the PYC Ditch had received surface runoff from the former facility area, and it was thought that contaminated groundwater may be discharging to the ditch. For this reason, the EPA developed cleanup goals to provide protection of surface water potentially impacted by discharges of contaminated groundwater.

### 4.0 Remedial Actions

In accordance with CERCLA and the NCP, the overriding goals for any remedial action are protection of human health and the environment and compliance with applicable or relevant and appropriate requirements (ARARs). A number of remedial alternatives were considered for the Site, and final selection was made based on an evaluation of each alternative against nine evaluation criteria that are specified in Section 300.430(e)(9)(iii) of the NCP. The nine criteria are:

1. Overall Protection of Human Health and the Environment
2. Compliance with ARARs
3. Long-Term Effectiveness and Permanence

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<sup>3</sup> Before 1994, the EPA defined OU1 as surface soil contamination from 0 to 3 feet below ground surface (bgs) and OU2 as contaminated groundwater, subsurface soil and solidified sludge from the former impoundments. In 1994, the EPA redefined OU1 to address all solid media and OU2 to address groundwater exclusively. However, documents in the Site's Administrative Record prior to 1994, including the risk assessments, reflect the former definition of OUs. For this reason, the BRAs are discussed by media rather than by OU.

4. Reduction of Toxicity, Mobility or Volume through Treatment
5. Short-Term Effectiveness
6. Implementability
7. Cost
8. State Acceptance
9. Community Acceptance

#### **4.1 Remedy Selection**

The Site's cleanup is being addressed in three OUs: OU1 addresses on-facility and select off-facility surface soil, subsurface soil, sludge and sediment contamination (Figure 2); OU2 addresses groundwater contamination; and OU3 will address off-facility, dioxin-impacted soils. The EPA established OU3 in 2007 and has not selected its remedy, but the EPA is considering excavation for off-facility areas not addressed under OU1. The EPA declared the DNAPL recovery system a failure in 2010, but there has been groundwater monitoring and institutional controls (Groundwater Delineated Area) in place since failure was declared. The EPA is currently drafting an interim ROD to address source area DNAPL contamination; completion of this interim ROD is anticipated for fall 2016. This ROD will determine a new remedy for OU2. After issuance of the interim ROD, the EPA will issue a final ROD to address residual groundwater contamination, as well as to combine the final remediation of OU1 and OU3 so contaminated OU3 soil and contaminated OU1 media can be placed under the same cap on the former facility area.

##### OU1

The EPA signed a ROD for OU1 in September 1985. FDEP did not concur with the remedy, citing the need to evaluate additional treatment technologies. In 1989, the EPA issued a revised OU1 ROD to address contaminated surface soil through excavation, bioremediation and on-facility disposal. The 1989 ROD called for treatability studies to determine the most effective biological treatment. From studies completed in 1990, the EPA determined that the 1989 remedy would not adequately address surface soil contamination. In 1990, the EPA issued an Explanation of Significant Differences (ESD) to add cleanup activities necessary before remedy implementation. These activities included site preparation, fence repair, drum sampling analysis and disposal, demolition of buildings and removal of debris, well closure, cap repair and revegetation.

In 1999, the EPA issued an OU1 ROD Amendment with a remedial action objective (RAO) to control risks posed by ingestion, inhalation and direct contact with soil, sludge and sediment contamination through excavation, treatment and containment. The remedy's goal was to isolate the Site as a source of groundwater and surface water contamination and reduce the risks associated with exposure to contaminated materials.

The remedy included the following remedial components:

- Demolition, decontamination and disposal of process area foundations and debris in an off-site landfill.
- Excavation of contaminated surface and subsurface soil above the EPA's remedial goals in residential areas and the PYC; consolidation of these materials on the ACW property.
- Backfill of excavated areas with clean fill; regrading and landscaping of disturbed areas.

- Excavation of contaminated sediment in the PYC drainage ditch exceeding the EPA's remedial goal (to a maximum depth of 3 feet) and consolidation of this material on the ACW property.
- Regrading, revegetation and restoration of disturbed areas of the PYC Ditch.
- Construction of a surface cap (in accordance with Resource Conservation and Recovery Act (RCRA) closure requirements under 40 CFR 264.228(a)(2)) over consolidated materials and contaminated areas of the Site.
- Installation of drainage channels, a stormwater retention pond, and other drainage improvements to manage stormwater runoff from the Site.
- Repair or replacement of existing security fence around the Site as needed.
- Periodic sampling of sediment in the PYC drainage ditch and regular mowing and maintenance of the surface cap on the Site.
- Groundwater monitoring as needed to evaluate the effectiveness of the containment system for 30 years.
- Future uses of the property would also be limited by the application of deed restrictions.

The 1999 OU1 ROD Amendment selected cleanup goals for 16 contaminants of concern (COCs) in surface soil, subsurface soil, sediment and sludge (Table 2).

**Table 2: Soil, Sediment and Sludge COC Cleanup Goals**

Soil, Sediment and Sludge COCs	Subsurface Soil/Sludge (mg/kg)	Surface Soil (mg/kg)		PYC Sediment (mg/kg)
		On-Facility	Off-Facility residential	
2,3,7,8-tetrachlorodibenzo-p-dioxin (expressed as TCDD Toxic Equivalents) (TEQ))	-	0.0025	0.001	-
Acenaphthene	876	-	-	-
Anthracene	145	-	-	-
Benzo(a)anthracene	740	-	-	-
Benzo(a)pyrene	-	-	0.33	-
Benzo(b)fluoranthene	153,065	-	-	-
Benzo(k)fluoranthene	153,065	-	-	-
Chrysene	2,090	-	-	-
Dibenzofuran	24	-	-	-
Fluoranthene	1,450	-	-	-
Fluorene	78	-	-	-
Naphthalene	235	-	-	-
Pentachlorophenol (PCP)	138,000	30	-	-
Phenanthrene	148	-	-	-
Pyrene	1,070	-	-	-
Total Carcinogenic PAHs (cPAHs) <sup>a</sup>	-	50	-	0.655
<i>Notes:</i> Source: Table 2, 1999 OU1 ROD Amendment. mg/kg= milligrams per kilogram <sup>a</sup> Total Carcinogenic PAHs include Benzo(a)Anthracene, Benzo(b&k)Fluoranthene, Benzo(a)Pyrene, Chrysene, Dibenz(a,h)Anthracene and Indeno(1,2,3-c,d)Pyrene.				



## OU2

The EPA issued a remedy failure letter for the DNAPL recovery remedy in 2012 and is currently developing a sitewide interim ROD for containing source contamination. The EPA determined that the selected remedy for OU2 was not achieving the groundwater RAOs within a reasonable timeframe. Some of the reasons supporting this decision to halt the selected remedy and explore a new remedial approach include:

1. Remedy implementation issues due to incompatible materials, such as extraction tubing that cracked under continued exposure to the creosote being extracted;
2. Extensive damage to the OU2 remedial system from Hurricane Ivan in September 2004, which resulted in minimal system operation until repairs could be completed in June 2007;
3. Incorrect characterization of DNAPL source area during the remedial design phase means that the selected remedial system is not designed to achieve hydraulic control of the entire estimated DNAPL plume area; and
4. System operation yielded a recovery volume of DNAPL well below recovery estimates; the system had been designed to recover the majority of DNAPL source material within five years, but the actual rate of recovery would take an estimated 80 years to capture all 1,000,000 recoverable gallons of DNAPL.

The EPA will subsequently select a new final remedy for residual groundwater contamination. Since the remedy failure letter, the EPA has continued groundwater monitoring, and ICs are in place.

The EPA selected the current groundwater remedy in the 1994 OU2 ROD. The remedy's goals were to manage contaminated groundwater migration, to prevent statistically significant increases in surface water contaminant concentrations resulting from groundwater discharges, and to prevent the use of groundwater through institutional controls. The RAOs were:

- Prevent ingestion of groundwater with concentrations representing a total excess cancer risk greater than  $1 \times 10^{-6}$ , a non-carcinogenic hazard index (HI) greater than 1, or concentrations that exceed federal and state ARARs.
- Managing pollutant migration beyond the existing limits of the contaminant plume.

The OU2 remedy included two phases. The objective of Phase I was to reduce source material contributing to groundwater contamination and consisted of the following remedial components:

- Enhanced DNAPL recovery using a combination of water, alkaline, surfactant and polymer flooding.
- DNAPL/water separation and groundwater treatment.
- Off-site transport and recycling of recovered DNAPL and reinjection of treated groundwater.
- Periodic groundwater monitoring to evaluate DNAPL recovery efficiency.
- Implementation of state-imposed well permit restrictions.

Based on Phase I groundwater monitoring data, the EPA would determine whether to continue enhanced DNAPL recovery or to implement Phase II. The objective of Phase II was to address residual groundwater contamination to prevent migration of contamination to surface water. Phase II consisted of the following remedial components:



- Groundwater removal via extraction wells.
- On-facility treatment of contaminated groundwater.
- Nutrient and hydrogen peroxide additions to treated water.
- ReInjection of treated groundwater, with nutrients, into the contaminated portion of the aquifer to stimulate in-situ biological treatment of groundwater.
- Dewatering of waste sludge from the treatment process and disposal at an off-site RCRA landfill.
- Periodic groundwater and surface water monitoring to evaluate treatment system performance.

In the 1994 OU2 ROD, the EPA determined that since residents and businesses in the site area are connected to the city water supply, which draws groundwater from upgradient of the Site, remediation of groundwater to health-based levels (e.g., maximum contaminant levels (MCLs) and risk-based remedial goals) was not necessary. Instead, the EPA selected alternate concentration limits (ACLs) as cleanup goals to protect surface water potentially impacted by discharges of contaminated groundwater (Table 3).

**Table 3: OU2 Groundwater COC Cleanup Goals**

Groundwater COC	Cleanup Goal (µg/L)
Acenaphthene	9,000
Benzene	91
Dibenzofuran	44
Fluoranthene	1,500
Naphthalene	21,900
PCP	296,000
Total cPAHs <sup>a</sup>	1,100
<i>Notes:</i> Source: Table 8, 1994 OU2 ROD. µg/L = micrograms per liter <sup>a</sup> Total Carcinogenic PAHs include Benzo(a)Anthracene, Benzo(b&k)Fluoranthene, Benzo(a)Pyrene, Chrysene, Anthracene, Fluorene, Phenanthrene and Pyrene.	

### OU3

The OU3 remedy has not been selected but will be part of the final sitewide ROD. The OU3 portion of the remedy will address off-facility mainly residential soils contaminated with dioxin and not previously remediated under OU1.

## **4.2 Remedy Implementation**

The interim ROD is expected to provide a new remedy for OU2. The EPA's schedule proposes signing the interim ROD in fall 2016, remedial design from fall 2016 to fall 2017, and beginning the remedial action in fall 2017. Under the final sitewide ROD, remedial actions for OU1 will be completed, and

cleanup for OU3 will be selected and implemented. The OU1 and OU2 remedial components that have been implemented are listed below. The interim OU2 remedy will be part of the future sitewide ROD.

## OU1

There have been several OU1 remedial designs, completed in 1990, 1992, 2000 and 2009. In September 2002, the EPA and FDEP signed a State Superfund Contract to conduct an interim removal of contaminated off-facility soils and sediments exceeding the EPA's guidance levels in areas including the PYC Ditch, the Yachtsman Cove Condominiums and several residential properties (Figure 2). In November 2003, the contractor encountered higher contaminant levels than expected during soil excavation east of the PYC Ditch, and the agencies halted the field work. Excavated soils have been temporarily consolidated and secured on the fenced former facility area, pending finalization of the new sitewide interim remedy. In June 2009, the EPA installed a fence around the PYC Ditch to prevent exposure to contaminated sediments where excavation work had not yet been completed. The EPA completed soil excavation and restoration of the Southeast Ditch to residential standards in January 2010; this flat, grassy area is unfenced.

To improve the water quality of the stormwater entering Pensacola Bay, the City of Pensacola redirected the stormwater pathway that formerly flowed through the PYC Ditch to J Street in August 2012. The EPA assisted with management and treatment of contaminated water recovered during dewatering for construction of the stormwater line connection. The City of Pensacola encountered contaminated soils while digging the path for the new pipeline and closing off the prior stormwater access to the PYC Ditch. The City excavated and consolidated contaminated soils on the former facility area, where they will be addressed during site remediation. This stormwater line relocation project allows the contaminated PYC Ditch sediment removal to be conducted under drier conditions, reducing the risk of contaminant discharge. The EPA cleaned up the PYC Ditch from June to August 2016.

## OU2

The EPA completed the first OU2 remedial design in May 1997. The EPA completed construction of the DNAPL-extraction system in September 1998. The EPA began the second remedial design in August 2006, which has not been completed. In November 2009, the EPA installed five new extraction wells to enhance DNAPL extraction. The EPA has since deemed the DNAPL recovery a failure and consequently shut down the system in late December 2011. The two aboveground storage tanks, which held DNAPL pumped from the extraction system before disposal at a permitted off-site facility, have been emptied. The last off-site shipment of DNAPL occurred in January 2012. 197,415 gallons of total DNAPL were removed during system operation. The EPA issued a remedy failure letter for OU2 in December 2012.

### **4.3 Operation and Maintenance (O&M)**

The EPA's 10-year long-term response action (LTRA) period ended in 2011. Since then, the EPA's contractor has performed upkeep activities to maintain site conditions until the revised remedy is selected. Upkeep activities include mowing the grass, maintaining the fence and signs and removing dumped debris.

The 1999 OU1 ROD Amendment estimated annual O&M costs of \$5,800, and the 1994 OU2 ROD estimated annual O&M costs of \$789,000 for the DNAPL extraction system. The annual upkeep costs

are listed in Table 4. Costs were higher in 2011, 2012 and 2015 than in 2013 and 2014. In 2011, the EPA conducted official O&M, shut down the DNAPL extraction system, and performed quarterly groundwater sampling in addition to site upkeep. In 2012, activities included clearing and sampling the PYC Ditch, conducting a well survey, and supporting stormwater line relocation activities, such as treating groundwater, monitoring air and stockpiling soil. In 2015, activities also included the removal and disposal of the former extraction well pipe network.

**Table 4: Annual Site Upkeep Costs**

Year	Total Cost
2011	\$237,000
2012	\$287,000
2013	\$72,000
2014	\$76,000
2015	\$94,000

## **5.0 Progress Since the Last Five-Year Review**

The protectiveness statement from the 2011 FYR for the Site stated the following:

*"The remedy at OU1 is expected to be protective of human health and the environment upon completion, and in the interim, exposure pathways that could result in unacceptable risks are being controlled. All off-facility OU1 materials have been excavated and consolidated under a temporary clay cap on the Site with the exception of the PYC Ditch, which has been fenced to restrict access. The Site is secured by a perimeter fence which prevents access to the consolidated materials on site as well as the areas that remain to be remediated in the western portion of the Site. The Site parcel owned by a private citizen is fenced and a layer of gravel has been placed as an interim cap over contaminated soil to prevent exposure. A final remedy will be selected in the forthcoming ROD for OU1/OU3.*

*The remedy at OU2 currently protects human health and the environment in the short term because the groundwater remediation system continues to operate and institutional controls are in place to prevent exposure to groundwater contamination. However, in order for the remedy to be protective in the long term, EPA is currently evaluating options to improve the groundwater remedy in order to achieve cleanup goals more efficiently. An amended remedy that will address long-term protectiveness is expected following completion of an updated groundwater evaluation."*

The 2011 FYR included three issues and recommendations. This report summarizes each recommendation and its current status below.

**Table 5: Progress on Recommendations from the 2011 FYR**

<b>Recommendations</b>	<b>Party Responsible</b>	<b>Milestone Date</b>	<b>Action Taken and Outcome</b>	<b>Date of Action</b>
Evaluate options to improve the OU2 remedy to achieve a more efficient remediation of groundwater and modify the remedy as appropriate. As part of efforts to re-evaluate the OU2 remedy, characterize the full extent of the current groundwater plume area associated with the Site.	EPA	06/01/2013	Ongoing. The EPA issued a failure letter for the DNAPL recovery remedy in 2010. The EPA is currently preparing an interim ROD, which will include a new groundwater remedy.	Anticipated date of fall 2016
Perform a well survey of the area surrounding the Site to identify any newly installed wells and to locate wells from previous contamination delineation activities. At the conclusion of the survey, address active and non-abandoned wells as appropriate.	EPA	03/01/2012	Ongoing. The EPA conducted a well survey in February 2013. Active wells have not yet been addressed.	February 2013
Select a final remedy for soil, subsurface soil and sediment, combining OU1 and OU3, and include appropriate institutional controls.	EPA	09/30/2012	Ongoing. The EPA is currently preparing an OU2 interim ROD and will subsequently prepare a final sitewide ROD.	Anticipated date of 12/01/2016

## **6.0 Five-Year Review Process**

### **6.1 Administrative Components**

EPA Region 4 initiated the FYR in November 2015 and scheduled its completion for September 2016. The EPA remedial project manager (RPM) Peter Thorpe led the EPA site review team, which also included the EPA site attorney Rudy Tanasijevich, the EPA community involvement coordinator (CIC) L'Tonya Spencer and contractor support provided to the EPA by Skeo. In November 2015, the EPA held a scoping call with the review team to discuss the Site and items of interest as they related to the protectiveness of the remedy currently in place. The review schedule established consisted of the following activities:

- Community notification.
- Document review.
- Data collection and review.
- Site inspection.
- Local interviews.
- FYR Report development and review.

### **6.2 Community Involvement**

In September 2016, the EPA published a public notice in the *Pensacola News Journal* newspaper announcing the commencement of the FYR process for the Site, providing contact information for Peter Thorpe (RPM) and L'Tonya Spencer (CIC) and inviting community participation. The press notice is available in Appendix B. No one contacted the EPA as a result of the advertisement.

The EPA will make the final FYR Report available to the public. Upon completion of the FYR, the EPA will place copies of the document in the designated site repository: West Florida Genealogy Branch Library at 5740 North 9th Avenue, Pensacola, Florida.

### **6.3 Document Review**

This FYR included a review of relevant site-related documents, including RODs, ROD Amendments, ESDs and recent monitoring data. Appendix A provides a complete list of the documents reviewed.

#### ARARs Review

CERCLA Section 121(d)(1) requires that Superfund remedial actions attain "a degree of cleanup of hazardous substances, pollutants, and contaminants released into the environment and of control of further release at a minimum which assures protection of human health and the environment." The remedial action must achieve a level of cleanup that at least attains those requirements that are legally applicable or relevant and appropriate.

- Applicable requirements are those cleanup standards, standards of control and other substantive requirements, criteria or limitations promulgated under federal environmental or state environmental or facility siting laws that specifically address a hazardous substance, remedial action, location or other circumstance found at a CERCLA site.
- Relevant and appropriate requirements are those standards that, while not "applicable," address problems or situations sufficiently similar to those encountered at the CERCLA site that their use is well suited to the particular site. Only those state standards more stringent than federal requirements may be applicable or relevant and appropriate.
- To-Be-Considered criteria are non-promulgated advisories and guidance that are not legally binding, but should be considered in determining the necessary remedial action. For example, To-Be-Considered criteria may be particularly useful in determining health-based levels where no ARARs exist or in developing the appropriate method for conducting a remedial action.

Chemical-specific ARARs are health- or risk-based numerical values or methodologies which, when applied to site-specific conditions, result in the establishment of numerical values. These values establish an acceptable amount or concentration of a chemical that may remain in, or be discharged to, the ambient environment. Examples of chemical-specific ARARs include MCLs under the federal Safe Drinking Water Act and ambient water quality criteria enumerated under the federal Clean Water Act.

Action-specific ARARs are technology- or activity-based requirements or limits on actions taken with respect to a particular hazardous substance. These requirements are triggered by a particular remedial activity, such as discharge of contaminated groundwater or in-situ remediation.

Location-specific ARARs are restrictions on hazardous substances or the conduct of the response activities solely based on their location in a special geographic area. Examples include restrictions on activities in wetlands, sensitive habitats and historic places.

Remedial actions are required to comply with the chemical-specific ARARs identified in the ROD. In performing the FYR for compliance with ARARs, only those ARARs that address the protectiveness of the remedy are reviewed.

#### *Groundwater ARARs*

The 1994 OU2 ROD identified federal MCLs as chemical-specific ARARs. However, the EPA also identified ACLs for site groundwater, pursuant to CERCLA Section 121(d)(2)(B)(ii). The EPA designed ACLs to be protective of aquatic life based on the point of exposure where groundwater discharges to surface water. Given state restrictions on groundwater withdrawal for potable use, the Northwest Florida Water Management District's (NFWMD) restriction on permitting of wells in the site area, and the fact that area residents and businesses rely on the city water supply for potable water, ACLs were considered to be more appropriate than health-based remedial goals or primary drinking water standards (i.e., MCLs). Therefore, the 1994 OU2 ROD states that the EPA waived MCLs and that ACLs were used as cleanup goals for groundwater restoration (Table 3). This decision will be reviewed in the interim/final ROD to confirm that the groundwater cleanup levels are protective.

#### *Surface Soil, Subsurface Soil and Sediment Cleanup Goals*

Chemical-specific ARARs were not established for surface soil, subsurface soil and sediment COCs. The cleanup goals are reviewed further in Section 7.2. Available ARARs and/or ACL will be evaluated for inclusion in the final sitewide ROD.

#### Institutional Control Review

The 1994 OU2 ROD stated that the following existing groundwater institutional controls were sufficiently restrictive. The Site and surrounding area are within a Florida Groundwater Delineated Area, which restricts well installations and potable use of the aquifer (Figure 3). In addition, the NFWMD handles requests for well installations on a case-by-case basis. In November 1993, NFWMD advised the EPA and area water-well contractors that "the District intends to seek denial of any potable or irrigation well permit proposed in [the site] area." The 1994 OU2 ROD also states that the EPA will conduct a well survey during each FYR to find any illegal wells. In 2013, the EPA conducted a well inventory of public and private wells within a 1-mile radius of the Site using publicly available resources and a door-to-door well survey of the residents within 500 feet of the Site. The EPA discovered five active irrigation wells, six inactive irrigation wells and four possible wells (property owners were not at home to grant access); these wells were already known to exist at these locations. The locations of these wells are in Appendix F. The EPA is currently seeking resources in order to appropriately abandon all legacy irrigation wells and will contact property owners for these wells to offer irrigation well sampling.

The former facility area, PYC Ditch and Southeast Ditch consist of six property parcels and two property right of ways (Table 6, Figure 4). The 2011 FYR states that the Southeast Ditch area was a City of Pensacola right of way, but 2016 research found this property to be a Burlington & Northern Railroad right of way. All other ownership information has remained the same.

**Table 6: Site-Related Parcel Ownership**

Owner	Parcel Identification Number	Map ID (see Figure 4)	Total Parcel Acres
Alabama & Gulf Coast Railroad Right of Way	NA	A	NA
American Creosote Works	9080-2-156	B	0.41
	9080-1-164	C	7.53
	9080-11-168	D	0.92
Pensacola Creosoting Co.	9080-1-163	E	2.55
John D. Barksdale	9080-1-183	F	0.45
Burlington & Northern Railroad Right of Way	NA	G	0.5
Pensacola Yacht Club, Inc.	9080-6-188	H	21.46
<i>Notes:</i> Source: Escambia County Property Appraiser GIS website: <a href="http://www.escpa.org/CAMAGIS/">http://www.escpa.org/CAMAGIS/</a> , accessed 4/22/2016. NA: Not available			

The 1999 OU1 ROD Amendment called for deed restrictions at the Site. There is an institutional control with the Escambia County Tax Collector, in which parcels B through F have a flag on their tax payment page indicating that they are part of a Superfund site (Table 6, Figure 4).<sup>4</sup> Should an individual or organization attempt to obtain one of these parcels through a tax deed application, this flag on the parcel triggers notification of the EPA RPM for the Site. The flag will not block a sale, but allows the EPA to communicate with potential purchasers about the site history, land use and liabilities prior to the purchase. Areas A and G do not have this flag because they are right of ways, and the PYC property also does not have this flag. There are currently no land use restrictions on OU1 soil, and OU1 will require additional restrictions that are expected to be implemented as part of the new sitewide remedy.

For OU3, FDEP currently sends a letter every five years to residents near the former facility area to warn them of dioxin soil contamination on their properties. The letter indicates that pollutants were found in the soil at the recipient's property. It includes information about the location and levels of specific pollutants found, as well as any applicable cleanup levels based on health risks or on water taste and odor concerns. The letter includes recommendations to cover impacted areas with clean soil, leaves or pine straw and to take care to wash hands thoroughly after gardening, playing or working in the yard. The letter also provides web links to additional information about contamination through FDEP's Contamination Locator Map and OCULUS™, FDEP's electronic site file system. EPA will evaluate the existing ICs as a part of the development of the sitewide ROD to determine if these measures will be effective.

Table 7 lists the institutional controls associated with areas of interest at the Site.

<sup>4</sup> <https://escambia.county-taxes.com/public>

**Table 7: Institutional Control (IC) Summary Table**

Media	ICs Needed	ICs Called for in the Decision Documents	Impacted Parcel(s)	IC Objective	Instrument in Place
Groundwater	Yes	Yes	Site and surrounding area	Prevent use of contaminated groundwater	<p>The Site lies within a Florida Groundwater Delineated Area, which restricts well placement.<sup>1</sup></p> <p>NWFWMD denies any potable or irrigation well permit proposed in the site area.</p> <p>The EPA conducts a well survey during each FYR to identify whether any wells have been placed without appropriate permits.</p>
Soil	Yes	No	Residential area near former facility (OU3)	Prevent exposure to contaminated residential soils	FDEP sends a letter every five years to residents near the former facility area to warn them of dioxin soil contamination on their properties.
Soil	Yes	Yes	Parcels B through F	Notify potential purchasers about site history, appropriate land use and liability	Parcels B through F have a flag on their Escambia County Tax Collector payment page indicating that they are part of a Superfund Site.
Soil and sediment	Yes	Yes	OU1	Prevent exposure to contaminated media	No instrument is currently in place that restricts land uses.
<p>1. Florida's groundwater delineation information is available online at:  <a href="http://www.dep.state.fl.us/water/groundwater/delineate.htm">http://www.dep.state.fl.us/water/groundwater/delineate.htm</a>.</p>					



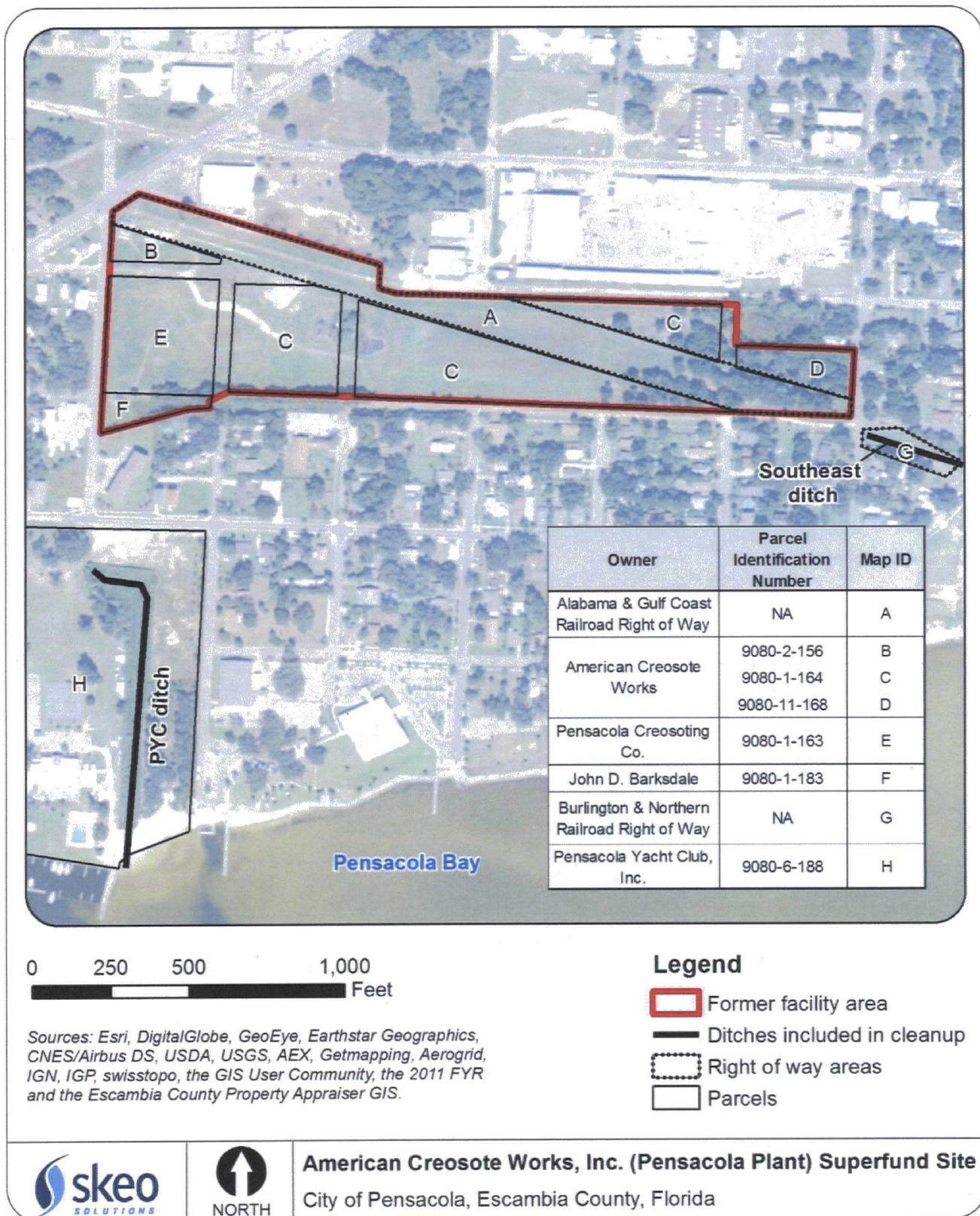
Figure 3: Florida Groundwater Delineated Area Map



Disclaimer: This map and any boundary lines within the map are approximate and subject to change. The map is not a survey. The map is for informational purposes only regarding the EPA's response actions at the Site.



**Figure 4: Parcel Map**



Disclaimer: This map and any boundary lines within the map are approximate and subject to change. The map is not a survey. The map is for informational purposes only regarding the EPA's response actions at the Site.

## 6.4 Data Review

### Groundwater

In 2010, the EPA determined that the DNAPL recovery remedy had failed. The 10-year LTRA O&M period ended in 2011. The EPA is developing an interim ROD for DNAPL contamination; this section reviews available groundwater data collected since the previous FYR to illustrate groundwater conditions.

In 2011, groundwater samples were collected in March, June and September. Samples were analyzed for volatile organic compounds (VOCs), semi-volatile organic compounds (SVOCs) and dioxins/furans. Groundwater samples were collected from on-facility monitoring wells and groundwater treatment system locations (Appendix G). At the groundwater treatment system locations, acenaphthene, fluoranthene, naphthalene, selected cPAHs and dibenzofuran exceeded their respective remedial goals. Selected cPAHs and dibenzofuran also exceeded their remedial goals after treatment (Appendix G) demonstrating that the treatment system was not effective in achieving the groundwater cleanup goals. Graphs in Appendix G also compare contaminant concentrations from two on-facility monitoring wells in the northwestern part of the former facility area (MW5LS and MW5US) to wells at the southwestern former facility boundary and downgradient of the main DNAPL plume (MW6LS and MW6US). The downgradient wells have much higher COC concentrations than the MW5 wells. DNAPL plume maps from November 2011 are shown in Figure 5.

Since 2011, groundwater sampling has focused on updating groundwater conditions at the Site. The EPA sampled 83 wells in and around the Site in January 2012 and 64 wells in March 2013, January 2014 and January 2015. Table 8 shows the number of wells with exceedances of ACLs or State of Florida Marine Surface Water Cleanup Target Levels (SWCTLs) by year.

**Table 8: Number of Wells with Exceedances from 2012 to 2015**

	2012	2013	2014	2015
Number of wells with exceedances of Marine SWCTLs or ACLs for one or more compounds/number of wells sampled <sup>a</sup>	9/83	19/64	21/64	19/64
<i>Notes:</i> Sources: 2012-2015 EPA Groundwater Sampling Investigation Reports. <sup>a</sup> ACLs were used for comparison in 2012, but from 2013 on, the EPA compared groundwater samples to the Marine SWCTLs rather than the ROD ACLs per the RPM's request. The EPA and FDEP are potentially considering Marine SWCTLs for protection of Pensacola Bay for the planned sitewide ROD.				

One of the goals of the OU2 remedy was to prevent groundwater from contaminating surface water; therefore, groundwater concentrations are compared to the Marine SWCTLs. Contaminant concentrations above the Marine SWCTLs include benzene, 1,1-biphenyl, 2,4-dimethylphenol, 2-methylphenol, acenaphthene, anthracene, carbazole, dibenzofuran, fluoranthene, fluorene, naphthalene, PCP, phenanthrene, phenol and pyrene. Several of these are not site COCs. Contaminants are generally on the southern edge of the former facility area or south and southwest of the former facility area. For example, in 2015 well C506 had the highest concentrations of several SVOCs (Table 9, Figure 5). Further refinement of the area of contaminated groundwater will be developed as part of the planned sitewide ROD.

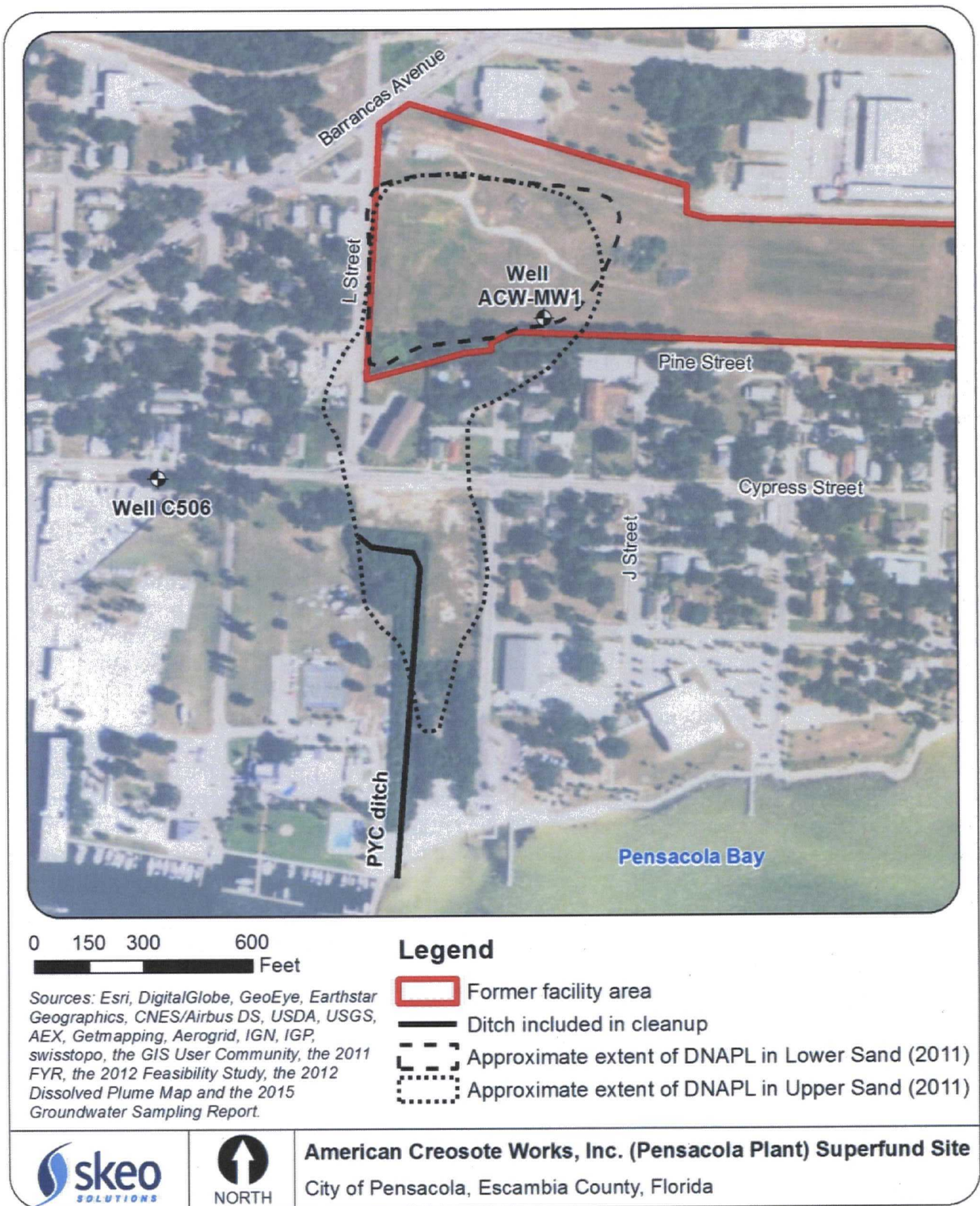
**Table 9: 2015 Well C506 SVOC Sampling Results**

Contaminant	Marine SWCTL (µg/L)	2015 Concentration in Well C506* (µg/L)
(3-and/or 4-)Methylphenol	450/70 <sup>b</sup>	<b>11,000</b>
1,1-Biphenyl	18	<b>110</b>
2,4-Dimethylphenol	160	<b>7,700</b>
2-Methylphenol	250	<b>4,900</b>
Acenaphthene	3	<b>400</b>
Anthracene	0.3	<b>16 J, O</b>
Carbazole	47	<b>340</b>
Dibenzofuran	67	<b>230</b>
Fluoranthene	0.3	<b>14 J, O</b>
Fluorene	30	<b>240</b>
Naphthalene	26	<b>7,100</b>
Pentachlorophenol	7.9	<b>140</b>
Phenanthrene	0.031	<b>160</b>
Phenol	6.5	<b>3,400</b>
Pyrene	0.3	<b>&lt; 20 U</b>
<p><i>Notes:</i></p> <p>a. Well C506 is from the Sand-and-Gravel aquifer screened at a depth interval of 17-27 feet bgs.</p> <p>b. The Marine SWCTL for 3-methylphenol is 450 µg/L and for 4-methylphenol is 70 µg/L.</p> <p>Sources: 2015 EPA Groundwater Sampling Investigation Report and 2008 Final Comprehensive Groundwater Sampling Report.</p> <p>µg/L = micrograms per liter</p> <p>N/A = not applicable</p> <p><b>Bold</b> = exceedance of Marine SWCTL</p> <p>U = The analyte was not detected at or above the reporting limit.</p> <p>J = The identification of the analyte is acceptable; the reported value is an estimate.</p> <p>O = Other qualifiers have been assigned providing additional information.</p>		

Complete VOC and SVOC sampling results for 2012 to 2015 are included in Appendix G.



Figure 5: DNAPL Plume Map



Disclaimer: This map and any boundary lines within the map are approximate and subject to change. The map is not a survey. The map is for informational purposes only regarding the EPA's response actions at the Site.

## **6.5 Site Inspection**

A site inspection was conducted on March 29, 2016. Site inspection participants included: Peter Thorpe (EPA RPM), L'Tonya Spencer (EPA CIC), Kelsey Helton (FDEP), Richard Kinsella (U.S. Army Corps of Engineers), Jeff Day (Seneca, U.S. Army Corps of Engineers' contractor), and Sabrina Foster and Melissa Oakley (Skeo, EPA's contractor).

Following a brief meeting, site inspection participants toured the Site, starting at the western end of the former facility area near the groundwater treatment system building. The groundwater treatment system has not operated since EPA declared DNAPL recovery a failure in 2010; the system was not inspected for this FYR. Site inspection participants observed several extraction well housings with pumps and piping removed. A black fabric liner covers contaminated soil excavated from the Southeast Ditch. Except for a small hole in the liner and a plant growing in the middle of the area, the liner appeared to be in good condition. The plant and small hole will be addressed during routine site upkeep activities. The vegetation on the large clay cap at the center of the former facility area is healthy. No evidence of cap subsidence or erosion was observed. No wet areas or standing water were observed on the cap. The former facility area appeared well maintained. The grass is routinely mowed on an as-needed basis, and undergrowth at the eastern end of the former facility area is bush-hogged as needed. The former facility area is secured by a perimeter fence with locked access gates. The fence was repaired after a vehicle crashed into it, which has occurred twice in the last five years. The fence was in good condition at the time of the site inspection. Warning signs are posted at regular intervals along the perimeter fence. All monitoring wells observed appeared to be in good condition, were clearly labeled, and were secured with locks or bolts. A mattress was observed just inside the southern perimeter fence. Mr. Day indicated that local residents sometimes throw discarded items over the fence. The mattress will be removed as part of routine site upkeep. The southwestern corner of the former facility area, owned by a private individual, is secured within a separate tall fence. The property does not appear to be in use. A resident immediately south of the former facility area has planted a small fig tree and a bamboo plant between the southern perimeter fence and Pine Street. The plants are next to two monitoring wells.

Following the tour of the former facility area, site inspection participants inspected the PYC Ditch and Southeast Ditch. During the March 2016 site inspection, a tall fence topped with barbed wire surrounded the PYC Ditch, restricting access to the area. Remediation of the PYC Ditch had not started at the time of the site inspection but is now complete. Immediately west of the PYC Ditch fence, site inspection participants observed new concrete pads around several flush-mounted monitoring wells. Each of the wells were secured with bolts. The Southeast Ditch area is an open, flat grassy area where soil was cleaned to residential standards. The grass covering the area appeared healthy.

Following the site inspection, Skeo staff visited the local information repository for the Site, located at the West Florida Genealogy Branch Library at 5740 North 9<sup>th</sup> Avenue in Pensacola, Florida. A records review verified that a large collection of site-related documents is available for public viewing at the information repository, including documents up through the 2011 FYR.

Following the site inspection, Skeo staff visited the Escambia County Clerk of Courts Office to research deed records pertaining to the Site. Appendix D includes a completed Site Inspection Checklist. Appendix E includes photographs taken during the site inspection.

## 6.6 Interviews

The FYR process included interviews with parties affected by the Site, including the current landowners and regulatory agencies involved in Site activities or aware of the Site. The purpose was to document the perceived status of the Site and any perceived problems or successes with the phases of the remedy implemented to date. The interviews are summarized below. Appendix C provides the complete interviews.

Peter Thorpe: Peter Thorpe is the current EPA Region 4 RPM for the Site. Overall, he believes the Site is moving along well. He commented that the PYC Ditch will be cleaned up shortly and that once this is done, OU1 will be complete. He noted that the EPA is working with FDEP on a Probabilistic Risk Assessment for the off-facility dioxin cleanup number and an interim ROD should be complete before the calendar year is over, which will also address the need for a new remedy for OU2. He commended the U.S. Army Corps of Engineers' contractor, Seneca, for doing a great job cleaning the Site and clearing the wooded area on the far eastern part of the Site, despite several comments from residents about the area. He mentioned that the City of Pensacola is very interested in redeveloping the Site and that the community is very interested in seeing the Site redeveloped into a park. There will need to be one more institutional control put in place, but it cannot be implemented until the Site's final conditions are known. Lastly, Mr. Thorpe commented that the community is very focused on the pace of the cleanup and wants the Site cleaned up soon.

Jeff Day: Jeff Day of Seneca SCMC, LLC (the remedial contractor) stated that he had a good overall impression of the Site, that it is well-maintained and that the cleanup actions seem appropriate. He noted that the remedial DNAPL system was shut down at the end of 2011 and since then the Site has been maintained by weekly upkeep activities, including mowing, erosion control, perimeter trimming, inspections, brush clearing, debris pickup/disposal, fence repairs and sign replacement. Mr. Day noted that cars occasionally run through the perimeter fence, and the fence must be repaired in a timely manner to maintain site security. He also said EPA is responsive to the community.

Public Meeting Participants: Community members and several local government officials were present at the EPA's public meeting about the Site on March 28, 2016. The public meeting participants responded collectively to the EPA's interview questions. The group affirmed that they are aware of the former environmental issues at the Site and mentioned that the cleanup process has been very slow. The group commented on observing homeless activity on the north side of the Site, between the Site and the lumber company. However, the participants could not confirm whether these individuals are accessing the Site or just camping in the dense brush outside the Site's perimeter fence. Other meeting participants also noted homeless activity on the eastern boundary. The group also commented that there has been dense brush growth following brush removal a few years ago.

While the group felt well informed of site activities, they would like more frequent updates from the EPA. They mentioned that several area residents do have private wells on their property, but do not use them for any purpose. Nevertheless, several residents expressed interest in being able to use the wells for irrigation. The group raised several concerns about the City of Pensacola's zoning of the site property and about the future use of the Site. Area residents are in favor of a recreational reuse of the Site, but the Site is currently zoned for industrial use. The community is concerned that this zoning designation would impede their desired use for the land. Community members have heard that the City may pursue other non-recreational uses for the property, such as a truck parking area, and do not want the Site to be reused in this way. Lastly, the group would like the cleanup to be completed as soon as possible.

## 7.0 Technical Assessment

### 7.1 Question A: Is the remedy functioning as intended by the decision documents?

The OU1 remedy has been partially implemented. The former facility area is fenced off and well-marked. The EPA has consolidated contaminated soil on the former facility area and covered these soils with a black fabric liner or a temporary vegetated clay cap. These covers are maintained through routine site upkeep activities and appear to be in good condition. There is no evidence of cap subsidence, erosion or standing water. OU1 off-facility soil remediation areas have been remediated but are not fenced.

The EPA remediated the PYC Ditch from June to August 2016. Prior to remediation, a tall fence topped with barbed wire restricted access to the ditch. The 2012 relocation of the stormwater line previously running through the PYC Ditch has enabled cleanup of this area. The property is currently unfenced and level with the rest of the PYC property. Excavated soil from the cleanup will be placed under the cap on the former facility area and will be incorporated into the final remedy for the Site.

The EPA completed soil excavation and restoration of the Southeast Ditch in January 2010. The flat, grassy area is unfenced. The contaminated soil excavated from the Southeast Ditch is covered by a black fabric liner on the former facility area.

While there are flags on several parcels on the Escambia County Tax Collector website to make prospective purchasers aware of the Site's history, this institutional control is informational and does not implement any land use restrictions. There are currently no land use restrictions for OU1, but the EPA plans to select appropriate land use controls in the final sitewide remedy, and these will be implemented by the property owner(s). As of June 2016, the City of Pensacola had filed a tax deed application to acquire the former facility property. The City has not taken ownership of the property as of now. Currently, access to the former facility area is restricted by a fence and signs, but there are areas of off-facility soil excavation not included in the fenced area that warrant institutional controls (Figure 2). For OU3 soil, FDEP currently sends a letter to residences every five years to warn them of soil contamination.

The OU2 remedy was not achieving its RAOs or functioning as intended by the ROD. Therefore, the EPA issued a failure letter in 2012; however, groundwater monitoring has continued, and institutional controls are in place. The EPA is working on a sitewide interim ROD for containing source material and will later select a remedy for residual groundwater contamination. Residents in the area are connected to the city water supply, so the drinking water exposure pathway is incomplete. In 2013, the EPA conducted a well survey in the residential area near the former facility area. This survey confirmed the existence of several legacy irrigation wells -- four active, six inactive and four possible wells. The EPA and FDEP recommend using city water instead of water from irrigation wells, and if irrigation wells must be used, they recommend frequent sampling to ensure water drawn from the well is safe to use. The EPA is trying to secure funding to plug and abandon the known irrigation wells; the 1994 OU2 ROD stated that plugging and abandonment of existing private irrigation wells in the site area was necessary to prevent future exposure to contaminated groundwater. The EPA will offer sampling of these legacy irrigation wells and is currently working to secure resources to appropriately abandon these wells. The EPA should also explore opportunities for informational outreach to residents near the former facility area, to prevent illegal well installations.



## **7.2 Question B: Are the exposure assumptions, toxicity data, cleanup levels and remedial action objectives (RAOs) used at the time of remedy selection still valid?**

The exposure assumptions and remedial action objectives are still valid. Some of the toxicity data and cleanup levels are no longer valid due to changes in toxicity information for site COCs and some established cleanup levels being outside of current acceptable risk range.

The 1999 OU1 ROD Amendment established risk-based cleanup goals for four surface soil COCs: total cPAHs, PCP, 2,3,7,8-tetrachlorodibenzo-p-dioxin (expressed as TCDD Toxic Equivalents (TEQ)) and benzo(a)pyrene. The ROD Amendment expanded source control cleanup goals to address subsurface soils/sludges and sediments. The ROD Amendment also added cleanup goals for acenaphthene, anthracene, fluoranthene, fluorine, naphthalene, phenanthrene and pyrene. These remedial goals were developed to be protective for anticipated future industrial use of the former facility area.

To determine if the cleanup goals are still valid based on toxicity value changes, a screening-level risk evaluation was conducted as part of this FYR. The risk evaluation compares the cleanup goals to the EPA's residential and industrial Regional Screening Levels (RSLs) for soil (based on  $1 \times 10^{-6}$  cancer risk or noncancer hazard quotient (HQ) of 1) resulting in a conservative screening-level equivalent estimate of cancer risk and noncancer HQs. The resultant cancer risk was compared to the EPA's risk management range of  $1 \times 10^{-6}$  to  $1 \times 10^{-4}$  and the noncancer HQ was compared to the EPA's threshold of 1.0.

Screening results indicate several soil, sludge and sediment cleanup goals are equivalent to carcinogenic risk values outside the EPA's acceptable range and non-carcinogenic HQs greater than 1 for both residential and industrial uses (Appendix H). Both the off-facility (residential) and on-facility 2,3,7,8-TCDD (TEQ) surface soil cleanup goals from the 1999 ROD Amendment equal or exceed the EPA's upper bound of the acceptable risk range, with carcinogenic risk values of  $2 \times 10^{-4}$  and  $1 \times 10^{-4}$  and non-carcinogenic values of 20 and 4, respectively.

The 1999 ROD Amendment states that the residential surface soil remedial goal for dioxin of 0.001 mg/kg was subject to review and possible revision because EPA's Final Dioxin Reassessment effort was incomplete at the time; therefore, the EPA and FDEP agreed to designate the cleanup of residential areas as an interim action. The EPA and FDEP are currently evaluating a site-specific soil remedial goal for dioxin in OU3 off-facility soils, based on unrestricted residential land use using two separate probabilistic risk assessments. The EPA should determine if the on-facility dioxin cleanup goal also requires revision. For residential and industrial scenarios, several subsurface soil cleanup goals also exceeded the current acceptable risk range. The EPA has not yet established a cleanup goal for dioxin in subsurface soil. Evaluation of appropriate dioxin cleanup goals for all areas of the Site will occur as part of the new sitewide remedy selection process.

A screening-level risk evaluation was also conducted as part of this FYR for confirmation soil samples collected from the OU1 off-facility remediated areas by comparing the confirmation results to the EPA's soil RSLs to provide a conservative screening-level equivalent estimate of cancer risk and noncancer HQs. While most samples were below the 2,3,7,8-TCDD (TEQ) non-carcinogenic residential regional screening level (RSL) of 51 nanograms per kilogram (ng/kg), several exceeded this value with non-carcinogenic HIs of 3.5 and 2.1 for the two highest exceedances (Appendix H, Table H-5). Several samples also exceeded the cleanup goals for benzo(a)pyrene and total cPAHs, with carcinogenic risk

values ranging from  $2.0 \times 10^{-2}$  to  $3.6 \times 10^{-1}$  (Appendix H, Table H-5). Because the remedy at OU1 is still under construction and is being revisited in the sitewide final ROD, it is expected that the EPA will consider whether additional actions for OU1 off-facility remediated areas are warranted (Figure 2). Currently, the areas with exceedances are vacant and not residential; they include areas near the PYC Ditch and West Gimble Street.

The Site's groundwater cleanup goals were ACLs, which were not based on health standards; therefore, no risk evaluation of these standards was conducted for this FYR. The EPA will revisit groundwater cleanup goals as part of the new groundwater remedy. Groundwater monitoring over the past five years identified several non-COC contaminants above their Marine SWCTLs, including 1,1-biphenyl, 2,4-dimethylphenol, 2-methylphenol, carbazole and phenol. The EPA will consider expanding the final groundwater remedy's COC list to include these contaminants and any other site-related contaminants that present unacceptable risks.

The primary RAOs for the groundwater remedy are to prevent ingestion and prevent migration of COCs to surface water; however, an RAO for vapor intrusion has not been considered. Due to the presence of VOCs in groundwater under the Site, vapor intrusion is also a potential completed exposure pathway for commercial and residential structures in the site area. Based on the EPA's June 2015 Vapor Intrusion Guidance, a screening-level vapor intrusion evaluation was conducted.<sup>5</sup> The screening-level analysis used the EPA's Vapor Intrusion Screening Level (VISL) calculator to determine if this potential exposure pathway requires more in-depth analysis. Groundwater data obtained from wells screened across or as close to the top of the water table as possible were used in the evaluation to best represent contamination at the groundwater surface. As shown in Table 10, monitoring wells C506 and ACW-MW1 had the highest naphthalene and benzene concentrations in the most recent sampling event (January 2015) for the shallow aquifer zone; these concentrations resulted in cancer risks above the EPA's risk management range of  $1 \times 10^{-6}$  to  $1 \times 10^{-4}$  and above the non-carcinogenic HQ of 1 for both commercial and residential uses. Both wells can be seen in Figure 5; well C506 is close to several buildings, and well ACW-MW1 is at the former facility area and is not located near buildings. All remaining shallow wells in Table 10 exhibited concentrations within or below the EPA's risk management range of  $1 \times 10^{-6}$  to  $1 \times 10^{-4}$  and below the non-carcinogenic HQ of 1 for both commercial and residential uses, indicating the vapor intrusion exposure pathway is likely not a concern in the vicinity of monitoring wells C605, 220, 282, 420 and 720.

The variability in results demonstrates the uncertainties in evaluating this exposure pathway. Most of the wells at the Site are screened at depths well below the top of water, thus, the screening level is limited to those locations where shallow screens were available. Vapor intrusion guidance discourages the use of wells with deeper screened intervals because the concentrations are not representative of concentrations closest to a building slab. Use of deeper screened wells tend to unnecessarily overestimate the vapor intrusion pathway where concentrations tend to be higher due to the presence of DNAPL as a source at the Site.

The vapor intrusion exposure pathway should be evaluated further using additional lines of evidence to determine the relative significance of this exposure pathway. Since VISLs are significantly more stringent than the Marine SWCTLs, groundwater cleanup goals may need to be changed based on the outcome of further vapor intrusion studies. For example, the current Marine SWCTL for naphthalene is

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<sup>5</sup> OSWER Publication 9200.2-154, Technical Guide for Assessing and Mitigating the Vapor Intrusion Pathway from Subsurface Vapor Sources to Indoor Air, U.S. Environmental Protection Agency, Office of Solid Waste and Emergency Response, June 2015.

21,900 µg/L while the EPA has established the  $1 \times 10^{-6}$  risk-based and non-carcinogenic-based (HQ=1) vapor intrusion screening levels of 4.6 µg/L and 170 µg/L, respectively.

**Table 10: VISL Results**

COC	Groundwater Concentration Detected in Jan. 2015 (µg/L) <sup>a</sup>	2016 VISL Calculator <sup>b</sup> (average groundwater temperature 25°C)			
		Industrial Exposure		Residential Exposure	
		Cancer Risk	Non-carcinogenic HQ	Cancer Risk	Non-carcinogenic HQ
<b>C506 (17-27 ft bgs)</b>					
Naphthalene	7,100	<b>3.5 x 10<sup>-4</sup></b>	<b>9.7</b>	<b>1.5 x 10<sup>-3</sup></b>	<b>41</b>
Benzene	140	2.0 x 10 <sup>-5</sup>	0.2	8.8 x 10 <sup>-5</sup>	1.0
<b>C605 (9-19 ft bgs)</b>					
Naphthalene	<2.1	1.0 x 10 <sup>-7</sup>	0.003	4.6 x 10 <sup>-7</sup>	0.01
Benzene	<0.5	7.2 x 10 <sup>-8</sup>	0.001	3.2 x 10 <sup>-7</sup>	0.004
<b>ACW-MW1 (5-15 ft bgs)</b>					
Naphthalene	3700	<b>1.8 x 10<sup>-4</sup></b>	<b>5.1</b>	<b>8.1 x 10<sup>-4</sup></b>	<b>21</b>
Benzene	56	8.1 x 10 <sup>-6</sup>	0.1	3.5 x 10 <sup>-5</sup>	0.4
<b>220 (20-23 ft bgs)</b>					
Naphthalene	18	9.0 x 10 <sup>-7</sup>	0.03	4.0 x 10 <sup>-6</sup>	0.1
Benzene	0.2	2.9 x 10 <sup>-8</sup>	0.0004	1.3 x 10 <sup>-7</sup>	0.002
<b>282 (8-13 ft bgs)</b>					
Naphthalene	<2.0	1.0 x 10 <sup>-7</sup>	0.003	4.4 x 10 <sup>-7</sup>	0.01
Benzene	0.14	2.0 x 10 <sup>-8</sup>	0.0002	8.8 x 10 <sup>-8</sup>	0.001
<b>420 (15-18 ft bgs)</b>					
Naphthalene	6.1	3.0 x 10 <sup>-7</sup>	0.008	1.3 x 10 <sup>-6</sup>	0.04
Benzene	0.52	7.5 x 10 <sup>-8</sup>	0.001	3.3 x 10 <sup>-7</sup>	0.004
<b>720 (17-20 ft bgs)</b>					
Naphthalene	2.1	1.0 x 10 <sup>-7</sup>	0.003	4.6 x 10 <sup>-7</sup>	0.01
Benzene	0.5	7.2 x 10 <sup>-8</sup>	0.001	3.2 x 10 <sup>-7</sup>	0.004
<sup>a</sup> June 2015 Final Report for ACW Groundwater Sampling Event. <sup>b</sup> Accessed 5/2/2016 at <a href="http://www.epa.gov/vaporintrusion">http://www.epa.gov/vaporintrusion</a> . <b>Bolded:</b> exceedance of 1 x 10 <sup>-4</sup> cancer risk or a non-carcinogenic HQ of 1. µg/L = micrograms per liter					

### 7.3 Question C: Has any other information come to light that could call into question the protectiveness of the remedy?

There is no new information that could call into question the protectiveness of the remedy.

### 7.4 Technical Assessment Summary

The OU1 remedy has been partially implemented. Remediation is complete at the Southeast Ditch and in several off-facility residential areas. The PYC Ditch was remediated from June to August 2016. Completion of the OU1 remedy has been delayed to tentatively combine the capping of contaminated media with OU3 off-facility contaminated soils. The former facility area is fenced, and warning signage is in place to prevent human exposures. Fencing and signage around the PYC Ditch was removed as cleanup was completed. The OU1 off-facility soil remediation areas and the Southeast Ditch are unfenced. A screening level risk evaluation noted that the ROD's off-facility (residential) and on-facility 2,3,7,8-TCDD (TEQ) surface soil cleanup goals and several subsurface soil cleanup goals exceed the

EPA's acceptable risk range. As part of the new sitewide remedy, the EPA will determine if the on-facility and off-facility soil cleanup goals require revision based on additional site-specific risk evaluations. Another screening level risk evaluation found that contaminant concentrations in confirmation samples from the OU1 off-facility remediation areas exceeded the acceptable risk range for 2,3,7,8-TCDD (TEQ), benzo(a)pyrene and total cPAHs. The EPA will determine if any additional response actions, such as cleanup or institutional controls, are warranted, particularly for the OU1 off-facility soil remediation areas. The areas with exceedances are currently vacant and not residential. The flag on the Escambia County Tax Collector's website acts as an informational institutional control for OU1 soil. The EPA plans to include institutional controls in the sitewide remedy once site ownership is resolved.

The EPA determined that the groundwater extraction and treatment remedy had failed and is in the process of selecting a final groundwater remedy. Area residents and businesses are connected to city water supply, and the EPA is securing funding to appropriately abandon legacy irrigation wells. EPA will also be offering to sample these private irrigation wells for residents. Groundwater monitoring over the past five years indicates that several non-COCs exceeded their Marine SWCTLs. The EPA will consider expanding the final groundwater remedy's COC list to include these contaminants and any other site-related contaminants that present unacceptable risks. A vapor intrusion screening indicated that the vapor intrusion exposure pathway requires further evaluation using multiple lines of evidence to determine if additional response action is warranted.

## 8.0 Issues, Recommendations and Follow-up Actions

**Table 11: Issues and Recommendations Identified in the Five-Year Review**

<b>OU(s): 1 &amp; 2</b>	<b>Issue Category: Remedy Performance</b>			
	<b>Issue:</b> The OU1 remedy has not been fully implemented and the EPA has declared a remedy failure of the groundwater extraction and treatment system for OU2.			
	<b>Recommendation:</b> Evaluate cleanup options/cleanup levels and implement a final sitewide remedy that addresses remaining cleanup needs for all OUs.			
<b>Affect Current Protectiveness</b>	<b>Affect Future Protectiveness</b>	<b>Implementing Party</b>	<b>Oversight Party</b>	<b>Milestone Date</b>
Yes	Yes	EPA	EPA	09/30/2017

OU(s): 2	<b>Issue Category: Remedy Performance</b>			
	<b>Issue:</b> The screening-level vapor intrusion evaluation indicates additional information is needed to determine if this exposure pathway is complete.			
	<b>Recommendation:</b> Conduct a more detailed vapor intrusion evaluation utilizing multiple lines of evidence to determine if any additional response action is warranted.			
<b>Affect Current Protectiveness</b>	<b>Affect Future Protectiveness</b>	<b>Implementing Party</b>	<b>Oversight Party</b>	<b>Milestone Date</b>
Yes	Yes	EPA	EPA	09/30/2017

## 9.0 Protectiveness Statements

**Table 12: Protectiveness Statements**

Protectiveness Statements		
<i>Operable Unit:</i> 1	<i>Protectiveness Determination:</i> Partially Protective	
<p><i>Protectiveness Statement:</i> The remedy at OU1 is expected to be protective of human health and the environment upon completion. In the interim, remedial activities completed to date have adequately addressed all exposure pathways that could result in unacceptable risks in these areas. The former facility area is fenced, and warning signage is in place. The EPA remediated the PYC Ditch and returned it to unrestricted use. The OU1 off-facility soil confirmation samples indicate that there are still exceedances of COCs; these are on vacant, non-residential areas and are expected to be addressed in the final sitewide ROD. A screening-level risk evaluation also indicated that several soil cleanup goals exceeded acceptable risks, and there are currently no OU1 land use restrictions; however, it is expected that the EPA will address these outstanding issues in the final sitewide ROD.</p>		
<i>Operable Unit:</i> 2	<i>Protectiveness Determination:</i> Not Protective	<i>Addendum Due Date:</i> 09/30/2017
<p><i>Protectiveness Statement:</i> The remedy at OU2 is currently not protective, but it is expected to be protective of human health and the environment upon completion of the final sitewide ROD. In the interim, remedial activities completed to date have addressed all exposure pathways that could result in unacceptable risks in these areas. The amount of free product was reduced by the groundwater treatment system and there are ICs in place to prevent anyone from installing a drinking water well in the area. OU2 will be protective after evaluating the vapor intrusion pathway using multiple lines of evidence and implementing a new remedy to address the remaining groundwater contamination. It is expected that the EPA will address these outstanding issues in the final sitewide ROD.</p>		

## 10.0 Next Review

The next FYR will be due within five years of the signature/approval date of this FYR.

## **Appendix A: List of Documents Reviewed**

Amended Record of Decision, Operable Unit 1. American Creosote Works, Inc. (Pensacola Plant) Superfund Site. Pensacola, Escambia County, Florida. Prepared by the U.S. Environmental Protection Agency, Region 4, Atlanta, Georgia. May 21, 1999.

American Creosote Works Presentation. American Creosote Works, Inc. (Pensacola Plant) Superfund Site. Pensacola, Escambia County, Florida. Prepared by the U.S. Environmental Protection Agency, Region 4, Atlanta, Georgia. March 28, 2016.

Baseline Risk Assessment Report. American Creosote Works, Inc. (Pensacola Plant) Superfund Site. Pensacola, Escambia County, Florida. Prepared by B&V Waste Science and Technology Corp. for the U.S. Environmental Protection Agency, Region 4, Atlanta, Georgia. August 12, 1993.

Close-out Report for Waste Consolidation Activities Conducted at American Creosote Works Superfund Site. Pensacola, Escambia County, Florida. Prepared by BEM Systems, Inc., Orlando, Florida. January 2004.

Explanation of Significant Differences Fact Sheet. American Creosote Works, Inc. (Pensacola Plant) Superfund Site. Pensacola, Escambia County, Florida. Prepared by the U.S. Environmental Protection Agency, Region 4, Atlanta, Georgia. August, 1990.

Final Report for American Creosote Works Groundwater Sampling Event. American Creosote Works, Inc. (Pensacola Plant) Superfund Site. Pensacola, Escambia County, Florida. Prepared by U.S. Environmental Protection Agency, Region 4, Science and Ecosystem Support Division, Athens, Georgia. June 3, 2015.

Final Report January/February 2014 ACW Groundwater Sampling Event. American Creosote Works, Inc. (Pensacola Plant) Superfund Site. Pensacola, Escambia County, Florida. Prepared by U.S. Environmental Protection Agency, Region 4, Science and Ecosystem Support Division, Athens, Georgia. April 24, 2014.

Five-Year Review Report. American Creosote Works, Inc. (Pensacola Plant) Superfund Site. Pensacola, Escambia County, Florida. Prepared by the U.S. Environmental Protection Agency, Region 4, Atlanta, Georgia. September 19, 2011.

Groundwater Sampling Investigation Report. American Creosote Works, Inc. (Pensacola Plant) Superfund Site. Pensacola, Escambia County, Florida. Prepared by U.S. Environmental Protection Agency, Region 4, Science and Ecosystem Support Division, Athens, Georgia. August 28, 2013.

Operation and Maintenance Report. American Creosote Works, Inc. (Pensacola Plant) Superfund Site. Pensacola, Escambia County, Florida. Prepared by J2 Engineering, Inc., Pensacola, Florida. April 2012.

Pensacola Yacht Club Ditch Investigation and Well Inventory. American Creosote Works, Inc. (Pensacola Plant) Superfund Site. Pensacola, Escambia County, Florida. Prepared by Seneca J2 Environmental Joint Venture, Irving, New York. June 2013.

Record of Decision, Operable Unit 1. American Creosote Works, Inc. (Pensacola Plant) Superfund Site. Pensacola, Escambia County, Florida. Prepared by the U.S. Environmental Protection Agency, Region 4, Atlanta, Georgia. September 28, 1989.

Record of Decision, Operable Unit 2. American Creosote Works, Inc. (Pensacola Plant) Superfund Site. Pensacola, Escambia County, Florida. Prepared by the U.S. Environmental Protection Agency, Region 4, Atlanta, Georgia. February 3, 1994.

Sampling Investigation Final Report. American Creosote Works, Inc. (Pensacola Plant) Superfund Site. Pensacola, Escambia County, Florida. Prepared by U.S. Environmental Protection Agency, Region 4, Science and Ecosystem Support Division, Athens, Georgia. April 30, 2012.

Site-wide Feasibility Study Report. American Creosote Works, Inc. (Pensacola Plant) Superfund Site. Pensacola, Escambia County, Florida. Prepared by Black & Veatch Special Projects Corp., Alpharetta, Georgia. November 2012.

Stormwater Line Installation Related Activities Completion Report. American Creosote Works, Inc. (Pensacola Plant) Superfund Site. Pensacola, Escambia County, Florida. Prepared by Seneca J2 Environmental Joint Venture, Irving, New York. September 2012.



## Appendix B: Press Notice

**The U.S. Environmental Protection Agency, Region 4  
Announces the Fourth Five-Year Review for  
The American Creosote Works (Pensacola Plant) Superfund Site,  
Pensacola, Escambia County, Florida**

**Purpose/Objective:** EPA is conducting a Five-Year Review of the remedy for the American Creosote Works (Pensacola Plant) Superfund site (the Site) in Pensacola, Florida. The purpose of the Five-Year Review is to make sure the selected cleanup actions effectively protect human health and the environment.

**Site Background:** The 18-acre area is located about a quarter-mile north of the confluence of Bayou Chico and Pensacola Bay. A wood-treating facility operated at the Site from 1902 until 1982. Facility operations and waste disposal practices contaminated soil, sediment and ground water. Primary contaminants of concern include volatile organic compounds (VOCs), polycyclic aromatic hydrocarbons (PAHs), pentachlorophenol (PCP) and dioxin. EPA listed the Site on the Superfund program's National Priorities List (NPL) in 1983.

**Cleanup Actions:** EPA performed several early cleanup actions, or removal actions, at the Site between 1983 and 1986 to address immediate threats to human health and the environment. EPA later divided the Site into three areas, or operable units (OUs), to manage the long-term cleanup: OU1 (soil and sediment), OU2 (groundwater) and OU3 (off-site dioxin-impacted soil). EPA selected the OU1 remedy in the Site's 1985 and 1989 Records of Decision (RODs) and updated the remedy in a 1999 ROD Amendment. The final OU1 remedy included excavation and on-site consolidation of contaminated soil and sediment; placement of a cap over the contaminated soil and sediment; demolition, decontamination and disposal of site infrastructure and debris; and institutional controls. OU1 remedial actions started in 1990 and are ongoing.

EPA selected the OU2 remedy in the Site's 1994 Record of Decision (ROD). The two-phase groundwater remedy included the operation of a dense non-aqueous phase liquid (DNAPL) recovery system (phase 1), and extraction and treatment of contaminated groundwater (phase 2). The groundwater remedy also included state-imposed well permit restrictions and groundwater monitoring. Groundwater cleanup and monitoring began in 1999. They are ongoing. EPA is currently evaluating options to improve the efficiency of groundwater cleanup efforts.

EPA established OU3 in 2006 to address residual off-site soil dioxin contamination from former site operations. EPA anticipates combining OU3 and expanded cleanup for OU1 into one OU in the future. EPA will issue a new OU1/OU3 ROD to establish additional site remedies.

**Five-Year Review Schedule:** The National Contingency Plan requires review of remedial actions that result in any hazardous substances, pollutants or contaminants remaining at the Site above levels that allow for unlimited use and unrestricted exposure every five years to ensure the protection of human health and the environment. The fourth of the Five-Year Reviews for the Site will be completed by September 2016.

**EPA Invites Community Participation in the Five-Year Review Process:** EPA is conducting this Five-Year Review to evaluate the effectiveness of the Site's remedy and to ensure that the remedy remains protective of human health and the environment. As part of the Five-Year Review process, EPA staff is available to answer any questions about the Site. Community members who have questions about the Site or the Five-Year Review process, or who would like to participate in a community interview, are asked to contact:

Peter Thorpe, EPA Remedial Project Manager  
Phone: (404) 562-9688  
Email: [thorpe.peter@epa.gov](mailto:thorpe.peter@epa.gov)

Latonya Spencer, EPA Community Involvement Coordinator  
Phone: (404) 562-8463 | (877) 718-3752 (toll-free)  
Email: [spencer.latonya@epa.gov](mailto:spencer.latonya@epa.gov)

Mailing Address: U.S. EPA Region 4, 61 Forsyth Street, S.W., 11th Floor, Atlanta, GA 30303-8960

Additional information is available at the Site's local document repository, located at West Florida Regional Library, 200 W. Gregory Street, Pensacola, Florida 32501, and online at:  
<http://cumulis.epa.gov/supercpad/cursites/csitinfo.cfm?id=0400572>.  
Legal 1563833 11 September 9, 2016

## Appendix C: Interview Forms

### American Creosote Works, Inc. (Pensacola Plant) Superfund Site

### Five-Year Review Interview Form

Site Name: American Creosote Works, Inc. (Pensacola Plant) EPA ID No.: FLD008161994

Interviewer Name: Melissa Oakley Affiliation: Skeo

Subject Name: Peter Thorpe Affiliation: EPA RPM

Subject Contact Information: Thorpe.Peter@epa.gov

Time: NA Date: 04/18/2016

Interview Location: NA

Interview Format (circle one): In Person Phone Mail Other: Email

Interview Category: EPA Remedial Project Manager

1. What is your overall impression of the project, including cleanup, maintenance and reuse activities (as appropriate)?

*ACW is moving along. We will be cleaning up the PYC Ditch shortly. We are working with FDEP on Probabilistic Risk Assessment for the off-site dioxin cleanup number. We should have a sitewide ROD before the calendar year is over. The Corps contractor, Seneca, does a great job of cleaning the site. The City of Pensacola is very interested in redeveloping the Site.*

2. What have been the effects of this Site on the surrounding community, if any?

*I believe the community would like to see the site redeveloped into a park. They would like to see that done.*

3. Are you aware of any complaints or inquiries regarding site-related environmental issues or remedial activities since the implementation of the cleanup?

*I do here a few comments about the wooded area on the far eastern side of the property. Our contractor clears out that area on an annual basis. It looks better and better every year they performed their cleanup.*

4. What is your assessment of the current performance of the remedy in place at the Site?

*OUI is almost complete with the PYC Ditch. It was very successful for the ROD that was written. OU2 remedy needs to be redone and it will be addressed in the sitewide ROD.*

5. Are you comfortable with the status of the institutional controls at the Site? If not, what are the associated outstanding issues?

*There will need to be more IC put in place with the land, but we can't implement them until we know what the remedy and the Site's final conditions will be.*

6. Are you aware of any community concerns regarding the Site or the operation and management of its remedy? If so, please provide details.

*Overall, the community is more focused on the pace of the cleanup than the cleanup itself. They would like the site to be cleaned up soon.*

7. Do you have any comments, suggestions or recommendations regarding the management or operation of the Site's remedy?

*None.*

**American Creosote Works, Inc.  
(Pensacola Plant) Superfund Site**

**Five-Year Review Interview Form**

Site Name: American Creosote Works, Inc. EPA ID No.: FLD008161994  
(Pensacola Plant)

Interviewer Name: L'Tonya Spencer Affiliation: EPA  
Subject Name: Public Meeting Affiliation: Community and Local  
Participants Government

Subject Contact Information: Available in Public Meeting Sign-In Sheet  
Time: 6:00 pm – 8:00 pm Date: 03/28/2016  
Interview Location: Sanders Beach-Corinne Jones Community Center

Interview Format (circle one): In Person Phone Mail Other:

Interview Category: **Residents & Local Government**

1. Are you aware of the former environmental issues at the Site and the cleanup activities that have taken place to date?

*Yes.*

2. What is your overall impression of the project, including cleanup, maintenance and reuse activities (as appropriate)? What have been the effects of this Site on the surrounding community, if any?

*The process has been very slow.*

3. Have there been any problems with unusual or unexpected activities at the Site, such as emergency response, vandalism or trespassing?

*There has been some homeless activity on the north side of the site, between the site and lumber company. It is unclear whether these individuals are accessing the site or just camping in the dense brush outside the boundary fence. Some community members noted vagrant activity along the eastern site boundary as well. There has been dense brush growth following brush removal a few years ago.*

4. Has EPA kept involved parties and surrounding neighbors informed of activities at the Site? How can EPA best provide site-related information in the future?

*The community feel well informed but would like to have more frequent updates, even in the form of a mailing or email. Especially given the slow nature of the cleanup, periodic contact from EPA helps the community know they have not been forgotten.*

5. Do you own a private well in addition to or instead of accessing city/municipal water supplies? If so, for what purpose(s) is your private well used?

*Several area residents do have private wells on their property but have a municipal water supply connection and do not use the well. Some residents expressed interest in being able to use the wells for irrigation.*

6. Are you aware of any changes in projected land use(s) at the Site?

*The community raised several concerns about zoning and future use of the site property. Residents have participated in reuse planning activities over the years and are in favor of a recreational use of the Site once reuse is appropriate. However, current property zoning is industrial and the community is concerned that the zoning would impede their desired use for the land. The community has also heard that the City may try to extend I Street through the site to facilitate access to the Sanders Beach-Corinne Jones Community Center and that the City has expressed interest in developing the property as a truck parking area, which is an end use not desired by area residents.*

7. Do you have any comments, suggestions or recommendations regarding any aspects of the project?

*Complete the cleanup as soon as possible.*

**American Creosote Works, Inc. (Pensacola Plant) Superfund Site**

**Five-Year Review Interview Form**

Site Name: American Creosote Works, Inc. (Pensacola Plant)

EPA ID No.: FLD008161994

Interviewer Name: N/A

Affiliation: N/A

Subject Name: Jeff Day

Affiliation: Seneca SCMC, LLC

Subject Contact Information: JDay@Seneca-SCMCLLC.com

Time: N/A

Date: 5/11/16

Interview Location: N/A

Interview Format (circle one):      In Person      Phone      Mail      Other: Email

Interview Category:      Remedial Contractor

1. What is your overall impression of the project, including cleanup, maintenance and reuse activities (as appropriate)?

*Good – the site is well maintained. EPA is responsive to the surrounding community. The proposed cleanup activities seem appropriate.*

2. What is your assessment of the current performance of the remedy in place at the Site?

*It is my understanding that the site upkeep task maintains the site security and integrity of the cap until the final remedy can be put in place.*

3. What have been the effects of this Site on the surrounding community, if any?

*None, that I know of.*

4. Are you aware of any complaints or inquiries regarding environmental issues or the remedial action from residents since implementation of the cleanup?

*No.*

5. What are the findings from the monitoring data? What are the key trends in contaminant levels that are being documented over time at the Site?

*I don't know.*

6. Is there a continuous on-site contractor presence? If so, please describe staff responsibilities and activities. Alternatively, please describe staff responsibilities and the frequency of site inspections and activities if there is not a continuous on-site contractor presence.

*Yes, there is a frequent (weekly) on-site contractor presence. The Site is well maintained (site and right of ways are mowed, trimming, brush clearing, fence maintenance, sign replacement etc.).*

7. Have there been any significant changes in site upkeep requirements, maintenance schedules or sampling routines since start-up or in the last five years? If so, do they affect the protectiveness or

effectiveness of the remedy? Please describe changes and impacts.

*The remedial DNAPL system was shut down at the end of 2011. Since then the Site has been maintained by mowing, erosion control, perimeter trimming, inspections, brush clearing, debris pickup/disposal, fence repairs, and sign replacement.*

8. Have there been unexpected site upkeep difficulties or costs at the Site since start-up or in the last five years? If so, please provide details.

*Occasionally cars run through the perimeter fence. The fence must be repaired in a timely manner to maintain site security.*

9. Have there been opportunities to optimize site upkeep activities or sampling efforts? Please describe changes and any resulting or desired cost savings or improved efficiencies.

*No.*

10. Do you have any comments, suggestions or recommendations regarding site upkeep activities and schedules at the Site?

*No.*



## Appendix D: Site Inspection Checklist

<b>FIVE-YEAR REVIEW SITE INSPECTION CHECKLIST</b>			
<b>I. SITE INFORMATION</b>			
Site Name: <u>American Creosote Works, Inc. (Pensacola Plant)</u>		Date of Inspection: <u>03/29/2016</u>	
Location and Region: <u>Pensacola, Florida - EPA Region 4</u>		EPA ID: <u>FLD008161994</u>	
Agency, Office or Company Leading the Five-Year Review: <u>EPA Region 4</u>		Weather/Temperature: <u>Sunny and 70 degrees</u>	
<b>Remedy Includes:</b> (Check all that apply) <div style="display: flex; flex-wrap: wrap;"> <div style="width: 50%;"> <input checked="" type="checkbox"/> Landfill cover/containment  <input checked="" type="checkbox"/> Access controls  <input checked="" type="checkbox"/> Institutional controls  <input checked="" type="checkbox"/> Ground water pump and treatment  <input type="checkbox"/> Surface water collection and treatment  <input type="checkbox"/> Other: _____           </div> <div style="width: 50%;"> <input type="checkbox"/> Monitored natural attenuation  <input type="checkbox"/> Ground water containment  <input type="checkbox"/> Vertical barrier walls           </div> </div>			
<b>Attachments:</b> <input checked="" type="checkbox"/> Inspection team roster attached <input type="checkbox"/> Site map attached			
<b>II. INTERVIEWS</b> (check all that apply)			
<b>1. O&amp;M Site Manager</b> <div style="display: flex; justify-content: space-between; margin-top: 5px;"> <div style="width: 40%;">Name _____</div> <div style="width: 20%;">Title _____</div> <div style="width: 20%;">Date _____</div> <div style="width: 20%;"></div> </div> Interviewed <input type="checkbox"/> at site <input type="checkbox"/> at office <input type="checkbox"/> by phone    Phone: _____ Problems, suggestions <input type="checkbox"/> Report attached: _____			
<b>2. O&amp;M Staff</b> <div style="display: flex; justify-content: space-between; margin-top: 5px;"> <div style="width: 40%;">Name _____</div> <div style="width: 20%;">Title _____</div> <div style="width: 20%;">Date _____</div> <div style="width: 20%;"></div> </div> Interviewed <input type="checkbox"/> at site <input type="checkbox"/> at office <input type="checkbox"/> by phone    Phone: _____ Problems/suggestions <input type="checkbox"/> Report attached: _____			
<b>3. Local Regulatory Authorities and Response Agencies</b> (i.e., state and tribal offices, emergency response office, police department, office of public health or environmental health, zoning office, recorder of deeds, or other city and county offices). Fill in all that apply.			
Agency <u>EPA</u> <div style="display: flex; justify-content: space-between; margin-top: 5px;"> <div style="width: 40%;">Contact <u>Peter Thorpe</u></div> <div style="width: 20%;">RPM _____</div> <div style="width: 20%;">Date <u>04/18/16</u></div> <div style="width: 20%;">Phone No. <u>(404) 562-9688</u></div> </div> <div style="display: flex; justify-content: space-between; margin-top: 5px;"> <div style="width: 40%;">Name _____</div> <div style="width: 20%;">Title _____</div> <div style="width: 20%;">Date _____</div> <div style="width: 20%;">Phone No. _____</div> </div> Problems/suggestions <input type="checkbox"/> Report attached: _____			
Agency <u>FDEP</u> <div style="display: flex; justify-content: space-between; margin-top: 5px;"> <div style="width: 40%;">Contact <u>Kelsey Helton</u></div> <div style="width: 20%;">RPM _____</div> <div style="width: 20%;">Date _____</div> <div style="width: 20%;">Phone No. _____</div> </div> <div style="display: flex; justify-content: space-between; margin-top: 5px;"> <div style="width: 40%;">Name _____</div> <div style="width: 20%;">Title _____</div> <div style="width: 20%;">Date _____</div> <div style="width: 20%;">Phone No. _____</div> </div> Problems/suggestions <input type="checkbox"/> Report attached: _____			
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Agency _____ <div style="display: flex; justify-content: space-between; margin-top: 5px;"> <div style="width: 40%;">Contact _____</div> <div style="width: 20%;">RPM _____</div> <div style="width: 20%;">Date _____</div> <div style="width: 20%;">Phone No. _____</div> </div> <div style="display: flex; justify-content: space-between; margin-top: 5px;"> <div style="width: 40%;">Name _____</div> <div style="width: 20%;">Title _____</div> <div style="width: 20%;">Date _____</div> <div style="width: 20%;">Phone No. _____</div> </div> Problems/suggestions <input type="checkbox"/> Report attached: _____			

Agency _____			
Contact _____			
Name	Title	Date	Phone No.
Problems/suggestions <input type="checkbox"/> Report attached: _____			
<b>4. Other Interviews (optional)</b> <input checked="" type="checkbox"/> Report attached: _____			
Collective interview of residents and local government officials who participated in the March 28, 2016 EPA public meeting.			
<b>III. ON-SITE DOCUMENTS AND RECORDS VERIFIED (check all that apply)</b>			
<b>1. O&amp;M Documents</b>			
<input type="checkbox"/> O&M manual	<input type="checkbox"/> Readily available	<input type="checkbox"/> Up to date	<input checked="" type="checkbox"/> N/A
<input checked="" type="checkbox"/> As-built drawings	<input checked="" type="checkbox"/> Readily available	<input checked="" type="checkbox"/> Up to date	<input type="checkbox"/> N/A
<input checked="" type="checkbox"/> Maintenance logs	<input checked="" type="checkbox"/> Readily available	<input checked="" type="checkbox"/> Up to date	<input type="checkbox"/> N/A
Remarks: <u>No current Site O&amp;M. EPA contractor, Seneca, performs routine site upkeep activities.</u>			
<b>2. Site-Specific Health and Safety Plan</b>			
	<input checked="" type="checkbox"/> Readily available	<input checked="" type="checkbox"/> Up to date	<input type="checkbox"/> N/A
<input checked="" type="checkbox"/> Contingency plan/emergency response plan	<input checked="" type="checkbox"/> Readily available	<input checked="" type="checkbox"/> Up to date	<input type="checkbox"/> N/A
Remarks: <u>Seneca maintains hard copies of the site-specific health and safety plan and emergency response plan in the on-site office trailer.</u>			
<b>3. O&amp;M and OSHA Training Records</b>			
	<input checked="" type="checkbox"/> Readily available	<input checked="" type="checkbox"/> Up to date	<input type="checkbox"/> N/A
Remarks: <u>All training records are maintained electronically.</u>			
<b>4. Permits and Service Agreements</b>			
<input type="checkbox"/> Air discharge permit	<input type="checkbox"/> Readily available	<input type="checkbox"/> Up to date	<input checked="" type="checkbox"/> N/A
<input type="checkbox"/> Effluent discharge	<input type="checkbox"/> Readily available	<input type="checkbox"/> Up to date	<input checked="" type="checkbox"/> N/A
<input type="checkbox"/> Waste disposal, POTW	<input type="checkbox"/> Readily available	<input type="checkbox"/> Up to date	<input checked="" type="checkbox"/> N/A
<input type="checkbox"/> Other permits: _____	<input type="checkbox"/> Readily available	<input type="checkbox"/> Up to date	<input checked="" type="checkbox"/> N/A
Remarks: _____			
<b>5. Gas Generation Records</b>			
	<input type="checkbox"/> Readily available	<input type="checkbox"/> Up to date	<input checked="" type="checkbox"/> N/A
Remarks: _____			
<b>6. Settlement Monument Records</b>			
	<input type="checkbox"/> Readily available	<input type="checkbox"/> Up to date	<input checked="" type="checkbox"/> N/A
Remarks: _____			
<b>7. Ground Water Monitoring Records</b>			
	<input checked="" type="checkbox"/> Readily available	<input checked="" type="checkbox"/> Up to date	<input type="checkbox"/> N/A
Remarks: <u>Annual groundwater monitoring reports are available and up -to-date. Recent reports have included efforts to update groundwater conditions at the Site.</u>			
<b>8. Leachate Extraction Records</b>			
	<input type="checkbox"/> Readily available	<input type="checkbox"/> Up to date	<input checked="" type="checkbox"/> N/A
Remarks: _____			
<b>9. Discharge Compliance Records</b>			
<input type="checkbox"/> Air	<input type="checkbox"/> Readily available	<input type="checkbox"/> Up to date	<input checked="" type="checkbox"/> N/A

<input type="checkbox"/> Water (effluent) Remarks: _____	<input type="checkbox"/> Readily available	<input type="checkbox"/> Up to date	<input checked="" type="checkbox"/> N/A																																								
10. <b>Daily Access/Security Logs</b> <input checked="" type="checkbox"/> Readily available <input checked="" type="checkbox"/> Up to date <input type="checkbox"/> N/A Remarks: <u>Seneca documents site activities, including mowing, fence repairs and general upkeep activities in monthly progress reports. Seneca submits the monthly progress reports to the EPA.</u>																																											
<b>IV. O&amp;M COSTS</b>																																											
1. <b>O&amp;M Organization</b> <div style="display: flex; justify-content: space-between;"> <div> <input type="checkbox"/> State in-house  <input type="checkbox"/> PRP in-house  <input type="checkbox"/> Federal facility in-house         </div> <div> <input type="checkbox"/> Contractor for state  <input type="checkbox"/> Contractor for PRP  <input type="checkbox"/> Contractor for Federal facility         </div> </div> <input checked="" type="checkbox"/> <u>The EPA has contracted the U.S. Army Corps of Engineers to manage site activities. The U.S. Army Corps of Engineers has subcontracted site upkeep work to Seneca.</u>																																											
2. <b>O&amp;M Cost Records</b> <input checked="" type="checkbox"/> Readily available <input checked="" type="checkbox"/> Up to date <input type="checkbox"/> Funding mechanism/agreement in place <input type="checkbox"/> Unavailable Original O&M cost estimate: _____ <input type="checkbox"/> Breakdown attached <div style="text-align: center; margin-top: 10px;">             Total annual cost by year for review period if available           </div> <table style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 25%;">From: <u>1/1/2011</u></td> <td style="width: 25%;">To: <u>12/31/2011</u></td> <td style="width: 25%; text-align: right;"><u>\$237,000</u></td> <td style="width: 25%;"><input type="checkbox"/> Breakdown attached</td> </tr> <tr> <td style="text-align: center;">Date</td> <td style="text-align: center;">Date</td> <td style="text-align: center;">Total cost</td> <td></td> </tr> <tr> <td>From: <u>1/1/2012</u></td> <td>To: <u>12/31/2012</u></td> <td style="text-align: right;"><u>\$287,000</u></td> <td><input type="checkbox"/> Breakdown attached</td> </tr> <tr> <td style="text-align: center;">Date</td> <td style="text-align: center;">Date</td> <td style="text-align: center;">Total cost</td> <td></td> </tr> <tr> <td>From: <u>1/1/2013</u></td> <td>To: <u>12/31/2013</u></td> <td style="text-align: right;"><u>\$72,000</u></td> <td><input type="checkbox"/> Breakdown attached</td> </tr> <tr> <td style="text-align: center;">Date</td> <td style="text-align: center;">Date</td> <td style="text-align: center;">Total cost</td> <td></td> </tr> <tr> <td>From: <u>1/1/2014</u></td> <td>To: <u>12/31/2014</u></td> <td style="text-align: right;"><u>\$76,000</u></td> <td><input type="checkbox"/> Breakdown attached</td> </tr> <tr> <td style="text-align: center;">Date</td> <td style="text-align: center;">Date</td> <td style="text-align: center;">Total cost</td> <td></td> </tr> <tr> <td>From: <u>1/1/2015</u></td> <td>To: <u>12/31/2015</u></td> <td style="text-align: right;"><u>\$94,000</u></td> <td><input type="checkbox"/> Breakdown attached</td> </tr> <tr> <td style="text-align: center;">Date</td> <td style="text-align: center;">Date</td> <td style="text-align: center;">Total cost</td> <td></td> </tr> </table>				From: <u>1/1/2011</u>	To: <u>12/31/2011</u>	<u>\$237,000</u>	<input type="checkbox"/> Breakdown attached	Date	Date	Total cost		From: <u>1/1/2012</u>	To: <u>12/31/2012</u>	<u>\$287,000</u>	<input type="checkbox"/> Breakdown attached	Date	Date	Total cost		From: <u>1/1/2013</u>	To: <u>12/31/2013</u>	<u>\$72,000</u>	<input type="checkbox"/> Breakdown attached	Date	Date	Total cost		From: <u>1/1/2014</u>	To: <u>12/31/2014</u>	<u>\$76,000</u>	<input type="checkbox"/> Breakdown attached	Date	Date	Total cost		From: <u>1/1/2015</u>	To: <u>12/31/2015</u>	<u>\$94,000</u>	<input type="checkbox"/> Breakdown attached	Date	Date	Total cost	
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From: <u>1/1/2013</u>	To: <u>12/31/2013</u>	<u>\$72,000</u>	<input type="checkbox"/> Breakdown attached																																								
Date	Date	Total cost																																									
From: <u>1/1/2014</u>	To: <u>12/31/2014</u>	<u>\$76,000</u>	<input type="checkbox"/> Breakdown attached																																								
Date	Date	Total cost																																									
From: <u>1/1/2015</u>	To: <u>12/31/2015</u>	<u>\$94,000</u>	<input type="checkbox"/> Breakdown attached																																								
Date	Date	Total cost																																									
3. <b>Unanticipated or Unusually High O&amp;M Costs during Review Period</b> Describe costs and reasons: <u>The costs in 2011, 2012 and 2015 were higher than in other years because in 2011, the EPA conducted quarterly groundwater sampling and decommissioned the DNAPL extraction system in addition to site upkeep. In 2012, in addition to the usual site maintenance and upkeep, the EPA cleared and sampled the PYC Ditch, conducted a well survey, and conducted activities in support of the stormwater line relocation such as treating groundwater, monitoring air and stockpiling soil. In 2015, they removed and disposed of the DNAPL extraction well piping network.</u>																																											
<b>V. ACCESS AND INSTITUTIONAL CONTROLS</b> <input checked="" type="checkbox"/> Applicable <input type="checkbox"/> N/A																																											
<b>A. Fencing</b>																																											
1. <b>Fencing Damaged</b> <input type="checkbox"/> Location shown on site map <input checked="" type="checkbox"/> Gates secured <input type="checkbox"/> N/A Remarks: <u>All site fencing and associated gates are in good condition. The fence has been damaged by cars several times in the last five years, but was repaired each time shortly afterward.</u>																																											

<b>B. Other Access Restrictions</b>			
1.	Signs and Other Security Measures	<input type="checkbox"/> Location shown on site map	<input type="checkbox"/> N/A
Remarks: <u>Warning signage is clearly posted at regular intervals along the perimeter fence. All gates are secured with locks.</u>			
<b>C. Institutional Controls (ICs)</b>			
1.	Implementation and Enforcement		
	Site conditions imply ICs not properly implemented	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No <input type="checkbox"/> N/A
	Site conditions imply ICs not being fully enforced	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No <input type="checkbox"/> N/A
	Type of monitoring (e.g., self-reporting, drive by): _____		
	Frequency: _____		
	Responsible party/agency: <u>EPA</u>		
	Contact _____		
	Name	Title	Date
	Phone no.		
	Reporting is up to date	<input type="checkbox"/> Yes	<input type="checkbox"/> No <input checked="" type="checkbox"/> N/A
	Reports are verified by the lead agency	<input type="checkbox"/> Yes	<input type="checkbox"/> No <input checked="" type="checkbox"/> N/A
	Specific requirements in deed or decision documents have been met	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No <input type="checkbox"/> N/A
	Violations have been reported	<input type="checkbox"/> Yes	<input type="checkbox"/> No <input checked="" type="checkbox"/> N/A
	Other problems or suggestions: <input type="checkbox"/> Report attached		
2.	Adequacy	<input type="checkbox"/> ICs are adequate	<input checked="" type="checkbox"/> ICs are inadequate <input type="checkbox"/> N/A
Remarks: <u>Institutional controls are not in place to prevent activities that could disturb the cap. However, the remedy has not yet been fully implemented. Upon completion of remedy implementation and construction of the final cap, institutional controls will be implemented. The Site is located in a Florida Groundwater Delineated Area (#1725S741), all homes and businesses are connected to the city water supply and the NFWFMD manages all well permitting. The presence of several irrigations wells indicates the well permitting institutional control is not functioning as intended.</u>			
<b>D. General</b>			
1.	Vandalism/Trespassing	<input type="checkbox"/> Location shown on site map	<input checked="" type="checkbox"/> No vandalism evident
Remarks: <u>Neither vandalism nor trespassing has taken place at the Site during the last five years (2011-2016). People sometimes throw trash over the fence. Seneca removes trash and other discarded materials found within the fence during routine upkeep activities.</u>			
2.	Land Use Changes On Site	<input type="checkbox"/> N/A	
Remarks: <u>Since the 2011 FYR, a new business opened immediately north of the Site. A lighting manufacturing business now operates there.</u>			
3.	Land Use Changes Off Site	<input checked="" type="checkbox"/> N/A	
Remarks: _____			
<b>VI. GENERAL SITE CONDITIONS</b>			
<b>A. Roads</b> <input checked="" type="checkbox"/> Applicable <input type="checkbox"/> N/A			
1.	Roads Damaged	<input type="checkbox"/> Location shown on site map	<input checked="" type="checkbox"/> Roads adequate <input type="checkbox"/> N/A
Remarks: <u>On-site roads and parking areas are in good condition.</u>			
<b>B. Other Site Conditions</b>			

Remarks: _____		
<b>VII. LANDFILL COVERS</b> <input checked="" type="checkbox"/> Applicable <input type="checkbox"/> N/A		
<b>A. Landfill Surface</b>		
1.	<b>Settlement</b> (low spots) <input type="checkbox"/> Location shown on site map Arial extent: _____ Depth: _____ Remarks: _____	<input checked="" type="checkbox"/> Settlement not evident Depth: _____
2.	<b>Cracks</b> <input type="checkbox"/> Location shown on site map Lengths: _____      Widths: _____ Depths: _____ Remarks: _____	<input checked="" type="checkbox"/> Cracking not evident Depths: _____
3.	<b>Erosion</b> <input type="checkbox"/> Location shown on site map Arial extent: _____ Remarks: _____	<input checked="" type="checkbox"/> Erosion not evident Depth: _____
4.	<b>Holes</b> <input type="checkbox"/> Location shown on site map Arial extent: _____ Remarks: _____	<input checked="" type="checkbox"/> Holes not evident Depth: _____
5.	<b>Vegetative Cover</b> <input checked="" type="checkbox"/> Grass <input checked="" type="checkbox"/> Cover properly established <input checked="" type="checkbox"/> No signs of stress <input type="checkbox"/> Trees/shrubs (indicate size and locations on a diagram) Remarks: <u>The grass growing on the clay cap is well-established, well-maintained and healthy.</u>	
6.	<b>Alternative Cover</b> (e.g., armored rock, concrete) <input type="checkbox"/> N/A Remarks: <u>A black fabric liner covers the soil excavated from the Southeast Ditch. With the exception of a small hole in the liner, and a plant growing in the middle of the area, the liner appeared to be in good condition. The plant and small hole in the liner have been noted and will be addressed during routine site upkeep activities.</u>	
7.	<b>Bulges</b> <input type="checkbox"/> Location shown on site map Arial extent: _____ Remarks: _____	<input checked="" type="checkbox"/> Bulges not evident Height: _____
8.	<b>Wet Areas/Water Damage</b> <input checked="" type="checkbox"/> Wet areas/water damage not evident <div style="display: flex; justify-content: space-between; margin-top: 10px;"> <div style="width: 30%;"> <input type="checkbox"/> Wet areas  <input type="checkbox"/> Ponding  <input type="checkbox"/> Seeps  <input type="checkbox"/> Soft subgrade         </div> <div style="width: 30%;"> <input type="checkbox"/> Location shown on site map  <input type="checkbox"/> Location shown on site map  <input type="checkbox"/> Location shown on site map  <input type="checkbox"/> Location shown on site map         </div> <div style="width: 30%;">         Arial extent: _____          Arial extent: _____          Arial extent: _____          Arial extent: _____       </div> </div> Remarks: _____	
9.	<b>Slope Instability</b> <input type="checkbox"/> Slides <input type="checkbox"/> Location shown on site map <input checked="" type="checkbox"/> No evidence of slope instability Arial extent: _____ Remarks: _____	

<b>B. Benches</b> <input type="checkbox"/> Applicable <input checked="" type="checkbox"/> N/A (Horizontally constructed mounds of earth placed across a steep landfill side slope to interrupt the slope in order to slow down the velocity of surface runoff and intercept and convey the runoff to a lined channel.)		
1.	<b>Flows Bypass Bench</b>	<input type="checkbox"/> Location shown on site map <input type="checkbox"/> N/A or okay Remarks: _____
2.	<b>Bench Breached</b>	<input type="checkbox"/> Location shown on site map <input type="checkbox"/> N/A or okay Remarks: _____
3.	<b>Bench Overtopped</b>	<input type="checkbox"/> Location shown on site map <input type="checkbox"/> N/A or okay Remarks: _____
<b>C. Letdown Channels</b> <input type="checkbox"/> Applicable <input checked="" type="checkbox"/> N/A (Channel lined with erosion control mats, riprap, grout bags or gabions that descend down the steep side slope of the cover and will allow the runoff water collected by the benches to move off of the landfill cover without creating erosion gullies.)		
1.	<b>Settlement</b> (Low spots)	<input type="checkbox"/> Location shown on site map <input type="checkbox"/> No evidence of settlement Arial extent: _____      Depth: _____ Remarks: _____
2.	<b>Material Degradation</b>	<input type="checkbox"/> Location shown on site map <input type="checkbox"/> No evidence of degradation Material type: _____      Arial extent: _____ Remarks: _____
3.	<b>Erosion</b>	<input type="checkbox"/> Location shown on site map <input type="checkbox"/> No evidence of erosion Arial extent: _____      Depth: _____ Remarks: _____
4.	<b>Undercutting</b>	<input type="checkbox"/> Location shown on site map <input type="checkbox"/> No evidence of undercutting Arial extent: _____      Depth: _____ Remarks: _____
5.	<b>Obstructions</b>	Type: _____ <input type="checkbox"/> No obstructions <input type="checkbox"/> Location shown on site map      Arial extent: _____ Size: _____ Remarks: _____
6.	<b>Excessive Vegetative Growth</b>	Type: _____ <input type="checkbox"/> No evidence of excessive growth <input type="checkbox"/> Vegetation in channels does not obstruct flow <input type="checkbox"/> Location shown on site map      Arial extent: _____ Remarks: _____
<b>D. Cover Penetrations</b> <input type="checkbox"/> Applicable <input checked="" type="checkbox"/> N/A		
1.	<b>Gas Vents</b>	<input type="checkbox"/> Active <input type="checkbox"/> Passive



	<input type="checkbox"/> Properly secured/locked <input type="checkbox"/> Functioning <input type="checkbox"/> Routinely sampled <input type="checkbox"/> Good condition <input type="checkbox"/> Evidence of leakage at penetration <input type="checkbox"/> Needs maintenance <input type="checkbox"/> N/A Remarks: _____
2.	<b>Gas Monitoring Probes</b> <input type="checkbox"/> Properly secured/locked <input type="checkbox"/> Functioning <input type="checkbox"/> Routinely sampled <input type="checkbox"/> Good condition <input type="checkbox"/> Evidence of leakage at penetration <input type="checkbox"/> Needs maintenance <input type="checkbox"/> N/A Remarks: _____
3.	<b>Monitoring Wells (within surface area of landfill)</b> <input type="checkbox"/> Properly secured/locked <input type="checkbox"/> Functioning <input type="checkbox"/> Routinely sampled <input type="checkbox"/> Good condition <input type="checkbox"/> Evidence of leakage at penetration <input type="checkbox"/> Needs maintenance <input type="checkbox"/> N/A Remarks: _____
4.	<b>Extraction Wells Leachate</b> <input type="checkbox"/> Properly secured/locked <input type="checkbox"/> Functioning <input type="checkbox"/> Routinely sampled <input type="checkbox"/> Good condition <input type="checkbox"/> Evidence of leakage at penetration <input type="checkbox"/> Needs maintenance <input type="checkbox"/> N/A Remarks: _____
5.	<b>Settlement Monuments</b> <input type="checkbox"/> Located <input type="checkbox"/> Routinely surveyed <input type="checkbox"/> N/A Remarks: _____
<b>E. Gas Collection and Treatment</b> <input type="checkbox"/> Applicable <input checked="" type="checkbox"/> N/A	
1.	<b>Gas Treatment Facilities</b> <input type="checkbox"/> Flaring <input type="checkbox"/> Thermal destruction <input type="checkbox"/> Collection for reuse <input type="checkbox"/> Good condition <input type="checkbox"/> Needs maintenance Remarks: _____
2.	<b>Gas Collection Wells, Manifolds and Piping</b> <input type="checkbox"/> Good condition <input type="checkbox"/> Needs maintenance Remarks: _____
3.	<b>Gas Monitoring Facilities (e.g., gas monitoring of adjacent homes or buildings)</b> <input type="checkbox"/> Good condition <input type="checkbox"/> Needs maintenance <input type="checkbox"/> N/A Remarks: _____
<b>F. Cover Drainage Layer</b> <input type="checkbox"/> Applicable <input checked="" type="checkbox"/> N/A	
1.	<b>Outlet Pipes Inspected</b> <input type="checkbox"/> Functioning <input type="checkbox"/> N/A Remarks: _____
2.	<b>Outlet Rock Inspected</b> <input type="checkbox"/> Functioning <input type="checkbox"/> N/A Remarks: _____
<b>G. Detention/Sedimentation Ponds</b> <input type="checkbox"/> Applicable <input checked="" type="checkbox"/> N/A	
1.	<b>Siltation</b> Area extent: _____    Depth: _____ <input type="checkbox"/> N/A <input type="checkbox"/> Siltation not evident

Remarks: _____		
2.	<b>Erosion</b> <input type="checkbox"/> Erosion not evident Remarks: _____	Area extent: _____ Depth: _____
3.	<b>Outlet Works</b> <input type="checkbox"/> Functioning Remarks: _____	<input type="checkbox"/> N/A
4.	<b>Dam</b> <input type="checkbox"/> Functioning Remarks: _____	<input type="checkbox"/> N/A
<b>H. Retaining Walls</b> <input type="checkbox"/> Applicable <input checked="" type="checkbox"/> N/A		
1.	<b>Deformations</b> Horizontal displacement: _____ Rotational displacement: _____ Remarks: _____	<input type="checkbox"/> Location shown on site map <input type="checkbox"/> Deformation not evident Vertical displacement: _____
2.	<b>Degradation</b> Remarks: _____	<input type="checkbox"/> Location shown on site map <input type="checkbox"/> Degradation not evident
<b>I. Perimeter Ditches/Off-Site Discharge</b> <input type="checkbox"/> Applicable <input checked="" type="checkbox"/> N/A		
1.	<b>Siltation</b> Area extent: _____ Remarks: _____	<input type="checkbox"/> Location shown on site map <input type="checkbox"/> Siltation not evident Depth: _____
2.	<b>Vegetative Growth</b> <input type="checkbox"/> Vegetation does not impede flow Area extent: _____ Remarks: _____	<input type="checkbox"/> Location shown on site map <input type="checkbox"/> N/A Type: _____
3.	<b>Erosion</b> Area extent: _____ Remarks: _____	<input type="checkbox"/> Location shown on site map <input type="checkbox"/> Erosion not evident Depth: _____
4.	<b>Discharge Structure</b> Remarks: _____	<input type="checkbox"/> Functioning <input type="checkbox"/> N/A
<b>VIII. VERTICAL BARRIER WALLS</b> <input type="checkbox"/> Applicable <input checked="" type="checkbox"/> N/A		
1.	<b>Settlement</b> Area extent: _____ Remarks: _____	<input type="checkbox"/> Location shown on site map <input type="checkbox"/> Settlement not evident Depth: _____
2.	<b>Performance Monitoring</b> Type of monitoring: _____ <input type="checkbox"/> Performance not monitored Frequency: _____ <input type="checkbox"/> Evidence of breaching Head differential: _____	

Remarks: _____		
<b>IX. GROUND WATER/SURFACE WATER REMEDIES</b> <input checked="" type="checkbox"/> Applicable <input type="checkbox"/> N/A		
<b>A. Ground Water Extraction Wells, Pumps and Pipelines</b> <input checked="" type="checkbox"/> Applicable <input type="checkbox"/> N/A		
<b>1. Pumps, Wellhead Plumbing and Electrical</b> <input type="checkbox"/> Good condition <input type="checkbox"/> All required wells properly operating <input type="checkbox"/> Needs maintenance <input checked="" type="checkbox"/> N/A Remarks: <u>The groundwater treatment system is no longer operational.</u>		
<b>2. Extraction System Pipelines, Valves, Valve Boxes and Other Appurtenances</b> <input type="checkbox"/> Good condition <input type="checkbox"/> Needs maintenance Remarks: <u>The groundwater treatment system is no longer operational.</u>		
<b>3. Spare Parts and Equipment</b> <input type="checkbox"/> Readily available <input type="checkbox"/> Good condition <input type="checkbox"/> Requires upgrade <input type="checkbox"/> Needs to be provided Remarks: <u>The groundwater treatment system is no longer operational.</u>		
<b>B. Surface Water Collection Structures, Pumps and Pipelines</b> <input type="checkbox"/> Applicable <input checked="" type="checkbox"/> N/A		
<b>1. Collection Structures, Pumps and Electrical</b> <input type="checkbox"/> Good condition <input type="checkbox"/> Needs maintenance Remarks: _____		
<b>2. Surface Water Collection System Pipelines, Valves, Valve Boxes and Other Appurtenances</b> <input type="checkbox"/> Good condition <input type="checkbox"/> Needs maintenance Remarks: _____		
<b>3. Spare Parts and Equipment</b> <input type="checkbox"/> Readily available <input type="checkbox"/> Good condition <input type="checkbox"/> Requires upgrade <input type="checkbox"/> Needs to be provided Remarks: _____		
<b>C. Treatment System</b> <input checked="" type="checkbox"/> Applicable <input type="checkbox"/> N/A		
<b>1. Treatment Train (check components that apply)</b> <input type="checkbox"/> Metals removal <input type="checkbox"/> Oil/water separation <input type="checkbox"/> Bioremediation <input type="checkbox"/> Air stripping <input type="checkbox"/> Carbon adsorbers <input type="checkbox"/> Filters: _____ <input type="checkbox"/> Additive (e.g., chelation agent, flocculent): _____ <input type="checkbox"/> Others: _____ <input type="checkbox"/> Good condition <input type="checkbox"/> Needs maintenance <input type="checkbox"/> Sampling ports properly marked and functional <input type="checkbox"/> Sampling/maintenance log displayed and up to date <input type="checkbox"/> Equipment properly identified <input type="checkbox"/> Quantity of ground water treated annually: _____ <input type="checkbox"/> Quantity of surface water treated annually: _____ Remarks: <u>The groundwater treatment system is no longer in operation.</u>		

2.	<b>Electrical Enclosures and Panels</b> (properly rated and functional)	<input checked="" type="checkbox"/> N/A <input type="checkbox"/> Good condition <input type="checkbox"/> Needs maintenance	Remarks: _____
3.	<b>Tanks, Vaults, Storage Vessels</b>	<input checked="" type="checkbox"/> N/A <input type="checkbox"/> Good condition <input type="checkbox"/> Proper secondary containment <input type="checkbox"/> Needs maintenance	Remarks: <u>The groundwater treatment system is no longer in operation.</u>
4.	<b>Discharge Structure and Appurtenances</b>	<input checked="" type="checkbox"/> N/A <input type="checkbox"/> Good condition <input type="checkbox"/> Needs maintenance	Remarks: _____
5.	<b>Treatment Building(s)</b>	<input type="checkbox"/> N/A <input checked="" type="checkbox"/> Good condition (esp. roof and doorways) <input type="checkbox"/> Needs repair <input type="checkbox"/> Chemicals and equipment properly stored	Remarks: <u>The groundwater treatment system is no longer in operation.</u>
6.	<b>Monitoring Wells</b> (pump and treatment remedy)	<input type="checkbox"/> Properly secured/locked <input type="checkbox"/> Functioning <input type="checkbox"/> Routinely sampled <input type="checkbox"/> Good condition <input type="checkbox"/> All required wells located <input type="checkbox"/> Needs maintenance <input checked="" type="checkbox"/> N/A	Remarks: _____
<b>D. Monitoring Data</b>			
1.	<b>Monitoring Data</b>	<input checked="" type="checkbox"/> Is routinely submitted on time <input checked="" type="checkbox"/> Is of acceptable quality	
2.	<b>Monitoring Data Suggests:</b>	<input type="checkbox"/> Ground water plume is effectively contained <input type="checkbox"/> Contaminant concentrations are declining	
<b>E. Monitored Natural Attenuation</b>			
1.	<b>Monitoring Wells</b> (natural attenuation remedy)	<input checked="" type="checkbox"/> Properly secured/locked <input checked="" type="checkbox"/> Functioning <input checked="" type="checkbox"/> Routinely sampled <input checked="" type="checkbox"/> Good condition <input type="checkbox"/> All required wells located <input type="checkbox"/> Needs maintenance <input type="checkbox"/> N/A	Remarks: <u>The EPA contractor, Seneca, performs annual groundwater monitoring. All wells observed during the site inspection appeared to be in good condition and were secured with either locks or bolts.</u>
<b>X. OTHER REMEDIES</b>			
If there are remedies applied at the site and not covered above, attach an inspection sheet describing the physical nature and condition of any facility associated with the remedy. An example would be soil vapor extraction.			
<b>XI. OVERALL OBSERVATIONS</b>			
A.	<b>Implementation of the Remedy</b>		
	Describe issues and observations relating to whether the remedy is effective and functioning as designed. Begin with a brief statement of what the remedy is designed to accomplish (e.g., to contain contaminant plume, minimize infiltration and gas emissions). <u>The OUI remedy has been partially implemented and will be completed following the sitewide ROD. The PYC Ditch underwent remediation in summer 2016. There are currently no soil ICs in place for OUI, but they will be implemented with the new sitewide remedy. The DNAPL recovery remedy failed, but the EPA is currently selecting a replacement remedy.</u>		
B.	<b>Adequacy of O&amp;M</b>		

	<p>Describe issues and observations related to the implementation and scope of O&amp;M procedures. In particular, discuss their relationship to the current and long-term protectiveness of the remedy. <u>Seneca performs routine site upkeep activities including mowing, bush-hogging, fence repair and trash/litter removal. Site upkeep activities are adequate.</u></p>
<b>C.</b>	<p><b>Early Indicators of Potential Remedy Problems</b></p>
	<p>Describe issues and observations such as unexpected changes in the cost or scope of O&amp;M or a high frequency of unscheduled repairs that suggest that the protectiveness of the remedy may be compromised in the future.  <u>Due to its inability to adequately address groundwater contamination, the EPA took the groundwater treatment system out of operation in December 2011. The EPA is in the process of investigating alternative remedial strategies to address residual site contamination. In addition, some of the groundwater institutional controls appear to be ineffective in preventing well installation.</u></p>
<b>D.</b>	<p><b>Opportunities for Optimization</b></p>
	<p>Describe possible opportunities for optimization in monitoring tasks or the operation of the remedy. <u>The EPA declared the DNAPL recovery remedy a failure and is currently worked on a new sitewide remedy to optimize the cleanup.</u></p>

## Appendix E: Photographs from Site Inspection Visit



Locked gate with clearly-displayed warning signage along the southern site perimeter



Aboveground storage tanks for holding extracted DNAPL and groundwater treatment area, at the western end of the Site, are no longer in use





The on-site office trailer, located on the western end of the Site



Pumps have been removed from all DNAPL extraction wells on the western part of the Site





View of the western end of the Site – the previous location of several DNAPL extraction wells



View of the Site, looking east

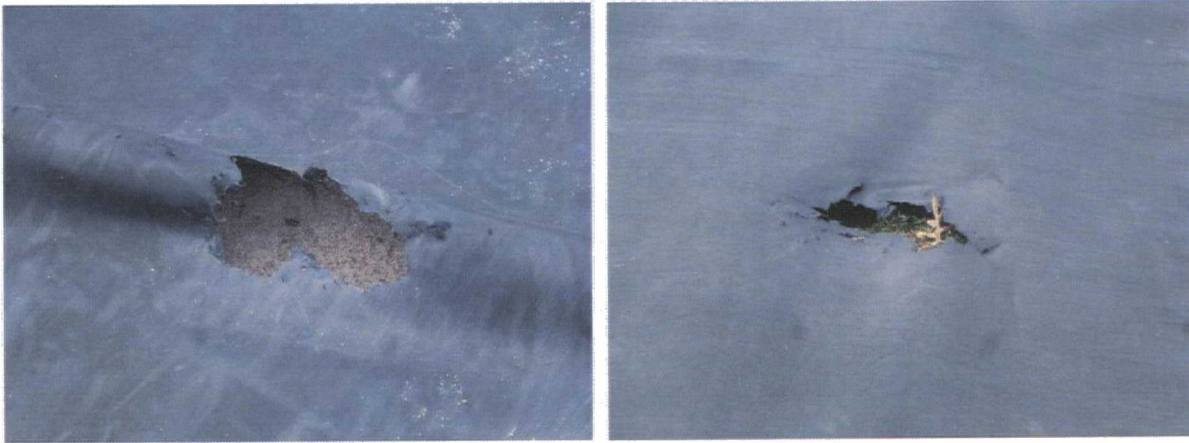




A large pile of demolition debris generated during early cleanup activities



Temporary cover over contaminated Southeast Ditch soil.



Small holes observed in the liner covering the Southeast Ditch materials



Vegetation covering the large clay cap at the center of the Site, view looking toward the east





View looking toward the west of the area between the clay cap and the southern perimeter fence



View of the former rail bed, looking west





A small fig tree and bamboo plant have been planted near two monitoring wells between Pine Street and the Site's southern perimeter fence line



A discarded mattress inside the Site's southern perimeter fence line





Well MW 3, south of the clay cap, was secured with bolts



Fence along the southern perimeter of the Site





Prior to cleanup, access to the PYC Ditch was restricted by a tall fence, topped with barbed wire.  
Warning signage was clearly displayed on the PYC Ditch fence.



View of the PYC Ditch, looking north toward Cypress Street, prior to cleanup.



View of the PYC Ditch, looking north toward Cypress Street, after cleanup completion.



Point where the former PYC Ditch had discharged into Bayou Chico; the PYC is pictured in the background.



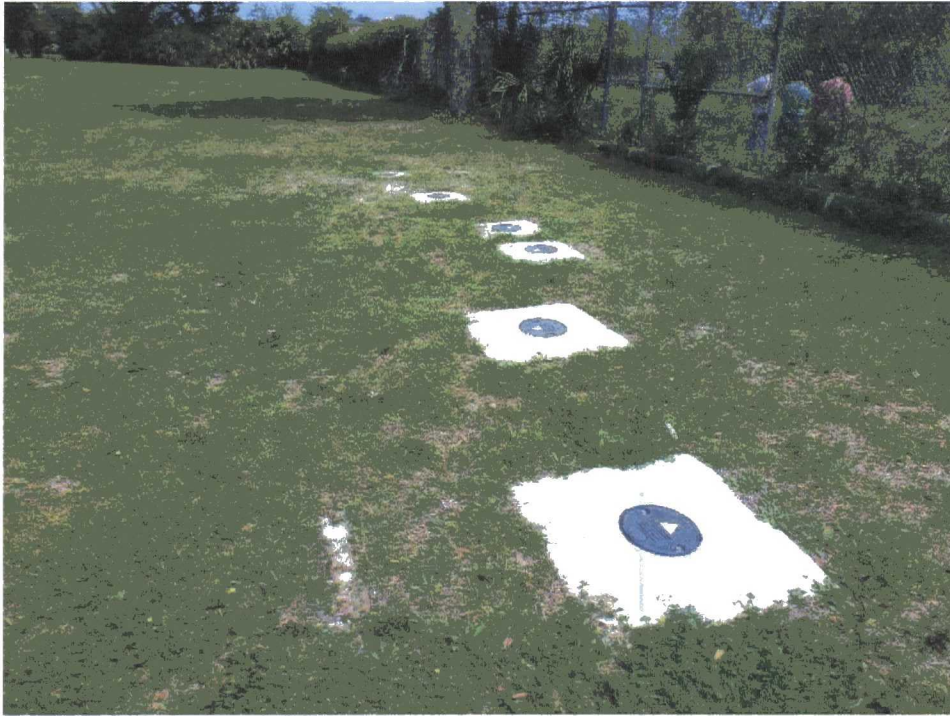


Fence at the southern end of the PYC Ditch, prior to cleanup.



After PYC Ditch cleanup completion, the bridgeway that had previously allowed pedestrian crossing of the PYC Ditch is now used as an observation bridge for races.





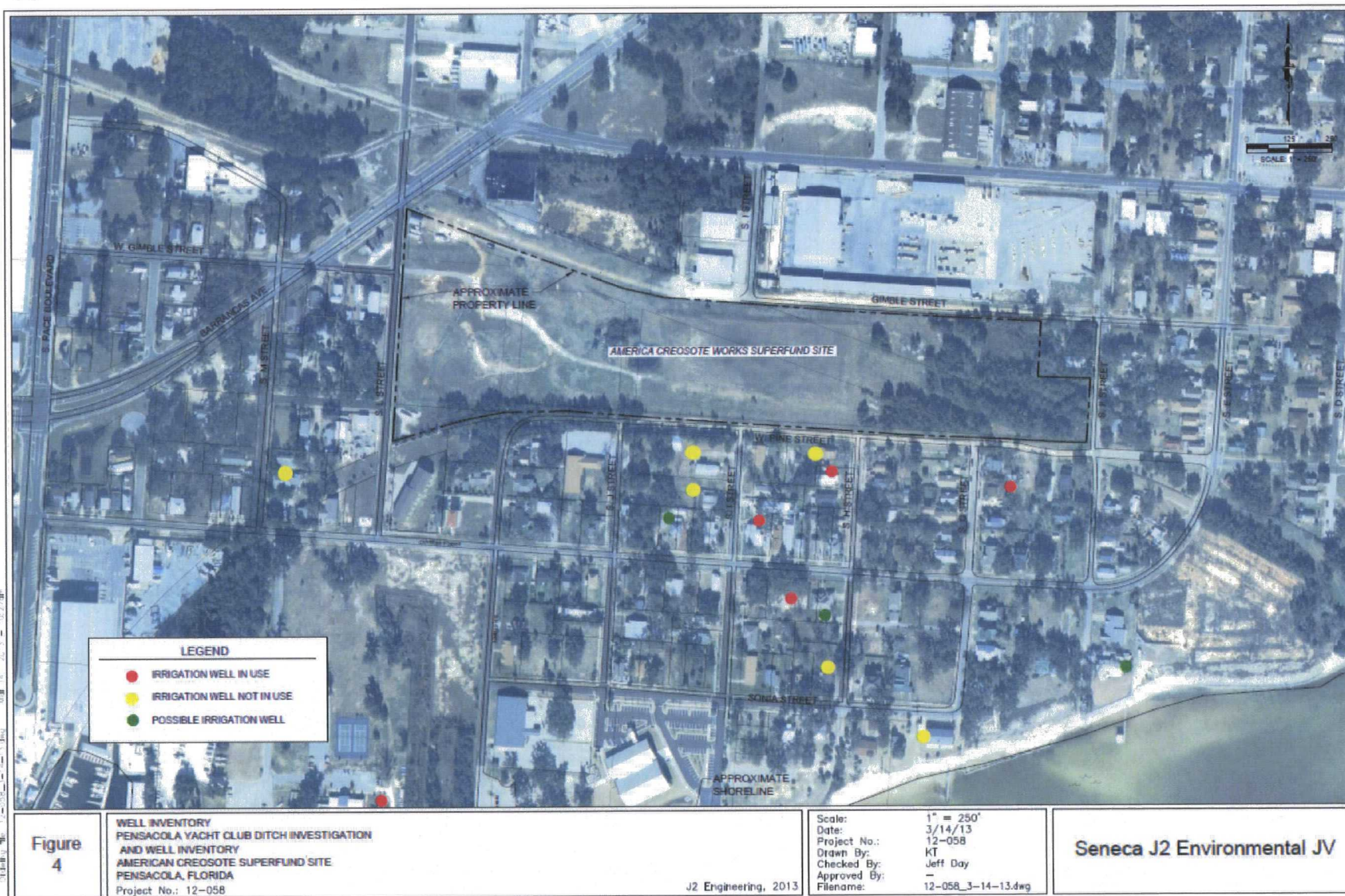
New concrete well pads immediately west of the PYC Ditch fence



View of the Southeast Ditch area

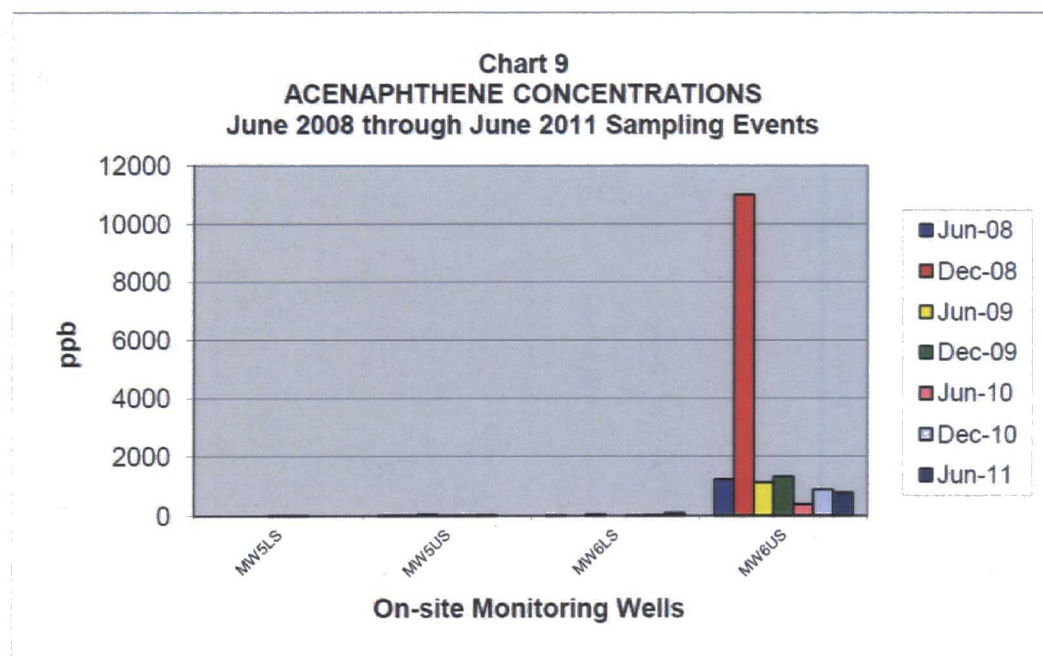
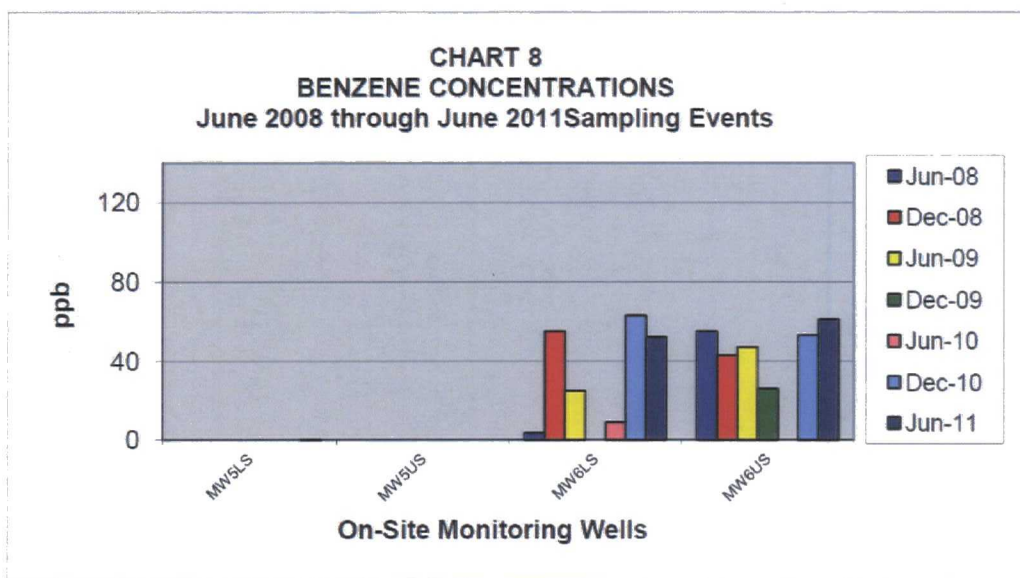


## Appendix F: 2013 Well Survey Results



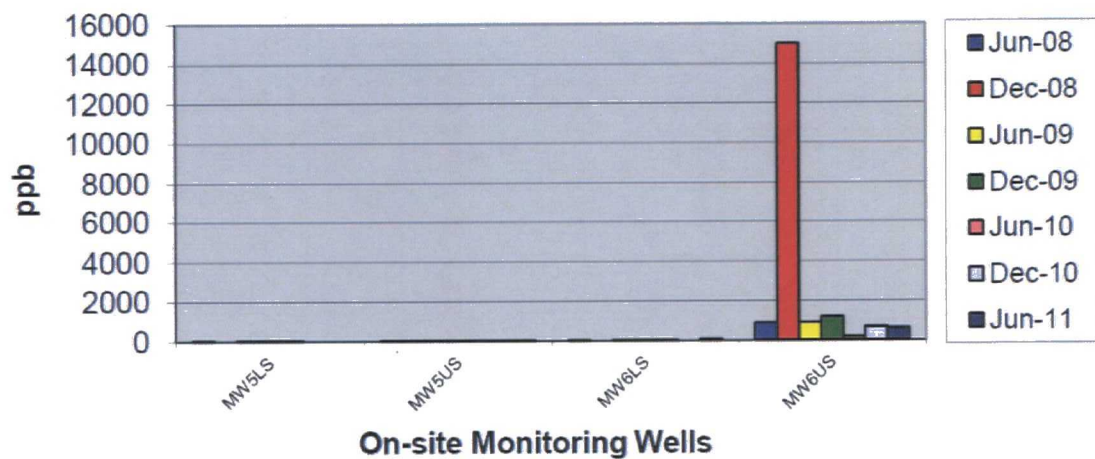
## Appendix G: Detailed Data Review

### Charts from the September 2010-September 2011 Operation and Maintenance Report

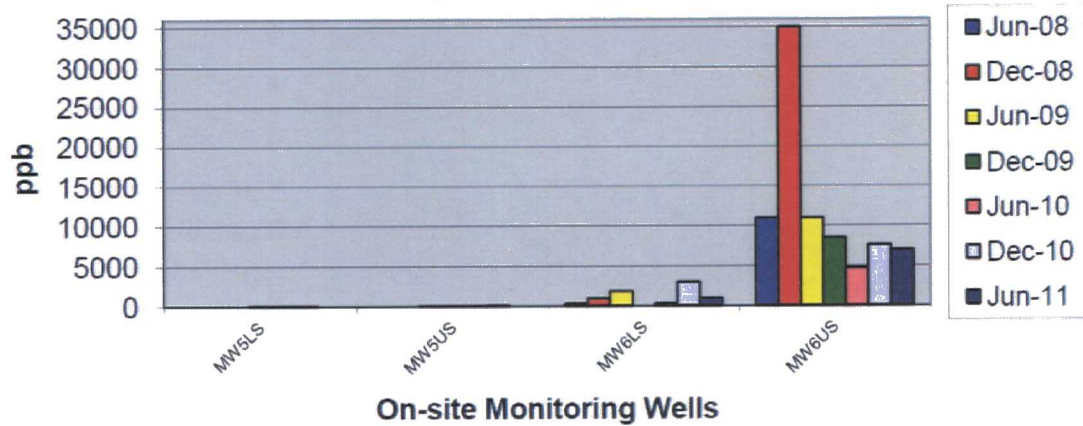




**Chart 10**  
**FLUORANTHENE CONCENTRATIONS**  
 June 2008 through June 2011 Sampling Events

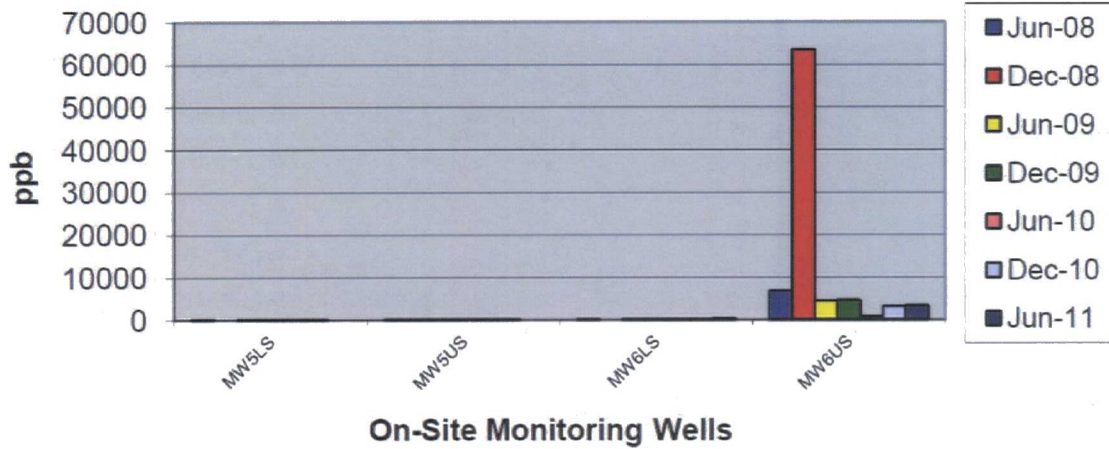


**Chart 11**  
**NAPHTHALENE CONCENTRATIONS**  
 June 2008 through June 2011 Sampling Events

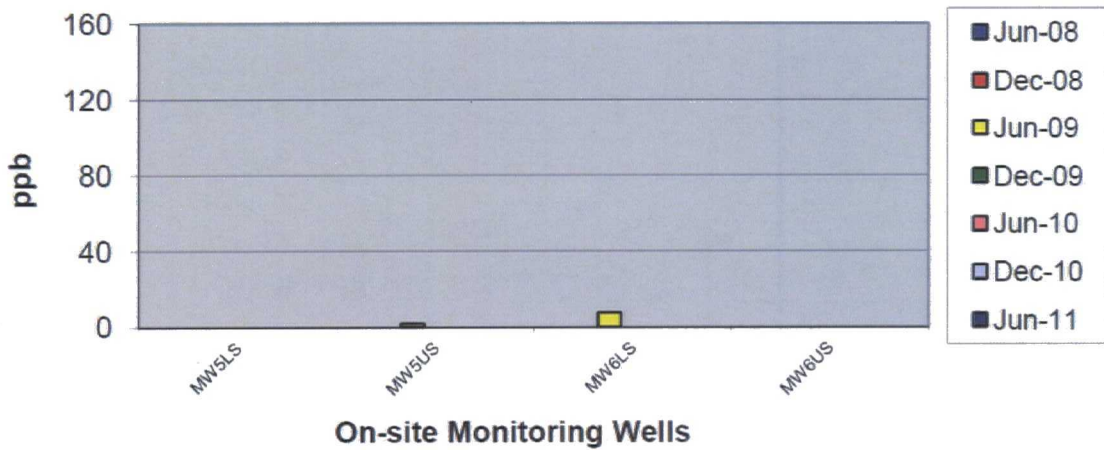




**Chart 12**  
**SELECTED PAH CONCENTRATIONS**  
 June 2008 through June 2011 Sampling Events



**Chart 14**  
**PENTACHLOROPHENOL CONCENTRATIONS**  
 June 2008 through June 2011 Sampling Events



# Tables from the Groundwater Sampling Investigation Reports, 2012-2015

Table 3  
American Creosote VOC Results  
2014 and 2015

Station ID	220	220	281	281	282	282	283	283	285	285	420	420	440	440	480	480
Sample ID	220-0114	220-0115	281-0114	281-0115	282-0114	282-0115	283-0114	283-0115	285-0114	285-0115	420-0114	420-0115	440-0114	440-0115	480-0114	480-0115
Sample Date	2/4/14 11:20	1/29/15 15:15	2/1/14 14:30	1/28/15 9:40	2/1/14 15:25	1/28/15 10:05	2/1/14 15:35	1/27/15 15:45	2/1/14 14:45	1/28/15 10:15	2/4/14 10:40	1/31/15 10:20	2/4/14 12:35	1/31/15 9:40	2/4/14 18:25	1/31/15 12:05
Analyte	Units	FL Marine SWCTL (2005)														
(m- and/or p-)xylene	ug/L	n/a	0.60 U	0.35 U	57	52	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	5.0	1.6	5.0	2.6	0.47 U	0.47 U
Acetone	ug/L	1700 ug/l	< 4.0 U	< 4.0 U	< 4.0 U	< 4.0 U	< 4.0 U	< 4.0 U	< 4.0 U	< 4.0 U	< 4.0 U	< 4.0 U	< 4.0 U	< 4.0 U	< 4.0 U	< 4.0 U
Benzene	ug/L	71.28 ug/l	0.95 U	0.20 U	58	54	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U	35	18	3.1	0.52	0.31 U	0.26 U
Chlorobenzene	ug/L	17 ug/l	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U
Ethyl Benzene	ug/L	610 ug/l	0.73	0.23 U	50	56	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U	15	3.4	1.3	0.37 U	1.1	0.80
Methane	ug/L	n/a	180	168	8900	15000	370	240	170	15	8000	2300	4700	8500	2000	510
Methyl Ethyl ketone	ug/L	120000 ug/l	< 4.0 U	< 4.0 U	< 4.0 U	< 4.0 U	< 4.0 U	< 4.0 U	< 4.0 U	< 4.0 U	< 4.0 U	< 4.0 U	< 4.0 U	< 4.0 U	< 4.0 U	< 4.0 U
Styrene	ug/L	860 ug/l	< 0.50 U	< 0.50 U	< 1.3 U	< 1.3 U	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U	3.6	< 0.73 U
Toluene	ug/L	480 ug/l	0.26 U	0.18 U	57	74	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U	0.79	0.37 U	0.26 U	< 0.50 U	0.39 U	0.26 U
p-xylene	ug/L	n/a	0.81	0.51 U	55	55	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U	2.2	0.61	0.63	0.25 U	0.29 U	0.34 U

Station ID	700	700	720	720	ACWMW1	ACWMW1	C1005	C1005	C103	C103	C104	C104	C105	C105
Sample ID	700-0114	700-0115	720-0114	720-0115	ACWMW1-0114	ACWMW1-0115	C1005-0114	C1005-0115	C103-0114	C103-0115	C104-0114	C104-0115	C105-0114	C105-0115
Sample Date	2/5/14 14:20	1/27/15 15:30	2/1/14 14:50	1/28/15 10:00	2/4/14 15:30	2/2/15 14:43	1/31/14 9:35	1/30/15 9:35	2/1/14 13:45	1/31/15 12:05	2/1/14 10:40	1/31/15 11:35	2/1/14 9:40	1/31/15 14:40
Analyte	Units	FL Marine SWCTL (2005)												
(m- and/or p-)xylene	ug/L	n/a	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	0.88 U	0.96 U	< 1.0 U	< 1.0 U
Acetone	ug/L	1700 ug/l	< 4.0 U	< 4.0 U	< 4.0 U	< 4.0 U	< 4.0 U	< 4.0 U	< 2.0 U	< 2.0 U	< 4.0 U	< 4.0 U	< 4.0 U	< 4.0 U
Benzene	ug/L	71.28 ug/l	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U	63	47	5.1	14	< 0.50 U	< 0.50 U
Chlorobenzene	ug/L	17 ug/l	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U	< 2.5 U	< 2.5 U	0.11 U	0.21 U	< 0.50 U	< 0.50 U
Ethyl Benzene	ug/L	610 ug/l	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U	48	40	0.080 U	0.57	< 0.50 U	< 0.50 U
Methane	ug/L	n/a	570	560	8900	15000	370	240	170	15	8000	2300	4700	8500
Methyl Ethyl ketone	ug/L	120000 ug/l	< 4.0 U	< 4.0 U	< 4.0 U	< 4.0 U	< 4.0 U	< 4.0 U	< 2.0 U	< 2.0 U	< 4.0 U	< 4.0 U	< 4.0 U	< 4.0 U
Styrene	ug/L	860 ug/l	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U	< 1.3 U	< 1.4 U	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U
Toluene	ug/L	480 ug/l	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U	33	44	< 0.50 U	< 0.50 U	99	65	0.17 U	0.46 U
p-xylene	ug/L	n/a	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U	33	34	< 0.50 U	< 0.50 U	44	33	< 0.50 U	< 0.50 U

Table 3  
American Creosote VOC Results  
2014 and 2015

Station ID	C205	C205	C206	C206	C406	C406	C504	C504	C505	C505	C506	C506	C604	C604	C605	C605
Sample ID	C205-0114	C205-0115	C206-0114	C206-0115	C406-0114	C406-0115	C504-0114	C504-0115	C505-0114	C505-0115	C506-0114	C506-0115	C604-0114	C604-0115	C605-0114	C605-0115
Sample Date	2/1/14 13:05	1/31/15 14:20	2/1/14 9:50	1/31/15 14:30	2/3/14 9:35	1/28/15 10:15	2/4/14 12:35	2/3/15 11:30	2/4/14 13:35	2/3/15 10:00	2/4/14 13:35	2/3/15 9:45	1/31/14 14:50	1/30/15 9:25	1/31/14 14:05	1/29/15 15:15
Analyte	Units	FL Marine SWCTL (2005)														
(m- and/or p-)xylene	ug/L	n/a	0.60 U	0.52 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	40	34	57	56	< 1.0 U	< 1.0 U
Acetone	ug/L	1700 ug/l	< 4.0 U	< 4.0 U	< 4.0 U	< 4.0 U	< 4.0 U	< 4.0 U	< 4.0 U	< 4.0 U	4.0	< 4.0 U	120	96	< 4.0 U	< 4.0 U
Benzene	ug/L	71.28 ug/l	0.95 U	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U	45	33	160 *	140 *	< 0.50 U	< 0.50 U
Chlorobenzene	ug/L	17 ug/l	0.20 U	0.22 U	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U	< 1.0 U	< 1.0 U	< 0.50 U	< 0.50 U
Ethyl Benzene	ug/L	610 ug/l	0.16 U	0.090 U	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U	24	20	89	69	< 0.50 U	< 0.50 U
Methane	ug/L	n/a	410	390	2300	3600	21	17	15	15	8400	10000	11000	17000	460	360
Methyl Ethyl ketone	ug/L	120000 ug/l	< 4.0 U	< 4.0 U	< 4.0 U	< 4.0 U	< 4.0 U	< 4.0 U	< 4.0 U	< 4.0 U	0.88 U	< 4.0 U	43	34	< 4.0 U	< 4.0 U
Styrene	ug/L	860 ug/l	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U	< 1.3 U	< 0.68 U	26	21	< 0.50 U	< 0.50 U
Toluene	ug/L	480 ug/l	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U	38	29	140	130	< 0.50 U	< 0.50 U
p-xylene	ug/L	n/a	0.64	0.46 U	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U	19	16	46	47	0.14 U	0.27 U

Station ID	C704	C704	C902	C902	C903	C903	C904	C904	C905	C905	MW3	MW3	OW09	OW09
Sample ID	C704-0114	C704-0115	C902-0114	C902-0115	C903-0114	C903-0115	C904-0114	C904-0115	C905-0114	C905-0115	2014	MW3-0115	OW09-0114	OW09-0115
Sample Date	1/31/14 18:15	2/2/15 14:40	2/3/14 14:45	1/31/15 9:45	2/3/14 15:45	1/31/15 9:35	2/3/14 14:35	1/30/15 15:40	2/3/14 14:00	1/30/15 14:40	2014	2/2/15 11:50	2/4/14 12:00	1/30/15 15:37
Analyte	Units	FL Marine SWCTL (2005)												
(m- and/or p-)xylene	ug/L	n/a	< 1.0 U	< 1.0 U	35	37	31	5.0	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	n/a	< 1.0 U
Acetone	ug/L	1700 ug/l	< 4.0 U	< 4.0 U	< 4.0 U	< 4.0 U	< 4.0 U	< 4.0 U	< 4.0 U	< 4.0 U	< 4.0 U	< 4.0 U	n/a	< 4.0 U
Benzene	ug/L	71.28 ug/l	< 0.50 U	< 0.50 U	3.3	2.3	7.0	2.5	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U	n/a	< 0.50 U
Chlorobenzene	ug/L	17 ug/l	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U	n/a	< 0.50 U
Ethyl Benzene	ug/L	610 ug/l	< 0.50 U	< 0.50 U	15	16	20	8.0	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U	n/a	< 0.50 U
Methane	ug/L	n/a	1.7	1.7	85	28	24	14	4.5	2.8	1400	1900	n/a	6.3
Methyl Ethyl ketone	ug/L	120000 ug/l	< 4.0 U	< 4.0 U	< 4.0 U	< 4.0 U	< 4.0 U	< 4.0 U	< 4.0 U	< 4.0 U	< 4.0 U	< 4.0 U	n/a	< 4.0 U
Styrene	ug/L	860 ug/l	< 0.50 U	< 0.50 U	5.9	7.3	4.2	0.68	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U	n/a	< 0.50 U
Toluene	ug/L	480 ug/l	< 0.50 U	< 0.50 U	14	16	13	0.27 U	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U	n/a	< 0.50 U
p-xylene	ug/L	n/a	< 0.50 U	< 0.50 U	14	17	15	2.0	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U	n/a	< 0.50 U

## Analytical Data Qualifiers

- U The analyte was not detected at or above the reporting limit.
- J The identification of the analyte is acceptable; the reported value is an estimate.
- O Other qualifiers have been assigned providing additional information. These explanatory qualifiers are included in the printable pdf report and in other columns in the export files.
- n/a Not sampled

Legend	
Detection, Result Shown	5.0
Non-detect, MRL shown	5.0 U
Result exceeds standard, Result shown	5.0 *



Table 4  
American Creosote SVOC Results  
2014 and 2015

Station ID	220	220	281	281	282	282	285	285	420	420	440	440	480	480
Sample ID	220-0114	220-0115	281-0114	281-0115	282-0114	282-0115	285-0114	285-0115	420-0114	420-0115	440-0114	440-0115	480-0114	480-0115
Sample Date/Time	2/4/14 11:20	1/29/15 15:15	2/1/14 14:20	1/28/15 9:40	2/1/14 15:25	1/28/15 10:05	2/1/14 14:45	1/28/15 10:15	2/4/14 10:40	1/31/15 10:20	2/4/14 12:35	1/31/15 9:40	2/4/14 16:25	1/31/15 12:05
Analyte	Units	FL Marine SWCTL (2005)												
(3-and/or 4-)Methylphenol	ug/L	n/a	< 10 U	< 9.9 U	< 9.9 U	< 10 U	< 9.9 U	< 10 U	< 10 U	< 9.9 U	< 10 U	< 11 U	< 10 U	< 10 U
1,1-Biphenyl	ug/L	18 ug/l	< 2.0 U	< 2.0 U	29 ^	36 ^	< 2.0 U	< 2.0 U	1.1 J O	< 2.0 U	1.0 J O	< 2.1 U	2.2	1.7 J O
2,4-Dimethylphenol	ug/L	160 ug/l	< 10 U	< 9.9 U	22 J O	43 J O	< 9.9 U	< 10 U	15	< 9.9 U	< 10 U	< 11 U	< 10 U	< 10 U
2-Methylphenol	ug/L	250 ug/l	< 10 U	< 9.9 U	< 9.9 U	< 10 U	< 9.9 U	< 10 U	< 10 U	< 9.9 U	< 10 U	< 11 U	< 10 U	< 10 U
Acenaphthene	ug/L	3 ug/l	26 ^	16 ^	94 ^	180 ^	5.2 ^	1.1 J O	59 ^	61 ^	20 ^	32 ^	49 ^	46 ^
Anthracene	ug/L	.3 ug/l	< 2.0 U	< 2.0 U	4.0 ^	5.1 ^	< 2.0 U	< 2.0 U	1.6 J O ^	1.5 J O ^	< 2.0 U	< 2.1 U	3.6 ^	5.9 ^
Carbazole	ug/L	47 ug/l	26	12	200 ^	260 ^	< 2.0 U	< 2.0 U	73 ^	39	14	6.4	30	52 ^
Dibenzofuran	ug/L	67 ug/l	9.2	4.7	51	72 ^	< 2.0 U	< 2.0 U	17	5.6	5.1	5.8	19	16
Fluoranthene	ug/L	.3 ug/l	< 2.0 U	< 2.0 U	< 2.1 U	< 2.1 U	< 2.0 U	< 2.0 U	< 2.0 U	1.0 J O ^	< 2.0 U	< 2.1 U	< 2.0 U	2.0 J O ^
Fluorene	ug/L	30 ug/l	15	12	60 ^	80 ^	< 2.0 U	< 2.0 U	37 ^	36 ^	7.3	4.4	15	28
Naphthalene	ug/L	26 ug/l	63 ^	18	1500 ^	5000 ^	< 2.0 U	< 2.0 U	550 ^	280 ^	29 ^	6.5	89 ^	48 ^
Pentachlorophenol	ug/L	7.9 ug/l	< 10 U	< 9.9 U	< 9.9 U	< 10 U	< 9.9 U	< 10 U	< 10 U	< 9.9 U	< 10 U	< 11 U	< 10 U	< 10 U
Phenanthrene	ug/L	.031 ug/l	6.8 ^	1.7 J O ^	38 ^	52 ^	< 2.0 U	< 2.0 U	23 ^	22 ^	4.5 ^	3.5 ^	18 ^	20 ^
Phenol	ug/L	6.5 ug/l	< 10 U	< 9.9 U	< 9.9 U	< 10 U	< 9.9 U	< 10 U	< 10 U	< 9.9 U	< 10 U	< 11 U	< 10 U	< 10 U
Pyrene	ug/L	.3 ug/l	< 2.0 U	1.6 J O ^	< 2.0 U	< 2.1 U	< 2.0 U	< 2.0 U	< 2.0 U	< 2.0 U	< 2.0 U	< 2.1 U	< 2.0 U	< 2.0 U

Station ID	720	720	ACWMW1	ACWMW1	C103	C103	C104	C104	C205	C205	C505	C505	C506	C506
Sample ID	720-0114	720-0115	ACWMW1-0114	ACWMW1-0115	C103-0114	C103-0115	C104-0114	C104-0115	C205-0114	C205-0115	C505-0114	C505-0115	C506-0114	C506-0115
Sample Date/Time	2/1/14 14:50	1/27/15 18:00	2/4/14 15:30	2/2/15 14:43	2/1/14 11:45	1/31/15 12:05	2/1/14 10:40	1/31/15 11:35	2/1/14 11:05	1/31/15 14:20	2/4/14 11:35	2/3/15 10:00	2/4/14 11:35	2/3/15 9:45
Analyte	Units	FL Marine SWCTL (2005)												
(3-and/or 4-)Methylphenol	ug/L	n/a	< 10 U	< 10 U	420	530	47 J O	24 J O	< 10 U	< 10 U	< 10 U	< 11 U	71 J O	11000
1,1-Biphenyl	ug/L	18 ug/l	< 2.0 U	< 2.1 U	80 ^	89 ^	84 ^	70 ^	< 2.0 U	1.6 J O	< 2.0 U	< 2.3 U	20 ^	19
2,4-Dimethylphenol	ug/L	160 ug/l	< 10 U	< 10 U	400 ^	880 ^	200 ^	180 ^	< 10 U	< 10 U	< 10 U	< 11 U	1700 ^	950 ^
2-Methylphenol	ug/L	250 ug/l	< 10 U	< 10 U	230	440 ^	31 J O	35 J O	< 10 U	< 10 U	< 10 U	< 11 U	700 ^	130
Acenaphthene	ug/L	3 ug/l	3.5 ^	3.4 ^	300 ^	290 ^	330 ^	340 ^	30 ^	76 ^	< 2.0 U	1.9 J O	79 ^	55 ^
Anthracene	ug/L	.3 ug/l	< 2.0 U	< 2.1 U	< 2.0 U	11 ^	10 J O ^	< 2.0 U	< 2.0 U	1.1 J O ^	< 2.0 U	< 2.3 U	< 2.0 U	< 2.0 U
Carbazole	ug/L	47 ug/l	< 2.0 U	< 2.1 U	290 ^	240 ^	560 ^	350 ^	< 2.0 U	8.3	< 2.0 U	< 2.3 U	84 ^	56 ^
Dibenzofuran	ug/L	67 ug/l	< 2.0 U	< 2.1 U	170 ^	150 ^	210 ^	190 ^	< 2.0 U	3.8	< 2.0 U	< 2.3 U	39	26
Fluoranthene	ug/L	.3 ug/l	< 2.0 U	< 2.1 U	< 2.0 U	6.6 ^	< 2.1 U	< 2.0 U	< 2.0 U	< 2.0 U	< 2.0 U	< 2.3 U	< 2.0 U	< 2.0 U
Fluorene	ug/L	30 ug/l	1.1 J O	1.3 J O	160 ^	150 ^	190 ^	170 ^	3.0	29	1.2 J O	1.2 J O	42 ^	79
Naphthalene	ug/L	26 ug/l	< 2.0 U	< 2.1 U	5700 ^	3700 ^	5000 ^	5000 ^	8.8	84 ^	1.2 J O	< 2.3 U	2400 ^	1700 ^
Pentachlorophenol	ug/L	7.9 ug/l	< 10 U	< 10 U	< 100 U	< 99 U	18 J O ^	17 J O ^	< 10 U	< 10 U	110 ^	77 ^	< 99 U	< 9.9 U
Phenanthrene	ug/L	.031 ug/l	< 2.0 U	< 2.1 U	110 ^	110 ^	140 ^	140 ^	< 2.0 U	5.4 ^	< 2.0 U	< 2.3 U	14 J O ^	8.6 ^
Phenol	ug/L	6.5 ug/l	< 10 U	< 10 U	24 J O ^	110 ^	< 100 U	< 100 U	< 10 U	< 10 U	< 10 U	< 11 U	15 J O ^	< 9.9 U
Pyrene	ug/L	.3 ug/l	< 2.0 U	< 2.1 U	< 2.0 U	3.4 ^	< 2.1 U	< 2.0 U	< 2.0 U	< 2.0 U	< 2.0 U	< 2.3 U	< 2.0 U	< 2.0 U

Table 4  
American Creosote SVOC Results  
2014 and 2015

Station ID	C604	C604	C605	C605	C902	C902	C903	C903	C904	C904	OW09	OW09
Sample ID	C604-0114	C604-0115	C605-0114	C605-0115	C902-0114	C902-0115	C903-0114	C903-0115	C904-0114	C904-0115	OW09-0114	OW09-0115
Sample Date/Time	1/31/14 14:30	1/30/15 9:25	1/31/14 14:05	1/29/15 15:15	2/3/14 14:45	1/31/15 9:45	2/3/14 15:45	3/12/15 9:38	2/3/14 14:55	1/30/15 15:40	2/4/14 12:00	1/30/15 15:37
Analyte	Units	FL Marine SWCTL (2005)										
(3-and/or 4-)Methylphenol	ug/L	n/a	< 9.7 U	< 10 U	< 9.8 U	< 10 U	< 10 U	< 10 U	< 9.9 U	< 10 U	< 10 U	< 100 U
1,1-Biphenyl	ug/L	18 ug/l	< 1.9 U	< 2.0 U	< 2.0 U	< 2.1 U	32 ^	43 ^	27 ^	< 2.0 U	< 2.1 U	< 20 U
2,4-Dimethylphenol	ug/L	160 ug/l	< 9.7 U	< 10 U	< 9.8 U	< 10 U	< 10 U	1.6 J O	< 10 U	< 9.9 U	< 10 U	< 100 U
2-Methylphenol	ug/L	250 ug/l	< 9.7 U	< 10 U	< 9.8 U	< 10 U	< 10 U	< 10 U	< 10 U	< 9.9 U	< 10 U	< 100 U
Acenaphthene	ug/L	3 ug/l	1.9	1.4 J O	5.8 ^	7.5 ^	200 ^	210 ^	210 ^	66 ^	1.4 J O	< 2.1 U
Anthracene	ug/L	.3 ug/l	< 1.9 U	< 2.0 U	< 2.0 U	< 2.1 U	3.6 ^	5.3 ^	6.1 ^	2.9 ^	< 2.1 U	< 2.1 U
Carbazole	ug/L	47 ug/l	< 1.9 U	< 2.0 U	< 2.0 U	< 2.1 U	190 ^	220 ^	240 ^	90 ^	< 2.1 U	< 2.1 U
Dibenzofuran	ug/L	67 ug/l	1.6 J O	1.0 J O	1.0 J O	< 2.1 U	100 ^	95 ^	110 ^	61	< 2.1 U	< 2.1 U
Fluoranthene	ug/L	.3 ug/l	< 1.9 U	< 2.0 U	< 2.0 U	< 2.1 U	1.8 J O ^	1.8 J O ^	2.9 ^	2.3 ^	< 2.1 U	< 2.1 U
Fluorene	ug/L	30 ug/l	1.3 J O	< 2.0 U	2.6	2.8	85 ^	89 ^	110 ^	41 ^	< 2.1 U	< 2.1 U
Naphthalene	ug/L	26 ug/l	1.1 J O	2.3	< 2.0 U	< 2.1 U	2000 ^	3300 ^	2300 ^	270 ^	< 2.1 U	< 2.1 U
Pentachlorophenol	ug/L	7.9 ug/l	98 ^	190 ^	< 9.8 U	< 10 U	8.1 J O ^	14 ^	< 10 U	< 9.9 U	5.8 J O	9.2 J O ^
Phenanthrene	ug/L	.031 ug/l	< 1.9 U	< 2.0 U	< 2.0 U	< 2.1 U	45 ^	54 ^	72 ^	25 ^	< 2.1 U	< 2.1 U
Phenol	ug/L	6.5 ug/l	< 9.7 U	< 10 U	< 9.8 U	< 10 U	< 10 U	< 10 U	< 9.9 U	< 10 U	< 10 U	< 100 U
Pyrene	ug/L	.3 ug/l	< 1.9 U	< 2.0 U	< 2.0 U	< 2.1 U	< 2.1 U	< 2.0 U	1.6 J O ^	1.1 J O ^	< 2.1 U	< 2.1 U

Analytical Data Qualifiers

- U The analyte was not detected at or above the reporting limit.
- J The identification of the analyte is acceptable; the reported value is an estimate
- O Other qualifiers have been assigned providing additional information. These explanatory qualifiers are included in the printable pdf report and in other columns in the export files

SWCTL Surface Water Cleanup Target Levels

Legend

Detection, Result Shown	5.0
Non-detect, MRL shown	5.0 U
Result exceeds standard, Result shown	5.0 ^

Table 3  
VOC Results

		Station ID	200	220	260	281	282	283	285	420	440	480	700	720	ACWPMW1
		Sample ID	200-0114	220-0114	260-0114	281-0114	282-0114	283-0114	285-0114	420-0114	440-0114	480-0114	700-0114	720-0114	ACWPMW1-0114
		Sample Date	2/4/2014 13:50	2/4/2014 11:20	2/4/2014 10:50	2/1/2014 14:20	2/1/2014 15:25	2/1/2014 15:35	2/1/2014 14:45	2/4/2014 10:40	2/4/2014 12:35	2/4/2014 16:25	2/3/2014 14:20	2/1/2014 14:50	2/4/2014 15:30
Analyte	Units	Comparison Standard													
(m- and/or p-)Xylene	ug/l	n/a	< 1.0 U	0.60 J.O	< 1.0 U	67	< 1.0 U	< 1.0 U	5.0	5.0	0.47 J.O	29	< 1.0 U	< 1.0 U	65
Acetone	ug/l	FL MARINE SWCTL (2005): 1700 ug/l	< 4.0 U	< 4.0 U	< 4.0 U	< 4.0 U	< 4.0 U	< 4.0 U	< 4.0 U	< 4.0 U	< 4.0 U	< 4.0 U	< 4.0 U	< 4.0 U	< 4.0 U
Benzene	ug/l	FL MARINE SWCTL (2005): 71.28 ug/l	< 0.50 U	0.45 J.O	< 0.50 U	59	< 0.50 U	< 0.50 U	30	3.1	0.31 J.O	38	< 0.50 U	< 0.50 U	37
Chlorobenzene	ug/l	FL MARINE SWCTL (2005): 17 ug/l	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U
Ethyl Benzene	ug/l	FL MARINE SWCTL (2005): 610 ug/l	< 0.50 U	0.73	< 0.50 U	50	< 0.50 U	< 0.50 U	10	1.3	1.1	19	< 0.50 U	< 0.50 U	36
Methane	ug/l	n/a	350	580	51	8800	730	170	3000	4700	2000	710	170	860	5200
Methyl Ethyl Ketone	ug/l	FL MARINE SWCTL (2005): 120000 ug/l	< 4.0 U	< 4.0 U	< 4.0 U	< 4.0 U	< 4.0 U	< 4.0 U	< 4.0 U	< 4.0 U	< 4.0 U	< 4.0 U	< 4.0 U	< 4.0 U	< 4.0 U
Styrene	ug/l	FL MARINE SWCTL (2005): 460 ug/l	< 0.50 U	< 0.50 U	< 0.50 U	< 1.1 U.O	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U	0.080 J.O	3.6	< 0.50 U	< 0.50 U	< 1.5 U.O
Toluene	ug/l	FL MARINE SWCTL (2005): 480 ug/l	< 0.50 U	0.26 J.O	< 0.50 U	5.7	< 0.50 U	< 0.50 U	0.79	0.25 J.O	0.19 J.O	31	< 0.50 U	< 0.50 U	33
o-Xylene	ug/l	n/a	< 0.50 U	0.93	< 0.50 U	33	< 0.50 U	< 0.50 U	2.2	0.63	0.29 J.O	13	< 0.50 U	< 0.50 U	33

		Station ID	C1005	C103	C103	C104	C105	C203	C205	C206	C405	C406	C504	C505
		Sample ID	C1005-0114	C103-0114	C1030-0114	C104-0114	C105-0114	C203-0114	C205-0114	C206-0114	C405-0114	C406-0114	C504-0114	C505-0114
		Sample Date	1/7/2014 9:20	2/1/2014 11:45	2/1/2014 11:45	2/1/2014 10:40	2/1/2014 9:40	2/1/2014 12:50	2/1/2014 11:05	2/1/2014 9:50	2/3/2014 10:20	2/3/2014 9:35	2/4/2014 12:35	2/4/2014 13:35
Analyte	Units	Comparison Standard												
(m- and/or p-)Xylene	ug/l	n/a	< 1.0 U	94	90	0.99 J.O	< 1.0 U	< 1.0 U	0.60 J.O	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	40
Acetone	ug/l	FL MARINE SWCTL (2005): 1700 ug/l	< 4.0 U	< 20 U	< 40 U	< 4.0 U	< 4.0 U	< 4.0 U	< 4.0 U	< 4.0 U	< 4.0 U	< 4.0 U	< 4.0 U	4.0
Benzene	ug/l	FL MARINE SWCTL (2005): 71.28 ug/l	< 0.50 U	60	58	5.1	< 0.50 U	< 0.50 U	0.090 J.O	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U	43
Chlorobenzene	ug/l	FL MARINE SWCTL (2005): 17 ug/l	< 0.50 U	< 2.5 U	< 5.0 U	0.11 J.O	< 0.50 U	< 0.50 U	0.20 J.O	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U
Ethyl Benzene	ug/l	FL MARINE SWCTL (2005): 610 ug/l	< 0.50 U	48	46	0.090 J.O	< 0.50 U	< 0.50 U	0.16 J.O	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U	24
Methane	ug/l	n/a	59	250	290	2600	1400	1.6	410	2300	20	21	15	9400
Methyl Ethyl Ketone	ug/l	FL MARINE SWCTL (2005): 120000 ug/l	< 4.0 U	< 20 U	< 40 U	< 4.0 U	< 4.0 U	< 4.0 U	< 4.0 U	< 4.0 U	< 4.0 U	< 4.0 U	< 4.0 U	0.88 J.O
Styrene	ug/l	FL MARINE SWCTL (2005): 460 ug/l	< 0.50 U	20	18	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U	< 1.3 U.O
Toluene	ug/l	FL MARINE SWCTL (2005): 480 ug/l	< 0.50 U	93	90	0.17 J.O	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U	38
o-Xylene	ug/l	n/a	< 0.50 U	44	42	1.0	< 0.50 U	< 0.50 U	0.64	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U	19

		Station ID	C506	C506	C604	C605	C704	C902	C903	C903	C904	C905	OW09
		Sample ID	C506-0114	C506D-0114	C604-0114	C605-0114	C704-0114	C902-0114	C903-0114	C903D-0114	C904-0114	C905-0114	OW09-0114
		Sample Date	2/4/2014 13:55	2/4/2014 13:55	1/31/2014 14:50	1/31/2014 14:05	1/31/2014 16:15	2/3/2014 14:45	2/3/2014 15:45	2/3/2014 15:50	2/3/2014 14:55	2/3/2014 14:00	2/4/2014 12:00
Analyte	Units	Comparison Standard											
(m- and/or p-)Xylene	ug/l	n/a	97	92	< 1.0 U	< 1.0 U	< 1.0 U	33	31	30	< 1.0 U	< 1.0 U	4.5
Acetone	ug/l	FL MARINE SWCTL (2005): 1700 ug/l	120	130	< 4.0 U	< 4.0 U	< 4.0 U	< 4.0 U	< 4.0 U	< 4.0 U	< 4.0 U	< 4.0 U	< 4.0 U
Benzene	ug/l	FL MARINE SWCTL (2005): 71.28 ug/l	160 ^	160 ^	< 0.50 U	< 0.50 U	< 0.50 U	3.9	7.0	6.8	< 0.50 U	< 0.50 U	< 0.50 U
Chlorobenzene	ug/l	FL MARINE SWCTL (2005): 17 ug/l	< 1.0 U	< 1.0 U	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U
Ethyl Benzene	ug/l	FL MARINE SWCTL (2005): 610 ug/l	49	47	< 0.50 U	< 0.50 U	< 0.50 U	15	20	20	< 0.50 U	< 0.50 U	1.3
Methane	ug/l	n/a	11000	13000	450	910	1.7	85	24	23	4.5	1400	110
Methyl Ethyl Ketone	ug/l	FL MARINE SWCTL (2005): 120000 ug/l	43	43	< 4.0 U	< 4.0 U	< 4.0 U	< 4.0 U	< 4.0 U	< 4.0 U	< 4.0 U	< 4.0 U	< 4.0 U
Styrene	ug/l	FL MARINE SWCTL (2005): 460 ug/l	26	23	< 0.50 U	< 0.50 U	< 0.50 U	5.9	4.2	4.1	< 0.50 U	< 0.50 U	< 0.50 U
Toluene	ug/l	FL MARINE SWCTL (2005): 480 ug/l	140	130	< 0.50 U	< 0.50 U	< 0.50 U	14	13	13	< 0.50 U	< 0.50 U	0.19 J.O
o-Xylene	ug/l	n/a	48	46	0.14 J.O	< 0.50 U	< 0.50 U	14	15	15	< 0.50 U	< 0.50 U	4.4

Table 3  
VOC Results

#### ANALYTICAL DATA QUALIFIERS

- U The analyte was not detected at or above the reporting limit.
- J The identification of the analyte is acceptable; the reported value is an estimate.
- O Other qualifiers have been assigned providing additional information. These explanatory qualifiers are included in the printable pdf report and in other columns in the export files.

Legend	
Detection, Result Shown	5.0
Non-detect, MRL shown	5.0 U
Result exceeds standard, Result shown	5.0 ^



Table 4  
SVOC Results

Station ID	220	260	281	282	285	420	440	480	720	ACWWH1	C103	C103	C104
Sample ID	220-0114	260-0114	281-0114	282-0114	285-0114	420-0114	440-0114	480-0114	720-0114	ACWWH1-0114	C103-0114	C1030-0114	C104-0114
Sample Date	2/4/2014 11:20	2/4/2014 10:50	2/1/2014 14:20	2/1/2014 15:25	2/1/2014 14:45	2/4/2014 10:40	2/4/2014 12:35	2/4/2014 16:25	2/1/2014 14:50	2/4/2014 15:30	2/1/2014 11:45	2/1/2014 11:45	2/1/2014 10:40
Analyte	Units	Comparison Standard											
(3-and/or 4-)Methylphenol	ug/L	n/a	< 10 U	< 10 U	< 9.9 U	< 9.9 U	< 10 U	< 10 U	190	< 10 U	410	473.0	473.0
1,1-Bisphenyl	ug/L	FL MARINE SWCTL (2005): 18 ug/l	< 2.0 U	< 2.1 U	29	< 2.0 U	1.1 3.0	1.0 3.0	32	< 2.0 U	80	84	88
2,4-Dimethylphenol	ug/L	FL MARINE SWCTL (2005): 160 ug/l	< 10 U	< 10 U	22.0	< 9.9 U	15	< 10 U	430	< 10 U	400	200	210
3-Methylphenol	ug/L	FL MARINE SWCTL (2005): 250 ug/l	< 10 U	< 10 U	< 9.9 U	< 9.9 U	< 10 U	< 10 U	130	< 10 U	130	28.0	28.0
Acephenylene	ug/L	FL MARINE SWCTL (2005): 3 ug/l	26	2.0 3.0	94	5.2	59	20	49	140	1.5	300	390
Anthracene	ug/L	FL MARINE SWCTL (2005): 1 ug/l	< 2.0 U	< 2.1 U	4.0	< 2.0 U	1.6 1.0	< 2.0 U	1.6	< 2.0 U	< 2.0 U	10.0	11.0
Carbazole	ug/L	FL MARINE SWCTL (2005): 47 ug/l	26	< 2.1 U	200	< 2.0 U	73	14	30	250	560	570	< 2.0 U
Dibenzofuran	ug/L	FL MARINE SWCTL (2005): 67 ug/l	9.2	< 2.1 U	51	< 2.0 U	17	5.4	13	130	< 2.0 U	170	210
Fluoranthene	ug/L	FL MARINE SWCTL (2005): 1 ug/l	< 2.0 U	< 2.1 U	< 2.0 U	< 2.0 U	< 2.0 U	< 2.0 U	< 2.0 U	< 2.0 U	< 2.0 U	< 2.1 U	< 2.0 U
Fluorene	ug/L	FL MARINE SWCTL (2005): 30 ug/l	15	< 2.1 U	60	1.5 3.0	37	7.3	10	130	1.1 3.0	160	200
Naphthalene	ug/L	FL MARINE SWCTL (2005): 26 ug/l	63	< 2.1 U	1500	< 2.0 U	550	29	89	1000	< 2.0 U	5700	5100
Pentachlorophenol	ug/L	FL MARINE SWCTL (2005): 7.9 ug/l	< 10 U	< 10 U	< 9.9 U	< 9.9 U	< 10 U	< 10 U	< 10 U	< 10 U	< 10 U	10.0	10.0
Phenanthrene	ug/L	FL MARINE SWCTL (2005): 631 ug/l	6.6	< 2.1 U	28	< 2.0 U	23	4.5	18	140	110	140	150
Phenol	ug/L	FL MARINE SWCTL (2005): 6.5 ug/l	< 10 U	< 10 U	< 9.9 U	< 9.9 U	< 10 U	< 10 U	< 10 U	< 10 U	< 10 U	< 100 U	< 10 U
Pyrene	ug/L	FL MARINE SWCTL (2005): 1 ug/l	< 2.0 U	< 2.1 U	< 2.0 U	< 2.0 U	< 2.0 U	< 2.0 U	< 2.0 U	< 2.0 U	< 2.0 U	< 2.1 U	< 2.0 U

Station ID	C205	C305	C506	C506	C604	C605	C902	C903	C903	C904	OW09
Sample ID	C205-0114	C305-0114	C506-0114	C506-0114	C604-0114	C605-0114	C902-0114	C903-0114	C903-0114	C904-0114	OW09-0114
Sample Date	2/1/2014 11:05	2/4/2014 13:35	2/4/2014 13:55	2/4/2014 13:55	1/31/2014 14:50	1/31/2014 14:05	2/3/2014 14:45	2/3/2014 15:45	2/3/2014 15:50	2/3/2014 14:55	2/4/2014 12:00
Analyte	Units	Comparison Standard									
(3-and/or 4-)Methylphenol	ug/L	n/a	< 10 U	91.0	11000	12000	< 9.7 U	< 9.8 U	< 10 U	< 10 U	< 100 U
1,1-Bisphenyl	ug/L	FL MARINE SWCTL (2005): 18 ug/l	< 2.0 U	20	110	110	< 1.9 U	< 2.0 U	33	27	< 20 U
2,4-Dimethylphenol	ug/L	FL MARINE SWCTL (2005): 160 ug/l	< 10 U	1700	7700	7900	< 9.7 U	< 9.8 U	< 10 U	< 10 U	< 100 U
3-Methylphenol	ug/L	FL MARINE SWCTL (2005): 250 ug/l	< 10 U	700	5200	5300	< 9.7 U	< 9.8 U	< 10 U	< 10 U	< 100 U
Acephenylene	ug/L	FL MARINE SWCTL (2005): 3 ug/l	< 2.0 U	79	450	470	1.9	5.8	200	210	< 20 U
Anthracene	ug/L	FL MARINE SWCTL (2005): 1 ug/l	< 2.0 U	< 20 U	15.0	15.0	< 1.9 U	< 2.0 U	1.6	6.1	< 2.1 U
Carbazole	ug/L	FL MARINE SWCTL (2005): 47 ug/l	< 2.0 U	84	450.0	490.0	< 1.9 U	< 2.0 U	190	240	< 20 U
Dibenzofuran	ug/L	FL MARINE SWCTL (2005): 67 ug/l	3.9	39	240	250	1.6 3.0	1.0 3.0	100	110	< 2.1 U
Fluoranthene	ug/L	FL MARINE SWCTL (2005): 1 ug/l	< 2.0 U	< 20 U	< 20 U	< 20 U	< 1.9 U	< 2.0 U	1.8 3.0	2.9	< 2.1 U
Fluorene	ug/L	FL MARINE SWCTL (2005): 30 ug/l	1.2 3.0	42	230	250	1.3 3.0	2.6	85	110	< 2.1 U
Naphthalene	ug/L	FL MARINE SWCTL (2005): 26 ug/l	1.2 3.0	2400	6000	6100	1.1 3.0	< 2.0 U	2000	2300	< 2.1 U
Pentachlorophenol	ug/L	FL MARINE SWCTL (2005): 7.9 ug/l	110	< 99 U	250	250	96	< 9.8 U	8.1 3.0	< 10 U	< 100 U
Phenanthrene	ug/L	FL MARINE SWCTL (2005): 631 ug/l	< 2.0 U	14.0	160	180	< 1.9 U	< 2.0 U	45	72	< 2.1 U
Phenol	ug/L	FL MARINE SWCTL (2005): 6.5 ug/l	< 10 U	15.0	2000	2000	< 9.7 U	< 9.8 U	< 10 U	< 10 U	< 100 U
Pyrene	ug/L	FL MARINE SWCTL (2005): 1 ug/l	< 2.0 U	< 20 U	< 20 U	< 20 U	< 1.9 U	< 2.0 U	< 2.1 U	1.6 3.0	< 2.1 U

#### ANALYTICAL DATA QUALIFIERS

- U The analyte was not detected at or above the reporting limit.  
J The identification of the analyte is acceptable; the reported value is an estimate.  
O Other qualifiers have been assigned providing additional information. These explanatory qualifiers are included in the printable pdf report and in other columns in the export files.

Legend	
Detection, Result Shown	5.0
Non-detect, MRL shown	5.0 U
Result exceeds standard, Result shown	5.0

Table 3  
ACW VOC Results

Station ID	200	220	260	281	282	283	285	420	440	480	720	ACWWH1	C1001	C1002	C1003	C1004
Sample ID	200-0113	220-0113	260-0113	281-0113	282-0113	283-0113	285-0113	420-0113	440-0113	480-0113	720-0113	ACWWH1-0113	C1001-0113	C1002-0113	C1003-0113	C1004-0113
Sample Date	5/10/2013 11:10	5/10/2013 10:15	5/10/2013 10:00	5/10/2013 13:00	5/10/2013 13:10	5/10/2013 13:20	5/10/2013 14:10	5/10/2013 14:20	5/10/2013 14:30	5/10/2013 14:40	5/10/2013 14:50	5/10/2013 14:55	5/10/2013 15:00	5/10/2013 15:05	5/10/2013 15:10	5/10/2013 15:15
Analyte	Units	Comparison Standard														
(m-and/or p-)xylene	ug/L	-	1.0 U	1.4	1.0 U	82	1.0 U	1.0 U	3.1	6.6	1.7	140	1.0 U	1.0 U	60	1.0 U
1,2,4-Trichlorobenzene	ug/L	FL MARINE SWCTL (2005): 23 ug/l	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	2.5 U	0.50 U	2.5 U	0.50 U	0.50 U	0.50 U
Aceatone	ug/L	FL MARINE SWCTL (2005): 1700 ug/l	4.0 U	4.0 U	4.0 U	4.0 U	4.0 U	4.0 U	4.0 U	4.0 U	20 U	4.0 U	4.0 U	4.0 U	4.0 U	4.0 U
Benzene	ug/L	FL MARINE SWCTL (2005): 71.28 ug/l	0.50 U	0.90	0.50 U	60	0.50 U	0.50 U	16	4	55	130	0.50 U	0.50 U	0.50 U	0.50 U
Chlorobenzene	ug/L	FL MARINE SWCTL (2005): 17 ug/l	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	2.5 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U
Ethyl Benzene	ug/L	FL MARINE SWCTL (2005): 610 ug/l	0.50 U	1.8	0.50 U	58	0.50 U	0.50 U	4.1	2.2	2.8	70	0.50 U	0.50 U	0.50 U	0.50 U
Methyl Ethyl Ketone	ug/L	FL MARINE SWCTL (2005): 120000 ug/l	4.0 U	4.0 U	4.0 U	4.0 U	4.0 U	4.0 U	4.0 U	4.0 U	20 U	4.0 U	4.0 U	4.0 U	4.0 U	4.0 U
Styrene	ug/L	FL MARINE SWCTL (2005): 480 ug/l	0.50 U	0.50 U	0.50 U	1.6 0.0	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	2.5 U	0.50 U	0.50 U	0.50 U	0.50 U
Toluene	ug/L	FL MARINE SWCTL (2005): 480 ug/l	0.50 U	0.48 1.0	0.50 U	0.5	0.50 U	0.50 U	0.63	0.21 1.0	0.76	150	0.50 U	0.50 U	0.50 U	0.50 U
Vinyl chloride	ug/L	FL MARINE SWCTL (2005): 2.4 ug/l	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	2.5 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U
ethylene	ug/L	-	0.070 1.0	1.7	0.50 U	44	0.50 U	0.50 U	2.2	0.76	1.2	65	0.50 U	0.50 U	0.50 U	0.50 U

Station ID	C1005	C1001	C1002	C1003	C1004	C1005	C1005	C201	C202	C203	C204	C205	C206	C301	C301	C302	C303
Sample ID	C1005-0113	C1001-0113	C1002-0113	C1003-0113	C1004-0113	C1005-0113	C1005-0113	C201-0113	C202-0113	C203-0113	C204-0113	C205-0113	C206-0113	C301-0113	C301-0113	C302-0113	C303-0113
Sample Date	5/10/2013 14:40	5/10/2013 15:00	5/10/2013 15:10	5/10/2013 15:20	5/10/2013 15:30	5/10/2013 15:40	5/10/2013 15:50	5/10/2013 16:00	5/10/2013 16:10	5/10/2013 16:20	5/10/2013 16:30	5/10/2013 16:40	5/10/2013 16:50	5/10/2013 17:00	5/10/2013 17:10	5/10/2013 17:20	5/10/2013 17:30
Analyte	Units	Comparison Standard															
(m-and/or p-)xylene	ug/L	-	1.0 U	1.0 U	1.0 U	79	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	0.65 1.0	1.0 U	1.0 U	1.0 U	1.0 U
1,2,4-Trichlorobenzene	ug/L	FL MARINE SWCTL (2005): 23 ug/l	0.50 U	0.50 U	0.50 U	5.0 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U
Aceatone	ug/L	FL MARINE SWCTL (2005): 1700 ug/l	4.0 U	4.0 U	4.0 U	40 U	4.0 U	4.0 U	4.0 U	4.0 U	4.0 U	4.0 U	4.0 U	4.0 U	4.0 U	4.0 U	4.0 U
Benzene	ug/L	FL MARINE SWCTL (2005): 71.28 ug/l	0.50 U	0.50 U	0.50 U	51	2.4	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U
Chlorobenzene	ug/L	FL MARINE SWCTL (2005): 17 ug/l	0.50 U	0.50 U	0.50 U	5.0 U	0.22 1.0	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U
Ethyl Benzene	ug/L	FL MARINE SWCTL (2005): 610 ug/l	0.50 U	0.50 U	0.50 U	47	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U
Methyl Ethyl Ketone	ug/L	FL MARINE SWCTL (2005): 120000 ug/l	4.0 U	4.0 U	4.0 U	40 U	4.0 U	4.0 U	4.0 U	4.0 U	4.0 U	4.0 U	4.0 U	4.0 U	4.0 U	4.0 U	4.0 U
Styrene	ug/L	FL MARINE SWCTL (2005): 480 ug/l	0.50 U	0.50 U	0.50 U	11	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U
Toluene	ug/L	FL MARINE SWCTL (2005): 480 ug/l	0.50 U	0.50 U	0.50 U	79	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U
Vinyl chloride	ug/L	FL MARINE SWCTL (2005): 2.4 ug/l	0.50 U	0.50 U	0.50 U	5.0 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U
ethylene	ug/L	-	0.50 U	0.50 U	0.50 U	51	0.29 1.0	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U

#### Analytical Data Qualifiers

- U The analyte was not detected at or above the reporting limit.

- J The reported value is an estimate.

- O Other qualifiers have been assigned providing additional information. See data sheet.

Legend	
Detection, Result Shown	5.0
Non-detect, MRL shown	5.0 U
Result exceeds standard, Result shown	5.0
Non-detect, MRL exceeds standard, MRL shown	5.0 U



Table 3  
ACW VOC Results

Station ID	C001	C002	C003	C004	C005	C006	C007	C008	C009	C010	C011	C012	C013	C014	C015	C016	C017	C018	C019	C020
Sample ID	C001-0113	C002-0113	C003-0113	C004-0113	C005-0113	C006-0113	C007-0113	C008-0113	C009-0113	C010-0113	C011-0113	C012-0113	C013-0113	C014-0113	C015-0113	C016-0113	C017-0113	C018-0113	C019-0113	C020-0113
Sample Date	1/10/2013 11:00	1/10/2013 11:00	1/10/2013 11:00	1/10/2013 11:00	1/10/2013 11:00	1/10/2013 11:00	1/10/2013 11:00	1/10/2013 11:00	1/10/2013 11:00	1/10/2013 11:00	1/10/2013 11:00	1/10/2013 11:00	1/10/2013 11:00	1/10/2013 11:00	1/10/2013 11:00	1/10/2013 11:00	1/10/2013 11:00	1/10/2013 11:00	1/10/2013 11:00	1/10/2013 11:00
Analyte	Units	Comparison Standard																		
m-xylitol p-xylene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	0.35 1.0	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,2,4-Trichlorobenzene	ug/L	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U
Acetone	ug/L	4.0 U	4.0 U	4.0 U	4.0 U	4.0 U	4.0 U	4.0 U	4.0 U	4.0 U	4.0 U	4.0 U	4.0 U	4.0 U	4.0 U	4.0 U	4.0 U	4.0 U	4.0 U	4.0 U
Benzene	ug/L	0.50 U	0.50 U	0.50 U	0.50 U	2.4	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U
Chlorobenzene	ug/L	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U
Ethyl Benzene	ug/L	0.50 U	0.50 U	0.50 U	0.50 U	0.35 1.0	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U
Methyl Ethyl Ketone	ug/L	4.0 U	4.0 U	4.0 U	4.0 U	4.0 U	4.0 U	4.0 U	4.0 U	4.0 U	4.0 U	4.0 U	4.0 U	4.0 U	4.0 U	4.0 U	4.0 U	4.0 U	4.0 U	4.0 U
Styrene	ug/L	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U
Toluene	ug/L	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U
Vinyl chloride	ug/L	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U
p-Xylene	ug/L	0.50 U	0.50 U	0.50 U	0.50 U	0.15 1.0	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.15 1.0

Station ID	C005	C006	C007	C008	C009	C010	C011	C012	C013	C014	C015	C016	C017	C018	C019	C020
Sample ID	C005-0113	C006-0113	C007-0113	C008-0113	C009-0113	C010-0113	C011-0113	C012-0113	C013-0113	C014-0113	C015-0113	C016-0113	C017-0113	C018-0113	C019-0113	C020-0113
Sample Date	1/10/2013 11:00	1/10/2013 11:00	1/10/2013 11:00	1/10/2013 11:00	1/10/2013 11:00	1/10/2013 11:00	1/10/2013 11:00	1/10/2013 11:00	1/10/2013 11:00	1/10/2013 11:00	1/10/2013 11:00	1/10/2013 11:00	1/10/2013 11:00	1/10/2013 11:00	1/10/2013 11:00	1/10/2013 11:00
Analyte	Units	Comparison Standard														
m-xylitol p-xylene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.7
1,2,4-Trichlorobenzene	ug/L	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U
Acetone	ug/L	4.0 U	4.0 U	4.0 U	4.0 U	4.0 U	4.0 U	4.0 U	4.0 U	4.0 U	4.0 U	4.0 U	4.0 U	4.0 U	4.0 U	4.0 U
Benzene	ug/L	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U
Chlorobenzene	ug/L	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U
Ethyl Benzene	ug/L	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.47 1.0
Methyl Ethyl Ketone	ug/L	4.0 U	4.0 U	4.0 U	4.0 U	4.0 U	4.0 U	4.0 U	4.0 U	4.0 U	4.0 U	4.0 U	4.0 U	4.0 U	4.0 U	4.0 U
Styrene	ug/L	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U
Toluene	ug/L	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U
Vinyl chloride	ug/L	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U
p-Xylene	ug/L	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	1.0

Analytical Data Qualifiers

- U The analyte was not detected at or above the reporting limit.  
J The reported value is an estimate.  
O Other qualifiers have been assigned providing additional information. See data sheet.

Legend	
Detection, Result Shown	5.0
Non-detect, MRL shown	5.0 U
Result exceeds standard, Result shown	5.0 A
Non-detect, MRL exceeds standard, MRL shown	5.0 U A

Table 5  
ACW SVOC Results

Station ID	200	220	260	281	282	283	285	420	640	880	700	720	ACW001	C1001	C1002
Sample ID	200-0113	220-0113	260-0113	281-0113	282-0113	283-0113	285-0113	420-0113	640-0113	880-0113	700-0113	720-0113	ACW001-0113	C1001-0113	C1002-0113
Sample Date	1/10/2013 11:00	1/10/2013 11:00	1/10/2013 11:00	1/10/2013 11:00	1/10/2013 11:00	1/10/2013 11:00	1/10/2013 11:00	1/10/2013 11:00	1/10/2013 11:00	1/10/2013 11:00	1/10/2013 11:00	1/10/2013 11:00	1/10/2013 11:00	1/10/2013 11:00	1/10/2013 11:00
Analyte	Units	Comparison Standard													
1-Bromonaphthalene	ug/L	9.7 U	9.9 U	9.8 U	9.9 U	10 U	10 U	9.7 U	10 U	9.8 U	10 U	9.7 U	10 U	10 U	9.9 U
1,2-Dibromonaphthalene	ug/L	1.9 U	2.0 U	2.0 U	1.9 U	2.0 U	2.0 U	1.9 U	2.0 U	1.9 U	2.0 U	1.9 U	2.0 U	2.0 U	2.0 U
2,4-Dibromonaphthalene	ug/L	9.7 U	9.9 U	9.8 U	9.9 U	10 U	10 U	9.7 U	10 U	9.8 U	10 U	9.7 U	10 U	10 U	9.9 U
2-Methylnaphthalene	ug/L	9.7 U	9.9 U	9.8 U	9.9 U	10 U	10 U	9.7 U	10 U	9.8 U	10 U	9.7 U	10 U	10 U	9.9 U
Acenaphthene	ug/L	1.9 U	2.0 U	2.0 U	1.9 U	2.0 U	2.0 U	1.9 U	2.0 U	1.9 U	2.0 U	1.9 U	2.0 U	2.0 U	2.0 U
Acenaphthylene	ug/L	1.9 U	2.0 U	2.0 U	1.9 U	2.0 U	2.0 U	1.9 U	2.0 U	1.9 U	2.0 U	1.9 U	2.0 U	2.0 U	2.0 U
Benzo[a]anthracene	ug/L	1.9 U	2.0 U	2.0 U	1.9 U	2.0 U	2.0 U	1.9 U	2.0 U	1.9 U	2.0 U	1.9 U	2.0 U	2.0 U	2.0 U
Benzo[a]pyrene	ug/L	1.9 U	2.0 U	2.0 U	1.9 U	2.0 U	2.0 U	1.9 U	2.0 U	1.9 U	2.0 U	1.9 U	2.0 U	2.0 U	2.0 U
Benzo[b]fluoranthene	ug/L	1.9 U	2.0 U	2.0 U	1.9 U	2.0 U	2.0 U	1.9 U	2.0 U	1.9 U	2.0 U	1.9 U	2.0 U	2.0 U	2.0 U
Benzo[k]fluoranthene	ug/L	1.9 U	2.0 U	2.0 U	1.9 U	2.0 U	2.0 U	1.9 U	2.0 U	1.9 U	2.0 U	1.9 U	2.0 U	2.0 U	2.0 U
Benzo[e]pyrene	ug/L	1.9 U	2.0 U	2.0 U	1.9 U	2.0 U	2.0 U	1.9 U	2.0 U	1.9 U	2.0 U	1.9 U	2.0 U	2.0 U	2.0 U
Benzo[g]perylene	ug/L	1.9 U	2.0 U	2.0 U	1.9 U	2.0 U	2.0 U	1.9 U	2.0 U	1.9 U	2.0 U	1.9 U	2.0 U	2.0 U	2.0 U
Benzo[h]perylene	ug/L	1.9 U	2.0 U	2.0 U	1.9 U	2.0 U	2.0 U	1.9 U	2.0 U	1.9 U	2.0 U	1.9 U	2.0 U	2.0 U	2.0 U
Carbazole	ug/L	1.9 U	2.0 U	2.0 U	1.9 U	2.0 U	2.0 U	1.9 U	2.0 U	1.9 U	2.0 U	1.9 U	2.0 U	2.0 U	2.0 U
Chrysene	ug/L	1.9 U	2.0 U	2.0 U	1.9 U	2.0 U	2.0 U	1.9 U	2.0 U	1.9 U	2.0 U	1.9 U	2.0 U	2.0 U	2.0 U
Dibenz[a,h]anthracene	ug/L	1.9 U	2.0 U	2.0 U	1.9 U	2.0 U	2.0 U	1.9 U	2.0 U	1.9 U	2.0 U	1.9 U	2.0 U	2.0 U	2.0 U
Dibenz[a,i]perylene	ug/L	1.9 U	2.0 U	2.0 U	1.9 U	2.0 U	2.0 U	1.9 U	2.0 U	1.9 U	2.0 U	1.9 U	2.0 U	2.0 U	2.0 U
Fluoranthene	ug/L	1.9 U	2.0 U	2.0 U	1.9 U	2.0 U	2.0 U	1.9 U	2.0 U	1.9 U	2.0 U	1.9 U	2.0 U	2.0 U	2.0 U
Indeno[1,2,3-cd]pyrene	ug/L	1.9 U	2.0 U	2.0 U	1.9 U	2.0 U	2.0 U	1.9 U	2.0 U	1.9 U	2.0 U	1.9 U	2.0 U	2.0 U	2.0 U
Naphthalene	ug/L	1.9 U	2.0 U	2.0 U	1.9 U	2.0 U	2.0 U	1.9 U	2.0 U	1.9 U	2.0 U	1.9 U	2.0 U	2.0 U	2.0 U
Naphthylamine	ug/L	9.7 U	9.9 U	9.8 U	9.9 U	10 U	10 U	9.7 U	10 U	9.8 U	10 U	9.7 U	10 U	10 U	9.9 U
Phenanthrene	ug/L	1.9 U	2.0 U	2.0 U	1.9 U	2.0 U	2.0 U	1.9 U	2.0 U	1.9 U	2.0 U	1.9 U	2.0 U	2.0 U	2.0 U
Phenol	ug/L	9.7 U	9.9 U	9.8 U	9.9 U	10 U	10 U	9.7 U	10 U	9.8 U	10 U	9.7 U	10 U	10 U	9.9 U
Pyrene	ug/L	1.9 U	2.0 U	2.0 U	1.9 U	2.0 U	2.0 U	1.9 U	2.0 U	1.9 U	2.0 U	1.9 U	2.0 U	2.0 U	2.0 U

ANALYTICAL DATA QUALIFIERS

- U The analyte was not detected at or above the reporting limit.  
J The reported value is an estimate.  
O Other qualifiers have been assigned providing additional information. See data sheet.

Legend	
Detection, Result Shown	5.0
Non-detect, MRL shown	5.0 U
Result exceeds standard, Result shown	5.0 A
Non-detect, MRL exceeds standard, MRL shown	5.0 U A



Table 5  
ACW SVOC Results

Analyte	Units	Comparison Standard	Station ID																		
			C1003	C1004	C1005	C1011	C1012	C1013	C1014	C1015	C1016	C1017	C1018	C1019	C1020	C1021	C1022	C1023	C1024	C1025	C1026
			C1003-0113	C1004-0113	C1005-0113	C1011-0113	C1012-0113	C1013-0113	C1014-0113	C1015-0113	C1016-0113	C1017-0113	C1018-0113	C1019-0113	C1020-0113	C1021-0113	C1022-0113	C1023-0113	C1024-0113	C1025-0113	C1026-0113
Sample Date			5/25/2013 11:34	5/25/2013 10:20	5/25/2013 9:43	5/25/2013 16:52	5/25/2013 15:47	5/25/2013 17:22	5/25/2013 17:12	5/25/2013 18:05	5/25/2013 18:05	5/26/2013 9:37	5/26/2013 10:05	5/26/2013 11:02	5/26/2013 12:55	5/27/2013 15:25	5/28/2013 11:10				
(3-and/or 4-Methylphenyl)	ug/L	-	9.9 U	10 U	10 U	9.9 U	10 U	62	10 U	10 U	10 U	9.9 U	9.7 U	9.9 U	9.7 U	9.8 U	10 U				
1,3-Biphenyl	ug/L	-FL MARINE SWCTL (2005): 18 ug/L >	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	90 ^	2.1 U	2.0 U	2.1 U	2.0 U	1.9 U	2.0 U	1.9 U	2.0 U	2.1 U				
2,4-Dimethylphenol	ug/L	-FL MARINE SWCTL (2005): 180 ug/L >	9.9 U	10 U	10 U	9.9 U	10 U	440 ^	10 U	10 U	10 U	9.9 U	9.7 U	9.9 U	9.7 U	9.8 U	10 U				
2-Methylphenol	ug/L	-FL MARINE SWCTL (2005): 250 ug/L >	9.9 U	10 U	10 U	9.9 U	10 U	52	10 U	10 U	10 U	9.9 U	9.7 U	9.9 U	9.7 U	9.8 U	10 U				
Aceanthrene	ug/L	-FL MARINE SWCTL (2005): 3 ug/L >	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	410 ^	67 ^	2.0 U	2.1 U	2.0 U	1.9 U	2.0 U	1.9 U	2.0 U	2.1 U				
Anthracene	ug/L	-FL MARINE SWCTL (2005): 3 ug/L >	2.0 U ^	2.0 U ^	2.0 U ^	2.0 U ^	2.0 U ^	11 ^	2.1 U ^	2.0 U ^	2.1 U ^	2.0 U ^	1.9 U ^	2.0 U ^	1.9 U ^	2.0 U ^	2.1 U ^				
Benzo(a)anthracene	ug/L	-FL MARINE SWCTL (2005): .031 ug/L >	2.0 U ^	2.0 U ^	2.0 U ^	2.0 U ^	2.0 U ^	3.9 U ^	2.1 U ^	2.0 U ^	2.1 U ^	2.0 U ^	1.9 U ^	2.0 U ^	1.9 U ^	2.0 U ^	2.1 U ^				
Benzo(a)pyrene	ug/L	-FL MARINE SWCTL (2005): .031 ug/L >	2.0 U ^	2.0 U ^	2.0 U ^	2.0 U ^	2.0 U ^	3.9 U ^	2.1 U ^	2.0 U ^	2.1 U ^	2.0 U ^	1.9 U ^	2.0 U ^	1.9 U ^	2.0 U ^	2.1 U ^				
Benzo(b)fluoranthene	ug/L	-FL MARINE SWCTL (2005): .031 ug/L >	2.0 U ^	2.0 U ^	2.0 U ^	2.0 U ^	2.0 U ^	3.9 U ^	2.1 U ^	2.0 U ^	2.1 U ^	2.0 U ^	1.9 U ^	2.0 U ^	1.9 U ^	2.0 U ^	2.1 U ^				
Benzo(g,h,i)perylene	ug/L	-FL MARINE SWCTL (2005): .031 ug/L >	2.0 U ^	2.0 U ^	2.0 U ^	2.0 U ^	2.0 U ^	3.9 U ^	2.1 U ^	2.0 U ^	2.1 U ^	2.0 U ^	1.9 U ^	2.0 U ^	1.9 U ^	2.0 U ^	2.1 U ^				
Benzo(k)fluoranthene	ug/L	-FL MARINE SWCTL (2005): .031 ug/L >	2.0 U ^	2.0 U ^	2.0 U ^	2.0 U ^	2.0 U ^	3.9 U ^	2.1 U ^	2.0 U ^	2.1 U ^	2.0 U ^	1.9 U ^	2.0 U ^	1.9 U ^	2.0 U ^	2.1 U ^				
Carbazole	ug/L	-FL MARINE SWCTL (2005): 47 ug/L >	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	470 ^	2.1 U	2.0 U	2.1 U	2.0 U	1.9 U	2.0 U	1.9 U	2.0 U	2.1 U				
Chrysene	ug/L	-FL MARINE SWCTL (2005): .031 ug/L >	2.0 U ^	2.0 U ^	2.0 U ^	2.0 U ^	2.0 U ^	3.9 U ^	2.1 U ^	2.0 U ^	2.1 U ^	2.0 U ^	1.9 U ^	2.0 U ^	1.9 U ^	2.0 U ^	2.1 U ^				
Dibenz(a,h)anthracene	ug/L	-FL MARINE SWCTL (2005): .031 ug/L >	2.0 U ^	2.0 U ^	2.0 U ^	2.0 U ^	2.0 U ^	3.9 U ^	2.1 U ^	2.0 U ^	2.1 U ^	2.0 U ^	1.9 U ^	2.0 U ^	1.9 U ^	2.0 U ^	2.1 U ^				
Dibenzofuran	ug/L	-FL MARINE SWCTL (2005): 67 ug/L >	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	230 ^	2.1 U	2.0 U	2.1 U	2.0 U	1.9 U	2.0 U	1.9 U	2.0 U	2.1 U				
Fluoranthene	ug/L	-FL MARINE SWCTL (2005): 3 ug/L >	2.0 U ^	2.0 U ^	2.0 U ^	2.0 U ^	2.0 U ^	57 ^	2.1 U ^	2.0 U ^	2.1 U ^	2.0 U ^	1.9 U ^	2.0 U ^	1.9 U ^	2.0 U ^	2.1 U ^				
Fluorene	ug/L	-FL MARINE SWCTL (2005): 30 ug/L >	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	220 ^	15	2.0 U	2.0 U	2.0 U	1.9 U	2.0 U	1.9 U	2.0 U	2.1 U				
Indeno (1,2,3-cd) pyrene	ug/L	-FL MARINE SWCTL (2005): .031 ug/L >	2.0 U ^	2.0 U ^	2.0 U ^	2.0 U ^	2.0 U ^	3.9 U ^	2.1 U ^	2.0 U ^	2.1 U ^	2.0 U ^	1.9 U ^	2.0 U ^	1.9 U ^	2.0 U ^	2.1 U ^				
Naphthalene	ug/L	-FL MARINE SWCTL (2005): 26 ug/L >	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	6500 ^	2.1	2.0 U	2.1 U	2.0 U	1.9 U	2.0 U	1.9 U	2.0 U	2.1 U				
Permethylenanthracene	ug/L	-FL MARINE SWCTL (2005): 7.8 ug/L >	9.9 U ^	10 U ^	10 U ^	9.9 U ^	10 U ^	9.3 U ^	10 U ^	10 U ^	9.9 U ^	9.7 U ^	9.9 U ^	9.7 U ^	9.8 U ^	10 U ^	10 U ^				
Phenanthrene	ug/L	-FL MARINE SWCTL (2005): .031 ug/L >	2.0 U ^	2.0 U ^	2.0 U ^	2.0 U ^	2.0 U ^	140 ^	2.1 U ^	2.0 U ^	2.1 U ^	2.0 U ^	1.9 U ^	2.0 U ^	1.9 U ^	2.0 U ^	2.1 U ^				
Phenol	ug/L	-FL MARINE SWCTL (2005): 6.5 ug/L >	9.9 U ^	10 U ^	10 U ^	9.9 U ^	10 U ^	54 U	10 U ^	10 U ^	10 U ^	9.9 U ^	9.7 U ^	9.9 U ^	9.7 U ^	9.8 U ^	10 U ^				
Pyrene	ug/L	-FL MARINE SWCTL (2005): 3 ug/L >	2.0 U ^	2.0 U ^	2.0 U ^	2.0 U ^	2.0 U ^	4.0 ^	2.1 U ^	2.0 U ^	2.1 U ^	2.0 U ^	1.9 U ^	2.0 U ^	1.9 U ^	2.0 U ^	2.1 U ^				

#### ANALYTICAL DATA QUALIFIERS

- U The analyte was not detected at or above the reporting limit.  
 J The reported value is an estimate.  
 O Other qualifiers have been assigned providing additional information. See data sheets.

Legend	
Detection, Result Shown	5.0
Non-detect, MRL shown	5.0 U
Result exceeds standard, Result shown	5.0 ^
Non-detect, MRL exceeds standard, MRL shown	5.0 U ^

Table 5  
ACW SVOC Results

Analyte	Units	Comparison Standard	Station ID															
			C301	C301	C302	C303	C401	C402	C403	C404	C405	C406	C501	C502	C503	C504	C505	
			C301-0313	C301-0313	C302-0313	C303-0313	C401-0313	C402-0313	C403-0313	C404-0313	C405-0313	C406-0313	C501-0313	C502-0313	C503-0313	C504-0313	C505-0313	
			Sample Date	3/21/2013 11:35	3/21/2013 11:36	3/21/2013 11:06	3/21/2013 10:53	3/20/2013 11:00	3/20/2013 12:45	3/20/2013 12:06	3/20/2013 11:20	3/20/2013 9:54	3/19/2013 17:27	3/23/2013 10:00	3/23/2013 10:54	3/23/2013 12:22	3/23/2013 12:02	3/23/2013 11:10
3-and/or 4-Methylphenol	ug/l	-	10 U	10 U	9.9 U	10 U	9.9 U, J, O	10 U	9.8 U	10 U	9.9 U	9.9 U	10 U	9.9 U	10 U	10 U	3700	
1,3-Biphenyl	ug/l	-FL MARINE SWCTL (2005): 18 ug/l >	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	50 ^	
2,4-Dimethylphenol	ug/l	-FL MARINE SWCTL (2005): 160 ug/l >	10 U	10 U	9.9 U	10 U	9.9 U	10 U	9.8 U	10 U	9.9 U	9.9 U	10 U	9.9 U	10 U	10 U	4300 ^	
2-Methylphenol	ug/l	-FL MARINE SWCTL (2005): 250 ug/l >	10 U	10 U	9.9 U	10 U	9.9 U, J, O	10 U	9.8 U	10 U	9.9 U	9.9 U	10 U	9.9 U	10 U	10 U	2100 ^	
Acenaphthene	ug/l	-FL MARINE SWCTL (2005): 5 ug/l >	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	7.3 ^	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	180 ^	
Anthracene	ug/l	-FL MARINE SWCTL (2005): 3 ug/l >	2.0 U ^	2.0 U ^	2.0 U ^	2.0 U ^	2.0 U ^	2.0 U ^	2.0 U ^	2.0 U ^	2.0 U ^	2.0 U ^	2.0 U ^	2.0 U ^	2.0 U ^	2.0 U ^	3.9 U ^	
Benzo(a)anthracene	ug/l	-FL MARINE SWCTL (2005): .031 ug/l >	2.0 U ^	2.0 U ^	2.0 U ^	2.0 U ^	2.0 U ^	2.0 U ^	2.0 U ^	2.0 U ^	2.0 U ^	2.0 U ^	2.0 U ^	2.0 U ^	2.0 U ^	2.0 U ^	3.9 U ^	
Benzo(a)pyrene	ug/l	-FL MARINE SWCTL (2005): .031 ug/l >	2.0 U ^	2.0 U ^	2.0 U ^	2.0 U ^	2.0 U ^	2.0 U ^	2.0 U ^	2.0 U ^	2.0 U ^	2.0 U ^	2.0 U ^	2.0 U ^	2.0 U ^	2.0 U ^	3.9 U ^	
Benzo(b)fluoranthene	ug/l	-FL MARINE SWCTL (2005): .031 ug/l >	2.0 U ^	2.0 U ^	2.0 U ^	2.0 U ^	2.0 U ^	2.0 U ^	2.0 U ^	2.0 U ^	2.0 U ^	2.0 U ^	2.0 U ^	2.0 U ^	2.0 U ^	2.0 U ^	3.9 U ^	
Benzo(g,h,i)perylene	ug/l	-FL MARINE SWCTL (2005): .031 ug/l >	2.0 U ^	2.0 U ^	2.0 U ^	2.0 U ^	2.0 U ^	2.0 U ^	2.0 U ^	2.0 U ^	2.0 U ^	2.0 U ^	2.0 U ^	2.0 U ^	2.0 U ^	2.0 U ^	3.9 U ^	
Benzo(k)fluoranthene	ug/l	-FL MARINE SWCTL (2005): .031 ug/l >	2.0 U ^	2.0 U ^	2.0 U ^	2.0 U ^	2.0 U ^	2.0 U ^	2.0 U ^	2.0 U ^	2.0 U ^	2.0 U ^	2.0 U ^	2.0 U ^	2.0 U ^	2.0 U ^	3.9 U ^	
Carbazole	ug/l	-FL MARINE SWCTL (2005): 47 ug/l >	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	150 ^	
Chrysene	ug/l	-FL MARINE SWCTL (2005): .031 ug/l >	2.0 U ^	2.0 U ^	2.0 U ^	2.0 U ^	2.0 U ^	2.0 U ^	2.0 U ^	2.0 U ^	2.0 U ^	2.0 U ^	2.0 U ^	2.0 U ^	2.0 U ^	2.0 U ^	3.9 U ^	
Dibenz(a,h)anthracene	ug/l	-FL MARINE SWCTL (2005): .031 ug/l >	2.0 U ^	2.0 U ^	2.0 U ^	2.0 U ^	2.0 U ^	2.0 U ^	2.0 U ^	2.0 U ^	2.0 U ^	2.0 U ^	2.0 U ^	2.0 U ^	2.0 U ^	2.0 U ^	3.9 U ^	
Dibenzofuran	ug/l	-FL MARINE SWCTL (2005): 2.0 ug/l >	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.4	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	94 ^	
Fluoranthene	ug/l	-FL MARINE SWCTL (2005): 3 ug/l >	2.0 U ^	2.0 U ^	2.0 U ^	2.0 U ^	2.0 U ^	2.0 U ^	2.0 U ^	2.0 U ^	2.0 U ^	2.0 U ^	2.0 U ^	2.0 U ^	2.0 U ^	2.0 U ^	3.9 U ^	
Fluorene	ug/l	-FL MARINE SWCTL (2005): 30 ug/l >	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.4	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	97 ^	
Indeno (1,2,3-cd) pyrene	ug/l	-FL MARINE SWCTL (2005): .031 ug/l >	2.0 U ^	2.0 U ^	2.0 U ^	2.0 U ^	2.0 U ^	2.0 U ^	2.0 U ^	2.0 U ^	2.0 U ^	2.0 U ^	2.0 U ^	2.0 U ^	2.0 U ^	2.0 U ^	3.9 U ^	
Naphthalene	ug/l	-FL MARINE SWCTL (2005): 26 ug/l >	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	18 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	5200 ^	
Permethylenanthracene	ug/l	-FL MARINE SWCTL (2005): 7.8 ug/l >	10 U ^	10 U ^	9.9 U ^	10 U ^	9.9 U ^	10 U ^	9.8 U ^	10 U ^	9.9 U ^	9.9 U ^	10 U ^	9.9 U ^	10 U ^	10 U ^	20 U ^	
Phenanthrene	ug/l	-FL MARINE SWCTL (2005): .031 ug/l >	2.0 U ^	2.0 U ^	2.0 U ^	2.0 U ^	2.0 U ^	2.0 U ^	2.0 U ^	2.0 U ^	2.0 U ^	2.0 U ^	2.0 U ^	2.0 U ^	2.0 U ^	2.0 U ^	27 ^	
Phenol	ug/l	-FL MARINE SWCTL (2005): 6.5 ug/l >	10 U ^	10 U ^	9.9 U ^	10 U ^	9.9 U, J, O	10 U ^	9.8 U ^	10 U ^	9.9 U ^	9.9 U ^	10 U ^	9.9 U ^	10 U ^	10 U ^	940 ^	
Pyrene	ug/l	-FL MARINE SWCTL (2005): 3 ug/l >	2.0 U ^	2.0 U ^	2.0 U ^	2.0 U ^	2.0 U ^	2.0 U ^	2.0 U ^	2.0 U ^	2.0 U ^	2.0 U ^	2.0 U ^	2.0 U ^	2.0 U ^	2.0 U ^	3.9 U ^	

#### ANALYTICAL DATA QUALIFIERS

- U The analyte was not detected at or above the reporting limit.  
 J The reported value is an estimate.  
 O Other qualifiers have been assigned providing additional information. See data sheets.

Legend	
Detection, Result Shown	5.0
Non-detect, MRL shown	5.0 U
Result exceeds standard, Result shown	5.0 ^
Non-detect, MRL exceeds standard, MRL shown	5.0 U ^



Table 5  
ACW SVOC Results

Station ID		C506	C506	C601	C602	C603	C604	C605	C701	C702	C703	C704	C801	C802	C803	C804
Sample ID		C506-0513	C506D-0513	C601-0513	C602-0513	C603-0513	C604-0513	C605-0513	C701-0513	C702-0513	C703-0513	C704-0513	C801-0513	C802-0513	C803-0513	C804-0513
Sample Date		3/23/2013 9:55	3/23/2013 9:55	3/22/2013 14:12	3/22/2013 15:02	3/22/2013 15:48	3/22/2013 16:56	3/22/2013 14:05	3/23/2013 15:57	3/23/2013 15:57	3/23/2013 16:15	3/23/2013 17:15	3/22/2013 11:09	3/22/2013 10:48	3/22/2013 10:40	3/22/2013 10:18
Analyte	Units	Comparison Standard														
3-and/or 4-Methylphenol	ug/L	9000														
1,1-Biphenyl	ug/L	100 ^														
2,4-Dimethylphenol	ug/L	6900 ^														
2-Methylphenol	ug/L	3800 ^														
Acephenanthrene	ug/L	520 ^														
Anthracene	ug/L	4.0 U ^														
Benzo[a]anthracene	ug/L	4.0 U ^														
Benzo[a]pyrene	ug/L	4.0 U ^														
Benzo[b]fluoranthene	ug/L	4.0 U ^														
Benzo[g,h,i]perylene	ug/L	4.0 U ^														
Benzo[k]fluoranthene	ug/L	4.0 U ^														
Camphene	ug/L	410 ^														
Chrysene	ug/L	4.0 U ^														
Dibenz[a,h]anthracene	ug/L	4.0 U ^														
Dibenzofuran	ug/L	150 ^														
Fluorene	ug/L	5.5 ^														
Indeno[1,2,3-cd]pyrene	ug/L	4.0 U ^														
Naphthalene	ug/L	8000 ^														
Pentachlorophenol	ug/L	290 ^														
Phenanthrene	ug/L	110 ^														
Phenol	ug/L	2700 ^														
Pyrene	ug/L	3.5 U ^														

ANALYTICAL DATA QUALIFIERS

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Legend

Detection, Result Shown	5.0
Non-detect, MRL shown	5.0 U
Result exceeds standard, Result shown	5.0 ^
Non-detect, MRL exceeds standard, MRL shown	5.0 U ^

**Table 5**  
**ACW SVOC Results**

		Station ID	C805	C901	C902	C903	C904	C905	OW09
		Sample ID	C805-0313	C901-0313	C902-0313	C903-0313	C904-0313	C905-0313	OW09-0313
		Sample Date	3/22/2013 9:25	3/21/2013 16:20	3/21/2013 15:23	3/21/2013 17:00	3/21/2013 14:50	3/21/2013 16:15	3/22/2013 16:45
Analyte	Units	Comparison Standard							
(3-and/or 4-Methyl)phenol	ug/L	-	9.9 U	10 U	10 U	10 U	10 U	10 U	10 U
1,1-Biphenyl	ug/L	<FL MARINE SWCTL (2005): 18 ug/l >	2.0 U	2.0 U	23 ^	15	2.0 U	2.0 U	2.0 U
2,4-Dimethylphenol	ug/L	<FL MARINE SWCTL (2005): 160 ug/l >	9.9 U	10 U	10 U	10 U	10 U	10 U	10 U
2-Methylphenol	ug/L	<FL MARINE SWCTL (2005): 250 ug/l >	9.9 U	10 U	10 U	10 U	10 U	10 U	10 U
Acenaphthene	ug/L	<FL MARINE SWCTL (2005): 3 ug/l >	2.0 U	2.0 U	160 ^	200 ^	2.0 U	2.0 U	2.0 U
Anthracene	ug/L	<FL MARINE SWCTL (2005): .3 ug/l >	2.0 U ^	2.0 U ^	2.0 U ^	6.5 ^	2.0 U ^	2.0 U ^	2.0 U ^
Benzo(a)anthracene	ug/L	<FL MARINE SWCTL (2005): .031 ug/l >	2.0 U ^	2.0 U ^	2.0 U ^	2.0 U ^	2.0 U ^	2.0 U ^	2.0 U ^
Benzo(a)pyrene	ug/L	<FL MARINE SWCTL (2005): .031 ug/l >	2.0 U ^	2.0 U ^	2.0 U ^	2.0 U ^	2.0 U ^	2.0 U ^	2.0 U ^
Benzo(b)fluoranthene	ug/L	<FL MARINE SWCTL (2005): .031 ug/l >	2.0 U ^	2.0 U ^	2.0 U ^	2.0 U ^	2.0 U ^	2.0 U ^	2.0 U ^
Benzo(g,h,i)perylene	ug/L	<FL MARINE SWCTL (2005): .031 ug/l >	2.0 U ^	2.0 U ^	2.0 U ^	2.0 U ^	2.0 U ^	2.0 U ^	2.0 U ^
Benzo(k)fluoranthene	ug/L	<FL MARINE SWCTL (2005): .031 ug/l >	2.0 U ^	2.0 U ^	2.0 U ^	2.0 U ^	2.0 U ^	2.0 U ^	2.0 U ^
Carbazole	ug/L	<FL MARINE SWCTL (2005): 47 ug/l >	2.0 U	2.0 U	150 ^	230 ^	2.0 U	2.0 U	2.0 U
Chrysene	ug/L	<FL MARINE SWCTL (2005): .031 ug/l >	2.0 U ^	2.0 U ^	2.0 U ^	2.0 U ^	2.0 U ^	2.0 U ^	2.0 U ^
Dibenz(a,h)anthracene	ug/L	<FL MARINE SWCTL (2005): .031 ug/l >	2.0 U ^	2.0 U ^	2.0 U ^	2.0 U ^	2.0 U ^	2.0 U ^	2.0 U ^
Dibenzofuran	ug/L	<FL MARINE SWCTL (2005): 67 ug/l >	2.0 U	2.0 U	71 ^	100 ^	2.0 U	2.0 U	2.0 U
Fluoranthene	ug/L	<FL MARINE SWCTL (2005): .3 ug/l >	2.0 U ^	2.0 U ^	2.1 ^	2.3 ^	2.0 U ^	2.0 U ^	2.0 U ^
Fluorene	ug/L	<FL MARINE SWCTL (2005): 30 ug/l >	2.0 U	2.0 U	58 ^	100 ^	2.0 U	2.0 U	2.0 U
Indeno (1,2,3-cd) pyrene	ug/L	<FL MARINE SWCTL (2005): .031 ug/l >	2.0 U ^	2.0 U ^	2.0 U ^	2.0 U ^	2.0 U ^	2.0 U ^	2.0 U ^
Naphthalene	ug/L	<FL MARINE SWCTL (2005): 26 ug/l >	2.0 U	2.0 U	1700 ^	3100 ^	2.0 U	2.0 U	1.9 J,O
Pentachlorophenol	ug/L	<FL MARINE SWCTL (2005): 7.9 ug/l >	9.9 U ^	10 U ^	4.7 J,O	10 U ^	1.4 J,O	10 U ^	110 ^
Phenanthrene	ug/L	<FL MARINE SWCTL (2005): .031 ug/l >	2.0 U ^	2.0 U ^	25 ^	68 ^	2.0 U ^	2.0 U ^	2.0 U ^
Phenol	ug/L	<FL MARINE SWCTL (2005): 6.5 ug/l >	9.9 U ^	10 U ^	10 U ^	10 U ^	10 U ^	10 U ^	10 U ^
Pyrene	ug/L	<FL MARINE SWCTL (2005): .3 ug/l >	2.0 U ^	2.0 U ^	1.2 J,O ^	1.2 J,O ^	2.0 U ^	2.0 U ^	2.0 U ^

**ANALYTICAL DATA QUALIFIERS**

- U The analyte was not detected at or above the reporting limit.
- J The reported value is an estimate.
- O Other qualifiers have been assigned providing additional information. See data sheets.

**Legend**

Detection, Result Shown	5.0
Non-detect, MRL shown	5.0 U
Result exceeds standard, Result shown	5.0 ^
Non-detect, MRL exceeds standard, MRL shown	5.0 U ^



**Table 4**  
**Remediation Goal Results**

Station ID	200	220	260	281	282	283	285	286	400	420	440	480	700	720	760	ACW4	ACW5	ACWW1	
Sample ID	200-0112	220-0112	260-0112	281-0112	282-0112	283-0112	285-0112	286-0112	400-0112	420-0112	440-0112	480-0112	700-0112	720-0112	760-0112	ACW4-0112	ACW5-0112	ACWW1-0112	
Date	02/07/2012	02/07/2012	02/07/2012	02/06/2012	02/06/2012	02/06/2012	02/06/2012	02/06/2012	02/03/2012	02/03/2012	02/03/2012	02/03/2012	02/06/2012	02/06/2012	02/06/2012	02/05/2012	02/05/2012	02/07/2012	
Time	09:10	09:37	11:10	12:35	09:45	11:10	10:30	13:05	15:30	13:40	14:00	14:30	15:15	16:35	15:50	11:40	14:09	15:50	
Analyte	Units	Remediation Goal																	
Acenaphthene	ug/l	9000	5 U	75	5 U	170	5 U	75	5 U	7.1	4.2 J.O	76	350	5 U	5 U	290	5 U	5 U	440
Benzene	ug/l	91	5 U	6.6	5 U	58	5 U	23	5 U	3.3 O	0.51 J.O	120	5 U	5 U	75	5 U	5 U	8.1	
Benz(a)anthracene	ug/l	1100	5 U	50 U	5 U	50 U	5 U	5 U	5 U	5 U	5 U	50 U	250 U	5 U	5 U	250 U	5 U	5 U	250 U
Dibenzofuran	ug/l	44	5 U	25 J.O	5 U	83	5 U	12	5 U	5.3	5 U	46 J.O	230 J.O	5 U	5 U	100 J.O	5 U	5 U	270
Fluoranthene	ug/l	1500	5 U	50 U	5 U	50 U	5 U	5 U	5 U	5 U	5 U	50 U	250 U	5 U	5 U	250 U	5 U	5 U	250 U
Naphthalene	ug/l	21900	5 U	1700	5 U	4000	5 U	790	5 U	5 U	14	300	6600	5 U	5 U	8000	5 U	5 U	7200
Pentachlorophenol	ug/l	296000	10 U	100 U	10 U J.O	100 U	10 U	10 U	10 U	10 U	10 U	100 U J.O	500 U	10 U	10 U	500 U J.O	10 U	10 U	500 U J.O

Station ID	ACWW2	ACWW3	C1001	C1002	C1003	C1004	C1005	C101	C102	C103	C104	C105	C201	C202	C203	C204	C205	C206
Sample ID	ACWW2-0112	ACWW3-0112	C1001-0112	C1002-0112	C1003-0112	C1004-0112	C1005-0112	C101-0112	C102-0112	C103-0112	C104-0112	C105-0112	C201-0112	C202-0112	C203-0112	C204-0112	C205-0112	C206-0112
Date	02/07/2012	02/07/2012	02/04/2012	02/04/2012	02/04/2012	02/04/2012	02/04/2012	01/31/2012	01/31/2012	01/31/2012	01/31/2012	01/31/2012	02/07/2012	02/07/2012	02/07/2012	02/07/2012	02/07/2012	02/07/2012
Time	15:25	15:30	11:25	09:20	11:08	10:50	09:15	11:28	14:25	16:10	15:00	15:50	11:10	11:15	13:45	14:15	14:00	10:58
Analyte	Units	Remediation Goal																
Acenaphthene	ug/l	9000	64 J.O	5 U	5 U	5 U	5 U	5 U	5 U	300 J.O	67	5 U	5 U	5 U	5 U	5 U	10 U	10 U
Benzene	ug/l	91	0.73 J.O	5 U	5 U	5 U	5 U	5 U	5 U	45	2.2 J.O	5 U	5 U	5 U	5 U	5 U	5 U	5 U
Benz(a)anthracene	ug/l	1100	100 U	5 U	5 U	5 U	5 U	5 U	5 U	500 U	10 U	5 U	5 U	5 U	5 U	5 U	10 U	10 U
Dibenzofuran	ug/l	44	100 U	5 U	5 U	5 U	5 U	5 U	5 U	140 J.O	10 U	5 U	5 U	5 U	5 U	5 U	4.1 J.O	10 U
Fluoranthene	ug/l	1500	100 U	5 U	5 U	5 U	5 U	5 U	5 U	500 U	10 U	5 U	5 U	5 U	5 U	5 U	10 U	10 U
Naphthalene	ug/l	21900	610	5.6	5 U	5 U	5 U	5 U	5 U	4800	10 U	5 U	5 U	5 U	5 U	5 U	4.3 J.O	10 U
Pentachlorophenol	ug/l	296000	200 U	10 U	10 U	10 U	10 U	10 U	10 U.J.O	1000 U	20 U	10 U.J.O	10 U.J.O	10 U	10 U	10 U.J.O	150	20 U

Station ID		C301	C302	C303	C401	C402	C403	C404	C405	C406	C406T	C501	C502	C503	C504	C505	C506	C601
Sample ID		C301-0112	C302-0112	C303-0112	C401-0112	C402-0112	C403-0112	C404-0112	C405-0112	C406-0112	C406T-0112	C501-0112	C502-0112	C503-0112	C504-0112	C505-0112	C506-0112	C601-0112
Date		02/08/2012	02/02/2012	02/02/2012	02/02/2012	02/02/2012	02/02/2012	02/02/2012	02/02/2012	02/02/2012	02/02/2012	02/03/2012	02/05/2012	02/05/2012	02/05/2012	02/05/2012	02/05/2012	02/04/2012
Time		14:15	14:48	13:55	11:25	11:00	09:35	09:35	09:24	11:15	12:01	16:00	09:18	09:25	10:30	09:00	09:15	14:00
Analyte	Units	Remediation Goal																
Acenaphthene	ug/l	9000	5 U	5 U	5 U	5 U	5 U	5 U	18	5 U	5 U	5 U	5 U	5 U	5 U	1.2 J.O	900 U	5 U
Benzene	ug/l	91	5 U	5 U	5 U	5 U	5 U	5 U	5.3	5 U	5 U	5 U	5 U	5 U	5 U	75	170	5 U
Benz(a)anthracene	ug/l	1100	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	900 U	1000 U
Dibenzofuran	ug/l	44	5 U	5 U	5 U	5 U	5 U	5 U	13	5 U	5 U	5 U	5 U	5 U	5 U	5 U	500 U	1000 U
Fluoranthene	ug/l	1500	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	500 U	1000 U
Naphthalene	ug/l	21900	5 U	5 U	5 U	5 U	5 U	5 U	15	5 U	5 U	5 U	5 U	5 U	5 U	1.3 J.O	4800	9300
Pentachlorophenol	ug/l	296000	10 U	10 U	10 U.J.O	10 U	10 U.J.O	10 U.J.O	10 U	10 U.J.O	10 U.J.O	10 U	10 U	10 U	10 U	10 U	1000 U	2000 U

**Table 4**  
**Remediation Goal Results**

Station ID		C602	C603	C604	C605	C701	C702	C703	C704	C801	C802	C803	C804	C805	C901	C902	C903	C904	C905
Sample ID		C602-0112	C603-0112	C604-0112	C605-0112	C701-0112	C702-0112	C703-0112	C704-0112	C801-0112	C802-0112	C803-0112	C804-0112	C805-0112	C901-0112	C902-0112	C903-0112	C904-0112	C905-0112
Date		02/04/2012	02/04/2012	02/04/2012	02/04/2012	02/06/2012	02/06/2012	02/06/2012	02/06/2012	02/03/2012	02/03/2012	02/03/2012	02/03/2012	02/03/2012	01/31/2012	01/31/2012	01/31/2012	01/31/2012	01/31/2012
Time		15:25	14:10	14:40	13:36	16:00	16:00	13:30	15:05	09:35	10:24	10:30	09:15	08:49	10:55	10:45	11:52	11:55	14:55
Remediation Goal																			
Analyte	Units																		
Acenaphthene	ug/l	9000	5 U	5 U	10 U	7.1	5 U	5.4 U.J.O	5 U	5 U	5 U.J.O	5 U	5 U	5 U	5 U	5 U	220 J.O	32	5 U
Benzene	ug/l	91	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	4.1 J.O	1.3 J.O	5 U
Benz(a)anthracene	ug/l	1100	5 U	5 U	10 U	5 U	5 U	5.4 U.J.O	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	500 U	5 U	5 U
Dibenzofuran	ug/l	44	5 U	5 U	10 U	5 U	5 U	5.4 U.J.O	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	130 J.O	16	5 U
Fluoranthene	ug/l	1500	5 U	5 U	10 U	5 U	5 U	5.4 U.J.O	5 U	5 U	5 U.J.O	5 U	5 U	5 U	5 U	5 U	500 U	5 U	5 U
Naphthalene	ug/l	21900	5 U	1.2 J.O	10 U	5 U	5 U	5.4 U.J.O	5 U	5 U	5 U.J.O	5 U	5 U	5 U	5 U	9.6	4000	5 U	5 U
Pentachlorophenol	ug/l	296000	10 U	10 U.J.O	83	3.4 J	10 U	13 U.J.O	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	1000 U	10 U.J.O	8.1 J.O

Station ID		MW1	MW1A	MW2	MW3	MW3	MW4	MW5	MW6	OW09	OW10	PYCD5H	PYCD5N	PYCD5S	PYCD5B	
Sample ID		MW1-0112	MW1A-0112	MW2-0112	MW3-0112	MW3D-0112	MW4-0112	MW5-0112	MW6-0112	OW9-0112	OW10-0112	PYCD5H-0112	PYCD5N-0112	PYCD5S-0112	PYCD5B-0112	
Date		02/03/2012	02/01/2012	02/01/2012	02/01/2012	02/01/2012	02/01/2012	02/01/2012	02/01/2012	02/04/2012	02/06/2012	02/02/2012	02/02/2012	02/02/2012	02/06/2012	
Time		11:30	11:55	15:25	12:20	12:30	10:20	09:35	16:21	15:50	17:15	15:55	16:35	16:20	11:40	
Analyte	Units	Remediation Goal														
Acenaphthene	ug/l	9000	5 U	5 U	5 U	5 U	5 U	4.3 J.O	5 U	1 J.O	5 U	2.1 J.O	5 U.J.O	7.5	5 U	5 U
Benzene	ug/l	91	5 U	0.94 J.O	5 U	5 U	5 U	3.3 J.O	5 U	2.1 J.O	5 U	5 U	5 U	5.2	5 U	5 U
Benz(a)anthracene	ug/l	1100	5 U	5 U	5 U.J.O	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U
Dibenzofuran	ug/l	44	5 U	5 U	5 U	5 U	5 U	1.8 J.O	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U
Fluoranthene	ug/l	1500	5 U	5 U	5 U.J.O	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U
Naphthalene	ug/l	21900	5 U	5 U	5 U	5 U	5 U	39	5 U	27	3.5 J.O	3 J.O	5 U.J.O	51	5 U	5 U
Pentachlorophenol	ug/l	296000	10 U	10 U.J.O	10 U	10 U.J.O	10 U.J.O	10 U.J.O	10 U	470	10 U	10 U	10 U	10 U	10 U	10 U

U = analyte was not detected at or above the reporting limit  
 J = the identification of the analyte is acceptable; the reported value is an estimate  
 R = The presence or absence of the analyte cannot be determined from the data due to severe quality control problems; the data are rejected and considered unusable  
 O = See attached data sheets for information on additional qualifiers

**Note:** Groundwater sampling in 2012 involved a broader analysis; this included contaminants that are not related to the Site. Any applicable contaminants related to the Site will be addressed for cleanup under the forthcoming sitewide ROD.

Table 6  
VOC Results

Analyte	Units	Remediation Goal	Station ID	200	220	260	281	282	283	285	286	400	420	440	480	700	720	760	
			Sample ID	200-0112	220-0112	260-0112	281-0112	282-0112	283-0112	285-0112	286-0112	400-0112	420-0112	440-0112	480-0112	700-0112	720-0112	760-0112	
			Date	02/07/2012	02/07/2012	02/07/2012	02/06/2012	02/06/2012	02/06/2012	02/06/2012	02/06/2012	02/06/2012	02/03/2012	02/03/2012	02/03/2012	02/03/2012	02/06/2012	02/06/2012	02/06/2012
			Time	09:10	09:17	11:10	12:35	09:45	11:10	10:30	13:05	15:30	13:40	14:00	14:30	15:15	16:35	15:50	
(m- and/or p-)xylene	ug/l	-	5 U	19	5 U	72	5 U	5 U	7.10	5 U	5 U	4.50 J.O	2.70 J.O	110	5 U	5 U	110		
1,1,1-Trichloroethane	ug/l	-	5 U.J.O	5 U	5 U	5 U.J.O	5 U	5 U.J.O	5 U	5 U	5 U	5 U	5 U	5 U	5 U.J.O	5 U.J.O	5 U.J.O		
1,1,2,2-Tetrachloroethane	ug/l	-	5 U.J.O	5 U	5 U	5 U.J.O	5 U	5 U.J.O	5 U	5 U	5 U	5 U	5 U	5 U	5 U.J.O	5 U.J.O	5 U.J.O		
1,1,2-Trichloro-1,2,2-Trifluoroethane (Freon 113)	ug/l	-	5 U.J.O	5 U	5 U	5 U.J.O	5 U	5 U.J.O	5 U	5 U	5 U	5 U	5 U	5 U	5 U.J.O	5 U.J.O	5 U.J.O		
1,1,2-Trichloroethane	ug/l	-	5 U.J.O	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U.J.O	5 U		
1,1-Dichloroethane	ug/l	-	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U		
1,1-Dichloroethene (1,1-Dichloroethylene)	ug/l	-	5 U	5 U	5 U	5 U	0.70 J.O	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U		
1,2,3-Trichlorobenzene	ug/l	-	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U		
1,2,4-Trichlorobenzene	ug/l	-	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U		
1,2-Dibromo-3-Chloropropane (DBCP)	ug/l	-	5 U.J.O	5 U.J.O	5 U.J.O	5 U.J.O	5 U.J.O	5 U.J.O	5 U.J.O	5 U.J.O	5 U	5 U	5 U	5 U	5 U.J.O	5 U.J.O	5 U.J.O		
1,2-Dibromoethane (EDB)	ug/l	-	5 U.J.O	5 U	5 U	5 U.J.O	5 U	5 U.J.O	5 U	5 U	5 U	5 U	5 U	5 U	5 U.J.O	5 U.J.O	5 U.J.O		
1,2-Dichlorobenzene	ug/l	-	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U		
1,2-Dichloroethane	ug/l	-	5 U.J.O	5 U	5 U	5 U.J.O	5 U	5 U.J.O	5 U	5 U	5 U	5 U	5 U	5 U	5 U.J.O	5 U.J.O	5 U.J.O		
1,2-Dichloropropane	ug/l	-	5 U	5 U	5 U	5 U	5 U.J.O	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U		
1,3-Dichlorobenzene	ug/l	-	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U		
1,4-Dichlorobenzene	ug/l	-	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U		
1,4-Dioxane	ug/l	-	100 U.R.O	100 U.R.O	100 U.R.O	100 U.R.O	100 U.R.O	100 U.R.O	100 U.R.O	100 U.R.O	100 U.R.O	100 U.R.O	100 U.R.O	100 U.R.O	100 U.R.O	100 U.R.O	100 U.R.O		
Acetone	ug/l	-	11 J.O	10 U	10 U.R.O	10 U.R.O	10 U	10 U.R.O	10 U.R.O	10 U.R.O	10 U.R.O	10 U.R.O	10 U.R.O	10 U.R.O	10 U.R.O	10 U.R.O	10 U.R.O		
Benzene	ug/l	51	6.60	5 U	5 U	58	5 U	5 U	23	5 U	5 U	31.0	0.91 J.O	130	5 U	5 U	75		
Bromochloromethane	ug/l	-	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U		
Bromodichloromethane	ug/l	-	5 U	5 U	5 U	5 U	5 U.J.O	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U		
Bromoform	ug/l	-	5 U	5 U.J.O	5 U	5 U	5 U.J.O	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U		
Bromomethane	ug/l	-	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U		
Carbon disulfide	ug/l	-	5 U	5 U	5 U	5 U.J.O	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U		
Carbon Tetrachloride	ug/l	-	5 U.J.O	5 U	5 U	5 U.J.O	5 U	5 U.J.O	5 U	5 U	5 U	5 U	5 U	5 U	5 U.J.O	5 U.J.O	5 U.J.O		
Chlorobenzene	ug/l	-	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U		
Chloroethane	ug/l	-	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U		
Chloroform	ug/l	-	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U		
Chloromethane	ug/l	-	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U		
cis-1,2-Dichloroethene	ug/l	-	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U		
cis-1,3-Dichloropropene	ug/l	-	5 U.J.O	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	1.50 J.O	5 U	5 U		
Cyclohexane	ug/l	-	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U		
Dibromochloromethane	ug/l	-	5 U	5 U	5 U	5 U	5 U.J.O	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U		
Dichlorodifluoromethane	ug/l	-	5 U	5 U.J.O	5 U	5 U	5 U.J.O	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U		
Ethyl Benzene	ug/l	-	5 U	19	5 U	52	5 U	5 U	10	5 U	5 U	23.0	3.50 J.O	63	5 U	5 U	74		
Isopropylbenzene	ug/l	-	5 U	43.0	5 U	6.50	5 U	5 U	5 U	5 U	5 U	5 U	5 U.R.O	8.80	5 U	5 U	5.50		
Methyl Acetone	ug/l	-	5 U.J.O	5 U	5 U.J.O	5 U.J.O	5 U	5 U.J.O	5 U.J.O	5 U.J.O	5 U	5 U	5 U	5 U	5 U.J.O	5 U.J.O	5 U.J.O		
Methyl Butyl Ketone	ug/l	-	10 U.J.O	10 U.J.O	10 U.J.O	10 U.J.O	10 U.J.O	10 U.J.O	10 U.J.O	10 U.J.O	10 U	10 U	10 U	10 U	10 U.J.O	10 U.J.O	10 U.J.O		
Methyl Ethyl Ketone	ug/l	-	10 U.J.O	10 U	10 U.J.O	10 U.J.O	10 U	10 U.J.O	10 U.J.O	10 U.J.O	10 U.J.O	10 U	10 U	10 U	10 U.J.O	10 U.J.O	10 U.J.O		
Methyl Isobutyl Ketone	ug/l	-	10 U.J.O	10 U	10 U.J.O	10 U.J.O	10 U	10 U.J.O	10 U.J.O	10 U.J.O	10 U	10 U	10 U	1.50 J.O	10 U.J.O	10 U.J.O	10 U.J.O		
Methyl T-Butyl Ether (MTBE)	ug/l	-	5 U.J.O	5 U	5 U	5 U.J.O	5 U	5 U.J.O	5 U	5 U	5 U	5 U	5 U	5 U	5 U.J.O	5 U.J.O	5 U.J.O		
Methyldichloromethane	ug/l	-	5 U	5 U	5 U	5 U	5 U.J.O	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U		
Methylene Chloride	ug/l	-	5 U.J.O	5 U	5 U	5 U.J.O	5 U	5 U.J.O	5 U	5 U	5 U	5 U	5 U	5 U	5 U.J.O	5 U.J.O	5 U.J.O		
o-Xylene	ug/l	-	5 U	18	5 U	40	5 U	5 U	3.80 J	5 U	5 U	5 U	23.0	52	5 U	5 U	49		

Table 6  
VOC Results

Analyte	Units	Station ID	200	220	260	281	282	283	285	286	400	420	440	480	700	720	760
		Sample ID	200-0112	220-0112	260-0112	281-0112	282-0112	283-0112	285-0112	286-0112	400-0112	420-0112	440-0112	480-0112	700-0112	720-0112	760-0112
		Date	02/07/2012	02/07/2012	02/07/2012	02/06/2012	02/06/2012	02/06/2012	02/06/2012	02/06/2012	02/03/2012	02/03/2012	02/03/2012	02/03/2012	02/06/2012	02/06/2012	02/06/2012
		Time	09:10	09:17	11:10	12:35	09:45	11:10	10:30	13:05	15:30	13:40	14:00	14:30	15:15	16:35	15:50
		Remediation Goal															
Styrene	ug/l	-	5 U	5 U	5 U	1.20 J.O	5 U	5 U	5 U	5 U	5 U	5 U.R.O	5 U	5 U	5 U	5 U	1.50 J.O
Tetrachloroethene (Tetrachloroethylene)	ug/l	-	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U.R.O	5 U	5 U	5 U	5 U
Toluene	ug/l	-	5 U	2.30 J.O	5 U	6.60	5 U	5 U	1.10 J.O	5 U	5 U	5 U	1 J.O	120	5 U	5 U	25
trans-1,2-Dichloroethene	ug/l	-	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U
trans-1,3-Dichloropropene	ug/l	-	5 U,J.O	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U,J.O	5 U
Trichloroethene (Trichloroethylene)	ug/l	-	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U.R.O	5 U	5 U	5 U	5 U
Trichlorofluoromethane (Freon 11)	ug/l	-	5 U,J.O	5 U	5 U	5 U,J.O	5 U	5 U,J.O	5 U	5 U	5 U	5 U	5 U	5 U	5 U,J.O	5 U,J.O	5 U,J.O
Vinyl chloride	ug/l	-	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U

Result at or above the remediation goal

U = analyte was not detected at or above the reporting limit

ND = presumptive evidence that analyte is present; reported as a tentative identification with an estimated value

J = the identification of the analyte is acceptable; the reported value is an estimate

R = The presence or absence of the analyte cannot be determined from the data due to severe quality control problems; the data are rejected and considered unusable

O = See attached data sheets for information on additional qualifiers

Tentatively Identified Compounds (TICs) are not shown on this table but are included in the analytical data sheets



Table 6  
VOC Results

Analyte	Units	Station ID Sample ID Date	ACW4 ACW4-0112 02/05/2012 11:40	ACW5 ACW5-0112 02/05/2012 14:09	ACWPMW1 ACWPMW1-0112 02/07/2012 15:50	ACWPMW2 ACWPMW2-0112 02/07/2012 15:25	ACWPMW3 ACWPMW3-0112 02/07/2012 15:30	C1001 C1001-0112 02/04/2012 11:25	C1002 C1002-0112 02/04/2012 09:20	C1003 C1003-0112 02/04/2012 11:08	C1004 C1004-0112 02/04/2012 10:50	C1005 C1005-0112 02/04/2012 09:15	C101 C101-0112 01/31/2012 11:28	C102 C102-0112 01/31/2012 14:25	C103 C103-0112 01/31/2012 16:10	C104 C104-0112 01/31/2012 15:00	C105 C105-0112 01/31/2012 15:50
		Remediation Goal															
(m- and/or p-)xylene	ug/l	-	5 U	5 U	61	7.20	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	59	5 U	5 U
1,1,1-Trichloroethane	ug/l	-	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U
1,1,2,2-Tetrachloroethane	ug/l	-	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U, O	5 U	5 U	5 U	5 U	5 U	5 U
1,1,2-Trichloro-1,2,2-Trifluoroethane (Freon 113)	ug/l	-	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U
1,1,2-Trichloroethane	ug/l	-	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U
1,1-Dichloroethane	ug/l	-	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U
1,1-Dichloroethene (1,1-Dichloroethylene)	ug/l	-	5 U	5 U	5 U	5 U	5 U	0.51, 3.0	5 U	5 U	5 U	5 U	5 U	5 U	0.78, 3.0	5 U	5 U
1,2,3-Trichlorobenzene	ug/l	-	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U
1,2,4-Trichlorobenzene	ug/l	-	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U
1,2-Dibromo-3-Chloropropane (DBCP)	ug/l	-	5 U	5 U	5 U, O	5 U, O	5 U, O	5 U	5 U	5 U, O	5 U, O	5 U, O	5 U	5 U	5 U	5 U	5 U
1,2-Dibromoethane (EDB)	ug/l	-	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U
1,2-Dichlorobenzene	ug/l	-	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U
1,2-Dichloroethene	ug/l	-	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U
1,2-Dichloropropane	ug/l	-	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U
1,3-Dichlorobenzene	ug/l	-	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U
1,4-Dichlorobenzene	ug/l	-	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U
1,4-Dioxane	ug/l	-	100 U, R, O	100 U, R, O	100 U, R, O	100 U, R, O	100 U, R, O	100 U, R, O	100 U, R, O	100 U, R, O	100 U, R, O	100 U, R, O	100 U, R, O	100 U, R, O	100 U, R, O	100 U, R, O	100 U, R, O
Acetone	ug/l	-	10 U, R, O	10 U, R, O	10 U, R, O	10 U, R, O	10 U, R, O	10 U, R, O	10 U	10 U	10 U, R, O	10 U	10 U	10 U	10 U	10 U	10 U
Benzene	ug/l	91	5 U	5 U	8.10	0.73, 3.0	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	45	2.20, 3.0	5 U
Bromochloromethane	ug/l	-	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U
Bromodichloromethane	ug/l	-	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U
Bromofluoromethane	ug/l	-	5 U	5 U	5 U	5 U	5 U	5 U	5 U, O	5 U	5 U, O	5 U, O	5 U, O	5 U, O	5 U, O	5 U, O	5 U, O
Bromomethane	ug/l	-	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U
Carbon disulfide	ug/l	-	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U
Carbon Tetrachloride	ug/l	-	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U
Chlorobenzene	ug/l	-	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U
Chloroethane	ug/l	-	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U
Chloroform	ug/l	-	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U
Chloromethane	ug/l	-	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U
cis-1,2-Dichloroethane	ug/l	-	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U
cis-1,3-Dichloropropene	ug/l	-	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U
Cyclohexane	ug/l	-	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U
Dibromochloromethane	ug/l	-	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U, O	5 U	5 U, O	5 U	5 U	5 U	5 U	5 U
Dichlorodifluoromethane	ug/l	-	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U, O	5 U	5 U	5 U	5 U	43	5 U	5 U
Ethyl Benzene	ug/l	-	5 U	5 U	30	11	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	6.90	5 U	5 U
Isopropylbenzene	ug/l	-	5 U	5 U	6.60	2.40, 3.0	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U
Methyl Acetate	ug/l	-	5 U	5 U	5 U, O	5 U, O	5 U, O	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U
Methyl Butyl Ketone	ug/l	-	10 U	10 U	10 U, O	10 U, O	10 U, O	10 U	10 U	10 U, O	10 U	10 U, O	10 U	10 U	10 U	10 U	10 U
Methyl Ethyl Ketone	ug/l	-	10 U	10 U	10 U, O	10 U, O	10 U, O	10 U	10 U	10 U, O	10 U	10 U, O	10 U	10 U	10 U	10 U	10 U
Methyl Isobutyl Ketone	ug/l	-	10 U	10 U	10 U, O	10 U, O	10 U, O	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Methyl T-Butyl Ether (MTBE)	ug/l	-	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U
Methylcyclohexane	ug/l	-	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U
Methylene Chloride	ug/l	-	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U
o-Xylene	ug/l	-	5 U	5 U	32	3.80, 3.0	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	29	5 U	5 U

Table 6  
VOC Results

Analyte	Units	Station ID Sample ID Date	ACW4 ACW4-0112 02/05/2012 11:40	ACW5 ACW5-0112 02/05/2012 14:09	ACWPMW1 ACWPMW1-0112 02/07/2012 15:50	ACWPMW2 ACWPMW2-0112 02/07/2012 15:25	ACWPMW3 ACWPMW3-0112 02/07/2012 15:30	C1001 C1001-0112 02/04/2012 11:25	C1002 C1002-0112 02/04/2012 09:20	C1003 C1003-0112 02/04/2012 11:08	C1004 C1004-0112 02/04/2012 10:50	C1005 C1005-0112 02/04/2012 09:15	C101 C101-0112 01/31/2012 11:28	C102 C102-0112 01/31/2012 14:25	C103 C103-0112 01/31/2012 16:10	C104 C104-0112 01/31/2012 15:00	C105 C105-0112 01/31/2012 15:50
		Remediation Goal															
Styrene	ug/l	-	5 U	5 U	1.60, 3.0	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	6.80	5 U	5 U
Tetrachloroethene (Tetrachloroethylene)	ug/l	-	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	45	5 U	5 U
Toluene	ug/l	-	5 U	5 U	21	2.40, 3.0	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U
trans-1,2-Dichloroethane	ug/l	-	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U
trans-1,3-Dichloropropene	ug/l	-	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U
Trichloroethene (Trichloroethylene)	ug/l	-	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U
Trichlorofluoromethane (Freon 11)	ug/l	-	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U
Vinyl chloride	ug/l	-	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U

Result at or above the remediation goal

U = analyte was not detected at or above the reporting limit

ND = presumptive evidence that analyte is present; reported as a tentative id

J = the identification of the analyte is acceptable; the reported value is an R

R = The presence or absence of the analyte cannot be determined from the d

O = See attached data sheets for information on additional qualifiers

Tentatively Identified Compounds (TICs) are not shown on this table, but are

Table 6  
VOC Results

Analyte	Units	Station ID	C201	C202	C203	C204	C205	C206	C301	C302	C303	C401	C402	C403	C404	C405	C406
		Sample ID	C201-0112	C202-0112	C203-0112	C204-0112	C205-0112	C206-0112	C301-0112	C302-0112	C303-0112	C401-0112	C402-0112	C403-0112	C404-0112	C405-0112	C406-0112
		Date	02/07/2012	02/07/2012	02/07/2012	02/07/2012	02/07/2012	02/07/2012	02/06/2012	02/02/2012	02/02/2012	02/02/2012	02/02/2012	02/02/2012	02/02/2012	02/02/2012	02/02/2012
		Time	11:10	11:15	13:45	14:15	14:00	10:50	14:15	14:40	13:55	11:25	11:00	09:35	09:35	09:24	11:15
		Remediation Goal															
(m- and/or p-)xylene	ug/l	-	S U	S U	S U	S U	S U	S U	S U	S U	S U	S U	S U	S U	S U	S U	S U
1,1,1-Trichloroethane	ug/l	-	S U	S U	S U,LO	S U	S U	S U	S U,LO	S U	S U	S U	S U	S U	S U	S U	S U
1,1,2,2-Tetrachloroethane	ug/l	-	S U	S U	S U,LO	S U	S U	S U	S U,LO	S U	S U	S U	S U	S U,LO	S U	S U	S U
1,1,2-Trichloro-1,2,2-Trifluoroethane (Freon 113)	ug/l	-	S U	S U	S U,LO	S U	S U	S U	S U,LO	S U	S U	S U	S U	S U	S U	S U	S U
1,1,2-Trichloroethane	ug/l	-	S U	S U	S U	S U	S U	S U	S U	S U	S U	S U	S U	S U	S U	S U	S U
1,1-Dichloroethane	ug/l	-	S U	S U	S U	S U	S U	S U	S U	S U	S U	S U	S U	S U	S U	S U	S U
1,1-Dichloroethane (1,1-Dichloroethylene)	ug/l	-	S U	S U	S U	S U	S U	S U	S U	S U	S U	S U	S U	S U	S U	S U	S U
1,2,3-Trichlorobenzene	ug/l	-	S U	S U	S U	S U	S U	S U	S U	S U	S U	S U	S U	S U	S U	S U	S U
1,2,4-Trichlorobenzene	ug/l	-	S U	S U	S U	S U	S U	S U	S U	S U	S U	S U	S U	S U	S U	S U	S U
1,2-Dibromo-3-Chloropropane (DBCP)	ug/l	-	S U,LO	S U,LO	S U,LO	S U,LO	S U,LO	S U,LO	S U,LO	S U	S U	S U	S U	S U,LO	S U	S U	S U
1,2-Dibromoethane (EDB)	ug/l	-	S U	S U	S U,LO	S U	S U	S U	S U,LO	S U	S U	S U	S U	S U	S U	S U	S U
1,2-Dichlorobenzene	ug/l	-	S U	S U	S U	S U	2,70 LO	S U	S U	S U	S U	S U	S U	S U	S U	S U	S U
1,2-Dichloroethane	ug/l	-	S U	S U	S U,LO	S U	S U	S U	S U,LO	S U	S U	S U	S U	S U	S U	S U	S U
1,2-Dichloropropane	ug/l	-	S U	S U	S U	S U	S U	S U	S U	S U	S U	S U	S U	S U	S U	S U	S U
1,3-Dichlorobenzene	ug/l	-	S U	S U	S U	S U	S U	S U	S U	S U	S U	S U	S U	S U	S U	S U	S U
1,4-Dichlorobenzene	ug/l	-	S U	S U	S U	S U	S U	S U	S U	S U	S U	S U	S U	S U	S U	S U	S U
1,4-Dioxane	ug/l	-	100 U,R,O	100 U,R,O	100 U,R,O	100 U,R,O	100 U,R,O	100 U,R,O	100 U,R,O	100 U,R,O	100 U,R,O	100 U,R,O	100 U,R,O	100 U,R,O	100 U,R,O	100 U,R,O	100 U,R,O
Acetone	ug/l	-	10 U,R,O	10 U	10 U,R,O	10 U,R,O	10 U,R,O	10 U,R,O	10 U,R,O	10 U,R,O	10 U	10 U	10 U	10 U	10 U	10 U,R,O	10 U
Benzene	ug/l	91	S U	S U	S U	S U	S U	S U	S U	S U	S U	S U	S U	S U	S U	S U	S U
Bromochloromethane	ug/l	-	S U	S U	S U	S U	S U	S U	S U	S U	S U	S U	S U	S U	S U	S U	S U
Bromodichloromethane	ug/l	-	S U	S U	S U	S U	S U	S U	S U	S U	S U	S U	S U	S U	S U	S U	S U
Bromofrom	ug/l	-	S U	S U,LO	S U	S U	S U	S U	S U	S U	S U,LO	S U,LO	S U,LO	S U,LO	S U,LO	S U	S U,LO
Bromomethane	ug/l	-	S U	S U	S U	S U	S U	S U	S U	S U	S U,LO	S U,LO	S U,LO	S U,LO	S U,LO	S U	S U,LO
Carbon disulfide	ug/l	-	S U	S U	S U,LO	S U	S U	S U	S U,LO	S U	S U	S U	S U	S U	S U	S U	S U
Carbon Tetrachloride	ug/l	-	S U	S U	S U,LO	S U	S U	S U	S U,LO	S U	S U	S U	S U	S U	S U	S U	S U
Chlorobenzene	ug/l	-	S U	S U	S U	S U	S U	S U	S U	S U	S U	S U	S U	S U	S U	S U	S U
Chloroethane	ug/l	-	S U	S U	S U	S U	S U	S U	S U	S U	S U	S U	S U	S U	S U	S U	S U
Chloroform	ug/l	-	S U	S U	S U	S U	S U	S U	S U	S U	S U	S U	S U	S U	S U	S U	S U
Chloromethane	ug/l	-	S U	S U	S U	S U	S U	S U	S U	S U	S U	S U	S U	S U	S U	S U	S U
cis-1,2-Dichloroethane	ug/l	-	S U	S U	S U	S U	S U	S U	S U	S U	S U	S U	S U	S U	S U	S U	S U
cis-1,3-Dichloropropene	ug/l	-	S U	S U	S U	S U	S U	S U	S U	S U	S U	S U	S U	S U	S U	S U	S U
Cyclohexane	ug/l	-	S U	S U	S U	S U	S U	S U	S U	S U	S U	S U	S U	S U	S U	S U	S U
Dibromochloromethane	ug/l	-	S U	S U,LO	S U	S U	S U	S U	S U	S U	S U	S U	S U	S U	S U	S U	S U
Dichlorodifluoromethane	ug/l	-	S U	S U,LO	S U,LO	S U	S U	S U	S U,LO	S U	S U	S U	S U	S U	S U	S U	S U
Ethyl Benzene	ug/l	-	S U	S U	S U	S U	S U	S U	S U	S U	S U	S U	S U	S U	S U	S U	S U
Isopropylbenzene	ug/l	-	S U	S U	S U	S U	S U	S U	S U	S U	S U	S U	S U	S U	S U	S U	S U
Methyl Acetate	ug/l	-	S U,LO	S U	S U,LO	S U,LO	S U,LO	S U,LO	S U,LO	S U	S U	S U	S U	S U	S U	S U	S U
Methyl Butyl Ketone	ug/l	-	10 U,LO	10 U,LO	10 U,LO	10 U,LO	10 U,LO	10 U,LO	10 U,LO	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Methyl Ethyl Ketone	ug/l	-	10 U,LO	10 U	10 U,LO	10 U,LO	10 U,LO	10 U,LO	10 U,LO	10 U	10 U	10 U	10 U	10 U	10 U	10 U,LO	10 U
Methyl Isobutyl Ketone	ug/l	-	10 U,LO	10 U	10 U,LO	10 U,LO	10 U,LO	10 U,LO	10 U,LO	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Methyl T-Butyl Ether (MTBE)	ug/l	-	S U	S U	S U,LO	S U	S U	S U	S U,LO	S U	S U	S U	S U	S U	S U	S U	S U
Methylcyclohexane	ug/l	-	S U	S U	S U	S U	S U	S U	S U	S U	S U	S U	S U	S U	S U	S U	S U
Methylene Chloride	ug/l	-	S U	S U	S U,LO	S U	S U	S U	S U,LO	S U	S U	S U	S U	S U	S U	S U	S U
o-Xylene	ug/l	-	S U	S U	S U	S U	S U	S U	S U	S U	S U	S U	S U	S U	S U	S U	S U

Table 6  
VOC Results

Analyte	Units	Station ID	C201	C202	C203	C204	C205	C206	C301	C302	C303	C401	C402	C403	C404	C405	C406
		Sample ID	C201-0112	C202-0112	C203-0112	C204-0112	C205-0112	C206-0112	C301-0112	C302-0112	C303-0112	C401-0112	C402-0112	C403-0112	C404-0112	C405-0112	C406-0112
		Date	02/07/2012	02/07/2012	02/07/2012	02/07/2012	02/07/2012	02/07/2012	02/06/2012	02/02/2012	02/02/2012	02/02/2012	02/02/2012	02/02/2012	02/02/2012	02/02/2012	02/02/2012
		Time	11:10	11:15	13:45	14:15	14:00	10:50	14:15	14:40	13:55	11:25	11:00	09:35	09:35	09:24	11:15
		Remediation Goal															
Styrene	ug/l	-	S U	S U	S U	S U	S U	S U	S U	S U	S U	S U	S U	S U	S U	S U	S U
Tetrachloroethene (Tetrachloroethylene)	ug/l	-	S U	S U	S U	S U	S U	S U	S U	S U	S U	S U	S U	S U	S U	S U	S U
Toluene	ug/l	-	S U	S U	S U	S U	S U	S U	S U	S U	S U	S U	S U	S U	S U	S U	S U
trans-1,2-Dichloroethene	ug/l	-	S U	S U	S U	S U	S U	S U	S U	S U	S U	S U	S U	S U	S U	S U	S U
trans-1,3-Dichloropropene	ug/l	-	S U	S U	S U	S U	S U	S U	S U	S U	S U	S U	S U	S U	S U	S U	S U
Trichloroethene (Trichloroethylene)	ug/l	-	S U	S U	S U	S U	S U	S U	S U	S U	S U	S U	S U	S U	S U	S U	S U
Trichlorofluoromethane (Freon 11)	ug/l	-	S U	S U	S U,LO	S U	S U	S U	S U,LO	S U	S U	S U	S U	S U	S U	S U	S U
Vinyl chloride	ug/l	-	S U	S U	S U	S U	S U	S U	S U	S U	S U	S U	S U	S U	S U	S U	S U

Result at or above the remediation goal

U = analyte was not detected at or above the reporting limit

LO = presumptive evidence that analyte is present; reported as a tentative id

LO = the identification of the analyte is acceptable; the reported value is an estimate

R = The presence or absence of the analyte cannot be determined from the data

O = See attached data sheets for information on additional qualifiers

Tentatively Identified Compounds (TICs) are not shown on this table, but are



Table 6  
VOC Results

Analyte	Units	Station ID	C406	C501	C502	C502	C503	C504	C505	C506	C601	C602	C603	C604	C605	C701	C702	
		Sample ID	C406T-0112	C501-0112	C502-0112	C502D-0112	C503-0112	C504-0112	C505-0112	C506-0112	C601-0112	C602-0112	C603-0112	C604-0112	C605-0112	C701-0112	C702-0112	
		Date	02/02/2012	02/02/2012	02/05/2012	02/05/2012	02/05/2012	02/05/2012	02/05/2012	02/05/2012	02/05/2012	02/04/2012	02/04/2012	02/04/2012	02/04/2012	02/04/2012	02/05/2012	02/05/2012
		Time	12:01	16:00	09:18	09:25	10:30	09:00	10:45	09:15	14:00	15:25	14:10	14:40	13:36	16:00	16:00	
		Remediation Goal																
(m- and/or p-)xylene	ug/l	-	5 U	5 U	5 U	5 U	5 U	5 U	65	120	5 U	5 U	5 U	5 U	5 U	5 U	5 U	
1,1,1-Trichloroethane	ug/l	-	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	
1,1,2,2-Tetrachloroethane	ug/l	-	5 U,LO	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	
1,1,2-Trichloro-1,2,2-Trifluoroethane (Freon 113)	ug/l	-	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	
1,1,2-Trichloroethane	ug/l	-	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	
1,1-Dichloroethane	ug/l	-	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	
1,1-Dichloroethane (1,1-Dichloroethylene)	ug/l	-	5 U	5 U	5 U	5 U	0.53 LO	5 U	5 U	0.52 LO	5 U	5 U	0.50 LO	5 U	5 U	5 U	5 U	
1,2,3-Trichlorobenzene	ug/l	-	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	
1,2,4-Trichlorobenzene	ug/l	-	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	
1,2-Dibromo-3-Chloropropane (DBCP)	ug/l	-	5 U,LO	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	
1,2-Dibromoethane (EDB)	ug/l	-	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	
1,2-Dichlorobenzene	ug/l	-	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	
1,2-Dichloroethane	ug/l	-	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	
1,2-Dichloropropane	ug/l	-	5 U	5 U	5 U	5 U,LO	5 U,LO	5 U	5 U	5 U	5 U	5 U,LO	5 U	5 U	5 U	5 U	5 U	
1,3-Dichlorobenzene	ug/l	-	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	
1,4-Dichlorobenzene	ug/l	-	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	
1,4-Dioxane	ug/l	-	100 U,LO	100 U,LO	100 U,LO	100 U,LO	100 U,LO	100 U,LO	100 U,LO	100 U,LO	100 U,LO	100 U,LO	100 U,LO	100 U,LO	100 U,LO	100 U,LO	100 U,LO	
Acetone	ug/l	-	10 U	10 U,LO	10 U,LO	10 U,LO	10 U,LO	10 U,LO	46 LO	110 LO	10 U,LO	10 U,LO	10 U,LO	10 U,LO	10 U,LO	10 U,LO	10 U,LO	
Benzene	ug/l	93	5 U	5 U	5 U	5 U	5 U	5 U	75	170	5 U	5 U	5 U	5 U	5 U	5 U	5 U	
Bromochloromethane	ug/l	-	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	
Bromodichloromethane	ug/l	-	5 U	5 U	5 U	5 U,LO	5 U,LO	5 U	5 U	5 U	5 U	5 U,LO	5 U	5 U	5 U	5 U	5 U	
Bromofarm	ug/l	-	5 U,LO	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	
Bromomethane	ug/l	-	5 U,LO	5 U	5 U	5 U	5 U	5 U	5 U	5 U,LO	5 U	5 U	5 U	5 U	5 U	5 U	5 U	
Carbon disulfide	ug/l	-	5 U	5 U	5 U	5 U	5 U	5 U	5 U	0.51 LO	5 U	5 U	5 U	5 U	5 U	5 U	5 U	
Carbon Tetrachloride	ug/l	-	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	
Chlorobenzene	ug/l	-	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	
Chloroethane	ug/l	-	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U,LO	5 U	5 U	5 U	5 U	5 U	5 U	5 U	
Chloroform	ug/l	-	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	
Chloromethane	ug/l	-	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U,LO	5 U	5 U	5 U	5 U	5 U	5 U	5 U	
cis-1,2-Dichloroethene	ug/l	-	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	7.80	2.90 LO	5 U	5 U	5 U	5 U	
cis-1,3-Dichloropropene	ug/l	-	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U,LO	5 U	5 U	5 U	5 U	
Cyclohexane	ug/l	-	5 U	5 U	5 U	5 U,LO	5 U,LO	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	
Dibromochloromethane	ug/l	-	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U,LO	5 U	5 U	5 U	5 U	5 U	5 U	5 U	
Dichlorodifluoromethane	ug/l	-	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	
Ethyl Benzene	ug/l	-	5 U	5 U	5 U	5 U	5 U	5 U	36	58	5 U	5 U	5 U	5 U	5 U	5 U	5 U	
Isopropylbenzene	ug/l	-	5 U	5 U	5 U	5 U	5 U	5 U	4.40 LO	7	5 U	5 U	5 U	5 U	5 U	5 U	5 U	
Methyl Acetate	ug/l	-	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	
Methyl Butyl Ketone	ug/l	-	10 U	10 U	10 U	10 U	10 U	10 U	2.30 LO	6.40 LO	10 U	10 U	10 U	10 U	10 U	10 U	10 U	
Methyl Ethyl Ketone	ug/l	-	10 U	10 U,LO	10 U	10 U	10 U	10 U	10 U	10 U,LO	10 U	10 U	10 U	10 U,LO	10 U,LO	10 U	10 U	
Methyl Isobutyl Ketone	ug/l	-	10 U	10 U	10 U	10 U	10 U	10 U	4.20 LO	7.50 LO	10 U	10 U	10 U	10 U	10 U	10 U	10 U	
Methyl T-Butyl Ether (MTBE)	ug/l	-	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	
Methylcyclohexane	ug/l	-	5 U	5 U	5 U	5 U,LO	5 U,LO	5 U	5 U	5 U	5 U	5 U,LO	5 U	5 U	5 U	5 U	5 U	
Methylene Chloride	ug/l	-	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	
o-Xylene	ug/l	-	5 U	5 U	5 U	5 U	5 U	5 U	31	57	5 U	5 U	5 U	5 U	5 U	5 U	5 U	

Table 6  
VOC Results

		Station ID	C406	C501	C502	C502	C503	C504	C505	C506	C601	C602	C603	C604	C605	C701	C702	
Analyte	Units	Sample ID	C406T-0112	C501-0112	C502-0112	C502D-0112	C503-0112	C504-0112	C505-0112	C506-0112	C601-0112	C602-0112	C603-0112	C604-0112	C605-0112	C701-0112	C702-0112	
		Date	02/02/2012	02/02/2012	02/05/2012	02/05/2012	02/05/2012	02/05/2012	02/05/2012	02/05/2012	02/04/2012	02/04/2012	02/04/2012	02/04/2012	02/04/2012	02/04/2012	02/05/2012	02/05/2012
		Time	12:01	16:00	09:18	09:25	10:30	09:00	10:45	09:15	14:00	15:25	14:10	14:40	13:36	16:00	16:00	
		Remediation Goal																
Styrene	ug/l	-	5 U	5 U	5 U	5 U	5 U	5.70	23	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	
Tetrachloroethene (Tetrachloroethylene)	ug/l	-	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	
Toluene	ug/l	-	5 U	5 U	5 U	5 U	5 U	73	160	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	
trans-1,2-Dichloroethene	ug/l	-	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	
trans-1,3-Dichloropropene	ug/l	-	5 U	5 U	5 U	5 U	1.30 LO	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	
Trichloroethene (Trichloroethylene)	ug/l	-	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	
Trichlorofluoromethane (Freon 11)	ug/l	-	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	
Vinyl chloride	ug/l	-	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	

Result at or above the remediation goal

U = analyte was not detected at or above the reporting limit

LO = presumptive evidence that analyte is present; reported as a tentative id

J = the identification of the analyte is acceptable; the reported value is an e

R = The presence or absence of the analyte cannot be determined from the d

O = See attached data sheets for information on additional qualifiers

Tentatively Identified Compounds (TICs) are not shown on this table, but are



Table 6  
VOC Results

Analyte	Units	Station ID Sample ID Date Time	C703 C703-0112 02/05/2012 13:30	C704 C704-0112 02/05/2012 15:05	C801 C801-0112 02/03/2012 09:35	C802 C802-0112 02/03/2012 10:24	C803 C803-0112 02/03/2012 10:30	C804 C804-0112 02/03/2012 09:15	C805 C805-0112 02/03/2012 08:49	C901 C901-0112 01/31/2012 10:55	C902 C902-0112 01/31/2012 10:45	C903 C903-0112 01/31/2012 11:52	C904 C904-0112 01/31/2012 11:55	C905 C905-0112 01/31/2012 14:55	MW1 MW1-0112 02/03/2012 11:30	MW1A MW1A-0112 02/01/2012 11:55	MW2 MW2-0112 02/01/2012 15:25
		Remediation Goal															
(m- and/or p-)xylene	ug/l	-	S U	S U	S U	S U	S U	S U	S U	S U	38	0.89 J.O	S U	S U	S U	S U	S U
1,1,1-Trichloroethane	ug/l	-	S U	S U	S U	S U	S U	S U	S U.J.O	S U	S U	S U	S U	S U	S U	S U	S U
1,1,2,2-Tetrachloroethane	ug/l	-	S U	S U	S U	S U	S U	S U	S U.J.O	S U	S U	S U	S U	S U	S U	S U	S U.J.O
1,1,2-Trichloro-1,2,2-Trifluoroethane (Freon 113)	ug/l	-	S U	S U	S U	S U	S U	S U	S U.J.O	S U	S U	S U	S U	S U	S U	S U	S U
1,1,2-Trichloroethane	ug/l	-	S U	S U	S U	S U	S U	S U	S U	S U	S U	S U	S U	S U	S U	S U	S U
1,1-Dichloroethane	ug/l	-	S U	S U	S U	S U	S U	S U	S U.J.O	S U	S U	S U	S U	S U	S U	S U	S U
1,1-Dichloroethane (1,1-Dichloroethylene)	ug/l	-	0.55 J.O	S U	S U	S U	S U	S U	S U	S U	S U	S U	S U	S U	S U	S U	S U
1,2,3-Trichlorobenzene	ug/l	-	S U	S U	S U	S U	S U	S U	S U.J.O	S U	S U	S U	0.71 J.O	S U	S U	S U	S U
1,2,4-Trichlorobenzene	ug/l	-	S U	S U	S U	S U	S U	S U	S U.J.O	S U	S U	S U	S U	S U	S U	S U	S U
1,2-Dibromo-3-Chloropropane (DBCP)	ug/l	-	S U	S U	S U	S U	S U	S U	S U.J.O	S U	S U	S U	S U	S U	S U	S U	S U.J.O
1,2-Dibromoethane (EDB)	ug/l	-	S U	S U	S U	S U	S U	S U	S U.J.O	S U	S U	S U	S U	S U	S U	S U	S U
1,2-Dichlorobenzene	ug/l	-	S U	S U	S U	S U	S U	S U	S U.J.O	S U	S U	S U	0.93 J.O	S U	S U	S U	S U
1,2-Dichloroethane	ug/l	-	S U	S U	S U	S U	S U	S U	S U.J.O	S U	S U	S U	S U	S U	S U	S U	S U
1,2-Dichloropropane	ug/l	-	S U	S U.J.O	S U	S U	S U	S U	S U.J.O	S U	S U	S U	S U	S U	S U	S U	S U
1,3-Dichlorobenzene	ug/l	-	S U	S U	S U	S U	S U	S U	S U.J.O	S U	S U	S U	S U	S U	S U	S U	S U
1,4-Dichlorobenzene	ug/l	-	S U	S U	S U	S U	S U	S U	S U.J.O	S U	S U	S U	S U	S U	S U	S U	S U
1,4-Dioxane	ug/l	-	100 U.R.O	100 U.R.O	100 U.R.O	100 U.R.O	100 U.R.O	100 U.R.O	100 U.R.O	100 U.R.O	100 U.R.O	100 U.R.O	100 U.R.O	100 U.R.O	100 U.R.O	100 U.R.O	100 U.R.O
Acetone	ug/l	-	10 U.R.O	10 U.R.O	10 U.R.O	10 U.R.O	10 U.R.O	10 U.R.O	10 U.R.O	10 U	10 U	10 U	10 U	10 U	10 U.R.O	10 U	10 U
Benzene	ug/l	51	S U	S U	S U	S U	S U	S U	S U	4.10 J.O	1.30 J.O	S U	S U	S U	0.94 J.O	S U	S U
Bromochloromethane	ug/l	-	S U	S U	S U	S U	S U	S U	S U.J.O	S U	S U	S U	S U	S U	S U	S U	S U
Bromodichloromethane	ug/l	-	S U	S U.J.O	S U	S U	S U	S U	S U.J.O	S U	S U	S U	S U	S U	S U	S U	S U
Bromoforn	ug/l	-	S U	S U	S U	S U	S U	S U	S U.J.O	S U.J.O	S U.J.O	S U.J.O	S U.J.O	S U.J.O	S U	S U.J.O	S U.J.O
Bromomethane	ug/l	-	S U	S U	S U	S U	S U	S U	S U.J.O	S U.J.O	S U.J.O	S U.J.O	S U.J.O	S U.J.O	S U	S U.J.O	S U.J.O
Carbon disulfide	ug/l	-	S U	S U	S U	S U	S U	S U	S U	S U	S U.J.O	S U	S U	S U	S U	S U	S U
Carbon Tetrachloride	ug/l	-	S U	S U	S U	S U	S U	S U	S U.J.O	S U	S U	S U	S U	S U	S U	S U	S U
Chlorobenzene	ug/l	-	S U	S U	S U	S U	S U	S U	S U.J.O	S U	S U	S U	S U	S U	S U	S U	S U
Chloroethane	ug/l	-	S U	S U	S U	S U	S U	S U	S U	S U.J.O	S U	S U	S U	S U	S U	S U	S U
Chloroform	ug/l	-	S U	S U	S U	S U	S U	S U	S U.J.O	S U	S U	S U	S U	S U	S U	S U	S U
Chloromethane	ug/l	-	S U	S U	S U	S U	S U	S U	S U	S U.J.O	S U	S U	S U	S U	S U	S U	S U
cis-1,2-Dichloroethene	ug/l	-	S U	S U	S U	S U	S U	S U	S U	S U	S U	S U	S U	S U	S U	S U	S U
cis-1,3-Dichloropropene	ug/l	-	S U	S U	S U	S U	S U	S U	S U	S U	S U	S U	S U	S U	S U	S U	S U
Cyclohexane	ug/l	-	S U	S U.J.O	S U	S U	S U	S U	S U.J.O	S U	S U	S U	S U	S U	S U	S U	S U
Dibromochloromethane	ug/l	-	S U	S U	S U	S U	S U	S U	S U.J.O	S U	S U	S U	S U	S U	S U	S U	S U
Dichlorodifluoromethane	ug/l	-	S U	S U	S U	S U	S U	S U	S U	S U.J.O	S U	S U	S U	S U	S U	S U	S U
Ethyl Benzene	ug/l	-	S U	S U	S U	S U	S U	S U	S U	18	S U	S U	S U	S U	S U	S U	S U
Isopropylbenzene	ug/l	-	S U	S U	S U	S U	S U	S U	S U	4.60 J.O	0.51 J.O	S U	S U	S U	S U	S U	S U
Methyl Acetate	ug/l	-	S U	S U	S U	S U	S U	S U	S U.J.O	S U	S U	S U	S U	S U	S U	S U	S U
Methyl Butyl Ketone	ug/l	-	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Methyl Ethyl Ketone	ug/l	-	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Methyl Isobutyl Ketone	ug/l	-	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Methyl T-Butyl Ether (MTBE)	ug/l	-	S U	S U	S U	S U	S U	1.30 J.O	S U.J.O	S U	S U	S U	S U	S U	S U	S U	S U
Methylcyclohexane	ug/l	-	S U	S U.J.O	S U	S U	S U	S U	S U.J.O	S U	S U	S U	S U	S U	S U	S U	S U
Methylene Chloride	ug/l	-	S U	S U	S U	S U	S U	S U	S U.J.O	S U	S U	S U	S U	S U	S U	S U	S U
o-Xylene	ug/l	-	S U	S U	S U	S U	S U	S U	S U	S U	17	S U	S U	S U	S U	S U	S U

Table 6  
VOC Results

Analyte	Units	Station ID Sample ID Date Time	C703 C703-0112 02/05/2012 13:30	C704 C704-0112 02/05/2012 15:05	C801 C801-0112 02/03/2012 09:35	C802 C802-0112 02/03/2012 10:24	C803 C803-0112 02/03/2012 10:30	C804 C804-0112 02/03/2012 09:15	C805 C805-0112 02/03/2012 08:49	C901 C901-0112 01/31/2012 10:55	C902 C902-0112 01/31/2012 10:45	C903 C903-0112 01/31/2012 11:52	C904 C904-0112 01/31/2012 11:55	C905 C905-0112 01/31/2012 14:55	MW1 MW1-0112 02/03/2012 11:30	MW1A MW1A-0112 02/01/2012 11:55	MW2 MW2-0112 02/01/2012 15:25
		Remediation Goal															
Styrene	ug/l	-	S U	S U	S U	S U	S U	S U	S U	S U	4.80 J.O	S U	S U	S U	S U	S U	S U
Tetrachloroethene (Tetrachloroethylene)	ug/l	-	0.54 J.O	S U	S U	S U	0.71 J.O	S U	S U	S U	S U	S U	S U	S U	S U	S U	S U
Toluene	ug/l	-	S U	S U	S U	S U	S U	S U	S U	S U	14	S U	S U	S U	S U	S U	S U
trans-1,2-Dichloroethene	ug/l	-	S U	S U	S U	S U	S U	S U	S U	S U	S U	S U	S U	S U	S U	S U	S U
trans-1,3-Dichloropropene	ug/l	-	S U	S U	S U	S U	S U	S U	S U	S U	S U	S U	S U	S U	S U	S U	S U
Trichloroethene (Trichloroethylene)	ug/l	-	S U	S U	S U	S U	S U	S U	S U	S U	S U	S U	S U	S U	S U	S U	S U
Trichlorofluoromethane (Freon 11)	ug/l	-	S U	S U	S U	S U	S U	S U	47 J.O	S U	S U	S U	S U	S U	S U	S U	S U
Vinyl chloride	ug/l	-	S U	S U	S U	S U	S U	S U	S U	S U	S U	S U	S U	S U	S U	S U	S U

Result at or above the remediation goal

U = analyte was not detected at or above the reporting limit

N = presumptive evidence that analyte is present; reported as a tentative id

J = the identification of the analyte is acceptable; the reported value is an id

R = The presence or absence of the analyte cannot be determined from the data

O = See attached data sheets for information on additional qualifiers

Tentatively Identified Compounds (TICs) are not shown on this table, but are

Table 6  
VOC Results

Analyte	Units	Station ID	MW3	MW3	MW4	MW5	MW6	OW09	OW10	PVCD5M	PVCD5N	PVCD5S	PVWC6B
		Sample ID	MW3-0112	MW3D-0112	MW4-0112	MW5-0112	MW6-0112	OW9-0112	OW10-0112	PVCD5M-0112	PVCD5N-0112	PVCD5S-0112	PVWC6B-0112
		Date	02/01/2012	02/01/2012	02/01/2012	02/01/2012	02/01/2012	02/04/2012	02/06/2012	02/02/2012	02/02/2012	02/02/2012	02/06/2012
		Time	12:20	12:30	10:20	09:35	16:21	15:50	17:15	15:55	16:35	16:20	11:40
		Remediation Goal											
(m- and/or p-)Xylene	ug/l	-	5 U	5 U	2.80 J,O	5 U	1 J,O	2.30 J,O	5 U	5 U	1.80 J,O	5 U	5 U
1,1,1-Trichloroethane	ug/l	-	5 U	5 U	5 U	5 U	5 U	5 U	5 U,J,O	5 U	5 U	5 U	5 U,J,O
1,1,2,2-Tetrachloroethane	ug/l	-	5 U	5 U	5 U	5 U	5 U	5 U	5 U,J,O	5 U	5 U	5 U	5 U,J,O
1,1,2-Trichloro-1,2,2-Trifluoroethane (Freon 113)	ug/l	-	5 U	5 U	5 U	5 U	5 U	5 U	5 U,J,O	5 U	5 U	5 U	5 U,J,O
1,1,2-Trichloroethane	ug/l	-	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U
1,1-Dichloroethane	ug/l	-	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U
1,1-Dichloroethene (1,1-Dichloroethylene)	ug/l	-	5 U	5 U	5 U	5 U	5 U	0.51 J,O	5 U	5 U	5 U	5 U	5 U
1,2,3-Trichlorobenzene	ug/l	-	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U
1,2,4-Trichlorobenzene	ug/l	-	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U
1,2-Dibromo-3-Chloropropane (DBCP)	ug/l	-	5 U	5 U	5 U	5 U	5 U	5 U	5 U,J,O	5 U	5 U	5 U	5 U,J,O
1,2-Dibromoethane (EDB)	ug/l	-	5 U	5 U	5 U	5 U	5 U	5 U	5 U,J,O	5 U	5 U	5 U	5 U,J,O
1,2-Dichlorobenzene	ug/l	-	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U
1,2-Dichloroethane	ug/l	-	5 U	5 U	5 U	5 U	5 U	5 U	5 U,J,O	5 U	5 U	5 U	5 U,J,O
1,2-Dichloropropane	ug/l	-	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U
1,3-Dichlorobenzene	ug/l	-	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U
1,4-Dichlorobenzene	ug/l	-	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U
1,4-Dioxane	ug/l	-	100 U,R,O	100 U,R,O	100 U,R,O	100 U,R,O	100 U,R,O	100 U,R,O	100 U,R,O	100 U,R,O	100 U,R,O	100 U,R,O	100 U,R,O
Acetone	ug/l	-	10 U	10 U	10 U	10 U	10 U	10 U,R,O	10 U,R,O	10 U	10 U	10 U	10 U,R,O
Benzene	ug/l	91	5 U	5 U	3.20 J,O	5 U	2.10 J,O	5 U	5 U	5 U	5.20	5 U	5 U
Bromochloromethane	ug/l	-	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U
Bromodichloromethane	ug/l	-	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U
Bromoform	ug/l	-	5 U,J,O	5 U,J,O	5 U,J,O	5 U,J,O	5 U,J,O	5 U	5 U	5 U,J,O	5 U,J,O	5 U,J,O	5 U
Bromomethane	ug/l	-	5 U,J,O	5 U,J,O	5 U,J,O	5 U,J,O	5 U,J,O	5 U	5 U	5 U,J,O	5 U,J,O	5 U,J,O	5 U
Carbon disulfide	ug/l	-	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U
Carbon Tetrachloride	ug/l	-	5 U	5 U	5 U	5 U	5 U	5 U	5 U,J,O	5 U	5 U	5 U	5 U,J,O
Chlorobenzene	ug/l	-	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U
Chloroethane	ug/l	-	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U
Chloroform	ug/l	-	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U
Chloromethane	ug/l	-	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U
cis-1,2-Dichloroethane	ug/l	-	5 U	5 U	5 U	5 U	5 U	4.20 J,O	5 U	5 U	5 U	5 U	5 U
cis-1,3-Dichloropropene	ug/l	-	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U
Cyclohexane	ug/l	-	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U
Dibromochloromethane	ug/l	-	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U
Dichlorodifluoromethane	ug/l	-	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U
Ethyl Benzene	ug/l	-	5 U	5 U	1.20 J,O	5 U	0.52 J,O	5 U	5 U	5 U	2 J,O	5 U	5 U
Isopropylbenzene	ug/l	-	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	0.71 J,O	5 U	5 U
Methyl Acetate	ug/l	-	5 U	5 U	5 U	5 U	5 U	5 U	5 U,J,O	5 U	5 U	5 U	5 U,J,O
Methyl Butyl Ketone	ug/l	-	10 U	10 U	10 U	10 U	10 U	10 U	10 U,J,O	10 U	10 U	10 U	10 U,J,O
Methyl Ethyl Ketone	ug/l	-	10 U	10 U	10 U	10 U	10 U	10 U	10 U,J,O	10 U	10 U	10 U	10 U,J,O
Methyl Isobutyl Ketone	ug/l	-	10 U	10 U	10 U	10 U	10 U	10 U	10 U,J,O	10 U	10 U	10 U	10 U,J,O
Methyl T-Butyl Ether (MTBE)	ug/l	-	5 U	5 U	5 U	5 U	5 U	5 U	5 U,J,O	5 U	5 U	5 U	5 U,J,O
Methylcyclohexane	ug/l	-	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U
Methylene Chloride	ug/l	-	5 U	5 U	5 U	5 U	5 U	5 U	5 U,J,O	5 U	5 U	5 U	5 U,J,O
o-Xylene	ug/l	-	5 U	5 U	1.20 J,O	5 U	5 U	2.40 J,O	5 U	5 U	0.80 J,O	5 U	5 U

Table 6  
VOC Results

Analyte	Units	Station ID	MW3	MW3	MW4	MW5	MW6	OW09	OW10	PVCD5M	PVCD5N	PVCD5S	PVWC6B
		Sample ID	MW3-0112	MW3D-0112	MW4-0112	MW5-0112	MW6-0112	OW9-0112	OW10-0112	PVCD5M-0112	PVCD5N-0112	PVCD5S-0112	PVWC6B-0112
		Date	02/01/2012	02/01/2012	02/01/2012	02/01/2012	02/01/2012	02/04/2012	02/06/2012	02/02/2012	02/02/2012	02/02/2012	02/06/2012
		Time	12:20	12:30	10:20	09:35	16:21	15:50	17:15	15:55	16:35	16:20	11:40
		Remediation Goal											
Styrene	ug/l	-	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U
Tetrachloroethene (Tetrachloroethylene)	ug/l	-	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U
Toluene	ug/l	-	5 U	5 U	2.80 J,O	5 U	0.98 J,O	5 U	5 U	5 U	5 U	5 U	5 U
trans-1,2-Dichloroethene	ug/l	-	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U
trans-1,3-Dichloropropene	ug/l	-	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U
Trichloroethene (Trichloroethylene)	ug/l	-	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U
Trichlorofluoromethane (Freon 11)	ug/l	-	5 U	5 U	5 U	5 U	5 U	5 U	5 U,J,O	5 U	5 U	5 U	5 U,J,O
Vinyl chloride	ug/l	-	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U

Result at or above the remediation goal

U = analyte was not detected at or above the reporting limit

NJ = presumptive evidence that analyte is present; reported as a tentative id

J = the identification of the analyte is acceptable; the reported value is an e

R = The presence or absence of the analyte cannot be determined from the d

O = See attached data sheets for information on additional qualifiers

Tentatively Identified Compounds (TICs) are not shown on this table, but are



### Table 7

#### VOC Results

[illegible]Table 7  
VOC Results

Analyte	Units	Station ID	300	320	260	281	282	283	285	286	400	430	440	480	700	720	760
		Sample ID	300-0112	320-0112	360-0112	281-0113	282-0113	283-0112	285-0112	286-0112	400-0113	430-0112	440-0112	480-0112	700-0112	720-0112	760-0112
		Date Time	02/07/2012 09:10	02/07/2012 09:17	02/07/2012 11:10	02/06/2012 12:35	02/06/2012 09:45	02/06/2012 11:10	02/06/2012 10:30	02/06/2012 13:05	02/03/2012 15:30	02/03/2012 13:40	02/03/2012 14:00	02/03/2012 14:30	02/06/2012 15:15	02/06/2012 16:35	02/06/2012 15:50
Remediation Goal																	
Chrysene	ug/l	-	5 U	50 U	5 U	50 U	5 U	5 U	5 U	5 U	5 U	5 U	90 U	250 U	5 U	5 U	250 U
Chloroanthracene	ug/l	-	5 U	50 U	5 U,LO	50 U	5 U	5 U	5 U	5 U	5 U	5 U	50 U	250 U	5 U	5 U	250 U,LO
Dibenzofuran	ug/l	#4	5 U	35 U,LO	5 U	83	5 U	5 U	12	5 U	330	5 U	46 U,LO	210 U,LO	5 U	5 U	160 U,LO
Diethyl phthalate	ug/l	-	5 U	50 U	5 U	50 U	5 U	5 U	5 U	5 U	5 U	5 U	50 U	250 U	5 U	5 U	250 U
Dimethyl phthalate	ug/l	-	5 U	50 U	5 U	50 U	5 U	5 U	5 U	5 U	5 U	5 U	50 U	250 U	5 U	5 U	250 U
Di-n-butylphthalate	ug/l	-	5 U	50 U	5 U	50 U	5 U	5 U	5 U	5 U	5 U	5 U	50 U	250 U	5 U	5 U	250 U
Di-n-octylphthalate	ug/l	-	5 U	50 U	5 U	50 U	5 U	5 U	5 U	5 U	5 U	5 U	50 U	250 U	5 U	5 U	250 U
Fluoranthene	ug/l	1500	5 U	50 U	5 U	50 U	5 U	5 U	5 U	5 U	5 U	5 U	50 U	250 U	5 U	5 U	250 U
Fluorene	ug/l	-	5 U	50 U	5 U	86	5 U	32	5 U	5 U	5 U	5 U	48 U,LO	190 U,LO	5 U	5 U	250 U
Hexachlorobenzene (HCB)	ug/l	-	5 U	50 U	5 U	50 U	5 U	5 U	5 U	5 U	5 U	5 U	50 U	250 U	5 U	5 U	250 U
Hexachlorobutadiene	ug/l	-	5 U	50 U	5 U	50 U	5 U	5 U	5 U	5 U	5 U	5 U	50 U	250 U	5 U	5 U	250 U
Hexachlorocyclopentadiene (HCCP)	ug/l	-	5 U	50 U	5 U,LO	50 U	5 U,LO	5 U,LO	5 U,LO	5 U,LO	5 U,LO	5 U,LO	50 U,LO	250 U,LO	5 U	5 U	250 U
Hexachloroethane	ug/l	-	5 U	50 U	5 U	50 U	5 U	5 U	5 U	5 U	5 U	5 U	50 U	250 U	5 U	5 U	250 U
Indeno (1,2,3-cd) pyrene	ug/l	-	5 U	50 U	5 U	50 U	5 U	5 U	5 U	5 U	5 U	5 U	50 U	250 U	5 U	5 U	250 U
Isophorone	ug/l	-	5 U	50 U	5 U	50 U	5 U	5 U	5 U	5 U	5 U	5 U	50 U	250 U	5 U	5 U	250 U
Naphthalene	ug/l	21900	5 U	1700	5 U	4000	5 U	5 U	790	5 U	5 U	14	130	6600	5 U	5 U	8000
Nitrobenzene	ug/l	-	5 U	50 U	5 U	50 U	5 U	5 U	5 U	5 U	5 U	5 U	50 U	250 U	5 U	5 U	250 U
m-Nitroso di-n-Propylamine	ug/l	-	5 U	50 U	5 U	50 U	5 U	5 U	5 U	5 U	5 U	5 U	50 U	250 U	5 U	5 U	250 U
m-Nitrosodiphenylamine/Diphenylamine	ug/l	-	5 U	50 U	5 U	50 U	5 U	5 U	5 U	5 U	5 U	5 U	50 U	250 U	5 U	5 U	250 U
Pentachlorophenol	ug/l	256000	10 U	100 U	10 U,LO	100 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U,LO	900 U	10 U	10 U	500 U,LO
Phenanthrene	ug/l	-	5 U	50 U	5 U	53	5 U	5 U	17	5 U	5 U	5 U	38 U,LO	160 U,LO	5 U	5 U	250 U
Pyrene	ug/l	-	5 U	50 U	5 U	50 U	5 U	5 U	5 U	5 U	5 U	5 U	50 U	250 U	5 U	5 U	250 U

Included as part of the total carcinogenic PAHs' remediation goal = 1100 ug/

Result at or above the remediation goal

U = analyte was not detected at or above the reporting limit

NU = presumptive evidence that analyte is present; reported as a tentative identification with an estimated value

) = the identification of the analyte is acceptable; the reported value is an estimate

R = The presence or absence of the analyte cannot be determined from the data due to severe quality control problems; the data are rejected and considered unusable.

◊ = See attached data sheets for information on additional qualifiers.

Tentatively Identified Compounds (TICs) are not shown, but are included in the analytical data sheets

Table 7  
SVOC Results

Station ID	ACW4	ACW5	ACW6W1	ACW6W2	ACW6W3	C1001	C1002	C1003	C1004	C1005	C101	C102	C103	C104	C105
Sample ID	ACW4-0112	ACW5-0112	ACW6W1-0112	ACW6W2-0112	ACW6W3-0112	C1001-0112	C1002-0112	C1003-0112	C1004-0112	C1005-0112	C101-0112	C102-0112	C103-0112	C104-0112	C105-0112
Date	02/05/2012	02/05/2012	02/07/2012	02/07/2012	02/07/2012	02/04/2012	02/04/2012	02/04/2012	02/04/2012	02/04/2012	01/31/2012	01/31/2012	01/31/2012	01/31/2012	01/31/2012
Time	11:40	14:09	15:50	15:25	15:30	11:25	09:20	11:08	10:50	09:15	11:28	14:25	16:10	15:00	15:50
Analyte	Units	Remediation Goal													
(3-and/or 4-Methylphenol	ug/l	-	5 U	5 U	250 U	100 U	5 U	5 U	5 U	5 U	5 U	5 U	500 U	10 U	5 U
1,2-Biphenyl	ug/l	-	5 U	5 U	110 U	100 U	5 U	5 U	5 U	5 U	5 U	5 U	500 U	10 U	5 U
1,2,4,5-Tetrachlorobenzene	ug/l	-	5 U	5 U	250 U	100 U	5 U	5 U	5 U	5 U	5 U	5 U	500 U	10 U	5 U
2,3,4,6-Tetrachlorophenol	ug/l	-	5 U	5 U	250 U	100 U	5 U	5 U	5 U	5 U	5 U	5 U	500 U	10 U	5 U
2,4,5-Trichlorophenol	ug/l	-	5 U	5 U	250 U	100 U	5 U	5 U	5 U	5 U	5 U	5 U	500 U	10 U	5 U
2,4,6-Trichlorophenol	ug/l	-	5 U	5 U	250 U	100 U	5 U	5 U	5 U	5 U	5 U	5 U	500 U	10 U	5 U
2,4-Dichlorophenol	ug/l	-	5 U	5 U	250 U	100 U	5 U	5 U	5 U	5 U	5 U	5 U	500 U	10 U	5 U
2,4-Dinitrophenol	ug/l	-	5 U	5 U	250 U	100 U	5 U	5 U	5 U	5 U	5 U	5 U	150 U	10 U	5 U
2,4-Dinitrophenol	ug/l	-	10 U,3,0	10 U,3,0	500 U	200 U	10 U	10 U,3,0	10 U,3,0	10 U,3,0	10 U,3,0	10 U,3,0	1000 U	20 U	10 U,3,0
2,4-Dinitrophenol	ug/l	-	5 U	5 U	250 U	100 U	5 U	5 U	5 U	5 U	5 U	5 U	500 U	10 U	5 U
2,4-Dinitrophenol	ug/l	-	5 U	5 U	250 U	100 U	5 U	5 U	5 U	5 U	5 U	5 U	500 U	10 U	5 U
2-Chloronaphthalene	ug/l	-	5 U	5 U	250 U	100 U	5 U	5 U	5 U	5 U	5 U	5 U	500 U	10 U	5 U
2-Chloronaphthalene	ug/l	-	5 U	5 U	250 U	100 U	5 U	5 U	5 U	5 U	5 U	5 U	500 U	10 U	5 U
2-Methyl-4,6-dinitrophenol	ug/l	-	10 U	10 U	500 U	200 U	10 U	10 U	10 U	10 U	10 U,3,0	10 U,3,0	1000 U	20 U	10 U,3,0
2-Methylnaphthalene	ug/l	-	5 U	5 U	800	21 U	5 U	5 U	5 U	5 U	5 U	5 U	250 U	10 U	5 U
2-Methylnaphthalene	ug/l	-	5 U	5 U	250 U	100 U	5 U	5 U	5 U	5 U	5 U	5 U	500 U	10 U	5 U
2-Nitroniline	ug/l	-	10 U	10 U	500 U	200 U	10 U	10 U	10 U	10 U	10 U	10 U,3,0	1000 U	20 U	10 U
2-Nitroniline	ug/l	-	5 U	5 U	250 U	100 U	5 U	5 U	5 U	5 U	5 U	5 U	500 U	10 U	5 U
3,3'-Dichlorobenzidine	ug/l	-	5 U,3,0	5 U,3,0	250 U,3,0	100 U	5 U	5 U,3,0	5 U,3,0	5 U,3,0	5 U,3,0	5 U,3,0	500 U	10 U,3,0	5 U
3-Nitroniline	ug/l	-	10 U	10 U	500 U	200 U	10 U	10 U	10 U	10 U	10 U	10 U,3,0	1000 U	20 U	10 U
4-Bromophenyl phenyl ether	ug/l	-	5 U	5 U	250 U	100 U	5 U	5 U	5 U	5 U	5 U	5 U	500 U	10 U	5 U
4-Chloro-3-methylphenol	ug/l	-	5 U	5 U	250 U	100 U	5 U	5 U	5 U	5 U	5 U	5 U	500 U	10 U	5 U
4-Chloroniline	ug/l	-	5 U,3,0	5 U	250 U	100 U	5 U	5 U,3,0	5 U,3,0	5 U,3,0	5 U,3,0	5 U,3,0	500 U	10 U	5 U
4-Chlorophenyl phenyl ether	ug/l	-	5 U	5 U	250 U	100 U	5 U	5 U	5 U	5 U	5 U	5 U	500 U	10 U	5 U
4-Nitroniline	ug/l	-	10 U,3,0	10 U,3,0	500 U,3,0	200 U	10 U	10 U,3,0	10 U,3,0	10 U,3,0	10 U,3,0	10 U,3,0	1000 U	20 U	10 U
4-Nitroniline	ug/l	-	10 U,3,0	10 U,3,0	500 U	200 U	10 U	10 U	10 U,3,0	10 U	10 U	10 U	1000 U	20 U	10 U
Acenaphthene	ug/l	9000	5 U	5 U	440	64 U	5 U	5 U	5 U	5 U	5 U	5 U	500 U	10 U	5 U
Acenaphthylene	ug/l	-	5 U	5 U	250 U	100 U	5 U	5 U	5 U	5 U	5 U	5 U	500 U	10 U	5 U
Acetophenone	ug/l	-	5 U	5 U	250 U	100 U	5 U	5 U	5 U	5 U	5 U	5 U	500 U	10 U	5 U
Anthracene	ug/l	-	5 U	5 U	250 U	100 U	5 U	5 U	5 U	5 U	5 U	5 U,3,0	500 U	10 U	5 U
Atazine	ug/l	-	5 U,3,0	5 U,3,0	250 U	100 U	5 U	5 U	5 U	5 U	5 U	5 U,3,0	500 U	10 U	5 U
Benzaldehyde	ug/l	-	5 U,3,0	5 U,3,0	250 U,3,0	100 U,3,0	5 U,3,0	5 U,3,0	5 U,3,0	5 U,3,0	5 U,3,0	5 U,3,0	500 U,3,0	10 U,3,0	5 U,3,0
Benz(a)anthracene	ug/l	1100	5 U	5 U	250 U	100 U	5 U	5 U	5 U	5 U	5 U	5 U	500 U	10 U	5 U
Benz(a)pyrene	ug/l	-	5 U	5 U	250 U	100 U	5 U	5 U,3,0	5 U	5 U,3,0	5 U	5 U,3,0	500 U,3,0	10 U,3,0	5 U,3,0
Benz(b)fluoranthene	ug/l	-	5 U	5 U	250 U	100 U	5 U	5 U,3,0	5 U	5 U,3,0	5 U	5 U,3,0	500 U,3,0	10 U,3,0	5 U,3,0
Benz(g,h,i)perylene	ug/l	-	5 U,3,0	5 U,3,0	250 U	100 U,3,0	5 U,3,0	5 U,3,0	5 U	5 U,3,0	5 U,3,0	5 U,3,0	500 U,3,0	10 U,3,0	5 U
Benz(k)fluoranthene	ug/l	-	5 U	5 U	250 U	100 U	5 U	5 U,3,0	5 U	5 U,3,0	5 U	5 U,3,0	500 U	10 U	5 U
Benzyl butyl phthalate	ug/l	-	5 U	5 U	250 U	100 U	5 U	5 U	5 U	5 U	5 U	5 U	500 U	10 U	5 U
Bis(2-chloroethoxy)methane	ug/l	-	5 U	5 U	250 U	100 U	5 U	5 U	5 U	5 U	5 U	5 U	500 U	10 U	5 U
Bis(2-chloroethyl) ether	ug/l	-	5 U	5 U	250 U	100 U	5 U	5 U	5 U	5 U	5 U	5 U	500 U	10 U	5 U
Bis(2-chloroisopropyl) ether	ug/l	-	5 U	5 U	250 U	100 U	5 U	5 U	5 U	5 U	5 U	5 U	500 U	10 U	5 U
Bis(2-ethylhexyl) phthalate	ug/l	-	5 U	5 U	250 U	100 U	5 U	5 U	5 U	5 U	5 U	5 U	500 U	10 U	5 U
Caprolactam	ug/l	-	5 U	5 U	250 U	100 U	5 U	5 U	5 U	5 U	5 U	5 U	500 U	10 U	5 U
Carbazole	ug/l	-	5 U	5 U	350	93 U	5 U	5 U	5 U	5 U	5 U	5 U	240 U	10 U	5 U

Table 7  
SVOC Results

Station ID	ACW4	ACW5	ACW6W1	ACW6W2	ACW6W3	C1001	C1002	C1003	C1004	C1005	C101	C102	C103	C104	C105
Sample ID	ACW4-0112	ACW5-0112	ACW6W1-0112	ACW6W2-0112	ACW6W3-0112	C1001-0112	C1002-0112	C1003-0112	C1004-0112	C1005-0112	C101-0112	C102-0112	C103-0112	C104-0112	C105-0112
Date	02/05/2012	02/05/2012	02/07/2012	02/07/2012	02/07/2012	02/04/2012	02/04/2012	02/04/2012	02/04/2012	02/04/2012	01/31/2012	01/31/2012	01/31/2012	01/31/2012	01/31/2012
Time	11:40	14:09	15:50	15:25	15:30	11:25	09:20	11:08	10:50	09:15	11:28	14:25	16:10	15:00	15:50
Analyte	Units	Remediation Goal													
Chrysene	ug/l	-	5 U	5 U	250 U	100 U	5 U	5 U	5 U	5 U	5 U	5 U	500 U	10 U	5 U
Dibenz(a,h)anthracene	ug/l	-	5 U	5 U	250 U,3,0	100 U	5 U	5 U,3,0	5 U	5 U,3,0	5 U,3,0	5 U,3,0	500 U	10 U	5 U
Dibenzofuran	ug/l	44	5 U	5 U	270	100 U	5 U	5 U	5 U	5 U	5 U	5 U	500 U	10 U	5 U
Diethyl phthalate	ug/l	-	5 U	5 U	250 U	100 U	5 U	5 U	5 U	5 U	5 U	5 U	500 U	10 U	5 U
Dimethyl phthalate	ug/l	-	5 U	5 U	250 U	100 U	5 U	5 U	5 U	5 U	5 U	5 U	500 U	10 U	5 U
Dim-n-butylphthalate	ug/l	-	5 U	5 U	250 U	100 U	5 U	5 U	5 U	5 U	5 U	5 U	500 U	10 U	5 U
Dim-n-octylphthalate	ug/l	-	5 U	5 U	250 U	100 U	5 U	5 U	5 U	5 U	5 U	5 U	500 U	10 U	5 U
Fluoranthene	ug/l	1500	5 U	5 U	250 U	100 U	5 U	5 U	5 U	5 U	5 U	5 U	500 U	10 U	5 U
Fluorene	ug/l	-	5 U	5 U	270 U,3,0	100 U	5 U	5 U	5 U	5 U	5 U	5 U	500 U	10 U	5 U
Hexachlorobenzene (HCB)	ug/l	-	5 U	5 U	250 U	100 U	5 U	5 U	5 U	5 U	5 U	5 U	500 U	10 U	5 U
Hexachlorobutadiene	ug/l	-	5 U	5 U	250 U	100 U	5 U	5 U,3,0	5 U	5 U,3,0	5 U,3,0	5 U,3,0	500 U	10 U	5 U
Hexachlorocyclopentadiene (HCCP)	ug/l	-	5 U,3,0	5 U,3,0	250 U	100 U	5 U	5 U	5 U	5 U	5 U	5 U	500 U	10 U	5 U
Hexachloronaphthalene	ug/l	-	5 U	5 U	250 U	100 U	5 U	5 U,3,0	5 U	5 U,3,0	5 U,3,0	5 U,3,0	500 U	10 U	5 U
Indeno (1,2,3-cd) pyrene	ug/l	-	5 U	5 U	250 U	100 U	5 U	5 U,3,0	5 U	5 U,3,0	5 U,3,0	5 U,3,0	500 U	10 U	5 U
Isophthalene	ug/l	-	5 U	5 U	250 U	100 U	5 U	5 U	5 U	5 U	5 U	5 U	500 U	10 U	5 U
Naphthalene	ug/l	21500	5 U	5 U	7200	610	5 U	5 U	5 U	5 U	5 U	5 U	4800	10 U	5 U
Nitrobenzene	ug/l	-	5 U	5 U	250 U	100 U	5 U	5 U	5 U	5 U	5 U	5 U	500 U	10 U	5 U
n-Nitroso-d-n-Propylamine	ug/l	-	5 U	5 U	250 U	100 U	5 U	5 U	5 U	5 U	5 U	5 U	500 U	10 U	5 U
n-Nitrosodiphenylamine/Diphenylamine	ug/l	-	5 U	5 U	250 U	100 U	5 U	5 U	5 U	5 U	5 U	5 U	500 U	10 U	5 U
Pentachlorophenol	ug/l	296000	10 U	10 U	500 U,3,0	200 U	10 U	10 U	10 U	10 U	10 U,3,0	10 U,3,0	1000 U	20 U	10 U,3,0
Phenanthrene	ug/l	-	5 U	5 U	170 U	100 U	5 U	5 U	5 U	5 U	5 U,3,0	5 U	500 U	10 U	5 U
Pyrene	ug/l	-	5 U	5 U	250 U	100 U	5 U	5 U	5 U	5 U	5 U	5 U	500 U	10 U	5 U

Included as part of the total Carcinogenic PAHs remediation goal

Result at or above the remediation goal

U = analyte was not detected at or above the reporting limit

N = presumptive evidence that analyte is present; reported as a

3 = the identification of the analyte is acceptable; the reported

R = The presence or absence of the analyte cannot be determined

O = See attached data sheets for information on additional qual

Tentatively Identified Compounds (TICs) are not shown, but are:



Table 7  
SVOC Results

Analyte	Units	Remediation Goal	Station ID	C201	C202	C203	C204	C205	C206	C301	C302	C303	C401	C402	C403	C404	C405	C406
			Sample ID	02/07/2012	02/07/2012	02/07/2012	02/07/2012	02/07/2012	02/07/2012	02/08/2012	02/02/2012	02/02/2012	02/02/2012	02/02/2012	02/02/2012	02/02/2012	02/02/2012	02/02/2012
			Date	11:10	11:15	13:45	14:15	14:00	10:58	14:15	14:48	13:55	11:25	11:00	09:35	09:35	09:24	11:15
3-and/or 4-methylphenol	ug/l	-		S U	S U	S U	S U	10 U	10 U	S U	S U	S U	S U	S U	S U	S U	S U	S U
1,1-Biphenyl	ug/l	-		S U	S U	S U	S U	10 U	10 U	S U	S U	S U	S U	S U	S U	S U	S U	S U
1,2,4,5-Tetrachlorobenzene	ug/l	-		S U	S U	S U	S U	10 U	10 U	S U	S U	S U	S U	S U	S U	S U	S U	S U
2,3,4,6-Tetrachlorophenol	ug/l	-		S U	S U	S U	S U	15	10 U	S U	S U	S U	S U	S U	S U	S U	S U	S U
2,4,6-Trichlorophenol	ug/l	-		S U	S U	S U	S U	10 U	10 U	S U	S U	S U	S U	S U	S U	S U	S U	S U
2,4,6-Trichlorophenol	ug/l	-		S U	S U	S U	S U	10 U	10 U	S U	S U	S U	S U	S U	S U	S U	S U	S U
2,4-Dichlorophenol	ug/l	-		S U	S U	S U	S U	10 U	10 U	S U	S U	S U	S U	S U	S U	S U	S U	S U
2,4-Dimethylphenol	ug/l	-		S U	S U	S U	S U	10 U	10 U	S U	S U	S U	S U	S U	S U	S U	S U	S U
2,4-Dinitrophenol	ug/l	-		10 U	10 U	10 U	10 U	20 U	20 U	10 U	10 U,LO	10 U,LO	10 U,LO	10 U,LO	10 U,LO	10 U,LO	10 U,LO	10 U,LO
2,4-Dinitrotoluene	ug/l	-		S U	S U	S U	S U	10 U	10 U	S U	S U	S U	S U	S U	S U	S U	S U	S U
2,6-Dinitrotoluene	ug/l	-		S U	S U	S U	S U	10 U	10 U	S U	S U	S U	S U	S U	S U	S U	S U	S U
2-Chloronaphthalene	ug/l	-		S U	S U	S U	S U	10 U	10 U	S U	S U	S U	S U	S U	S U	S U	S U	S U
2-Chlorophenol	ug/l	-		S U	S U	S U	S U	10 U	10 U	S U	S U	S U	S U	S U	S U	S U	S U	S U
2-Methyl-4,6-dinitrophenol	ug/l	-		10 U	10 U	10 U	10 U	20 U	20 U	10 U	10 U	10 U,LO	10 U	10 U,LO	10 U	10 U,LO	10 U	10 U
2-Methylnaphthalene	ug/l	-		S U	S U	S U	S U	10 U	10 U	S U	S U	S U	S U	S U	S U	S U	S U	S U
2-Methylphenol	ug/l	-		S U	S U	S U	S U	10 U	10 U	S U	S U	S U	S U	S U	S U	S U	S U	S U
2-Nitroaniline	ug/l	-		10 U	13 U	10 U	10 U	20 U	20 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
2-Nitrophenol	ug/l	-		S U	S U	S U	S U	10 U	10 U	S U	S U	S U	S U	S U	S U	S U	S U	S U
3,3'-Dichlorobenzidine	ug/l	-		S U,LO	6.30 U,LO	S U,LO	S U,LO	10 U	10 U	S U,LO	5.30 U,LO	S U	5.60 U,LO	S U	S U,LO	S U	S U,LO	S U
3-Nitroaniline	ug/l	-		10 U	10 U	10 U	10 U	20 U	20 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
4-Bromophenyl phenyl ether	ug/l	-		S U	S U	S U	S U	10 U	10 U	S U	S U	S U	S U	S U	S U	S U	S U	S U
4-Chloro-3-methylphenol	ug/l	-		S U	S U	S U	S U	10 U	10 U	S U	S U	S U	S U	S U	S U	S U	S U	S U
4-Chloroaniline	ug/l	-		S U	6.30 U,LO	S U,LO	S U	10 U	10 U	S U,LO	5.30 U,LO	S U	5.60 U,LO	S U	S U,LO	S U	S U,LO	S U
4-Chlorophenyl phenyl ether	ug/l	-		S U	S U	S U	S U	10 U	10 U	S U	S U	S U	S U	S U	S U	S U	S U	S U
4-Nitroaniline	ug/l	-		10 U,LO	10 U	10 U	10 U,LO	20 U	20 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
4-Nitrophenol	ug/l	-		10 U	10 U	10 U	10 U	20 U	20 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Acenaphthene	ug/l	5000		S U	S U	S U	S U	10 U	10 U	S U	S U	S U	S U	S U	S U	S U	18	S U
Acenaphthylene	ug/l	-		S U	S U	S U	S U	10 U	10 U	S U	S U	S U	S U	S U	S U	S U	S U	S U
Acetophenone	ug/l	-		S U	S U	S U	S U	10 U	10 U	S U	S U	S U	S U	S U	S U	S U	S U	S U
Anthracene	ug/l	-		S U	S U	S U	S U	10 U	10 U	S U	S U	S U	S U	S U	S U	S U	S U	S U
Atrazine	ug/l	-		S U	S U	S U	S U	10 U	10 U	S U	S U	S U	S U	S U	S U	S U	S U	S U
Benzaldehyde	ug/l	-		S U,LO	S U,LO	S U,LO	S U,LO	10 U,LO	10 U,LO	S U,LO	S U,LO	S U,LO	S U,LO	S U,LO	S U,LO	S U,LO	S U,LO	S U,LO
Benzo(a)anthracene	ug/l	1100		S U	S U	S U	S U	10 U	10 U	S U	S U	S U	S U	S U	S U	S U	S U	S U
Benzo(a)pyrene	ug/l	-		S U	S U	S U	S U	10 U	10 U	S U	S U	S U	S U	S U	S U	S U	S U	S U
Benzo(b)fluoranthene	ug/l	-		S U	S U	S U	S U	10 U	10 U	S U	S U	S U	S U	S U	S U	S U	S U	S U
Benzo(b,h,i,j,k)perylene	ug/l	-		S U	S U,LO	S U	S U	10 U,LO	10 U,LO	S U,LO	S U	S U	S U	S U	S U	S U	S U	S U
Benzo(k)fluoranthene	ug/l	-		S U	S U	S U	S U	10 U	10 U	S U	S U	S U	S U	S U	S U	S U	S U	S U
Benzyl butyl phthalate	ug/l	-		S U	S U	S U	S U	10 U	10 U	S U	S U	S U	S U	S U	S U	S U	S U	S U
Bis(2-chloroethoxy)methane	ug/l	-		S U	S U	S U	S U	10 U	10 U	S U	S U	S U	S U	S U	S U	S U	S U	S U
Bis(2-chloroethyl) Ether	ug/l	-		S U	S U	S U	S U	10 U	10 U	S U	S U	S U	S U	S U	S U	S U	S U	S U
Bis(2-chloroisopropyl) ether	ug/l	-		S U	S U	S U	S U	10 U	10 U	S U	S U	S U	S U	S U	S U	S U	S U	S U
Bis(2-ethylhexyl) phthalate	ug/l	-		S U	S U	S U	S U	10 U	10 U	S U	S U	S U	S U	S U	S U	S U	S U	S U
Caprolactam	ug/l	-		S U	S U	S U	S U	10 U	10 U	S U	S U	S U	S U	S U	S U,LO	S U	S U	S U,LO
Carbazole	ug/l	-		S U	S U	S U	S U	10 U	10 U	S U	S U	S U	S U	S U	S U	S U	4.10 U	S U

Table 7  
SVOC Results

Analyte	Units	Remediation Goal	Station ID	C201	C202	C203	C204	C205	C206	C301	C302	C303	C401	C402	C403	C404	C405	C406
			Sample ID	02/07/2012	02/07/2012	02/07/2012	02/07/2012	02/07/2012	02/07/2012	02/08/2012	02/02/2012	02/02/2012	02/02/2012	02/02/2012	02/02/2012	02/02/2012	02/02/2012	02/02/2012
			Date	11:10	11:15	13:45	14:15	14:00	10:58	14:15	14:48	13:55	11:25	11:00	09:35	09:35	09:24	11:15
Chrysene	ug/l	-		S U	S U	S U	S U	10 U	10 U	S U	S U	S U	S U	S U	S U	S U	S U	S U
Dibenz(a,h)anthracene	ug/l	-		S U,LO	S U	S U	S U,LO	10 U	10 U	S U	S U	S U	S U	S U	S U	S U	S U	S U
Dibenzofuran	ug/l	44		S U	S U	S U	S U	4.10 U,LO	10 U	S U	S U	S U	S U	S U	S U	S U	11	S U
Diethyl phthalate	ug/l	-		S U	S U	S U	S U	10 U	10 U	S U	S U	S U	S U	S U	S U	S U	S U	S U
Dimethyl phthalate	ug/l	-		S U	S U	S U	S U	10 U	10 U	S U	S U	S U	S U	S U	S U	S U	S U	S U
Div-n-butylphthalate	ug/l	-		S U	S U	S U	S U	10 U	10 U	S U	S U	S U	S U	S U	S U	S U	S U	S U
Div-n-octylphthalate	ug/l	-		S U	S U	S U	S U	10 U	10 U	S U	S U	S U	S U	S U	S U	S U	S U	S U
Fluoranthene	ug/l	1500		S U	S U	S U	S U	10 U	10 U	S U	S U	S U	S U	S U	S U	S U	S U	S U
Fluorene	ug/l	-		S U	S U	S U	S U	10 U	10 U	S U	S U	S U	S U	S U	S U	S U	5.60	S U
Hexachlorobenzene (HCB)	ug/l	-		S U	S U	S U	S U	10 U	10 U	S U	S U	S U	S U	S U	S U	S U	S U	S U
Hexachlorobutadiene	ug/l	-		S U	S U	S U	S U	10 U	10 U	S U	S U	S U	S U	S U	S U	S U	S U	S U
Hexachlorocyclopentadiene (HCCP)	ug/l	-		S U	6.30 U,LO	S U,LO	S U	10 U	10 U	S U,LO	5.30 U,LO	S U	5.60 U,LO	S U	S U,LO	S U	S U,LO	S U,LO
Hexachloroethane	ug/l	-		S U	S U	S U	S U	10 U	10 U	S U	S U	S U	S U	S U	S U	S U	S U	S U
Indeno (1,2,3-cd) pyrene	ug/l	-		S U	S U	S U	S U	10 U	10 U	S U	S U	S U	S U	S U	S U	S U	S U	S U
Isophorone	ug/l	-		S U	S U	S U	S U	10 U	10 U	S U	S U	S U	S U	S U	S U	S U	S U	S U
Naphthalene	ug/l	21900		S U	S U	S U	S U	4.30 U,LO	10 U	S U	S U	S U	S U	S U	S U	S U	15	S U
Nitrobenzene	ug/l	-		S U	S U	S U	S U	10 U	10 U	S U	S U	S U	S U	S U	S U	S U	S U	S U
n-Nitroso di-n-Propylamine	ug/l	-		S U	S U	S U	S U	10 U	10 U	S U	S U	S U	S U	S U	S U	S U	S U	S U
n-Nitrosodiphenylamine/Diphenylamine	ug/l	-		S U	S U	S U	S U	10 U	10 U	S U	S U	S U	S U	S U	S U	S U	S U	S U
Pentachlorophenol	ug/l	296006		10 U,LO	10 U	10 U	10 U,LO	130	20 U	10 U	10 U	10 U,LO	10 U	10 U,LO	10 U,LO	10 U,LO	10 U	10 U,LO
Phenanthrene	ug/l	-		S U	S U	S U	S U	10 U	10 U	S U	S U	S U	S U	S U	S U	S U	S U	S U
Pyrene	ug/l	-		S U	S U	S U	S U	10 U	10 U	S U	S U	S U	S U	S U	S U	S U	S U	S U

Included as part of the total carcinogenic PAHs remediation goal

Result at or above the remediation goal

U = analyte was not detected at or above the reporting limit  
 ND = presumptive evidence that analyte is present; reported as a 3 = the identification of the analyte is acceptable; the reported  
 R = The presence or absence of the analyte cannot be determined  
 O = See attached data sheets for information on additional quality

Tentatively Identified Compounds (TICs) are not shown, but are

Table 7  
SVOC Results

Station ID	Sample ID	Date	Time	Remediation Goal	C406	C501	C502	C502	C503	C504	C505	C506	C601	C602	C603	C604	C605	C701	C702
					C406-0112 02/02/2012 12:01	C501-0112 02/03/2012 16:00	C502-0112 02/05/2012 09:18	C502-0112 02/05/2012 09:25	C503-0112 02/05/2012 10:30	C504-0112 02/05/2012 09:00	C505-0112 02/05/2012 10:45	C506-0112 02/05/2012 09:15	C601-0112 02/04/2012 14:00	C602-0112 02/04/2012 15:25	C603-0112 02/04/2012 14:10	C604-0112 02/04/2012 14:40	C605-0112 02/04/2012 13:36	C701-0112 02/05/2012 16:00	C702-0112 02/05/2012 16:00
Analyte	Units	Remediation Goal																	
3-and/or 4-Methylphenol	ug/l	-	S U	S U	S U	S U	S U	S U	S U	S U	4000	12000	S U	S U	S U	10 U	S U	S U	5.40 U.U.O
1,1-Bisphenyl	ug/l	-	S U	S U	S U	S U	S U	S U	S U	S U	500 U	1000 U	S U	S U	S U	10 U	S U	S U	5.40 U.U.O
1,2,4,5-Tetrachlorobenzene	ug/l	-	S U	S U	S U	S U	S U	S U	S U	S U	500 U	1000 U	S U	S U	S U	10 U	S U	S U	5.40 U.U.O
2,3,4,6-Tetrachlorophenol	ug/l	-	S U	S U	S U	S U	S U	S U	S U	S U	500 U	1000 U	S U	5.10 U.U.O	S U	4.10 J.O	S U	S U	5.40 U.U.O
2,4,5-Trichlorophenol	ug/l	-	S U	S U	S U	S U	S U	S U	S U	S U	500 U	1000 U	S U	S U	S U	10 U	S U	S U	5.40 U.U.O
2,4,6-Trichlorophenol	ug/l	-	S U	S U	S U	S U	S U	S U	S U	S U	500 U	1000 U	S U	S U	S U	10 U	S U	S U	5.40 U.U.O
2,4-Dichlorophenol	ug/l	-	S U	S U	S U	S U	S U	S U	S U	S U	500 U	1000 U	S U	S U	S U	10 U	S U	S U	5.40 U.U.O
2,4-Dimethylphenol	ug/l	-	S U	S U	S U	S U	S U	S U	S U	S U	500 U	1000 U	S U	S U	S U	10 U	S U	S U	5.40 U.U.O
2,4-Dinitrophenol	ug/l	-	10 U.U.O	10 U.U.O	10 U.U.O	10 U.U.O	10 U.U.O	10 U.U.O	10 U.U.O	10 U	1000 U	2000 U	10 U.U.O	10 U.U.O	10 U.U.O	20 U	10 U.U.O	10 U	11 U.U.O
2,4-Dinitrotoluene	ug/l	-	S U	S U	S U	S U	S U	S U	S U	S U	500 U	1000 U	S U	S U	S U	10 U	S U	S U	5.40 U.U.O
2,6-Dinitrotoluene	ug/l	-	S U	S U	S U	S U	S U	S U	S U	S U	500 U	1000 U	S U	S U	S U	10 U	S U	S U	5.40 U.U.O
2-Chloronaphthalene	ug/l	-	S U	S U	S U	S U	S U	S U	S U	S U	500 U	1000 U	S U	S U	S U	10 U	S U	S U	5.40 U.U.O
2-Chlorophenol	ug/l	-	S U	S U	S U	S U	S U	S U	S U	S U	500 U	1000 U	S U	S U	S U	10 U	S U	S U	5.40 U.U.O
2-Methyl-4,6-dinitrophenol	ug/l	-	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	1000 U	2000 U	10 U	10 U	10 U	20 U	10 U	10 U	11 U.U.O
2-Methyl-4-nitrophenol	ug/l	-	S U	S U	S U	S U	S U	S U	S U	S U	340 J.O	700 J.O	S U	S U	S U	10 U	S U	S U	5.40 U.U.O
2-Methylphenol	ug/l	-	S U	S U	S U	S U	S U	S U	S U	S U	2200	4400	S U	S U	S U	10 U	S U	S U	5.40 U.U.O
2-Nitroaniline	ug/l	-	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	1000 U	2000 U	10 U	10 U	10 U	20 U	10 U	10 U	11 U.U.O
2-Nitrophenol	ug/l	-	S U	S U	S U	S U	S U	S U	S U	S U	500 U	1000 U	S U	S U	S U	10 U	S U	S U	5.40 U.U.O
2,3-Dichlorobenzidine	ug/l	-	5 U.U.O	5 U.U.O	5 U.U.O	5 U.U.O	5 U.U.O	5 U.U.O	5 U.U.O	5 U.U.O	500 U	1000 U	5 U.U.O	5.10 U.U.O	5 U.U.O	10 U.U.O	5 U.U.O	5 U.U.O	5.40 U.U.O
3-Nitroaniline	ug/l	-	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	1000 U	2000 U	10 U	10 U	10 U	20 U	10 U	10 U	11 U.U.O
4-Bromophenyl phenyl ether	ug/l	-	S U	S U	S U	S U	S U	S U	S U	S U	500 U	1000 U	S U	S U	S U	10 U	S U	S U	5.40 U.U.O
4-Chloro-3-methylphenol	ug/l	-	S U	S U	S U	S U	S U	S U	S U	S U	500 U	1000 U	S U	S U	S U	10 U	S U	S U	5.40 U.U.O
4-Chloroaniline	ug/l	-	5 U.U.O	5 U.U.O	5 U.U.O	5 U.U.O	5 U.U.O	5 U.U.O	5 U.U.O	5 U.U.O	500 U	1000 U	5 U.U.O	5.10 U.U.O	5 U.U.O	10 U.U.O	5 U.U.O	5 U.U.O	5.40 U.U.O
4-Chlorophenyl phenyl ether	ug/l	-	S U	S U	S U	S U	S U	S U	S U	S U	500 U	1000 U	S U	S U	S U	10 U	S U	S U	5.40 U.U.O
4-Nitroaniline	ug/l	-	10 U	10 U.U.O	10 U.U.O	10 U.U.O	10 U.U.O	10 U	10 U	10 U	1000 U	2000 U	10 U.U.O	10 U.U.O	10 U.U.O	20 U	10 U.U.O	10 U	11 U.U.O
4-Nitrophenol	ug/l	-	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	1000 U	2000 U	10 U	10 U.U.O	10 U.U.O	20 U	10 U	10 U	5.40 U.U.O
Acenaphthene	ug/l	9000	S U	S U	S U	S U	S U	S U	1.20 J.O	500 U	410 J.O	S U	S U	S U	S U	10 U	S U	S U	5.40 U.U.O
Acenaphthylene	ug/l	-	S U	S U	S U	S U	S U	S U	S U	S U	500 U	1000 U	S U	S U	S U	10 U	S U	S U	5.40 U.U.O
Acetophenone	ug/l	-	S U	S U	S U	S U	S U	S U	S U	S U	500 U	1000 U	S U	S U	S U	10 U	S U	S U	5.40 U.U.O
Anthracene	ug/l	-	S U	S U	S U	S U	S U	S U	S U	S U	500 U	1000 U	S U	S U	S U	10 U	1.70 J.O	S U	5.40 U.U.O
Atrazine	ug/l	-	5 U.U.O	5 U.U.O	5 U.U.O	5 U.U.O	5 U.U.O	5 U.U.O	5 U.U.O	5 U.U.O	500 U	1000 U	S U	5 U.U.O	5 U.U.O	10 U	S U	S U	5.40 U.U.O
Benzaldehyde	ug/l	-	5 U.U.O	5 U.U.O	5 U.U.O	5 U.U.O	5 U.U.O	5 U.U.O	5 U.U.O	5 U.U.O	500 U.U.O	1000 U.U.O	5 U.U.O	5 U.U.O	5 U.U.O	10 U.U.O	5 U.U.O	5 U.U.O	5.40 U.U.O
Benz(a)anthracene	ug/l	1500	S U	S U	S U	S U	S U	S U	S U	S U	500 U	1000 U	S U	S U	S U	10 U	S U	S U	5.40 U.U.O
Benz(a)pyrene	ug/l	-	5 U.U.O	5 U	5 U.U.O	5 U.U.O	5 U	5 U	5 U.U.O	5 U	500 U	1000 U	S U	S U	S U	10 U	S U	5 U.U.O	5.40 U.U.O
Benz(b)fluoranthene	ug/l	-	5 U.U.O	5 U	5 U.U.O	5 U.U.O	5 U	5 U	5 U.U.O	5 U	500 U	1000 U	S U	S U	S U	10 U	S U	5 U.U.O	5.40 U.U.O
Benz(c,h,i)perylene	ug/l	-	S U	S U	5 U.U.O	5 U.U.O	S U	S U	5 U	500 U	1000 U	S U	2.50 J.O	5 U.U.O	10 U	S U	5 U.U.O	5.40 U.U.O	5.40 U.U.O
Benz(k)fluoranthene	ug/l	-	S U	S U	5 U.U.O	5 U.U.O	S U	S U	5 U	500 U	1000 U	S U	S U	S U	10 U	S U	5 U.U.O	5.40 U.U.O	5.40 U.U.O
Benzyl butyl phthalate	ug/l	-	S U	S U	S U	S U	S U	S U	S U	S U	500 U	1000 U	S U	S U	S U	10 U	S U	S U	5.40 U.U.O
Bis(2-chloroethoxy)methane	ug/l	-	S U	S U	S U	S U	S U	S U	S U	S U	500 U	1000 U	S U	S U	S U	10 U	S U	S U	5.40 U.U.O
Bis(2-chloroethyl) ether	ug/l	-	S U	S U	S U	S U	S U	S U	S U	S U	500 U	1000 U	S U	S U	S U	10 U	S U	S U	5.40 U.U.O
Bis(2-chloroisopropyl) ether	ug/l	-	S U	S U	S U	S U	S U	S U	S U	S U	500 U	1000 U	S U	S U	S U	10 U	S U	S U	5.40 U.U.O
Bis(2-ethylhexyl) phthalate	ug/l	-	S U	S U	S U	S U	S U	S U	S U	S U	500 U	1000 U	S U	S U	S U	10 U	S U	S U	5.40 U.U.O
Caprolactam	ug/l	-	5 U.U.O	S U	S U	S U	S U	S U	S U	S U	500 U	1000 U	S U	S U	S U	10 U	S U	S U	5.40 U.U.O
Carbazole	ug/l	-	S U	S U	S U	S U	S U	S U	S U	S U	150 J.O	390 J.O	S U	S U	S U	10 U	S U	S U	5.40 U.U.O

Table 7  
SVOC Results

Station ID	Sample ID	Date	Time	Remediation Goal	C406	C501	C502	C502	C503	C504	C505	C506	C601	C602	C603	C604	C605	C701	C702
					C406-0112 02/02/2012 12:01	C501-0112 02/03/2012 16:00	C502-0112 02/05/2012 09:18	C502-0112 02/05/2012 09:25	C503-0112 02/05/2012 10:30	C504-0112 02/05/2012 09:00	C505-0112 02/05/2012 10:45	C506-0112 02/05/2012 09:15	C601-0112 02/04/2012 14:00	C602-0112 02/04/2012 15:25	C603-0112 02/04/2012 14:10	C604-0112 02/04/2012 14:40	C605-0112 02/04/2012 13:36	C701-0112 02/05/2012 16:00	C702-0112 02/05/2012 16:00
Analyte	Units	Remediation Goal																	
Chrysene	ug/l	-	S U	S U	S U	S U	S U	S U	S U	S U	500 U	1000 U	S U	S U	S U	10 U	S U	S U	5.40 U.U.O
Dibenz(a,h)anthracene	ug/l	-	S U	S U	5 U.U.O	5 U.U.O	S U	S U	S U	S U	500 U	1000 U	S U	1 J.O	S U	10 U	S U	5 U.U.O	5.40 U.U.O
Dibenzofuran	ug/l	44	S U	S U	S U	S U	S U	S U	S U	S U	500 U	1000 U	S U	S U	S U	10 U	S U	S U	5.40 U.U.O
Diethyl phthalate	ug/l	-	S U	S U	S U	S U	S U	S U	S U	S U	500 U	1000 U	S U	S U	S U	10 U	S U	S U	5.40 U.U.O
Dimethyl phthalate	ug/l	-	S U	S U	S U	S U	S U	S U	S U	S U	500 U	1000 U	S U	S U	S U	10 U	S U	S U	5.40 U.U.O
Di-n-butylphthalate	ug/l	-	S U	S U	S U	S U	S U	S U	S U	S U	500 U	1000 U	S U	S U	S U	10 U	S U	S U	5.40 U.U.O
Di-n-octylphthalate	ug/l	-	S U	S U	S U	S U	S U	S U	S U	S U	500 U	1000 U	S U	S U	S U	10 U	S U	S U	5.40 U.U.O
Fluoranthene	ug/l	1500	S U	S U	S U	S U	S U	S U	S U	S U	500 U	1000 U	S U	S U	S U	10 U	1.60 J.O	S U	5.40 U.U.O
Fluorene	ug/l	-	S U	S U	S U	S U	S U	S U	S U	S U	500 U	1000 U	S U	S U	S U	10 U	S U	S U	5.40 U.U.O
Heachlorobenzene (HCB)	ug/l	-	S U	S U	S U	S U	S U	S U	S U	S U	500 U	1000 U	S U	S U	S U	10 U	S U	S U	5.40 U.U.O
Heachlorobutadiene	ug/l	-	S U	S U	S U	S U	S U	S U	S U	S U	500 U	1000 U	S U	S U	S U	10 U	S U	S U	5.40 U.U.O
Heachlorocyclopentadiene (HCCP)	ug/l	-	5 U.U.O	5 U.U.O	5 U.U.O	5 U.U.O	5 U.U.O	5 U.U.O	5 U.U.O	5 U.U.O	500 U	1000 U	S U	S U	S U	10 U	S U	S U	5.40 U.U.O
Heachloroethane	ug/l	-	S U	S U	S U	S U	S U	S U	S U	S U	500 U	1000 U	S U	1.40 J.O	S U	10 U	S U	5 U.U.O	5.40 U.U.O
Indeno (1,2,3-cd) pyrene	ug/l	-	S U	S U	5 U.U.O	5 U.U.O	S U	S U	S U	S U	500 U	1000 U	S U	S U	S U	10 U	S U	S U	5.40 U.U.O
Isophorene	ug/l	-	S U	S U	S U	S U	S U	S U	S U	S U	500 U	1000 U	S U	S U	S U	10 U	S U	S U	5.40 U.U.O
Naphthalene	ug/l	21900	S U	S U	S U	S U	S U	S U	S U	S U	500 U	1000 U	S U	S U	S U	1.20 J.O	10 U	S U	5.40 U.U.O
Nitrobenzene	ug/l	-	S U	S U	S U	S U	S U	S U	S U	S U	500 U	1000 U	S U	S U	S U	10 U	S U	S U	5.40 U.U.O
n-Nitrosodiphenylamine	ug/l	-	S U	S U	S U	S U	S U	S U	S U	S U	500 U	1000 U	S U	S U	S U	10 U	S U	S U	5.40 U.U.O
n-Nitrosodiphenylamine/Diphenylamine	ug/l	-	S U	S U	S U	S U	S U	S U	S U	S U	500 U	1000 U	S U	S U	S U	10 U	S U	S U	5.40 U.U.O
Permethrin	ug/l	206000	10 U.U.O	10 U	10 U	10 U	10 U	10 U	10 U	10 U	1000 U	2000 U	10 U	10 U	10 U.U.O	83	3.40 J	10 U	11 U.U.O
Phenanthrene	ug/l	-	S U	S U	S U	S U	S U	S U	S U	S U	500 U	1000 U	S U	S U	S U	10 U	S U	S U	5.40 U.U.O
Pyrene	ug/l	-	S U	S U	S U	S U	S U	S U	S U	S U	500 U	1000 U	S U	S U	S U	10 U	S U	S U	5.40 U.U.O

Included as part of the total carcinogenic PAHs' remediation goal

Result at or above the remediation goal

U = analyte was not detected at or above the reporting limit

NU = presumptive evidence that analyte is present; reported as a

J = the identification of the analyte is acceptable; the reported

R = The presence or absence of the analyte cannot be determined

O = See attached data sheets for information on additional qual

Tentatively Identified Compounds (TICs) are not shown, but are



Table 7  
OC Results

	Station ID	C70	C704	C801	C802	C803	C804	C805	C901	C902	C903	C904	C905	MW1	MW1A	MW2
	Sample ID	C703-0112	C704-0112	C801-0112	C802-0112	C803-0112	C804-0112	C805-0112	C901-0112	C902-0112	C903-0112	C904-0112	C905-0112	MW1-0112	MW1A-0112	MW2-0112
	Date	02/05/2012	02/05/2012	02/03/2012	02/03/2012	02/03/2012	02/03/2012	02/03/2012	01/31/2012	01/31/2012	01/31/2012	01/31/2012	01/31/2012	02/03/2012	02/01/2012	02/01/2012
	Time	13:30	15:05	09:35	10:24	10:30	09:15	08:49	10:55	10:45	11:52	11:55	14:55	11:30	11:55	15:25
Analyte	Units	Remediation Goal														
3-and/or -4-Methylphenol	ug/l	-	S U	S U	S U	S U	S U	S U	S U	S U	500 U	S U	S U	S U	S U	S U
1,1-Biphényl	ug/l	-	S U	S U	S U,S O	S U	S U	S U	S U	S U	500 U	S U	S U	S U	S U	S U
1,2,4,5-Tetrachlorobenzene	ug/l	-	S U	S U	S U	S U	S U	S U	S U	S U	500 U	S U	S U	S U	S U	S U
2,3,4,6-Tetrachlorophenol	ug/l	-	S U	S U	S U	S U	S U	S U	S U	S U	500 U	S U	S U	S U	S U	S U
2,4,5-Trichlorophenol	ug/l	-	S U	S U	S U	S U	S U	S U	S U	S U	500 U	S U	S U	S U	S U	S U
2,4,6-Trichlorophenol	ug/l	-	S U	S U	S U	S U	S U	S U	S U	S U	500 U	S U	S U	S U	S U	S U
2-Dichlorophenol	ug/l	-	S U	S U	S U	S U	S U	S U	S U	S U	500 U	S U	S U	S U	S U	S U
2,4-Dimethylphenol	ug/l	-	S U	S U	S U	S U	S U	S U	S U	S U	500 U	S U	S U	S U	S U	S U
2,4-Dinitrophenol	ug/l	-	10 U	10 U	10 U,S O	10 U	10 U	10 U	10 U,S O	1000 U	10 U,S O	10 U,S O	10 U,S O	10 U,S O	10 U,S O	10 U,S O
2,4-Dinitrotoluene	ug/l	-	S U	S U	S U	S U	S U	S U	S U	S U	500 U	S U	S U	S U	S U	S U
2,6-Dinitrotoluene	ug/l	-	S U	S U	S U	S U	S U	S U	S U	S U	500 U	S U	S U	S U	S U	S U
2-Chloronaphthalene	ug/l	-	S U	S U	S U,S O	S U	S U	S U	S U	S U	500 U	S U	S U	S U	S U	S U
2-Chlorophenol	ug/l	-	S U	S U	S U	S U	S U	S U	S U	S U	500 U	S U	S U	S U	S U	S U
2-Methyl-4,6-dinitrophenol	ug/l	-	10 U	10 U	10 U	10 U	10 U	10 U	10 U	1000 U	10 U,S O	10 U	10 U,S O	10 U	10 U,S O	10 U
2-Methylnaphthalene	ug/l	-	S U	S U	S U,S O	S U	S U	S U	S U	250 U,S O	S U	S U	S U	S U	S U	S U
2-Methylphenol	ug/l	-	S U	S U	S U	S U	S U	S U	S U	S U	500 U	S U	S U	S U	S U	S U
2-Nitroaniline	ug/l	-	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
2-Nitrophenol	ug/l	-	S U	S U	S U	S U	S U	S U	S U	S U	500 U	S U	S U	S U	S U	S U
3,3'-Dichlorobenzidine	ug/l	-	S U,S O	S U,S O	S U,R,O	S U	S U	S U	S U,S O	S U,S O	500 U,S O	S U,S O	S U,R,O	S U,S O	S U,S O	S U,S O
3-Nitroaniline	ug/l	-	10 U	10 U	10 U	10 U	10 U	10 U	10 U	1000 U	10 U	10 U	10 U	10 U	10 U	10 U
4-Bromophenyl phenyl ether	ug/l	-	S U	S U	S U	S U	S U	S U	S U	500 U	S U	S U	S U	S U	S U	S U
4-Chloro-3-methylphenol	ug/l	-	S U	S U	S U	S U	S U	S U	S U	500 U	S U	S U	S U	S U	S U	S U
4-Chloroaniline	ug/l	-	S U	S U	S U,R,O	S U	S U	S U	S U,S O	S U	500 U	S U	S U	S U,R,O	S U,S O	S U,S O
4-Chlorophenyl phenyl ether	ug/l	-	S U	S U	S U	S U	S U	S U	S U	500 U	S U	S U	S U	S U	S U	S U
4-Nitroaniline	ug/l	-	10 U	10 U	10 U	10 U	10 U	10 U	10 U	1000 U	10 U	10 U	10 U	10 U	10 U	10 U
4-Nitrophenol	ug/l	-	10 U	10 U	10 U	10 U	10 U	10 U	10 U	1000 U	10 U	10 U	10 U	10 U	10 U	10 U
Acenaphthene	ug/l	9000	S U	S U	S U,S O	S U	S U	S U	S U	230 U,S O	32	S U	S U	S U	S U	S U
Acenaphthylene	ug/l	-	S U	S U	S U,S O	S U	S U	S U	S U	500 U	S U	S U	S U	S U	S U	S U
Acetophenone	ug/l	-	S U	S U	S U	S U	S U	S U	S U	500 U	S U	S U	S U	S U	S U	S U
Anthracene	ug/l	-	S U	S U	S U,S O	S U	S U	S U	S U	500 U	S U	S U	S U	S U	S U	S U
Atrazine	ug/l	-	S U	S U	S U,S O	S U	S U	S U	S U	500 U	S U	S U	S U	S U	S U	S U
Benzoaldehyde	ug/l	-	S U,S O	S U,S O	S U,S O	S U,S O	S U,S O	S U,S O	S U,S O	500 U,S O	S U,S O	S U,S O	S U,S O	S U,S O	S U,S O	S U,S O
Benzo(a)anthracene	ug/l	1100	S U	S U	S U,S O	S U	S U	S U	S U	500 U	S U	S U	S U	S U	S U	S U
Benzo(a)pyrene	ug/l	-	S U,S O	S U,S O	S U,R,O	S U,S O	S U,S O	S U,S O	S U,S O	500 U,S O	S U,S O	S U,S O	S U,S O	S U,S O	S U,S O	S U,S O
Benzo(b)fluoranthene	ug/l	-	S U,S O	S U,S O	S U,R,O	S U,S O	S U,S O	S U,S O	S U,S O	500 U,S O	S U,S O	S U,S O	S U,S O	S U,S O	S U,S O	S U,S O
Benzo(k)fluoranthene	ug/l	-	S U	S U	S U,R,O	S U	S U	S U	S U	500 U	S U	S U	S U	S U	S U	S U
Benzo(l)fluoranthene	ug/l	-	S U	S U	S U,R,O	S U	S U	S U	S U	500 U	S U	S U	S U	S U	S U	S U
Benzyl butyl phthalate	ug/l	-	S U	S U	S U,S O	S U	S U	S U	S U	500 U	S U	S U	S U	S U	S U	S U
Bis(2-chloroethoxy)methane	ug/l	-	S U	S U	S U	S U	S U	S U	S U	500 U	S U	S U	S U	S U	S U	S U
Bis(2-Chloroethyl) Ether	ug/l	-	S U	S U	S U	S U	S U	S U	S U	500 U	S U	S U	S U	S U	S U	S U
Bis(2-chloroisopropoxy) ether	ug/l	-	S U	S U	S U	S U	S U	S U	S U	500 U	S U	S U	S U	S U	S U	S U
Bis(2-ethylhexyl) phthalate	ug/l	-	S U	S U	S U,S O	S U	S U	S U	S U	500 U	S U	S U	S U	S U	S U	S U
Caprolactam	ug/l	-	S U	S U	S U,S O	S U	S U	S U	S U	500 U	S U	S U	S U	S U	S U	S U
Carbazole	ug/l	-	S U	S U	S U	S U	S U	S U	S U	210 U,S O	16	S U	S U	S U	S U	S U

Table 7  
VOC Results[illegible]

Included as part of the total carcinogenic 'PAHs' remediation goal

Result at or above the remediation goal

U = analyte was not detected at or above the reporting limit

NU = presumptive evidence that analyte is present; reported as =

3 = the identification of the analyte is acceptable; the reported value

R = The presence or absence of the analyte cannot be determined

Tentatively Identified Compounds (TICs) are not shown, but are

**Table 7**  
**SVOC Results**

Station ID			MW3	MW3	MW4	MW5	MW6	OW09	OW10	PYCD5M	PYCD5N	PYCD5S	PYCWCB
Sample ID			MW3-0112	MW3D-0112	MW4-0112	MW5-0112	MW6-0112	OW9-0112	OW10-0112	PYCD5M-0112	PYCD5N-0112	PYCD5S-0112	PYCWCB-0112
Date			02/01/2012	02/01/2012	02/01/2012	02/01/2012	02/01/2012	02/04/2012	02/06/2012	02/02/2012	02/02/2012	02/02/2012	02/06/2012
Time			12:20	12:30	10:20	09:35	16:21	15:50	17:15	15:55	16:35	16:20	11:40
Analyte	Units	Remediation Goal											
(3-and/or-4-Methylphenol	ug/l	-	5 U	5 U	210	5 U	24	5 U	5 U	5 U	5 U	5 U	5 U
1,1-Biphenyl	ug/l	-	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U
1,2,4,5-Tetrachlorobenzene	ug/l	-	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U
2,3,4,6-Tetrachlorophenol	ug/l	-	5 U	5 U	5 U	5 U	5 U	35	5 U	5 U	5 U	5 U	5 U
2,4,5-Trichlorophenol	ug/l	-	5 U	5 U	5 U	5 U	5 U	3,70 J.O	5 U	5 U	5 U	5 U	5 U
2,4,6-Trichlorophenol	ug/l	-	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U
2,4-Dichlorophenol	ug/l	-	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U
2,4-Dimethylphenol	ug/l	-	5 U	5 U	120	5 U	24	5 U	5 U	5 U	1,30 J.O	5 U	5 U
2,4-Dinitrophenol	ug/l	-	10 U,J.O	10 U,J.O	10 U,J.O	10 U,J.O	10 U,J.O	10 U,J.O	10 U	10 U,J.O	10 U,J.O	10 U,J.O	10 U
2,4-Dinitrotoluene	ug/l	-	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U
2,6-Dinitrotoluene	ug/l	-	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U
2-Chloronaphthalene	ug/l	-	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U,J.O	5 U	5 U	5 U
2-Chlorophenol	ug/l	-	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U
2-Methyl-4,6-dinitrophenol	ug/l	-	10 U,J.O	10 U,J.O	10 U,J.O	10 U,J.O	10 U	10 U	10 U	10 U	10 U	10 U	10 U
2-Methylnaphthalene	ug/l	-	5 U	5 U	5,30	5 U	1,30 J.O	5 U	5 U	5 U,J.O	13	5 U	5 U
2-Methylphenol	ug/l	-	5 U	5 U	99	5 U	18	5 U	5 U	5 U	5 U	5 U	5 U
2-Nitroaniline	ug/l	-	10 U,J.O	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
2-Nitrophenol	ug/l	-	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U
3,3'-Dichlorobenzidine	ug/l	-	5 U	5 U	5 U,J.O	5 U	5 U,R.O	5 U,J.O	5 U,J.O	5,20 U,J.O	5,10 U,J.O	5 U,R.O	5 U
3-Nitroaniline	ug/l	-	10 U,J.O	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
4-Bromophenyl phenyl ether	ug/l	-	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U
4-Chloro-3-methylphenol	ug/l	-	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U
4-Chloroaniline	ug/l	-	5 U	5 U	5 U,J.O	5 U	5 U,R.O	5 U,J.O	5 U,J.O	5,20 U,J.O	5,10 U,J.O	5 U,R.O	5 U
4-Chlorophenyl phenyl ether	ug/l	-	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U
4-Nitroaniline	ug/l	-	10 U,J.O	10 U	10 U	10 U	10 U	10 U,J.O	10 U	10 U	10 U	10 U	10 U
4-Nitrophenol	ug/l	-	10 U,J.O	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Acenaphthene	ug/l	9000	5 U	5 U	4,30 J.O	5 U	1,3,0	5 U	2,10 J.O	5 U,J.O	7,50	5 U	5 U
Acenaphthylene	ug/l	-	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U,J.O	5 U	5 U	5 U
Acetophenone	ug/l	-	5 U	5 U	5 U	5 U	1,90 J.O	5 U	5 U	5 U	5 U	5 U	5 U
Anthracene	ug/l	-	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U,J.O	5 U	5 U	5 U
Atrazine	ug/l	-	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U,J.O	5 U	5 U	5 U
Benzaldehyde	ug/l	-	5 U,J.O	5 U,J.O	5 U,J.O	5 U,J.O	5 U,J.O	5 U,J.O	5 U,J.O	5 U,J.O	5 U,J.O	5 U,J.O	5 U,J.O
Benzo(a)anthracene	ug/l	1100	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U,J.O	5 U	5 U	5 U
Benzo(a)pyrene	ug/l	-	5 U,J.O	5 U,J.O	5 U,J.O	5 U,J.O	5 U	5 U	5 U	5 U,J.O	5 U	5 U,J.O	5 U
Benzo(b)fluoranthene	ug/l	-	5 U,J.O	5 U,J.O	5 U,J.O	5 U,J.O	5 U	5 U	5 U	5 U,J.O	5 U	5 U,J.O	5 U
Benzo(g,h,i)perylene	ug/l	-	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U,J.O	5 U	5 U,J.O	5 U
Benzo(k)fluoranthene	ug/l	-	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U,J.O	5 U	5 U,J.O	5 U
Benzyl butyl phthalate	ug/l	-	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U
Bis(2-chloroethoxy)methane	ug/l	-	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U
bis(2-Chloroethyl) Ether	ug/l	-	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U
Bis(2-chloroisopropyl) ether	ug/l	-	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U
Bis(2-ethylhexyl) phthalate	ug/l	-	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U
Cuprolactum	ug/l	-	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U
Carbazole	ug/l	-	5 U	5 U	2,60 J.O	5 U	5 U	5 U	5 U	5 U	1,10 J.O	5 U	5 U



**Table 7**  
**SVOC Results**

Station ID Sample ID Date Time			MW3 MW3-0112 02/01/2012 12:20	MW3 MW3D-0112 02/01/2012 12:30	MW4 MW4-0112 02/01/2012 10:20	MW5 MW5-0112 02/01/2012 09:35	MW6 MW6-0112 02/01/2012 16:21	OW9 OW9-0112 02/04/2012 15:50	OW10 OW10-0112 02/06/2012 17:15	PVCD5M PVCD5M-0112 02/02/2012 15:55	PVCD5N PVCD5N-0112 02/02/2012 16:35	PVCD5S PVCD5S-0112 02/02/2012 16:20	PVCWCB PVCWCB-0112 02/06/2012 11:40
Analyte	Units	Remediation Goal											
Chrysene	ug/l	-	S U	S U	S U	S U	S U	S U	S U	S U,J,O	S U	S U	S U
Dibenzo(a,h)anthracene	ug/l	-	S U	S U	S U	S U	S U	S U	S U	S U,J,O	S U	S U,J,O	S U
Dibenzofuran	ug/l	44	S U	S U	1.80 J,O	S U	S U	S U	S U	S U	S U	S U	S U
Diethyl phthalate	ug/l	-	S U	S U	S U	S U	S U	S U	S U	S U	S U	S U	S U
Dimethyl phthalate	ug/l	-	S U	S U	S U	S U	S U	S U	S U	S U	S U	S U	S U
Di-n-butylphthalate	ug/l	-	S U	S U	S U	S U	S U	S U	S U	S U	S U	S U	S U
Di-n-octylphthalate	ug/l	-	S U	S U	S U	S U	S U	S U	S U	S U,J,O	S U	S U	S U
Fluoranthene	ug/l	1500	S U	S U	S U	S U	S U	S U	S U	S U,J,O	S U	S U	S U
Fluorene	ug/l	-	S U	S U	S U	S U	S U	S U	S U	S U	S U	S U	S U
Hexachlorobenzene (HCB)	ug/l	-	S U	S U	S U	S U	S U	S U	S U	S U,J,O	S U	S U	S U
Hexachlorobutadiene	ug/l	-	S U	S U	S U	S U	S U	S U	S U	S U	S U	S U	S U
Hexachlorocyclopentadiene (HCCP)	ug/l	-	S U	S U	S U,J,O	S U	S U,R,O	S U,J,O	S U,J,O	S U,J,O	S U,J,O	S U,R,O	S U
Hexachloroethane	ug/l	-	S U	S U	S U	S U	S U	S U	S U	S U	S U	S U	S U
Indeno (1,2,3-cd) pyrene	ug/l	-	S U	S U	S U	S U	S U	S U	S U	S U,J,O	S U	S U,J,O	S U
Isophorone	ug/l	-	S U	S U	S U	S U	S U	S U	S U	S U	S U	S U	S U
Naphthalene	ug/l	21900	S U	S U	39	S U	27	3.50 J,O	3 J,O	S U,J,O	51	S U	S U
Nitrobenzene	ug/l	-	S U	S U	S U	S U	S U	S U	S U	S U	S U	S U	S U
n-Nitroso di-n-Propylamine	ug/l	-	S U	S U	S U	S U	S U	S U	S U	S U	S U	S U	S U
n-Nitrosodiphenylamine/Diphenylamine	ug/l	-	S U,J	S U	S U	S U	S U	S U	S U	S U	S U	S U	S U
Pentachlorophenol	ug/l	296000	10 U,J,O	10 U,J,O	10 U,J,O	10 U,J,O	10 U	470	10 U	10 U	10 U	10 U	10 U
Phenanthrene	ug/l	-	S U	S U	S U	S U	S U	S U	S U	S U,J,O	S U	S U	S U
Pyrene	ug/l	-	S U	S U	S U	S U	S U	S U	S U	S U,J,O	S U	S U	S U

Included as part of the total carcinogenic PAHs' remediation goal

Result at or above the remediation goal

U = analyte was not detected at or above the reporting limit

NJ = presumptive evidence that analyte is present; reported as a

J = the identification of the analyte is acceptable; the reported v

R = The presence or absence of the analyte cannot be determined

O = See attached data sheets for information on additional qualif

Tentatively Identified Compounds (TICs) are not shown, but are i

# 2011 Treatment System Monitoring Results (September 2010- September 2011 Operation and Maintenance Report)

**Table 4**  
**Treatment System Monitoring Results Summary**  
 June 2010 through September 2011

Analyte	Sample Location	Sample Concentrations (µg/L) and Sample Date					
		June-10	September-10	December-10	March-11	June-11	September-11
Benzene Remedial Goal = 91 µg/L	BTS	160	0	3.6	73	2.6	4
	DTS	0	85	2.2	0	17	65
	ATS	0	87	0	0	0	77
Acenaphthene Remedial Goal = 9,000 µg/L	BTS	800	6,500	3,800	14,000	9,600	7,900
	DTS	46	2,900	8,700	19,000	750	9,700
	ATS	190	5,800	4,300	110	27	650
Fluoranthene Remedial Goal = 1,500 µg/L	BTS	690	6,900	3,900	17,000	14,000	11,000
	DTS	67	2,500	12,000	22,000	2,700	11,000
	ATS	200	7,100	21,000	45	16	640
Naphthalene Remedial Goal = 21,900 µg/L	BTS	6,400	9,800	13,000	51,000	19,000	16,000
	DTS	14	15,000	15,000	63,000	210	34,000
	ATS	11	27,000	250	360	0	3,900
Selected PAHs Remedial Goal = 1,100 µg/L	BTS	3,179	33,190	16,800	71,800	50,419	52,490
	DTS	572	12,450	45,370	91,200	8,020	51,340
	ATS	1,031	28,580	57,900	282.6	174	3,047
Dibenzofuran Remedial Goal = 44 µg/L	BTS	560	3,800	2,000	9,600	7,000	5,800
	DTS	20	1,600	4,300	13,000	410	5,800
	ATS	120	2,700	1,900	59	10	360
Pentachlorophenol Remedial Goal = 296,000 µg/L	BTS	370	2,900	2,800	2,300	5,200	3,900
	DTS	0	3,400	860	3,800	87	2,100
	ATS	82	1,000	33	0	0	110

BTS= Before Treatment System  
 DTS= During Treatment System  
 ATS= After Treatment System  
**Bold** Exceeds Remedial Goal



**Figure 1**  
**ACW Well Locations**  
**January 2015**

Source: EPA, DigitalGlobe, GeoEye, AeroMap, USGS, A3, Calverley, AeroMap, USGS, A3, GeoEye, and the GIS User Community

# On-site Monitoring Well Locations from 2012 O&M Report

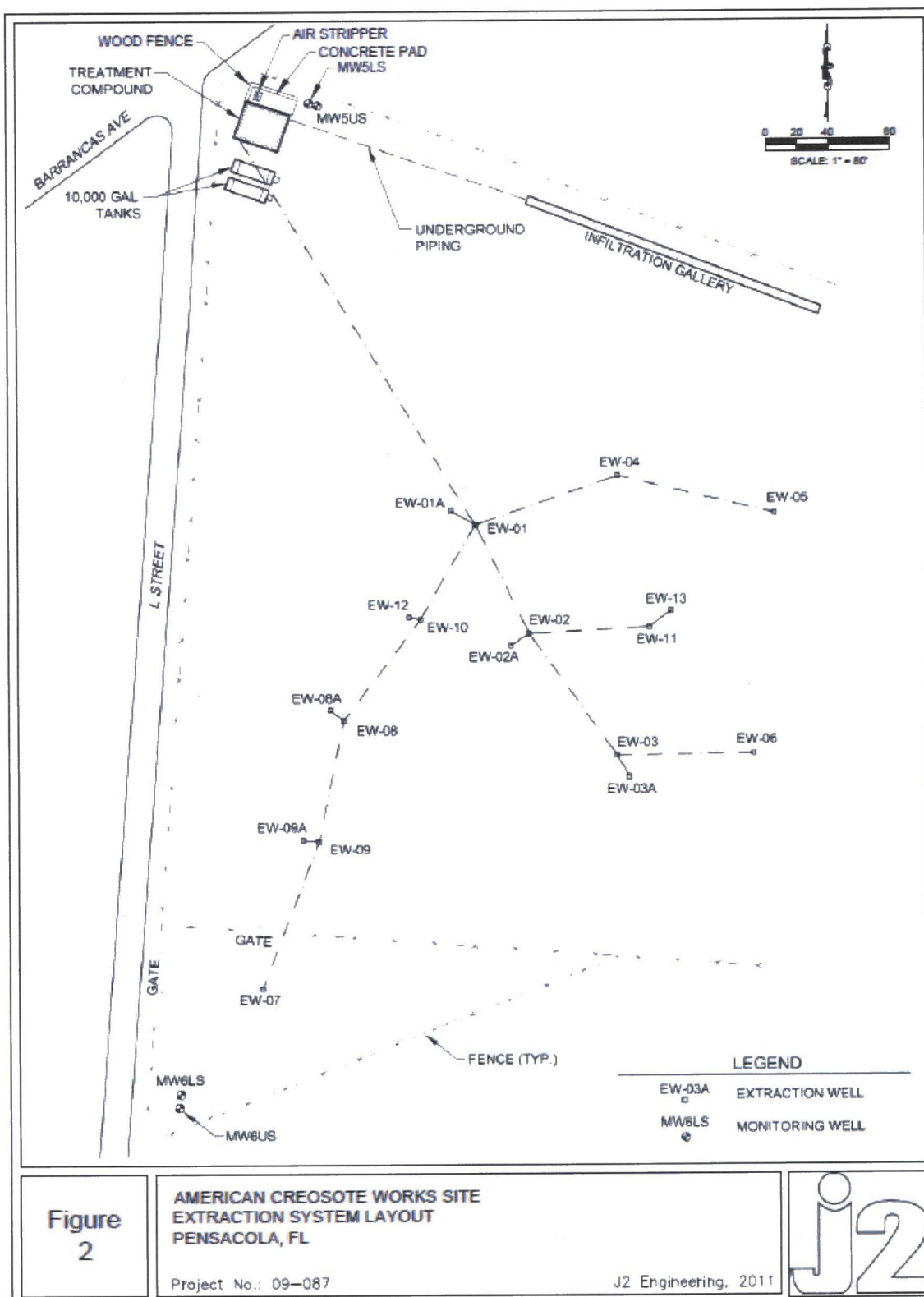


Figure 2

AMERICAN CREOSOTE WORKS SITE  
EXTRACTION SYSTEM LAYOUT  
PENSACOLA, FL

Project No.: 09-087

J2 Engineering, 2011





## Appendix H: RSL Soil Screening Evaluation

**Table H-1: Residential RSL Surface Soil and Sediment Screening**

COC	ROD Cleanup Goal (mg/kg)	Residential RSLs (mg/kg) <sup>a</sup>		Screening-Level Risk Evaluation <sup>b</sup>	
		Risk-based (1 x 10 <sup>-6</sup> )	Non- carcinogenic HI <sup>c</sup>	Carcinogenic Risk	Non- carcinogenic HI
Surface soil (off-facility residential)					
2,3,7,8-tetrachlorodibenzo- p-dioxin (TCDD) (TEQ)	0.001	0.0000048	0.000051	2.1E-04	19.6
Benzo(a)pyrene	0.33	0.016	--	2.1E-05	--
Sediment					
Total Carcinogenic PAHs (Benzo(a)pyrene)	0.655	0.016	--	4.1E-05	--
<i>Notes:</i> a. Values are EPA's RSL for carcinogenic and non-carcinogenic effects available at: <a href="https://www.epa.gov/risk/regional-screening-levels-rsls-generic-tables-november-2015">https://www.epa.gov/risk/regional-screening-levels-rsls-generic-tables-november-2015</a> (accessed 3/22/16). b. Screening level risk evaluation: Risk = (Cleanup criterion/RSL)(1 x 10 <sup>-6</sup> ) HI = (Cleanup criterion/RSL) c. EPA's dioxin reassessment has been developed and undergone review for many years, with the participation of scientific experts in EPA and other federal agencies, as well as scientific experts in the private sector and academia. The Agency followed current guidelines and incorporated the latest data and physiological/biochemical research into the reassessment. On February 17, 2012, EPA released the final human health non-cancer dioxin reassessment, publishing an oral non-cancer toxicity value, or reference dose (RfD), of 7x10 <sup>-10</sup> mg/kg-day for 2,3,7,8-tetrachlorodibenzo-p-dioxin (TCDD) in EPA's Integrated Risk Information System (IRIS). The dioxin cancer reassessment will follow thereafter. The dioxin RfD was approved for immediate use at Superfund sites to ensure protection of human health. -- = criterion not developed for this chemical. <b>Bolded:</b> exceedance of acceptable risk					

**Table H-2: Residential RSL Sub-Surface Soil Screening**

COC	ROD Cleanup Goal (mg/kg)	Residential RSLs (mg/kg) <sup>a</sup>		Screening-Level Risk Evaluation <sup>b</sup>	
		Risk-based (1 x 10 <sup>-6</sup> )	Non-carcinogenic HI	Carcinogenic Risk	Non-carcinogenic HI
Sub-surface soil					
Acenaphthene	876	--	3,600	--	0.2
Anthracene	145	--	18,000	--	0.008
Benzo(a)anthracene	740	0.16	--	4.6E-03	--
Benzo(b)fluoranthene	153,065	0.16	--	9.6E-01	--
Benzo(k)fluoranthene	153,065	1.6	--	9.6E-02	--
Chrysene	2,090	16	--	1.3E-04	--
Dibenzofuran	24	--	73	--	0.3
Fluoranthene	1,450	--	2,400	--	0.6
Fluorene	78	--	2,400	--	0.03
Naphthalene	235	3.8	130	6.2E-05	1.8
Pentachlorophenol (PCP)	138,000	1	250	1.4E-01	552
Phenanthrene	148	--	--	--	--

COC	ROD Cleanup Goal (mg/kg)	Residential RSLs (mg/kg) <sup>a</sup>		Screening-Level Risk Evaluation <sup>b</sup>	
		Risk-based (1 x 10 <sup>-6</sup> )	Non-carcinogenic HI	Carcinogenic Risk	Non-carcinogenic HI
Pyrene	1,070	--	1,800	--	0.6
<i>Notes:</i> a. Values are EPA's RSL for carcinogenic and non-carcinogenic effects available at: <a href="https://www.epa.gov/risk/regional-screening-levels-rsls-generic-tables-november-2015">https://www.epa.gov/risk/regional-screening-levels-rsls-generic-tables-november-2015</a> (accessed 3/22/16). b. Screening level risk evaluation: Risk = (Cleanup criterion/RSL)(1 x 10 <sup>-6</sup> ) HI = (Cleanup criterion/RSL) -- = criterion not developed for this chemical. <b>Bolded:</b> exceedance of acceptable risk					

**Table H-3: Industrial RSL Surface Soil and Sediment Screening**

COC	ROD Cleanup Goal (mg/kg)	Industrial RSLs (mg/kg) <sup>a</sup>		Screening-Level Risk Evaluation <sup>b</sup>	
		Risk-based (1 x 10 <sup>-6</sup> )	Non-carcinogenic HI <sup>c</sup>	Carcinogenic Risk	Non-carcinogenic HI
Surface soil (on-facility)					
2,3,7,8-tetrachlorodibenzo-p-dioxin (TCDD) (TEQ)	0.0025	0.000022	0.00072	1.1E-04	3.5
Pentachlorophenol (PCP)	30	4	2,800	7.5E-06	0.01
Total Carcinogenic PAHs (Benzo(a)pyrene)	50	0.29	--	1.7E-04	--
Sediment					
Total Carcinogenic PAHs (Benzo(a)pyrene)	0.655	0.29	--	2.3E-06	--

Notes:

a. Values are EPA’s RSL for carcinogenic and non-carcinogenic effects available at: <https://www.epa.gov/risk/regional-screening-levels-rsls-generic-tables-november-2015> (accessed 3/22/16).

b. Screening level risk evaluation:  
Risk = (Cleanup criterion/RSL)(1 x 10<sup>-6</sup>)  
HI = (Cleanup criterion/RSL)

c. EPA’s dioxin reassessment has been developed and undergone review for many years, with the participation of scientific experts in EPA and other federal agencies, as well as scientific experts in the private sector and academia. The Agency followed current guidelines and incorporated the latest data and physiological/biochemical research into the reassessment. On February 17, 2012, EPA released the final human health non-cancer dioxin reassessment, publishing an oral non-cancer toxicity value, or reference dose (RfD), of 7x10<sup>-10</sup> mg/kg-day for 2,3,7,8-tetrachlorodibenzo-p-dioxin (TCDD) in EPA’s Integrated Risk Information System (IRIS). The dioxin cancer reassessment will follow thereafter. The dioxin RfD was approved for immediate use at Superfund sites to ensure protection of human health.

-- = criterion not developed for this chemical.

**Bolded:** exceedance of acceptable risk

**Table H-4: Industrial RSL Sub-Surface Soil Screening**

COC	ROD Cleanup Goal (mg/kg)	Industrial RSLs (mg/kg) <sup>a</sup>		Screening-Level Risk Evaluation <sup>b</sup>	
		Risk-based (1 x 10 <sup>-6</sup> )	Non- carcinogenic HI	Carcinogenic Risk	Non- carcinogenic HI
Sub-surface soil					
Acenaphthene	876	--	45,000	--	0.02
Anthracene	145	--	230,000	--	0.0006
Benzo(a)anthracene	740	2.9	--	<b>2.6E-04</b>	--
Benzo(b)fluoranthene	153,065	2.9	--	<b>5.3E-02</b>	--
Benzo(k)fluoranthene	153,065	29	--	<b>5.3E-03</b>	--
Chrysene	2,090	290	--	7.2E-06	--
Dibenzofuran	24	--	1,000	--	0.02
Fluoranthene	1,450	--	30,000	--	0.05
Fluorene	78	--	30,000	--	0.003
Naphthalene	235	17	590	1.38E-05	0.4
Pentachlorophenol (PCP)	138,000	4	2,800	<b>3.4E-02</b>	<b>49</b>
Phenanthrene	148	--	--	--	--
Pyrene	1,070	--	23,000	--	0.05

Notes:

a. Values are EPA’s RSL for carcinogenic and non-carcinogenic effects available at:  
<https://www.epa.gov/risk/regional-screening-levels-rsls-generic-tables-november-2015> (accessed 3/22/16).

b. Screening level risk evaluation:  
Risk = (Cleanup criterion/RSL)(1 x 10<sup>-6</sup>)  
HI = (Cleanup criterion/RSL)  
-- = criterion not developed for this chemical.  
**Bolded:** exceedance of acceptable risk



**Table H-5: Residential and Industrial Soil Screening for OU1 Off-facility Remediation Areas based on 2004 Confirmation Sampling**

Location <sup>a</sup>	Off-facility surface soil COC	Confirmation sample concentration (mg/kg)	Residential RSLs (mg/kg) <sup>b</sup>		Screening-Level Risk Evaluation <sup>c</sup>	
			Risk-based (1 x 10 <sup>-6</sup> )	Non-carcinogenic HI	Risk-based (1 x 10 <sup>-6</sup> )	Non-carcinogenic HI
G2-CS01	2,3,7,8-tetrachlorodibenzo-p-dioxin (TCDD) (TEQ)	0.000176	4.8E-06	0.000051	3.6E-05	3.5
PA-CS105	2,3,7,8-tetrachlorodibenzo-p-dioxin (TCDD) (TEQ)	0.000107	4.8E-06	0.000051	2.2E-05	2.1
PA-CS105	Benzo(a)pyrene	479	0.016	--	<b>3.0E-02</b>	--
PA-CS105	Total Carcinogenic PAHs (Benzo(a)pyrene)	5,720	0.016	--	<b>3.6E-01</b>	--
Location	PYC Sediment COC	Confirmation sample concentration (mg/kg)	Industrial RSLs (mg/kg)		Screening-Level Risk Evaluation	
			Risk-based (1 x 10 <sup>-6</sup> )	Non-carcinogenic HI	Risk-based (1 x 10 <sup>-6</sup> )	Non-carcinogenic HI
PA-CS105	Total Carcinogenic PAHs (Benzo(a)pyrene)	5,720	0.29	--	<b>2.0E-02</b>	--

*Notes:*  
Source: January 2004 Close-out Report for Waste Consolidation Activities Conducted  
a. These are the highest samples of the 42 confirmation samples from the 5 excavated areas.  
b. Values are EPA's RSL for carcinogenic and non-carcinogenic effects available at: <https://www.epa.gov/risk/regional-screening-levels-rsls-generic-tables-november-2015> (accessed 3/22/16).  
c. Screening level risk evaluation:  
Risk = (Concentration in soil sample/RSL)(1 x 10<sup>-6</sup>)  
HI = (Concentration in soil sample/RSL)  
**Bolded:** exceedance of acceptable risk  
-- = criterion not developed for this chemical.



Figure from the January 2004 Close-out Report for Waste Consolidation Activities Conducted

