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March 5, 2014

Carol R. Collier
Executive Director
Delaware River Basin Commission
PO Box 7360
25 State Police Drive
West Trenton, New Jersey 08628

John DeFriece
Program Manager
Discharge Permits Program
DNREC
89 Kings Highway
Dover, DE 19901

Re: Pollutant Minimization Plan Annual Report for PCBs for Calendar Year 2013, AMTRAK Wilmington Maintenance Yard, Wilmington, Delaware, NPDES Permit Number DE0050962

Dear Ms. Collier and Mr. DeFriece:

On behalf of National Railroad Passenger Corporation (AMTRAK), attached are copies (two hard copies and one CD for DRBC; one CD and one hard copy for DNREC) of Pollutant Minimization Plan (PMP) Annual Report for Polychlorinated Biphenyls for the AMTRAK Wilmington Maintenance Yard located in Wilmington, Delaware. Attached to the report (Appendix F) are the electronic data deliverables (EDDs) for the storm water sampling associated with the PMP for the reporting period.

Should you have any questions or comments, please contact Andrew Enzman (Amtrak) at (215) 349-3498 or me at (610) 840-2500.

Sincerely,
STANTEC CONSULTING CORPORATION

Steve Baggett, PG
Principal Hydrogeologist

Attachments

cc: Craig Caldwell (Amtrak)
Andy Enzman (Amtrak)
Michael Stern (Amtrak)
File

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1 PMP ACHIEVEMENT EXECUTIVE SUMMARY

The Amtrak Wilmington Maintenance Yard (Site) is located in Wilmington, New Castle County, Delaware. The Site consists of the Maintenance Facility and the Former Fueling Facility. As detailed in the Pollutant Minimization Plan (PMP), dated September 28, 2005, several PCB minimization activities were implemented prior to the PMP, including extensive erosion control and sediment reduction measures in the Outfall 004 drainage area during 2003. There is no known current use of PCBs at the site.

The Maintenance Facility encompasses approximately 65 acres and is located north of the Former Fueling Facility. The Maintenance Facility is used for the maintenance of locomotives and other rail road related equipment. Other activities include the fabrication of concrete forms and track panels. The Maintenance Facility is serviced by storm sewers, sanitary sewers, and industrial waste sewers.

A draft Remedial Investigation and Focused Feasibility Work Plan for the Maintenance Facility (Draft RI/FFS Work Plan) was submitted to the Delaware Department of Natural Resources and Environmental Control (DNREC) on July 28, 2008 under the Delaware Voluntary Cleanup Program (VCP) enacted under 7 Del. C. Chapter 91: Delaware Hazardous Substance Cleanup Act (HSCA). The Revised Remedial Investigation Work Plan and Addendum was developed to address agency comments to the Draft RI/FFS Work Plan and was approved by DNREC in a letter dated June 8, 2012. Stantec initiated the remedial investigations in the Maintenance Facility in June 2012.

Minimization measures implemented in the Maintenance Facility during 2013 included the continuation of an inlet protection pilot program in order to evaluate sediment in runoff to the Outfall 002 and 007 storm sewer systems, inlet protection program inspection/maintenance activities, additional monitoring of Outfalls 002 and 007, cleaning and video inspection of the Transfer Table stormwater conveyance in the Outfall 002 drainage area, and paving activities. Planned minimization measures include additional track-back investigations, remedial investigations under the VCP, continuation of the inlet protection pilot program, oil recovery from the subsurface and best management practices (BMPs) for sediment reduction. During CY 2011, portions of the Maintenance Facility were upgraded to improve operations. This upgrade included paving areas for vehicle parking and equipment storage. Additional inlet structures and piping were installed to drain storm water in areas where previously unpaved surfaces and poor surface drainage restricted operations. These areas were in the Outfall 007 storm sewer system. It is believed that drainage from this area prior to paving contributed to the increased detection of PCBs from monitoring activities and resulting calculation of PCB loading from Outfall 007 during CY 2011.

The Former Fueling Facility encompasses approximately 20 acres south of the Maintenance Facility and was used primarily to service locomotives with coal and later diesel fuel, lubricating oil and sand. Fueling operations ceased in this area in November 1995 and were transferred to a newly constructed facility (with secondary containment) in the Maintenance Facility. The area is currently used to stage maintenance-of-way equipment as well as other non-PCB containing equipment.

The Former Fueling Facility (DNREC # DE-266) has been studied under the VCP. A diesel fuel recovery and control program is on-going in this area. It is planned that additional minimization measures in this area will be performed in accordance with the Draft Phase II Remedial Investigation (RI) and Focused Feasibility Study (FFS) Report submitted to DNREC on July 30, 2007. In follow-up to a meeting conducted on March 15, 2012 with DNREC and EPA, Stantec submitted a letter dated May 2, 2012 to DNREC and EPA to present an approach to address agency comments to the Phase II RI/FFS Report. As proposed in the May 2, 2012 letter, a Supplemental Phase II RI/FFS Report will be prepared to complete the administrative record and present a path forward by addressing outstanding agency comments and to address the agency expectations for remedial action presented at the March 15, 2012 meeting.

Baseline loading of PCBs from the Maintenance Facility was estimated using data from Outfall 002 (using the 2005 sampling program data), Outfall 007 (using one sample collected during 2006 and two samples collected in 2007), and the wastewater treatment system (using 2006 data collected in accordance with the City of Wilmington discharge permit).

In a letter to Amtrak dated July 19, 2011, DRBC requested that additional information be provided in the PMP Annual Report based on their review of prior PMP Annual Reports. Based on the previous DRBC request, this PMP Annual Report includes: 1) an estimate of the mass of PCBs removed from site activities during 2013, and 2) loading calculations from Outfall 006. This PMP Annual Report provides the information requested by DNREC for activities conducted in 2013 and updated loading calculations from Outfall 006.

DRBC has requested an estimate of PCB loading from Outfall 006 which is located in the Former Fueling Facility portion of the site. As described in the PMP, Outfall 006 is influenced by tidal backflushing from the Brandywine Creek and receives run-off from industrial properties to the east and west. A reliable and representative baseline load has not been developed for Outfall 006 because of: 1) issues related to flow estimation under tidal conditions (for reasons detailed in this PMP Annual Report), 2) PCB contributions from off-site sources and 3) PCB congener data collected prior to

implementation of erosion and sediment control measures was not collected or required. A response is presented to address DRBC's request of loading calculations for data at Outfall 006. In addition, an estimate of PCB loading from site outfalls was prepared by DNREC and presented to Amtrak in March 2012. That evaluation included an estimate of the loading of PCBs at Outfall 006 and indicated that sediment control dams in both the Eastern and Western Drainage Ditches have been effective in reducing sediment transport and PCB loading. Additional flow monitoring and sampling is planned for Outfall 006 during 2014 as part of the Former Fueling Facility Delaware VCP project.

Baseline loading was estimated for Outfall 004 (included in the PMP Annual Report for 2007) which drains to Outfall 006. The baseline loading previously estimated by DRBC was revised to include total PCBs and revised drainage area estimation. Loadings for this area were also estimated following the implementation of erosion reduction and sediment control measures.

Based on the loading estimates and baseline conditions described in this Annual Report for Outfalls 002, 004 and 007 (developed using DRBC specified procedures), the overall loading reduction from the Amtrak Wilmington Maintenance Yard is estimated to be approximately 84.5% from baseline conditions (refer to Section 6.1).

Outfalls 004 and Outfall 007 discharge to the Western and Eastern Drainage Ditches, respectively. These drainage ditches drain through Outfall 006 and to the Brandywine River. Since Outfalls 004 and 007, flow to Outfall 006 and the estimated loading at Outfall 006 is significantly less than the combined estimated loading from Outfalls 004 and 007, the PCB loading from the facility is significantly lower than estimates reported in previous PMP Annual Reports (as calculated using the loading estimates from Outfalls 004 and 007). There is no baseline loading estimate for Outfall 006 since baseline sampling from this location was not required, largely because Outfall 006 receives flow from adjacent properties and is tidal. Therefore, loading reductions are estimated using data from Outfalls where baseline loading was estimated.

As described in this PMP Annual Report, during the sampling event used to calculate annual PCB loading, storm water was draining offsite when the automated sampling devices were setup and sampling began. At some point during the 24-hour sampling period, the water in Shellpot Creek and the Brandywine River backed up. It is unclear at what point in the sampling event water in these drainage features backed up. Additional discussion and evaluation of the data is presented in subsequent sections of this PMP Annual Report.

Additional remedial and track-back investigations are planned to be performed in the Outfall 002 and 007 drainage areas during 2014 as part of the Remedial Investigation for the Maintenance Facility.

2 Facility Contact and Contact Information

Facility Name and Address:

Facility Name: Amtrak Wilmington Maintenance Yard
Address: 4001 Vandever Avenue
Wilmington, Delaware 19802

The facility location is presented on **Figure 1** and a site plan is presented as **Figure 2.**

Name and contact information for individual(s) serving as the facility contact(s) for information concerning the PMP:

Facility Contact: Andrew Enzman
Phone: 215-349-3498
Fax: 215-349-2653

The following is the current Project Team with contact information for implementation of the PMP at the facility.

NAME	AFFILIATION	POSITION	OFFICE PHONE	RESPONSIBILITY
Andrew Enzman	Amtrak	Senior Environmental Coordinator	215-349-3498	On-site Management
George Dutton, Jr.	Amtrak	Sr. Manager Mechanical Operations	302-429-6245	Executive Oversight
Steve Baggett, PG	Stantec	Environmental Consultant	610-840-2500	Environmental Controls Recommendations and Implementation
Frank Aceto, PG	Stantec	Environmental Consultant	610-840-2500	Environmental Controls Recommendations and Implementation

Date of the submittal of the PMP and the dates of any relevant correspondence:

- The PMP is dated September 28, 2005 and was submitted to DRBC on September 29, 2005
- The Notice of Completeness of the Pollutant Minimization Plan from DRBC to Amtrak was dated January 18, 2006. The Notice was received by Amtrak on approximately January 25, 2006.
- The annual report for 2006 (PMP Annual Report for 2006) was submitted to DRBC on March 22, 2007.
- The annual report for 2007 (PMP Annual Report for 2007) was submitted to DRBC on March 26, 2008.
- The annual report for 2008 (PMP Annual Report for 2008) was submitted to DRBC on March 30, 2009.
- The annual report for 2009 (PMP Annual Report for 2009) was submitted to DRBC on August 18, 2010.
- The annual report for 2010 (PMP Annual Report for 2010) was submitted to DRBC on May 27, 2011.
- The annual report for 2011 (PMP Annual Report for 2011) was submitted to DRBC on July 11, 2012.
- The NPDES permit (DE0050962) renewal became effective on September 1, 2012.
- The annual report for 2012 (PMP Annual Report for 2012) was submitted to DRBC in July 2013
- The updated PMP was submitted to DRBC on August 31, 2013 per NPDES permit (DE0050962)

Date of PMP Initiation:

Initiation of PMP-related activities began in June 2003 with the implementation of the sediment reduction and erosion control measures in the Outfall 004 drainage area.

Initiation of activities proposed in the PMP (September 28, 2005) began with the preparation of the contractor solicitation documents for the cleanout of the storm sewer system to Outfall 002. The contractor pre-bid meeting was held at the facility on February 23, 2006.

Correspondence from DRBC

In a letter to Amtrak dated July 19, 2011, DRBC requested that additional information be provided in the PMP Annual Report for CY 2011 based on their review of prior PMP Annual Reports. Specifically, DRBC requested that PMP Annual Report include (the July 19, 2011 letter from DRBC is included in **Appendix A**):

1) An estimate of the mass of PCBs removed from the site through site activities and the ongoing diesel fuel interim remedial action/recovery program in the Former Fueling Facility, and

2) Loading calculations from Outfall 006.

In response to DRBC's request, Stantec and Amtrak have reviewed site activities related to PCB removal activities and summarized PCB mass removal activities in the CY 2011 PMP Annual Report. Based on this request, Stantec and Amtrak summarized PCB mass removal activities for CY 2013 in Section 5.0 of this PMP Annual Report. In addition, loading estimates from Outfall 006 are presented in Section 6.0 of this PMP Annual Report. As has been described in previous PMP Annual Reports, because of the tidal reversal at Outfall 006 and potential off-site sources, a reliable and representative baseline load estimate from the Former Fueling Facility could not be developed. Results from Outfall 006 include contributions from properties to the east of the site, as well as along the tidal portion of Brandywine Creek, and are therefore not representative of Amtrak only property.

Per the NPDES permit renewal, effective September 1, 2012, the PMP for the facility was updated and submitted to the DRBC on August 31, 2013. At the time of the submittal of this report, the DRBC has not commented on the updated PMP.

3 Revisions to the PMP

According to section III.A.4(c) of the NPDES Permit renewal, effective September 1, 2012, an updated PMP was submitted on August 31, 2013. The updated PMP report revised the baseline loading for Outfall 002 to account for flow during dry weather. Previous calculations at Outfall 002 only accounted for PCB loading during rain events. The baseline loading estimate was recalculated to account for dry weather flow.

A conceptual schedule for PMP activities through calendar year 2014 is presented as **Figure 3**. Revisions to the schedule are described below. Discussion of the activities identified on **Figure 3** is included in the remaining sections of this PMP Annual Report. As will be described and as indicated on **Figure 3**, storm water inlet protection and other BMPs will continue to be implemented and maintained in the Maintenance Facility. Additionally, stormwater trackback sampling will be conducted in the Outfall 002 storm sewer system in order to identify potential sources of PCB loading. PCB congener sampling will also be conducted at Outfall 002 in order to determine the baseline loading of PCBs during dry weather conditions.

Maintenance Facility

Draft Remedial Investigation/Focused Feasibility Study Work Plan, Amtrak Wilmington Maintenance Facility (DE-170) (Draft RI/FFS Work Plan) was submitted to DNREC on July 28, 2008 in accordance with DNREC's Voluntary Cleanup Program (VCP). An electronic copy of the Draft RI/FFS Work Plan was included in the PMP Annual Report for 2008.

Revised RI/FFS Work Plan, Amtrak Wilmington Maintenance Facility (DE-170) (Revised RI/FFS Work Plan) was submitted on April 10, 2012 and included in the PMP Annual Report for CY2012. The Revised RI/FFS Work Plan addresses agency comments to the Draft RI/FFS Work Plan including DNREC comments (provided in their letter dated April 8, 2009) and USEPA comments [provided in electronic mail (from DNREC to Stantec) dated October 13, 2011] as well as discussions during the December 22, 2011 meeting between Stantec and DNREC to review DNREC's comments to the Draft RI/FFS Work Plan. As previously requested by DNREC, the Revised RI/FFS Work Plan was not prepared until comments were received from both DNREC and USEPA in order to address both sets of agency comments in one revised work plan. Additional agency comments to the Revised RI/FFS Work Plan were provided in a DNREC letter dated May 18, 2012 (refer to **Appendix A**).

Stantec and DNREC met on June 5, 2012 to discuss the remaining comments to the Revised RI/FFS Work Plan that were presented in DNREC's May 18, 2012 letter. In follow-

up to discussions during the June 5, 2012 meeting; Stantec, on behalf of Amtrak and APU, submitted *Revised RI/FFS Work Plan Addendum for the Maintenance Facility* dated June 6, 2012 (refer to **Appendix A**). DNREC approved the Revised RI/FFS Work Plan and Addendum in a letter dated June 8, 2012 (refer to **Appendix A**). Stantec initiated the remedial investigations in June 2012.

Former Fueling Facility

On March 15, 2012, a meeting was held at the Amtrak Wilmington Shops with DNREC, EPA, Stantec and representatives of Amtrak and American Premier Underwriters, Inc. (APU) to discuss the status of the agency review of the *Draft Phase II RI/FFS Report for the Amtrak Former Fueling Facility (FFF), Wilmington, Delaware (DE-266)* dated July 2007 (Draft Phase II RI/FFS Report). During the meeting, DNREC presented a recent review and evaluation of Site data, including: 1) *Summary of PCB Congener Data Collected at the AMTRAK Wilmington Shops* in conjunction with DRBC Pollutant Minimization Plan Requirements and DNREC NPDES Requirements (DNREC, December 5, 2011); and 2) An *Assessment of PCBs in Fish, Sediment and Surface Water within the Eastern Drainage Ditch, AMTRAK Wilmington Shops* (DNREC, February 8, 2012). In addition, DNREC presented the agency (DNREC and EPA) remedial expectations for the Former Fueling Facility.

Together with previous comment letters from EPA and DNREC and discussions during the August 2, 2011 project status meeting, the agency presentation at the March 15, 2012 meeting is considered to provide a complete set of agency comments to the Draft Phase II RI/FFS Report.

In follow-up to the March 15, 2012 meeting, Stantec, on behalf of Amtrak and APU prepared a letter to DNREC dated May 2, 2012 in order to organize and present the planned next steps for the Amtrak Former Fueling Facility project based on discussion during the meeting. Since agency comments had been provided over several years and in order to comprehensively provide a plan forward considering the agency comments and meeting discussions, the letter presented a chronologic summary of correspondence and meeting discussions pertaining to the Draft Phase II RI/FFS Report.

In the May 2, 2012 letter, Amtrak and APU proposed to prepare one comprehensive document (*Supplemental Phase II RI/FFS Report*) to complete the administrative record and present a path forward by addressing outstanding agency comments and to address the agency expectations for remedial action presented at the March 15, 2012 meeting. As also proposed in the May 2, 2012 letter, the scope of the RI and FFS for the fueling facility has been expanded to include the 35-acre drainage area for Outfall 007 to: (1) investigate the nature and extent of contamination located in approximately

two-thirds (2/3) of the Maintenance Facility (North Yard) that could potentially contribute to contamination in storm water runoff that discharges from Outfall 007 to the Eastern Drainage Ditch, which discharges from Outfall 006 to the Brandywine Creek; and (2) evaluate alternative remedies that should be considered in selecting a comprehensive remedy for the Former Fueling Facility. The scope of work proposed in the May 2, 2012 letter was approved by DNREC in their May 24, 2012 letter to Stantec. The May 2, 2012 and May 24, 2012 letters are included in **Appendix A**. The Supplemental FFS Report for the Former Fueling Facility is currently being prepared.

The NPDES permit for the Amtrak Wilmington Maintenance Facility was renewed by DNREC on September 1, 2012. Per the requirements of the NPDES permit, an updated PMP was prepared and submitted to DNREC on August 31, 2013. No comments have been provided in reference to the updated PMP report at the time this report was submitted.

4 Material and Process Modifications

No major modifications to the facility processes occurred in the reporting period or since the initial PMP Annual Report for 2006 was prepared. An overview of the facility features and surface water drainage (described in the PMP) is presented below in order to aid in the review of the discussions presented in the following sections of this PMP Annual Report. Site drainage areas and outfall locations are presented on **Figure 4**.

The Amtrak Maintenance Yard includes the Maintenance Facility and Former Fueling Facility (refer to **Figure 2**). The Maintenance Facility is located north of the Former Fueling Facility and encompasses approximately 65 acres. The Maintenance Facility is bounded to the east by the former Conrail Edgemoor Yards (now owned and operated by Norfolk Southern), to the north by Shellpot Creek, and to the west by active mainline Amtrak track. The Maintenance Facility is used for the maintenance of locomotives, rail cars, and equipment.

The current water management piping in the Maintenance Facility consists of industrial waste sewers, sanitary sewers and storm water sewers (**Figure 5**). Flows to the industrial waste sewer are routed to the industrial waste treatment building for treatment prior to discharge to the City of Wilmington Wastewater Treatment Plant under an industrial waste discharge permit issued by the City of Wilmington (City of Wilmington Department of Public Works Wastewater Discharge Permit #W-85-04). The permit requires semi-annual monitoring for PCB congeners (Method 1668A) and other parameters.

The sanitary sewers, which connect to rest room and locker room facilities, also discharge to the City of Wilmington Wastewater Treatment Plant.

Storm water flow in the Maintenance Facility is routed to Outfall 002 (which flows to the Shellpot Creek) and to Outfall 007 (which flows to the Eastern Drainage Ditch). Storm water from areas of the southwestern portion of the Maintenance Facility discharges through Outfall 004 (a catchment basin which drains to the Western Drainage Ditch). Outfall locations and drainage areas are presented on **Figure 4**. As mentioned in the PMP Annual Report for 2010, during early 2010, a portion of the northern track area of the Maintenance Facility was paved to accommodate truck traffic. Site paving activities continued through 2010 and into early 2011 in portions of the Maintenance Facility. Additionally, five storm water inlets (two of these inlets were subsequently sealed to address sediment loading to the storm sewer) were installed in the southern portion of the maintenance facility (in order to reduce the ponding of surface water

after precipitation events) with piping routed to the Outfall 007 storm sewer system (refer to **Figure 5**).

The Former Fueling Facility was used primarily to service locomotives with coal and later diesel fuel, lubricating oil and sand. Fueling operations ceased in this area in November 1995 and were transferred to a newly constructed facility (with secondary containment) north of the former roundhouse. Other operations historically performed in the Former Fueling Facility included, the staging of rolling stock and maintenance-of-way equipment, the refilling of caboose cabin heaters with kerosene and supplying steam engines with water, sand and coal as well as supplying diesel locomotives with sand. The area is currently used to stage maintenance-of-way equipment as well as other non-PCB containing equipment.

The Former Fueling Facility encompasses approximately 20 acres (refer to **Figure 2**). The Former Fueling Facility is located south of the former round house location, bounded to the east by the unnamed drainage feature (to be referred to as the Eastern Drainage Ditch), and to the west by a drainage ditch (to be referred to as the Western Drainage Ditch), which separates the Former Fueling Facility from the former Atlas Sanitation property. Both of the drainage ditches flow to the south and empty into a Confluence Area which drains to Brandywine Creek. As will be described below, the Confluence Area drains through Outfall 006.

The Former Fueling Facility is bounded to the south by the confluence of the two drainage features and 12th Street. Located immediately east of the Eastern Drainage Ditch is an open area and then an access road. On the east side of the access road is the former Conrail Edgemoor Yards, now operated by Norfolk Southern (NS), a tank car cleaning company, an asphalt plant, and a cement plant. The Western Drainage Ditch separates the Former Fueling Facility from a tract of land formerly operated by Atlas Sanitation (Delaware Voluntary Cleanup Program (VCP) Site ID DE-280). This property is currently used for the processing of recycled materials including metal goods and concrete. DNREC performed a preliminary assessment of the Former Atlas Sanitation property during 1994 and recommended that a Site Investigation be performed. No Site Investigation has been conducted based on current knowledge. As will be described below, properties to the east and west of the Site drain to Outfall 006.

The area across 12th Street to the south of the Former Fueling Facility is also industrialized and is referred to as the Brandywine Industrial Complex. Included in the Brandywine Complex is the Electric Hose and Rubber Site (Delaware VCP Site ID DE-174). PCB concentrations up to 1,970 mg/kg have been reported in soils where transformers and other equipment were located. The Brandywine Industrial Complex is currently being investigated under the direction of DNREC.

There are no operating industrial, sanitary, or storm sewers in the Former Fueling Facility. Surface water drains via overland flow to either the Eastern or Western Drainage Ditches.

Earthen dams and weirs were constructed in the early 1980's on the Eastern and Western Drainage Ditches. As indicated on **Figure 2**, Dam B was constructed in the Eastern Drainage Ditch, Dam C was constructed in the Western Drainage Ditch and the 12th Street Dam was constructed downstream of the confluence of the two drainage ditches. An additional earthen dam was historically reported in the Western Drainage Ditch downgradient of Dam C although it is no longer present. At Dam B, Dam C and 12th Street Dam corrugated HDPE piping with a downward extending 90° elbow was configured to allow drainage through the dam to occur while facilitating the skimming of oil with sorbent booms and reducing sediment and PCB transport. Based on the results of its investigations, Woodward-Clyde (1981) recommended that ponded areas associated at the site dams serve as sediment traps in order to reduce sediment transport. As described in the PMP, the integrity of Dam B, Dam C and the 12th Street Dam was upgraded between 1999 and 2001.

All of the Site outfall locations other than Outfalls 002 and 007 are located within or adjacent to the Former Fueling Facility portion of the site. As indicated on **Figure 2**, locations 001 (Dam B) and 005 (Dam C) are in the Eastern and Western Drainage Ditches, respectively, which are adjacent to the Former Fueling Facility portion of the Wilmington Maintenance Yard. Outfall 003 is a surface water location in the Eastern Drainage Ditch immediately upstream of Outfall 001 and is not considered a true outfall location. Outfall 004 is a catchment basin that drains to the Western Drainage Ditch, immediately upstream of Outfall 005. In addition to storm water from the facility, Outfall 001 (a surface water location in the Eastern Drainage Ditch) receives storm water runoff from properties to the east of the Wilmington Shops including an adjacent freight rail yard, a tank car cleaning operation, an asphalt plant, and a cement plant. Outfall 005 (a surface water sampling location in the Western Drainage Ditch) also receives storm water runoff from the scrap yard to the west of the Former Fueling Facility.

Outfall 006 (12th Street Dam) is a surface water location downstream of Outfall 001 and 005 and the confluence of the Eastern and Western Drainage Ditches. As such, Outfall 006 receives storm water from properties to the east and west of the Amtrak Facility. In addition, tidal conditions exist at Outfall 006. Surface water flow associated with the adjacent City Ditch, drainage from 12th Street and Brandywine Creek regularly backflows through Outfall 006. As such, surface water from a significant geographic area outside of the Former Fueling Facility ultimately backflows to Outfall 006 from tidal activity. **Figure 6** presents the approximate extent of the Outfall 006 Drainage Area

which is estimated to be approximately 118 acres. As indicated, the Outfall 006 drainage area encompasses the drainage areas of Outfalls 001, 003, 004, 005, and 007 as well as off-site areas.

5 Measures to Address Known, Probable, and Potential Sources

A discussion of measures to address known, probable and potential sources are provided below for the Maintenance Facility and the Former Fueling Facility. The measures are summarized on **Table 1**.

5.1 Maintenance Facility

5.1.1 MEASURES TO ADDRESS KNOWN OR PROBABLE SOURCES

As described in the PMP Annual Report for 2006, the storm water piping to Outfall 002 was cleaned during the period of August 23 through November 18, 2006. The storm water sewer cleanout was performed in order to remove sediments which have collected in the sewer. The total length of storm sewer cleaned is approximately 7,000 feet.

As also described in previous PMP Annual Reports, track-back investigations were performed in the Outfall 002 storm sewer system, the Outfall 007 sewer system, and the industrial waste sewer system. Additional sampling was performed in the industrial waste sewer during 2009 as discussed in the PMP Annual Report for 2009.

Measures to address known or probable sources performed during 2013 included continued monitoring of light non-aqueous phase liquids (LNAPL) occurrence in the vicinity of the Locomotive and Wheel Shops, the maintenance of inlet protection devices to evaluate and minimize sediment from entering the Outfall 002 and 007 storm sewer systems, maintenance of existing vegetation and hydro-seeding of exposed soil, stormwater conveyance cleaning and repair in the Transfer Table located in the Outfall 002 drainage area, paving of an area to the south of the Locomotive Shop, and surface water flow monitoring at Outfall 002 and 007. These activities are summarized below.

5.1.1.1 LOCOMOTIVE AND WHEEL SHOP AREA INVESITGATION

As mentioned in the PMP Annual Report for 2007 (dated March 26, 2008), visual observations of an oil sheen were reported in manhole MH-14 (part of the Outfall 007 storm sewer system) in the vicinity of the Wheel and Locomotive Shops. As a result, an investigation of the occurrence of LNAPL was initiated in the vicinity of Locomotive and Wheel Shops during 2007. Ten one-inch diameter monitoring wells were installed.

LNAPL was detected in four wells at apparent product thickness up to 1.56 feet (apparent product thickness is expected to be greater than the true product thickness on the water table due to capillary forces and the small well diameter). PCB aroclor analyses were performed on two of the LNAPL samples. Total PCB aroclor concentrations in the two LNAPL samples were 42 mg/kg and 30.6 mg/kg.
As mentioned in the PMP Annual Report for 2008, during 2008 additional one-inch diameter monitoring wells (piezometers; PZ-11 through PZ-25) were installed in order to further characterize and delineate the occurrence of LNAPL on the water table surface.

During April 2009, one-inch diameter monitoring wells PZ-27 through PZ-36 were installed (PZ-26, PZ-31, PZ-34, PZ-35 or PZ-37 were not installed due to refusal on subsurface debris) for further delineation of the extent of LNAPL as well as to evaluate potential LNAPL occurrence beneath the buildings. Peizometer/micro-well locations are depicted on **Figure 7**.

Also during (December) 2009, two eight-inch diameter recovery wells (NY-RW-1 and NY-RW-2) were installed using hollow stem auger well drilling techniques and constructed of PVC well materials. The wells were installed adjacent to the monitoring wells reporting the greatest LNAPL apparent product thicknesses (PZ-8 and PZ-11). The recovery wells were installed with the intention to deploy product skimming pumps in each well. However, LNAPL skimming pumps have not been deployed in these wells because a significant apparent LNAPL thickness has not been recorded in either recovery well. Recovery well locations are depicted on **Figure 7**.

During 2010 through 2013, the micro wells were gauged for depth to LNAPL and water and accumulated LNAPL manually bailed on a monthly basis. Included in **Appendix B** are hydrographs for PZ-8 and PZ-11 (the two micro-wells historically reporting the greatest apparent LNAPL thickness) and adjacent recovery well NY-RW-2. During 2013, maximum apparent LNAPL thicknesses in PZ-8 and PZ-11 were 1.39 and 1.46 feet, respectively. However, in the 8-inch diameter recovery well RW-NY-1, located adjacent to PZ-11 (within 10 feet of PZ-11), LNAPL was not detected during 2013. In recovery well NY-RW-2 located adjacent to PZ-8, the maximum apparent LNAPL thickness was 0.01 feet on November 22, 2013. The product thickness at PZ-8 during this gauging event was 0.69 ft.

An apparent LNAPL thickness map for measurements recorded on June 24, 2013 is presented as **Figure 8**. The June 24, 2013 event was selected for mapping because the hydrographs suggest this was when one of the lowest water table conditions for 2013 was recorded. As indicated on **Figure 8**, the greatest apparent LNAPL thickness was

recorded at PZ-11 (1.46 feet). All recovery wells and micro-wells will continue to be gauged monthly and accumulating LNAPL removed during 2014.

5.1.1.2 OUTFALLS 002 AND 007 INLET PROTECTION PILOT PROGRAM RETAINED SEDIMENT SAMPLING

As mentioned in the PMP Annual Report for 2010 (dated May 2011), a track-back investigation was conducted for storm water associated with the Outfall 007 storm water conveyance system. The results of the trackback were summarized in the above-mentioned report and the data was used to target specific locations for the installation of inlet protection devices.

During May 2011, a pilot inlet protection program was initiated which consisted of the installation and monitoring of inlet protection devices in the Outfall 002 and Outfall 007 storm water conveyance systems. The program was implemented to assess this technique as a BMP to reduce PCB loading in storm water. This program had been planned for late 2010; however the program was delayed due to weather conditions (and application of road de-icing materials).

During May 2011, geotextile sediment collection devices were installed in storm sewer inlets draining to the Outfall 002 and Outfall 007. On May 25, 2011 Ultra-Guard® Catch Basin Inserts were installed at twenty locations throughout the facility. These devices were installed in order to asses this technique as a BMP to address runoff from exposed soils draining to the storm sewer system (potential sources of PCB loading) and to reduce PCB loading from the site. As part of this pilot program, the sediments collected on the inlet devices were sampled for the analyses of PCB aroclors in order to asses and to locate potential areas in the vicinity of the storm sewer inlets that may be contributing to PCB loading. In addition, storm water samples were collected at Outfalls 002 and 007 during this program. The pilot program was summarized in the PMP Annual Report for 2011. The pilot program was continued during 2013. A summary of the program during CY 2013 is provided below.

5.1.1.2.1 May 2013 – Inlet Protection Summary

In May 2013, the pilot program was continued. Ultra-Guard® Catch Basin Inserts (Part #9217/9218), that had been installed in November 2012, were replaced on May 30, 2013.

After removal, the inlet protection devices were weighed on June 20, 2013. In addition, a sediment sample was collected from each device for the analyses of PCB aroclors by low-detection limit Method 8082 by Test America. Inlet protection devices were not

replaced at CB-11 and CB-16 due to the placement of equipment on the inlets. **Table 2** summarizes the mass of sediments retained, analytical results, and mass of PCBs retained. Sediment laboratory results are included in **Appendix C**. **Figure 9** presents the locations of the inlet protection devices. The sediment sample collection and analyses indicated the following:

- Dry weight of retained sediment ranged from 1.02 lbs. (462.67 g at TD-1) to 18.12 lbs. (8,219.23 g at CB-12). The total amount of sediment retained in all inlet protection devices on this event was 192.97 lbs. (87,531.19 g).
- Total PCB aroclors ranged from 0.241 mg/kg at ZD-4 (Wheel Shop zipper drain) to 7.1 mg/kg at TD-9 (locomotive yard track drain).
- The total mass of PCBs retained on the inlet protection devices during this event was estimated to be 154.98 mg based on the June 20, 2013 sampling event results.

5.1.1.2.2 November 2013 – Inlet Protection Summary

In October 2013, the pilot program was continued. Ultra-Guard® Catch Basin Inserts (Part #9217/9218), that had been installed in May 2013, were replaced on October 31, 2013.

After removal, the inlet protection devices were weighed on December 18, 2013. In addition, a sediment sample was collected from each device for the analyses of PCB aroclors by low-detection limit Method 8082 by Test America. **Table 3** summarizes the mass of sediments retained, analytical results and mass of PCBs retained. Sediment laboratory results are included in **Appendix D**. **Figure 9** presents the locations of the inlet protection devices. The sediment sample collection and analyses indicated the following:

- Dry weight of retained sediment ranged from 1.26 lbs. (571.54 g at MH-4) to 22.69 lbs. (10,292.18 g at CB-11). The total amount of sediment retained in the inlet protection devices was 207.64 lbs. (94,185.50 g).
- Total PCB aroclors ranged from 0.097 mg/kg at TD-8 (locomotive yard drain) to 23 mg/kg at Grate-NE- LS. The sample collected at Grate-NE-LS is located adjacent to an electrical transformer pad. A soil sample previously collected adjacent to the Grate (PMP-HA-2) detected Total PCB concentrations of 77 mg/kg from 0-0.5 feet bgs, 83 mg/kg at 0.5-1.0 ft. bgs, and 19.7 mg/kg at 1.5-2.0 ft. bgs.

- The total mass of PCBs retained on the inlet protection devices during this event was estimated to be 125.80 mg based on the December 2013 sampling event results.

As mentioned above, the PCB concentration and mass of sediments retained at each location was reported. A total of approximately 1,008 pounds of sediment was retained in the inlet devices through 2013 [151 pounds were retained during 2011 (one change-out event) and 456 pounds were retained during 2012 (two change-out events) and 401 pounds were retained during 2013 (two change-out events)]. The data was used to estimate the mass of PCBs that was prevented from entering the Outfall 007 sewer system. Through 2013, a total of 336.35 mg of PCBs were retained on inlet protection devices in the Outfall 007 drainage area and a total of 273.27 mg of PCBs were retained on inlet protection devices in the Outfall 002 drainage area; for a total of 714.1 mg of PCBs retained from the inlet protection program. This information will be used to focus future PCB migration minimization efforts. The inlet protection program is ongoing and the devices continue to be monitored.

5.1.1.2.3 Transfer Table Storm Sewer Cleanout and Video Inspection

As reported in the PMP Annual Report for CY2011, sediment and erosion control measures were installed on the exposed soil of the Transfer Table. Excess soil was removed from the Transfer Table and exposed soil was covered with geotextile fabric and ballast in order to prevent the mobilization of sediment to the stormwater conveyance. During the installation of the erosion and sedimentation controls, inlets were repaired as required in order to prevent additional sediment transport.

During the implementation of the erosion control measures at the Transfer Table, it was noted that significant sediment had accumulated in the stormwater conveyance system. In August 2013 the stormwater conveyance was jetted and video inspected in order to remove accumulated sediment and to determine the condition of the corrugated metal stormwater piping in the Transfer Table. **Figure 10** depicts the stormwater conveyance in the Transfer Table. The downstream piping was blocked and water was pumped from the storm sewer into a vacuum truck. The water was then transferred to a frac tank and sampled for PCBs. Filtered and unfiltered samples were submitted to Lancaster Labs for the analysis of PCBs by 8082. The total PCB aroclor concentration in the unfiltered sample was 53 ug/l of PCBs while the total PCB aroclor concentration in the filtered samples was 1.21 ug/l. The laboratory analytical report is provided as **Appendix E.** A portion of the water in the frac tank was pumped through two bag filters and discharged to the facility's waste water treatment system. Due to rainfall events during this period, approximately 11,050 gallons of water was transported

offsite for disposal. Previous sampling of the sediment in the storm sewer, conducted in February 2012 identified a total PCB concentration of 3.9 mg/kg. Sediment was collected from each of the storm sewer inlets and composited. The laboratory analytical report is also provided as **Appendix E**. Sediment, removed during the jetting operation was transferred from the vacuum truck to a roll-off container and disposed as non-hazardous waste. Approximately 8.3 tons of sediment was disposed of during the Transfer Table line jetting operation.

After the Transfer Table storm water conveyance was jetted, a video inspection was conducted in order to identify sections of the piping that require repair or further jetting. In September 2013, two sections of the pipe located on the southernmost and second southernmost pipes were repaired on the western portion of the Transfer Table. An approximate four foot section of pipe was replaced in the southernmost pipe and a hole in the top of the pipe in the second southernmost pipe was patched. **Figure 10** depicts the locations of pipe repair. Approximately 1,720 ft. of stormwater conveyance was jetted and inspected during August and September 2013

5.1.1.2.4 Outfall 002 and 007 PMP-NPDES Storm Water Sampling

Twenty-four hour storm water composite samples from Outfalls 002 and 007 were collected on November 26, 2013 as part of the PMP and NPDES sampling programs. Samples were analyzed for 209 PCB congeners (Method 1668A) and TSS. Samples collected at the outfalls on October 14, 2010 serve as baseline storm water results prior to installing the inlet protection devices.

Storm water analytical results are included on **Table 4**. These results will be discussed in Section 6.2

5.1.1.2.5 Other Sediment Reduction and Erosion Control Measures

Figure 11 depicts the locations of the previous placement of hydro-seed, stone, fabric, and silt fence. These erosion control measures were used to prevent the mobilization of sediment from exposed soil to the surface water adjacent to the facility and were maintained throughout 2013. Locations of erosion control measures were identified by the presence of PCBs in analytical data or the visual observation of scouring due to surface water runoff.

A 10,622 sq. ft. area adjacent to the east of the guard house was paved in September 2013 in order to accommodate parking at the trailer staged at that location as

depicted on **Figure 11**. The paved area covers the location of previous surface and subsurface soil sampling. As described in the March 2008 PMP Annual Report, surface samples SS-A, SS-B and SS-C were collected during 2007. The total PCB aroclor concentrations in these samples ranged from 14 mg/kg (SS-C) to 160 mg/kg (SS-A). As a result, in 2008 additional soil sampling was performed in the area of previous soil sample locations SS-A, SS-B, and SS-C. Soil samples were collected at ten locations in the Outfall 007 drainage area, PMP-HA-3 through PMP-HA-12, at depths of 0-0.5 ft., 0.5 ft.-1.0 ft. and 1.5 ft.-2.0 ft. at each location and analyzed for PCB aroclors by USEPA Method 8082. Total PCB aroclors concentrations ranged from 0.71 mg/kg at PMP-HA-4 (0.5-1.0) to 410 mg/kg at PMP-HA-7 (0-0.5). PCB aroclor results are provided on **Table 5**. **Figure 12** depicts the location and analytical results of samples previously collected in the area paved in September 2013. Laboratory analytical reports and data verification reports will be provided in the RI/FFS for the North Yard.

Additionally, the new paving covers the location where SB-43 was installed during the 2012 soil sampling event as part of the RI/FFS for the North Yard. The total PCB aroclor concentration from 0.0-2.0 ft bgs and 2.0-3.8 ft bgs was 84 mg/kg and 2.6 mg/kg, respectively (**Figure 12**). PCB aroclor results are provided on **Table 5**

During the paving operation the ground surface was raised and graded in order to drain the area to the Outfall 002 stormwater conveyance at manhole CB-15. There was no soil removed during the paving operation.

5.1.1.2.6 Outfall 002 and 007 Flow Monitoring

During November 2013, flow monitoring equipment was installed at Outfall 002 and Outfall 007 in order to determine wet and dry weather flow conditions. ISCO 2150 Area Velocity Flow Modules were installed at the base of the V-notch weir at both Outfalls and data was recorded every fifteen minutes. The modules were programmed to measure the height of water flowing over the weir. This data was used to calculate flow at each outfall.

The transducer installed at Outfall 007 malfunctioned during the November 2013 monitoring period. During periodic inspections at Outfall 007, the flow was measured manually from the V-notch weir and ranged from 2-4 gallons per minute (gpm).

The flow at Outfall 002 was measured to be approximately 35 gpm. It should be noted that during the November 26, 2013 sampling event for PCB congeners, the water level exceeded the height of the V-notch. The portion of the data that was identified to exceed the height of the V-notch was excluded from the calculation of the average

flow at Outfall 002 since it was observed that when this occurs, there is nominal flow due to tidal conditions on the Shellpot Creek. While there was flow over the weirs at Outfalls 002 and 007 when the sampling equipment was setup, upon arrival at Outfall 002 and Outfall 007, to collect the PCB sample for the PMP program, it was noted that there was no observable flow at the Outfalls. During dry weather, it was observed that the flow at Outfall 002 was approximately 30 gpm. Previous observations estimated flow at Outfall 002 to be 30 gpm. This estimate was also used to calculate dry weather loading at Outfall 002 in the updated PMP Report submitted on August 31, 2013.

5.1.2 MEASURES TO ADDRESS POTENTIAL SOURCES

As described in Stantec' s May 2, 2012 letter to DNREC (refer to Section 3.0 of this PMP Annual Progress Report), additional investigations will be performed in the Outfall 007 drainage area as part of the Revised RI/FFS Work Plan for the Maintenance Facility. Storm water and sediment sampling conducted in 2013 was discussed in Section 5.1.1.2. In addition, further track-back investigations (including storm sewer, surface water and sediment sampling) are planned for 2013 under the PMP program. These additional investigations will include:

- Outfall 002 and 007 Storm Sewer System Storm Water Flow Evaluation – water exiting the storm sewer system over the repaired weir at Outfall 007 as well as Outfall 002 will continue to be monitored periodically using a flow sensor installed at the base of the V-notch located at both weirs in order to determine dry and wet weather flow conditions and determine the contribution of groundwater base flow to the storm sewer discharge.

- Inlet Protection Pilot Program – inlet protection devices will continue to be deployed, maintained and monitored in the storm sewer manholes throughout 2014.

- Outfall 002 Stormwater Trackback – Surface water entering the storm sewer conveyance will be sampled at targeted locations during a rain event that is greater than 0.1 inches in magnitude and more than 72 hours after a previous rainfall event of 0.1 inches or greater. The data will be used to determine areas for the implementation of sedimentation and erosion control measures.

- Outfall 007 Sediment Cleanout – Sediment that has accumulated behind the weir at Outfall 007 will be removed periodically during 2014.

- Erosion Controls – Additional erosion and sedimentation controls will be installed at the existing radio tower, to the north of the new paving. Fabric and stone will be placed over exposed soil in order to prevent erosion and transport of sediment to the Outfall 002 stormwater conveyance. **Figure 13** depicts the location of proposed erosion controls in the vicinity of the Radio Tower.

- Outfall 002 Dry Weather Sampling – A Dry weather PCB congener sample will be collected in order to determine the loading of PCBs at Outfall 002 during dry weather/baseflow. The sample will be collected as a 24-hour composite sample using an automated sampler at least 72 hours after a previous 0.1 in. magnitude rain event. The data will be used in future PMP Annual Reports for dry weather loading calculations.

- Additional surface soil and subsurface soil boring data collected as part of the North Yard RI/FFS. Data for this sampling plan will be presented when all sampling has been completed.

As also described in the May 2, 2012 letter to DNREC, considering the determination that PCB loading from Outfall 007 as having a significant contribution of loading to the Eastern Drainage Ditch (identified from studies conducted after the July 2007 Draft Phase II RI/FFS Report) and the planned investigations of the drainage area for Outfall 007 (i.e. approximately two-thirds of the Maintenance Facility drains to Outfall 007), Amtrak proposed to include the data related to PCB loading from Outfall 007 in the remedial action evaluations in the Supplemental Phase II RI/FFS Report for the Former Fueling Facility.

As described in the PMP, Amtrak maintains site-specific plans for the control of storm water discharges associated with industrial activity, materials control, and spill response. These include the Storm Water Plan, the Spill Prevention, Control and Countermeasure Plan (SPCC Plan), and the Hazardous Waste Contingency Plan which were included in the PMP. These plans provide for routine inspections to identify potential spills and the procedures to respond to spills. Completed inspection forms are maintained at the facility.

5.2 Former Fueling Facility

As described in the PMP, the Former Fueling Facility (DNREC #DE-266) has been studied under the VCP. A Remedial Investigation (RI) and Focused Feasibility Study (FFS) have

been performed with DNREC oversight. The presence of PCBs in soil, surface water, sediment, and diesel fuel was characterized along with potential transport mechanisms and remedies (refer to Section 5.2.2) in accordance with HSCA guidelines. The Draft Phase II RI/FFS Report was submitted to DNREC on July 30, 2007.

As mentioned in Section 4.0, the Eastern and Western Ditches receive surface water from the Former Fueling Facility and other properties to the east and west, respectively, of the Former Fueling Facility. The Eastern Drainage Ditch receives storm water from properties to the east of the Amtrak facility including an adjacent freight rail yard, a tank car cleaning operation, asphalt plant, and a cement plant. The Western Drainage Ditch also receives surface water runoff from the scrap yard to the west of the Former Fueling Facility. These adjacent properties may be PCB contributors to the ditches adjacent to the Former Fueling Facility. As has been described, Outfall 006 (12th Street Dam) is located downstream of the Eastern and Western Drainage Ditches. As such, Outfall 006 receives storm water from properties to the east and west of the Amtrak facility as well as from tidal backflushing.

5.2.1 MEASURES TO ADDRESS KNOWN OR PROBABLE SOURCES

As described in Section 3.1.2 of the PMP, light nonaqueous phase liquids (LNAPL) consisting of weathered diesel fuel has been detected in a portion of the Former Fueling Facility. A diesel fuel remedial program was initiated in 1998 which includes the recovery of LNAPL from beneath the Former Fueling Facility. The recovered diesel fuel has been determined to contain PCBs (approximately 10 to 20 mg/kg total PCBs). As mentioned in the PMP Annual Report for 2009, during 2008 and 2009 the recovery system was expanded to include total fluids (oil and water) recovery. An air compressor, oil/water separator and total fluids pumps were deployed targeting recovery locations with an apparent LNAPL thickness of greater than 0.1 feet.

The recovered diesel fuel is stored in a 1,000 gallon above ground storage tank (AST) in the vicinity of recovery well RW-1 (refer to **Figure 14**). The 1,000 gallon AST is also equipped with an automated interstitial monitoring system.

Approximately 17,647 gallons of LNAPL were recovered since initiation of recovery operations through December 2013. Recovered diesel fuel is removed from the storage tanks as needed and incinerated at a TSCA facility. Operation of the diesel fuel remedy for the period of January through December 2013 will be documented in Diesel Fuel Oil Remedy Progress Report for CY2013.

A component of the diesel fuel remedial program is the maintenance of sorbent booms placed in the surface water features adjacent to the Former Fueling Facility. Sorbent booms are inspected by Stantec during routine maintenance visits and observations are reported to Amtrak. The Amtrak facility manages the boom replacement program.

Amtrak also installed silt fence and rip rap stone in certain areas of increased soil loss adjacent to the Eastern and Western Drainage Ditches. Hydro-seed was also placed in select areas. These BMPs were installed to reduce soil runoff (and PCB loading) to the adjacent surface water features during rain events.

5.2.2 MEASURES TO ADDRESS POTENTIAL SOURCES

Potential sources in the Former Fueling Facility were described in the Draft Phase II RI/FFS Report. As noted above, the report was submitted to DNREC on July 30, 2007.

As described in Section 3.0, on March 15, 2012, a meeting was held at the Amtrak Wilmington Shops with DNREC, EPA, Stantec and representatives of Amtrak and American Premier Underwriters, Inc. (APU) to discuss the status of the agency review of the Draft Phase II RI/FFS Report for the Amtrak Former Fueling Facility (FFF), Wilmington, Delaware (DE-266) dated July 2007.

In follow-up to the March 15, 2012 meeting, Stantec, on behalf of Amtrak and APU prepared a letter to DNREC dated May 2, 2012 in order to organize and present the next steps for the Amtrak Former Fueling Facility project based on discussion during the meeting. In the letter, Amtrak and APU proposed to prepare one comprehensive document (Supplemental Phase II RI/FFS Report) to complete the administrative record and present a path forward by addressing outstanding agency comments and to address the agency expectations for remedial action presented at the March 15, 2012 meeting. The May 2, 2012 letter is included in **Appendix A.**

5.3 Estimates of Mass of PCBs Removed

As described in Section 2.0 of this PMP Annual Report, DRBC has asked for an estimate of the mass of PCBs removed from the Site from activities such as soil, the interim diesel fuel oil recovery program, and sediment removal and other facility operations. As a result, Stantec and Amtrak reviewed facility records regarding the removal of PCBs through various PMP activities as well as other facility maintenance and construction activities during 2013.

Table 6 presents a description of each activity, an estimated total volume of material removed, the estimated average PCB concentration of the material based on available sample results and an estimate of total mass of PCBs removed from the facility during 2013. As indicated on **Table 6**, it is estimated that approximately 565,545.9 mg (1.25 pounds) of PCBs have been removed from the facility during 2013. As described in the PMP Annual Report for 2011 (July 2012) and the PMP Annual Report for 2012 (July 2013), an estimated 4,309 pounds of PCBs were removed from the facility prior to 2013. A log with PCB disposal documentation is maintained at the facility's Environmental Coordinator's office.

In a May 31, 2013 correspondence (Interim Deliverable – Supplemental FFS Report Status Update) from Stantec, DNREC was informed that the Former Roundhouse area was going to be investigated. As part of that investigation there was soil and debris removed from several pits in the Former Roundhouse area. This investigation will be documented in the Supplemental FFS Report.

6 Incremental and Cumulative Changes from the Baseline Loading

In a letter to Amtrak dated February 7, 2000, DRBC requested that wet weather samples be collected from Outfall 003 and Outfall 004. Amtrak performed three wet weather sampling events between November 2000 and March 2001 for each outfall. The validated data was submitted to DRBC on July 31, 2001. Based on this data, EPA calculated loadings from these outfalls and published the loading in Total Maximum Daily Loads for Polychlorinated Biphenyls (PCBs) for Zones 2-5 of the Tidal Delaware River (DRBC, 2003). As noted in the PMP, Outfalls 003 and 004 were selected by DRBC for the 2000 and 2001 DRBC storm water sampling program. Since these outfalls represent storm water flow from only a portion of the site, they are not appropriate for establishing baseline conditions for the site.

Because Outfalls 003 and 004 represent loadings from only a portion of the facility, in their April 19, 2005 letter to Amtrak, DRBC requested that Amtrak collect dry and wet weather samples from Outfall 006 as well as wet weather samples from Outfall 002. The PMP also indicated that baseline loadings from the Maintenance Facility will be estimated using Outfall 002 data, PCB congener data and flow data collected at the DAF Building (site waste water pre-treatment facility), and baseline monitoring was proposed at Outfall 007.

As indicated in Amtrak's March 21, 2005 letter to DRBC, the data collected at Outfall 006 is not representative of PCBs only from the Amtrak Facility due to contributions from adjacent properties and tidal back flushing through the 12th Street Dam (Outfall 006) which has been described in this PMP. In their April 19, 2005 letter to Amtrak, DRBC indicated an understanding of Amtrak's concern with PCB loadings from neighboring facilities being measured at Outfall 006. However, in their July 19, 2011 letter to Amtrak, DRBC requested the development of loading calculations for Outfall 006. Loading calculations and issues regarding baseline loading calculations at Outfall 006 are described below. Monitoring in the Former Fueling Facility will be in included in the final remedy under the Delaware VCP.

As required by NPDES permit DE0050962 effective September 1, 2012 and as proposed in the PMP, wet weather samples were collected from Outfalls 002, 006 and 007. As proposed in the PMP, samples from Outfalls 002 and 007 were 24-hour time-weighted composite samples collected using an automatic sampler. The Outfall 006 sample was a grab sample as a result of the tidal conditions. All three outfalls were sampled during wet-weather when total rainfall amounted to 0.1 inches or greater for the analysis of

PCB congeners by EPA Draft Method 1668A. Samples were collected from Outfalls 002, 006, and 007 on November 26, 2013.

The samples from Outfalls 002 and 007 were collected over a 24 hour period on a time-weighted basis using an ISCO programmable sampler. The total PCB congener concentrations in the November 26, 2013 samples from Outfall 002 were 733,555.87 pg/l and from Outfall 007 was 437,069.14 pg/l. The total PCB concentrations and rainfall amounts are summarized on **Table 4**. While water was flowing over the weir at the initiation of the sampling event, it should be noted that due to the amount of rainfall (2.51 in.) and tidal conditions, at some point during the 24-hour sampling event, the water at Outfalls 002 and 007 had risen above the weirs and there was no observable flow when the samples were retrieved. As a result the data collected is not representative of normal stormwater discharge at Outfalls 002 and 007.

Outfall 006 was also sampled on November 26, 2013. As a result of the tidal conditions at this location, a wet weather grab sample was collected on an outgoing tide, in order to fulfill the requirements for annual PCB congener sampling at Outfall 006 pursuant to the NPDES permit for the site. PCB congener concentrations detected during this event totaled 38,410.88 pg/l. Because the sample at Outfall 006 is collected as a grab sample during the first half hour of the rising hydrograph, the backflow and tidal conditions associated with the samples collected at Outfalls 002 and 007 did not affect this sample.

As will be described in Section 6.1.2.2, samples in addition to those for the NPDES permit were collected from Outfall 006 during 2013. As reported in the PMP Annual Report for 2008, flow monitoring equipment has been installed at Outfall 006 and additional sampling is planned as part of the Former Fueling Facility VCP project in order to evaluate remedial progress in the context of the regional and site-specific conditions.

Table 4 presents a summary of the dry and wet weather events from 2005 through 2013. Results from 2013 sampling events are presented in **Appendix F**. These results will be considered in the discussion below.

6.1 Loading Baseline

The calculation of the loading baseline was first described in the PMP Annual Report for 2006 and is presented below for review purposes. As will be described, the baseline loading for Outfall 007 was re-calculated because the second and third baseline sampling events were performed in 2007 (refer to the PMP Annual Report for 2007).

As requested by DRBC, wet weather samples were collected from Outfalls 002 and 006 during three occasions (September 26/27 2005, October 7/8, 2005 and October 21/22, 2005). Dry weather samples were collected from Outfall 006 on three occasions (June 24, 2005, August 23, 2005, and October 6, 2005). The samples were collected in accordance with the methods described in the May 31, 2005 correspondence to DRBC and the PMP. This data was previously provided to DRBC in the format that was requested.

6.1.1 MAINTENANCE FACILITY

As described in the PMP, PCB congener results from Method 1668A for three sets of data from Outfall 002 and Outfall 007 as well as data for the discharge from the waste water treatment system will be included in the estimation of the total baseline load from the Maintenance Facility.

6.1.1.1 WASTE WATER TREATMENT SYSTEM

Baseline loadings from the DAF Building (waste water treatment system) were estimated from PCB congener (Method 1668A) data collected by Amtrak during 2006 and flow measurements recorded by Amtrak during 2006. Water samples were collected on March 8, 2006 and September 26, 2006. The average concentration from these two events was used. The total PCB load from the waste water treatment system is estimated to be 52 mg/day for 2006. This estimated loading is based on an average total PCB congener concentration of 1,224,106 pg/l and total volume of 4,158,580 gallons for the year. Baseline loading calculations for the waste water treatment system and supporting data were included in Appendix D of the PMP Annual Report for 2006.

6.1.1.2 OUTFALL 002

Baseline loading at Outfall 002 was estimated using the composite runoff curve number (CN) for the Outfall 002 drainage area, the average of the total PCB congeners from the three wet weather events described above, and daily precipitation data for 2005 (the year in which the baseline samples were collected). Since discharge at Outfall 002 is from facility storm water piping, dry weather discharge at Outfall 002 was assumed to be negligible. However, the baseline loading at Outfall 002 was recalculated in the updated PMP Report submitted in August 2013. It was assumed that the average dry weather flow at Outfall 002 was 30 gpm based on measurements collected from a weir

constructed at Outfall 002. As discussed in Section 5.1.1.2, the flow at Outfall 002 was measured during November 2013 with an ISCO 2150 Area Velocity Flow Module. According to calculations from the data collected with the flow meter, the average flow at Outfall 002 during dry weather was 30 gpm. The baseflow was estimated using a flow of 30 gpm and a PCB concentration of 75,010.07 pg/l based on a dry weather sample collected on October 9, 2009. The baseline loading to the Shellpot Creek from Outfall 002 was recalculated adding the baseflow into the calculation for the three events in 2005 used to determine a baseline loading number for PCBs.

The runoff coefficient is a weighted average of coefficients for cover types based on aerial extent within the drainage basin. As indicated, the drainage area for Outfall 002 was estimated to be 16 acres for the baseline loading calculations. The baseline loading for Outfall 002 is estimated to be 119.7 mg/day (includes the estimated baseflow loading). Baseline loading calculations for Outfall 002 are presented in **Appendix G**.

The Outfall 002 drainage area was re-evaluated for the PMP report submitted in August 2013. Due to site modifications and upgrades the drainage area was adjusted to reflect current site conditions. The drainage area was calculated to be 15 acres. The drainage area was previously calculated to be 16 acres, prior to site modifications and upgrades. The composite runoff coefficient was not changed from 0.93 in order to remain consistent with previous loading calculations. **Table 7** presents drainage area characteristics for Outfall 002 (as well as Outfall 004 and 007). The change in the drainage area is reflected in the runoff calculations provided in this PMP Annual Report.

6.1.1.3 OUTFALL 007

The PMP dated September 2005, indicated that the baseline loading from Outfall 007 would consider three sets of wet weather PCB congener (method 1668A) results. However, only one set of data (December 1, 2006) was available when the PMP Annual Report for 2006 was prepared. As mentioned, additional samples were collected from Outfall 007 on July 11 and 12, 2007 and September 11 and 12, 2007. Since the discharge from Outfall 007 is also from facility storm water piping, the method of baseline load calculation is the same as that described for Outfall 002; however, baseflow (2 to 4 gpm) at Outfall 007 is considered to be negligible.

The average total PCB congener concentration from the three baseline sampling events was 655,932 pg/l. The baseline loading for Outfall 007 is estimated to be 229.5

mg/day. Baseline loading calculations for Outfall 007 were presented in Appendix H of the PMP Annual Report for 2007. Loading calculations are provided in **Appendix H**.

As described in Section 4, there were some modifications to the Outfall 007 sewer system (new paving and surface water inlets) during 2010 and 2011 in order to reduce surface water ponding. The runoff calculations for the Outfall 007 drainage area were re-evaluated due to the site modifications The Outfall 007 drainage area was calculated to be 29.1 acres (previously 30 acres). The runoff coefficient of 0.824 was not recalculated to be consistent with previous loading calculations. The change in drainage area will be reflected in future runoff calculations provided in the PMP Annual reports.

Table 8 presents a summary of the estimated baseline loading from the Maintenance Facility. As indicated the estimated revised baseline loading from Outfall 002, Outfall 007 and the wastewater treatment facility is 401.4 mg/day.

6.1.2 OUTFALL 006 DRAINAGE AREA

As described in Section 4.0, Outfall 006 receives storm water flow from Outfalls 001, 003, 004, 005 and 007; as well as off-site areas and is not representative of Amtrak's storm water discharge. DRBC has previously estimated baseline loadings at Outfall 004. However, based on review of the method of DRBC's calculation and revised drainage area measurements, revised estimated baseline loadings (for total PCBs) at Outfall 004 were presented in the PMP Annual Report for 2006 and are described below. Also described are issues relating to the limitations associated with estimating a baseline load at Outfall 006.

6.1.2.1 OUTFALL 004

In the 2003 DRBC TMDL document (DRBC, 2003), DRBC estimated the loading at Outfall 004 to be 35.822 mg/day (for penta-PCB congeners). Subsequently, DRBC provided Stantec (formerly SECOR) with information pertaining to the calculation of the loading provided in the DRBC document. These procedures are provided below.

- DRBC assumed that Outfall 004 was fed by groundwater during dry periods based on approximately four site visits when flow was observed at Outfall 004 when no or little rain had fallen during the preceding few days.

- As a result, the flow at Outfall 004 was estimated for wet (precipitation was greater than 0.1 inch per day) and dry days based on daily stream gauge measurements on Shellpot Creek. A stream flow to drainage area ratio for the Shellpot Creek was applied to the Outfall 004 drainage area (at the time estimated to be 5 acres).

- The assumed wet weather penta-PCB concentration was 2,475,000 pg/l based on the average three wet weather sampling events. The dry weather penta-PCB concentration 2,556,000 pg/l (DRBC believes this value came from DNREC for groundwater; this source has not been verified). However, it appears that the assumed wet and dry weather concentrations were switched in DRBC's calculation.

- For each wet weather day (greater than 0.1 inch of precipitation), the wet weather concentration was multiplied by the flow calculated using the flow/drainage area ratio from the Shellpot Creek gauge; for dry weather days, similar calculations were performed using the assumed dry weather concentration. The loadings for dry weather days and wet weather days were then added to estimate the loadings.

Using DRBC's method of calculation, a revised baseline loading estimate was performed for total PCBs (83 congeners). In this revised calculation the following variables were modified:

- A average wet weather total PCB concentration of 22,033,557 pg/l (the average total for the 83 congeners analyzed in the 2000 to 2001 sampling event) and a dry weather total PCB concentration of 22,754,655 pg/l (estimated by adjusting the wet weather data by the same wet weather to dry weather dry weather ratio used by DRBC), and

- A drainage area of approximately 11 acres (revised from the 5 acres used by DRBC based on site reconnaissance).

Based on these revised parameters, the estimated baseline loading is 698 mg/day.

Observations made by Stantec and Amtrak during routine inspections are that flow at this outfall is only as a result of rain events, revised baseline loading calculations were performed. Baseline loadings were also estimated for Outfall 004 by using the CN (estimated to be 72) at the time, precipitation data for the period September 1, 2001 through March 31, 2003, and a drainage area of approximately 11 acres. Total runoff

was estimated for wet weather days (precipitation of 0.1 inch or greater). Based on this method of flow estimation and an average wet weather PCB concentration of 22,033,557 pg/l, the estimated total PCB loading (83 congeners) was 1,719 mg/day.

Revised Outfall 004 loading calculations were presented in Appendix F of the PMP Annual Report for 2006 dated March 22, 2007.

6.1.2.2 OUTFALL 006

As mentioned in the PMP, due to the tidal reversal at Outfall 006 and potential off-site sources, a reliable and representative baseline load estimate from the Former Fueling Facility has not been developed. Results from Outfall 006 include contributions from properties to the east of the site, as well as along the tidal portion of Brandywine Creek, and are therefore not representative of Amtrak only property. Progress of minimization efforts in the Former Fueling Facility will be evaluated as part of the Delaware VCP project.

As mentioned previously, in their July 19, 2011 letter to Amtrak, DRBC requested the development of loading calculations for Outfall 006. We have attempted to be responsive to DRBC's request and have provided a theoretical loading calculation based on tidal flow and sampling data. However because the offsite influences stated previously, the theoretical calculation is not representative of PCB loading derived solely from the facility. Theoretical loading calculations for Outfall 006 are presented in Section 6.2.2.2 of this PMP Annual Report. However, baseline loading calculations for Outfall 006 cannot be provided since PCB congener data was not collected prior to the erosion and sediment reduction measures implemented in the 11 acre Outfall 004 drainage area (which drains to Outfall 006) during 2003 and 2004 (refer to the PMP for documentation of the Outfall 004 erosion control and sediment reduction measures).

As described in Section 4.0, Outfall 006 is located at the 12th Street Dam outlet piping. The 12th Street Dam is constructed with sheet piling on both sides. Three corrugated HDPE pipes, with downward extending 90° elbows on the upstream side to allow water flow through the dam while facilitating oil skimming with sorbent booms and reducing sediment transport. Tidal conditions exist at the dam location. Water from the 12th Street Dam and a City of Wilmington drainage ditch are routed underneath 12th Street through two drainage pipes to the Brandywine Creek. This location is tidal and receives drainage from other areas in addition to the Amtrak facility.

As mentioned in the PMP Annual Report for 2008, electronic flow metering equipment was installed at Outfall 006. Sensors were installed in each of the three pipes at Outfall 006 and were connected to an electronic data logging device. The flow metering equipment installed is capable of recording flow from and on to the site as a result of the tidal conditions. The flow data collected to date demonstrates the tidal conditions at Outfall 006 (refer to Appendix F of the PMP Annual Report for 2008).

In addition, it has been observed that when the stage of the Brandywine River is high, water is not allowed to drain under 12th Street; water is backed up behind 12th Street, backflows, overflows and flows onto the site. Based on these observations and the tidal conditions, methods of estimating storm water discharge described previously for other outfalls, do not apply to this location. Also, the area between Outfall 006 (12th Street Dam) and Brandywine Creek is a collection area for drainage from other properties (including the Brandywine Industrial Complex and the Electric Hose and Rubber Site – refer to Section 4.0) as well as from tidal backflushing from the Brandywine Creek, Christina River and Delaware River.

In addition to the wet weather grab sample collected on November 26, 2013 discussed above, several samples were collected from Outfall 006 during 2013 for the analyses of PCB congeners by Method 1668A. As indicated on **Table 4**, dry weather, 6-hour composite samples were collected on January 3, 2013, June 25, 2013, October 4, 2013, and November 7, 2013. There were no dry weather grab sample collected from water flowing on to the site or wet weather 6-hour composite samples collected of water flowing off of the site during 2013.

As a result of issues with quantifying a representative baseline flow through Outfall 006 and collecting representative samples that accurately measure progress, as well as off-site sources, a reliable and representative baseline load has not been developed for Outfall 006. During 2014 additional surface water flow monitoring will be performed and surface water samples will be collected.

6.2 Baseline Loading Reduction – Direct Measurement

As described in Section 6.1, baseline conditions were established for the Maintenance Facility. Baseline conditions for Outfall 004 were also re-calculated in the PMP Annual Report for 2006. Measured changes relative to the baseline conditions are described below.

6.2.1 MAINTENANCE FACILITY

The baseline loading for Outfalls 002 and 007 was estimated to be 119.7 mg/day (based on the updated PMP Report, dated 2013) and 229.5 mg/day, respectively (refer to Section 6.1.1.2). The loadings for the 2013 sampling event were estimated using:

- The same calculation method as described in Section 6.1.1.2 (for baseline loading)
- Daily precipitation data for 2013
- November 26, 2013 wet weather sampling results for Outfall 002 and 007

Using the parameters described above, the estimated load for 2013 from Outfall 002 is 38.9 mg/day (refer to **Table 9**). This is a decrease of approximately 67.5% from baseline conditions. Outfall 002 loading calculations for 2013 are included in **Appendix G**.

The estimated load for 2013 from Outfall 007 is 272.6 mg/day. This is an increase of approximately 19.8% from baseline conditions. Outfall 007 loading calculations for 2013 are included in **Appendix H**.

As previously mentioned, stormwater was flowing over the V-notch weir at Outfalls 002 and 007 when the sampling equipment was setup. At some point during the 24-hour sampling event, the water backed up and there was no flow over the V-notch weirs at Outfalls 002 and 007. Stormwater samples at Outfall 002 and Outfall 007 were not representative of normal stormwater discharge during this event.

Loading from the wastewater treatment system was estimated from PCB congener (Method 1668A) data collected during 2013 and flow measurements recorded by Amtrak during 2013. Water samples were collected on February 28, 2013 and November 7, 2013 (refer to **Appendix I**). The average concentration from these two sampling events was used. The loading is based on an average total PCB congener concentration of 1.339 ug/l (1,339,011.69 pg/l) and a total volume of 2,542,390 gallons. The total PCB load from the wastewater treatment system is estimated to be 35.3 mg/day for 2013. This is a decrease of approximately 32.1% from baseline conditions. Loading calculations for the waste water treatment system and supporting data is included in **Appendix I**.

6.2.2 OUTFALL 006 DRAINAGE AREA

6.2.2.1 OUTFALL 004

As described in Section 6.1.2.1, and first discussed in the PMP Annual Report for 2007, a revised baseline loading was calculated for Outfall 004. After the implementation of erosion and sediment reduction controls in the Outfall 004 drainage area, three wet weather sampling events were completed. The following parameters were assumed in estimating the loading following the implementation of the controls:

- Average total PCB congener concentration of three post-controls sampling events was 1,558,250 pg/l,
- CN is 66.61 (this was reduced from 72 in pre-control implementation calculations due to increased vegetative cover), and
- Yearly precipitation data for 2004

Based on these parameters, the post-control loading is estimated to be 176 mg/day using the parameters described above. However, when using the precipitation data for the period September 1, 2001 through March 31, 2003 (as used in the baseline loading), the loading was estimated to be 112.5 mg/day. The use of the same precipitation data as used in the baseline loading calculations allows for the evaluation of changes attributed to PCB concentrations and cover type, rather than variability in precipitation. It is noted that the baseline loading calculations were based on the analyses of 83 congeners while the post-control measures calculations are based on the analyses of all 209 congeners. Therefore, the loading reduction is likely greater than that estimated.

Table 9 provides a summary of the estimated changes from baseline loading from the Amtrak Wilmington Maintenance Yard. As indicated, assuming the baseline loading from Outfall 002, Outfall 007, the wastewater treatment plant and the pre-control estimate for Outfall 004 (1,719 mg/day) a reduction of 84.5% from the baseline loading calculations was estimated when compared to the 2013 loading estimates for Outfall 002, Outfall 007, and the wastewater treatment plant and the post-control estimate for Outfall 004 (112 mg/day).

6.2.2.2 OUTFALL 006

As requested by DRBC in their July 19, 2011 letter, a response pertaining to the loading estimate is described for Outfall 006. We have attempted to be responsive to DRBC's request and have provided a theoretical calculation based on tidal flow and sampling data. However, because of the off-site influence stated previously the theoretical calculation is not representative of PCB loading derived solely from the Amtrak facility at Outfall 006. As mentioned in previous PMP Annual Reports, electronic flow metering equipment was installed at Outfall 006. Sensors were installed in each of the three pipes at Outfall 006 and were connected to an electronic data logging device. The flow metering equipment installed is capable of recording flow from and on to the site as a result of the tidal conditions. The flow metering equipment was set to record flow at 15 minute increments. The flow data collected to date demonstrates the tidal conditions at Outfall 006.

The following data were used in order to theoretically calculate an average daily PCB loading.

- All flow data recorded at Outfall 006 from March 2008 through December 2013 was averaged. Since there is flow on to and from the Site, the average flow was assumed as the net outgoing flow rate. Also, since there is not a complete log for all dates from March 2008 through December 2013, the average of all available data was used. The average flow rate used in the calculations was 135.5 gpm, and

- Since there is flow from Outfall 006 during wet weather and dry weather conditions, the mean of the average of the wet weather congener data (78,686.87 pg/l) and the average of the dry weather congener data (73,634.87 pg/l) collected from March 2008 through December 2013 was assumed in the theoretical calculations. A total PCB congener concentration of 76,160.9 pg/l was used in the calculations.

Assuming an average flow rate of 135.5 gpm and an average PCB concentration of 76,160.9 pg/l; the theoretical daily loading was calculated at 56.3 mg/day (refer to **Appendix J** for Outfall 006 loading calculations and supporting data). As has been described in the PMP as well as this and previous PMP Annual Reports, Amtrak is not the only source contributing to the PCB loading at Outfall 006 and the above theoretical calculation is not representative of PCB loading derived solely from the Amtrak facility at Outfall 006.

As described in Section 4.0 of this PMP Annual Report, Outfall 006 (12th Street Dam) is a surface water location downstream of Outfall 001 and 005 and the confluence of the

Eastern and Western Drainage Ditches. As such, Outfall 006 receives storm water from properties to the east and west of the Amtrak Facility. In addition, tidal conditions exist at Outfall 006. Surface water flow associated with the adjacent City Ditch, drainage from 12th Street and Brandywine Creek regularly backflows through Outfall 006. As such, surface water from a significant geographic area outside of the Former Fueling Facility ultimately backflows to Outfall 006 from tidal activity. This includes not only properties immediately adjacent to the Amtrak facilities but also properties which drain to the tidal Brandywine Creek. As indicated on **Table 4**, the average concentration of PCBs in surface water flowing on to the Site through Outfall 006 is 29,738 pg/l.

In *Summary of PCB Congener Data Collected at the AMTRAK Wilmington Shops in conjunction with DRBC Pollutant Minimization Plan Requirements and DNREC NPDES Requirements (December 5, 2011)* DNREC provided estimates of mean daily loads for Outfall 002, 006, and 007 using data collected at Outfall 006 provided in the PMP and in previous PMP Annual Reports (from 2005 through 2010). Mass loading estimates for Outfall 002 and 007 assumed that daily loads only occurred during measurable precipitation events and estimates of daily rainfall intensity, a runoff coefficient and the surface water drainage areas. For Outfall 006, DNREC assumed that flow also occurred during dry events (estimates of baseflow were made) and made corrections to account for tidal conditions. The mean daily loadings calculated by DNREC (for the period 2005 through 2010) are summarized below.

- Outfall 002 – 94.3 mg/day,
- Outfall 006 – 39 mg/day, and
- Outfall 007 – 161 mg/day.

The calculations were performed by DNREC and included in the PMP Annual Report for 2011. The data suggest that the Eastern Drainage Ditch and Dam B located within the Eastern Drainage Ditch reduce sediment transport and contribute to the reduction of PCB concentrations from Outfall 007 to Outfall 006 (which is located downgradient of Outfall 007). In addition, the PCB loading at Outfall 006 estimated by DNREC and presented in the PMP Annual Report are also lower than the post-sediment reduction and erosion control measures loading estimated for Outfall 004 (also downgradient of Outfall 004) of 112 mg/day suggesting that the Western Drainage Ditch (and Dam C) also functions to reduce PCB loading.

The estimated loading presented for Outfall 002 and 007 and the wastewater treatment system can be gauged against baseline loading estimates for those locations. Because Outfall 006 receives stormwater runoff from Outfalls 004 and 007 as well as from offsite

sources, a baseline loading estimate has never been developed. The loading estimate presented in this PMP Annual Report indicates that the estimated loading of PCBs from Outfall 006 to the Brandywine River is significantly lower (56.2 mg/day) than when compared to loading estimates from Outfalls 004 and 007 (249.6 mg/day). The total loading estimate for the facility for 2013 (Outfalls 002, 004 and 007 and the wastewater treatment system) is 323.8 mg/day (**Table 9**). When the loading estimate for Outfall 006 is used for the total PCB loading for the facility, the estimated loading from Outfall 002 and 006 and the Wastewater Treatement System is 130.4 mg/day (**Table 9**).

6.3 Baseline Loading Reduction – Other Measures of Progress

6.3.1 MAINTENANCE FACILITY

Several reduction/minimization measures were described in the PMP for the Maintenance Facility which were not quantified through storm water sampling. These include:

- Stationary transformers containing PCB fluids were removed by Amtrak by 1983. These fluids were incinerated at an EPA-approved facility.
- Metroliner and locomotive transformer dielectric fluid retrofilling activities were performed in the 1970's and 1980's.
- The PCB fluids removed as a result of the retrofilling of the locomotive and Metroliner transformers were incinerated at an EPA-approved facility.
- The use of E-60 locomotives (refer to PMP for discussion) has been phased out.
- The PCB fluids drained from the transformers in locomotives and Metroliners that were taken out of service were incinerated at an EPA-approved facility. The transformers removed from the locomotives and Metroliners were cleaned and disposed at an EPA-approved landfill.
- The Maintenance Facility sewer systems were reconfigured in the 1980's (refer to Section 3.2 of the PMP).

- Work pits below cars and locomotives were sealed in the 1980's and connected to the industrial sewer system.

- Asphalt or concrete paving was placed on road surfaces and parking area reducing the area of uncovered soils.

- Street/roadway sweeping is performed periodically reducing sediments/dirt on road surfaces.

- Amtrak has performed several soil excavation (and off-site disposal) activities in the Maintenance Facility. Several of these have been identified in the January 31, 2001 response to DRBC's request to Amtrak for facility information.

Additional, periodic maintenance, construction projects, and facility upgrades have been performed and are summarized in **Table 10**, where PCB material have been removed from the Site.

6.3.2 FORMER FUELING FACILITY

Previous PCB minimization activities performed in the Former Fueling Facility include the installation and maintenance of dams to control sediment and oil transport as well as the diesel recovery operations. These activities are described below.

Status of the diesel fuel remedial program through 2013 was discussed in Section 5.2.1. Approximately 17,647 gallons of diesel fuel has been recovered through December 2013. In addition, diesel fuel has been recovered from sorbent booms maintained in the Eastern and Western Ditches and in the Confluence Area. Operation of the diesel fuel remedial program is ongoing and it is expected to be a component of the overall site remedy under Delaware's VCP.

As mentioned in Section 4.0, earthen dams and weirs were constructed in the early 1980's in the Eastern and Western Drainage Ditches and at the 12th Street Dam to control potential oil seepage and trap sediments. These dams reduce sediment and PCB transport from the Eastern and Western Drainage Ditches, as demonstrated by recent PCB loading estimates provided in this PMP Annual Report. The integrity of Dam B (Outfall 001) and the 12th Street dam (Outfall 006) were upgraded in 1999. Dam C (Outfall 005) was upgraded in 2001. The construction of these dams was discussed in the PMP.

7 Tabular Summary

Tables 8 and **9** present a summary of the progress in the reduction of PCB loadings from the Amtrak Wilmington Maintenance Shops to the Delaware estuary. As indicated, overall the loading estimated to have been reduced by approximately 84.5% from baseline conditions for the entire facility using the methods of measurement described in Section 6.0.

8 References

Delaware Department of Natural Resources and Environmental Control (DNREC), December 5, 2011, Summary of PCB Congener Data Collected at the AMTRAK Wilmington Shops in conjunction with DRBC Pollutant Minimization Plan Requirements and DNREC NPDES Requirements

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Stantec Consulting, August 2010, Pollutant Minimization Plan for Polychlorinated Biphenyls,

Stantec Consulting, August 2013, Pollutant Minimization Plan of Polychlorinated Biphenyls Amtrak Wilmington Maintenance Yard

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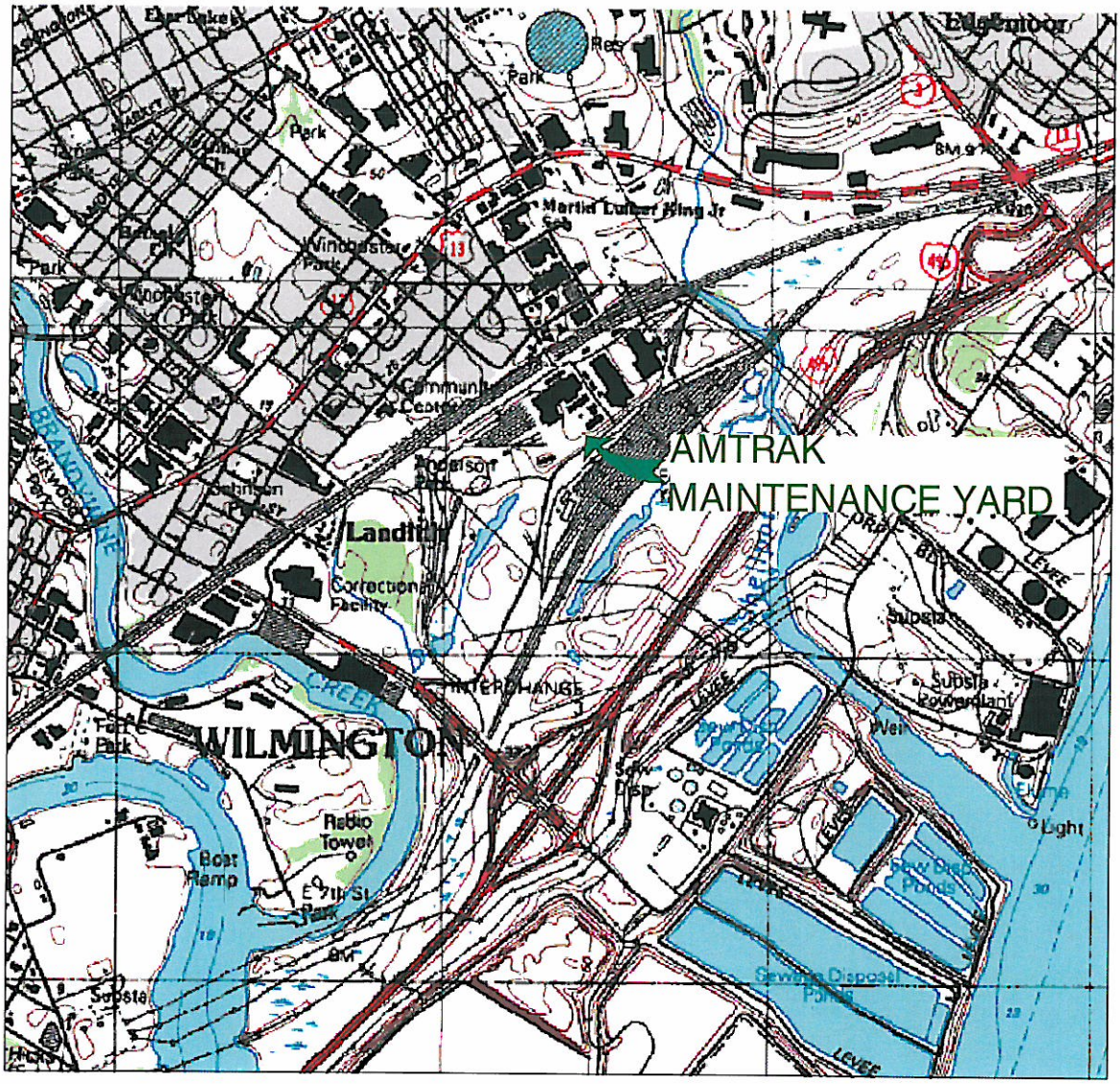
FIGURES



QUADRANGLE LOCATION

N

0 1/4 1/2

MILES

REFERENCE: USGS 7.5 MINUTE QUADRANGLE; WILMINGTON SOUTH, DELAWARE/PENNSYLVANIA , 1997

Stantec
1060 ANDREW DRIVE, SUITE 140
WEST CHESTER, PENNSYLVANIA 19380
PHONE: (610) 840-2500/840-2501 (FAX)

FOR:				FIGURE:
AMTRAK FORMER FUELING FACILITY 4001 VANDEVER AVENUE WILMINGTON, DELAWARE		**AMTRAK MAINTENANCE YARD**		**1**
JOB NUMBER:	DRAWN BY: TFB	CHECKED BY: SB	APPROVED BY:	DATE: 6/15/2012

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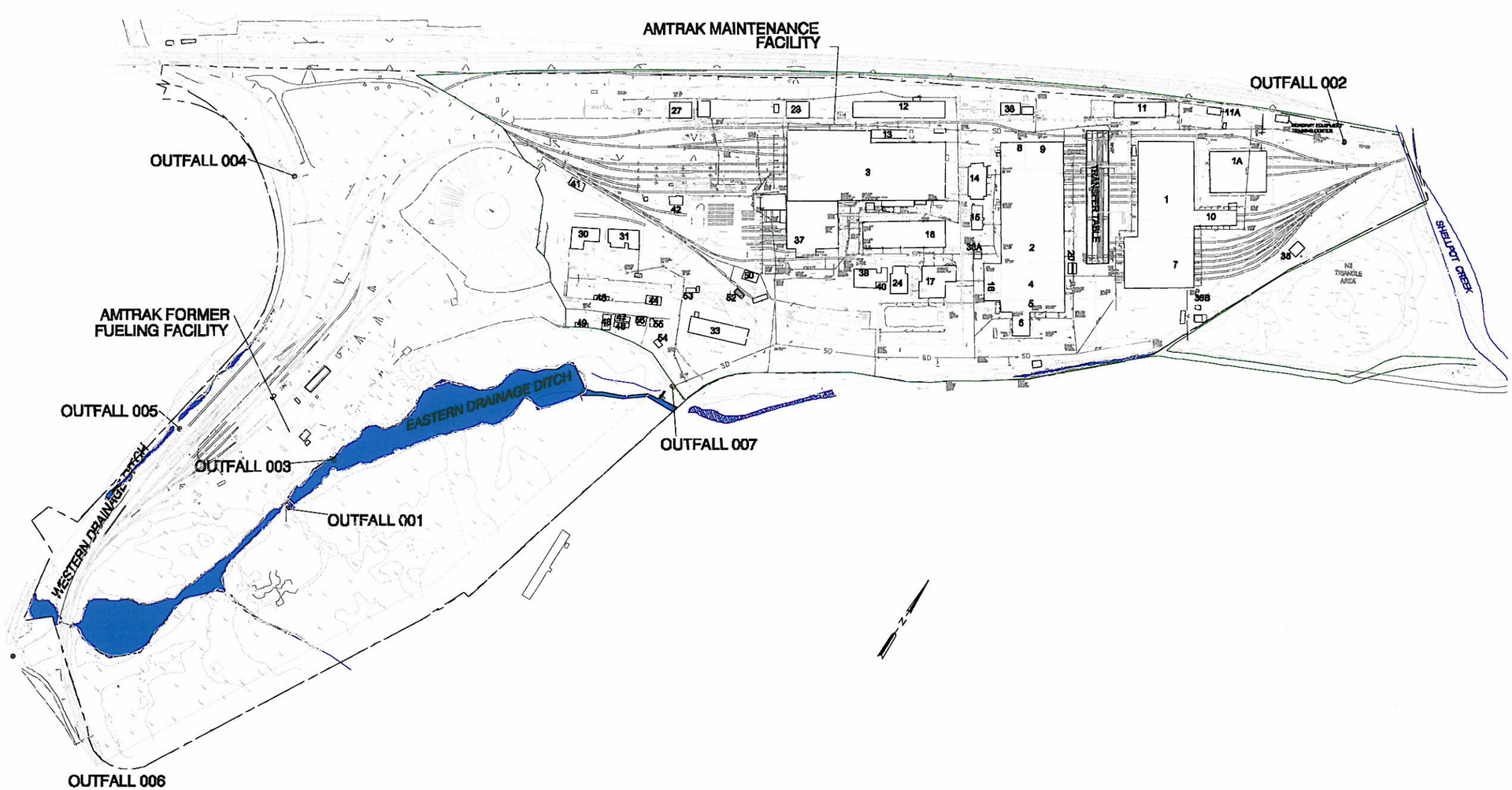

BUILDING LEGEND

No.	Building
1	Roadway Equipment
1A	Component Shop
2	Roadway Equipment
3	Locomotive Shop
4	Electric Shop
5	Card Room (2nd Floor/Electric Shop)
6	Bake Shop (Electric Shop)
7	Oxygen & Acetylene Tank Storage
8	Maintenance Shop
9	Freg Shop (Roadway Equipment)
11	Roadway Equipment Storage
12	Administration Building
13	Metal Storage
14	Midway Locker Room
15	Material Control/Foremen's Locker Room
16	Blacksmith/Brake Shop
17	Power House
18	Receiving Patio (Electric Shop)
19	High Speed Training Center
20	Receiving (Material Control Department)
23	Loco Shop Lunch Room/T & E Sign-up
24	Waste Oil Storage
25	Fueling Area/Lube Oil
27	Oil House (Material Control)
29	Locomotive Test Center
30	B & B (Building & Bridge) Department
31	B & B (Building & Bridge) Department
32	Roundhouse
33	M of W Offices (C & S, E T, Track Depts)
35	Water/Fire Pump House
35A	Mechanical
36B	AMC Compressed Gas Storage
37	Wheel Shop
38	DAF Pollution Building
39	Hazard Waste Drum Storage
40	Storage
41	B & B (Building & Bridge) Department
42	New Inspection Shed
44	Material Management
45	Material Management
46	C&S Comm
47	C&S Comm
48	C&S Signals
49	C&S Signals
50	Track Dept. Mechanic
51	ET Repair and Parts
52	Engineering Oil Storage
53	Compressed Gas Storage
54	ET Storage Shed
55	ET Repair Office
56	C&S Radio Room

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Legend

X 90.00	SPOT GRADES
97	CONTOURS
	BOLLARD
	LIGHT POLE
SS — S — SS	SANITARY SEWER W/ M.H.
ST — SD	STORM SEWER M.H. WITH DRAIN
ST — D — SD	STORM SEWER W/M.H.
IW	INDUSTRIAL WASTE LINE
W	WATER LINE

Notes

1. This Plan is based on an Aerial Survey performed by Stantec Consulting Services, Inc., flown on February 24 2009. Storm Drain detail verified by ground Survey in August of 2009.

3. BM= 10.27 = Nail Set in front of Administration Building 12 as shown on Plan . Vertical Datum is USGS NAVD 1988

4) Utility information from surface evidence observed in the field, together with reference plans . All utility locations and depths shall be field verified prior to Construction

5). Based on Flood Insurance Rate Map 10030C0160J , A portion of this parcel Parcel lies within Zone "AE" ; Base Flood Elevation Determined at Elevation 9, (NAVD 1988) ; a portion lies within the Zone "X" defined as areas of 0.2% annual chance flood (see flood map for additional notes) and a portion lies within the Zone "X" defined as areas outside the 0.02 % chance of floodplain, from Map Dated January 17, 2007.

ISSUED FOR BIDDING			
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Seal

Client/Project

AMTRAK

WILMINGTON MAINTENANCE YARD

WILMINGTON, DE

Title

SITE PLAN

Project No. 213402048

Scale 0 180 360 APPROXIMATE SCALE IN FEET

Drawing No. 2

Sheet

Revision

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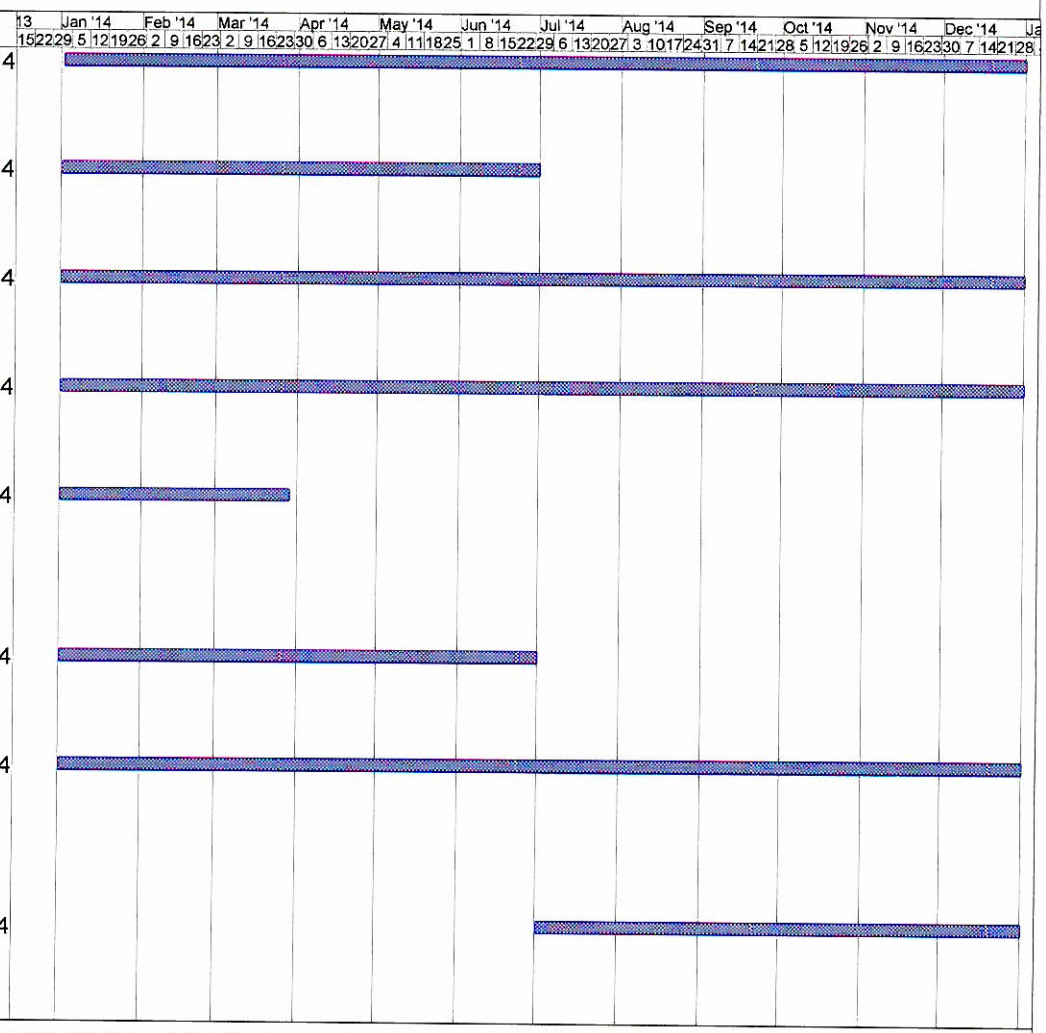
ORIGINAL SHEET - ANSI D

Figure 3 Conceptual PMP Schedule for 2014
AMTRAK Maintenance Yard
Wilmington, Delaware

ID	Task Name	Start	Finish
1	Monitor and Maintain Inlet Protection BMPs	Thu 1/2/14	Wed 12/31/14
2	Perform Outfall 002 Stormwater Track-Back Investigations	Wed 1/1/14	Mon 6/30/14
3	Implement RI/FFS Work Plan for the Maintenance Facility	Wed 1/1/14	Wed 12/31/14
4	Perform Sediment Clean-out at Outfall 007 Weir Location	Wed 1/1/14	Wed 12/31/14
5	Prepare the Supplemental RI/FFS Report for the Former Fueling Facility	Wed 1/1/14	Fri 3/28/14
6	Install E&S BMPs in the Vicinity of the Radio Tower	Wed 1/1/14	Mon 6/30/14
7	Perform Outfall 002, 006 and 007 Monitoring in Accordance with the NPDES Permit	Wed 1/1/14	Wed 12/31/14
8	Implement Additional Measures as Determined Necessary	Tue 7/1/14	Wed 12/31/14



Project: PMP Schedule 2014 AMTRAK

Task		External Tasks		Inactive Summary		Start-only	
Split		External Milestone		Manual Task		Finish-only	
Milestone		Inactive Task		Duration-only		Progress	
Summary		Inactive Task		Manual Summary Rollup		Deadline	
Project Summary		Inactive Milestone		Manual Summary			

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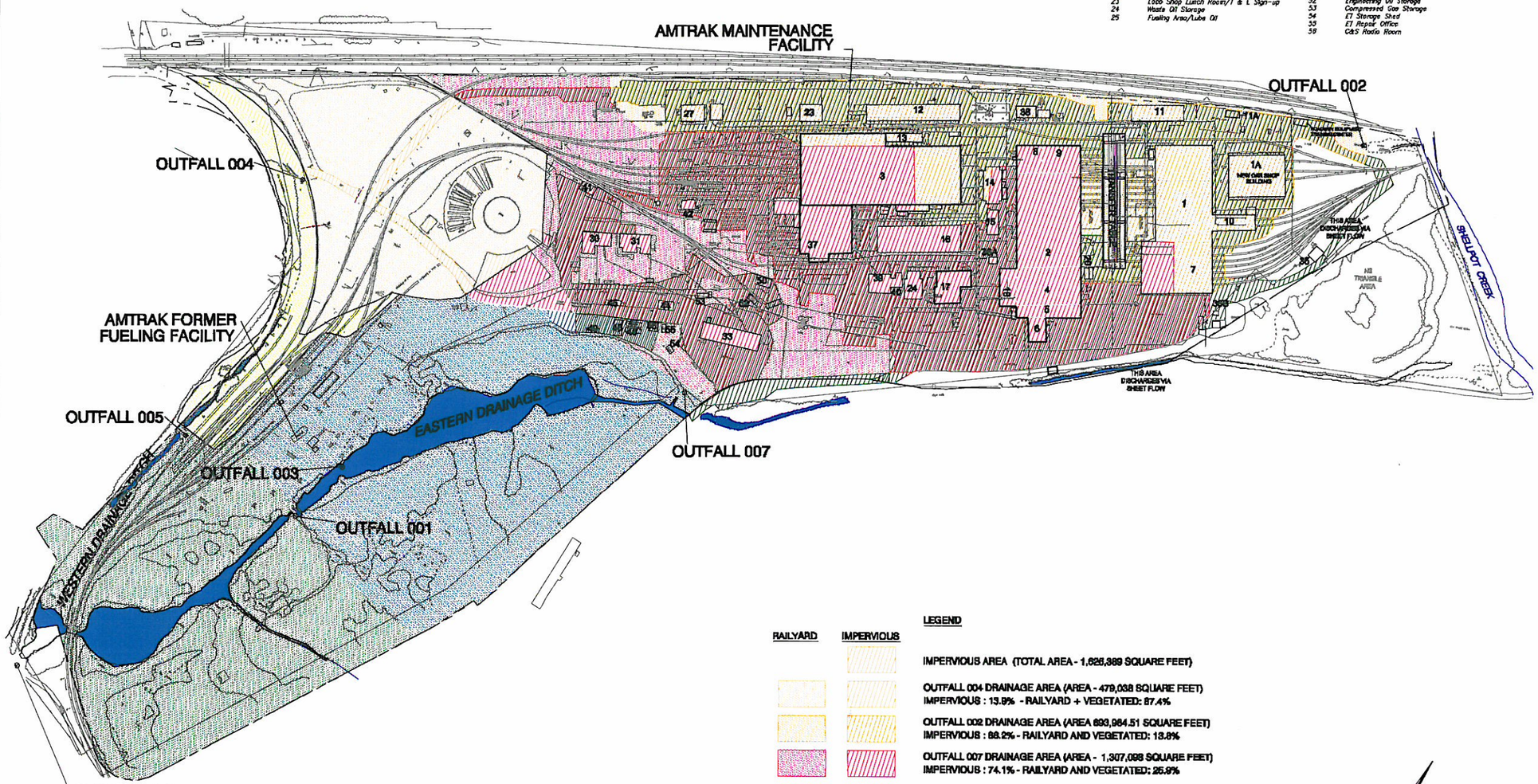

BUILDING LEGEND			
No.	Building	27	Oil House (Material Control)
1	Roadway Equipment	29	Locomotive Test Center
1A	Component Shop	30	B & B (Building & Bridge) Department
2	Roadway Equipment	31	B & B (Building & Bridge) Department
3	Locomotive Shop	32	Roundhouse
4	Electric Shop	33	M of W Offices (C & S, E T, Track Depts)
5	Card Room (2nd Floor/Electric Shop)	35	Water/Fire Pump House
6	Bake Shop (Electric Shop)	36A	Mechanical
7	Oxygen & Acetylene Tank Storage	36B	NMC Compressed Gas Storage
8	Maintenance Shop	37	Wheel Shop
9	Frog Shop (Roadway Equipment)	38	DAF Pollution Building
11	Roadway Equipment Storage	39	Hazard Waste Drum Storage
12	Administration Building	40	Storage
13	Metal Storage	41	B & B (Building & Bridge) Department
14	Midway Locker Room	42	New Inspection Shed
15	Material Control/Foremen's Locker Room	44	Material Management
16	Blacksmith/Brake Shop	45	Material Management
17	Power House	46	C&S Comm
18	Receiving Patio (Electric Shop)	47	C&S Comm
19	High Speed Training Center	48	C&S Signals
20	Receiving (Material Control Department)	49	C&S Signals
23	Loco Shop Lunch Room/T & E Sign-up	50	Track Dept. Mechanic
24	Waste Oil Storage	51	ET Repair and Parts
25	Fueling Area/Lube Oil	52	Engineering Oil Storage
		53	Compressed Gas Storage
		54	ET Storage Shed
		55	ET Repair Office
		56	C&S Radio Room

LEGEND

RAILYARD	IMPERVIOUS	
		IMPERVIOUS AREA (TOTAL AREA - 1,626,389 SQUARE FEET)
		OUTFALL 004 DRAINAGE AREA (AREA - 479,038 SQUARE FEET) IMPERVIOUS : 13.9% - RAILYARD + VEGETATED: 87.4%
		OUTFALL 002 DRAINAGE AREA (AREA 693,984.51 SQUARE FEET) IMPERVIOUS : 86.2% - RAILYARD AND VEGETATED: 13.8%
		OUTFALL 007 DRAINAGE AREA (AREA - 1,307,098 SQUARE FEET) IMPERVIOUS : 74.1% - RAILYARD AND VEGETATED: 25.9%
		001 SITE DRAINAGE AREA (AREA = 919,098 SQUARE FEET) IMPERVIOUS : 2.3% - RAILYARD AND VEGETATED: 97.7%
		005 DRAINAGE AREA (AREA = 167,640 SQUARE FEET) IMPERVIOUS : 6.1% - RAILYARD AND VEGETATED: 93.9%
		006 SITE DRAINAGE AREA (AREA = 732,931 SQUARE FEET)

NOTE: DOES NOT INCLUDE OFF-SITE DRAINAGE AREAS

N

0 180 360

APPROXIMATE SCALE IN FEET

Stantec

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1060 Andrew Drive Suite 140
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www.stantec.com

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Legend

X 90.00	SPOT GRADES
97	CONTOURS
O	BOLLARD
☼	LIGHT POLE
SS (S) SS	SANITARY SEWER W/ M.H.
ST SD	STORM SEWER M.H. WITH DRAIN
ST (D) SD	STORM SEWER W/M.H.
IW	INDUSTRIAL WASTE LINE
W	WATER LINE

Notes

1. This Plan is based on an Aerial Survey performed by Stantec Consulting Services, Inc., flown on February 24 2009. Storm Drain detail verified by ground Survey in August of 2009.

3. BM= 10.27 = Nail Set in front of Administration Building 12 as shown on Plan . Vertical Datum is USGS NAVD 1988

4) Utility information from surface evidence observed in the field, together with reference plans . All utility locations and depths shall be field verified prior to Construction

5). Based on flood insurance Rate Map 10030016OJ , A portion of this parcel Parcel lies within Zone "AE" ; Base Flood Elevation Determined at Elevation 9, (NAVD 1988) ; a portion lies within the Zone "X" defined as areas of 0.2% annual chance flood (see flood map for additional notes) and a portion lies while the Zone "X" defined as areas outside the 0.02 % chance of floodplain, from Map Dated January 17, 2007.

Issued	By	Appd.	YY.MM.DD
ISSUED FOR BIDDING			

File Name: MH-14 213402048 300.1525

DDR.	DWN.	CHKD.	Dsgn.	YY.MM.DD

Seal

Client/Project
AMTRAK

WILMINGTON MAINTENANCE YARD

WILMINGTON, DE

Title

OUTFALL LOCATIONS AND SITE DRAINAGE AREAS

Project No.	Scale
213402048	1" = 360'

Drawing No.	Sheet	Revision
4		

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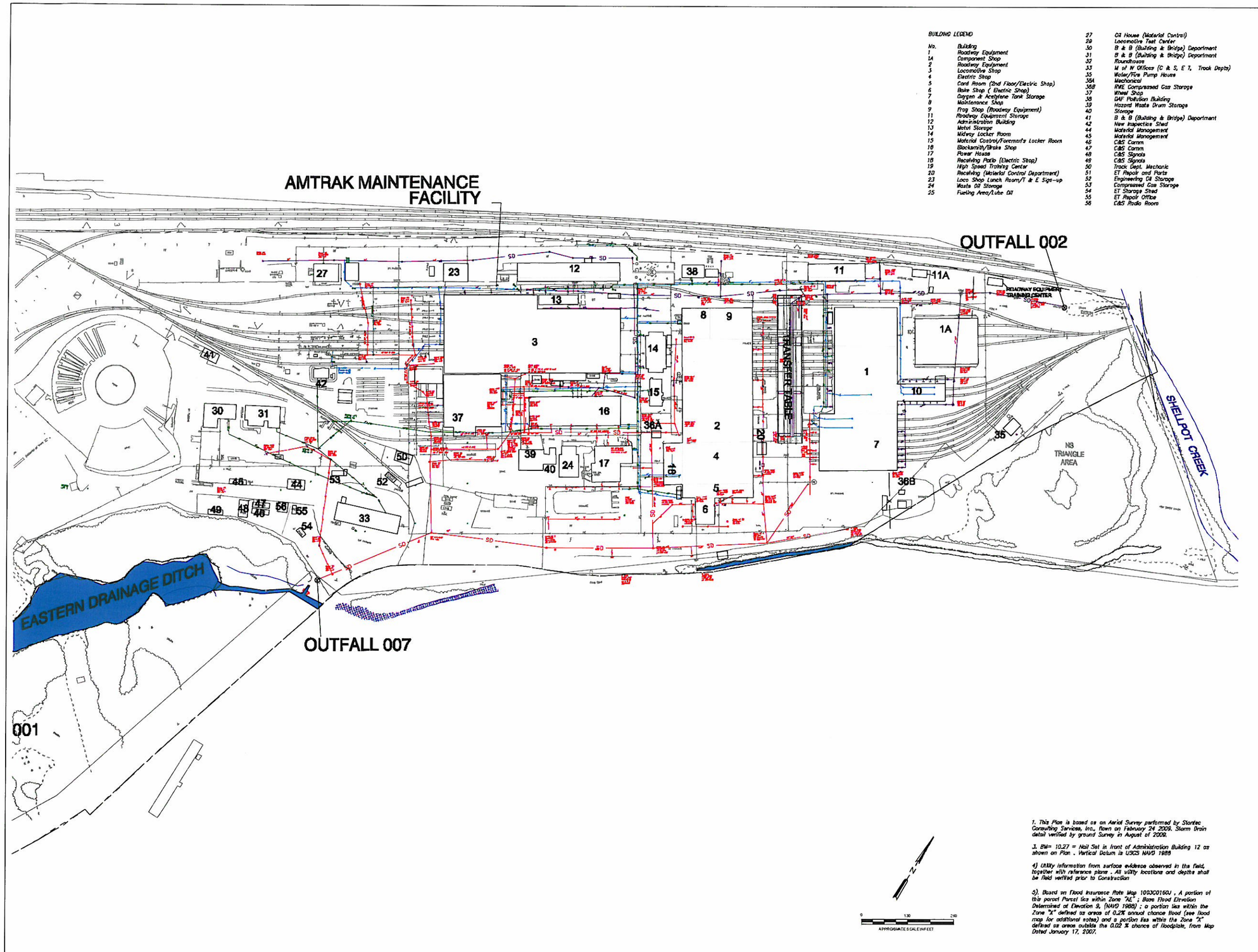
6/15/2012 12:56:19 PM BLDD: TIMOTHY

ORIGINAL SHEET - ANSI D



BUILDING LEGEND

No.	Building
1	Roadway Equipment
1A	Component Shop
2	Roadway Equipment
3	Locomotive Shop
4	Electric Shop
5	Card Room (2nd Floor/Electric Shop)
6	Bake Shop (Electric Shop)
7	Oxygen & Acetylene Tank Storage
8	Maintenance Shop
9	Prop Shop (Roadway Equipment)
11	Roadway Equipment Storage
12	Administration Building
13	Metal Storage
14	Midway Locker Room
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16	Blacksmith/Brake Shop
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5). Based on Flood Insurance Rate Map 10030C0160J , A portion of this parcel Parcel lies within Zone "AE" ; Base Flood Elevation Determined at Elevation 9, (NAVD 1988) ; a portion lies within the Zone "X" defined as areas of 0.2% annual chance flood (see flood map for additional notes) and a portion lies within the Zone "X" defined as areas outside the 0.02 % chance of floodplain, from Map Dated January 17, 2007.

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Legend

x 90.00	SPOT GRADES
97	CONTOURS
	BOLLARD
	LIGHT POLE
SS — S — SS	SANITARY SEWER W/ M.H.
IW	INDUSTRIAL WASTE LINE
W	WATER LINE
ST — SD	STORM SEWER M.H. WITH DRAIN TO OUTFALL 002
ST — D — SD	STORM SEWER W/M.H. TO OUTFALL 002
ST — SD	STORM SEWER M.H. WITH DRAIN TO OUTFALL 007
ST — D — SD	STORM SEWER W/M.H. TO OUTFALL 007

Notes

Issued	By	Appd.	YY.MM.DD
ISSUED FOR BIDDING			
File Name: MH-14 213402048 300.1525	TFB	KH	10/5/2009
	Dwn.	Chkd.	Dsgn. YY.MM.DD

Seal

Client/Project
AMTRAK

WILMINGTON MAINTENANCE YARD

WILMINGTON, DE

Title
MAINTENANCE FACILITY
SEWER SYSTEM

Project No. 213402048
Scale 1" = 260'
Drawing No. 5
Sheet
Revision

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5/15/2012 1:22:13 PM BLOO, TIMOTHY

ORIGINAL SHEET - ANSI D

AMTRAK MAINTENANCE FACILITY
AMTRAK FORMER FUELING FACILITY
OUTFALL 006
DRAINAGE AREA
NOTE:
006 DRAINAGE AREA = 5,160,407 SQUARE FEET
0
200
400
SCALE IN FEET
Stantec
1060 ANDREW DR NE SUITE 140
WEST CHESTER, PENNSYLVANIA
PHONE: (610) 840-2500 FAX: (610) 840-2501
FOR
AMTRAK WILMINGTON
MAINTENANCE YARD
VANDEVER AVENUE
WILMINGTON, DELAWARE
OUTFALL 006
DRAINAGE AREA
PLATE
6
JOB NUMBER
DRAWN BY
KEF
CHECKED BY
SB
APPROVED BY
DATE
03/30/2007
FILEPATH: ANNUAL REPORT-MARCH 2006
6207-11-01 AREA-06.DWG

BLDG #17

BLDG #24

#40

#39

PZ-38

PZ-37 PZ-25 PZ-24

PZ-22 PZ-23 PZ-20

PZ-18 PZ-19 PZ-21 MH-14

PZ-17 PZ-4 PZ-1

PZ-28 PZ-27 PZ-16 PZ-5 PZ-2

(BLACKSMITH SHOP) BLDG #16 (MATERIALS CONTROL)

PZ-15

PZ-6 PZ-3

PZ-36

40" DIAMETER MANHOLES

BLDG# 37 (WHEEL SHOP)

PZ-7 PZ-10

PZ-14

PZ-33

PZ-13 PZ-8 PZ-9

NY-RW-2

ELECTRIC SUBSTATION

NY-RW-1

PZ-11 PZ-12

ELECTRIC SUBSTATION

PZ-29

PZ-30 PZ-32

NE OF MIDWAY

BLDG# 2 (LOCOMOTIVE SHOP)

LEGEND

PZ-2	PEIZOMETER
NY-RW-1	RECOVERY WELL (INSTALLED 12/5/09)
	STORM SEWER LINE (DASHED WHERE INFERRED)
ST	STORM SEWER MANHOLE
	INDUSTRIAL WASTE LINE
IW	INDUSTRIAL WASTE MANHOLE
	SANITARY SEWER LINE
SS	SANITARY SEWER MANHOLE
	WATER LINE
W	WATER VALVE
	AIR LINE
	GAS LINE
	FIRE HYDRANT

N

0 40 80

SCALE IN FEET

SOURCE: AMTRAK FILE #1D10072

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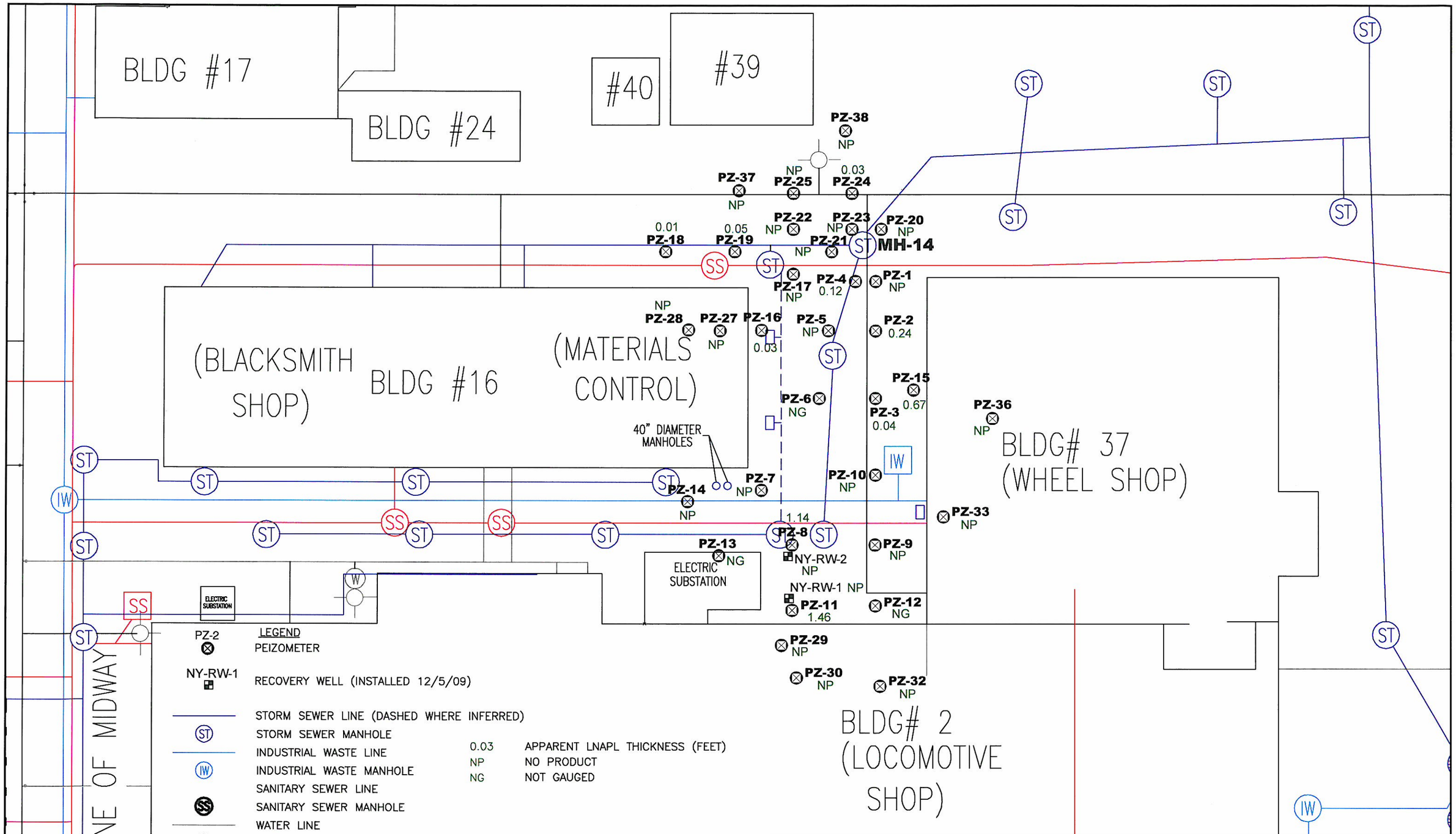
FOR

AMTRAK WILMINGTON
LOCOMOTIVE AND WHEEL SHOP AREA
VANDEVER AVENUE
WILMINGTON, DELAWARE

PEIZOMETER LOCATIONS

FIGURE: 7

JOB NUMBER:	DRAWN BY:	CHECKED BY:	APPROVED BY:	DATE:
	TFB/KEF	PM	SB	1/30/2014



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FOR:
AMTRAK WILMINGTON
LOCOMOTIVE AND WHEEL SHOP AREA
VANDEVER AVENUE
WILMINGTON, DELAWARE

LOCOMOTIVE AND WHEEL SHOPS AREA
APPARENT LNAPL THICKNESS (FEET)
JUNE 24, 2013

FIGURE: 8

JOB NUMBER:	DRAWN BY:	CHECKED BY:	APPROVED BY:	DATE:
	TFB	PM	SB	1/30/2014

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Aroclor	Units	TD-10	
		6/20/2013	12/18/2013
PCB-1016	mg/kg	< 0.00062	< 0.00063
PCB-1221	mg/kg	< 0.00080	< 0.00080
PCB-1232	mg/kg	< 0.00072	< 0.00072
PCB-1242	mg/kg	< 0.00068	< 0.00069
PCB-1248	mg/kg	< 0.00040	< 0.00040
PCB-1254	mg/kg	**0.17**	< 0.00060
PCB-1260	mg/kg	**1**	**0.35**
Total Aroclors	mg/kg	**1.17**	**0.35**
Sediment Mass	lbs	**3.26**	**9.84**
Sediment Mass	g	**1478.74**	**4463.42**
PCB Mass Retained	mg	**1.73**	**1.56**

Aroclor	Units	CB-15	
		6/20/2013	12/18/2013
PCB-1016	mg/kg	< 0.0064	NS
PCB-1221	mg/kg	< 0.0082	NS
PCB-1232	mg/kg	< 0.0074	NS
PCB-1242	mg/kg	< 0.0070	NS
PCB-1248	mg/kg	< 0.0041	NS
PCB-1254	mg/kg	**0.79**	NS
PCB-1260	mg/kg	**5.4**	NS
Total Aroclors	mg/kg	**6.19**	NS
Sediment Mass	lbs	**2.32**	NS
Sediment Mass	g	**1052.35**	NS
PCB Mass Retained	mg	**6.51**	NS

Aroclor	Units	TD-3	
		6/20/2013	12/18/2013
PCB-1016	mg/kg	< 0.00062	< 0.00062
PCB-1221	mg/kg	< 0.00080	< 0.00080
PCB-1232	mg/kg	< 0.00072	< 0.00072
PCB-1242	mg/kg	< 0.00066	< 0.00068
PCB-1248	mg/kg	< 0.00040	< 0.00040
PCB-1254	mg/kg	**< 0.00060**	< 0.00059
PCB-1260	mg/kg	**0.64**	**0.48**
Total Aroclors	mg/kg	**0.64**	**0.48**
Sediment Mass	lbs	**6.47**	**7.71**
Sediment Mass	g	**2934.79**	**3497.26**
PCB Mass Retained	mg	**1.88**	**1.68**

Aroclor	Units	TD-4	
		6/20/2013	12/18/2013
PCB-1016	mg/kg	< 0.00063	< 0.00062
PCB-1221	mg/kg	< 0.00080	< 0.00080
PCB-1232	mg/kg	< 0.00072	< 0.00072
PCB-1242	mg/kg	< 0.00069	< 0.00068
PCB-1248	mg/kg	< 0.00040	< 0.00039
PCB-1254	mg/kg	**0.28**	< 0.00059
PCB-1260	mg/kg	**0.75**	**0.51**
Total Aroclors	mg/kg	**1.03**	**0.51**
Sediment Mass	lbs	**2.67**	**8.77**
Sediment Mass	g	**1211.11**	**3978.07**
PCB Mass Retained	mg	**1.25**	**2.03**

Aroclor	Units	CB-18	
		6/20/2013	12/18/2013
PCB-1016	mg/kg	< 0.0031	< 0.00062
PCB-1221	mg/kg	< 0.0040	< 0.00080
PCB-1232	mg/kg	< 0.0036	< 0.00072
PCB-1242	mg/kg	< 0.0034	< 0.00068
PCB-1248	mg/kg	< 0.0020	< 0.00040
PCB-1254	mg/kg	**0.22**	< 0.00059
PCB-1260	mg/kg	**1.7**	**0.83**
Total Aroclors	mg/kg	**1.92**	**0.83**
Sediment Mass	lbs	**6.57**	**5.29**
Sediment Mass	g	**2980.15**	**2399.54**
PCB Mass Retained	mg	**5.72**	**1.99**

Aroclor	Units	MH-LS-Door #17	
		6/20/2013	12/18/2013
PCB-1016	mg/kg	< 0.0063	< 0.0063
PCB-1221	mg/kg	< 0.0080	< 0.0081
PCB-1232	mg/kg	< 0.0072	< 0.0072
PCB-1242	mg/kg	< 0.0069	< 0.0069
PCB-1248	mg/kg	< 0.0040	0.06
PCB-1254	mg/kg	< 0.0060	< 0.0060
PCB-1260	mg/kg	**3.1**	**2.1**
Total Aroclors	mg/kg	**3.1**	**2.16**
Sediment Mass	lbs	**6.11**	**1.96**
Sediment Mass	g	**2771.50**	**889.06**
PCB Mass Retained	mg	**8.59**	**1.87**

Aroclor	Units	CB-9	
		6/20/2013	12/18/2013
PCB-1016	mg/kg	< 0.0062	< 0.00062
PCB-1221	mg/kg	< 0.0081	< 0.00079
PCB-1232	mg/kg	< 0.0072	< 0.00071
PCB-1242	mg/kg	< 0.0069	< 0.00068
PCB-1248	mg/kg	< 0.0040	< 0.00039
PCB-1254	mg/kg	**0.85**	< 0.00059
PCB-1260	mg/kg	**4.4**	**0.86**
Total Aroclors	mg/kg	**5.25**	**0.86**
Sediment Mass	lbs	**5.07**	**10.62**
Sediment Mass	g	**2299.75**	**4817.23**
PCB Mass Retained	mg	**12.07**	**4.14**

BUILDING LEGEND

No.	Building
1	Roadway Equipment
1A	Component Shop
2	Roadway Equipment
3	Locomotive Shop
4	Electric Shop
5	Card Room (2nd Floor/Electric Shop)
6	Bake Shop (Electric Shop)
7	Oxygen & Acetylene Tank Storage
8	Maintenance Shop
9	Frog Shop (Roadway Equipment)
11	Roadway Equipment Storage
12	Administration Building
13	Metal Storage
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15	Material Control/Foremen's Locker Room
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36B	PWE Compressed Gas Storage
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38	DAF Pollution Building
39	Hazard Waste Drum Storage
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44	Material Management
45	Material Management
46	C&S Comm
47	C&S Comm
48	C&S Signals
49	C&S Signals
50	Track Dept. Mechanic
51	ET Repair and Parts
52	Engineering Oil Storage
53	Compressed Gas Storage
54	ET Storage Shed
55	ET Repair Office
56	C&S Radio Room

Aroclor	Units	TD-8	
		6/20/2013	12/18/2013
PCB-1016	mg/kg	< 0.00063	< 0.00062
PCB-1221	mg/kg	< 0.00080	< 0.00080
PCB-1232	mg/kg	< 0.00072	< 0.00072
PCB-1242	mg/kg	< 0.00069	< 0.00068
PCB-1248	mg/kg	< 0.00040	< 0.00040
PCB-1254	mg/kg	**0.94**	< 0.00059
PCB-1260	mg/kg	**0.77**	**0.1**
Total Aroclors	mg/kg	**1.71**	**0.1**
Sediment Mass	lbs	**3.26**	**5.72**
Sediment Mass	g	**1478.74**	**2594.59**
PCB Mass Retained	mg	**2.53**	**0.25**

Aroclor	Units	TD-1	
		6/20/2013	12/18/2013
PCB-1016	mg/kg	< 0.0032	< 0.00062
PCB-1221	mg/kg	< 0.0041	< 0.00079
PCB-1232	mg/kg	< 0.0036	< 0.00071
PCB-1242	mg/kg	< 0.0035	< 0.00068
PCB-1248	mg/kg	< 0.0020	< 0.00039
PCB-1254	mg/kg	**0.49**	< 0.00059
PCB-1260	mg/kg	**1.40**	**0.37**
Total Aroclors	mg/kg	**1.89**	**0.37**
Sediment Mass	lbs	**1.02**	**2.69**
Sediment Mass	g	**462.67**	**1220.18**
PCB Mass Retained	mg	**0.87**	**0.45**

Aroclor	Units	TD-2	
		6/20/2013	12/18/2013
PCB-1016	mg/kg	< 0.0031	< 0.00062
PCB-1221	mg/kg	< 0.0040	< 0.00080
PCB-1232	mg/kg	< 0.0036	< 0.00072
PCB-1242	mg/kg	< 0.0034	< 0.00068
PCB-1248	mg/kg	< 0.0020	< 0.00040
PCB-1254	mg/kg	**0.53**	< 0.00060
PCB-1260	mg/kg	**2.20**	**0.45**
Total Aroclors	mg/kg	**2.73**	**0.45**
Sediment Mass	lbs	**1.25**	**2.66**
Sediment Mass	g	**567.00**	**1206.58**
PCB Mass Retained	mg	**1.55**	**0.54**

Aroclor	Units	TD-5	
		6/20/2013	12/18/2013
PCB-1016	mg/kg	< 0.00062	< 0.00062
PCB-1221	mg/kg	< 0.00080	< 0.00079
PCB-1232	mg/kg	< 0.00072	< 0.00071
PCB-1242	mg/kg	< 0.00068	< 0.00068
PCB-1248	mg/kg	< 0.00040	< 0.00039
PCB-1254	mg/kg	**0.22**	< 0.00059
PCB-1260	mg/kg	**0.95**	**0.38**
Total Aroclors	mg/kg	**1.17**	**0.38**
Sediment Mass	lbs	**2.01**	**2.5**
Sediment Mass	g	**911.74**	**1134**
PCB Mass Retained	mg	**1.07**	**0.43**

Aroclor	Units	Graqte - Bldg #23	
		6/20/2013	12/18/2013
PCB-1016	mg/kg	< 0.00062	< 0.00063
PCB-1221	mg/kg	< 0.00080	< 0.00081
PCB-1232	mg/kg	< 0.00072	< 0.00073
PCB-1242	mg/kg	< 0.00068	< 0.00069
PCB-1248	mg/kg	< 0.00040	< 0.00040
PCB-1254	mg/kg	**0.27**	< 0.00060
PCB-1260	mg/kg	**1.2**	**0.89**
Total Aroclors	mg/kg	**1.47**	**0.89**
Sediment Mass	lbs	**10.41**	**8.19**
Sediment Mass	g	**4721.98**	**3714.98**
PCB Mass Retained	mg	**6.94**	**3.31**

Aroclor	Units	MH-NY-RW-2	
		6/20/2013	12/18/2013
PCB-1016	mg/kg	< 0.012	< 0.0061
PCB-1221	mg/kg	< 0.016	< 0.0079
PCB-1232	mg/kg	< 0.014	< 0.0071
PCB-1242	mg/kg	< 0.014	< 0.0067
PCB-1248	mg/kg	< 0.0079	< 0.0039
PCB-1254	mg/kg	**1.8**	< 0.0059
PCB-1260	mg/kg	**7**	**2.2**
Total Aroclors	mg/kg	**8.80**	**2.2**
Sediment Mass	lbs	**3.01**	**2.77**
Sediment Mass	g	**1365.34**	**1256.47**
PCB Mass Retained	mg	**12.01**	**2.76**

Aroclor	Units	CB-7E	
		6/20/2013	12/18/2013
PCB-1016	mg/kg	< 0.00063	< 0.0062
PCB-1221	mg/kg	< 0.00080	< 0.0079
PCB-1232	mg/kg	< 0.00072	< 0.0071
PCB-1242	mg/kg	< 0.00068	< 0.0068
PCB-1248	mg/kg	< 0.00040	< 0.0039
PCB-1254	mg/kg	**0.33**	< 0.0059
PCB-1260	mg/kg	**1.2**	**1.4**
Total Aroclors	mg/kg	**1.53**	**1.4**
Sediment Mass	lbs	**7.12**	**2.64**
Sediment Mass	g	**3229.63**	**1197.5**
PCB Mass Retained	mg	**4.94**	**1.68**

Aroclor	Units	TD-7	
		6/20/2013	12/18/2013
PCB-1016	mg/kg	< 0.00062	< 0.00062
PCB-1221	mg/kg	< 0.00080	< 0.00080
PCB-1232	mg/kg	< 0.00071	< 0.00072
PCB-1242	mg/kg	< 0.00068	< 0.00068
PCB-1248	mg/kg	< 0.00039	< 0.00040
PCB-1254	mg/kg	**0.28**	< 0.00060
PCB-1260	mg/kg	**0.31**	**0.1**
Total Aroclors	mg/kg	**0.59**	**0.1**
Sediment Mass	lbs	**3.97**	**6.58**
Sediment Mass	g	**1800.79**	**2984.69**
PCB Mass Retained	mg	**1.06**	**0.3**

Aroclor	Units	TD-9	
		6/20/2013	12/18/2013
PCB-1016	mg/kg	< 0.0031	< 0.0062
PCB-1221	mg/kg	< 0.0040	< 0.0079
PCB-1232	mg/kg	< 0.0036	< 0.0071
PCB-1242	mg/kg	< 0.0034	< 0.0068
PCB-1248	mg/kg	< 0.0020	< 0.0039
PCB-1254	mg/kg	**5.1**	< 0.0059
PCB-1260	mg/kg	**2**	**0.76**
Total Aroclors	mg/kg	**7.1**	**0.76**
Sediment Mass	lbs	**3.13**	**7.43**
Sediment Mass	g	**1419.77**	**3370.25**
PCB Mass Retained	mg	**10.08**	**2.56**

Aroclor	Units	CB-14	
		6/20/2013	12/18/2013
PCB-1016	mg/kg	< 0.0062	< 0.0062
PCB-1221	mg/kg	< 0.0080	< 0.0079
PCB-1232	mg/kg	< 0.0072	< 0.0071
PCB-1242	mg/kg	< 0.0068	< 0.0068
PCB-1248	mg/kg	< 0.0040	< 0.0039
PCB-1254	mg/kg	**0.48**	< 0.0059
PCB-1260	mg/kg	**3.5**	**2.1**
Total Aroclors	mg/kg	**3.98**	**2.1**
Sediment Mass	lbs	**9.17**	**14.7**
Sediment Mass	g	**4159.51**	**6667.92**
PCB Mass Retained	mg	**16.55**	**14**

Aroclor	Units	TD-6	
		6/20/2013	12/18/2013
PCB-1016	mg/kg	< 0.00063	< 0.00062
PCB-1221	mg/kg	< 0.00081	< 0.00080
PCB-1232	mg/kg	< 0.00072	< 0.00071
PCB-1242	mg/kg	< 0.00069	< 0.00068
PCB-1248	mg/kg	< 0.00040	< 0.00039
PCB-1254	mg/kg	**0.28**	< 0.00059
PCB-1260	mg/kg	**1.2**	**0.29**
Total Aroclors	mg/kg	**1.48**	**0.29**
Sediment Mass	lbs	**1.54**	**2.16**
Sediment Mass	g	**698.54**	**979.78**
PCB Mass Retained	mg	**1.03**	**0.28**

Aroclor	Units	CB-12	
		6/20/2013	12/18/2013
PCB-1016	mg/kg	< 0.00062	< 0.00062
PCB-1221	mg/kg	< 0.00080	< 0.00080
PCB-1232	mg/kg	< 0.00072	< 0.00072
PCB-1242	mg/kg	< 0.00068	< 0.00068
PCB-1248	mg/kg	< 0.00040	< 0.00039
PCB-1254	mg/kg	**0.16**	< 0.00059
PCB-1260	mg/kg	**0.88**	**0.62**
Total Aroclors	mg/kg	**1.04**	**0.62**
Sediment Mass	lbs	**18.12**	**6.6**
Sediment Mass	g	**8219.23**	**2993.76**
PCB Mass Retained	mg	**8.55**	**1.86**

Aroclor	Units	Grate-NE-LS	
		6/20/2013	12/18/2013
PCB-1016	mg/kg	< 0.0034	< 0.032
PCB-1221	mg/kg	< 0.0044	< 0.040
PCB-1232	mg/kg	< 0.0039	< 0.036
PCB-1242	mg/kg	< 0.0037	< 0.035
PCB-1248	mg/kg	< 0.0022	< 0.020
PCB-1254	mg/kg	**0.91**	< 0.030
PCB-1260	mg/kg	**2.4**	**23**
Total Aroclors	mg/kg	**3.31**	**23**
Sediment Mass	lbs	**4.52**	**4.27**
Sediment Mass	g	**1270.08**	**1936.87**
PCB Mass Retained	mg	**4.2**	**44.55**

Aroclor	Units	MH-MS-Door #28	
		6/20/2013	12/18/2013
PCB-1016	mg/kg	< 0.0031	< 0.0063
PCB-1221	mg/kg	< 0.0040	< 0.0080
PCB-1232	mg/kg	< 0.0036	< 0.0072
PCB-1242	mg/kg	< 0.0034	< 0.0068
PCB-1248	mg/kg	< 0.0020	< 0.0040
PCB-1254	mg/kg	**0.51**	< 0.0060
PCB-1260	mg/kg	**2.5**	**1.6**
Total Aroclors	mg/kg	**3.01**	**1.6**
Sediment Mass	lbs	**4.17**	**1.54**
Sediment Mass	g	**1891.51**	**698.54**
PCB Mass Retained	mg	**5.69**	**1.12**

Aroclor	Units	TD-11	
		6/20/2013	12/18/2013
PCB-1016	mg/kg	< 0.00062	< 0.00063
PCB-1221	mg/kg	< 0.00079	< 0.00080
PCB-1232	mg/kg	< 0.00071	< 0.00072
PCB-1242	mg/kg	< 0.00068	< 0.00069
PCB-1248	mg/kg	< 0.00039	< 0.00040
PCB-1254	mg/kg	**0.19**	< 0.00060
PCB-1260	mg/kg	**0.69**	**0.88**
Total Aroclors	mg/kg	**0.88**	**0.88**
Sediment Mass	lbs	**2.05**	**3.39**
Sediment Mass	g	**929.88**	**1537.7**
PCB Mass Retained	mg	**0.82**	**1.35**

Aroclor	Units	Grate-SE-LS	
		6/20/2013	12/18/2013
PCB-1016	mg/kg	< 0.00064	< 0.00062
PCB-1221	mg/kg	< 0.00082	< 0.00080
PCB-1232	mg/kg	< 0.00074	< 0.00072
PCB-1242	mg/kg	< 0.00070	< 0.00068
PCB-1248	mg/kg	< 0.00041	< 0.00040
PCB-1254	mg/kg	**0.21**	< 0.00060
PCB-1260	mg/kg	**1**	**0.76**
Total Aroclors	mg/kg	**1.21**	**0.76**
Sediment Mass	lbs	**12.58**	**8.11**
Sediment Mass	g	**5706.29**	**3678.7**
PCB Mass Retained	mg	**6.9**	**2.8**

Aroclor	Units	MH-SE-WS-Addition	
		6/20/2013	12/18/2013
PCB-1016	mg/kg	< 0.00062	< 0.00062
PCB-1221	mg/kg	< 0.00080	< 0.00079
PCB-1232	mg/kg	< 0.00071	< 0.00071
PCB-1242	mg/kg	< 0.00068	< 0.00068
PCB-1248	mg/kg	< 0.00039	< 0.00039
PCB-1254	mg/kg	**0.15**	< 0.00059
PCB-1260	mg/kg	**0.48**	**0.2**
Total Aroclors	mg/kg	**0.63**	**0.2**
Sediment Mass	lbs	**5.33**	**9.29**
Sediment Mass	g	**2417.69**	**4213.94**
PCB Mass Retained	mg	**1.52**	**0.84**

Aroclor	Units	ZD-4	
		6/20/2013	12/18/2013
PCB-1016	mg/kg	< 0.00062	< 0.00063
PCB-1221	mg/kg	< 0.00080	< 0.00080
PCB-1232	mg/kg	< 0.00071	< 0.00072
PCB-1242	mg/kg	< 0.00068	< 0.00068
PCB-1248	mg/kg	< 0.00039	< 0.00040
PCB-1254	mg/kg	**0.05**	< 0.00060
PCB-1260	mg/kg	**0.19**	**0.41**
Total Aroclors	mg/kg	**0.24**	**0.41**
Sediment Mass	lbs	**5.73**	**4.45**
Sediment Mass	g	**2599.13**	**2018.52**
PCB Mass Retained	mg	**0.63**	**0.83**

Aroclor	Units	ZD-3	
		6/20/2013	12/18/2013
PCB-1016	mg/kg	< 0.00063	< 0.00062
PCB-1221	mg/kg	< 0.00080	< 0.00079
PCB-1232	mg/kg	< 0.00072	< 0.00071
PCB-1242	mg/kg	< 0.00069	< 0.00068
PCB-1248	mg/kg	< 0.00040	< 0.00039
PCB-1254	mg/kg	**0.35**	< 0.00059
PCB-1260	mg/kg	**1.1**	**0.5**
Total Aroclors	mg/kg	**1.45**	**0.5**
Sediment Mass	lbs	**3.36**	**3.35**
Sediment Mass	g	**1524.1**	**1519.56**
PCB Mass Retained	mg	**2.21**	**0.76**

Aroclor	Units	ZD-2	
		6/20/2013	12/18/2013
PCB-1016	mg/kg	< 0.0032	< 0.00062
PCB-1221	mg/kg	<0.0040	< 0.00079
PCB-1232	mg/kg	< 0.0036	< 0.00071
PCB-1242	mg/kg	< 0.0035	< 0.00068
PCB-1248	mg/kg	< 0.0020	< 0.00039
PCB-1254	mg/kg	< 0.0030	< 0.00059
PCB-1260	mg/kg	**2.2**	**0.49**
Total Aroclors	mg/kg	**2.2**	**0.49**
Sediment Mass	lbs	**3.16**	**4.05**
Sediment Mass	g	**1433.38**	**1837.08**
PCB Mass Retained	mg	**3.15**	**0.9**

Aroclor	Units	MH-N-SS	
		6/20/2013	12/18/2013
PCB-1016	mg/kg	< 0.00062	< 0.032
PCB-1221	mg/kg	< 0.00080	< 0.041
PCB-1232	mg/kg	< 0.00071	< 0.036
PCB-1242	mg/kg	< 0.00068	< 0.035
PCB-1248	mg/kg	< 0.00039	< 0.020
PCB-1254	mg/kg	**0.1**	< 0.030
PCB-1260	mg/kg	**0.5**	**9.3**
Total Aroclors	mg/kg	**0.6**	**9.3**
Sediment Mass	lbs	**6.57**	**1.82**
Sediment Mass	g	**2980.15**	**825.55**
PCB Mass Retained	mg	**1.78**	**7.68**

Aroclor	Units	ZD-1	
		6/20/2013	12/18/2013
PCB-1016	mg/kg	< 0.0063	< 0.012
PCB-1221	mg/kg	< 0.0080	< 0.016
PCB-1232	mg/kg	< 0.0072	< 0.014
PCB-1242	mg/kg	< 0.0069	< 0.014
PCB-1248	mg/kg	< 0.0040	< 0.0079
PCB-1254	mg/kg	< 0.0060	< 0.012
PCB-1260	mg/kg	**4.7**	**5.8**
Total Aroclors	mg/kg	**4.7**	**5.8**
Sediment Mass	lbs	**3.82**	**4.55**
Sediment Mass	g	**1732.75**	**2063.88**
PCB Mass Retained	mg	**8.14**	**11.97**

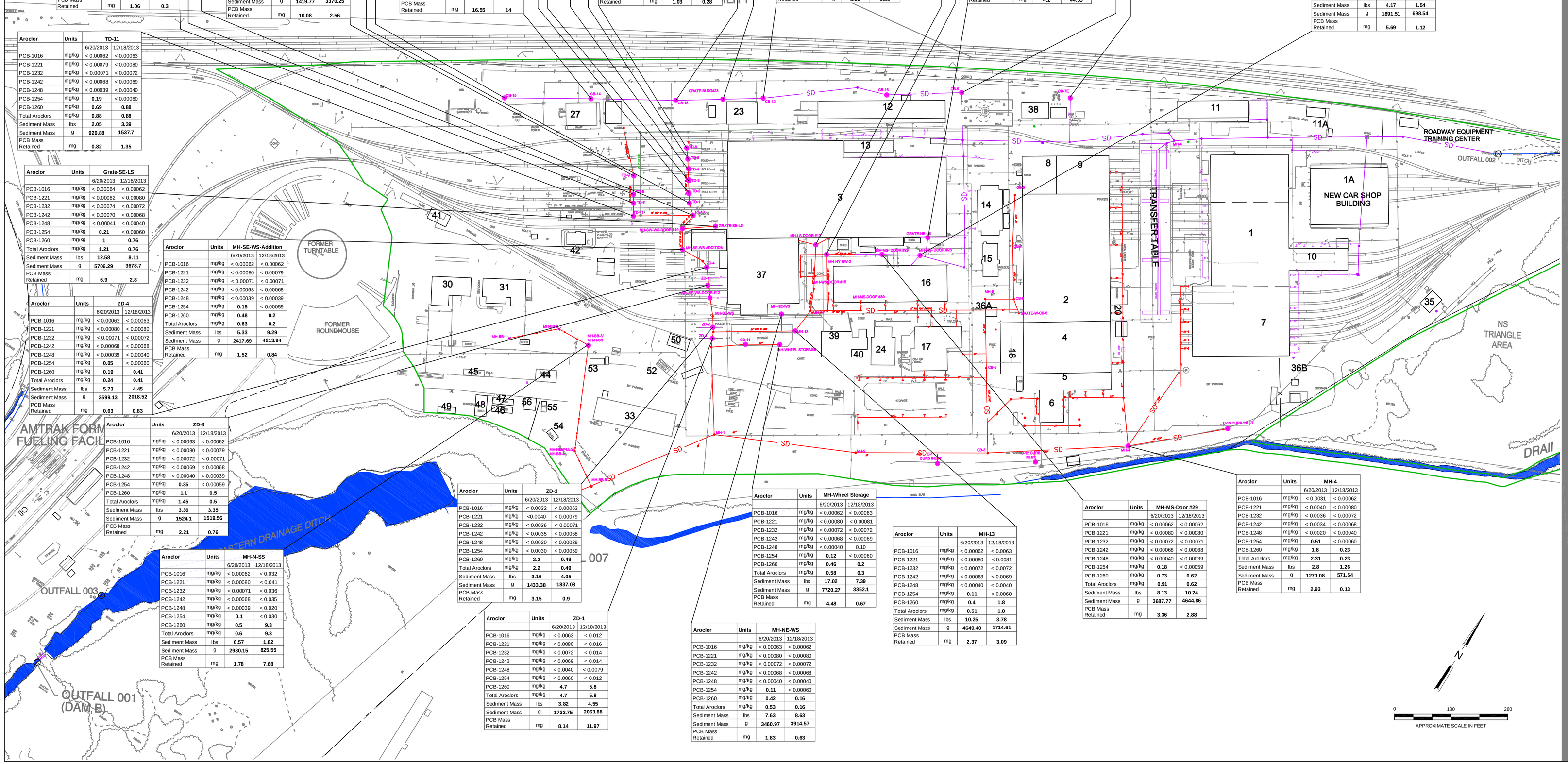
Aroclor	Units	MH-NE-WS	
		6/20/2013	12/18/2013
PCB-1016	mg/kg	< 0.0063	< 0.00062
PCB-1221	mg/kg	< 0.00080	< 0.00080
PCB-1232	mg/kg	< 0.00072	< 0.00072
PCB-1242	mg/kg	< 0.00068	< 0.00068
PCB-1248	mg/kg	< 0.00040	< 0.00040
PCB-1254	mg/kg	**0.11**	< 0.00060
PCB-1260	mg/kg	**0.42**	**0.16**
Total Aroclors	mg/kg	**0.53**	**0.16**
Sediment Mass	lbs	**7.63**	**8.63**
Sediment Mass	g	**3460.97**	**3914.57**
PCB Mass Retained	mg	**1.83**	**0.63**

Aroclor	Units	MH-Wheel Storage	
		6/20/2013	12/18/2013
PCB-1016	mg/kg	< 0.00062	< 0.00063
PCB-1221	mg/kg	< 0.00080	< 0.00081
PCB-1232	mg/kg	< 0.00072	< 0.00072
PCB-1242	mg/kg	< 0.00068	< 0.00069
PCB-1248	mg/kg	< 0.00040	0.10
PCB-1254	mg/kg	**0.12**	< 0.00060
PCB-1260	mg/kg	**0.46**	**0.2**
Total Aroclors	mg/kg	**0.58**	**0.3**
Sediment Mass	lbs	**17.02**	**7.39**
Sediment Mass	g	**7720.27**	**3352.1**
PCB Mass Retained	mg	**4.48**	**0.67**

Aroclor	Units	MH-13	
		6/20/2013	12/18/2013
PCB-1016	mg/kg	< 0.00062	< 0.0063
PCB-1221	mg/kg	< 0.00080	< 0.0081
PCB-1232	mg/kg	< 0.00072	< 0.0072
PCB-1242	mg/kg	< 0.00068	< 0.0069
PCB-1248	mg/kg	< 0.00040	< 0.0040
PCB-1254	mg/kg	**0.11**	< 0.0060
PCB-1260	mg/kg	**0.4**	**1.8**
Total Aroclors	mg/kg	**0.51**	**1.8**
Sediment Mass	lbs	**10.25**	**3.78**
Sediment Mass	g	**4649.40**	**1714.61**
PCB Mass Retained	mg	**2.37**	**3.09**

Aroclor	Units	MH-MS-Door #29	
		6/20/2013	12/18/2013
PCB-1016	mg/kg	< 0.00062	< 0.00062
PCB-1221	mg/kg	< 0.00080	< 0.00080
PCB-1232	mg/kg	< 0.00072	< 0.00071
PCB-1242	mg/kg	< 0.00068	< 0.00068
PCB-1248	mg/kg	< 0.00040	< 0.00039
PCB-1254	mg/kg	**0.18**	< 0.00059
PCB-1260	mg/kg	**0.73**	**0.62**
Total Aroclors	mg/kg	**0.91**	**0.62**
Sediment Mass	lbs	**8.13**	**10.24**
Sediment Mass	g	**3687.77**	**4644.86**
PCB Mass Retained	mg	**3.36**	**2.88**

Aroclor	Units	MH-4	
		6/20/2013	12/18/2013
PCB-1016	mg/kg	< 0.0031	< 0.00062
PCB-1221	mg/kg	< 0.0040	< 0.00080
PCB-1232	mg/kg	< 0.0036	< 0.00072
PCB-1242	mg/kg	< 0.0034	< 0.00068
PCB-1248	mg/kg	< 0.0020	< 0.00040
PCB-1254	mg/kg	**0.51**	< 0.00060
PCB-1260	mg/kg	**1.8**	**0.23**
Total Aroclors	mg/kg	**2.31**	**0.23**
Sediment Mass	lbs	**2.8**	**1.26**
Sediment Mass	g	**1270.08**	**571.54**
PCB Mass Retained	mg	**2.93**	**0.13**



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Legend

- ST — SD — STORM SEWER M.H. WITH DRAIN
- ST — D — SD — STORM SEWER W/M.H.
- OUTFALL 002 STORM SEWER SYSTEM
- OUTFALL 007 STORM SEWER SYSTEM
- PROPERTY BOUNDARY

Notes

1. This Plan is based on an Aerial Survey performed by Stantec Consulting Services, Inc., flown on February 24 2009. Storm Drain detail verified by ground Survey in August of 2009.

3. BM= 10.27 = Nail Set in front of Administration Building 12 as shown on Plan . Vertical Datum is USGS NAVD 1988

4) Utility information from surface evidence observed in the field, together with reference plans . All utility locations and depths shall be field verified prior to Construction

5). Based on Flood Insurance Rate Map 1003C0160J , A portion of this parcel Parcel lies within Zone "AE" ; Base Flood Elevation Determined at Elevation 9, (NAVD 1988) ; a portion lies within the Zone "X" defined as areas of 0.2% annual chance flood (see flood map for additional notes) and a portion lies within the Zone "X" defined as areas outside the 0.02 % chance of floodplain, from Map Dated January 17, 2007.

ISSUED FOR BIDDING			
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Seal

Client/Project

AMTRAK

WILMINGTON MAINTENANCE YARD

WILMINGTON, DELAWARE

Title

INLET PROTECTION PROGRAM SAMPLING RESULTS JUNE 2013 AND DECEMBER 2013

Project No. | Scale

Drawing No. | Sheet | Revision

9

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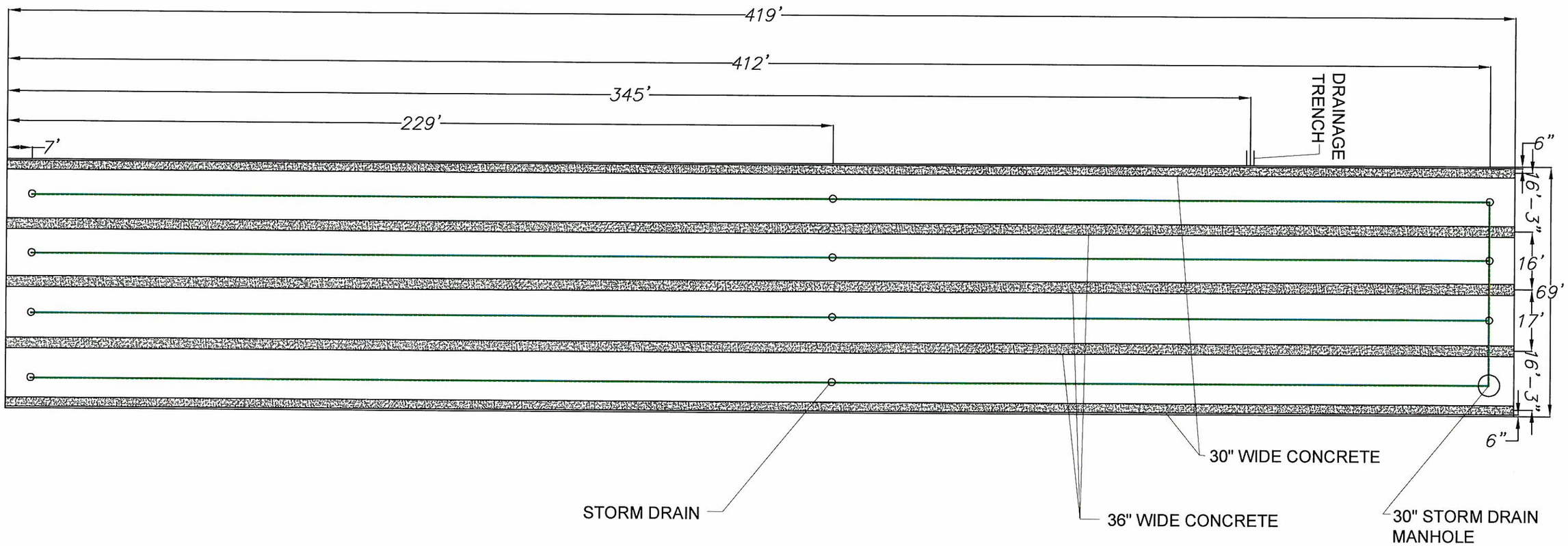
ORIGINAL SHEET - ANSI D



LEGEND

STORMWATER PIPING
HYDROJETTED AUGUST 2013

Stantec
Stantec Consulting Services Inc.
1060 Andrew Drive Suite 140
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Tel. 610.840.2500
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FOR:				FIGURE:
AMTRAK FORMER FUELING FACILITY VANDEVER AVENUE WILMINGTON, DELAWARE		TRANSFER TABLE STORMWATER PIPING PLAN		10
JOB NUMBER:	DRAWN BY: TFB	CHECKED BY:	APPROVED BY:	DATE: 1/30/2014

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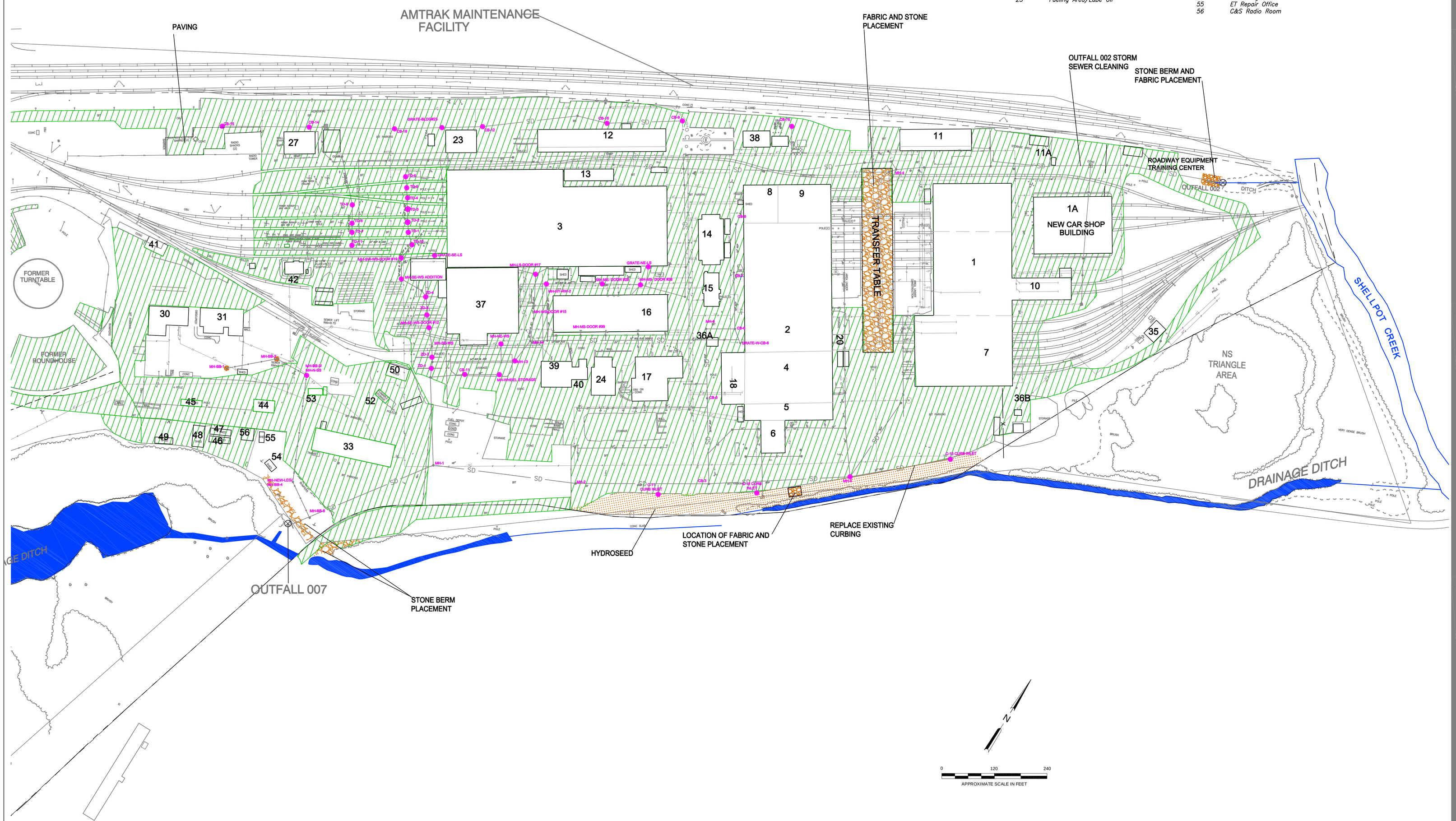
BUILDING LEGEND

No.	Building
1	Roadway Equipment
1A	Component Shop
2	Roadway Equipment
3	Locomotive Shop
4	Electric Shop
5	Card Room (2nd Floor/Electric Shop)
6	Bake Shop (Electric Shop)
7	Oxygen & Acetylene Tank Storage
8	Maintenance Shop
9	Frog Shop (Roadway Equipment)
11	Roadway Equipment Storage
12	Administration Building
13	Metal Storage
14	Midway Locker Room
15	Material Control/Foremen's Locker Room
16	Blacksmith/Brake Shop
17	Power House
18	Receiving Patio (Electric Shop)
19	High Speed Training Center
20	Receiving (Material Control Department)
23	Loco Shop Lunch Room/T & E Sign-up
24	Waste Oil Storage
25	Fueling Area/Lube Oil
27	Oil House (Material Control)
29	Locomotive Test Center
30	B & B (Building & Bridge) Department
31	B & B (Building & Bridge) Department
32	Roundhouse
33	M of W Offices (C & S, E T, Track Depts)
35	Water/Fire Pump House
36A	Mechanical
36B	RWE Compressed Gas Storage
37	Wheel Shop
38	DAF Pollution Building
39	Hazard Waste Drum Storage
40	Storage
41	B & B (Building & Bridge) Department
42	New Inspection Shed
44	Material Management
45	Material Management
46	C&S Comm
47	C&S Comm
48	C&S Signals
49	C&S Signals
50	Track Dept. Mechanic
51	ET Repair and Parts
52	Engineering Oil Storage
53	Compressed Gas Storage
54	ET Storage Shed
55	ET Repair Office
56	C&S Radio Room



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Legend

- X 90.00 — SPOT GRADES
- 97 — CONTOURS
- BOLLARD
- LIGHT POLE
- SS — SANITARY SEWER W/ M.H.
- IW — INDUSTRIAL WASTE LINE
- W — WATER LINE
- ST — SD — STORM SEWER M.H. WITH DRAIN TO OUTFALL 002
- ST — SD — STORM SEWER W/M.H. TO OUTFALL 002
- ST — SD — STORM SEWER M.H. WITH DRAIN TO OUTFALL 007
- ST — SD — STORM SEWER W/M.H. TO OUTFALL 007
- INLET PROTECTION DEVICE

Notes

1. This Plan is based on an Aerial Survey performed by Stantec Consulting Services, Inc., flown on February 24 2009. Storm Drain detail verified by ground Survey in August of 2009.

3. BM= 10.27 = Nail Set in front of Administration Building 12 as shown on Plan . Vertical Datum is USGS NAVD 1988

4) Utility information from surface evidence observed in the field, together with reference plans . All utility locations and depths shall be field verified prior to Construction

5). Based on Flood Insurance Rate Map 1003C0160J , A portion of this parcel Parcel lies within Zone "AE" ; Base Flood Elevation Determined at Elevation 9, (NAVD 1988) ; a portion lies within the Zone "X" defined as areas of 0.2% annual chance flood (see flood map for additional notes) and a portion lies within the Zone "X" defined as areas outside the 0.02 % chance of floodplain, from Map Dated January 17, 2007.

ISSUED FOR BIDDING			
Issued	By	Appd.	YY.MM.DD
File Name:	TFB	KH	10/6/2009
	Dwn.	Chkd.	Dsgn. YY.MM.DD

Seal

Client/Project

AMTRAK

WILMINGTON MAINTENANCE YARD

WILMINGTON, DELAWARE

Title

MAINTENANCE FACILITY PMP EROSION AND SEDIMENT TRANSPORT CONTROLS - THROUGH 2013

Project No. | Scale

Drawing No. 11 | Sheet | Revision

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ORIGINAL SHEET - ANSI D

PMP-HA-8			mg/kg
	(0-0.5)	(0.5-1.0)	(1.5-2.0)
TOTAL AROCLORS	42	17	16

PMP-HA-5			mg/kg
	(0-0.5)	(0.5-1.0)	(1.5-2.0)
TOTAL AROCLORS	5.8	12	2.5

PMP-HA-10			mg/kg
	(0-0.5)	(0.5-1.0)	(1.5-2.0)
TOTAL AROCLORS	9.9	24	8.3

PMP-HA-7			mg/kg
	(0-0.5)	(0.5-1.0)	(1.5-2.0)
TOTAL AROCLORS	410	180	130

SB-43	Total PCBs	TPH-GRO	TPH-DRO
(0.0-2.0')	84	< 12	210
(2.0-3.8')	2.6	n.a.	n.a.

PMP-HA-4			mg/kg
	(0-0.5)	(0.5-1.0)	(1.5-2.0)
TOTAL AROCLORS	14	0.71	0.82

PMP-HA-3			mg/kg
	(0-0.5)	(0.5-1.0)	(1.5-2.0)
TOTAL AROCLORS	6.9	2	4.7

PMP-HA-11			mg/kg
	(0-0.5)	(0.5-1.0)	(1.5-2.0)
TOTAL AROCLORS	19	45	11

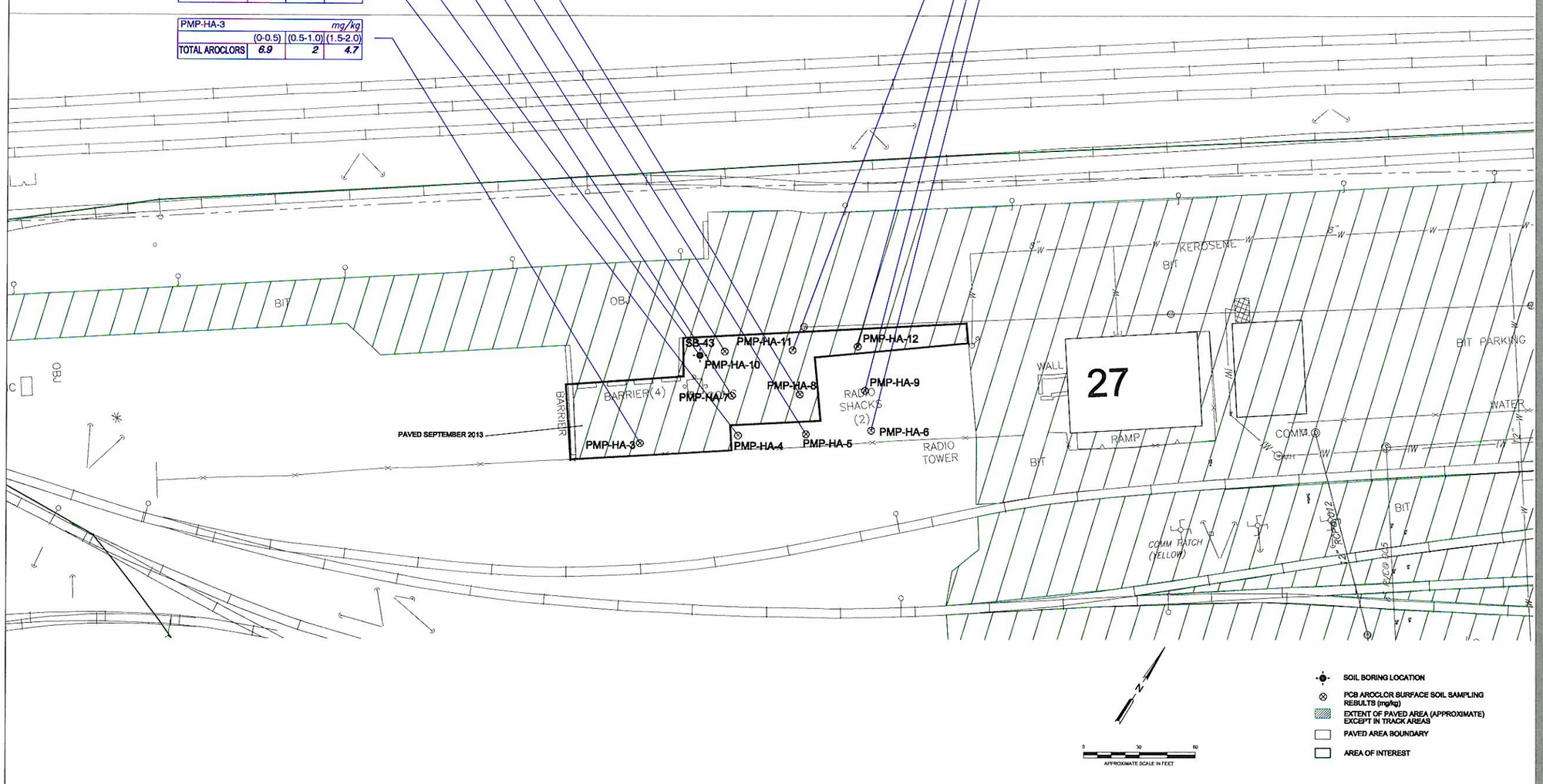
PMP-HA-12			mg/kg
	(0-0.5)	(0.5-1.0)	(1.5-2.0)
TOTAL AROCLORS	12	55	14

PMP-HA-9			mg/kg
	(0-0.5)	(0.5-1.0)	(1.5-2.0)
TOTAL AROCLORS	7.8	11	3.9

PMP-HA-6			mg/kg
	(0-0.5)	(0.5-1.0)	(1.5-2.0)
TOTAL AROCLORS	11	11	8.6

BUILDING LEGEND

No.	Building
1	Roadway Equipment
1a	Component Shop
2	Roadway Equipment
3	Locomotive Shop
4	Electric Shop
5	Card Room (2nd Floor/Electric Shop)
6	Bake Shop (Electric Shop)
7	Oxygen & Acetylene Tank Storage
8	Maintenance Shop
9	Frog Shop (Roadway Equipment)
11	Roadway Equipment Storage
12	Administration Building
13	Metal Storage
14	Military Locker Room
15	Material Control/Foreman's Locker Room
16	Blacksmith/Brake Shop
17	Power House
18	Receiving Patio (Electric Shop)
19	High Speed Training Center
20	Receiving (Material Control Department)
23	Loco Shop Lunch Room/T & E Sign-up
24	Waste Oil Storage
25	Fueling Area/Lube Oil
27	Oil House (Material Control)
28	Locomotive Test Center
30	B & B (Building & Bridge) Department
31	B & B (Building & Bridge) Department
32	Roundhouse
33	M of W Offices (C & S, E T, Track Depts)
35	Water/Fire Pump House
35A	Mechanical
36B	RWE Compressed Gas Storage
37	Wheel Shop
38	DAF Pollution Building
39	Hazard Waste Drum Storage
40	Storage
41	B & B (Building & Bridge) Department
42	New Inspection Shed
44	Material Management
45	Material Management
46	C&S Comm
47	C&S Comm
48	C&S Signals
49	C&S Signals
50	Track Dept. Mechanic
51	ET Repair and Parts
52	Engineering Oil Storage
53	Compressed Gas Storage
54	ET Storage Shed
55	ET Repair Office
56	C&S Radio Room



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Legend

X 90.00	SPOT GRADES
97	CONTOURS
	BOLLARD
	LIGHT POLE
SS — S — SS	SANITARY SEWER W/ M.H.
ST — SD	STORM SEWER M.H. WITH DRAIN
ST — D — SD	STORM SEWER W/M.H.
IW	INDUSTRIAL WASTE LINE
W	WATER LINE

Notes

1. This Plan is based on an Aerial Survey performed by Stantec Consulting Services, Inc., flown on February 24 2009. Storm Drain detail verified by ground Survey in August of 2009.

3. BM= 10.27 = Nail Set in front of Administration Building 12 as shown on Plan . Vertical Datum is USGS NAVD 1988

4) Utility information from surface evidence observed in the field, together with reference plans . All utility locations and depths shall be field verified prior to Construction

5). Based on Flood Insurance Rate Map 10030016GJ , A portion of this parcel Parcel lies within Zone "AE" ; Base Flood Elevation Determined at Elevation 9, (NAVD 1988) ; a portion lies within the Zone "X" defined as areas of 0.2% annual chance flood (see flood map for additional notes) and a portion lies within the Zone "X" defined as areas outside the 0.02 % chance of floodplain, from Map Dated January 17, 2007.

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File Name:	TFB Dwn.	--- Chkd.	--- Dsgn.	--- YY.MM.DD

Seal

Client/Project

AMTRAK

WILMINGTON MAINTENANCE YARD

WILMINGTON, DELAWARE

Title

SEPTEMBER 2013 PAVING LOCATION AND SOIL SAMPLING PCB ANALYTICAL MAP

Project No. | Scale

Drawing No. | Sheet 12 | Revision

ORIGINAL SHEET – ANSI D

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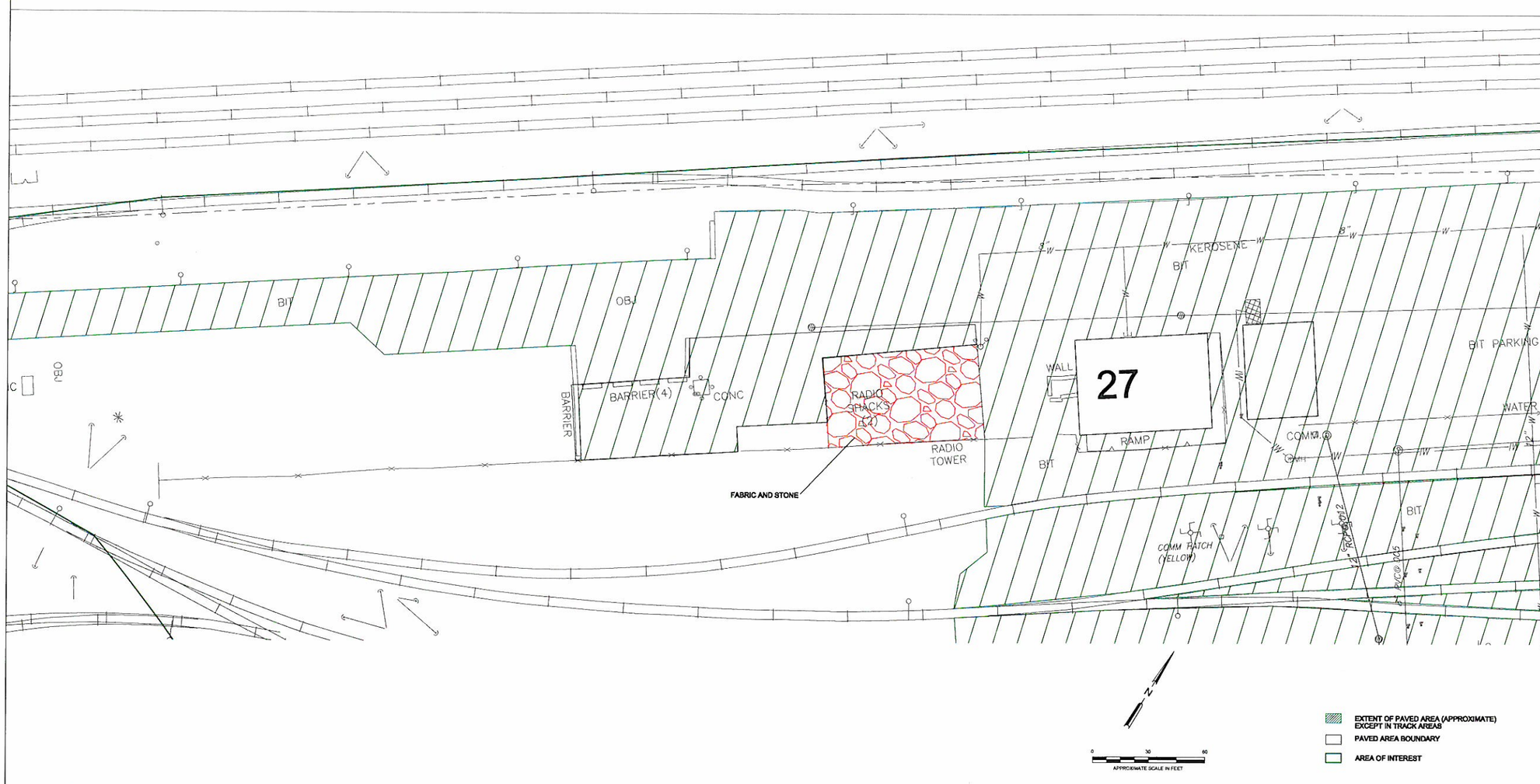
BUILDING LEGEND			
No.	Building	27	Oil House (Material Control)
		29	Locomotive Test Center
		30	B & B (Building & Bridge) Department
1	Roadway Equipment	31	B & B (Building & Bridge) Department
1A	Component Shop	32	Roundhouse
2	Roadway Equipment	33	M of W Offices (C & S, E T, Track Depts)
3	Locomotive Shop	35	Water/Fire Pump House
4	Electric Shop	36A	Mechanical
5	Card Room (2nd Floor/Electric Shop)	36B	RMC Compressed Gas Storage
6	Bake Shop (Electric Shop)	37	Wheel Shop
7	Oxygen & Acetylene Tank Storage	38	DAF Pollution Building
8	Maintenance Shop	39	Hazard Waste Drum Storage
9	Tring Shop (Roadway Equipment)	40	Storage
11	Roadway Equipment Storage	41	B & B (Building & Bridge) Department
12	Administration Building	42	New Inspection Shed
13	Metal Storage	44	Material Management
14	McKnoy Locker Room	45	Material Management
15	Material Control/Foreman's Locker Room	46	C&S Comm
16	Blacksmith/Brake Shop	47	C&S Comm
17	Power House	48	C&S Signals
18	Receiving Patio (Electric Shop)	49	C&S Signals
19	High Speed Training Center	50	Track Dept. Mechanic
20	Receiving (Material Control Department)	51	ET Repair and Parts
23	Loco Shop Lunch Room/T & E Sign-up	52	Engineering Oil Storage
24	Waste Oil Storage	53	Compressed Gas Storage
25	Fueling Area/Lube Oil	54	ET Storage Shed
		55	ET Repair Office
		56	C&S Radio Room



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Legend

X 90.00	SPOT GRADES
97	CONTOURS
○	BOLLARD
☼	LIGHT POLE
SS — Ⓢ — SS	SANITARY SEWER W/ M.H.
ST — SD	STORM SEWER M.H. WITH DRAIN
ST — Ⓓ — SD	STORM SEWER W/M.H.
IW	INDUSTRIAL WASTE LINE
W	WATER LINE

Notes

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5). Based on Flood Insurance Rate Map 1003C0160J , A portion of this parcel Parcel lies within Zone "AE" ; Base Flood Elevation Determined at Elevation 9, (NAVD 1988) ; a portion lies within the Zone "X" defined as areas of 0.2% annual chance flood (see flood map for additional notes) and a portion lies within the Zone "X" defined as areas outside the 0.02 % chance of floodplain, from Map Dated January 17, 2007.

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Seal

Client/Project

AMTRAK

WILMINGTON MAINTENANCE YARD

WILMINGTON, DELAWARE

Title

LOCATION OF PROPOSED EROSION AND SEDIMENTATION CONTROLS - RADIO TOWER

Project No.	Scale	
Drawing No.	Sheet	Revision
	13	

ORIGINAL SHEET - ANSI D

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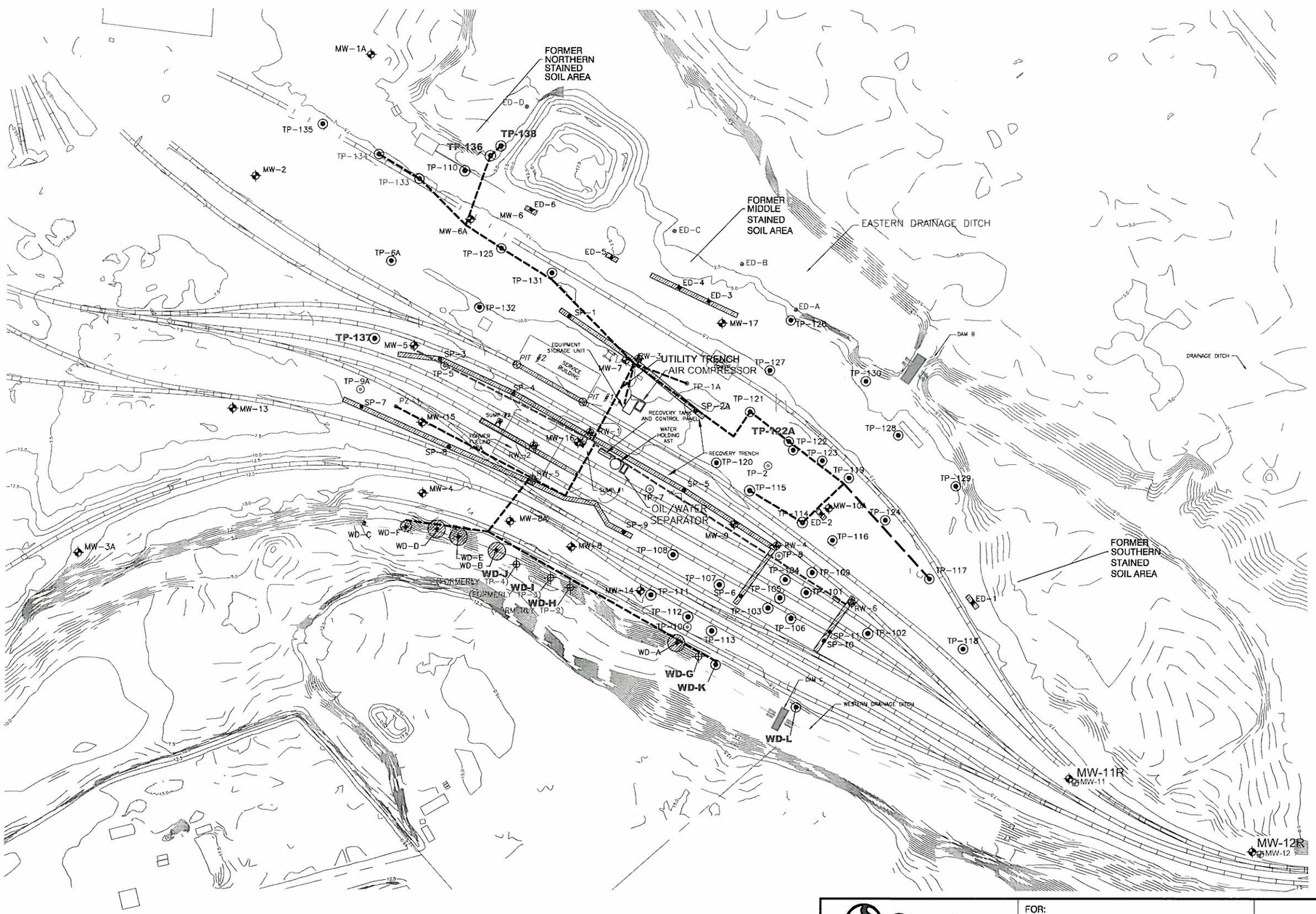

LEGEND

- RECOVERY WELL
- MW-11 MONITORING WELL
- RECOVERY SUMP LOCATIONS
- TP-2 TEST PIT STAND PIPE
- ED-2 OBSERVATION STAND PIPES
- SP-4 RECOVERY TRENCH STANDPIPES
- TEST PIT STAND PIPE
- RECOVERY SUMP LOCATIONS (INSTALLED 2009)
- ABANDONED WELL
- TOTAL FLUIDS SYSTEM PIPING (INSTALLED SINCE JULY 2007)

NOTE:
TEST PIT STANDPIPE LOCATIONS ARE APPROXIMATE.

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FOR:
AMTRAK WILMINGTON FORMER FUELING FACILITY
4001 VANDEVER AVENUE
WILMINGTON, DELAWARE

FORMER FUELING FACILITY DIESEL FUEL OIL RECOVERY SYSTEM LAYOUT

FIGURE: **14**

JOB NUMBER:	DRAWN BY:	CHECKED BY:	APPROVED BY:	DATE:
62OT.01057	TFB	PM	SB	1/14/2014

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TABLES

Table 1
Known, Probable, and Potential Sources, and Measures to Address Sources
Amtrak Wilmington Maintenance Shops

Known, Probable, and Potential Source	Measures to Address Sources
Maintenance Facility:	
Storm sewers	Subsurface investigations in the vicinity of Manhole MH-14 in the Outfall 007 storm sewer. Additional remedial investigations are ongoing.
	Product recovery wells have been installed. Product recovery equipment will be installed based on product thickness measured in the recovery wells. Monitoring of apparent product thickness in wells and manual product bailing/removal area ongoing.
	Storm sewer cleaning of the transfer table piping is planned.
Industrial waste sewer	Steam bay cleanout has been performed.
	Sampling from industrial waste sewer inlets inside buildings has been performed.
Surface soils	Installation and continued maintenance of inlet protection devices and other BMPs in the outfall 002 and 007 storm sewer systems drainage areas.
	Implementation of remedial investigations under the Delaware VCP; DNREC and EPA have approved the RI/FFS Work Plan for the Maintenance Facility
Storage of PCB containing waste materials	Site compliance inspections
Former Fueling Facility:	
Product on the water table	Product recovery operations (on-going)
Surface soils and sediments	To be addressed as part of the Delaware VCP Project for the Former Fueling Facility; RI/FFS Report was submitted to DNREC on July 30, 2007
	Implementation of storm water run-off and sediment reduction controls such as silt fence, rip-rap placement and hyrdo-seeding.

TABLE 2

PCB Aroclor Results
Inlet Protection Device - Sediment Samples
June 20, 2013

Amtrak Former Fueling Facility
4001 Vandever Avenue
Wilmington, Delaware

Aroclor	Units	Location								
		TD-1	TD-2	TD-3	TD-4	TD-5	TD-6	TD-7	TD-8	TD-9
PCB-1016	mg/kg	< 0.0032	< 0.0031	< 0.00062	< 0.00063	< 0.00062	< 0.00063	< 0.00062	< 0.00063	< 0.0031
PCB-1221	mg/kg	< 0.0041	< 0.0040	< 0.00080	< 0.00080	< 0.00080	< 0.00081	< 0.00080	< 0.00080	< 0.0040
PCB-1232	mg/kg	< 0.0036	< 0.0036	< 0.00072	< 0.00072	< 0.00072	< 0.00072	< 0.00071	< 0.00072	< 0.0036
PCB-1242	mg/kg	< 0.0035	< 0.0034	< 0.00066	< 0.00069	< 0.00068	< 0.00069	< 0.00068	< 0.00069	< 0.0034
PCB-1248	mg/kg	< 0.0020	< 0.0020	< 0.00040	< 0.00040	< 0.00040	< 0.00040	< 0.00039	< 0.00040	< 0.0020
PCB-1254	mg/kg	**0.49**	**0.53**	< 0.00060	**0.28**	**0.22**	**0.28**	**0.28**	**0.94**	**5.1**
PCB-1260	mg/kg	**1.4**	**2.2**	**0.64**	**0.75**	**0.95**	**1.2**	**0.31**	**0.77**	**2**
Total Aroclors	mg/kg	**1.89**	**2.73**	**0.64**	**1.03**	**1.17**	**1.48**	**0.59**	**1.71**	**7.1**
Sediment Mass	lbs	**1.02**	**1.25**	**6.47**	**2.67**	**2.01**	**1.54**	**3.97**	**3.26**	**3.13**
Sediment Mass	g	**462.67**	**567**	**2934.79**	**1211.11**	**911.74**	**698.54**	**1800.79**	**1478.74**	**1419.77**
PCB Mass Retained	mg	**0.87**	**1.55**	**1.88**	**1.25**	**1.07**	**1.03**	**1.06**	**2.53**	**10.08**

Aroclor	Units	Location								
		TD-10	TD-11	Grate-SE-LS	MH-SEWS-Addition	MH-Wheel Storage	MH-NE-WS	MH-N-SS	MH-NY-RW-2	MH-LS-Door #17
PCB-1016	mg/kg	< 0.00062	< 0.00062	< 0.00064	< 0.00062	< 0.00063	< 0.00063	< 0.00062	< 0.012	< 0.0063
PCB-1221	mg/kg	< 0.00080	< 0.00079	< 0.00082	< 0.00080	< 0.00080	< 0.00080	< 0.00080	< 0.016	< 0.0080
PCB-1232	mg/kg	< 0.00072	< 0.00071	< 0.00074	< 0.00071	< 0.00072	< 0.00072	< 0.00071	< 0.014	< 0.0072
PCB-1242	mg/kg	< 0.00068	< 0.00068	< 0.00070	< 0.00068	< 0.00068	< 0.00068	< 0.00068	< 0.014	< 0.0069
PCB-1248	mg/kg	< 0.00040	< 0.00039	< 0.00041	< 0.00039	< 0.00040	< 0.00040	< 0.00039	< 0.0079	< 0.0040
PCB-1254	mg/kg	**0.17**	**0.19**	**0.21**	**0.15**	**0.12**	**0.11**	**0.096**	**1.8**	< 0.0060
PCB-1260	mg/kg	**1**	**0.69**	**1**	**0.48**	**0.46**	**0.42**	**0.5**	**7**	**3.1**
Total Aroclors	mg/kg	**1.17**	**0.88**	**1.21**	**0.63**	**0.58**	**0.53**	**0.596**	**8.8**	**3.1**
Sediment Mass	lbs	**3.26**	**2.05**	**12.58**	**5.33**	**17.02**	**7.63**	**6.57**	**3.01**	**6.11**
Sediment Mass	g	**1478.74**	**929.88**	**5706.29**	**2,417.69**	**7720.27**	**3460.97**	**2980.15**	**1,365.34**	**2771.5**
PCB Mass Retained	mg	**1.73**	**0.82**	**6.90**	**1.52**	**4.48**	**1.83**	**1.78**	**12.01**	**8.59**

Aroclor	Units	Location								
		MH-MS-Door #28	MH-MS-Door #29	Grate-NE-LS	Graqte - Bldg #23	CB-7E	CB-9	CB-12	CB-14	CB-15
PCB-1016	mg/kg	< 0.0031	< 0.00062	< 0.0034	< 0.00062	< 0.00063	< 0.0063	< 0.00062	< 0.0062	< 0.0064
PCB-1221	mg/kg	< 0.0040	< 0.00080	< 0.0044	< 0.00080	< 0.00080	< 0.0081	< 0.00080	< 0.0080	< 0.0082
PCB-1232	mg/kg	< 0.0036	< 0.00072	< 0.0039	< 0.00072	< 0.00072	< 0.0072	< 0.00072	< 0.0072	< 0.0074
PCB-1242	mg/kg	< 0.0034	< 0.00068	< 0.0037	< 0.00068	< 0.00068	< 0.0069	< 0.00068	< 0.0068	< 0.0070
PCB-1248	mg/kg	< 0.0020	< 0.00040	< 0.0022	< 0.00040	< 0.00040	< 0.0040	< 0.00040	< 0.0040	< 0.0041
PCB-1254	mg/kg	**0.51**	**0.18**	**0.91**	**0.27**	**0.33**	**0.85**	**0.16**	**0.48**	**0.79**
PCB-1260	mg/kg	**2.5**	**0.73**	**2.4**	**1.2**	**1.2**	**4.4**	**0.88**	**3.5**	**5.4**
Total Aroclors	mg/kg	**3.01**	**0.91**	**3.31**	**1.47**	**1.53**	**5.25**	**1.04**	**3.98**	**6.19**
Sediment Mass	lbs	**4.17**	**8.13**	**4.52**	**10.41**	**7.12**	**5.07**	**18.12**	**9.17**	**2.32**
Sediment Mass	g	**1891.51**	**3,688**	**1,270.08**	**4,721.98**	**3229.63**	**2,299.75**	**8,219.23**	**4,159.51**	**1052.35**
PCB Mass Retained	mg	**5.69**	**3.36**	**4.20**	**6.94**	**4.94**	**12.07**	**8.55**	**16.55**	**6.51**

Aroclor	Units	Location						
		CB-18	MH-13	ZD-1	ZD-2	ZD-3	ZD-4	MH-4
PCB-1016	mg/kg	< 0.0031	< 0.00062	< 0.0063	< 0.0032	< 0.00063	< 0.00062	< 0.0031
PCB-1221	mg/kg	< 0.0040	< 0.00080	< 0.0080	<0.0040	< 0.00080	< 0.00080	< 0.0040
PCB-1232	mg/kg	< 0.0036	< 0.00072	< 0.0072	< 0.0036	< 0.00072	< 0.00071	< 0.0036
PCB-1242	mg/kg	< 0.0034	< 0.00068	< 0.0069	< 0.0035	< 0.00069	< 0.00068	< 0.0034
PCB-1248	mg/kg	< 0.0020	< 0.00040	< 0.0040	< 0.0020	< 0.00040	< 0.00039	< 0.0020
PCB-1254	mg/kg	**0.22**	**0.11**	< 0.0060	< 0.0030	**0.35**	**0.051**	**0.51**
PCB-1260	mg/kg	**1.7**	**0.4**	**4.7**	**2.2**	**1.1**	**0.19**	**1.8**
Total Aroclors	mg/kg	**1.92**	**0.51**	**4.7**	**2.2**	**1.45**	**0.241**	**2.31**
Sediment Mass	lbs	**6.57**	**10.25**	**3.82**	**3.16**	**3.36**	**5.73**	**2.8**
Sediment Mass	g	**2,980.15**	**4,649.40**	**1732.75**	**1433.38**	**1524.10**	**2599.13**	**1270.08**
PCB Mass Retained	mg	**5.72**	**2.37**	**8.14**	**3.15**	**2.21**	**0.63**	**2.93**

NOTES:
mg/l = milligrams per liter
<0.48 = Analyte not detected at the method detection level
0.36 = bold indicates the analyte was detected above the method detection limit
PCB Aroclors analyzed by Method 8082 utilizing low level detection methodology

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TABLE 3

PCB Aroclor Results
Inlet Protection Device - Sediment Samples
December 18, 2013

Amtrak Former Fueling Facility
4001 Vandever Avenue
Wilmington, Delaware

Aroclor	Units	Inlet ID / Location									
		TD-1	TD-2	TD-3	TD-4	TD-5	TD-6	TD-7	TD-8	TD-9	TD-10
PCB-1016	mg/kg	< 0.00062	< 0.00062	< 0.00062	< 0.00062	< 0.00062	< 0.00062	< 0.00062	< 0.00062	< 0.0062	< 0.00063
PCB-1221	mg/kg	< 0.00079	< 0.00080	< 0.00080	< 0.00080	< 0.00079	< 0.00080	< 0.00080	< 0.00080	< 0.0079	< 0.00080
PCB-1232	mg/kg	< 0.00071	< 0.00072	< 0.00072	< 0.00072	< 0.00071	< 0.00071	< 0.00072	< 0.00072	< 0.0071	< 0.00072
PCB-1242	mg/kg	< 0.00068	< 0.00068	< 0.00068	< 0.00068	< 0.00068	< 0.00068	< 0.00068	< 0.00068	< 0.0068	< 0.00069
PCB-1248	mg/kg	< 0.00039	< 0.00040	< 0.00040	< 0.00039	< 0.00039	< 0.00039	< 0.00040	< 0.00040	< 0.0039	< 0.00040
PCB-1254	mg/kg	< 0.00059	< 0.00060	< 0.00059	< 0.00059	< 0.00059	< 0.00059	< 0.00060	< 0.00059	< 0.0059	< 0.00060
PCB-1260	mg/kg	**0.37**	**0.45**	**0.48**	**0.51**	**0.38**	**0.29**	**0.1**	**0.097**	**0.76**	**0.35**
Total Aroclors	mg/kg	**0.37**	**0.45**	**0.48**	**0.51**	**0.38**	**0.29**	**0.1**	**0.097**	**0.76**	**0.35**
Sediment Mass	lbs	**2.69**	**2.66**	**7.71**	**8.77**	**2.5**	**2.16**	**6.58**	**5.72**	**7.43**	**9.84**
Sediment Mass	g	**1220.18**	**1206.58**	**3497.26**	**3978.07**	**1134.00**	**979.78**	**2984.69**	**2594.59**	**3370.25**	**4463.42**
PCB Mass Retained	mg	**0.45**	**0.54**	**1.68**	**2.03**	**0.43**	**0.28**	**0.30**	**0.25**	**2.56**	**1.56**

Aroclor	Units	Inlet ID / Location									
		TD-11	GRATE-SE-LS	MH-SE-WS-ADDITION	MH-WHEEL STORAGE	MH-NE-WS	MH-N-SS	MH-NY-RW-2	MH-LS-DOOR#17	MH-4	MH-MS-DOOR#28
PCB-1016	mg/kg	< 0.00063	< 0.00062	< 0.00062	< 0.00063	< 0.00062	< 0.032	< 0.0061	< 0.0063	< 0.00062	< 0.0063
PCB-1221	mg/kg	< 0.00080	< 0.00080	< 0.00079	< 0.00081	< 0.00080	< 0.041	< 0.0079	< 0.0081	< 0.00080	< 0.0080
PCB-1232	mg/kg	< 0.00072	< 0.00072	< 0.00071	< 0.00072	< 0.00072	< 0.036	< 0.0071	< 0.0072	< 0.00072	< 0.0072
PCB-1242	mg/kg	< 0.00069	< 0.00068	< 0.00068	< 0.00069	< 0.00068	< 0.035	< 0.0067	< 0.0069	< 0.00068	< 0.0068
PCB-1248	mg/kg	< 0.00040	< 0.00040	< 0.00039	**0.095**	< 0.00040	< 0.020	< 0.0039	**0.062**	< 0.00040	< 0.0040
PCB-1254	mg/kg	< 0.00060	< 0.00060	< 0.00059	< 0.00060	< 0.00060	< 0.030	< 0.0059	< 0.0060	< 0.00060	< 0.0060
PCB-1260	mg/kg	**0.88**	**0.76**	**0.2**	**0.2**	**0.16**	**9.3**	**2.2**	**2.1**	**0.23**	**1.6**
Total Aroclors	mg/kg	**0.88**	**0.76**	**0.2**	**0.295**	**0.16**	**9.3**	**2.2**	**2.162**	**0.23**	**1.6**
Sediment Mass	lbs	**3.39**	**8.11**	**9.29**	**7.39**	**8.63**	**1.82**	**2.77**	**1.96**	**1.26**	**1.54**
Sediment Mass	g	**1537.70**	**3678.70**	**4213.94**	**3352.10**	**3914.57**	**825.55**	**1256.47**	**889.06**	**571.54**	**698.54**
PCB Mass Retained	mg	**1.35**	**2.80**	**0.84**	**0.67**	**0.63**	**7.68**	**2.76**	**1.87**	**0.13**	**1.12**

Aroclor	Units	Inlet ID / Location									
		MH-MS-DOOR#29	GRATE-NE-LS	GRATE BLDG 23	CB-7E	CB-9	CB-11	CB-12	CB-14	CB-18	MH-13
PCB-1016	mg/kg	< 0.00062	< 0.032	< 0.00063	< 0.0062	< 0.00062	< 0.00063	< 0.00062	< 0.0062	< 0.00062	< 0.0063
PCB-1221	mg/kg	< 0.00080	< 0.040	< 0.00081	< 0.0079	< 0.00079	< 0.00080	< 0.00080	< 0.0079	< 0.00080	< 0.0081
PCB-1232	mg/kg	< 0.00071	< 0.036	< 0.00073	< 0.0071	< 0.00071	< 0.00072	< 0.00072	< 0.0071	< 0.00072	< 0.0072
PCB-1242	mg/kg	< 0.00068	< 0.035	< 0.00069	< 0.0068	< 0.00068	< 0.00069	< 0.00068	< 0.0068	< 0.00068	< 0.0069
PCB-1248	mg/kg	< 0.00039	< 0.020	< 0.00040	< 0.0039	< 0.00039	< 0.00040	< 0.00039	< 0.0039	< 0.00040	< 0.0040
PCB-1254	mg/kg	< 0.00059	< 0.030	< 0.00060	< 0.0059	< 0.00059	< 0.00060	< 0.00059	< 0.0059	< 0.00059	< 0.0060
PCB-1260	mg/kg	**0.62**	**23**	**0.89**	**1.4**	**0.86**	**0.38**	**0.62**	**2.1**	**0.83**	**1.8**
Total Aroclors	mg/kg	**0.62**	**23**	**0.89**	**1.4**	**0.86**	**0.38**	**0.62**	**2.1**	**0.83**	**1.8**
Sediment Mass	lbs	**10.24**	**4.27**	**8.19**	**2.64**	**10.62**	**22.69**	**6.6**	**14.7**	**5.29**	**3.78**
Sediment Mass	g	**4644.86**	**1936.87**	**3714.98**	**1197.50**	**4817.23**	**10292.18**	**2993.76**	**6667.92**	**2399.54**	**1714.61**
PCB Mass Retained	mg	**2.88**	**44.55**	**3.31**	**1.68**	**4.14**	**3.91**	**1.86**	**14.00**	**1.99**	**3.09**

Aroclor	Units	Inlet ID / Location			
		ZD-1	ZD-2	ZD-3	ZD-4
PCB-1016	mg/kg	< 0.012	< 0.00062	< 0.00062	< 0.00063
PCB-1221	mg/kg	< 0.016	< 0.00079	< 0.00079	< 0.00080
PCB-1232	mg/kg	< 0.014	< 0.00071	< 0.00071	< 0.00072
PCB-1242	mg/kg	< 0.014	< 0.00068	< 0.00068	< 0.00068
PCB-1248	mg/kg	< 0.0079	< 0.00039	< 0.00039	< 0.00040
PCB-1254	mg/kg	< 0.012	< 0.00059	< 0.00059	< 0.00060
PCB-1260	mg/kg	**5.8**	**0.49**	**0.5**	**0.41**
Total Aroclors	mg/kg	**5.8**	**0.49**	**0.5**	**0.41**
Sediment Mass	lbs	**4.55**	**4.05**	**3.35**	**4.45**
Sediment Mass	g	**2063.88**	**1837.08**	**1519.56**	**2018.52**
PCB Mass Retained	mg	**11.97**	**0.90**	**0.76**	**0.83**

mg/l = milligrams per liter

<0.48 = Analyte not detected at the method detection level

0.36 = bold indicates the analyte was detected above the method detection limit

PCB Aroclors analyzed by Method 8082 utilizing low level detection methodology

TABLE 4

Outfalls 002, 006 and 007
Summary of Wet Weather and Dry Weather Sampling Event Results
2005 through 2013
Total PCB Congeners (pg/L)
Amtrak Wilmington Shops

Wet Weather Samples				
Date	Outfall 002	Outfall 006	Outfall 007	Precipitation (in)
Sept. 26/27, 2005	152,579.480	160,773.595		0.19
Oct.7/8, 2005	1,156,461.490	92,419.960		0.72
Oct. 21/22, 2005	427,556.890	77,365.600		0.21/0.81
Average (Outfalls 002 and 006) (PMP Baseline)	**578,865.953**	**110,186.385**		
Dec 1/2, 2006	893,885.46	36,641.81	797,239.63	0.21
July 11-12, 2007	807,375.20	109,384.99	161,433.43	0.23
Sept. 11, 2007			1,009,122.96	0.19
Average (Outfall 007) (PMP Baseline)			**655,932.01**	
Sept. 25, 2008		93,820.170		0.1
Oct 25, 2008	349,284.87	11,335.460	1,052,255.90	0.99
Oct 28, 2008 (6 hour composite)		54,927.800		0.72
March 19, 2009 (6 hour composite)		48,227.760		0.13
October 15, 2009		81,279.18		0.44
October 16, 2009			332,751.98	0.44
March 22, 2010 (6 hour composite)		21,077.080		0.34
April 22, 2010	92,407.26			0.28
Oct. 14, 2010	268,572.42	44,718.37	134,600.07	0.73
March 6, 2011 (6 hour composite)		86,592.070		0.17
June 28, 2011 (6 hour composite)		158,966.490		0.98
September 28, 2011 (6 hour composite)		111,449.990		0.13
October 12, 2011 (6 hour composite)		79,261.130		0.29
November 16, 2011	214,709.39	79,846.29	807,952.42	0.62
October 2, 2012 (6 hour composite)		156,411.62		0.14
November 7, 2012	126,851.06	48,381.83	52,328.07	0.24
November 27, 2012 (6 hour composite)		61,132.10		0.61
November 26, 2013	733,555.87	38,410.88	437,069.14	2.51
Average All Wet Weather Samples	**474,839.945**	**78,686.865**	**531,639.289**	

Dry Weather Samples				
Date	Outfall 002	Outfall 006	Outfall 007	Precipitation (in)
Jun. 24, 2005	NA	12,351.90	NA	NA
Aug. 23, 2005	NA	145,713.69	NA	NA
Oct. 6, 2005	NA	51,174.82	NA	NA
Oct 22, 2008 (6 hour composite)		45,206.61		NA
June 1, 2009 (6 hour composite)		102,870.40		NA
October 9, 2009 (24 hour composite)	75,010.07			NA
Oct. 13, 2010 (6 hour composite)		49,953.74		NA
Dec. 8, 2010 (6 hour composite)		80,623.50		NA
July 15, 2011 (6 hour composite)		71,530.76		NA
October 11, 2011 (6 hour composite)		57,525.95		NA
January 11, 2012 (6 hour composite)		67,140.51		NA
October 15, 2012 (6 hour composite)		44,209.40		NA
November 6, 2012 (6 hour composite)		46,958.75		NA
January 3, 2013 (6-hour composite)		55,100.06		NA
June 25, 2013 (6-hour composite)		198,854.99		NA
October 4, 2013 (6-hour composite)		82,510.58		NA
November 7, 2013 (6-hour composite)		66,432.19		NA
Average All Dry Weather Samples		**73,634.866**		

Outfall 006 Incoming (dry weather)		
Date	Outfall 006	Precipitation (in)
Jun. 24, 2005	2,873.810	NA
Oct 16, 2008	101,608.02	NA
June 1, 2009	10,633.77	NA
Oct. 14, 2010	3,835.58	NA
Feb. 11, 2011	912.34	NA
September 20, 2011	7,937.69	NA
October 11, 2011	10,356.46	NA
Average Incoming Tide Samples	**29,737.80**	

Notes:

Outfall 006 samples were grab samples collected on out-going flow conditions except where noted

Table 5

Surface and Subsurface Soil - New Paved Area
PCB Aroclor Results
2008 and 2013

Amtrak Former Fueling Facility
4001 Vandever Avenue
Wilmington, Delaware

Aroclor	Units	URS for Protection of Human Health Non-Critical Water Resource Area Restricted Use Surface Soil	Location								
			PMP - HA - 3 (0-0.5)	PMP - HA - 3 (0.5-1.0)	PMP - HA - 3 (1.5-2.0)	PMP - HA - 4 (0-0.5)	PMP - HA - 4 (0.5-1.0)	PMP - HA - 4 (1.5-2.0)	PMP - HA - 5 (0-0.5)	PMP - HA - 5 (0.5-1.0)	PMP - HA - 5 (1.5-2.0)
PCB-1016	mg/kg	82	< 0.94	< 0.40	< 1.0	< 1.8	< 0.099	< 0.098	< 0.92	< 1.9	< 0.96
PCB-1221	mg/kg	3	< 0.94	< 0.40	< 1.0	< 1.8	< 0.099	< 0.098	< 0.92	< 1.9	< 0.96
PCB-1232	mg/kg	3	< 0.94	< 0.4	< 1.0	< 1.8	< 0.099	< 0.098	< 0.92	< 1.9	< 0.96
PCB-1242	mg/kg	3	< 0.94	< 0.40	< 1.0	< 1.8	< 0.099	< 0.098	< 0.92	< 1.9	< 0.96
PCB-1248	mg/kg	3	< 0.94	< 0.40	< 1.0	< 1.8	< 0.099	< 0.098	< 0.92	< 1.9	< 0.96
PCB-1254	mg/kg	3	< 0.94	< 0.40	< 1.0	< 1.8	< 0.099	< 0.098	< 0.92	< 1.9	< 0.96
PCB-1260	mg/kg	3	**6.9**	**2**	**4.7**	**14**	**0.71**	**0.82**	**5.8**	**12**	**2.5**
Total Aroclors	mg/kg	1	**6.9**	**2**	**4.7**	**14**	**0.71**	**0.82**	**5.8**	**12**	**2.5**

Aroclor	Units	URS for Protection of Human Health Non-Critical Water Resource Area Restricted Use Surface Soil	Location								
			PMP - HA - 6 (0-0.5)	PMP - HA - 6 (0.5-1.0)	PMP - HA - 6 (1.5-2.0)	PMP - HA - 7 (0-0.5)	PMP - HA - 7 (0.5-1.0)	PMP - HA - 7 (1.5-2.0)	PMP - HA - 8 (0-0.5)	PMP - HA - 8 (0.5-1.0)	PMP - HA - 8 (1.5-2.0)
PCB-1016	mg/kg	82	< 1.9	< 1.9	< 1.9	< 92	< 19	< 19	< 18	< 1.8	< 1.8
PCB-1221	mg/kg	3	< 1.9	< 1.9	< 1.9	< 92	< 19	< 19	< 18	< 1.8	< 1.8
PCB-1232	mg/kg	3	< 1.9	< 1.9	< 1.9	< 92	< 19	< 19	< 18	< 1.8	< 1.8
PCB-1242	mg/kg	3	< 1.9	< 1.9	< 1.9	< 92	< 19	< 19	< 18	< 1.8	< 1.8
PCB-1248	mg/kg	3	< 1.9	< 1.9	< 1.9	< 92	< 19	< 19	< 18	< 1.8	< 1.8
PCB-1254	mg/kg	3	< 1.9	< 1.9	< 1.9	< 92	< 19	< 19	<18	< 1.8	< 1.8
PCB-1260	mg/kg	3	**11**	**11**	**8.6**	**410**	**180**	**130**	**42**	**17**	**16**
Total Aroclors	mg/kg	1	**11**	**11**	**8.6**	**410**	**180**	**130**	**42**	**17**	**16**

Aroclor	Units	URS for Protection of Human Health Non-Critical Water Resource Area Restricted Use Surface Soil	Location								
			PMP - HA - 9 (0-0.5)	PMP - HA - 9 (0.5-1.0)	PMP - HA - 9 (1.5-2.0)	PMP - HA - 10 (0-0.5)	PMP - HA - 10 (0.5-1.0)	PMP - HA - 10 (1.5-2.0)	PMP - HA - 11 (0-0.5)	PMP - HA - 11 (0.5-1.0)	PMP - HA - 11 (1.5-2.0)
PCB-1016	mg/kg	82	< 1.8	< 1.8	< 1.0	< 1.8	< 1.9	< 1.9	< 1.8	< 9.6	< 1.9
PCB-1221	mg/kg	3	< 1.8	< 1.8	< 1.0	< 1.8	< 1.9	< 1.9	< 1.8	< 9.6	< 1.9
PCB-1232	mg/kg	3	< 1.8	< 1.8	< 1.0	< 1.8	< 1.9	< 1.9	< 1.8	< 9.6	< 1.9
PCB-1242	mg/kg	3	< 1.8	< 1.8	< 1.0	< 1.8	< 1.9	< 1.9	< 1.8	< 9.6	< 1.9
PCB-1248	mg/kg	3	< 1.8	< 1.8	< 1.0	< 1.8	< 1.9	< 1.9	< 1.8	< 9.6	< 1.9
PCB-1254	mg/kg	3	< 1.8	< 1.8	< 1.0	< 1.8	< 1.9	< 1.9	< 1.8	< 9.6	< 1.9
PCB-1260	mg/kg	3	**7.8**	**11**	**3.9**	**9.9**	**24**	**8.3**	**19**	**45**	**11**
Total Aroclors	mg/kg	1	**7.8**	**11**	**3.9**	**9.9**	**24**	**8.3**	**19**	**45**	**11**

Aroclor	Units	URS for Protection of Human Health Non-Critical Water Resource Area Restricted Use Surface Soil	Location				
			PMP - HA - 12 (0-0.5)	PMP - HA - 12 (0.5-1.0)	PMP - HA - 12 (1.5-2.0)	SB-43(0.0-2.0)	SB-43(2.0-3.8)
PCB-1016	mg/kg	82	< 1.8	< 9.9	< 1.9	< 19	< 0.21
PCB-1221	mg/kg	3	< 1.8	< 9.9	< 1.9	< 19	< 0.21
PCB-1232	mg/kg	3	< 1.8	< 9.9	< 1.9	< 19	< 0.21
PCB-1242	mg/kg	3	< 1.8	< 9.9	< 1.9	< 19	< 0.21
PCB-1248	mg/kg	3	< 1.8	<9.9	< 1.9	< 19	< 0.21
PCB-1254	mg/kg	3	< 1.8	< 9.9	< 1.9	< 19	< 0.21
PCB-1260	mg/kg	3	**12**	**55**	**14**	**84**	**2.6**
Total Aroclors	mg/kg	1	**12**	**55**	**14**	**84**	**2.6**

NOTES:
ug/l = micrograms per liter
mg/l = milligrams per liter
ND (0.53) = Analyte not detected at or above this detection limit
<0.48 = Analyte detected at a concentration below the limit of quantitation but above the minimum detection level
Analytical data validated by SECOR personnel
PCB Aroclors analyzed by Method 8082
Bold - indicates constituent detected above the MDL
Bold and Shaded - indicates constituent detected above the URS for Protection of Human Health Non-Critical Water Resource Area Restricted Use Surface Soil

V:\213\active\Clients\Amtrak-APU\PMP Annual Reports\PMP Progress Report for 2013\Tables\[Table 5 - Aug 2008 and 2012 aroclor reults - 007 ONLY.xls]PMP - HA

Table 6
Estimate of PCB Mass Removed 2013
Amtrak Wilmington Maintenance Shops
Wilmington, Delaware

	Location	Estimated Average PCB Concentration (mg/kg) or (mg/l)	Liguids Volume (Gallons)	Volume (Liters)	Solids Total Weight (tons)	Estimated PCB Mass (lbs)
2013	**Roundhouse Soil**					
	TSCA Soil	56.2	--	--	4.3	0.483
	Non-TSCA Soil	3.4	--	--	75.19	0.511
	Transfer Table					
	Water	0.06	11,050	41824.25	--	0.01
	Sediment	3.9	--	--	15	0.117
	Inlet Protection Pilot Program					
	Sediment	3.53	--	--	0.144	0.000008
	Building 16 Maintenance Work					
	1 roll-of container	4.79	--	--	11.89	0.114
Ongoing						
	LNAPL Recovery (2013)	4.5	420	1589.7	--	0.02
	Total					**1.25**

Table 7

Outfalls 002, 004, and 007 Drainage Area Characteristics
Amtrak Wilmington Maintenance Facility

Outfall Location	Drainage Area (acres)	Runoff Coefficient (See note 1)
002	15.0	0.9332
004	11.0	0.6666 (see note 2)
007	29.1	0.824

Note 1: Runoff Coeff estimated using the Rational Method
Note 2: Pre-erosion and sediment reduction control measures runoff coefficient estimated to be 72

Table 8

Estimated Baseline Loadings Summary
Amtrak Wilmington Maintenance Shops

Outfall Location	Baseline Loading (mg/day)	Total Baseline Loading (mg/day)
002	119.7	
007	229.5 (see note 2)	
Waste Water Treatment System (WWTS)	52.2	
Maintenance Facility		**401.4**
Outfall 004	1719 (see note 1)	
Outfall 006	NA (refer to text)	
Outfalls 002, 004, 007 and WWTS		**2090.5**

Note 1: Loading is for only 83 congeners
Note 2: Baseline estimate has been revised from the PMP Annual Report for 2006 as a result of the two additional baseline sampling events

Table 9

Estimated Changes in Baseline Loadings Summary
Amtrak Wilmington Maintenance Facility

Outfall Location	**Baseline Loading (mg/day)**	**2013 Loading (mg/day)** (see notes)	**Change in Loading (%)**
002	119.7	38.9	-67.5%
007	229.5	137.6	-40%
Waste Water Treatment System (WWTS)	52.2	35.3	-32.1%
Total Maintenance Facility	**375.8**	**211.8**	**-43.6%**
Outfall 004	1719 (see note 1)	112 (see note 2)	-93%
Outfall 006	NA (see note 3)	56.2 (see note 4)	NA
Total Outfalls 002, 004, 007 and WWTS	**2,094.8**	**323.8**	**-84.5%**
Total Outfalls 002 , 006 and WWTS (see note 5)	NA	130.4	NA

Notes:
1) Baseline loading is for only 83 PCB congeners
2) Considers three post-erosion control and sediment reduction sampling events (2003-2004) and the baseline precipitation data; post-measures loading is for 209 congeners
3) Baseline loading not estimated for Outfall 006 (refer to text)
4) Refer to text for estimated loading for Outfall 006
5) Outfall 004 and 007 flow to Outfall 006

TABLE 10 PMP ANNUAL REPORT SUMMARY SHEET

Facility: Amtrak Wilmingtin Maintenance Yard

Contact Information

Name: Andrew Enzman

Phone: (302) 429-6458

Email: EnzmanA@amtrak.com

NPDES No(s).: DE0050962

Date of Completeness Determination: 18-Jan-06

Date of Initiation of PMP: Jun-03

Cumulative Percent Reductions

Baseline Loading Calculations Date: March 13, 2007

Revisions Date: January 17, 2014

Year	Loading (milligrams per day)	Estimated Reductions (milligrams per day)	Cumulative Reductions (% from baseline)
TMDL Estimated Loading (to be added by DRBC)			
Discharger Computed Baseline	2,095		
1	589	1,506	72
2	554	1,541	73.5
3	476	1,619	77.3
4	261	1,834	87.6
5	214	1,881	89.8
6	473.6	1,621	77.4
7	155.6	1,939	92.6
8	323.8	1,771	84.5

Measures

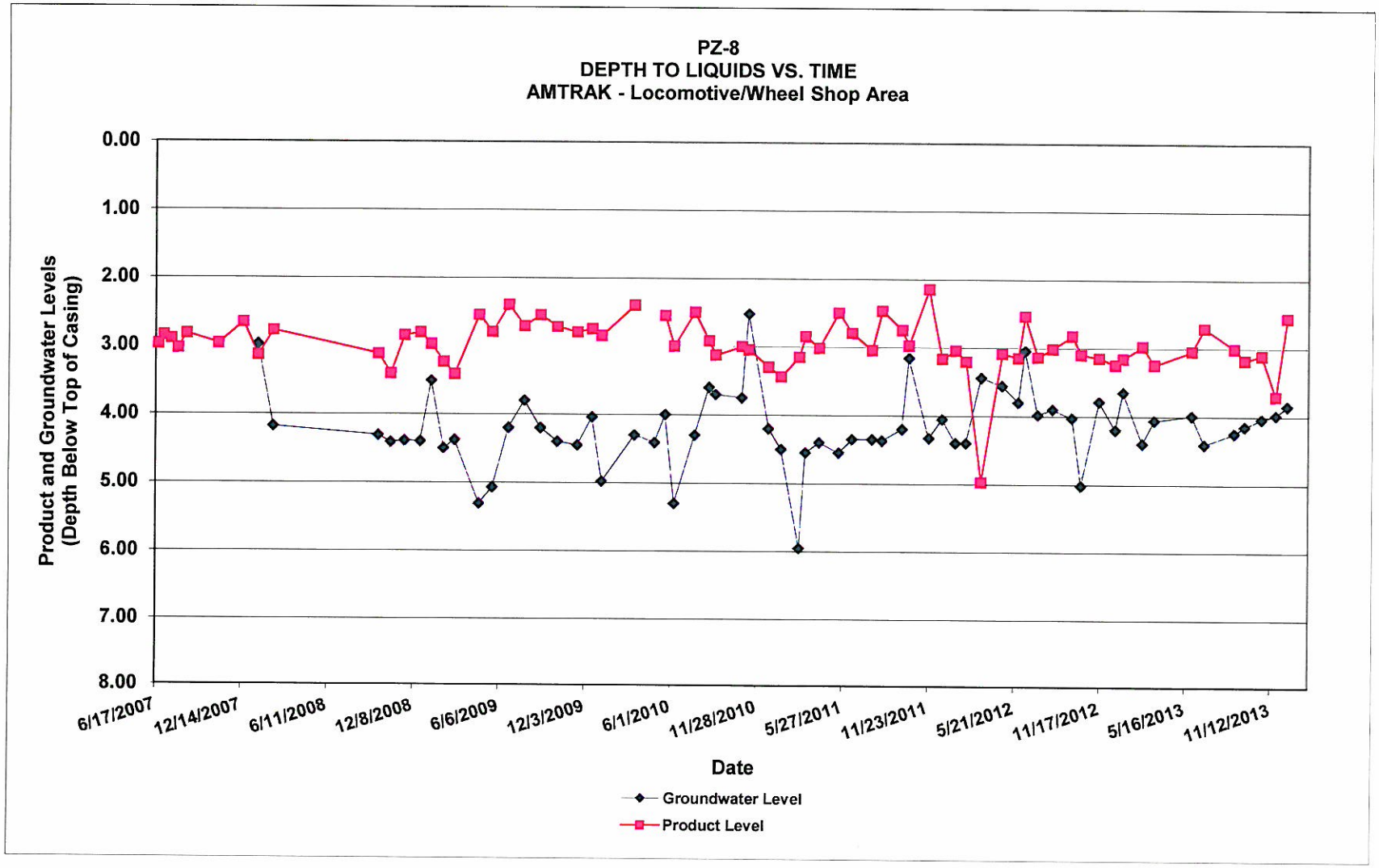
Description	Date Initiated	Date Completed	Comments/Status:
Erosion Control and Sediment Reduction Measrues	Jul-03	Apr-08	Additonal Measures will be consistent with RI/FFS projects
Storm Sewer Cleanout	Aug-06	Nov-06	Additonal post-cleanout monitoring to be performed
Diesel Fuel Recovery and Control Operations	Aug-98	on-going	Performed as part of the Delaware VCP project
Steam Bay Cleanout	2008 -2009	on-going	Periodic Cleanouts to be performed
Inlet Protection Program	Apr-11	on-going	Ongoing maintenance of inlet protection devices
Transfer Table Storm Sewer Cleanout/Repair	Aug-13	Sep-13	Additional post-cleanout monitoring to be performed
Paving	Sep-13	Sep-13	Grade raised with stone and paving; area now drains to Outfall 002

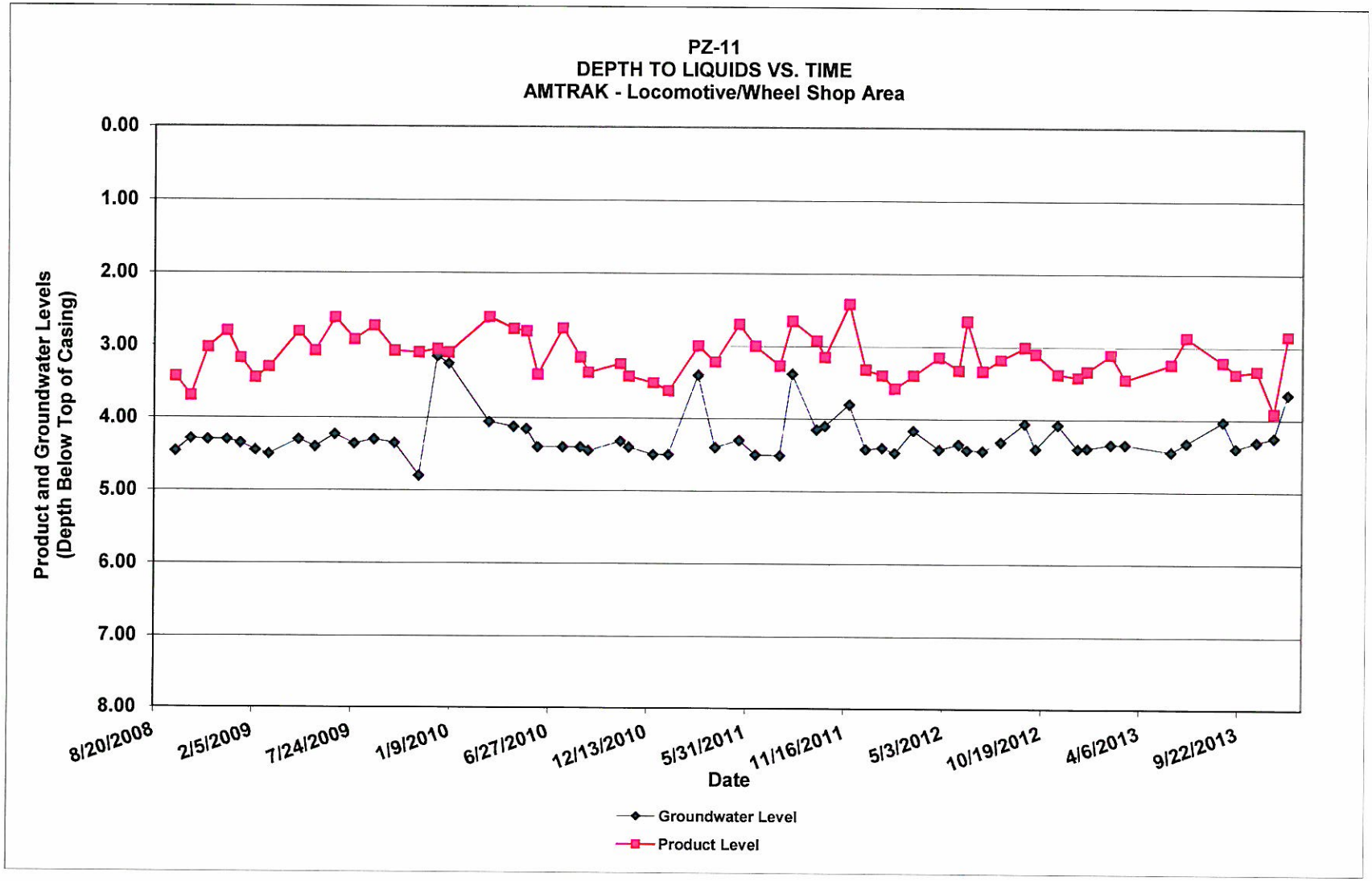
Monitoring

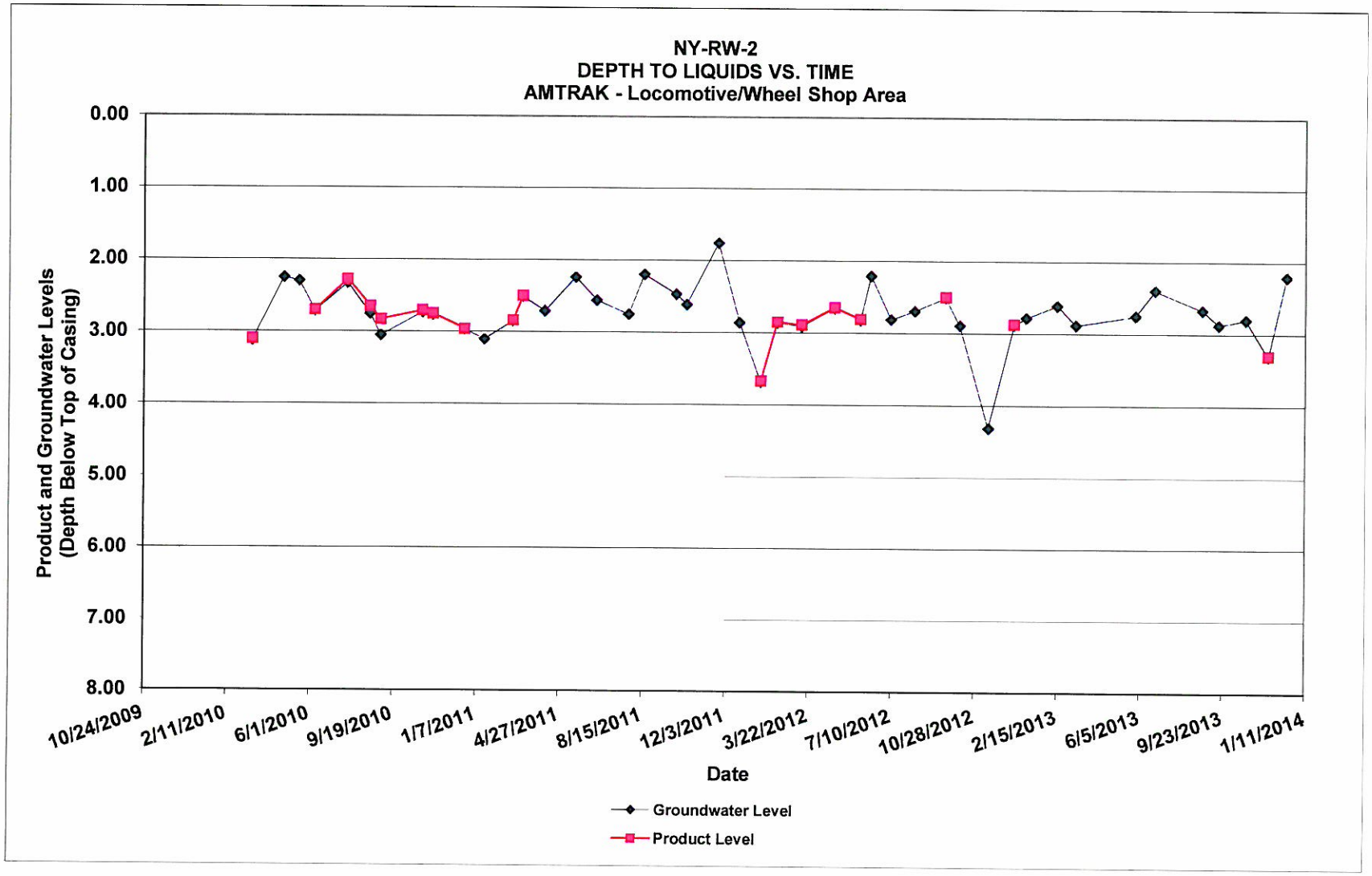
Sample Location	Date of Sample Collection	Date Results Received	Total PCBs (pg/l)	Penta-PCBs (pg/l)
Outfall 002	26-Nov-13	Jan-14	733,555.87	174,067.70
Outfall 006	26-Nov-13	Jan-14	38,410.88	5,549.72
Outfall 007	26-Nov-13	Jan-14	437,069.14	69,384.20

APPENDIX A - PROJECT RELATED CORRESPONDENCE

APPENDIX B - LOCOMOTIVE AND WHEEL SHOPS AREA INVESTIGATION HYDROGRAPHS


PZ-8
DEPTH TO LIQUIDS VS. TIME
AMTRAK - Locomotive/Wheel Shop Area
Product and Groundwater Levels
(Depth Below Top of Casing)
0.00
1.00
2.00
3.00
4.00
5.00
6.00
7.00
8.00
6/17/2007
12/14/2007
6/11/2008
12/8/2008
6/6/2009
12/3/2009
6/1/2010
11/28/2010
5/27/2011
11/23/2011
5/21/2012
11/17/2012
5/16/2013
11/12/2013
Date
Groundwater Level
Product Level


PZ-11
DEPTH TO LIQUIDS VS. TIME
AMTRAK - Locomotive/Wheel Shop Area
Product and Groundwater Levels
(Depth Below Top of Casing)
0.00
1.00
2.00
3.00
4.00
5.00
6.00
7.00
8.00
8/20/2008
2/5/2009
7/24/2009
1/9/2010
6/27/2010
12/13/2010
5/31/2011
11/16/2011
5/3/2012
10/19/2012
4/6/2013
9/22/2013
Date
Groundwater Level
Product Level


NY-RW-2
DEPTH TO LIQUIDS VS. TIME
AMTRAK - Locomotive/Wheel Shop Area
Product and Groundwater Levels
(Depth Below Top of Casing)
0.00
1.00
2.00
3.00
4.00
5.00
6.00
7.00
8.00
10/24/2009
2/11/2010
6/1/2010
9/19/2010
1/7/2011
4/27/2011
8/15/2011
12/3/2011
3/22/2012
7/10/2012
10/28/2012
2/15/2013
6/5/2013
9/23/2013
1/11/2014
Date
Groundwater Level
Product Level

APPENDIX C - OUTFALLS 002 AND 007 PILOT INLET PROTECTION PROGRAM SEDIMENT LABORATORY DATA – JUNE 20, 2014

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

ANALYTICAL REPORT

TestAmerica Laboratories, Inc.
TestAmerica Pittsburgh
301 Alpha Drive
RIDC Park
Pittsburgh, PA 15238
Tel: (412)963-7058

TestAmerica Job ID: 180-22511-1
Client Project/Site: AMTRAK WILMINGTON

For:
Stantec Consulting Corp.
1060 Andrew Drive
Suite 140
West Chester, Pennsylvania 19380

Attn: Mr. Steve Baggett

Authorized for release by:
7/9/2013 9:57:24 AM

Carrie Gamber, Senior Project Manager
carrie.gamber@testamericainc.com

LINKS

Review your project results through TotalAccess

Have a Question? Ask The Expert

Visit us at:
www.testamericainc.com

This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

Results relate only to the items tested and the sample(s) as received by the laboratory.

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QC Association Summary 34
Chain of Custody 37
Receipt Checklists 42

Job ID: 180-22511-1

Laboratory: TestAmerica Pittsburgh

Narrative

CASE NARRATIVE

Client: Stantec Consulting Corp.

Project: AMTRAK WILMINGTON

Report Number: 180-22511-1

With the exceptions noted as flags or footnotes, standard analytical protocols were followed in the analysis of the samples and no problems were encountered or anomalies observed. In addition all laboratory quality control samples were within established control limits, with any exceptions noted below. Each sample was analyzed to achieve the lowest possible reporting limit within the constraints of the method. In some cases, due to interference or analytes present at high concentrations, samples were diluted. For diluted samples, the reporting limits are adjusted relative to the dilution required.

Calculations are performed before rounding to avoid round-off errors in calculated results.

All holding times were met and proper preservation noted for the methods performed on these samples, unless otherwise detailed in the individual sections below.

RECEIPT
The samples were received on 06/25/2013; the samples arrived in good condition, properly preserved and on ice. The temperature of the coolers at receipt was 3.6 C.

PCB
The following sample(s) contained more than one Aroclor component: CB-12 (180-22511-12), MH-MS-DOOR#29 (180-22511-18), MH-NE-WS (180-22511-19), TD-10 (180-22511-10), TD-11 (180-22511-11), TD-6 (180-22511-6), TD-7 (180-22511-7), TD-8 (180-22511-8), (180-22511-23 MS), (180-22511-23 MSD), CB-7E (180-22511-24), GRATE BLDG 23 (180-22511-29), GRATE-SE-LS (180-22511-33), MH-13 (180-22511-23), MH-N-SS (180-22511-31), MH-SE-WS-ADDITION (180-22511-32), TD-4 (180-22511-21), TD-5 (180-22511-22), ZD-3 (180-22511-27), ZD-4 (180-22511-28). . Results are estimated due to shared peaks.

Many samples were diluted to bring the concentration of target analytes within the calibration range. Elevated reporting limits (RLs) are provided. Many samples also had surrogate recoveries diluted out.

PCB-1016 failed the recovery criteria high for the MS/MSD of sample TD-3 (180-22511-5) in batch 180-76381.

The presence of the '4' qualifier in the data indicates analytes where the concentration in the unspiked sample exceeded four times the spiking amount.

PERCENT SOLIDS
No difficulties were encountered during the % solids analysis.

Qualifiers

GC Semi VOA

Qualifier	Qualifier Description
D	Surrogate or matrix spike recoveries were not obtained because the extract was diluted for analysis; also compounds analyzed at a dilution may be flagged with a D.
X	Surrogate is outside control limits
4	MS, MSD: The analyte present in the original sample is 4 times greater than the matrix spike concentration; therefore, control limits are not applicable.
F	MS or MSD exceeds the control limits

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
¤	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CNF	Contains no Free Liquid
DER	Duplicate error ratio (normalized absolute difference)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision level concentration
MDA	Minimum detectable activity
EDL	Estimated Detection Limit
MDC	Minimum detectable concentration
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
NC	Not Calculated
ND	Not detected at the reporting limit (or MDL or EDL if shown)
PQL	Practical Quantitation Limit
QC	Quality Control
RER	Relative error ratio
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)

Certification Summary

Client: Stantec Consulting Corp.
Project/Site: AMTRAK WILMINGTON

TestAmerica Job ID: 180-22511-1

Laboratory: TestAmerica Pittsburgh

All certifications held by this laboratory are listed. Not all certifications are applicable to this report.

Authority	Program	EPA Region	Certification ID	Expiration Date
Arkansas DEQ	State Program	6	88-0690	06-27-13 *
California	NELAP	9	4224CA	03-31-14
Connecticut	State Program	1	PH-0688	09-30-14
Florida	NELAP	4	E871008	06-30-14
Illinois	NELAP	5	002602	06-30-13 *
Kansas	NELAP	7	E-10350	01-31-14
L-A-B	DoD ELAP		L2314	07-24-13
Louisiana	NELAP	6	04041	06-30-13 *
New Hampshire	NELAP	1	203011	04-05-14
New Jersey	NELAP	2	PA005	06-30-14
New York	NELAP	2	11182	04-01-14
North Carolina DENR	State Program	4	434	12-31-13
Pennsylvania	NELAP	3	02-00416	04-30-14
South Carolina	State Program	4	89014	04-30-13 *
US Fish & Wildlife	Federal		LE94312A-1	11-30-14
USDA	Federal		P-Soil-01	04-16-15
USDA	Federal		P330-10-00139	05-23-16 *
Utah	NELAP	8	STLP	04-30-14
Virginia	NELAP	3	460189	09-14-13
West Virginia DEP	State Program	3	142	01-31-14
Wisconsin	State Program	5	998027800	08-31-13

* Expired certification is currently pending renewal and is considered valid.

Sample Summary

Client: Stantec Consulting Corp.
Project/Site: AMTRAK WILMINGTON

TestAmerica Job ID: 180-22511-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
180-22511-1	MH-NY-RW-2	Sediment	06/20/13 09:40	06/25/13 09:45
180-22511-2	GRATE-NE-LS	Sediment	06/20/13 09:35	06/25/13 09:45
180-22511-3	TD-1	Sediment	06/20/13 09:15	06/25/13 09:45
180-22511-4	TD-2	Sediment	06/20/13 09:50	06/25/13 09:45
180-22511-5	TD-3	Sediment	06/20/13 10:10	06/25/13 09:45
180-22511-6	TD-6	Sediment	06/20/13 09:20	06/25/13 09:45
180-22511-7	TD-7	Sediment	06/20/13 09:45	06/25/13 09:45
180-22511-8	TD-8	Sediment	06/20/13 09:25	06/25/13 09:45
180-22511-9	TD-9	Sediment	06/20/13 09:35	06/25/13 09:45
180-22511-10	TD-10	Sediment	06/20/13 09:45	06/25/13 09:45
180-22511-11	TD-11	Sediment	06/20/13 10:35	06/25/13 09:45
180-22511-12	CB-12	Sediment	06/20/13 10:30	06/25/13 09:45
180-22511-13	CB-15	Sediment	06/20/13 09:15	06/25/13 09:45
180-22511-14	CB-18	Sediment	06/20/13 10:25	06/25/13 09:45
180-22511-15	MH-4	Sediment	06/20/13 10:25	06/25/13 09:45
180-22511-16	MH-MS-DOOR#28	Sediment	06/20/13 10:45	06/25/13 09:45
180-22511-17	CB-14	Sediment	06/20/13 09:25	06/25/13 09:45
180-22511-18	MH-MS-DOOR#29	Sediment	06/20/13 09:10	06/25/13 09:45
180-22511-19	MH-NE-WS	Sediment	06/20/13 10:40	06/25/13 09:45
180-22511-20	CB-9	Sediment	06/20/13 10:35	06/25/13 09:45
180-22511-21	TD-4	Sediment	06/20/13 10:05	06/25/13 09:45
180-22511-22	TD-5	Sediment	06/20/13 10:40	06/25/13 09:45
180-22511-23	MH-13	Sediment	06/20/13 10:55	06/25/13 09:45
180-22511-24	CB-7E	Sediment	06/20/13 09:30	06/25/13 09:45
180-22511-25	ZD-1	Sediment	06/20/13 10:50	06/25/13 09:45
180-22511-26	ZD-2	Sediment	06/20/13 10:45	06/25/13 09:45
180-22511-27	ZD-3	Sediment	06/20/13 10:25	06/25/13 09:45
180-22511-28	ZD-4	Sediment	06/20/13 09:30	06/25/13 09:45
180-22511-29	GRATE BLDG 23	Sediment	06/20/13 10:20	06/25/13 09:45
180-22511-30	MH-LS-DOOR#17	Sediment	06/20/13 10:05	06/25/13 09:45
180-22511-31	MH-N-SS	Sediment	06/20/13 10:15	06/25/13 09:45
180-22511-32	MH-SE-WS-ADDITION	Sediment	06/20/13 10:20	06/25/13 09:45
180-22511-33	GRATE-SE-LS	Sediment	06/20/13 10:10	06/25/13 09:45
180-22511-34	MH-WHEEL STORAGE	Sediment	06/20/13 10:15	06/25/13 09:45

Method Summary

Client: Stantec Consulting Corp.
Project/Site: AMTRAK WILMINGTON

TestAmerica Job ID: 180-22511-1

Method	Method Description	Protocol	Laboratory
8082	Polychlorinated Biphenyls (PCBs) (GC)	SW846	TAL PIT
2540G	SM 2540G	SM22	TAL PIT

Protocol References:

SM22 = SM22

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

Laboratory References:

TAL PIT = TestAmerica Pittsburgh, 301 Alpha Drive, RIDC Park, Pittsburgh, PA 15238, TEL (412)963-7058

Lab Chronicle

Client: Stantec Consulting Corp.
Project/Site: AMTRAK WILMINGTON

TestAmerica Job ID: 180-22511-1

Client Sample ID: MH-NY-RW-2

Date Collected: 06/20/13 09:40
Date Received: 06/25/13 09:45

Lab Sample ID: 180-22511-1
Matrix: Sediment
Percent Solids: 98.9

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3541			30.1 g	1.0 mL	76252	07/01/13 02:30	KG	TAL PIT
Total/NA	Analysis	8082		200			76381	07/02/13 10:08	DFE	TAL PIT
	Instrument ID: GC10									
Total/NA	Analysis	2540G		1			75781	06/25/13 14:23	SJK	TAL PIT
	Instrument ID: NOEQUIP									

Client Sample ID: GRATE-NE-LS

Date Collected: 06/20/13 09:35
Date Received: 06/25/13 09:45

Lab Sample ID: 180-22511-2
Matrix: Sediment
Percent Solids: 91.3

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3541			30.0 g	1.0 mL	76252	07/01/13 02:30	KG	TAL PIT
Total/NA	Analysis	8082		50			76381	07/02/13 10:39	DFE	TAL PIT
	Instrument ID: GC10									
Total/NA	Analysis	2540G		1			75781	06/25/13 14:23	SJK	TAL PIT
	Instrument ID: NOEQUIP									

Client Sample ID: TD-1

Date Collected: 06/20/13 09:15
Date Received: 06/25/13 09:45

Lab Sample ID: 180-22511-3
Matrix: Sediment
Percent Solids: 97.7

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3541			30.1 g	1.0 mL	76252	07/01/13 02:30	KG	TAL PIT
Total/NA	Analysis	8082		50			76381	07/02/13 11:11	DFE	TAL PIT
	Instrument ID: GC10									
Total/NA	Analysis	2540G		1			75781	06/25/13 14:23	SJK	TAL PIT
	Instrument ID: NOEQUIP									

Client Sample ID: TD-2

Date Collected: 06/20/13 09:50
Date Received: 06/25/13 09:45

Lab Sample ID: 180-22511-4
Matrix: Sediment
Percent Solids: 98.7

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3541			30.2 g	1.0 mL	76252	07/01/13 02:30	KG	TAL PIT
Total/NA	Analysis	8082		50			76381	07/02/13 11:42	DFE	TAL PIT
	Instrument ID: GC10									
Total/NA	Analysis	2540G		1			75781	06/25/13 14:23	SJK	TAL PIT
	Instrument ID: NOEQUIP									

Lab Chronicle

Client: Stantec Consulting Corp.
Project/Site: AMTRAK WILMINGTON

TestAmerica Job ID: 180-22511-1

Client Sample ID: TD-3

Lab Sample ID: 180-22511-5
Date Collected: 06/20/13 10:10
Matrix: Sediment
Date Received: 06/25/13 09:45
Percent Solids: 99.6

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3541			30.0 g	1.0 mL	76252	07/01/13 02:30	KG	TAL PIT
Total/NA	Analysis	8082		10			76381	07/01/13 19:07	DFE	TAL PIT
	Instrument ID: GC10									
Total/NA	Analysis	2540G		1			75781	06/25/13 14:23	SJK	TAL PIT
	Instrument ID: NOEQUIP									

Client Sample ID: TD-6

Lab Sample ID: 180-22511-6
Date Collected: 06/20/13 09:20
Matrix: Sediment
Date Received: 06/25/13 09:45
Percent Solids: 98.5

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3541			30.0 g	1.0 mL	76252	07/01/13 02:30	KG	TAL PIT
Total/NA	Analysis	8082		10			76381	07/01/13 20:41	DFE	TAL PIT
	Instrument ID: GC10									
Total/NA	Analysis	2540G		1			75781	06/25/13 14:23	SJK	TAL PIT
	Instrument ID: NOEQUIP									

Client Sample ID: TD-7

Lab Sample ID: 180-22511-7
Date Collected: 06/20/13 09:45
Matrix: Sediment
Date Received: 06/25/13 09:45
Percent Solids: 99.7

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3541			30.1 g	1.0 mL	76252	07/01/13 02:30	KG	TAL PIT
Total/NA	Analysis	8082		10			76381	07/01/13 21:12	DFE	TAL PIT
	Instrument ID: GC10									
Total/NA	Analysis	2540G		1			75781	06/25/13 14:23	SJK	TAL PIT
	Instrument ID: NOEQUIP									

Client Sample ID: TD-8

Lab Sample ID: 180-22511-8
Date Collected: 06/20/13 09:25
Matrix: Sediment
Date Received: 06/25/13 09:45
Percent Solids: 99.0

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3541			30.0 g	1.0 mL	76252	07/01/13 02:30	KG	TAL PIT
Total/NA	Analysis	8082		10			76381	07/01/13 21:43	DFE	TAL PIT
	Instrument ID: GC10									
Total/NA	Analysis	2540G		1			75781	06/25/13 14:23	SJK	TAL PIT
	Instrument ID: NOEQUIP									

Lab Chronicle

Client: Stantec Consulting Corp.
Project/Site: AMTRAK WILMINGTON

TestAmerica Job ID: 180-22511-1

Client Sample ID: TD-9

Date Collected: 06/20/13 09:35
Date Received: 06/25/13 09:45

Lab Sample ID: 180-22511-9
Matrix: Sediment
Percent Solids: 99.1

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3541			30.0 g	1.0 mL	76252	07/01/13 02:30	KG	TAL PIT
Total/NA	Analysis	8082		50			76381	07/02/13 12:57	DFE	TAL PIT
	Instrument ID: GC10									
Total/NA	Analysis	2540G		1			75781	06/25/13 14:23	SJK	TAL PIT
	Instrument ID: NOEQUIP									

Client Sample ID: TD-10

Date Collected: 06/20/13 09:45
Date Received: 06/25/13 09:45

Lab Sample ID: 180-22511-10
Matrix: Sediment
Percent Solids: 99.2

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3541			30.0 g	1.0 mL	76252	07/01/13 02:30	KG	TAL PIT
Total/NA	Analysis	8082		10			76381	07/01/13 22:45	DFE	TAL PIT
	Instrument ID: GC10									
Total/NA	Analysis	2540G		1			75781	06/25/13 14:23	SJK	TAL PIT
	Instrument ID: NOEQUIP									

Client Sample ID: TD-11

Date Collected: 06/20/13 10:35
Date Received: 06/25/13 09:45

Lab Sample ID: 180-22511-11
Matrix: Sediment
Percent Solids: 99.7

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3541			30.1 g	1.0 mL	76252	07/01/13 02:30	KG	TAL PIT
Total/NA	Analysis	8082		10			76381	07/01/13 23:16	DFE	TAL PIT
	Instrument ID: GC10									
Total/NA	Analysis	2540G		1			75781	06/25/13 14:23	SJK	TAL PIT
	Instrument ID: NOEQUIP									

Client Sample ID: CB-12

Date Collected: 06/20/13 10:30
Date Received: 06/25/13 09:45

Lab Sample ID: 180-22511-12
Matrix: Sediment
Percent Solids: 99.6

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3541			30.0 g	1.0 mL	76252	07/01/13 02:30	KG	TAL PIT
Total/NA	Analysis	8082		10			76381	07/01/13 23:47	DFE	TAL PIT
	Instrument ID: GC10									
Total/NA	Analysis	2540G		1			75781	06/25/13 14:23	SJK	TAL PIT
	Instrument ID: NOEQUIP									

Lab Chronicle

Client: Stantec Consulting Corp.
Project/Site: AMTRAK WILMINGTON

TestAmerica Job ID: 180-22511-1

Client Sample ID: CB-15

Date Collected: 06/20/13 09:15
Date Received: 06/25/13 09:45

Lab Sample ID: 180-22511-13
Matrix: Sediment
Percent Solids: 96.6

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3541			30.1 g	1.0 mL	76252	07/01/13 02:30	KG	TAL PIT
Total/NA	Analysis	8082		100			76381	07/02/13 13:28	DFE	TAL PIT
	Instrument ID: GC10									
Total/NA	Analysis	2540G		1			75781	06/25/13 14:23	SJK	TAL PIT
	Instrument ID: NOEQUIP									

Client Sample ID: CB-18

Date Collected: 06/20/13 10:25
Date Received: 06/25/13 09:45

Lab Sample ID: 180-22511-14
Matrix: Sediment
Percent Solids: 99.7

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3541			30.1 g	1.0 mL	76252	07/01/13 02:30	KG	TAL PIT
Total/NA	Analysis	8082		50			76381	07/02/13 13:59	DFE	TAL PIT
	Instrument ID: GC10									
Total/NA	Analysis	2540G		1			75781	06/25/13 14:23	SJK	TAL PIT
	Instrument ID: NOEQUIP									

Client Sample ID: MH-4

Date Collected: 06/20/13 10:25
Date Received: 06/25/13 09:45

Lab Sample ID: 180-22511-15
Matrix: Sediment
Percent Solids: 99.7

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3541			30.0 g	1.0 mL	76252	07/01/13 02:30	KG	TAL PIT
Total/NA	Analysis	8082		50			76381	07/02/13 14:31	DFE	TAL PIT
	Instrument ID: GC10									
Total/NA	Analysis	2540G		1			75781	06/25/13 14:23	SJK	TAL PIT
	Instrument ID: NOEQUIP									

Client Sample ID: MH-MS-DOOR#28

Date Collected: 06/20/13 10:45
Date Received: 06/25/13 09:45

Lab Sample ID: 180-22511-16
Matrix: Sediment
Percent Solids: 99.4

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3541			30.0 g	1.0 mL	76252	07/01/13 02:30	KG	TAL PIT
Total/NA	Analysis	8082		50			76381	07/02/13 15:02	DFE	TAL PIT
	Instrument ID: GC10									
Total/NA	Analysis	2540G		1			75781	06/25/13 14:23	SJK	TAL PIT
	Instrument ID: NOEQUIP									

Lab Chronicle

Client: Stantec Consulting Corp.
Project/Site: AMTRAK WILMINGTON

TestAmerica Job ID: 180-22511-1

Client Sample ID: CB-14

Date Collected: 06/20/13 09:25
Date Received: 06/25/13 09:45

Lab Sample ID: 180-22511-17
Matrix: Sediment
Percent Solids: 99.8

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3541			30.0 g	1.0 mL	76252	07/01/13 02:30	KG	TAL PIT
Total/NA	Analysis	8082		100			76381	07/02/13 15:34	DFE	TAL PIT
	Instrument ID: GC10									
Total/NA	Analysis	2540G		1			75781	06/25/13 14:23	SJK	TAL PIT
	Instrument ID: NOEQUIP									

Client Sample ID: MH-MS-DOOR#29

Date Collected: 06/20/13 09:10
Date Received: 06/25/13 09:45

Lab Sample ID: 180-22511-18
Matrix: Sediment
Percent Solids: 99.7

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3541			30.0 g	1.0 mL	76252	07/01/13 02:30	KG	TAL PIT
Total/NA	Analysis	8082		10			76381	07/02/13 04:25	DFE	TAL PIT
	Instrument ID: GC10									
Total/NA	Analysis	2540G		1			75781	06/25/13 14:23	SJK	TAL PIT
	Instrument ID: NOEQUIP									

Client Sample ID: MH-NE-WS

Date Collected: 06/20/13 10:40
Date Received: 06/25/13 09:45

Lab Sample ID: 180-22511-19
Matrix: Sediment
Percent Solids: 99.1

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3541			30.0 g	1.0 mL	76252	07/01/13 02:30	KG	TAL PIT
Total/NA	Analysis	8082		10			76381	07/02/13 04:56	DFE	TAL PIT
	Instrument ID: GC10									
Total/NA	Analysis	2540G		1			75781	06/25/13 14:23	SJK	TAL PIT
	Instrument ID: NOEQUIP									

Client Sample ID: CB-9

Date Collected: 06/20/13 10:35
Date Received: 06/25/13 09:45

Lab Sample ID: 180-22511-20
Matrix: Sediment
Percent Solids: 98.7

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3541			30.0 g	1.0 mL	76252	07/01/13 02:30	KG	TAL PIT
Total/NA	Analysis	8082		100			76381	07/02/13 16:05	DFE	TAL PIT
	Instrument ID: GC10									
Total/NA	Analysis	2540G		1			75786	06/25/13 14:37	SJK	TAL PIT
	Instrument ID: NOEQUIP									

Lab Chronicle

Client: Stantec Consulting Corp.
Project/Site: AMTRAK WILMINGTON

TestAmerica Job ID: 180-22511-1

Client Sample ID: TD-4

Date Collected: 06/20/13 10:05
Date Received: 06/25/13 09:45

Lab Sample ID: 180-22511-21
Matrix: Sediment
Percent Solids: 98.4

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3541			30.2 g	1.0 mL	76253	07/01/13 02:45	KG	TAL PIT
Total/NA	Analysis	8082		10			76384	07/01/13 22:14	DFE	TAL PIT
	Instrument ID: GC10									
Total/NA	Analysis	2540G		1			75786	06/25/13 14:37	SJK	TAL PIT
	Instrument ID: NOEQUIP									

Client Sample ID: TD-5

Date Collected: 06/20/13 10:40
Date Received: 06/25/13 09:45

Lab Sample ID: 180-22511-22
Matrix: Sediment
Percent Solids: 99.6

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3541			30.0 g	1.0 mL	76253	07/01/13 02:45	KG	TAL PIT
Total/NA	Analysis	8082		10			76384	07/01/13 22:45	DFE	TAL PIT
	Instrument ID: GC10									
Total/NA	Analysis	2540G		1			75786	06/25/13 14:37	SJK	TAL PIT
	Instrument ID: NOEQUIP									

Client Sample ID: MH-13

Date Collected: 06/20/13 10:55
Date Received: 06/25/13 09:45

Lab Sample ID: 180-22511-23
Matrix: Sediment
Percent Solids: 99.4

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3541			30.1 g	1.0 mL	76253	07/01/13 02:45	KG	TAL PIT
Total/NA	Analysis	8082		10			76384	07/01/13 23:16	DFE	TAL PIT
	Instrument ID: GC10									
Total/NA	Analysis	2540G		1			75786	06/25/13 14:37	SJK	TAL PIT
	Instrument ID: NOEQUIP									

Client Sample ID: CB-7E

Date Collected: 06/20/13 09:30
Date Received: 06/25/13 09:45

Lab Sample ID: 180-22511-24
Matrix: Sediment
Percent Solids: 99.1

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3541			30.0 g	1.0 mL	76253	07/01/13 02:45	KG	TAL PIT
Total/NA	Analysis	8082		10			76384	07/02/13 00:49	DFE	TAL PIT
	Instrument ID: GC10									
Total/NA	Analysis	2540G		1			75786	06/25/13 14:37	SJK	TAL PIT
	Instrument ID: NOEQUIP									

Lab Chronicle

Client: Stantec Consulting Corp.
Project/Site: AMTRAK WILMINGTON

TestAmerica Job ID: 180-22511-1

Client Sample ID: ZD-1

Date Collected: 06/20/13 10:50
Date Received: 06/25/13 09:45

Lab Sample ID: 180-22511-25
Matrix: Sediment
Percent Solids: 98.9

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3541			30.0 g	1.0 mL	76253	07/01/13 02:45	KG	TAL PIT
Total/NA	Analysis	8082		100			76384	07/02/13 09:37	DFE	TAL PIT
	Instrument ID: GC10									
Total/NA	Analysis	2540G		1			75786	06/25/13 14:37	SJK	TAL PIT
	Instrument ID: NOEQUIP									

Client Sample ID: ZD-2

Date Collected: 06/20/13 10:45
Date Received: 06/25/13 09:45

Lab Sample ID: 180-22511-26
Matrix: Sediment
Percent Solids: 98.3

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3541			30.0 g	1.0 mL	76253	07/01/13 02:45	KG	TAL PIT
Total/NA	Analysis	8082		50			76384	07/02/13 10:08	DFE	TAL PIT
	Instrument ID: GC10									
Total/NA	Analysis	2540G		1			75786	06/25/13 14:37	SJK	TAL PIT
	Instrument ID: NOEQUIP									

Client Sample ID: ZD-3

Date Collected: 06/20/13 10:25
Date Received: 06/25/13 09:45

Lab Sample ID: 180-22511-27
Matrix: Sediment
Percent Solids: 98.7

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3541			30.1 g	1.0 mL	76253	07/01/13 02:45	KG	TAL PIT
Total/NA	Analysis	8082		10			76384	07/02/13 02:21	DFE	TAL PIT
	Instrument ID: GC10									
Total/NA	Analysis	2540G		1			75786	06/25/13 14:37	SJK	TAL PIT
	Instrument ID: NOEQUIP									

Client Sample ID: ZD-4

Date Collected: 06/20/13 09:30
Date Received: 06/25/13 09:45

Lab Sample ID: 180-22511-28
Matrix: Sediment
Percent Solids: 99.6

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3541			30.1 g	1.0 mL	76253	07/01/13 02:45	KG	TAL PIT
Total/NA	Analysis	8082		10			76384	07/02/13 02:52	DFE	TAL PIT
	Instrument ID: GC10									
Total/NA	Analysis	2540G		1			75786	06/25/13 14:37	SJK	TAL PIT
	Instrument ID: NOEQUIP									

Lab Chronicle

Client: Stantec Consulting Corp.
Project/Site: AMTRAK WILMINGTON

TestAmerica Job ID: 180-22511-1

Client Sample ID: GRATE BLDG 23

Lab Sample ID: 180-22511-29

Date Collected: 06/20/13 10:20
Date Received: 06/25/13 09:45

Matrix: Sediment
Percent Solids: 99.2

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3541			30.0 g	1.0 mL	76253	07/01/13 02:45	KG	TAL PIT
Total/NA	Analysis	8082		10			76384	07/02/13 03:23	DFE	TAL PIT
	Instrument ID: GC10									
Total/NA	Analysis	2540G		1			75786	06/25/13 14:37	SJK	TAL PIT
	Instrument ID: NOEQUIP									

Client Sample ID: MH-LS-DOOR#17

Lab Sample ID: 180-22511-30

Date Collected: 06/20/13 10:05
Date Received: 06/25/13 09:45

Matrix: Sediment
Percent Solids: 98.7

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3541			30.1 g	1.0 mL	76253	07/01/13 02:45	KG	TAL PIT
Total/NA	Analysis	8082		100			76384	07/02/13 10:39	DFE	TAL PIT
	Instrument ID: GC10									
Total/NA	Analysis	2540G		1			75786	06/25/13 14:37	SJK	TAL PIT
	Instrument ID: NOEQUIP									

Client Sample ID: MH-N-SS

Lab Sample ID: 180-22511-31

Date Collected: 06/20/13 10:15
Date Received: 06/25/13 09:45

Matrix: Sediment
Percent Solids: 99.8

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3541			30.0 g	1.0 mL	76253	07/01/13 02:45	KG	TAL PIT
Total/NA	Analysis	8082		10			76384	07/02/13 04:25	DFE	TAL PIT
	Instrument ID: GC10									
Total/NA	Analysis	2540G		1			75786	06/25/13 14:37	SJK	TAL PIT
	Instrument ID: NOEQUIP									

Client Sample ID: MH-SE-WS-ADDITION

Lab Sample ID: 180-22511-32

Date Collected: 06/20/13 10:20
Date Received: 06/25/13 09:45

Matrix: Sediment
Percent Solids: 99.8

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3541			30.0 g	1.0 mL	76253	07/01/13 02:45	KG	TAL PIT
Total/NA	Analysis	8082		10			76384	07/02/13 04:56	DFE	TAL PIT
	Instrument ID: GC10									
Total/NA	Analysis	2540G		1			75786	06/25/13 14:37	SJK	TAL PIT
	Instrument ID: NOEQUIP									

Lab Chronicle

Client: Stantec Consulting Corp.
Project/Site: AMTRAK WILMINGTON

TestAmerica Job ID: 180-22511-1

Client Sample ID: GRATE-SE-LS

Lab Sample ID: 180-22511-33

Date Collected: 06/20/13 10:10
Date Received: 06/25/13 09:45

Matrix: Sediment
Percent Solids: 96.9

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3541			30.0 g	1.0 mL	76253	07/01/13 02:45	KG	TAL PIT
Total/NA	Analysis	8082		10			76384	07/02/13 05:27	DFE	TAL PIT
	Instrument ID: GC10									
Total/NA	Analysis	2540G		1			75786	06/25/13 14:37	SJK	TAL PIT
	Instrument ID: NOEQUIP									

Client Sample ID: MH-WHEEL STORAGE

Lab Sample ID: 180-22511-34

Date Collected: 06/20/13 10:15
Date Received: 06/25/13 09:45

Matrix: Sediment
Percent Solids: 99.4

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3541			30.0 g	1.0 mL	76253	07/01/13 02:45	KG	TAL PIT
Total/NA	Analysis	8082		10			76384	07/02/13 05:58	DFE	TAL PIT
	Instrument ID: GC10									
Total/NA	Analysis	2540G		1			75786	06/25/13 14:37	SJK	TAL PIT
	Instrument ID: NOEQUIP									

Laboratory References:

TAL PIT = TestAmerica Pittsburgh, 301 Alpha Drive, RIDC Park, Pittsburgh, PA 15238, TEL (412)963-7058

Analyst References:

Lab: TAL PIT

Batch Type: Prep

KG = Kevin Geehring

Batch Type: Analysis

DFE = David Eppinger

SJK = Sarah Kunkle

Client Sample Results

Client: Stantec Consulting Corp.
Project/Site: AMTRAK WILMINGTON

TestAmerica Job ID: 180-22511-1

Client Sample ID: MH-NY-RW-2

Lab Sample ID: 180-22511-1
Date Collected: 06/20/13 09:40
Matrix: Sediment
Date Received: 06/25/13 09:45
Percent Solids: 98.9

Method: 8082 - Polychlorinated Biphenyls (PCBs) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
PCB-1016	ND		84	12	ug/Kg		07/01/13 02:30	07/02/13 10:08	200
PCB-1221	ND		84	16	ug/Kg		07/01/13 02:30	07/02/13 10:08	200
PCB-1232	ND		84	14	ug/Kg		07/01/13 02:30	07/02/13 10:08	200
PCB-1242	ND		84	14	ug/Kg		07/01/13 02:30	07/02/13 10:08	200
PCB-1248	ND		84	7.9	ug/Kg		07/01/13 02:30	07/02/13 10:08	200
PCB-1254	**1800**		84	12	ug/Kg		07/01/13 02:30	07/02/13 10:08	200
PCB-1260	**7000**		84	12	ug/Kg		07/01/13 02:30	07/02/13 10:08	200

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
DCB Decachlorobiphenyl (Surr)	*0*	*X D*	*31 - 150*	*07/01/13 02:30*	*07/02/13 10:08*	*200*
Tetrachloro-m-xylene	*0*	*X D*	*31 - 150*	*07/01/13 02:30*	*07/02/13 10:08*	*200*

General Chemistry

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture	1.1		0.10	0.10	%			06/25/13 14:23	1

Client Sample ID: GRATE-NE-LS

Lab Sample ID: 180-22511-2
Date Collected: 06/20/13 09:35
Matrix: Sediment
Date Received: 06/25/13 09:45
Percent Solids: 91.3

Method: 8082 - Polychlorinated Biphenyls (PCBs) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
PCB-1016	ND		23	3.4	ug/Kg		07/01/13 02:30	07/02/13 10:39	50
PCB-1221	ND		23	4.4	ug/Kg		07/01/13 02:30	07/02/13 10:39	50
PCB-1232	ND		23	3.9	ug/Kg		07/01/13 02:30	07/02/13 10:39	50
PCB-1242	ND		23	3.7	ug/Kg		07/01/13 02:30	07/02/13 10:39	50
PCB-1248	ND		23	2.2	ug/Kg		07/01/13 02:30	07/02/13 10:39	50
PCB-1254	**910**		23	3.2	ug/Kg		07/01/13 02:30	07/02/13 10:39	50
PCB-1260	**2400**		23	3.2	ug/Kg		07/01/13 02:30	07/02/13 10:39	50

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
DCB Decachlorobiphenyl (Surr)	*103*	*D*	*31 - 150*	*07/01/13 02:30*	*07/02/13 10:39*	*50*
Tetrachloro-m-xylene	*115*	*D*	*31 - 150*	*07/01/13 02:30*	*07/02/13 10:39*	*50*

General Chemistry

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture	8.7		0.10	0.10	%			06/25/13 14:23	1

Client Sample ID: TD-1

Lab Sample ID: 180-22511-3
Date Collected: 06/20/13 09:15
Matrix: Sediment
Date Received: 06/25/13 09:45
Percent Solids: 97.7

Method: 8082 - Polychlorinated Biphenyls (PCBs) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
PCB-1016	ND		21	3.2	ug/Kg		07/01/13 02:30	07/02/13 11:11	50
PCB-1221	ND		21	4.1	ug/Kg		07/01/13 02:30	07/02/13 11:11	50
PCB-1232	ND		21	3.6	ug/Kg		07/01/13 02:30	07/02/13 11:11	50
PCB-1242	ND		21	3.5	ug/Kg		07/01/13 02:30	07/02/13 11:11	50
PCB-1248	ND		21	2.0	ug/Kg		07/01/13 02:30	07/02/13 11:11	50
PCB-1254	**490**		21	3.0	ug/Kg		07/01/13 02:30	07/02/13 11:11	50
PCB-1260	**1400**		21	3.0	ug/Kg		07/01/13 02:30	07/02/13 11:11	50

Client Sample Results

Client: Stantec Consulting Corp.
Project/Site: AMTRAK WILMINGTON

TestAmerica Job ID: 180-22511-1

Client Sample ID: TD-1

Lab Sample ID: 180-22511-3
Date Collected: 06/20/13 09:15
Matrix: Sediment
Date Received: 06/25/13 09:45
Percent Solids: 97.7

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
DCB Decachlorobiphenyl (Surr)	72	D	31 - 150	07/01/13 02:30	07/02/13 11:11	50
Tetrachloro-m-xylene	172	X D	31 - 150	07/01/13 02:30	07/02/13 11:11	50

General Chemistry

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture	2.3		0.10	0.10	%			06/25/13 14:23	1

Client Sample ID: TD-2

Lab Sample ID: 180-22511-4
Date Collected: 06/20/13 09:50
Matrix: Sediment
Date Received: 06/25/13 09:45
Percent Solids: 98.7

Method: 8082 - Polychlorinated Biphenyls (PCBs) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
PCB-1016	ND		21	3.1	ug/Kg		07/01/13 02:30	07/02/13 11:42	50
PCB-1221	ND		21	4.0	ug/Kg		07/01/13 02:30	07/02/13 11:42	50
PCB-1232	ND		21	3.6	ug/Kg		07/01/13 02:30	07/02/13 11:42	50
PCB-1242	ND		21	3.4	ug/Kg		07/01/13 02:30	07/02/13 11:42	50
PCB-1248	ND		21	2.0	ug/Kg		07/01/13 02:30	07/02/13 11:42	50
PCB-1254	**530**		21	3.0	ug/Kg		07/01/13 02:30	07/02/13 11:42	50
PCB-1260	**2200**		21	3.0	ug/Kg		07/01/13 02:30	07/02/13 11:42	50

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
DCB Decachlorobiphenyl (Surr)	0	X D	31 - 150	07/01/13 02:30	07/02/13 11:42	50
Tetrachloro-m-xylene	651	X D	31 - 150	07/01/13 02:30	07/02/13 11:42	50

General Chemistry

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture	1.3		0.10	0.10	%			06/25/13 14:23	1

Client Sample ID: TD-3

Lab Sample ID: 180-22511-5
Date Collected: 06/20/13 10:10
Matrix: Sediment
Date Received: 06/25/13 09:45
Percent Solids: 99.6

Method: 8082 - Polychlorinated Biphenyls (PCBs) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
PCB-1016	ND		4.2	0.62	ug/Kg		07/01/13 02:30	07/01/13 19:07	10
PCB-1221	ND		4.2	0.80	ug/Kg		07/01/13 02:30	07/01/13 19:07	10
PCB-1232	ND		4.2	0.72	ug/Kg		07/01/13 02:30	07/01/13 19:07	10
PCB-1242	ND		4.2	0.68	ug/Kg		07/01/13 02:30	07/01/13 19:07	10
PCB-1248	ND		4.2	0.40	ug/Kg		07/01/13 02:30	07/01/13 19:07	10
PCB-1254	ND		4.2	0.60	ug/Kg		07/01/13 02:30	07/01/13 19:07	10
PCB-1260	**640**		4.2	0.59	ug/Kg		07/01/13 02:30	07/01/13 19:07	10

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
DCB Decachlorobiphenyl (Surr)	442	X	31 - 150	07/01/13 02:30	07/01/13 19:07	10
Tetrachloro-m-xylene	116		31 - 150	07/01/13 02:30	07/01/13 19:07	10

General Chemistry

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture	0.40		0.10	0.10	%			06/25/13 14:23	1

Client Sample Results

Client: Stantec Consulting Corp.
Project/Site: AMTRAK WILMINGTON

TestAmerica Job ID: 180-22511-1

Client Sample ID: TD-6

Date Collected: 06/20/13 09:20
Date Received: 06/25/13 09:45

Lab Sample ID: 180-22511-6
Matrix: Sediment
Percent Solids: 98.5

Method: 8082 - Polychlorinated Biphenyls (PCBs) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
PCB-1016	ND		4.2	0.63	ug/Kg		07/01/13 02:30	07/01/13 20:41	10
PCB-1221	ND		4.2	0.81	ug/Kg		07/01/13 02:30	07/01/13 20:41	10
PCB-1232	ND		4.2	0.72	ug/Kg		07/01/13 02:30	07/01/13 20:41	10
PCB-1242	ND		4.2	0.69	ug/Kg		07/01/13 02:30	07/01/13 20:41	10
PCB-1248	ND		4.2	0.40	ug/Kg		07/01/13 02:30	07/01/13 20:41	10
PCB-1254	**280**		4.2	0.60	ug/Kg		07/01/13 02:30	07/01/13 20:41	10
PCB-1260	**1200**		4.2	0.60	ug/Kg		07/01/13 02:30	07/01/13 20:41	10

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
DCB Decachlorobiphenyl (Surr)	*433*	*X*	*31 - 150*	*07/01/13 02:30*	*07/01/13 20:41*	*10*
Tetrachloro-m-xylene	*102*		*31 - 150*	*07/01/13 02:30*	*07/01/13 20:41*	*10*

General Chemistry

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture	1.5		0.10	0.10	%			06/25/13 14:23	1

Client Sample ID: TD-7

Date Collected: 06/20/13 09:45
Date Received: 06/25/13 09:45

Lab Sample ID: 180-22511-7
Matrix: Sediment
Percent Solids: 99.7

Method: 8082 - Polychlorinated Biphenyls (PCBs) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
PCB-1016	ND		4.2	0.62	ug/Kg		07/01/13 02:30	07/01/13 21:12	10
PCB-1221	ND		4.2	0.80	ug/Kg		07/01/13 02:30	07/01/13 21:12	10
PCB-1232	ND		4.2	0.71	ug/Kg		07/01/13 02:30	07/01/13 21:12	10
PCB-1242	ND		4.2	0.68	ug/Kg		07/01/13 02:30	07/01/13 21:12	10
PCB-1248	ND		4.2	0.39	ug/Kg		07/01/13 02:30	07/01/13 21:12	10
PCB-1254	**280**		4.2	0.59	ug/Kg		07/01/13 02:30	07/01/13 21:12	10
PCB-1260	**310**		4.2	0.59	ug/Kg		07/01/13 02:30	07/01/13 21:12	10

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
DCB Decachlorobiphenyl (Surr)	*432*	*X*	*31 - 150*	*07/01/13 02:30*	*07/01/13 21:12*	*10*
Tetrachloro-m-xylene	*129*		*31 - 150*	*07/01/13 02:30*	*07/01/13 21:12*	*10*

General Chemistry

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture	**0.33**		0.10	0.10	%			06/25/13 14:23	1

Client Sample ID: TD-8

Date Collected: 06/20/13 09:25
Date Received: 06/25/13 09:45

Lab Sample ID: 180-22511-8
Matrix: Sediment
Percent Solids: 99.0

Method: 8082 - Polychlorinated Biphenyls (PCBs) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
PCB-1016	ND		4.2	0.63	ug/Kg		07/01/13 02:30	07/01/13 21:43	10
PCB-1221	ND		4.2	0.80	ug/Kg		07/01/13 02:30	07/01/13 21:43	10
PCB-1232	ND		4.2	0.72	ug/Kg		07/01/13 02:30	07/01/13 21:43	10
PCB-1242	ND		4.2	0.69	ug/Kg		07/01/13 02:30	07/01/13 21:43	10
PCB-1248	ND		4.2	0.40	ug/Kg		07/01/13 02:30	07/01/13 21:43	10
PCB-1254	**940**		4.2	0.60	ug/Kg		07/01/13 02:30	07/01/13 21:43	10
PCB-1260	**770**		4.2	0.60	ug/Kg		07/01/13 02:30	07/01/13 21:43	10

Client Sample Results

Client: Stantec Consulting Corp.
Project/Site: AMTRAK WILMINGTON

TestAmerica Job ID: 180-22511-1

Client Sample ID: TD-8

Date Collected: 06/20/13 09:25
Date Received: 06/25/13 09:45

Lab Sample ID: 180-22511-8
Matrix: Sediment
Percent Solids: 99.0

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
DCB Decachlorobiphenyl (Surr)	260	X	31 - 150	07/01/13 02:30	07/01/13 21:43	10
Tetrachloro-m-xylene	96		31 - 150	07/01/13 02:30	07/01/13 21:43	10

General Chemistry

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture	0.99		0.10	0.10	%			06/25/13 14:23	1

Client Sample ID: TD-9

Date Collected: 06/20/13 09:35
Date Received: 06/25/13 09:45

Lab Sample ID: 180-22511-9
Matrix: Sediment
Percent Solids: 99.1

Method: 8082 - Polychlorinated Biphenyls (PCBs) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
PCB-1016	ND		21	3.1	ug/Kg		07/01/13 02:30	07/02/13 12:57	50
PCB-1221	ND		21	4.0	ug/Kg		07/01/13 02:30	07/02/13 12:57	50
PCB-1232	ND		21	3.6	ug/Kg		07/01/13 02:30	07/02/13 12:57	50
PCB-1242	ND		21	3.4	ug/Kg		07/01/13 02:30	07/02/13 12:57	50
PCB-1248	ND		21	2.0	ug/Kg		07/01/13 02:30	07/02/13 12:57	50
PCB-1254	5100		21	3.0	ug/Kg		07/01/13 02:30	07/02/13 12:57	50
PCB-1260	2000		21	3.0	ug/Kg		07/01/13 02:30	07/02/13 12:57	50

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
DCB Decachlorobiphenyl (Surr)	259	X D	31 - 150	07/01/13 02:30	07/02/13 12:57	50
Tetrachloro-m-xylene	96	D	31 - 150	07/01/13 02:30	07/02/13 12:57	50

General Chemistry

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture	0.86		0.10	0.10	%			06/25/13 14:23	1

Client Sample ID: TD-10

Date Collected: 06/20/13 09:45
Date Received: 06/25/13 09:45

Lab Sample ID: 180-22511-10
Matrix: Sediment
Percent Solids: 99.2

Method: 8082 - Polychlorinated Biphenyls (PCBs) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
PCB-1016	ND		4.2	0.62	ug/Kg		07/01/13 02:30	07/01/13 22:45	10
PCB-1221	ND		4.2	0.80	ug/Kg		07/01/13 02:30	07/01/13 22:45	10
PCB-1232	ND		4.2	0.72	ug/Kg		07/01/13 02:30	07/01/13 22:45	10
PCB-1242	ND		4.2	0.68	ug/Kg		07/01/13 02:30	07/01/13 22:45	10
PCB-1248	ND		4.2	0.40	ug/Kg		07/01/13 02:30	07/01/13 22:45	10
PCB-1254	170		4.2	0.60	ug/Kg		07/01/13 02:30	07/01/13 22:45	10
PCB-1260	1000		4.2	0.60	ug/Kg		07/01/13 02:30	07/01/13 22:45	10

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
DCB Decachlorobiphenyl (Surr)	1302	X	31 - 150	07/01/13 02:30	07/01/13 22:45	10
Tetrachloro-m-xylene	91		31 - 150	07/01/13 02:30	07/01/13 22:45	10

General Chemistry

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture	0.76		0.10	0.10	%			06/25/13 14:23	1

Client Sample Results

Client: Stantec Consulting Corp.
Project/Site: AMTRAK WILMINGTON

TestAmerica Job ID: 180-22511-1

Client Sample ID: TD-11

Date Collected: 06/20/13 10:35
Date Received: 06/25/13 09:45

Lab Sample ID: 180-22511-11
Matrix: Sediment
Percent Solids: 99.7

Method: 8082 - Polychlorinated Biphenyls (PCBs) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
PCB-1016	ND		4.2	0.62	ug/Kg		07/01/13 02:30	07/01/13 23:16	10
PCB-1221	ND		4.2	0.79	ug/Kg		07/01/13 02:30	07/01/13 23:16	10
PCB-1232	ND		4.2	0.71	ug/Kg		07/01/13 02:30	07/01/13 23:16	10
PCB-1242	ND		4.2	0.68	ug/Kg		07/01/13 02:30	07/01/13 23:16	10
PCB-1248	ND		4.2	0.39	ug/Kg		07/01/13 02:30	07/01/13 23:16	10
PCB-1254	**190**		4.2	0.59	ug/Kg		07/01/13 02:30	07/01/13 23:16	10
PCB-1260	**690**		4.2	0.59	ug/Kg		07/01/13 02:30	07/01/13 23:16	10

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
DCB Decachlorobiphenyl (Surr)	*137*		*31 - 150*	*07/01/13 02:30*	*07/01/13 23:16*	*10*
Tetrachloro-m-xylene	*85*		*31 - 150*	*07/01/13 02:30*	*07/01/13 23:16*	*10*

General Chemistry

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture	0.30		0.10	0.10	%			06/25/13 14:23	1

Client Sample ID: CB-12

Date Collected: 06/20/13 10:30
Date Received: 06/25/13 09:45

Lab Sample ID: 180-22511-12
Matrix: Sediment
Percent Solids: 99.6

Method: 8082 - Polychlorinated Biphenyls (PCBs) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
PCB-1016	ND		4.2	0.62	ug/Kg		07/01/13 02:30	07/01/13 23:47	10
PCB-1221	ND		4.2	0.80	ug/Kg		07/01/13 02:30	07/01/13 23:47	10
PCB-1232	ND		4.2	0.72	ug/Kg		07/01/13 02:30	07/01/13 23:47	10
PCB-1242	ND		4.2	0.68	ug/Kg		07/01/13 02:30	07/01/13 23:47	10
PCB-1248	ND		4.2	0.40	ug/Kg		07/01/13 02:30	07/01/13 23:47	10
PCB-1254	**160**		4.2	0.59	ug/Kg		07/01/13 02:30	07/01/13 23:47	10
PCB-1260	**880**		4.2	0.59	ug/Kg		07/01/13 02:30	07/01/13 23:47	10

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
DCB Decachlorobiphenyl (Surr)	*213*	*X*	*31 - 150*	*07/01/13 02:30*	*07/01/13 23:47*	*10*
Tetrachloro-m-xylene	*97*		*31 - 150*	*07/01/13 02:30*	*07/01/13 23:47*	*10*

General Chemistry

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture	**0.35**		0.10	0.10	%			06/25/13 14:23	1

Client Sample ID: CB-15

Date Collected: 06/20/13 09:15
Date Received: 06/25/13 09:45

Lab Sample ID: 180-22511-13
Matrix: Sediment
Percent Solids: 96.6

Method: 8082 - Polychlorinated Biphenyls (PCBs) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
PCB-1016	ND		43	6.4	ug/Kg		07/01/13 02:30	07/02/13 13:28	100
PCB-1221	ND		43	8.2	ug/Kg		07/01/13 02:30	07/02/13 13:28	100
PCB-1232	ND		43	7.4	ug/Kg		07/01/13 02:30	07/02/13 13:28	100
PCB-1242	ND		43	7.0	ug/Kg		07/01/13 02:30	07/02/13 13:28	100
PCB-1248	ND		43	4.1	ug/Kg		07/01/13 02:30	07/02/13 13:28	100
PCB-1254	**790**		43	6.1	ug/Kg		07/01/13 02:30	07/02/13 13:28	100
PCB-1260	**5400**		43	6.1	ug/Kg		07/01/13 02:30	07/02/13 13:28	100

Client Sample Results

Client: Stantec Consulting Corp.
Project/Site: AMTRAK WILMINGTON

TestAmerica Job ID: 180-22511-1

Client Sample ID: CB-15

Date Collected: 06/20/13 09:15
Date Received: 06/25/13 09:45

Lab Sample ID: 180-22511-13
Matrix: Sediment
Percent Solids: 96.6

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
DCB Decachlorobiphenyl (Surr)	0	X D	31 - 150	07/01/13 02:30	07/02/13 13:28	100
Tetrachloro-m-xylene	0	X D	31 - 150	07/01/13 02:30	07/02/13 13:28	100

General Chemistry

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture	3.4		0.10	0.10	%			06/25/13 14:23	1

Client Sample ID: CB-18

Date Collected: 06/20/13 10:25
Date Received: 06/25/13 09:45

Lab Sample ID: 180-22511-14
Matrix: Sediment
Percent Solids: 99.7

Method: 8082 - Polychlorinated Biphenyls (PCBs) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
PCB-1016	ND		21	3.1	ug/Kg		07/01/13 02:30	07/02/13 13:59	50
PCB-1221	ND		21	4.0	ug/Kg		07/01/13 02:30	07/02/13 13:59	50
PCB-1232	ND		21	3.6	ug/Kg		07/01/13 02:30	07/02/13 13:59	50
PCB-1242	ND		21	3.4	ug/Kg		07/01/13 02:30	07/02/13 13:59	50
PCB-1248	ND		21	2.0	ug/Kg		07/01/13 02:30	07/02/13 13:59	50
PCB-1254	**220**		21	3.0	ug/Kg		07/01/13 02:30	07/02/13 13:59	50
PCB-1260	**1700**		21	3.0	ug/Kg		07/01/13 02:30	07/02/13 13:59	50

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
DCB Decachlorobiphenyl (Surr)	246	X D	31 - 150	07/01/13 02:30	07/02/13 13:59	50
Tetrachloro-m-xylene	120	D	31 - 150	07/01/13 02:30	07/02/13 13:59	50

General Chemistry

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture	0.33		0.10	0.10	%			06/25/13 14:23	1

Client Sample ID: MH-4

Date Collected: 06/20/13 10:25
Date Received: 06/25/13 09:45

Lab Sample ID: 180-22511-15
Matrix: Sediment
Percent Solids: 99.7

Method: 8082 - Polychlorinated Biphenyls (PCBs) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
PCB-1016	ND		21	3.1	ug/Kg		07/01/13 02:30	07/02/13 14:31	50
PCB-1221	ND		21	4.0	ug/Kg		07/01/13 02:30	07/02/13 14:31	50
PCB-1232	ND		21	3.6	ug/Kg		07/01/13 02:30	07/02/13 14:31	50
PCB-1242	ND		21	3.4	ug/Kg		07/01/13 02:30	07/02/13 14:31	50
PCB-1248	ND		21	2.0	ug/Kg		07/01/13 02:30	07/02/13 14:31	50
PCB-1254	**510**		21	3.0	ug/Kg		07/01/13 02:30	07/02/13 14:31	50
PCB-1260	**1800**		21	3.0	ug/Kg		07/01/13 02:30	07/02/13 14:31	50

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
DCB Decachlorobiphenyl (Surr)	130	D	31 - 150	07/01/13 02:30	07/02/13 14:31	50
Tetrachloro-m-xylene	111	D	31 - 150	07/01/13 02:30	07/02/13 14:31	50

General Chemistry

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture	0.34		0.10	0.10	%			06/25/13 14:23	1

Client Sample ID: MH-MS-DOOR#28

Date Collected: 06/20/13 10:45
Date Received: 06/25/13 09:45

Lab Sample ID: 180-22511-16
Matrix: Sediment
Percent Solids: 99.4

Method: 8082 - Polychlorinated Biphenyls (PCBs) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
PCB-1016	ND		21	3.1	ug/Kg		07/01/13 02:30	07/02/13 15:02	50
PCB-1221	ND		21	4.0	ug/Kg		07/01/13 02:30	07/02/13 15:02	50
PCB-1232	ND		21	3.6	ug/Kg		07/01/13 02:30	07/02/13 15:02	50
PCB-1242	ND		21	3.4	ug/Kg		07/01/13 02:30	07/02/13 15:02	50
PCB-1248	ND		21	2.0	ug/Kg		07/01/13 02:30	07/02/13 15:02	50
PCB-1254	**510**		21	3.0	ug/Kg		07/01/13 02:30	07/02/13 15:02	50
PCB-1260	**2500**		21	3.0	ug/Kg		07/01/13 02:30	07/02/13 15:02	50

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
DCB Decachlorobiphenyl (Surr)	*289*	*X D*	*31 - 150*	*07/01/13 02:30*	*07/02/13 15:02*	*50*
Tetrachloro-m-xylene	*117*	*D*	*31 - 150*	*07/01/13 02:30*	*07/02/13 15:02*	*50*

General Chemistry

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture	0.56		0.10	0.10	%			06/25/13 14:23	1

Client Sample ID: CB-14

Date Collected: 06/20/13 09:25
Date Received: 06/25/13 09:45

Lab Sample ID: 180-22511-17
Matrix: Sediment
Percent Solids: 99.8

Method: 8082 - Polychlorinated Biphenyls (PCBs) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
PCB-1016	ND		42	6.2	ug/Kg		07/01/13 02:30	07/02/13 15:34	100
PCB-1221	ND		42	8.0	ug/Kg		07/01/13 02:30	07/02/13 15:34	100
PCB-1232	ND		42	7.2	ug/Kg		07/01/13 02:30	07/02/13 15:34	100
PCB-1242	ND		42	6.8	ug/Kg		07/01/13 02:30	07/02/13 15:34	100
PCB-1248	ND		42	4.0	ug/Kg		07/01/13 02:30	07/02/13 15:34	100
PCB-1254	**480**		42	5.9	ug/Kg		07/01/13 02:30	07/02/13 15:34	100
PCB-1260	**3500**		42	5.9	ug/Kg		07/01/13 02:30	07/02/13 15:34	100

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
DCB Decachlorobiphenyl (Surr)	*0*	*X D*	*31 - 150*	*07/01/13 02:30*	*07/02/13 15:34*	*100*
Tetrachloro-m-xylene	*0*	*X D*	*31 - 150*	*07/01/13 02:30*	*07/02/13 15:34*	*100*

General Chemistry

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture	0.24		0.10	0.10	%			06/25/13 14:23	1

Client Sample ID: MH-MS-DOOR#29

Date Collected: 06/20/13 09:10
Date Received: 06/25/13 09:45

Lab Sample ID: 180-22511-18
Matrix: Sediment
Percent Solids: 99.7

Method: 8082 - Polychlorinated Biphenyls (PCBs) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
PCB-1016	ND		4.2	0.62	ug/Kg		07/01/13 02:30	07/02/13 04:25	10
PCB-1221	ND		4.2	0.80	ug/Kg		07/01/13 02:30	07/02/13 04:25	10
PCB-1232	ND		4.2	0.72	ug/Kg		07/01/13 02:30	07/02/13 04:25	10
PCB-1242	ND		4.2	0.68	ug/Kg		07/01/13 02:30	07/02/13 04:25	10
PCB-1248	ND		4.2	0.40	ug/Kg		07/01/13 02:30	07/02/13 04:25	10
PCB-1254	**180**		4.2	0.59	ug/Kg		07/01/13 02:30	07/02/13 04:25	10
PCB-1260	**730**		4.2	0.59	ug/Kg		07/01/13 02:30	07/02/13 04:25	10

Client Sample Results

Client: Stantec Consulting Corp.
Project/Site: AMTRAK WILMINGTON

TestAmerica Job ID: 180-22511-1

Client Sample ID: MH-MS-DOOR#29

Lab Sample ID: 180-22511-18
Date Collected: 06/20/13 09:10
Date Received: 06/25/13 09:45
Matrix: Sediment
Percent Solids: 99.7

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
DCB Decachlorobiphenyl (Surr)	105		31 - 150	07/01/13 02:30	07/02/13 04:25	10
Tetrachloro-m-xylene	93		31 - 150	07/01/13 02:30	07/02/13 04:25	10

General Chemistry

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture	0.27		0.10	0.10	%			06/25/13 14:23	1

Client Sample ID: MH-NE-WS

Lab Sample ID: 180-22511-19
Date Collected: 06/20/13 10:40
Date Received: 06/25/13 09:45
Matrix: Sediment
Percent Solids: 99.1

Method: 8082 - Polychlorinated Biphenyls (PCBs) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
PCB-1016	ND		4.2	0.63	ug/Kg		07/01/13 02:30	07/02/13 04:56	10
PCB-1221	ND		4.2	0.80	ug/Kg		07/01/13 02:30	07/02/13 04:56	10
PCB-1232	ND		4.2	0.72	ug/Kg		07/01/13 02:30	07/02/13 04:56	10
PCB-1242	ND		4.2	0.68	ug/Kg		07/01/13 02:30	07/02/13 04:56	10
PCB-1248	ND		4.2	0.40	ug/Kg		07/01/13 02:30	07/02/13 04:56	10
PCB-1254	110		4.2	0.60	ug/Kg		07/01/13 02:30	07/02/13 04:56	10
PCB-1260	420		4.2	0.60	ug/Kg		07/01/13 02:30	07/02/13 04:56	10

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
DCB Decachlorobiphenyl (Surr)	125		31 - 150	07/01/13 02:30	07/02/13 04:56	10
Tetrachloro-m-xylene	109		31 - 150	07/01/13 02:30	07/02/13 04:56	10

General Chemistry

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture	0.88		0.10	0.10	%			06/25/13 14:23	1

Client Sample ID: CB-9

Lab Sample ID: 180-22511-20
Date Collected: 06/20/13 10:35
Date Received: 06/25/13 09:45
Matrix: Sediment
Percent Solids: 98.7

Method: 8082 - Polychlorinated Biphenyls (PCBs) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
PCB-1016	ND		42	6.3	ug/Kg		07/01/13 02:30	07/02/13 16:05	100
PCB-1221	ND		42	8.1	ug/Kg		07/01/13 02:30	07/02/13 16:05	100
PCB-1232	ND		42	7.2	ug/Kg		07/01/13 02:30	07/02/13 16:05	100
PCB-1242	ND		42	6.9	ug/Kg		07/01/13 02:30	07/02/13 16:05	100
PCB-1248	ND		42	4.0	ug/Kg		07/01/13 02:30	07/02/13 16:05	100
PCB-1254	850		42	6.0	ug/Kg		07/01/13 02:30	07/02/13 16:05	100
PCB-1260	4400		42	6.0	ug/Kg		07/01/13 02:30	07/02/13 16:05	100

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
DCB Decachlorobiphenyl (Surr)	0	X D	31 - 150	07/01/13 02:30	07/02/13 16:05	100
Tetrachloro-m-xylene	0	X D	31 - 150	07/01/13 02:30	07/02/13 16:05	100

General Chemistry

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture	1.3		0.10	0.10	%			06/25/13 14:37	1

Client Sample Results

Client: Stantec Consulting Corp.
Project/Site: AMTRAK WILMINGTON

TestAmerica Job ID: 180-22511-1

Client Sample ID: TD-4

Date Collected: 06/20/13 10:05
Date Received: 06/25/13 09:45

Lab Sample ID: 180-22511-21
Matrix: Sediment
Percent Solids: 98.4

Method: 8082 - Polychlorinated Biphenyls (PCBs) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
PCB-1016	ND		4.2	0.63	ug/Kg		07/01/13 02:45	07/01/13 22:14	10
PCB-1221	ND		4.2	0.80	ug/Kg		07/01/13 02:45	07/01/13 22:14	10
PCB-1232	ND		4.2	0.72	ug/Kg		07/01/13 02:45	07/01/13 22:14	10
PCB-1242	ND		4.2	0.69	ug/Kg		07/01/13 02:45	07/01/13 22:14	10
PCB-1248	ND		4.2	0.40	ug/Kg		07/01/13 02:45	07/01/13 22:14	10
PCB-1254	**280**		4.2	0.60	ug/Kg		07/01/13 02:45	07/01/13 22:14	10
PCB-1260	**750**		4.2	0.60	ug/Kg		07/01/13 02:45	07/01/13 22:14	10

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
DCB Decachlorobiphenyl (Surr)	*89*		*31 - 150*	*07/01/13 02:45*	*07/01/13 22:14*	*10*
Tetrachloro-m-xylene	*96*		*31 - 150*	*07/01/13 02:45*	*07/01/13 22:14*	*10*

General Chemistry

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture	1.6		0.10	0.10	%			06/25/13 14:37	1

Client Sample ID: TD-5

Date Collected: 06/20/13 10:40
Date Received: 06/25/13 09:45

Lab Sample ID: 180-22511-22
Matrix: Sediment
Percent Solids: 99.6

Method: 8082 - Polychlorinated Biphenyls (PCBs) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
PCB-1016	ND		4.2	0.62	ug/Kg		07/01/13 02:45	07/01/13 22:45	10
PCB-1221	ND		4.2	0.80	ug/Kg		07/01/13 02:45	07/01/13 22:45	10
PCB-1232	ND		4.2	0.72	ug/Kg		07/01/13 02:45	07/01/13 22:45	10
PCB-1242	ND		4.2	0.68	ug/Kg		07/01/13 02:45	07/01/13 22:45	10
PCB-1248	ND		4.2	0.40	ug/Kg		07/01/13 02:45	07/01/13 22:45	10
PCB-1254	**220**		4.2	0.60	ug/Kg		07/01/13 02:45	07/01/13 22:45	10
PCB-1260	**950**		4.2	0.59	ug/Kg		07/01/13 02:45	07/01/13 22:45	10

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
DCB Decachlorobiphenyl (Surr)	*137*		*31 - 150*	*07/01/13 02:45*	*07/01/13 22:45*	*10*
Tetrachloro-m-xylene	*108*		*31 - 150*	*07/01/13 02:45*	*07/01/13 22:45*	*10*

General Chemistry

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture	0.40		0.10	0.10	%			06/25/13 14:37	1

Client Sample ID: MH-13

Date Collected: 06/20/13 10:55
Date Received: 06/25/13 09:45

Lab Sample ID: 180-22511-23
Matrix: Sediment
Percent Solids: 99.4

Method: 8082 - Polychlorinated Biphenyls (PCBs) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
PCB-1016	ND		4.2	0.62	ug/Kg		07/01/13 02:45	07/01/13 23:16	10
PCB-1221	ND		4.2	0.80	ug/Kg		07/01/13 02:45	07/01/13 23:16	10
PCB-1232	ND		4.2	0.72	ug/Kg		07/01/13 02:45	07/01/13 23:16	10
PCB-1242	ND		4.2	0.68	ug/Kg		07/01/13 02:45	07/01/13 23:16	10
PCB-1248	ND		4.2	0.40	ug/Kg		07/01/13 02:45	07/01/13 23:16	10
PCB-1254	**110**		4.2	0.59	ug/Kg		07/01/13 02:45	07/01/13 23:16	10
PCB-1260	**400**		4.2	0.59	ug/Kg		07/01/13 02:45	07/01/13 23:16	10

Client Sample Results

Client: Stantec Consulting Corp.
Project/Site: AMTRAK WILMINGTON

TestAmerica Job ID: 180-22511-1

Client Sample ID: MH-13

Date Collected: 06/20/13 10:55
Date Received: 06/25/13 09:45

Lab Sample ID: 180-22511-23
Matrix: Sediment
Percent Solids: 99.4

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
DCB Decachlorobiphenyl (Surr)	121		31 - 150	07/01/13 02:45	07/01/13 23:16	10
Tetrachloro-m-xylene	95		31 - 150	07/01/13 02:45	07/01/13 23:16	10

General Chemistry

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture	0.59		0.10	0.10	%			06/25/13 14:37	1

Client Sample ID: CB-7E

Date Collected: 06/20/13 09:30
Date Received: 06/25/13 09:45

Lab Sample ID: 180-22511-24
Matrix: Sediment
Percent Solids: 99.1

Method: 8082 - Polychlorinated Biphenyls (PCBs) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
PCB-1016	ND		4.2	0.63	ug/Kg		07/01/13 02:45	07/02/13 00:49	10
PCB-1221	ND		4.2	0.80	ug/Kg		07/01/13 02:45	07/02/13 00:49	10
PCB-1232	ND		4.2	0.72	ug/Kg		07/01/13 02:45	07/02/13 00:49	10
PCB-1242	ND		4.2	0.68	ug/Kg		07/01/13 02:45	07/02/13 00:49	10
PCB-1248	ND		4.2	0.40	ug/Kg		07/01/13 02:45	07/02/13 00:49	10
PCB-1254	330		4.2	0.60	ug/Kg		07/01/13 02:45	07/02/13 00:49	10
PCB-1260	1200		4.2	0.60	ug/Kg		07/01/13 02:45	07/02/13 00:49	10

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
DCB Decachlorobiphenyl (Surr)	136		31 - 150	07/01/13 02:45	07/02/13 00:49	10
Tetrachloro-m-xylene	95		31 - 150	07/01/13 02:45	07/02/13 00:49	10

General Chemistry

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture	0.90		0.10	0.10	%			06/25/13 14:37	1

Client Sample ID: ZD-1

Date Collected: 06/20/13 10:50
Date Received: 06/25/13 09:45

Lab Sample ID: 180-22511-25
Matrix: Sediment
Percent Solids: 98.9

Method: 8082 - Polychlorinated Biphenyls (PCBs) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
PCB-1016	ND		42	6.3	ug/Kg		07/01/13 02:45	07/02/13 09:37	100
PCB-1221	ND		42	8.0	ug/Kg		07/01/13 02:45	07/02/13 09:37	100
PCB-1232	ND		42	7.2	ug/Kg		07/01/13 02:45	07/02/13 09:37	100
PCB-1242	ND		42	6.9	ug/Kg		07/01/13 02:45	07/02/13 09:37	100
PCB-1248	ND		42	4.0	ug/Kg		07/01/13 02:45	07/02/13 09:37	100
PCB-1254	ND		42	6.0	ug/Kg		07/01/13 02:45	07/02/13 09:37	100
PCB-1260	4700		42	6.0	ug/Kg		07/01/13 02:45	07/02/13 09:37	100

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
DCB Decachlorobiphenyl (Surr)	0	X D	31 - 150	07/01/13 02:45	07/02/13 09:37	100
Tetrachloro-m-xylene	0	X D	31 - 150	07/01/13 02:45	07/02/13 09:37	100

General Chemistry

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture	1.1		0.10	0.10	%			06/25/13 14:37	1

Client Sample Results

Client: Stantec Consulting Corp.
Project/Site: AMTRAK WILMINGTON

TestAmerica Job ID: 180-22511-1

Client Sample ID: ZD-2

Date Collected: 06/20/13 10:45
Date Received: 06/25/13 09:45

Lab Sample ID: 180-22511-26
Matrix: Sediment
Percent Solids: 98.3

Method: 8082 - Polychlorinated Biphenyls (PCBs) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
PCB-1016	ND		21	3.2	ug/Kg		07/01/13 02:45	07/02/13 10:08	50
PCB-1221	ND		21	4.0	ug/Kg		07/01/13 02:45	07/02/13 10:08	50
PCB-1232	ND		21	3.6	ug/Kg		07/01/13 02:45	07/02/13 10:08	50
PCB-1242	ND		21	3.5	ug/Kg		07/01/13 02:45	07/02/13 10:08	50
PCB-1248	ND		21	2.0	ug/Kg		07/01/13 02:45	07/02/13 10:08	50
PCB-1254	ND		21	3.0	ug/Kg		07/01/13 02:45	07/02/13 10:08	50
PCB-1260	**2200**		21	3.0	ug/Kg		07/01/13 02:45	07/02/13 10:08	50

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
DCB Decachlorobiphenyl (Surr)	*152*	*X D*	*31 - 150*	*07/01/13 02:45*	*07/02/13 10:08*	*50*
Tetrachloro-m-xylene	*134*	*D*	*31 - 150*	*07/01/13 02:45*	*07/02/13 10:08*	*50*

General Chemistry

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture	1.7		0.10	0.10	%			06/25/13 14:37	1

Client Sample ID: ZD-3

Date Collected: 06/20/13 10:25
Date Received: 06/25/13 09:45

Lab Sample ID: 180-22511-27
Matrix: Sediment
Percent Solids: 98.7

Method: 8082 - Polychlorinated Biphenyls (PCBs) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
PCB-1016	ND		4.2	0.63	ug/Kg		07/01/13 02:45	07/02/13 02:21	10
PCB-1221	ND		4.2	0.80	ug/Kg		07/01/13 02:45	07/02/13 02:21	10
PCB-1232	ND		4.2	0.72	ug/Kg		07/01/13 02:45	07/02/13 02:21	10
PCB-1242	ND		4.2	0.69	ug/Kg		07/01/13 02:45	07/02/13 02:21	10
PCB-1248	ND		4.2	0.40	ug/Kg		07/01/13 02:45	07/02/13 02:21	10
PCB-1254	**350**		4.2	0.60	ug/Kg		07/01/13 02:45	07/02/13 02:21	10
PCB-1260	**1100**		4.2	0.60	ug/Kg		07/01/13 02:45	07/02/13 02:21	10

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
DCB Decachlorobiphenyl (Surr)	*115*		*31 - 150*	*07/01/13 02:45*	*07/02/13 02:21*	*10*
Tetrachloro-m-xylene	*99*		*31 - 150*	*07/01/13 02:45*	*07/02/13 02:21*	*10*

General Chemistry

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture	**1.3**		0.10	0.10	%			06/25/13 14:37	1

Client Sample ID: ZD-4

Date Collected: 06/20/13 09:30
Date Received: 06/25/13 09:45

Lab Sample ID: 180-22511-28
Matrix: Sediment
Percent Solids: 99.6

Method: 8082 - Polychlorinated Biphenyls (PCBs) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
PCB-1016	ND		4.2	0.62	ug/Kg		07/01/13 02:45	07/02/13 02:52	10
PCB-1221	ND		4.2	0.80	ug/Kg		07/01/13 02:45	07/02/13 02:52	10
PCB-1232	ND		4.2	0.71	ug/Kg		07/01/13 02:45	07/02/13 02:52	10
PCB-1242	ND		4.2	0.68	ug/Kg		07/01/13 02:45	07/02/13 02:52	10
PCB-1248	ND		4.2	0.39	ug/Kg		07/01/13 02:45	07/02/13 02:52	10
PCB-1254	**51**		4.2	0.59	ug/Kg		07/01/13 02:45	07/02/13 02:52	10
PCB-1260	**190**		4.2	0.59	ug/Kg		07/01/13 02:45	07/02/13 02:52	10

Client Sample Results

Client: Stantec Consulting Corp.
Project/Site: AMTRAK WILMINGTON

TestAmerica Job ID: 180-22511-1

Client Sample ID: ZD-4

Date Collected: 06/20/13 09:30
Date Received: 06/25/13 09:45

Lab Sample ID: 180-22511-28
Matrix: Sediment
Percent Solids: 99.6

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
DCB Decachlorobiphenyl (Surr)	115		31 - 150	07/01/13 02:45	07/02/13 02:52	10
Tetrachloro-m-xylene	103		31 - 150	07/01/13 02:45	07/02/13 02:52	10

General Chemistry

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture	0.35		0.10	0.10	%			06/25/13 14:37	1

Client Sample ID: GRATE BLDG 23

Date Collected: 06/20/13 10:20
Date Received: 06/25/13 09:45

Lab Sample ID: 180-22511-29
Matrix: Sediment
Percent Solids: 99.2

Method: 8082 - Polychlorinated Biphenyls (PCBs) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
PCB-1016	ND		4.2	0.62	ug/Kg		07/01/13 02:45	07/02/13 03:23	10
PCB-1221	ND		4.2	0.80	ug/Kg		07/01/13 02:45	07/02/13 03:23	10
PCB-1232	ND		4.2	0.72	ug/Kg		07/01/13 02:45	07/02/13 03:23	10
PCB-1242	ND		4.2	0.68	ug/Kg		07/01/13 02:45	07/02/13 03:23	10
PCB-1248	ND		4.2	0.40	ug/Kg		07/01/13 02:45	07/02/13 03:23	10
PCB-1254	270		4.2	0.60	ug/Kg		07/01/13 02:45	07/02/13 03:23	10
PCB-1260	1200		4.2	0.60	ug/Kg		07/01/13 02:45	07/02/13 03:23	10

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
DCB Decachlorobiphenyl (Surr)	107		31 - 150	07/01/13 02:45	07/02/13 03:23	10
Tetrachloro-m-xylene	76		31 - 150	07/01/13 02:45	07/02/13 03:23	10

General Chemistry

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture	0.83		0.10	0.10	%			06/25/13 14:37	1

Client Sample ID: MH-LS-DOOR#17

Date Collected: 06/20/13 10:05
Date Received: 06/25/13 09:45

Lab Sample ID: 180-22511-30
Matrix: Sediment
Percent Solids: 98.7

Method: 8082 - Polychlorinated Biphenyls (PCBs) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
PCB-1016	ND		42	6.3	ug/Kg		07/01/13 02:45	07/02/13 10:39	100
PCB-1221	ND		42	8.0	ug/Kg		07/01/13 02:45	07/02/13 10:39	100
PCB-1232	ND		42	7.2	ug/Kg		07/01/13 02:45	07/02/13 10:39	100
PCB-1242	ND		42	6.9	ug/Kg		07/01/13 02:45	07/02/13 10:39	100
PCB-1248	ND		42	4.0	ug/Kg		07/01/13 02:45	07/02/13 10:39	100
PCB-1254	ND		42	6.0	ug/Kg		07/01/13 02:45	07/02/13 10:39	100
PCB-1260	3100		42	6.0	ug/Kg		07/01/13 02:45	07/02/13 10:39	100

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
DCB Decachlorobiphenyl (Surr)	0	X D	31 - 150	07/01/13 02:45	07/02/13 10:39	100
Tetrachloro-m-xylene	0	X D	31 - 150	07/01/13 02:45	07/02/13 10:39	100

General Chemistry

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture	1.3		0.10	0.10	%			06/25/13 14:37	1

Client Sample Results

Client: Stantec Consulting Corp.
Project/Site: AMTRAK WILMINGTON

TestAmerica Job ID: 180-22511-1

Client Sample ID: MH-N-SS

Date Collected: 06/20/13 10:15
Date Received: 06/25/13 09:45

Lab Sample ID: 180-22511-31
Matrix: Sediment
Percent Solids: 99.8

Method: 8082 - Polychlorinated Biphenyls (PCBs) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
PCB-1016	ND		4.2	0.62	ug/Kg		07/01/13 02:45	07/02/13 04:25	10
PCB-1221	ND		4.2	0.80	ug/Kg		07/01/13 02:45	07/02/13 04:25	10
PCB-1232	ND		4.2	0.71	ug/Kg		07/01/13 02:45	07/02/13 04:25	10
PCB-1242	ND		4.2	0.68	ug/Kg		07/01/13 02:45	07/02/13 04:25	10
PCB-1248	ND		4.2	0.39	ug/Kg		07/01/13 02:45	07/02/13 04:25	10
PCB-1254	**96**		4.2	0.59	ug/Kg		07/01/13 02:45	07/02/13 04:25	10
PCB-1260	**500**		4.2	0.59	ug/Kg		07/01/13 02:45	07/02/13 04:25	10

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
DCB Decachlorobiphenyl (Surr)	*275*	*X*	*31 - 150*	*07/01/13 02:45*	*07/02/13 04:25*	*10*
Tetrachloro-m-xylene	*118*		*31 - 150*	*07/01/13 02:45*	*07/02/13 04:25*	*10*

General Chemistry

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture	0.22		0.10	0.10	%			06/25/13 14:37	1

Client Sample ID: MH-SE-WS-ADDITION

Date Collected: 06/20/13 10:20
Date Received: 06/25/13 09:45

Lab Sample ID: 180-22511-32
Matrix: Sediment
Percent Solids: 99.8

Method: 8082 - Polychlorinated Biphenyls (PCBs) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
PCB-1016	ND		4.2	0.62	ug/Kg		07/01/13 02:45	07/02/13 04:56	10
PCB-1221	ND		4.2	0.80	ug/Kg		07/01/13 02:45	07/02/13 04:56	10
PCB-1232	ND		4.2	0.71	ug/Kg		07/01/13 02:45	07/02/13 04:56	10
PCB-1242	ND		4.2	0.68	ug/Kg		07/01/13 02:45	07/02/13 04:56	10
PCB-1248	ND		4.2	0.39	ug/Kg		07/01/13 02:45	07/02/13 04:56	10
PCB-1254	**150**		4.2	0.59	ug/Kg		07/01/13 02:45	07/02/13 04:56	10
PCB-1260	**480**		4.2	0.59	ug/Kg		07/01/13 02:45	07/02/13 04:56	10

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
DCB Decachlorobiphenyl (Surr)	*333*	*X*	*31 - 150*	*07/01/13 02:45*	*07/02/13 04:56*	*10*
Tetrachloro-m-xylene	*80*		*31 - 150*	*07/01/13 02:45*	*07/02/13 04:56*	*10*

General Chemistry

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture	**0.20**		0.10	0.10	%			06/25/13 14:37	1

Client Sample ID: GRATE-SE-LS

Date Collected: 06/20/13 10:10
Date Received: 06/25/13 09:45

Lab Sample ID: 180-22511-33
Matrix: Sediment
Percent Solids: 96.9

Method: 8082 - Polychlorinated Biphenyls (PCBs) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
PCB-1016	ND		4.3	0.64	ug/Kg		07/01/13 02:45	07/02/13 05:27	10
PCB-1221	ND		4.3	0.82	ug/Kg		07/01/13 02:45	07/02/13 05:27	10
PCB-1232	ND		4.3	0.74	ug/Kg		07/01/13 02:45	07/02/13 05:27	10
PCB-1242	ND		4.3	0.70	ug/Kg		07/01/13 02:45	07/02/13 05:27	10
PCB-1248	ND		4.3	0.41	ug/Kg		07/01/13 02:45	07/02/13 05:27	10
PCB-1254	**210**		4.3	0.61	ug/Kg		07/01/13 02:45	07/02/13 05:27	10
PCB-1260	**1000**		4.3	0.61	ug/Kg		07/01/13 02:45	07/02/13 05:27	10

Client Sample Results

Client: Stantec Consulting Corp.
Project/Site: AMTRAK WILMINGTON

TestAmerica Job ID: 180-22511-1

Client Sample ID: GRATE-SE-LS

Date Collected: 06/20/13 10:10
Date Received: 06/25/13 09:45

Lab Sample ID: 180-22511-33
Matrix: Sediment
Percent Solids: 96.9

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
DCB Decachlorobiphenyl (Surr)	87		31 - 150	07/01/13 02:45	07/02/13 05:27	10
Tetrachloro-m-xylene	74		31 - 150	07/01/13 02:45	07/02/13 05:27	10

General Chemistry

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture	3.1		0.10	0.10	%			06/25/13 14:37	1

Client Sample ID: MH-WHEEL STORAGE

Date Collected: 06/20/13 10:15
Date Received: 06/25/13 09:45

Lab Sample ID: 180-22511-34
Matrix: Sediment
Percent Solids: 99.4

Method: 8082 - Polychlorinated Biphenyls (PCBs) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
PCB-1016	ND		4.2	0.62	ug/Kg		07/01/13 02:45	07/02/13 05:58	10
PCB-1221	ND		4.2	0.80	ug/Kg		07/01/13 02:45	07/02/13 05:58	10
PCB-1232	ND		4.2	0.72	ug/Kg		07/01/13 02:45	07/02/13 05:58	10
PCB-1242	ND		4.2	0.68	ug/Kg		07/01/13 02:45	07/02/13 05:58	10
PCB-1248	ND		4.2	0.40	ug/Kg		07/01/13 02:45	07/02/13 05:58	10
PCB-1254	120		4.2	0.60	ug/Kg		07/01/13 02:45	07/02/13 05:58	10
PCB-1260	460		4.2	0.60	ug/Kg		07/01/13 02:45	07/02/13 05:58	10

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
DCB Decachlorobiphenyl (Surr)	164	X	31 - 150	07/01/13 02:45	07/02/13 05:58	10
Tetrachloro-m-xylene	80		31 - 150	07/01/13 02:45	07/02/13 05:58	10

General Chemistry

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture	0.59		0.10	0.10	%			06/25/13 14:37	1

QC Sample Results

Client: Stantec Consulting Corp.
Project/Site: AMTRAK WILMINGTON

TestAmerica Job ID: 180-22511-1

Method: 8082 - Polychlorinated Biphenyls (PCBs) (GC)

Lab Sample ID: MB 180-76252/1-C
Matrix: Sediment
Analysis Batch: 76381

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 76252

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
PCB-1016	ND		0.42	0.062	ug/Kg		07/01/13 02:30	07/02/13 02:21	1
PCB-1221	ND		0.42	0.080	ug/Kg		07/01/13 02:30	07/02/13 02:21	1
PCB-1232	ND		0.42	0.071	ug/Kg		07/01/13 02:30	07/02/13 02:21	1
PCB-1242	ND		0.42	0.068	ug/Kg		07/01/13 02:30	07/02/13 02:21	1
PCB-1248	ND		0.42	0.039	ug/Kg		07/01/13 02:30	07/02/13 02:21	1
PCB-1254	ND		0.42	0.059	ug/Kg		07/01/13 02:30	07/02/13 02:21	1
PCB-1260	ND		0.42	0.059	ug/Kg		07/01/13 02:30	07/02/13 02:21	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
DCB Decachlorobiphenyl (Surr)	*76*		*31 - 150*	*07/01/13 02:30*	*07/02/13 02:21*	*1*
Tetrachloro-m-xylene	*81*		*31 - 150*	*07/01/13 02:30*	*07/02/13 02:21*	*1*

Lab Sample ID: LCS 180-76252/2-C
Matrix: Sediment
Analysis Batch: 76381

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 76252

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
PCB-1016	33.3	29.6		ug/Kg		89	40 - 115
PCB-1260	33.3	27.6		ug/Kg		83	40 - 115

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
DCB Decachlorobiphenyl (Surr)	*80*		*31 - 150*
Tetrachloro-m-xylene	*94*		*31 - 150*

Lab Sample ID: 180-22511-5 MS
Matrix: Sediment
Analysis Batch: 76381

Client Sample ID: TD-3
Prep Type: Total/NA
Prep Batch: 76252

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
PCB-1016	ND		33.5	47.4	F	ug/Kg	☼	142	40 - 115
PCB-1260	640		33.5	656	4	ug/Kg	☼	56	40 - 115

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
DCB Decachlorobiphenyl (Surr)	*110*		*31 - 150*
Tetrachloro-m-xylene	*107*		*31 - 150*

Lab Sample ID: 180-22511-5 MSD
Matrix: Sediment
Analysis Batch: 76381

Client Sample ID: TD-3
Prep Type: Total/NA
Prep Batch: 76252

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
PCB-1016	ND		33.5	47.7	F	ug/Kg	☼	143	40 - 115	1	35
PCB-1260	640		33.5	615	4	ug/Kg	☼	-66	40 - 115	6	29

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
DCB Decachlorobiphenyl (Surr)	*54*		*31 - 150*
Tetrachloro-m-xylene	*109*		*31 - 150*

Method: 8082 - Polychlorinated Biphenyls (PCBs) (GC) (Continued)

Lab Sample ID: MB 180-76253/1-C
Matrix: Sediment
Analysis Batch: 76384

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 76253

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
PCB-1016	ND		0.42	0.062	ug/Kg		07/01/13 02:45	07/02/13 07:00	1
PCB-1221	ND		0.42	0.080	ug/Kg		07/01/13 02:45	07/02/13 07:00	1
PCB-1232	ND		0.42	0.071	ug/Kg		07/01/13 02:45	07/02/13 07:00	1
PCB-1242	ND		0.42	0.068	ug/Kg		07/01/13 02:45	07/02/13 07:00	1
PCB-1248	ND		0.42	0.039	ug/Kg		07/01/13 02:45	07/02/13 07:00	1
PCB-1254	ND		0.42	0.059	ug/Kg		07/01/13 02:45	07/02/13 07:00	1
PCB-1260	ND		0.42	0.059	ug/Kg		07/01/13 02:45	07/02/13 07:00	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
DCB Decachlorobiphenyl (Surr)	*84*		*31 - 150*	*07/01/13 02:45*	*07/02/13 07:00*	*1*
Tetrachloro-m-xylene	*79*		*31 - 150*	*07/01/13 02:45*	*07/02/13 07:00*	*1*

Lab Sample ID: LCS 180-76253/2-C
Matrix: Sediment
Analysis Batch: 76384

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 76253

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
PCB-1016	33.3	29.2		ug/Kg		88	40 - 115
PCB-1260	33.3	28.4		ug/Kg		85	40 - 115

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
DCB Decachlorobiphenyl (Surr)	*89*		*31 - 150*
Tetrachloro-m-xylene	*84*		*31 - 150*

Lab Sample ID: 180-22511-23 MS
Matrix: Sediment
Analysis Batch: 76384

Client Sample ID: MH-13
Prep Type: Total/NA
Prep Batch: 76253

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
PCB-1016	ND		33.4	35.0		ug/Kg	☼	105	40 - 115
PCB-1260	400		33.4	389	4	ug/Kg	☼	-36	40 - 115

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
DCB Decachlorobiphenyl (Surr)	*109*		*31 - 150*
Tetrachloro-m-xylene	*93*		*31 - 150*

Lab Sample ID: 180-22511-23 MSD
Matrix: Sediment
Analysis Batch: 76384

Client Sample ID: MH-13
Prep Type: Total/NA
Prep Batch: 76253

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
PCB-1016	ND		33.4	34.4		ug/Kg	☼	103	40 - 115	2	35
PCB-1260	400		33.4	395	4	ug/Kg	☼	-17	40 - 115	2	29

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
DCB Decachlorobiphenyl (Surr)	*112*		*31 - 150*
Tetrachloro-m-xylene	*95*		*31 - 150*

QC Sample Results

Client: Stantec Consulting Corp.
Project/Site: AMTRAK WILMINGTON

TestAmerica Job ID: 180-22511-1

Method: 2540G - SM 2540G

Lab Sample ID: 180-22511-1 DU
Matrix: Sediment
Analysis Batch: 75781

Client Sample ID: MH-NY-RW-2
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Percent Moisture	1.1		0.90		%		18	20

Lab Sample ID: 180-22511-10 DU
Matrix: Sediment
Analysis Batch: 75781

Client Sample ID: TD-10
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Percent Moisture	0.76		0.71		%		8	20

Lab Sample ID: 180-22511-20 DU
Matrix: Sediment
Analysis Batch: 75786

Client Sample ID: CB-9
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Percent Moisture	1.3		1.2		%		7	20

Lab Sample ID: 180-22511-30 DU
Matrix: Sediment
Analysis Batch: 75786

Client Sample ID: MH-LS-DOOR#17
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Percent Moisture	1.3		1.3		%		0	20

QC Association Summary

Client: Stantec Consulting Corp.
Project/Site: AMTRAK WILMINGTON

TestAmerica Job ID: 180-22511-1

GC Semi VOA

Prep Batch: 76252

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-22511-1	MH-NY-RW-2	Total/NA	Sediment	3541	
180-22511-2	GRATE-NE-LS	Total/NA	Sediment	3541	
180-22511-3	TD-1	Total/NA	Sediment	3541	
180-22511-4	TD-2	Total/NA	Sediment	3541	
180-22511-5	TD-3	Total/NA	Sediment	3541	
180-22511-5 MS	TD-3	Total/NA	Sediment	3541	
180-22511-5 MSD	TD-3	Total/NA	Sediment	3541	
180-22511-6	TD-6	Total/NA	Sediment	3541	
180-22511-7	TD-7	Total/NA	Sediment	3541	
180-22511-8	TD-8	Total/NA	Sediment	3541	
180-22511-9	TD-9	Total/NA	Sediment	3541	
180-22511-10	TD-10	Total/NA	Sediment	3541	
180-22511-11	TD-11	Total/NA	Sediment	3541	
180-22511-12	CB-12	Total/NA	Sediment	3541	
180-22511-13	CB-15	Total/NA	Sediment	3541	
180-22511-14	CB-18	Total/NA	Sediment	3541	
180-22511-15	MH-4	Total/NA	Sediment	3541	
180-22511-16	MH-MS-DOOR#28	Total/NA	Sediment	3541	
180-22511-17	CB-14	Total/NA	Sediment	3541	
180-22511-18	MH-MS-DOOR#29	Total/NA	Sediment	3541	
180-22511-19	MH-NE-WS	Total/NA	Sediment	3541	
180-22511-20	CB-9	Total/NA	Sediment	3541	
LCS 180-76252/2-C	Lab Control Sample	Total/NA	Sediment	3541	
MB 180-76252/1-C	Method Blank	Total/NA	Sediment	3541	

Prep Batch: 76253

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-22511-21	TD-4	Total/NA	Sediment	3541	
180-22511-22	TD-5	Total/NA	Sediment	3541	
180-22511-23	MH-13	Total/NA	Sediment	3541	
180-22511-23 MS	MH-13	Total/NA	Sediment	3541	
180-22511-23 MSD	MH-13	Total/NA	Sediment	3541	
180-22511-24	CB-7E	Total/NA	Sediment	3541	
180-22511-25	ZD-1	Total/NA	Sediment	3541	
180-22511-26	ZD-2	Total/NA	Sediment	3541	
180-22511-27	ZD-3	Total/NA	Sediment	3541	
180-22511-28	ZD-4	Total/NA	Sediment	3541	
180-22511-29	GRATE BLDG 23	Total/NA	Sediment	3541	
180-22511-30	MH-LS-DOOR#17	Total/NA	Sediment	3541	
180-22511-31	MH-N-SS	Total/NA	Sediment	3541	
180-22511-32	MH-SE-WS-ADDITION	Total/NA	Sediment	3541	
180-22511-33	GRATE-SE-LS	Total/NA	Sediment	3541	
180-22511-34	MH-WHEEL STORAGE	Total/NA	Sediment	3541	
LCS 180-76253/2-C	Lab Control Sample	Total/NA	Sediment	3541	
MB 180-76253/1-C	Method Blank	Total/NA	Sediment	3541	

Analysis Batch: 76381

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-22511-1	MH-NY-RW-2	Total/NA	Sediment	8082	76252
180-22511-2	GRATE-NE-LS	Total/NA	Sediment	8082	76252
180-22511-3	TD-1	Total/NA	Sediment	8082	76252

GC Semi VOA (Continued)

Analysis Batch: 76381 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-22511-4	TD-2	Total/NA	Sediment	8082	76252
180-22511-5	TD-3	Total/NA	Sediment	8082	76252
180-22511-5 MS	TD-3	Total/NA	Sediment	8082	76252
180-22511-5 MSD	TD-3	Total/NA	Sediment	8082	76252
180-22511-6	TD-6	Total/NA	Sediment	8082	76252
180-22511-7	TD-7	Total/NA	Sediment	8082	76252
180-22511-8	TD-8	Total/NA	Sediment	8082	76252
180-22511-9	TD-9	Total/NA	Sediment	8082	76252
180-22511-10	TD-10	Total/NA	Sediment	8082	76252
180-22511-11	TD-11	Total/NA	Sediment	8082	76252
180-22511-12	CB-12	Total/NA	Sediment	8082	76252
180-22511-13	CB-15	Total/NA	Sediment	8082	76252
180-22511-14	CB-18	Total/NA	Sediment	8082	76252
180-22511-15	MH-4	Total/NA	Sediment	8082	76252
180-22511-16	MH-MS-DOOR#28	Total/NA	Sediment	8082	76252
180-22511-17	CB-14	Total/NA	Sediment	8082	76252
180-22511-18	MH-MS-DOOR#29	Total/NA	Sediment	8082	76252
180-22511-19	MH-NE-WS	Total/NA	Sediment	8082	76252
180-22511-20	CB-9	Total/NA	Sediment	8082	76252
LCS 180-76252/2-C	Lab Control Sample	Total/NA	Sediment	8082	76252
MB 180-76252/1-C	Method Blank	Total/NA	Sediment	8082	76252

Analysis Batch: 76384

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-22511-21	TD-4	Total/NA	Sediment	8082	76253
180-22511-22	TD-5	Total/NA	Sediment	8082	76253
180-22511-23	MH-13	Total/NA	Sediment	8082	76253
180-22511-23 MS	MH-13	Total/NA	Sediment	8082	76253
180-22511-23 MSD	MH-13	Total/NA	Sediment	8082	76253
180-22511-24	CB-7E	Total/NA	Sediment	8082	76253
180-22511-25	ZD-1	Total/NA	Sediment	8082	76253
180-22511-26	ZD-2	Total/NA	Sediment	8082	76253
180-22511-27	ZD-3	Total/NA	Sediment	8082	76253
180-22511-28	ZD-4	Total/NA	Sediment	8082	76253
180-22511-29	GRATE BLDG 23	Total/NA	Sediment	8082	76253
180-22511-30	MH-LS-DOOR#17	Total/NA	Sediment	8082	76253
180-22511-31	MH-N-SS	Total/NA	Sediment	8082	76253
180-22511-32	MH-SE-WS-ADDITION	Total/NA	Sediment	8082	76253
180-22511-33	GRATE-SE-LS	Total/NA	Sediment	8082	76253
180-22511-34	MH-WHEEL STORAGE	Total/NA	Sediment	8082	76253
LCS 180-76253/2-C	Lab Control Sample	Total/NA	Sediment	8082	76253
MB 180-76253/1-C	Method Blank	Total/NA	Sediment	8082	76253

General Chemistry

Analysis Batch: 75781

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-22511-1	MH-NY-RW-2	Total/NA	Sediment	2540G	
180-22511-1 DU	MH-NY-RW-2	Total/NA	Sediment	2540G	
180-22511-2	GRATE-NE-LS	Total/NA	Sediment	2540G	

General Chemistry (Continued)

Analysis Batch: 75781 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-22511-3	TD-1	Total/NA	Sediment	2540G	
180-22511-4	TD-2	Total/NA	Sediment	2540G	
180-22511-5	TD-3	Total/NA	Sediment	2540G	
180-22511-6	TD-6	Total/NA	Sediment	2540G	
180-22511-7	TD-7	Total/NA	Sediment	2540G	
180-22511-8	TD-8	Total/NA	Sediment	2540G	
180-22511-9	TD-9	Total/NA	Sediment	2540G	
180-22511-10	TD-10	Total/NA	Sediment	2540G	
180-22511-10 DU	TD-10	Total/NA	Sediment	2540G	
180-22511-11	TD-11	Total/NA	Sediment	2540G	
180-22511-12	CB-12	Total/NA	Sediment	2540G	
180-22511-13	CB-15	Total/NA	Sediment	2540G	
180-22511-14	CB-18	Total/NA	Sediment	2540G	
180-22511-15	MH-4	Total/NA	Sediment	2540G	
180-22511-16	MH-MS-DOOR#28	Total/NA	Sediment	2540G	
180-22511-17	CB-14	Total/NA	Sediment	2540G	
180-22511-18	MH-MS-DOOR#29	Total/NA	Sediment	2540G	
180-22511-19	MH-NE-WS	Total/NA	Sediment	2540G	

Analysis Batch: 75786

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-22511-20	CB-9	Total/NA	Sediment	2540G	
180-22511-20 DU	CB-9	Total/NA	Sediment	2540G	
180-22511-21	TD-4	Total/NA	Sediment	2540G	
180-22511-22	TD-5	Total/NA	Sediment	2540G	
180-22511-23	MH-13	Total/NA	Sediment	2540G	
180-22511-24	CB-7E	Total/NA	Sediment	2540G	
180-22511-25	ZD-1	Total/NA	Sediment	2540G	
180-22511-26	ZD-2	Total/NA	Sediment	2540G	
180-22511-27	ZD-3	Total/NA	Sediment	2540G	
180-22511-28	ZD-4	Total/NA	Sediment	2540G	
180-22511-29	GRATE BLDG 23	Total/NA	Sediment	2540G	
180-22511-30	MH-LS-DOOR#17	Total/NA	Sediment	2540G	
180-22511-30 DU	MH-LS-DOOR#17	Total/NA	Sediment	2540G	
180-22511-31	MH-N-SS	Total/NA	Sediment	2540G	
180-22511-32	MH-SE-WS-ADDITION	Total/NA	Sediment	2540G	
180-22511-33	GRATE-SE-LS	Total/NA	Sediment	2540G	
180-22511-34	MH-WHEEL STORAGE	Total/NA	Sediment	2540G	

Chain of Custody Record

TestAmerica Laboratory location:
Regulatory program: ☐ DW ☐ NPDES ☐ RCRA

180-22511-01 Chain of Custody

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

TestAmerica Laboratories, Inc.

Client Contact			
Company Name: STANTEC	Client Project Manager: STEVE BAGGETT	Site Contact:	COC No:
Address: 1060 ANDREW DR. SUITE 140	Telephone:	Telephone:	Telephone: ___ of ___ COCs
City/State/Zip: WEST CHESTER, PA 19380	Email: JASON.CORBETT@STANTEC.COM	Analysis Turnaround Time (in BUS days) TAT if different from below ___ ☐ 3 weeks ☐ 2 weeks ☐ 1 week ☐ 2 days ☐ 1 day	For lab use only: Walk-in client ☐ Lab pickup ☐ Lab sampling ☐ Job/SDG No:
Phone:			
Project Name: AMTRAK - WILMINGTON	Method of Shipment/Carrier:		
Project Number: 213902048	Shipping/Tracking No:		
PO#			

Analyses

Sample Identification	Sample Date	Sample Time	Matrix: Air	Aqueous	Sediment	Solid	Other:	Containers & Preservatives: H2SO4	HNO3	HCl	NaOH	ZnAc/NaOH	Unpres	Other:	Filtered Sample (Y/N)	Composite C/Grab G	8082 LL-TCL PCBs	Sample Specific Notes / Special Instructions:
MH-NY-RW-2	6.20.13	0940			X											G	X	460-58312
GRATE-NE-LS		0935																
TD-1		0915																
TD-2		0950																
TD-3		1010																
TD-6		0920																
TD-7		0945																
TD-8		0925																
TD-9		0935																
TD-10		0945																

Possible Hazard Identification: ☐ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month): ☐ Return to Client ☐ Disposal By Lab ☐ Archive For ___ Months

Special Instructions/QC Requirements & Comments:

2.8

Relinquished by:	Company:	Date/Time:	Received by:	Company:	Date/Time:
[signature]	STANTEC	6.21.13 / 1445	[signature]	TA	6-21-13 1445
[signature]	TA	6/21/13 1834	[signature]	T.A.	6/21/13 19:00
[signature]	T.A.	6/21/13 20:15	Received in Laboratory by: [signature]	TA	6/21/13 2015
[signature]	TA.	6/24/13 2135	[signature]	TA ED	6/21/13 21:35

Relinquished by: [signature] 6/21/13/1300 Test America Received by: [signature] TA ED 6-25-13 945

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TAL-0018 (1008)

7/9/2013

3.6 #2

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

CHAIN OF CUSTODY REPORT

180-22511-02 Chain of Custody

1008 W. Ninth Avenue
King of Prussia, PA 19406
(610) 337-9992
FAX (610) 337-9939

7/9/2013

Client: STANTEC
Address: 1060 ANDREW DR. SUITE 140
WEST CHESTER, PA 19380
Report to: Phone #: ( )
E-mail: JASON.COBBETT@STANTECCOM Fax #: ( )
Project Name: AMTRAK - WILMINGTON
Project #/PO#: 213402048
Sampler: J. COBBETT

Bill To:
Address:
Terms: Net 30 days
State & Program:
Phone #: ( )
Fax #: ( )

TAT: STD. 5 DAY 4 DAY 3 DAY 2 DAY 1 DAY <24 HRS.
Received: ☐ ice ☐ ambient
DATE RESULTS NEEDED:
Deliverable Package: ☐ NO ☒ YES
Temp. Upon Receipt: 2.8
If Yes, please explain:

#	FIELD ID, LOCATION	DATE COLLECTED	TIME COLLECTED	SAMPLE MATRIX	MeOH	DI	HCl	HNO_3	H_2SO_4	NaOH	NONE	TOTAL # OF BOTTLES	SAMPLES FIELD FILTERED ☐YES ☐NO	8270 SZ - LL TCL TC13	ANALYSIS TYPE	CRACKED-BROKEN	IMPROPERLY SEALED	SAMPLE CONTROL	LABORATORY ID NUMBER
1	TB-11 PID:	6.20.13	1035	SE								1		X					460-58311
2	CB-12 PID:	6.20.13	1030	SE								1		X					
3	CB-15 PID:	6.20.13	0915	SE								1		X					
4	CB-18 PID:	6.20.13	1025	SE								1		X					
5	PID:																		
6	PID:																		
7	PID:																		
8	PID:																		
9	PID:																		
10	PID:																		

RELINQUISHED	DATE	RECEIVED	DATE	RELINQUISHED	DATE	RECEIVED	DATE
	6.21.13		6-21-13				
	TIME 1445		TIME 1445		TIME		TIME
RELINQUISHED	DATE 6/21/13	RECEIVED	DATE 6/21/13	RELINQUISHED	DATE 6/21/13	RECEIVED	DATE 6/21/13
	TIME 1834		TIME 19:00		TIME 2015		TIME 2015

COMMENTS: 6/21/13 2135 6/21/13 21:35

PAGE OF

TAL-4124-450 (0509) Relinquished by: 6/24/13/1300 Test America Received by: 6-25-13

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Chain of Custody Record

180-22511-03 Chain of Custody

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

TestAmerica Laboratories, Inc.

TestAmerica Laboratory location: _____
Regulatory program: ☐ DW ☐ NPDES ☐ RCRA

Client Contact			
Company Name: STANTEC	Client Project Manager: STEVE BAGGETT	Site Contact:	COC No:
Address: 1060 ANDREW DR. SUITE 140	Telephone:	Telephone:	Telephone: ____ of ____ COCs
City/State/Zip: WEST CHESTER, PA 19380	Email: JASON.CORBETT@STANTEC.COM	Analysis Turnaround Time (In BUS days)	Analyses
Phone:		TAT if different from below ____ ☐ 3 weeks ☐ 2 weeks ☐ 1 week ☐ 2 days ☐ 1 day	For Lab Use only: Walk-in Client / Lab Sampling / Job/SDG No.
Project Name: AMTRAK - WILMINGTON	Method of Shipment/Carrier:		
Project Number: 213402048	Shipping/Tracking No:		
PO#			

Sample Identification	Sample Date	Sample Time	Matrix: Air	Aqueous	Sediment	Solid	Other:	Containers & Preservatives: H2SO4	HNO3	HCl	NaOH	ZnAc/NaOH	Unpres	Other:	Filtered Sample (Y/N)	Composite C/Grab G	8082_LL-TCL PCB's	Sample Specific Notes / Special Instructions:
MH-4	6.20.13	1025			X											G	X	460-58353
MH-MS-DOOR #28		1045																
CB-14		0925																
MH-MS-DOOR #29		0910																
MH-NE-WS		1040																
CB-9		1035																
TD-4		1005																
TD-5		1040																
MH-13		1055																
CB-7E		0930																

Possible Hazard Identification: ☐ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month): ☐ Return to Client ☐ Disposal By Lab ☐ Archive For _____ Months

Special Instructions/QC Requirements & Comments:

2-50

Relinquished by:	Company:	Date/Time:	Received by:	Company:	Date/Time:
	STANTEC	6.21.13 / 1445		TA	6-21-13 1445
	TA	6/21/13 1834		T.A.	6/21/13 1900
	T.A.	6/21/13 20:15	Received in Laboratory by:	TA	6/21/13 2015
	TA	6/21/13 2135		TA EDI	6/24/13 21:35
Relinquished by:	6/24/13 Test America		Received by:	TAP.74	6-25-13 945

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7/9/2013

Chain of Custody Record

180-22511-04 Chain of Custody

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

TestAmerica Laboratory location:
Regulatory program: ☐ DW ☐ NPDES ☐ RCRA

TestAmerica Laboratories, Inc.

Client Contact			
Company Name: STANTEC	Client Project Manager: STEVE BAGGETT	Site Contact:	COC No:
Address: 1060 ANDREW DR. SUITE 140	Telephone:	Telephone:	Telephone: ____ of ____ COCs
City/State/Zip: WEST CHESTER, PA 19380	Email: JASON.CORBETT@STANTEC.COM	Analysis Turnaround Time (in BUS-days)	Analyses
Phone:		TAT if different from below ____ ☐ 3 weeks ☐ 2 weeks ☐ 1 week ☐ 2 days ☐ 1 day	For lab use only: Walk-in client: ☐ Lab pickup: ☐ Lab sampling: ☐ Job/SDG No:
Project Name: AMTRAK- WILMINGTON	Method of Shipment/Carrier:		
Project Number: 213402048	Shipping/Tracking No:		
PO#			

Sample Identification	Sample Date	Sample Time	Matrix: Air	Aqueous	Sediment	Solid	Other:	Containers & Preservatives: H2SO4	HNO3	HCl	NaOH	ZnAc/ NaOH	Unpres	Other:	Filtered Sample (Y/N)	Composite=C / Grab=G	8082_LL-TCL PCBs	Sample Specific Notes / Special Instructions:
ZD-1	6.20.13	1050			X											G	X	460-58314
ZD-2		1045																
ZD-3		1025																
ZD-4		0930																
GRATE BLDG 23		1020																
MH-LS-DOOR #17		1005																
MH-N-SS		1015																
MH-SE-WS-ADDITION		1020																
GRATE-SE-LS		1010																
MH-WHEEL STORAGE		1015																

Possible Hazard Identification: ☐ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month): ☐ Return to Client ☐ Disposal By Lab ☐ Archive For ____ Months

Special Instructions/QC Requirements & Comments:

2.0

Relinquished by:	Company:	Date/Time:	Received by:	Company:	Date/Time:
[signature]	STANTEC	6.21.13 1445	[signature]	TA	6-21-13 1445
[signature]	TA	6/21/13 1834	[signature]	T.A.	6/21/13 1910
[signature]	T.A.	6/21/13 2016	Received in Laboratory by: [signature]	TA	6/21/13 2015
[signature]	TA	6/21/13 2135	[signature]	TA-EDI	6/21/13

Relinquished by: [signature] TestAmerica 6/24/13 1300 Received by: [signature] 6-25-13 945

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TAL-0018 (1008)

7/9/2013

Tracking Comfirmation Form

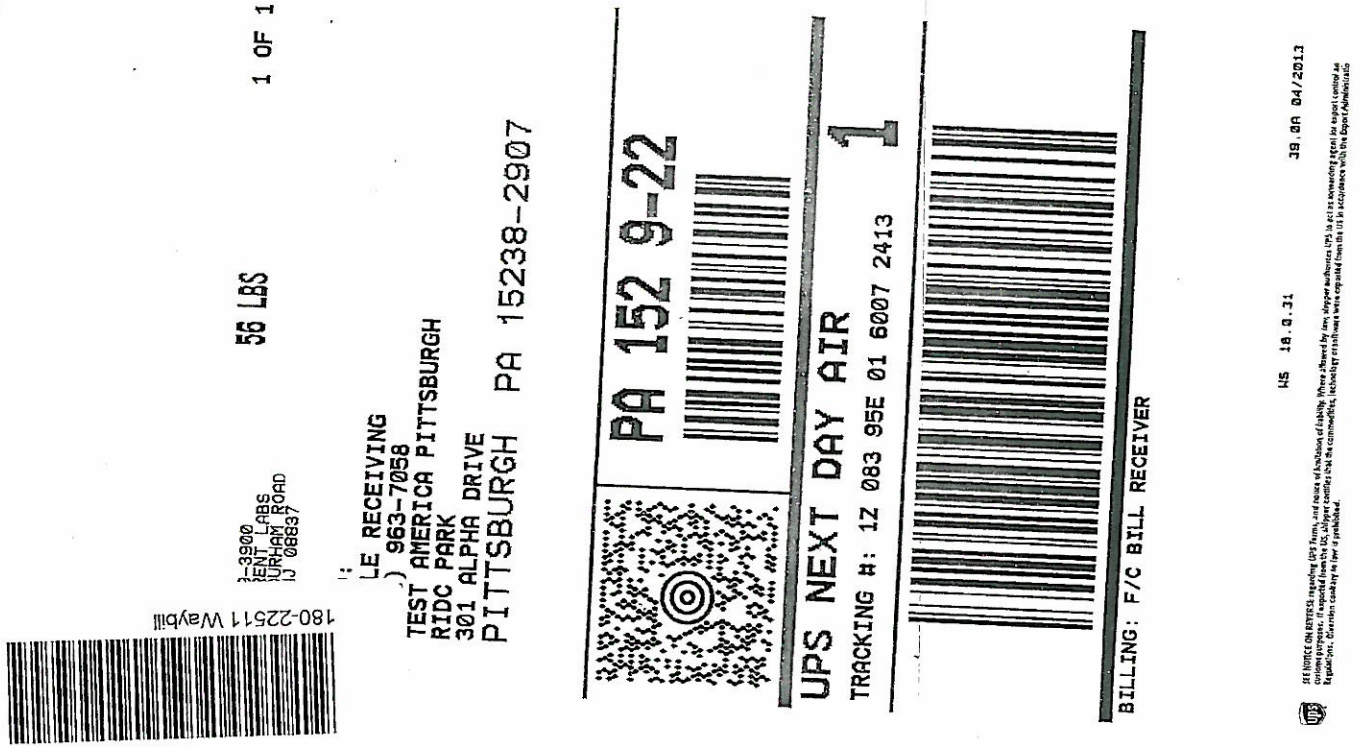
TestAmerica Edison Location

Monday, June 24, 2013

June 24, 2013

S	M	T	W	T	F	S
						1
2	3	4	5	6	7	8
9	10	11	12	13	14	15
16	17	18	19	20	21	22
23	24	25	26	27	28	29

SubWork Tracking Numbers: T.A. Pittsburgh



Please use the tracking numbers and cooler count as informational source.

1

Created by Edison Sample Management

Login Sample Receipt Checklist

Client: Stantec Consulting Corp.

Job Number: 180-22511-1

Login Number: 22511
List Number: 1
Creator: O'Donnell, Brandon R

List Source: TestAmerica Pittsburgh

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	N/A	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time.	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

APPENDIX D - OUTFALLS 002 AND 007 PILOT INLET PROTECTION PROGRAM SEDIMENT LABORATORY DATA – DECEMBER 18, 2013

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

ANALYTICAL REPORT

TestAmerica Laboratories, Inc.
TestAmerica Pittsburgh
301 Alpha Drive
RIDC Park
Pittsburgh, PA 15238
Tel: (412)963-7058

TestAmerica Job ID: 180-28328-1
Client Project/Site: AMTRAK WILMINGTON

For:
Stantec Consulting Corp.
1060 Andrew Drive
Suite 140
West Chester, Pennsylvania 19380

Attn: Mr. Steve Baggett

Authorized for release by:
12/30/2013 1:03:24 PM

Carrie Gamber, Senior Project Manager
(412)963-2428
carrie.gamber@testamericainc.com

LINKS

Review your project results through TotalAccess

Have a Question? Ask The Expert

Visit us at:
www.testamericainc.com

This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

Results relate only to the items tested and the sample(s) as received by the laboratory.

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CASE NARRATIVE

Client: Stantec Consulting Corp.

Project: AMTRAK WILMINGTON

Report Number: 180-28328-1

With the exceptions noted as flags or footnotes, standard analytical protocols were followed in the analysis of the samples and no problems were encountered or anomalies observed. In addition all laboratory quality control samples were within established control limits, with any exceptions noted below. Each sample was analyzed to achieve the lowest possible reporting limit within the constraints of the method. In some cases, due to interference or analytes present at high concentrations, samples were diluted. For diluted samples, the reporting limits are adjusted relative to the dilution required.

Calculations are performed before rounding to avoid round-off errors in calculated results.

All holding times were met and proper preservation noted for the methods performed on these samples, unless otherwise detailed in the individual sections below.

RECEIPT

The samples were received on 12/20/2013; the samples arrived in good condition, properly preserved and on ice. The temperature of the coolers at receipt was 3.7 C.

PCB

Samples TD-1 (180-28328-1)[5X], TD-2 (180-28328-2)[5X], TD-3 (180-28328-3)[5X], TD-4 (180-28328-4)[5X], TD-5 (180-28328-5)[5X], TD-6 (180-28328-6)[5X], TD-7 (180-28328-7)[5X], TD-8 (180-28328-8)[5X], TD-9 (180-28328-9)[50X], TD-10 (180-28328-10)[5X], TD-11 (180-28328-11)[5X], GRATE-SE-LS (180-28328-12)[5X], ZD-1 (180-28328-13)[100X], ZD-2 (180-28328-14)[5X], ZD-3 (180-28328-15)[5X], ZD-4 (180-28328-16)[5X], MH-N-SS (180-28328-17)[250X], MH-NE-WS (180-28328-18)[5X], MH-SE-WS-ADDITION (180-28328-19)[5X], MH-13 (180-28328-20)[50X], MH-WHEEL STORAGE (180-28328-21)[5X], CB-11 (180-28328-22)[5X], MH-LS DOOR#17 (180-28328-23)[50X], MH-NY-RW-2 (180-28328-24)[50X], MH-MS-DOOR#28 (180-28328-25)[50X], MH-MS-DOOR#29 (180-28328-26)[5X], GRATE-NE-LS (180-28328-27)[250X], MH-4 (180-28328-28)[5X], CB-7E (180-28328-29)[50X], CB-9 (180-28328-30)[5X], GRATE BLDG 23 (180-28328-31)[5X], CB-12 (180-28328-32)[5X], CB-14 (180-28328-33)[50X] and CB-18 (180-28328-34)[5X] required dilution prior to analysis. The reporting limits have been adjusted accordingly.

The samples needing a 5x dilution were diluted due to the extracts being dark in color and exhibiting matrix interference.

The samples needing greater than a 5X dilution were diluted due to the level of PCBs detected. The surrogates were diluted out.

PCB-1260 failed the recovery criteria low for the MS/MSD of sample TD-1 (180-28328-1) in batch 180-93408. The presence of the '4' qualifier in the data indicates analytes where the concentration in the unspiked sample exceeded four times the spiking amount.

PCB-1016 and PCB-1260 failed the recovery criteria high for the MS/MSD of sample MH-WHEEL STORAGE (180-28328-21) in batch 180-93409.

PERCENT SOLIDS

No difficulties were encountered during the % solids analysis.

Qualifiers

GC Semi VOA

Qualifier	Qualifier Description
4	MS, MSD: The analyte present in the original sample is greater than 4 times the matrix spike concentration; therefore, control limits are not applicable.
D	Surrogate or matrix spike recoveries were not obtained because the extract was diluted for analysis; also compounds analyzed at a dilution may be flagged with a D.
X	Surrogate is outside control limits
F	MS/MSD Recovery and/or RPD exceeds the control limits

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
¤	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CNF	Contains no Free Liquid
DER	Duplicate error ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision level concentration
MDA	Minimum detectable activity
EDL	Estimated Detection Limit
MDC	Minimum detectable concentration
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
NC	Not Calculated
ND	Not detected at the reporting limit (or MDL or EDL if shown)
PQL	Practical Quantitation Limit
QC	Quality Control
RER	Relative error ratio
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)

Certification Summary

Client: Stantec Consulting Corp.
Project/Site: AMTRAK WILMINGTON

TestAmerica Job ID: 180-28328-1

Laboratory: TestAmerica Pittsburgh

All certifications held by this laboratory are listed. Not all certifications are applicable to this report.

Authority	Program	EPA Region	Certification ID	Expiration Date
Arkansas DEQ	State Program	6	88-0690	06-27-14
California	NELAP	9	4224CA	03-31-14
Connecticut	State Program	1	PH-0688	09-30-14
Florida	NELAP	4	E871008	06-30-14
Illinois	NELAP	5	002602	06-30-14
Kansas	NELAP	7	E-10350	01-31-14 *
L-A-B	DoD ELAP		L2314	07-16-16
Louisiana	NELAP	6	04041	06-30-14
New Hampshire	NELAP	1	203011	04-05-14
New Jersey	NELAP	2	PA005	06-30-14
New York	NELAP	2	11182	04-01-14
North Carolina DENR	State Program	4	434	12-31-13 *
Pennsylvania	NELAP	3	02-00416	04-30-14
South Carolina	State Program	4	89014	04-30-14
US Fish & Wildlife	Federal		LE94312A-1	11-30-14
USDA	Federal		P330-10-00139	05-23-16
Utah	NELAP	8	STLP	04-30-14
Virginia	NELAP	3	460189	09-14-14
West Virginia DEP	State Program	3	142	01-31-14 *
Wisconsin	State Program	5	998027800	08-31-14

* Expired certification is currently pending renewal and is considered valid.

Sample Summary

Client: Stantec Consulting Corp.
Project/Site: AMTRAK WILMINGTON

TestAmerica Job ID: 180-28328-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
180-28328-1	TD-1	Solid	12/18/13 12:00	12/20/13 10:00
180-28328-2	TD-2	Solid	12/18/13 12:55	12/20/13 10:00
180-28328-3	TD-3	Solid	12/18/13 11:10	12/20/13 10:00
180-28328-4	TD-4	Solid	12/18/13 13:10	12/20/13 10:00
180-28328-5	TD-5	Solid	12/18/13 11:50	12/20/13 10:00
180-28328-6	TD-6	Solid	12/18/13 12:50	12/20/13 10:00
180-28328-7	TD-7	Solid	12/18/13 13:00	12/20/13 10:00
180-28328-8	TD-8	Solid	12/18/13 11:25	12/20/13 10:00
180-28328-9	TD-9	Solid	12/18/13 11:15	12/20/13 10:00
180-28328-10	TD-10	Solid	12/18/13 12:45	12/20/13 10:00
180-28328-11	TD-11	Solid	12/18/13 10:50	12/20/13 10:00
180-28328-12	GRATE-SE-LS	Solid	12/18/13 11:30	12/20/13 10:00
180-28328-13	ZD-1	Solid	12/18/13 12:40	12/20/13 10:00
180-28328-14	ZD-2	Solid	12/18/13 12:50	12/20/13 10:00
180-28328-15	ZD-3	Solid	12/18/13 13:40	12/20/13 10:00
180-28328-16	ZD-4	Solid	12/18/13 11:45	12/20/13 10:00
180-28328-17	MH-N-SS	Solid	12/18/13 10:55	12/20/13 10:00
180-28328-18	MH-NE-WS	Solid	12/18/13 13:30	12/20/13 10:00
180-28328-19	MH-SE-WS-ADDITION	Solid	12/18/13 13:50	12/20/13 10:00
180-28328-20	MH-13	Solid	12/18/13 13:35	12/20/13 10:00
180-28328-21	MH-WHEEL STORAGE	Solid	12/18/13 12:05	12/20/13 10:00
180-28328-22	CB-11	Solid	12/18/13 13:25	12/20/13 10:00
180-28328-23	MH-LS DOOR#17	Solid	12/18/13 13:20	12/20/13 10:00
180-28328-24	MH-NY-RW-2	Solid	12/18/13 13:45	12/20/13 10:00
180-28328-25	MH-MS-DOOR#28	Solid	12/18/13 10:45	12/20/13 10:00
180-28328-26	MH-MS-DOOR#29	Solid	12/18/13 12:35	12/20/13 10:00
180-28328-27	GRATE-NE-LS	Solid	12/18/13 11:55	12/20/13 10:00
180-28328-28	MH-4	Solid	12/18/13 13:15	12/20/13 10:00
180-28328-29	CB-7E	Solid	12/18/13 11:20	12/20/13 10:00
180-28328-30	CB-9	Solid	12/18/13 11:40	12/20/13 10:00
180-28328-31	GRATE BLDG 23	Solid	12/18/13 11:05	12/20/13 10:00
180-28328-32	CB-12	Solid	12/18/13 11:35	12/20/13 10:00
180-28328-33	CB-14	Solid	12/18/13 13:05	12/20/13 10:00
180-28328-34	CB-18	Solid	12/18/13 11:00	12/20/13 10:00

Method Summary

Client: Stantec Consulting Corp.
Project/Site: AMTRAK WILMINGTON

TestAmerica Job ID: 180-28328-1

Method	Method Description	Protocol	Laboratory
8082	Polychlorinated Biphenyls (PCBs) (GC)	SW846	TAL PIT
2540G	SM 2540G	SM22	TAL PIT

Protocol References:

SM22 = SM22

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

Laboratory References:

TAL PIT = TestAmerica Pittsburgh, 301 Alpha Drive, RIDC Park, Pittsburgh, PA 15238, TEL (412)963-7058

Lab Chronicle

Client: Stantec Consulting Corp.
Project/Site: AMTRAK WILMINGTON

TestAmerica Job ID: 180-28328-1

Client Sample ID: TD-1

Date Collected: 12/18/13 12:00
Date Received: 12/20/13 10:00

Lab Sample ID: 180-28328-1
Matrix: Solid
Percent Solids: 99.5

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3541			15.1 g	1.0 mL	93080	12/23/13 03:45	KLG	TAL PIT
Total/NA	Cleanup	3665A			2 mL	2 mL	93149	12/23/13 14:11	AKG	TAL PIT
Total/NA	Cleanup	3660B			2 mL	2 mL	93150	12/23/13 14:13	AKG	TAL PIT
Total/NA	Analysis	8082		5	15.1 g	1.0 mL	93408	12/23/13 15:08	AKG	TAL PIT
	Instrument ID: GC8									
Total/NA	Analysis	2540G		1			93007	12/20/13 16:09	SJK	TAL PIT
	Instrument ID: NOEQUIP									

Client Sample ID: TD-2

Date Collected: 12/18/13 12:55
Date Received: 12/20/13 10:00

Lab Sample ID: 180-28328-2
Matrix: Solid
Percent Solids: 99.5

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3541			15.0 g	1.0 mL	93080	12/23/13 03:45	KLG	TAL PIT
Total/NA	Cleanup	3665A			2 mL	2 mL	93149	12/23/13 14:11	AKG	TAL PIT
Total/NA	Cleanup	3660B			2 mL	2 mL	93150	12/23/13 14:13	AKG	TAL PIT
Total/NA	Analysis	8082		5	15.0 g	1.0 mL	93408	12/23/13 16:45	AKG	TAL PIT
	Instrument ID: GC8									
Total/NA	Analysis	2540G		1			93007	12/20/13 16:09	SJK	TAL PIT
	Instrument ID: NOEQUIP									

Client Sample ID: TD-3

Date Collected: 12/18/13 11:10
Date Received: 12/20/13 10:00

Lab Sample ID: 180-28328-3
Matrix: Solid
Percent Solids: 99.7

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3541			15.0 g	1.0 mL	93080	12/23/13 03:45	KLG	TAL PIT
Total/NA	Cleanup	3665A			2 mL	2 mL	93149	12/23/13 14:11	AKG	TAL PIT
Total/NA	Cleanup	3660B			2 mL	2 mL	93150	12/23/13 14:13	AKG	TAL PIT
Total/NA	Analysis	8082		5	15.0 g	1.0 mL	93408	12/23/13 17:17	AKG	TAL PIT
	Instrument ID: GC8									
Total/NA	Analysis	2540G		1			93007	12/20/13 16:09	SJK	TAL PIT
	Instrument ID: NOEQUIP									

Client Sample ID: TD-4

Date Collected: 12/18/13 13:10
Date Received: 12/20/13 10:00

Lab Sample ID: 180-28328-4
Matrix: Solid
Percent Solids: 99.1

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3541			15.1 g	1.0 mL	93080	12/23/13 03:45	KLG	TAL PIT
Total/NA	Cleanup	3665A			2 mL	2 mL	93149	12/23/13 14:11	AKG	TAL PIT
Total/NA	Cleanup	3660B			2 mL	2 mL	93150	12/23/13 14:13	AKG	TAL PIT
Total/NA	Analysis	8082		5	15.1 g	1.0 mL	93408	12/23/13 17:49	AKG	TAL PIT
	Instrument ID: GC8									

Lab Chronicle

Client: Stantec Consulting Corp.
Project/Site: AMTRAK WILMINGTON

TestAmerica Job ID: 180-28328-1

Client Sample ID: TD-4

Date Collected: 12/18/13 13:10
Date Received: 12/20/13 10:00

Lab Sample ID: 180-28328-4
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	2540G		1			93007	12/20/13 16:09	SJK	TAL PIT
	Instrument ID: NOEQUIP									

Client Sample ID: TD-5

Date Collected: 12/18/13 11:50
Date Received: 12/20/13 10:00

Lab Sample ID: 180-28328-5
Matrix: Solid
Percent Solids: 99.8

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3541			15.1 g	1.0 mL	93080	12/23/13 03:45	KLG	TAL PIT
Total/NA	Cleanup	3665A			2 mL	2 mL	93149	12/23/13 14:11	AKG	TAL PIT
Total/NA	Cleanup	3660B			2 mL	2 mL	93150	12/23/13 14:13	AKG	TAL PIT
Total/NA	Analysis	8082		5	15.1 g	1.0 mL	93408	12/23/13 18:22	AKG	TAL PIT
	Instrument ID: GC8									
Total/NA	Analysis	2540G		1			93007	12/20/13 16:09	SJK	TAL PIT
	Instrument ID: NOEQUIP									

Client Sample ID: TD-6

Date Collected: 12/18/13 12:50
Date Received: 12/20/13 10:00

Lab Sample ID: 180-28328-6
Matrix: Solid
Percent Solids: 99.3

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3541			15.1 g	1.0 mL	93080	12/23/13 03:45	KLG	TAL PIT
Total/NA	Cleanup	3665A			2 mL	2 mL	93149	12/23/13 14:11	AKG	TAL PIT
Total/NA	Cleanup	3660B			2 mL	2 mL	93150	12/23/13 14:13	AKG	TAL PIT
Total/NA	Analysis	8082		5	15.1 g	1.0 mL	93408	12/23/13 18:54	AKG	TAL PIT
	Instrument ID: GC8									
Total/NA	Analysis	2540G		1			93007	12/20/13 16:09	SJK	TAL PIT
	Instrument ID: NOEQUIP									

Client Sample ID: TD-7

Date Collected: 12/18/13 13:00
Date Received: 12/20/13 10:00

Lab Sample ID: 180-28328-7
Matrix: Solid
Percent Solids: 99.4

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3541			15.0 g	1.0 mL	93080	12/23/13 03:45	KLG	TAL PIT
Total/NA	Cleanup	3665A			2 mL	2 mL	93149	12/23/13 14:11	AKG	TAL PIT
Total/NA	Cleanup	3660B			2 mL	2 mL	93150	12/23/13 14:13	AKG	TAL PIT
Total/NA	Analysis	8082		5	15.0 g	1.0 mL	93408	12/23/13 19:26	AKG	TAL PIT
	Instrument ID: GC8									
Total/NA	Analysis	2540G		1			93007	12/20/13 16:09	SJK	TAL PIT
	Instrument ID: NOEQUIP									

Lab Chronicle

Client: Stantec Consulting Corp.
Project/Site: AMTRAK WILMINGTON

TestAmerica Job ID: 180-28328-1

Client Sample ID: TD-8

Date Collected: 12/18/13 11:25
Date Received: 12/20/13 10:00

Lab Sample ID: 180-28328-8
Matrix: Solid
Percent Solids: 99.7

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3541			15.0 g	1.0 mL	93080	12/23/13 03:45	KLG	TAL PIT
Total/NA	Cleanup	3665A			2 mL	2 mL	93149	12/23/13 14:11	AKG	TAL PIT
Total/NA	Cleanup	3660B			2 mL	2 mL	93150	12/23/13 14:13	AKG	TAL PIT
Total/NA	Analysis	8082		5	15.0 g	1.0 mL	93408	12/23/13 19:59	AKG	TAL PIT
	Instrument ID: GC8									
Total/NA	Analysis	2540G		1			93007	12/20/13 16:09	SJK	TAL PIT
	Instrument ID: NOEQUIP									

Client Sample ID: TD-9

Date Collected: 12/18/13 11:15
Date Received: 12/20/13 10:00

Lab Sample ID: 180-28328-9
Matrix: Solid
Percent Solids: 99.7

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3541			15.1 g	1.0 mL	93080	12/23/13 03:45	KLG	TAL PIT
Total/NA	Cleanup	3665A			2 mL	2 mL	93149	12/23/13 14:11	AKG	TAL PIT
Total/NA	Cleanup	3660B			2 mL	2 mL	93150	12/23/13 14:13	AKG	TAL PIT
Total/NA	Analysis	8082		50	15.1 g	1.0 mL	93408	12/24/13 13:18	AKG	TAL PIT
	Instrument ID: GC8									
Total/NA	Analysis	2540G		1			93007	12/20/13 16:09	SJK	TAL PIT
	Instrument ID: NOEQUIP									

Client Sample ID: TD-10

Date Collected: 12/18/13 12:45
Date Received: 12/20/13 10:00

Lab Sample ID: 180-28328-10
Matrix: Solid
Percent Solids: 99.0

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3541			15.0 g	1.0 mL	93080	12/23/13 03:45	KLG	TAL PIT
Total/NA	Cleanup	3665A			2 mL	2 mL	93149	12/23/13 14:11	AKG	TAL PIT
Total/NA	Cleanup	3660B			2 mL	2 mL	93150	12/23/13 14:13	AKG	TAL PIT
Total/NA	Analysis	8082		5	15.0 g	1.0 mL	93408	12/23/13 21:03	AKG	TAL PIT
	Instrument ID: GC8									
Total/NA	Analysis	2540G		1			93007	12/20/13 16:09	SJK	TAL PIT
	Instrument ID: NOEQUIP									

Client Sample ID: TD-11

Date Collected: 12/18/13 10:50
Date Received: 12/20/13 10:00

Lab Sample ID: 180-28328-11
Matrix: Solid
Percent Solids: 99.0

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3541			15.0 g	1.0 mL	93080	12/23/13 03:45	KLG	TAL PIT
Total/NA	Cleanup	3665A			2 mL	2 mL	93149	12/23/13 14:11	AKG	TAL PIT
Total/NA	Cleanup	3660B			2 mL	2 mL	93150	12/23/13 14:13	AKG	TAL PIT
Total/NA	Analysis	8082		5	15.0 g	1.0 mL	93408	12/23/13 21:35	AKG	TAL PIT
	Instrument ID: GC8									

Lab Chronicle

Client: Stantec Consulting Corp.
Project/Site: AMTRAK WILMINGTON

TestAmerica Job ID: 180-28328-1

Client Sample ID: TD-11

Date Collected: 12/18/13 10:50
Date Received: 12/20/13 10:00

Lab Sample ID: 180-28328-11
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	2540G		1			93007	12/20/13 16:09	SJK	TAL PIT
	Instrument ID: NOEQUIP									

Client Sample ID: GRATE-SE-LS

Date Collected: 12/18/13 11:30
Date Received: 12/20/13 10:00

Lab Sample ID: 180-28328-12
Matrix: Solid
Percent Solids: 99.5

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3541			15.0 g	1.0 mL	93080	12/23/13 03:45	KLG	TAL PIT
Total/NA	Cleanup	3665A			2 mL	2 mL	93149	12/23/13 14:11	AKG	TAL PIT
Total/NA	Cleanup	3660B			2 mL	2 mL	93150	12/23/13 14:13	AKG	TAL PIT
Total/NA	Analysis	8082		5	15.0 g	1.0 mL	93408	12/23/13 22:08	AKG	TAL PIT
	Instrument ID: GC8									
Total/NA	Analysis	2540G		1			93007	12/20/13 16:09	SJK	TAL PIT
	Instrument ID: NOEQUIP									

Client Sample ID: ZD-1

Date Collected: 12/18/13 12:40
Date Received: 12/20/13 10:00

Lab Sample ID: 180-28328-13
Matrix: Solid
Percent Solids: 99.4

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3541			15.0 g	1.0 mL	93080	12/23/13 03:45	KLG	TAL PIT
Total/NA	Cleanup	3665A			2 mL	2 mL	93149	12/23/13 14:11	AKG	TAL PIT
Total/NA	Cleanup	3660B			2 mL	2 mL	93150	12/23/13 14:13	AKG	TAL PIT
Total/NA	Analysis	8082		100	15.0 g	1.0 mL	93408	12/24/13 13:50	AKG	TAL PIT
	Instrument ID: GC8									
Total/NA	Analysis	2540G		1			93007	12/20/13 16:09	SJK	TAL PIT
	Instrument ID: NOEQUIP									

Client Sample ID: ZD-2

Date Collected: 12/18/13 12:50
Date Received: 12/20/13 10:00

Lab Sample ID: 180-28328-14
Matrix: Solid
Percent Solids: 99.6

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3541			15.1 g	1.0 mL	93080	12/23/13 03:45	KLG	TAL PIT
Total/NA	Cleanup	3665A			2 mL	2 mL	93149	12/23/13 14:11	AKG	TAL PIT
Total/NA	Cleanup	3660B			2 mL	2 mL	93150	12/23/13 14:13	AKG	TAL PIT
Total/NA	Analysis	8082		5	15.1 g	1.0 mL	93408	12/23/13 23:12	AKG	TAL PIT
	Instrument ID: GC8									
Total/NA	Analysis	2540G		1			93007	12/20/13 16:09	SJK	TAL PIT
	Instrument ID: NOEQUIP									

Lab Chronicle

Client: Stantec Consulting Corp.
Project/Site: AMTRAK WILMINGTON

TestAmerica Job ID: 180-28328-1

Client Sample ID: ZD-3

Date Collected: 12/18/13 13:40
Date Received: 12/20/13 10:00

Lab Sample ID: 180-28328-15
Matrix: Solid
Percent Solids: 99.4

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3541			15.1 g	1.0 mL	93080	12/23/13 03:45	KLG	TAL PIT
Total/NA	Cleanup	3665A			2 mL	2 mL	93149	12/23/13 14:11	AKG	TAL PIT
Total/NA	Cleanup	3660B			2 mL	2 mL	93150	12/23/13 14:13	AKG	TAL PIT
Total/NA	Analysis	8082		5	15.1 g	1.0 mL	93408	12/23/13 23:45	AKG	TAL PIT
	Instrument ID: GC8									
Total/NA	Analysis	2540G		1			93007	12/20/13 16:09	SJK	TAL PIT
	Instrument ID: NOEQUIP									

Client Sample ID: ZD-4

Date Collected: 12/18/13 11:45
Date Received: 12/20/13 10:00

Lab Sample ID: 180-28328-16
Matrix: Solid
Percent Solids: 99.1

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3541			15.0 g	1.0 mL	93080	12/23/13 03:45	KLG	TAL PIT
Total/NA	Cleanup	3665A			2 mL	2 mL	93149	12/23/13 14:11	AKG	TAL PIT
Total/NA	Cleanup	3660B			2 mL	2 mL	93150	12/23/13 14:13	AKG	TAL PIT
Total/NA	Analysis	8082		5	15.0 g	1.0 mL	93408	12/24/13 01:54	AKG	TAL PIT
	Instrument ID: GC8									
Total/NA	Analysis	2540G		1			93007	12/20/13 16:09	SJK	TAL PIT
	Instrument ID: NOEQUIP									

Client Sample ID: MH-N-SS

Date Collected: 12/18/13 10:55
Date Received: 12/20/13 10:00

Lab Sample ID: 180-28328-17
Matrix: Solid
Percent Solids: 97.9

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3541			15.0 g	1.0 mL	93080	12/23/13 03:45	KLG	TAL PIT
Total/NA	Cleanup	3665A			2 mL	2 mL	93149	12/23/13 14:11	AKG	TAL PIT
Total/NA	Cleanup	3660B			2 mL	2 mL	93150	12/23/13 14:13	AKG	TAL PIT
Total/NA	Analysis	8082		250	15.0 g	1.0 mL	93408	12/24/13 14:23	AKG	TAL PIT
	Instrument ID: GC8									
Total/NA	Analysis	2540G		1			93007	12/20/13 16:09	SJK	TAL PIT
	Instrument ID: NOEQUIP									

Client Sample ID: MH-NE-WS

Date Collected: 12/18/13 13:30
Date Received: 12/20/13 10:00

Lab Sample ID: 180-28328-18
Matrix: Solid
Percent Solids: 99.3

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3541			15.0 g	1.0 mL	93080	12/23/13 03:45	KLG	TAL PIT
Total/NA	Cleanup	3665A			2 mL	2 mL	93149	12/23/13 14:11	AKG	TAL PIT
Total/NA	Cleanup	3660B			2 mL	2 mL	93150	12/23/13 14:13	AKG	TAL PIT
Total/NA	Analysis	8082		5	15.0 g	1.0 mL	93408	12/24/13 02:58	AKG	TAL PIT
	Instrument ID: GC8									

Lab Chronicle

Client: Stantec Consulting Corp.
Project/Site: AMTRAK WILMINGTON

TestAmerica Job ID: 180-28328-1

Client Sample ID: MH-NE-WS

Date Collected: 12/18/13 13:30
Date Received: 12/20/13 10:00

Lab Sample ID: 180-28328-18
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	2540G		1			93007	12/20/13 16:09	SJK	TAL PIT
	Instrument ID: NOEQUIP									

Client Sample ID: MH-SE-WS-ADDITION

Date Collected: 12/18/13 13:50
Date Received: 12/20/13 10:00

Lab Sample ID: 180-28328-19
Matrix: Solid
Percent Solids: 99.7

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3541			15.1 g	1.0 mL	93080	12/23/13 03:45	KLG	TAL PIT
Total/NA	Cleanup	3665A			2 mL	2 mL	93149	12/23/13 14:11	AKG	TAL PIT
Total/NA	Cleanup	3660B			2 mL	2 mL	93150	12/23/13 14:13	AKG	TAL PIT
Total/NA	Analysis	8082		5	15.1 g	1.0 mL	93408	12/24/13 03:30	AKG	TAL PIT
	Instrument ID: GC8									
Total/NA	Analysis	2540G		1			93007	12/20/13 16:09	SJK	TAL PIT
	Instrument ID: NOEQUIP									

Client Sample ID: MH-13

Date Collected: 12/18/13 13:35
Date Received: 12/20/13 10:00

Lab Sample ID: 180-28328-20
Matrix: Solid
Percent Solids: 98.6

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3541			15.0 g	1.0 mL	93080	12/23/13 03:45	KLG	TAL PIT
Total/NA	Cleanup	3665A			2 mL	2 mL	93149	12/23/13 14:11	AKG	TAL PIT
Total/NA	Cleanup	3660B			2 mL	2 mL	93150	12/23/13 14:13	AKG	TAL PIT
Total/NA	Analysis	8082		50	15.0 g	1.0 mL	93408	12/24/13 14:55	AKG	TAL PIT
	Instrument ID: GC8									
Total/NA	Analysis	2540G		1			93007	12/20/13 16:09	SJK	TAL PIT
	Instrument ID: NOEQUIP									

Client Sample ID: MH-WHEEL STORAGE

Date Collected: 12/18/13 12:05
Date Received: 12/20/13 10:00

Lab Sample ID: 180-28328-21
Matrix: Solid
Percent Solids: 98.7

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3541			15.0 g	1.0 mL	93081	12/23/13 05:24	KLG	TAL PIT
Total/NA	Cleanup	3665A			2 mL	2 mL	93152	12/23/13 14:17	AKG	TAL PIT
Total/NA	Cleanup	3660B			2 mL	2 mL	93154	12/23/13 14:20	AKG	TAL PIT
Total/NA	Analysis	8082		5	15.0 g	1.0 mL	93409	12/23/13 15:08	AKG	TAL PIT
	Instrument ID: GC8									
Total/NA	Analysis	2540G		1			93008	12/20/13 16:20	SJK	TAL PIT
	Instrument ID: NOEQUIP									

Lab Chronicle

Client: Stantec Consulting Corp.
Project/Site: AMTRAK WILMINGTON

TestAmerica Job ID: 180-28328-1

Client Sample ID: CB-11

Date Collected: 12/18/13 13:25
Date Received: 12/20/13 10:00

Lab Sample ID: 180-28328-22
Matrix: Solid
Percent Solids: 99.0

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3541			15.0 g	1.0 mL	93081	12/23/13 05:24	KLG	TAL PIT
Total/NA	Cleanup	3665A			2 mL	2 mL	93152	12/23/13 14:17	AKG	TAL PIT
Total/NA	Cleanup	3660B			2 mL	2 mL	93154	12/23/13 14:20	AKG	TAL PIT
Total/NA	Analysis	8082		5	15.0 g	1.0 mL	93409	12/23/13 16:45	AKG	TAL PIT
	Instrument ID: GC8									
Total/NA	Analysis	2540G		1			93008	12/20/13 16:20	SJK	TAL PIT
	Instrument ID: NOEQUIP									

Client Sample ID: MH-LS DOOR#17

Date Collected: 12/18/13 13:20
Date Received: 12/20/13 10:00

Lab Sample ID: 180-28328-23
Matrix: Solid
Percent Solids: 98.7

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3541			15.0 g	1.0 mL	93081	12/23/13 05:24	KLG	TAL PIT
Total/NA	Cleanup	3665A			2 mL	2 mL	93152	12/23/13 14:17	AKG	TAL PIT
Total/NA	Cleanup	3660B			2 mL	2 mL	93154	12/23/13 14:20	AKG	TAL PIT
Total/NA	Analysis	8082		50	15.0 g	1.0 mL	93409	12/24/13 13:18	AKG	TAL PIT
	Instrument ID: GC8									
Total/NA	Analysis	2540G		1			93008	12/20/13 16:20	SJK	TAL PIT
	Instrument ID: NOEQUIP									

Client Sample ID: MH-NY-RW-2

Date Collected: 12/18/13 13:45
Date Received: 12/20/13 10:00

Lab Sample ID: 180-28328-24
Matrix: Solid
Percent Solids: 99.8

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3541			15.2 g	1.0 mL	93081	12/23/13 05:24	KLG	TAL PIT
Total/NA	Cleanup	3665A			2 mL	2 mL	93152	12/23/13 14:17	AKG	TAL PIT
Total/NA	Cleanup	3660B			2 mL	2 mL	93154	12/23/13 14:20	AKG	TAL PIT
Total/NA	Analysis	8082		50	15.2 g	1.0 mL	93409	12/24/13 13:50	AKG	TAL PIT
	Instrument ID: GC8									
Total/NA	Analysis	2540G		1			93008	12/20/13 16:20	SJK	TAL PIT
	Instrument ID: NOEQUIP									

Client Sample ID: MH-MS-DOOR#28

Date Collected: 12/18/13 10:45
Date Received: 12/20/13 10:00

Lab Sample ID: 180-28328-25
Matrix: Solid
Percent Solids: 99.1

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3541			15.0 g	1.0 mL	93081	12/23/13 05:24	KLG	TAL PIT
Total/NA	Cleanup	3665A			2 mL	2 mL	93152	12/23/13 14:17	AKG	TAL PIT
Total/NA	Cleanup	3660B			2 mL	2 mL	93154	12/23/13 14:20	AKG	TAL PIT
Total/NA	Analysis	8082		50	15.0 g	1.0 mL	93409	12/24/13 14:23	AKG	TAL PIT
	Instrument ID: GC8									

Lab Chronicle

Client: Stantec Consulting Corp.
Project/Site: AMTRAK WILMINGTON

TestAmerica Job ID: 180-28328-1

Client Sample ID: MH-MS-DOOR#28

Date Collected: 12/18/13 10:45
Date Received: 12/20/13 10:00

Lab Sample ID: 180-28328-25
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	2540G		1			93008	12/20/13 16:20	SJK	TAL PIT
	Instrument ID: NOEQUIP									

Client Sample ID: MH-MS-DOOR#29

Date Collected: 12/18/13 12:35
Date Received: 12/20/13 10:00

Lab Sample ID: 180-28328-26
Matrix: Solid
Percent Solids: 99.8

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3541			15.0 g	1.0 mL	93081	12/23/13 05:24	KLG	TAL PIT
Total/NA	Cleanup	3665A			2 mL	2 mL	93152	12/23/13 14:17	AKG	TAL PIT
Total/NA	Cleanup	3660B			2 mL	2 mL	93154	12/23/13 14:20	AKG	TAL PIT
Total/NA	Analysis	8082		5	15.0 g	1.0 mL	93409	12/23/13 18:54	AKG	TAL PIT
	Instrument ID: GC8									
Total/NA	Analysis	2540G		1			93008	12/20/13 16:20	SJK	TAL PIT
	Instrument ID: NOEQUIP									

Client Sample ID: GRATE-NE-LS

Date Collected: 12/18/13 11:55
Date Received: 12/20/13 10:00

Lab Sample ID: 180-28328-27
Matrix: Solid
Percent Solids: 97.7

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3541			15.1 g	1.0 mL	93081	12/23/13 05:24	KLG	TAL PIT
Total/NA	Cleanup	3665A			2 mL	2 mL	93152	12/23/13 14:17	AKG	TAL PIT
Total/NA	Cleanup	3660B			2 mL	2 mL	93154	12/23/13 14:20	AKG	TAL PIT
Total/NA	Analysis	8082		250	15.1 g	1.0 mL	93409	12/24/13 14:55	AKG	TAL PIT
	Instrument ID: GC8									
Total/NA	Analysis	2540G		1			93008	12/20/13 16:20	SJK	TAL PIT
	Instrument ID: NOEQUIP									

Client Sample ID: MH-4

Date Collected: 12/18/13 13:15
Date Received: 12/20/13 10:00

Lab Sample ID: 180-28328-28
Matrix: Solid
Percent Solids: 99.6

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3541			15.0 g	1.0 mL	93081	12/23/13 05:24	KLG	TAL PIT
Total/NA	Cleanup	3665A			2 mL	2 mL	93152	12/23/13 14:17	AKG	TAL PIT
Total/NA	Cleanup	3660B			2 mL	2 mL	93154	12/23/13 14:20	AKG	TAL PIT
Total/NA	Analysis	8082		5	15.0 g	1.0 mL	93409	12/23/13 19:59	AKG	TAL PIT
	Instrument ID: GC8									
Total/NA	Analysis	2540G		1			93008	12/20/13 16:20	SJK	TAL PIT
	Instrument ID: NOEQUIP									

Client Sample ID: CB-7E

Date Collected: 12/18/13 11:20
Date Received: 12/20/13 10:00

Lab Sample ID: 180-28328-29
Matrix: Solid
Percent Solids: 99.7

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3541			15.1 g	1.0 mL	93081	12/23/13 05:24	KLG	TAL PIT
Total/NA	Cleanup	3665A			2 mL	2 mL	93152	12/23/13 14:17	AKG	TAL PIT
Total/NA	Cleanup	3660B			2 mL	2 mL	93154	12/23/13 14:20	AKG	TAL PIT
Total/NA	Analysis	8082		50	15.1 g	1.0 mL	93409	12/24/13 15:27	AKG	TAL PIT
	Instrument ID: GC8									
Total/NA	Analysis	2540G		1			93008	12/20/13 16:20	SJK	TAL PIT
	Instrument ID: NOEQUIP									

Client Sample ID: CB-9

Date Collected: 12/18/13 11:40
Date Received: 12/20/13 10:00

Lab Sample ID: 180-28328-30
Matrix: Solid
Percent Solids: 99.7

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3541			15.1 g	1.0 mL	93081	12/23/13 05:24	KLG	TAL PIT
Total/NA	Cleanup	3665A			2 mL	2 mL	93152	12/23/13 14:17	AKG	TAL PIT
Total/NA	Cleanup	3660B			2 mL	2 mL	93154	12/23/13 14:20	AKG	TAL PIT
Total/NA	Analysis	8082		5	15.1 g	1.0 mL	93409	12/23/13 21:03	AKG	TAL PIT
	Instrument ID: GC8									
Total/NA	Analysis	2540G		1			93008	12/20/13 16:20	SJK	TAL PIT
	Instrument ID: NOEQUIP									

Client Sample ID: GRATE BLDG 23

Date Collected: 12/18/13 11:05
Date Received: 12/20/13 10:00

Lab Sample ID: 180-28328-31
Matrix: Solid
Percent Solids: 98.3

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3541			15.0 g	1.0 mL	93081	12/23/13 05:24	KLG	TAL PIT
Total/NA	Cleanup	3665A			2 mL	2 mL	93152	12/23/13 14:17	AKG	TAL PIT
Total/NA	Cleanup	3660B			2 mL	2 mL	93154	12/23/13 14:20	AKG	TAL PIT
Total/NA	Analysis	8082		5	15.0 g	1.0 mL	93409	12/23/13 21:35	AKG	TAL PIT
	Instrument ID: GC8									
Total/NA	Analysis	2540G		1			93008	12/20/13 16:20	SJK	TAL PIT
	Instrument ID: NOEQUIP									

Client Sample ID: CB-12

Date Collected: 12/18/13 11:35
Date Received: 12/20/13 10:00

Lab Sample ID: 180-28328-32
Matrix: Solid
Percent Solids: 99.8

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3541			15.0 g	1.0 mL	93081	12/23/13 05:24	KLG	TAL PIT
Total/NA	Cleanup	3665A			2 mL	2 mL	93152	12/23/13 14:17	AKG	TAL PIT
Total/NA	Cleanup	3660B			2 mL	2 mL	93154	12/23/13 14:20	AKG	TAL PIT
Total/NA	Analysis	8082		5	15.0 g	1.0 mL	93409	12/23/13 22:08	AKG	TAL PIT
	Instrument ID: GC8									

Lab Chronicle

Client: Stantec Consulting Corp.
Project/Site: AMTRAK WILMINGTON

TestAmerica Job ID: 180-28328-1

Client Sample ID: CB-12

Date Collected: 12/18/13 11:35
Date Received: 12/20/13 10:00

Lab Sample ID: 180-28328-32
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	2540G		1			93008	12/20/13 16:20	SJK	TAL PIT
	Instrument ID: NOEQUIP									

Client Sample ID: CB-14

Date Collected: 12/18/13 13:05
Date Received: 12/20/13 10:00

Lab Sample ID: 180-28328-33
Matrix: Solid
Percent Solids: 99.5

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3541			15.1 g	1.0 mL	93081	12/23/13 05:24	KLG	TAL PIT
Total/NA	Cleanup	3665A			2 mL	2 mL	93152	12/23/13 14:17	AKG	TAL PIT
Total/NA	Cleanup	3660B			2 mL	2 mL	93154	12/23/13 14:20	AKG	TAL PIT
Total/NA	Analysis	8082		50	15.1 g	1.0 mL	93409	12/24/13 15:59	AKG	TAL PIT
	Instrument ID: GC8									
Total/NA	Analysis	2540G		1			93008	12/20/13 16:20	SJK	TAL PIT
	Instrument ID: NOEQUIP									

Client Sample ID: CB-18

Date Collected: 12/18/13 11:00
Date Received: 12/20/13 10:00

Lab Sample ID: 180-28328-34
Matrix: Solid
Percent Solids: 99.0

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3541			15.1 g	1.0 mL	93081	12/23/13 05:24	KLG	TAL PIT
Total/NA	Cleanup	3665A			2 mL	2 mL	93152	12/23/13 14:17	AKG	TAL PIT
Total/NA	Cleanup	3660B			2 mL	2 mL	93154	12/23/13 14:20	AKG	TAL PIT
Total/NA	Analysis	8082		5	15.1 g	1.0 mL	93409	12/23/13 23:12	AKG	TAL PIT
	Instrument ID: GC8									
Total/NA	Analysis	2540G		1			93008	12/20/13 16:20	SJK	TAL PIT
	Instrument ID: NOEQUIP									

Laboratory References:

TAL PIT = TestAmerica Pittsburgh, 301 Alpha Drive, RIDC Park, Pittsburgh, PA 15238, TEL (412)963-7058

Analyst References:

Lab: TAL PIT

Batch Type: Cleanup
AKG = Ashok Gupta

Batch Type: Prep
KLG = Kevin Geehring

Batch Type: Analysis
AKG = Ashok Gupta

SJK = Sarah Kunkle

Client Sample Results

Client: Stantec Consulting Corp.
Project/Site: AMTRAK WILMINGTON

TestAmerica Job ID: 180-28328-1

Client Sample ID: TD-1

Date Collected: 12/18/13 12:00
Date Received: 12/20/13 10:00

Lab Sample ID: 180-28328-1
Matrix: Solid
Percent Solids: 99.5

Method: 8082 - Polychlorinated Biphenyls (PCBs) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
PCB-1016	ND		4.2	0.62	ug/Kg		12/23/13 03:45	12/23/13 15:08	5
PCB-1221	ND		4.2	0.79	ug/Kg		12/23/13 03:45	12/23/13 15:08	5
PCB-1232	ND		4.2	0.71	ug/Kg		12/23/13 03:45	12/23/13 15:08	5
PCB-1242	ND		4.2	0.68	ug/Kg		12/23/13 03:45	12/23/13 15:08	5
PCB-1248	ND		4.2	0.39	ug/Kg		12/23/13 03:45	12/23/13 15:08	5
PCB-1254	ND		4.2	0.59	ug/Kg		12/23/13 03:45	12/23/13 15:08	5
PCB-1260	**370**		4.2	0.59	ug/Kg		12/23/13 03:45	12/23/13 15:08	5

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
DCB Decachlorobiphenyl (Surr)	*97*		*20 - 150*	*12/23/13 03:45*	*12/23/13 15:08*	*5*
Tetrachloro-m-xylene	*82*		*30 - 150*	*12/23/13 03:45*	*12/23/13 15:08*	*5*

General Chemistry

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture	0.53		0.10	0.10	%			12/20/13 16:09	1

Client Sample ID: TD-2

Date Collected: 12/18/13 12:55
Date Received: 12/20/13 10:00

Lab Sample ID: 180-28328-2
Matrix: Solid
Percent Solids: 99.5

Method: 8082 - Polychlorinated Biphenyls (PCBs) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
PCB-1016	ND		4.2	0.62	ug/Kg		12/23/13 03:45	12/23/13 16:45	5
PCB-1221	ND		4.2	0.80	ug/Kg		12/23/13 03:45	12/23/13 16:45	5
PCB-1232	ND		4.2	0.72	ug/Kg		12/23/13 03:45	12/23/13 16:45	5
PCB-1242	ND		4.2	0.68	ug/Kg		12/23/13 03:45	12/23/13 16:45	5
PCB-1248	ND		4.2	0.40	ug/Kg		12/23/13 03:45	12/23/13 16:45	5
PCB-1254	ND		4.2	0.60	ug/Kg		12/23/13 03:45	12/23/13 16:45	5
PCB-1260	**450**		4.2	0.60	ug/Kg		12/23/13 03:45	12/23/13 16:45	5

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
DCB Decachlorobiphenyl (Surr)	*119*		*20 - 150*	*12/23/13 03:45*	*12/23/13 16:45*	*5*
Tetrachloro-m-xylene	*124*		*30 - 150*	*12/23/13 03:45*	*12/23/13 16:45*	*5*

General Chemistry

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture	**0.51**		0.10	0.10	%			12/20/13 16:09	1

Client Sample ID: TD-3

Date Collected: 12/18/13 11:10
Date Received: 12/20/13 10:00

Lab Sample ID: 180-28328-3
Matrix: Solid
Percent Solids: 99.7

Method: 8082 - Polychlorinated Biphenyls (PCBs) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
PCB-1016	ND		4.2	0.62	ug/Kg		12/23/13 03:45	12/23/13 17:17	5
PCB-1221	ND		4.2	0.80	ug/Kg		12/23/13 03:45	12/23/13 17:17	5
PCB-1232	ND		4.2	0.72	ug/Kg		12/23/13 03:45	12/23/13 17:17	5
PCB-1242	ND		4.2	0.68	ug/Kg		12/23/13 03:45	12/23/13 17:17	5
PCB-1248	ND		4.2	0.40	ug/Kg		12/23/13 03:45	12/23/13 17:17	5
PCB-1254	ND		4.2	0.59	ug/Kg		12/23/13 03:45	12/23/13 17:17	5
PCB-1260	**480**		4.2	0.59	ug/Kg		12/23/13 03:45	12/23/13 17:17	5

Client Sample Results

Client: Stantec Consulting Corp.
Project/Site: AMTRAK WILMINGTON

TestAmerica Job ID: 180-28328-1

Client Sample ID: TD-3

Date Collected: 12/18/13 11:10
Date Received: 12/20/13 10:00

Lab Sample ID: 180-28328-3
Matrix: Solid
Percent Solids: 99.7

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
DCB Decachlorobiphenyl (Surr)	88		20 - 150	12/23/13 03:45	12/23/13 17:17	5
Tetrachloro-m-xylene	78		30 - 150	12/23/13 03:45	12/23/13 17:17	5

General Chemistry

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture	0.28		0.10	0.10	%			12/20/13 16:09	1

Client Sample ID: TD-4

Date Collected: 12/18/13 13:10
Date Received: 12/20/13 10:00

Lab Sample ID: 180-28328-4
Matrix: Solid
Percent Solids: 99.1

Method: 8082 - Polychlorinated Biphenyls (PCBs) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
PCB-1016	ND		4.2	0.62	ug/Kg		12/23/13 03:45	12/23/13 17:49	5
PCB-1221	ND		4.2	0.80	ug/Kg		12/23/13 03:45	12/23/13 17:49	5
PCB-1232	ND		4.2	0.72	ug/Kg		12/23/13 03:45	12/23/13 17:49	5
PCB-1242	ND		4.2	0.68	ug/Kg		12/23/13 03:45	12/23/13 17:49	5
PCB-1248	ND		4.2	0.39	ug/Kg		12/23/13 03:45	12/23/13 17:49	5
PCB-1254	ND		4.2	0.59	ug/Kg		12/23/13 03:45	12/23/13 17:49	5
PCB-1260	510		4.2	0.59	ug/Kg		12/23/13 03:45	12/23/13 17:49	5

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
DCB Decachlorobiphenyl (Surr)	118		20 - 150	12/23/13 03:45	12/23/13 17:49	5
Tetrachloro-m-xylene	93		30 - 150	12/23/13 03:45	12/23/13 17:49	5

General Chemistry

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture	0.89		0.10	0.10	%			12/20/13 16:09	1

Client Sample ID: TD-5

Date Collected: 12/18/13 11:50
Date Received: 12/20/13 10:00

Lab Sample ID: 180-28328-5
Matrix: Solid
Percent Solids: 99.8

Method: 8082 - Polychlorinated Biphenyls (PCBs) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
PCB-1016	ND		4.1	0.62	ug/Kg		12/23/13 03:45	12/23/13 18:22	5
PCB-1221	ND		4.1	0.79	ug/Kg		12/23/13 03:45	12/23/13 18:22	5
PCB-1232	ND		4.1	0.71	ug/Kg		12/23/13 03:45	12/23/13 18:22	5
PCB-1242	ND		4.1	0.68	ug/Kg		12/23/13 03:45	12/23/13 18:22	5
PCB-1248	ND		4.1	0.39	ug/Kg		12/23/13 03:45	12/23/13 18:22	5
PCB-1254	ND		4.1	0.59	ug/Kg		12/23/13 03:45	12/23/13 18:22	5
PCB-1260	380		4.1	0.59	ug/Kg		12/23/13 03:45	12/23/13 18:22	5

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
DCB Decachlorobiphenyl (Surr)	92		20 - 150	12/23/13 03:45	12/23/13 18:22	5
Tetrachloro-m-xylene	80		30 - 150	12/23/13 03:45	12/23/13 18:22	5

General Chemistry

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture	0.19		0.10	0.10	%			12/20/13 16:09	1

Client Sample Results

Client: Stantec Consulting Corp.
Project/Site: AMTRAK WILMINGTON

TestAmerica Job ID: 180-28328-1

Client Sample ID: TD-6

Date Collected: 12/18/13 12:50
Date Received: 12/20/13 10:00

Lab Sample ID: 180-28328-6
Matrix: Solid
Percent Solids: 99.3

Method: 8082 - Polychlorinated Biphenyls (PCBs) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
PCB-1016	ND		4.2	0.62	ug/Kg		12/23/13 03:45	12/23/13 18:54	5
PCB-1221	ND		4.2	0.80	ug/Kg		12/23/13 03:45	12/23/13 18:54	5
PCB-1232	ND		4.2	0.71	ug/Kg		12/23/13 03:45	12/23/13 18:54	5
PCB-1242	ND		4.2	0.68	ug/Kg		12/23/13 03:45	12/23/13 18:54	5
PCB-1248	ND		4.2	0.39	ug/Kg		12/23/13 03:45	12/23/13 18:54	5
PCB-1254	ND		4.2	0.59	ug/Kg		12/23/13 03:45	12/23/13 18:54	5
PCB-1260	**290**		4.2	0.59	ug/Kg		12/23/13 03:45	12/23/13 18:54	5

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
DCB Decachlorobiphenyl (Surr)	*87*		*20 - 150*	*12/23/13 03:45*	*12/23/13 18:54*	*5*
Tetrachloro-m-xylene	*76*		*30 - 150*	*12/23/13 03:45*	*12/23/13 18:54*	*5*

General Chemistry

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture	0.71		0.10	0.10	%			12/20/13 16:09	1

Client Sample ID: TD-7

Date Collected: 12/18/13 13:00
Date Received: 12/20/13 10:00

Lab Sample ID: 180-28328-7
Matrix: Solid
Percent Solids: 99.4

Method: 8082 - Polychlorinated Biphenyls (PCBs) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
PCB-1016	ND		4.2	0.62	ug/Kg		12/23/13 03:45	12/23/13 19:26	5
PCB-1221	ND		4.2	0.80	ug/Kg		12/23/13 03:45	12/23/13 19:26	5
PCB-1232	ND		4.2	0.72	ug/Kg		12/23/13 03:45	12/23/13 19:26	5
PCB-1242	ND		4.2	0.68	ug/Kg		12/23/13 03:45	12/23/13 19:26	5
PCB-1248	ND		4.2	0.40	ug/Kg		12/23/13 03:45	12/23/13 19:26	5
PCB-1254	ND		4.2	0.60	ug/Kg		12/23/13 03:45	12/23/13 19:26	5
PCB-1260	**100**		4.2	0.60	ug/Kg		12/23/13 03:45	12/23/13 19:26	5

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
DCB Decachlorobiphenyl (Surr)	*87*		*20 - 150*	*12/23/13 03:45*	*12/23/13 19:26*	*5*
Tetrachloro-m-xylene	*81*		*30 - 150*	*12/23/13 03:45*	*12/23/13 19:26*	*5*

General Chemistry

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture	**0.60**		0.10	0.10	%			12/20/13 16:09	1

Client Sample ID: TD-8

Date Collected: 12/18/13 11:25
Date Received: 12/20/13 10:00

Lab Sample ID: 180-28328-8
Matrix: Solid
Percent Solids: 99.7

Method: 8082 - Polychlorinated Biphenyls (PCBs) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
PCB-1016	ND		4.2	0.62	ug/Kg		12/23/13 03:45	12/23/13 19:59	5
PCB-1221	ND		4.2	0.80	ug/Kg		12/23/13 03:45	12/23/13 19:59	5
PCB-1232	ND		4.2	0.72	ug/Kg		12/23/13 03:45	12/23/13 19:59	5
PCB-1242	ND		4.2	0.68	ug/Kg		12/23/13 03:45	12/23/13 19:59	5
PCB-1248	ND		4.2	0.40	ug/Kg		12/23/13 03:45	12/23/13 19:59	5
PCB-1254	ND		4.2	0.59	ug/Kg		12/23/13 03:45	12/23/13 19:59	5
PCB-1260	**97**		4.2	0.59	ug/Kg		12/23/13 03:45	12/23/13 19:59	5

Client Sample Results

Client: Stantec Consulting Corp.
Project/Site: AMTRAK WILMINGTON

TestAmerica Job ID: 180-28328-1

Client Sample ID: TD-8

Date Collected: 12/18/13 11:25
Date Received: 12/20/13 10:00

Lab Sample ID: 180-28328-8
Matrix: Solid
Percent Solids: 99.7

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
DCB Decachlorobiphenyl (Surr)	93		20 - 150	12/23/13 03:45	12/23/13 19:59	5
Tetrachloro-m-xylene	79		30 - 150	12/23/13 03:45	12/23/13 19:59	5

General Chemistry

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture	0.27		0.10	0.10	%			12/20/13 16:09	1

Client Sample ID: TD-9

Date Collected: 12/18/13 11:15
Date Received: 12/20/13 10:00

Lab Sample ID: 180-28328-9
Matrix: Solid
Percent Solids: 99.7

Method: 8082 - Polychlorinated Biphenyls (PCBs) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
PCB-1016	ND		42	6.2	ug/Kg		12/23/13 03:45	12/24/13 13:18	50
PCB-1221	ND		42	7.9	ug/Kg		12/23/13 03:45	12/24/13 13:18	50
PCB-1232	ND		42	7.1	ug/Kg		12/23/13 03:45	12/24/13 13:18	50
PCB-1242	ND		42	6.8	ug/Kg		12/23/13 03:45	12/24/13 13:18	50
PCB-1248	ND		42	3.9	ug/Kg		12/23/13 03:45	12/24/13 13:18	50
PCB-1254	ND		42	5.9	ug/Kg		12/23/13 03:45	12/24/13 13:18	50
PCB-1260	**760**		42	5.9	ug/Kg		12/23/13 03:45	12/24/13 13:18	50

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
DCB Decachlorobiphenyl (Surr)	147	D	20 - 150	12/23/13 03:45	12/24/13 13:18	50
Tetrachloro-m-xylene	96	D	30 - 150	12/23/13 03:45	12/24/13 13:18	50

General Chemistry

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture	0.35		0.10	0.10	%			12/20/13 16:09	1

Client Sample ID: TD-10

Date Collected: 12/18/13 12:45
Date Received: 12/20/13 10:00

Lab Sample ID: 180-28328-10
Matrix: Solid
Percent Solids: 99.0

Method: 8082 - Polychlorinated Biphenyls (PCBs) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
PCB-1016	ND		4.2	0.63	ug/Kg		12/23/13 03:45	12/23/13 21:03	5
PCB-1221	ND		4.2	0.80	ug/Kg		12/23/13 03:45	12/23/13 21:03	5
PCB-1232	ND		4.2	0.72	ug/Kg		12/23/13 03:45	12/23/13 21:03	5
PCB-1242	ND		4.2	0.69	ug/Kg		12/23/13 03:45	12/23/13 21:03	5
PCB-1248	ND		4.2	0.40	ug/Kg		12/23/13 03:45	12/23/13 21:03	5
PCB-1254	ND		4.2	0.60	ug/Kg		12/23/13 03:45	12/23/13 21:03	5
PCB-1260	**350**		4.2	0.60	ug/Kg		12/23/13 03:45	12/23/13 21:03	5

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
DCB Decachlorobiphenyl (Surr)	92		20 - 150	12/23/13 03:45	12/23/13 21:03	5
Tetrachloro-m-xylene	80		30 - 150	12/23/13 03:45	12/23/13 21:03	5

General Chemistry

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture	0.96		0.10	0.10	%			12/20/13 16:09	1

Client Sample Results

Client: Stantec Consulting Corp.
Project/Site: AMTRAK WILMINGTON

TestAmerica Job ID: 180-28328-1

Client Sample ID: TD-11

Date Collected: 12/18/13 10:50
Date Received: 12/20/13 10:00

Lab Sample ID: 180-28328-11
Matrix: Solid
Percent Solids: 99.0

Method: 8082 - Polychlorinated Biphenyls (PCBs) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
PCB-1016	ND		4.2	0.63	ug/Kg		12/23/13 03:45	12/23/13 21:35	5
PCB-1221	ND		4.2	0.80	ug/Kg		12/23/13 03:45	12/23/13 21:35	5
PCB-1232	ND		4.2	0.72	ug/Kg		12/23/13 03:45	12/23/13 21:35	5
PCB-1242	ND		4.2	0.69	ug/Kg		12/23/13 03:45	12/23/13 21:35	5
PCB-1248	ND		4.2	0.40	ug/Kg		12/23/13 03:45	12/23/13 21:35	5
PCB-1254	ND		4.2	0.60	ug/Kg		12/23/13 03:45	12/23/13 21:35	5
PCB-1260	**880**		4.2	0.60	ug/Kg		12/23/13 03:45	12/23/13 21:35	5

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
DCB Decachlorobiphenyl (Surr)	*102*		*20 - 150*	*12/23/13 03:45*	*12/23/13 21:35*	*5*
Tetrachloro-m-xylene	*77*		*30 - 150*	*12/23/13 03:45*	*12/23/13 21:35*	*5*

General Chemistry

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture	0.96		0.10	0.10	%			12/20/13 16:09	1

Client Sample ID: GRATE-SE-LS

Date Collected: 12/18/13 11:30
Date Received: 12/20/13 10:00

Lab Sample ID: 180-28328-12
Matrix: Solid
Percent Solids: 99.5

Method: 8082 - Polychlorinated Biphenyls (PCBs) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
PCB-1016	ND		4.2	0.62	ug/Kg		12/23/13 03:45	12/23/13 22:08	5
PCB-1221	ND		4.2	0.80	ug/Kg		12/23/13 03:45	12/23/13 22:08	5
PCB-1232	ND		4.2	0.72	ug/Kg		12/23/13 03:45	12/23/13 22:08	5
PCB-1242	ND		4.2	0.68	ug/Kg		12/23/13 03:45	12/23/13 22:08	5
PCB-1248	ND		4.2	0.40	ug/Kg		12/23/13 03:45	12/23/13 22:08	5
PCB-1254	ND		4.2	0.60	ug/Kg		12/23/13 03:45	12/23/13 22:08	5
PCB-1260	**760**		4.2	0.60	ug/Kg		12/23/13 03:45	12/23/13 22:08	5

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
DCB Decachlorobiphenyl (Surr)	*89*		*20 - 150*	*12/23/13 03:45*	*12/23/13 22:08*	*5*
Tetrachloro-m-xylene	*71*		*30 - 150*	*12/23/13 03:45*	*12/23/13 22:08*	*5*

General Chemistry

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture	**0.52**		0.10	0.10	%			12/20/13 16:09	1

Client Sample ID: ZD-1

Date Collected: 12/18/13 12:40
Date Received: 12/20/13 10:00

Lab Sample ID: 180-28328-13
Matrix: Solid
Percent Solids: 99.4

Method: 8082 - Polychlorinated Biphenyls (PCBs) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
PCB-1016	ND		84	12	ug/Kg		12/23/13 03:45	12/24/13 13:50	100
PCB-1221	ND		84	16	ug/Kg		12/23/13 03:45	12/24/13 13:50	100
PCB-1232	ND		84	14	ug/Kg		12/23/13 03:45	12/24/13 13:50	100
PCB-1242	ND		84	14	ug/Kg		12/23/13 03:45	12/24/13 13:50	100
PCB-1248	ND		84	7.9	ug/Kg		12/23/13 03:45	12/24/13 13:50	100
PCB-1254	ND		84	12	ug/Kg		12/23/13 03:45	12/24/13 13:50	100
PCB-1260	**5800**		84	12	ug/Kg		12/23/13 03:45	12/24/13 13:50	100

Client Sample Results

Client: Stantec Consulting Corp.
Project/Site: AMTRAK WILMINGTON

TestAmerica Job ID: 180-28328-1

Client Sample ID: ZD-1

Date Collected: 12/18/13 12:40
Date Received: 12/20/13 10:00

Lab Sample ID: 180-28328-13
Matrix: Solid
Percent Solids: 99.4

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
DCB Decachlorobiphenyl (Surr)	0	X D	20 - 150	12/23/13 03:45	12/24/13 13:50	100
Tetrachloro-m-xylene	0	X D	30 - 150	12/23/13 03:45	12/24/13 13:50	100

General Chemistry

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture	0.63		0.10	0.10	%			12/20/13 16:09	1

Client Sample ID: ZD-2

Date Collected: 12/18/13 12:50
Date Received: 12/20/13 10:00

Lab Sample ID: 180-28328-14
Matrix: Solid
Percent Solids: 99.6

Method: 8082 - Polychlorinated Biphenyls (PCBs) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
PCB-1016	ND		4.2	0.62	ug/Kg		12/23/13 03:45	12/23/13 23:12	5
PCB-1221	ND		4.2	0.79	ug/Kg		12/23/13 03:45	12/23/13 23:12	5
PCB-1232	ND		4.2	0.71	ug/Kg		12/23/13 03:45	12/23/13 23:12	5
PCB-1242	ND		4.2	0.68	ug/Kg		12/23/13 03:45	12/23/13 23:12	5
PCB-1248	ND		4.2	0.39	ug/Kg		12/23/13 03:45	12/23/13 23:12	5
PCB-1254	ND		4.2	0.59	ug/Kg		12/23/13 03:45	12/23/13 23:12	5
PCB-1260	490		4.2	0.59	ug/Kg		12/23/13 03:45	12/23/13 23:12	5

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
DCB Decachlorobiphenyl (Surr)	79		20 - 150	12/23/13 03:45	12/23/13 23:12	5
Tetrachloro-m-xylene	71		30 - 150	12/23/13 03:45	12/23/13 23:12	5

General Chemistry

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture	0.40		0.10	0.10	%			12/20/13 16:09	1

Client Sample ID: ZD-3

Date Collected: 12/18/13 13:40
Date Received: 12/20/13 10:00

Lab Sample ID: 180-28328-15
Matrix: Solid
Percent Solids: 99.4

Method: 8082 - Polychlorinated Biphenyls (PCBs) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
PCB-1016	ND		4.2	0.62	ug/Kg		12/23/13 03:45	12/23/13 23:45	5
PCB-1221	ND		4.2	0.79	ug/Kg		12/23/13 03:45	12/23/13 23:45	5
PCB-1232	ND		4.2	0.71	ug/Kg		12/23/13 03:45	12/23/13 23:45	5
PCB-1242	ND		4.2	0.68	ug/Kg		12/23/13 03:45	12/23/13 23:45	5
PCB-1248	ND		4.2	0.39	ug/Kg		12/23/13 03:45	12/23/13 23:45	5
PCB-1254	ND		4.2	0.59	ug/Kg		12/23/13 03:45	12/23/13 23:45	5
PCB-1260	500		4.2	0.59	ug/Kg		12/23/13 03:45	12/23/13 23:45	5

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
DCB Decachlorobiphenyl (Surr)	88		20 - 150	12/23/13 03:45	12/23/13 23:45	5
Tetrachloro-m-xylene	84		30 - 150	12/23/13 03:45	12/23/13 23:45	5

General Chemistry

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture	0.62		0.10	0.10	%			12/20/13 16:09	1

Client Sample Results

Client: Stantec Consulting Corp.
Project/Site: AMTRAK WILMINGTON

TestAmerica Job ID: 180-28328-1

Client Sample ID: ZD-4

Date Collected: 12/18/13 11:45
Date Received: 12/20/13 10:00

Lab Sample ID: 180-28328-16
Matrix: Solid
Percent Solids: 99.1

Method: 8082 - Polychlorinated Biphenyls (PCBs) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
PCB-1016	ND		4.2	0.63	ug/Kg		12/23/13 03:45	12/24/13 01:54	5
PCB-1221	ND		4.2	0.80	ug/Kg		12/23/13 03:45	12/24/13 01:54	5
PCB-1232	ND		4.2	0.72	ug/Kg		12/23/13 03:45	12/24/13 01:54	5
PCB-1242	ND		4.2	0.68	ug/Kg		12/23/13 03:45	12/24/13 01:54	5
PCB-1248	ND		4.2	0.40	ug/Kg		12/23/13 03:45	12/24/13 01:54	5
PCB-1254	ND		4.2	0.60	ug/Kg		12/23/13 03:45	12/24/13 01:54	5
PCB-1260	**410**		4.2	0.60	ug/Kg		12/23/13 03:45	12/24/13 01:54	5

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
DCB Decachlorobiphenyl (Surr)	*95*		*20 - 150*	*12/23/13 03:45*	*12/24/13 01:54*	*5*
Tetrachloro-m-xylene	*89*		*30 - 150*	*12/23/13 03:45*	*12/24/13 01:54*	*5*

General Chemistry

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture	0.91		0.10	0.10	%			12/20/13 16:09	1

Client Sample ID: MH-N-SS

Date Collected: 12/18/13 10:55
Date Received: 12/20/13 10:00

Lab Sample ID: 180-28328-17
Matrix: Solid
Percent Solids: 97.9

Method: 8082 - Polychlorinated Biphenyls (PCBs) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
PCB-1016	ND		210	32	ug/Kg		12/23/13 03:45	12/24/13 14:23	250
PCB-1221	ND		210	41	ug/Kg		12/23/13 03:45	12/24/13 14:23	250
PCB-1232	ND		210	36	ug/Kg		12/23/13 03:45	12/24/13 14:23	250
PCB-1242	ND		210	35	ug/Kg		12/23/13 03:45	12/24/13 14:23	250
PCB-1248	ND		210	20	ug/Kg		12/23/13 03:45	12/24/13 14:23	250
PCB-1254	ND		210	30	ug/Kg		12/23/13 03:45	12/24/13 14:23	250
PCB-1260	**9300**		210	30	ug/Kg		12/23/13 03:45	12/24/13 14:23	250

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
DCB Decachlorobiphenyl (Surr)	*0*	*X D*	*20 - 150*	*12/23/13 03:45*	*12/24/13 14:23*	*250*
Tetrachloro-m-xylene	*0*	*X D*	*30 - 150*	*12/23/13 03:45*	*12/24/13 14:23*	*250*

General Chemistry

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture	**2.1**		0.10	0.10	%			12/20/13 16:09	1

Client Sample ID: MH-NE-WS

Date Collected: 12/18/13 13:30
Date Received: 12/20/13 10:00

Lab Sample ID: 180-28328-18
Matrix: Solid
Percent Solids: 99.3

Method: 8082 - Polychlorinated Biphenyls (PCBs) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
PCB-1016	ND		4.2	0.62	ug/Kg		12/23/13 03:45	12/24/13 02:58	5
PCB-1221	ND		4.2	0.80	ug/Kg		12/23/13 03:45	12/24/13 02:58	5
PCB-1232	ND		4.2	0.72	ug/Kg		12/23/13 03:45	12/24/13 02:58	5
PCB-1242	ND		4.2	0.68	ug/Kg		12/23/13 03:45	12/24/13 02:58	5
PCB-1248	ND		4.2	0.40	ug/Kg		12/23/13 03:45	12/24/13 02:58	5
PCB-1254	ND		4.2	0.60	ug/Kg		12/23/13 03:45	12/24/13 02:58	5
PCB-1260	**160**		4.2	0.60	ug/Kg		12/23/13 03:45	12/24/13 02:58	5

Client Sample Results

Client: Stantec Consulting Corp.
Project/Site: AMTRAK WILMINGTON

TestAmerica Job ID: 180-28328-1

Client Sample ID: MH-NE-WS

Date Collected: 12/18/13 13:30
Date Received: 12/20/13 10:00

Lab Sample ID: 180-28328-18
Matrix: Solid
Percent Solids: 99.3

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
DCB Decachlorobiphenyl (Surr)	101		20 - 150	12/23/13 03:45	12/24/13 02:58	5
Tetrachloro-m-xylene	86		30 - 150	12/23/13 03:45	12/24/13 02:58	5

General Chemistry

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture	0.74		0.10	0.10	%			12/20/13 16:09	1

Client Sample ID: MH-SE-WS-ADDITION

Date Collected: 12/18/13 13:50
Date Received: 12/20/13 10:00

Lab Sample ID: 180-28328-19
Matrix: Solid
Percent Solids: 99.7

Method: 8082 - Polychlorinated Biphenyls (PCBs) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
PCB-1016	ND		4.2	0.62	ug/Kg		12/23/13 03:45	12/24/13 03:30	5
PCB-1221	ND		4.2	0.79	ug/Kg		12/23/13 03:45	12/24/13 03:30	5
PCB-1232	ND		4.2	0.71	ug/Kg		12/23/13 03:45	12/24/13 03:30	5
PCB-1242	ND		4.2	0.68	ug/Kg		12/23/13 03:45	12/24/13 03:30	5
PCB-1248	ND		4.2	0.39	ug/Kg		12/23/13 03:45	12/24/13 03:30	5
PCB-1254	ND		4.2	0.59	ug/Kg		12/23/13 03:45	12/24/13 03:30	5
PCB-1260	200		4.2	0.59	ug/Kg		12/23/13 03:45	12/24/13 03:30	5

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
DCB Decachlorobiphenyl (Surr)	101		20 - 150	12/23/13 03:45	12/24/13 03:30	5
Tetrachloro-m-xylene	87		30 - 150	12/23/13 03:45	12/24/13 03:30	5

General Chemistry

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture	0.29		0.10	0.10	%			12/20/13 16:09	1

Client Sample ID: MH-13

Date Collected: 12/18/13 13:35
Date Received: 12/20/13 10:00

Lab Sample ID: 180-28328-20
Matrix: Solid
Percent Solids: 98.6

Method: 8082 - Polychlorinated Biphenyls (PCBs) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
PCB-1016	ND		42	6.3	ug/Kg		12/23/13 03:45	12/24/13 14:55	50
PCB-1221	ND		42	8.1	ug/Kg		12/23/13 03:45	12/24/13 14:55	50
PCB-1232	ND		42	7.2	ug/Kg		12/23/13 03:45	12/24/13 14:55	50
PCB-1242	ND		42	6.9	ug/Kg		12/23/13 03:45	12/24/13 14:55	50
PCB-1248	ND		42	4.0	ug/Kg		12/23/13 03:45	12/24/13 14:55	50
PCB-1254	ND		42	6.0	ug/Kg		12/23/13 03:45	12/24/13 14:55	50
PCB-1260	1800		42	6.0	ug/Kg		12/23/13 03:45	12/24/13 14:55	50

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
DCB Decachlorobiphenyl (Surr)	148	D	20 - 150	12/23/13 03:45	12/24/13 14:55	50
Tetrachloro-m-xylene	106	D	30 - 150	12/23/13 03:45	12/24/13 14:55	50

General Chemistry

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture	1.4		0.10	0.10	%			12/20/13 16:09	1

Client Sample Results

Client: Stantec Consulting Corp.
Project/Site: AMTRAK WILMINGTON

TestAmerica Job ID: 180-28328-1

Client Sample ID: MH-WHEEL STORAGE

Date Collected: 12/18/13 12:05
Date Received: 12/20/13 10:00

Lab Sample ID: 180-28328-21
Matrix: Solid
Percent Solids: 98.7

Method: 8082 - Polychlorinated Biphenyls (PCBs) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
PCB-1016	ND		4.2	0.63	ug/Kg		12/23/13 05:24	12/23/13 15:08	5
PCB-1221	ND		4.2	0.81	ug/Kg		12/23/13 05:24	12/23/13 15:08	5
PCB-1232	ND		4.2	0.72	ug/Kg		12/23/13 05:24	12/23/13 15:08	5
PCB-1242	ND		4.2	0.69	ug/Kg		12/23/13 05:24	12/23/13 15:08	5
PCB-1248	**95**		4.2	0.40	ug/Kg		12/23/13 05:24	12/23/13 15:08	5
PCB-1254	ND		4.2	0.60	ug/Kg		12/23/13 05:24	12/23/13 15:08	5
PCB-1260	**200**		4.2	0.60	ug/Kg		12/23/13 05:24	12/23/13 15:08	5

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
DCB Decachlorobiphenyl (Surr)	*84*		*20 - 150*	*12/23/13 05:24*	*12/23/13 15:08*	*5*
Tetrachloro-m-xylene	*77*		*30 - 150*	*12/23/13 05:24*	*12/23/13 15:08*	*5*

General Chemistry

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture	1.3		0.10	0.10	%			12/20/13 16:20	1

Client Sample ID: CB-11

Date Collected: 12/18/13 13:25
Date Received: 12/20/13 10:00

Lab Sample ID: 180-28328-22
Matrix: Solid
Percent Solids: 99.0

Method: 8082 - Polychlorinated Biphenyls (PCBs) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
PCB-1016	ND		4.2	0.63	ug/Kg		12/23/13 05:24	12/23/13 16:45	5
PCB-1221	ND		4.2	0.80	ug/Kg		12/23/13 05:24	12/23/13 16:45	5
PCB-1232	ND		4.2	0.72	ug/Kg		12/23/13 05:24	12/23/13 16:45	5
PCB-1242	ND		4.2	0.69	ug/Kg		12/23/13 05:24	12/23/13 16:45	5
PCB-1248	ND		4.2	0.40	ug/Kg		12/23/13 05:24	12/23/13 16:45	5
PCB-1254	ND		4.2	0.60	ug/Kg		12/23/13 05:24	12/23/13 16:45	5
PCB-1260	380		4.2	0.60	ug/Kg		12/23/13 05:24	12/23/13 16:45	5

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
DCB Decachlorobiphenyl (Surr)	*98*		*20 - 150*	*12/23/13 05:24*	*12/23/13 16:45*	*5*
Tetrachloro-m-xylene	*85*		*30 - 150*	*12/23/13 05:24*	*12/23/13 16:45*	*5*

General Chemistry

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture	**0.96**		0.10	0.10	%			12/20/13 16:20	1

Client Sample ID: MH-LS DOOR#17

Date Collected: 12/18/13 13:20
Date Received: 12/20/13 10:00

Lab Sample ID: 180-28328-23
Matrix: Solid
Percent Solids: 98.7

Method: 8082 - Polychlorinated Biphenyls (PCBs) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
PCB-1016	ND		42	6.3	ug/Kg		12/23/13 05:24	12/24/13 13:18	50
PCB-1221	ND		42	8.1	ug/Kg		12/23/13 05:24	12/24/13 13:18	50
PCB-1232	ND		42	7.2	ug/Kg		12/23/13 05:24	12/24/13 13:18	50
PCB-1242	ND		42	6.9	ug/Kg		12/23/13 05:24	12/24/13 13:18	50
PCB-1248	**62**		42	4.0	ug/Kg		12/23/13 05:24	12/24/13 13:18	50
PCB-1254	ND		42	6.0	ug/Kg		12/23/13 05:24	12/24/13 13:18	50
PCB-1260	**2100**		42	6.0	ug/Kg		12/23/13 05:24	12/24/13 13:18	50

Client Sample Results

Client: Stantec Consulting Corp.
Project/Site: AMTRAK WILMINGTON

TestAmerica Job ID: 180-28328-1

Client Sample ID: MH-LS DOOR#17

Lab Sample ID: 180-28328-23
Date Collected: 12/18/13 13:20
Date Received: 12/20/13 10:00
Matrix: Solid
Percent Solids: 98.7

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
DCB Decachlorobiphenyl (Surr)	138	D	20 - 150	12/23/13 05:24	12/24/13 13:18	50
Tetrachloro-m-xylene	85	D	30 - 150	12/23/13 05:24	12/24/13 13:18	50

General Chemistry

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture	1.3		0.10	0.10	%			12/20/13 16:20	1

Client Sample ID: MH-NY-RW-2

Lab Sample ID: 180-28328-24
Date Collected: 12/18/13 13:45
Date Received: 12/20/13 10:00
Matrix: Solid
Percent Solids: 99.8

Method: 8082 - Polychlorinated Biphenyls (PCBs) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
PCB-1016	ND		41	6.1	ug/Kg		12/23/13 05:24	12/24/13 13:50	50
PCB-1221	ND		41	7.9	ug/Kg		12/23/13 05:24	12/24/13 13:50	50
PCB-1232	ND		41	7.1	ug/Kg		12/23/13 05:24	12/24/13 13:50	50
PCB-1242	ND		41	6.7	ug/Kg		12/23/13 05:24	12/24/13 13:50	50
PCB-1248	ND		41	3.9	ug/Kg		12/23/13 05:24	12/24/13 13:50	50
PCB-1254	ND		41	5.9	ug/Kg		12/23/13 05:24	12/24/13 13:50	50
PCB-1260	**2200**		41	5.9	ug/Kg		12/23/13 05:24	12/24/13 13:50	50

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
DCB Decachlorobiphenyl (Surr)	121	D	20 - 150	12/23/13 05:24	12/24/13 13:50	50
Tetrachloro-m-xylene	99	D	30 - 150	12/23/13 05:24	12/24/13 13:50	50

General Chemistry

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture	0.24		0.10	0.10	%			12/20/13 16:20	1

Client Sample ID: MH-MS-DOOR#28

Lab Sample ID: 180-28328-25
Date Collected: 12/18/13 10:45
Date Received: 12/20/13 10:00
Matrix: Solid
Percent Solids: 99.1

Method: 8082 - Polychlorinated Biphenyls (PCBs) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
PCB-1016	ND		42	6.3	ug/Kg		12/23/13 05:24	12/24/13 14:23	50
PCB-1221	ND		42	8.0	ug/Kg		12/23/13 05:24	12/24/13 14:23	50
PCB-1232	ND		42	7.2	ug/Kg		12/23/13 05:24	12/24/13 14:23	50
PCB-1242	ND		42	6.8	ug/Kg		12/23/13 05:24	12/24/13 14:23	50
PCB-1248	ND		42	4.0	ug/Kg		12/23/13 05:24	12/24/13 14:23	50
PCB-1254	ND		42	6.0	ug/Kg		12/23/13 05:24	12/24/13 14:23	50
PCB-1260	**1600**		42	6.0	ug/Kg		12/23/13 05:24	12/24/13 14:23	50

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
DCB Decachlorobiphenyl (Surr)	86	D	20 - 150	12/23/13 05:24	12/24/13 14:23	50
Tetrachloro-m-xylene	76	D	30 - 150	12/23/13 05:24	12/24/13 14:23	50

General Chemistry

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture	0.87		0.10	0.10	%			12/20/13 16:20	1

Client Sample Results

Client: Stantec Consulting Corp.
Project/Site: AMTRAK WILMINGTON

TestAmerica Job ID: 180-28328-1

Client Sample ID: MH-MS-DOOR#29

Date Collected: 12/18/13 12:35
Date Received: 12/20/13 10:00

Lab Sample ID: 180-28328-26
Matrix: Solid
Percent Solids: 99.8

Method: 8082 - Polychlorinated Biphenyls (PCBs) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
PCB-1016	ND		4.2	0.62	ug/Kg		12/23/13 05:24	12/23/13 18:54	5
PCB-1221	ND		4.2	0.80	ug/Kg		12/23/13 05:24	12/23/13 18:54	5
PCB-1232	ND		4.2	0.71	ug/Kg		12/23/13 05:24	12/23/13 18:54	5
PCB-1242	ND		4.2	0.68	ug/Kg		12/23/13 05:24	12/23/13 18:54	5
PCB-1248	ND		4.2	0.39	ug/Kg		12/23/13 05:24	12/23/13 18:54	5
PCB-1254	ND		4.2	0.59	ug/Kg		12/23/13 05:24	12/23/13 18:54	5
PCB-1260	**620**		4.2	0.59	ug/Kg		12/23/13 05:24	12/23/13 18:54	5

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
DCB Decachlorobiphenyl (Surr)	*90*		*20 - 150*	*12/23/13 05:24*	*12/23/13 18:54*	*5*
Tetrachloro-m-xylene	*68*		*30 - 150*	*12/23/13 05:24*	*12/23/13 18:54*	*5*

General Chemistry

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture	0.23		0.10	0.10	%			12/20/13 16:20	1

Client Sample ID: GRATE-NE-LS

Date Collected: 12/18/13 11:55
Date Received: 12/20/13 10:00

Lab Sample ID: 180-28328-27
Matrix: Solid
Percent Solids: 97.7

Method: 8082 - Polychlorinated Biphenyls (PCBs) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
PCB-1016	ND		210	32	ug/Kg		12/23/13 05:24	12/24/13 14:55	250
PCB-1221	ND		210	40	ug/Kg		12/23/13 05:24	12/24/13 14:55	250
PCB-1232	ND		210	36	ug/Kg		12/23/13 05:24	12/24/13 14:55	250
PCB-1242	ND		210	35	ug/Kg		12/23/13 05:24	12/24/13 14:55	250
PCB-1248	ND		210	20	ug/Kg		12/23/13 05:24	12/24/13 14:55	250
PCB-1254	ND		210	30	ug/Kg		12/23/13 05:24	12/24/13 14:55	250
PCB-1260	**23000**		210	30	ug/Kg		12/23/13 05:24	12/24/13 14:55	250

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
DCB Decachlorobiphenyl (Surr)	*0*	*X D*	*20 - 150*	*12/23/13 05:24*	*12/24/13 14:55*	*250*
Tetrachloro-m-xylene	*0*	*X D*	*30 - 150*	*12/23/13 05:24*	*12/24/13 14:55*	*250*

General Chemistry

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture	**2.3**		0.10	0.10	%			12/20/13 16:20	1

Client Sample ID: MH-4

Date Collected: 12/18/13 13:15
Date Received: 12/20/13 10:00

Lab Sample ID: 180-28328-28
Matrix: Solid
Percent Solids: 99.6

Method: 8082 - Polychlorinated Biphenyls (PCBs) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
PCB-1016	ND		4.2	0.62	ug/Kg		12/23/13 05:24	12/23/13 19:59	5
PCB-1221	ND		4.2	0.80	ug/Kg		12/23/13 05:24	12/23/13 19:59	5
PCB-1232	ND		4.2	0.72	ug/Kg		12/23/13 05:24	12/23/13 19:59	5
PCB-1242	ND		4.2	0.68	ug/Kg		12/23/13 05:24	12/23/13 19:59	5
PCB-1248	ND		4.2	0.40	ug/Kg		12/23/13 05:24	12/23/13 19:59	5
PCB-1254	ND		4.2	0.60	ug/Kg		12/23/13 05:24	12/23/13 19:59	5
PCB-1260	**230**		4.2	0.59	ug/Kg		12/23/13 05:24	12/23/13 19:59	5

Client Sample Results

Client: Stantec Consulting Corp.
Project/Site: AMTRAK WILMINGTON

TestAmerica Job ID: 180-28328-1

Client Sample ID: MH-4

Date Collected: 12/18/13 13:15
Date Received: 12/20/13 10:00

Lab Sample ID: 180-28328-28
Matrix: Solid
Percent Solids: 99.6

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
DCB Decachlorobiphenyl (Surr)	95		20 - 150	12/23/13 05:24	12/23/13 19:59	5
Tetrachloro-m-xylene	80		30 - 150	12/23/13 05:24	12/23/13 19:59	5

General Chemistry

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture	0.43		0.10	0.10	%			12/20/13 16:20	1

Client Sample ID: CB-7E

Date Collected: 12/18/13 11:20
Date Received: 12/20/13 10:00

Lab Sample ID: 180-28328-29
Matrix: Solid
Percent Solids: 99.7

Method: 8082 - Polychlorinated Biphenyls (PCBs) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
PCB-1016	ND		42	6.2	ug/Kg		12/23/13 05:24	12/24/13 15:27	50
PCB-1221	ND		42	7.9	ug/Kg		12/23/13 05:24	12/24/13 15:27	50
PCB-1232	ND		42	7.1	ug/Kg		12/23/13 05:24	12/24/13 15:27	50
PCB-1242	ND		42	6.8	ug/Kg		12/23/13 05:24	12/24/13 15:27	50
PCB-1248	ND		42	3.9	ug/Kg		12/23/13 05:24	12/24/13 15:27	50
PCB-1254	ND		42	5.9	ug/Kg		12/23/13 05:24	12/24/13 15:27	50
PCB-1260	1400		42	5.9	ug/Kg		12/23/13 05:24	12/24/13 15:27	50

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
DCB Decachlorobiphenyl (Surr)	85	D	20 - 150	12/23/13 05:24	12/24/13 15:27	50
Tetrachloro-m-xylene	92	D	30 - 150	12/23/13 05:24	12/24/13 15:27	50

General Chemistry

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture	0.30		0.10	0.10	%			12/20/13 16:20	1

Client Sample ID: CB-9

Date Collected: 12/18/13 11:40
Date Received: 12/20/13 10:00

Lab Sample ID: 180-28328-30
Matrix: Solid
Percent Solids: 99.7

Method: 8082 - Polychlorinated Biphenyls (PCBs) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
PCB-1016	ND		4.1	0.62	ug/Kg		12/23/13 05:24	12/23/13 21:03	5
PCB-1221	ND		4.1	0.79	ug/Kg		12/23/13 05:24	12/23/13 21:03	5
PCB-1232	ND		4.1	0.71	ug/Kg		12/23/13 05:24	12/23/13 21:03	5
PCB-1242	ND		4.1	0.68	ug/Kg		12/23/13 05:24	12/23/13 21:03	5
PCB-1248	ND		4.1	0.39	ug/Kg		12/23/13 05:24	12/23/13 21:03	5
PCB-1254	ND		4.1	0.59	ug/Kg		12/23/13 05:24	12/23/13 21:03	5
PCB-1260	860		4.1	0.59	ug/Kg		12/23/13 05:24	12/23/13 21:03	5

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
DCB Decachlorobiphenyl (Surr)	86		20 - 150	12/23/13 05:24	12/23/13 21:03	5
Tetrachloro-m-xylene	74		30 - 150	12/23/13 05:24	12/23/13 21:03	5

General Chemistry

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture	0.26		0.10	0.10	%			12/20/13 16:20	1

Client Sample Results

Client: Stantec Consulting Corp.
Project/Site: AMTRAK WILMINGTON

TestAmerica Job ID: 180-28328-1

Client Sample ID: GRATE BLDG 23

Date Collected: 12/18/13 11:05
Date Received: 12/20/13 10:00

Lab Sample ID: 180-28328-31
Matrix: Solid
Percent Solids: 98.3

Method: 8082 - Polychlorinated Biphenyls (PCBs) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
PCB-1016	ND		4.2	0.63	ug/Kg		12/23/13 05:24	12/23/13 21:35	5
PCB-1221	ND		4.2	0.81	ug/Kg		12/23/13 05:24	12/23/13 21:35	5
PCB-1232	ND		4.2	0.73	ug/Kg		12/23/13 05:24	12/23/13 21:35	5
PCB-1242	ND		4.2	0.69	ug/Kg		12/23/13 05:24	12/23/13 21:35	5
PCB-1248	ND		4.2	0.40	ug/Kg		12/23/13 05:24	12/23/13 21:35	5
PCB-1254	ND		4.2	0.60	ug/Kg		12/23/13 05:24	12/23/13 21:35	5
PCB-1260	**890**		4.2	0.60	ug/Kg		12/23/13 05:24	12/23/13 21:35	5

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
DCB Decachlorobiphenyl (Surr)	*108*		*20 - 150*	*12/23/13 05:24*	*12/23/13 21:35*	*5*
Tetrachloro-m-xylene	*85*		*30 - 150*	*12/23/13 05:24*	*12/23/13 21:35*	*5*

General Chemistry

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture	1.7		0.10	0.10	%			12/20/13 16:20	1

Client Sample ID: CB-12

Date Collected: 12/18/13 11:35
Date Received: 12/20/13 10:00

Lab Sample ID: 180-28328-32
Matrix: Solid
Percent Solids: 99.8

Method: 8082 - Polychlorinated Biphenyls (PCBs) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
PCB-1016	ND		4.2	0.62	ug/Kg		12/23/13 05:24	12/23/13 22:08	5
PCB-1221	ND		4.2	0.80	ug/Kg		12/23/13 05:24	12/23/13 22:08	5
PCB-1232	ND		4.2	0.72	ug/Kg		12/23/13 05:24	12/23/13 22:08	5
PCB-1242	ND		4.2	0.68	ug/Kg		12/23/13 05:24	12/23/13 22:08	5
PCB-1248	ND		4.2	0.39	ug/Kg		12/23/13 05:24	12/23/13 22:08	5
PCB-1254	ND		4.2	0.59	ug/Kg		12/23/13 05:24	12/23/13 22:08	5
PCB-1260	**620**		4.2	0.59	ug/Kg		12/23/13 05:24	12/23/13 22:08	5

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
DCB Decachlorobiphenyl (Surr)	*89*		*20 - 150*	*12/23/13 05:24*	*12/23/13 22:08*	*5*
Tetrachloro-m-xylene	*74*		*30 - 150*	*12/23/13 05:24*	*12/23/13 22:08*	*5*

General Chemistry

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture	**0.24**		0.10	0.10	%			12/20/13 16:20	1

Client Sample ID: CB-14

Date Collected: 12/18/13 13:05
Date Received: 12/20/13 10:00

Lab Sample ID: 180-28328-33
Matrix: Solid
Percent Solids: 99.5

Method: 8082 - Polychlorinated Biphenyls (PCBs) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
PCB-1016	ND		42	6.2	ug/Kg		12/23/13 05:24	12/24/13 15:59	50
PCB-1221	ND		42	7.9	ug/Kg		12/23/13 05:24	12/24/13 15:59	50
PCB-1232	ND		42	7.1	ug/Kg		12/23/13 05:24	12/24/13 15:59	50
PCB-1242	ND		42	6.8	ug/Kg		12/23/13 05:24	12/24/13 15:59	50
PCB-1248	ND		42	3.9	ug/Kg		12/23/13 05:24	12/24/13 15:59	50
PCB-1254	ND		42	5.9	ug/Kg		12/23/13 05:24	12/24/13 15:59	50
PCB-1260	**2100**		42	5.9	ug/Kg		12/23/13 05:24	12/24/13 15:59	50

Client Sample Results

Client: Stantec Consulting Corp.
Project/Site: AMTRAK WILMINGTON

TestAmerica Job ID: 180-28328-1

Client Sample ID: CB-14

Date Collected: 12/18/13 13:05
Date Received: 12/20/13 10:00

Lab Sample ID: 180-28328-33
Matrix: Solid
Percent Solids: 99.5

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
DCB Decachlorobiphenyl (Surr)	133	D	20 - 150	12/23/13 05:24	12/24/13 15:59	50
Tetrachloro-m-xylene	92	D	30 - 150	12/23/13 05:24	12/24/13 15:59	50

General Chemistry

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture	0.54		0.10	0.10	%			12/20/13 16:20	1

Client Sample ID: CB-18

Date Collected: 12/18/13 11:00
Date Received: 12/20/13 10:00

Lab Sample ID: 180-28328-34
Matrix: Solid
Percent Solids: 99.0

Method: 8082 - Polychlorinated Biphenyls (PCBs) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
PCB-1016	ND		4.2	0.62	ug/Kg		12/23/13 05:24	12/23/13 23:12	5
PCB-1221	ND		4.2	0.80	ug/Kg		12/23/13 05:24	12/23/13 23:12	5
PCB-1232	ND		4.2	0.72	ug/Kg		12/23/13 05:24	12/23/13 23:12	5
PCB-1242	ND		4.2	0.68	ug/Kg		12/23/13 05:24	12/23/13 23:12	5
PCB-1248	ND		4.2	0.40	ug/Kg		12/23/13 05:24	12/23/13 23:12	5
PCB-1254	ND		4.2	0.59	ug/Kg		12/23/13 05:24	12/23/13 23:12	5
PCB-1260	830		4.2	0.59	ug/Kg		12/23/13 05:24	12/23/13 23:12	5

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
DCB Decachlorobiphenyl (Surr)	94		20 - 150	12/23/13 05:24	12/23/13 23:12	5
Tetrachloro-m-xylene	80		30 - 150	12/23/13 05:24	12/23/13 23:12	5

General Chemistry

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture	0.97		0.10	0.10	%			12/20/13 16:20	1

QC Sample Results

Client: Stantec Consulting Corp.
Project/Site: AMTRAK WILMINGTON

TestAmerica Job ID: 180-28328-1

Method: 8082 - Polychlorinated Biphenyls (PCBs) (GC)

Lab Sample ID: MB 180-93080/1-C
Matrix: Solid
Analysis Batch: 93408

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 93080

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
PCB-1016	ND		0.83	0.12	ug/Kg		12/23/13 03:45	12/24/13 00:17	1
PCB-1221	ND		0.83	0.16	ug/Kg		12/23/13 03:45	12/24/13 00:17	1
PCB-1232	ND		0.83	0.14	ug/Kg		12/23/13 03:45	12/24/13 00:17	1
PCB-1242	ND		0.83	0.14	ug/Kg		12/23/13 03:45	12/24/13 00:17	1
PCB-1248	ND		0.83	0.079	ug/Kg		12/23/13 03:45	12/24/13 00:17	1
PCB-1254	ND		0.83	0.12	ug/Kg		12/23/13 03:45	12/24/13 00:17	1
PCB-1260	ND		0.83	0.12	ug/Kg		12/23/13 03:45	12/24/13 00:17	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
DCB Decachlorobiphenyl (Surr)	*113*		*20 - 150*	*12/23/13 03:45*	*12/24/13 00:17*	*1*
Tetrachloro-m-xylene	*93*		*30 - 150*	*12/23/13 03:45*	*12/24/13 00:17*	*1*

Lab Sample ID: LCS 180-93080/2-C
Matrix: Solid
Analysis Batch: 93408

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 93080

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
PCB-1016	66.7	54.9		ug/Kg		82	50 - 120
PCB-1260	66.7	51.9		ug/Kg		78	50 - 120

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
DCB Decachlorobiphenyl (Surr)	*114*		*20 - 150*
Tetrachloro-m-xylene	*94*		*30 - 150*

Lab Sample ID: 180-28328-1 MS
Matrix: Solid
Analysis Batch: 93408

Client Sample ID: TD-1
Prep Type: Total/NA
Prep Batch: 93080

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
PCB-1016	ND		67.0	43.8		ug/Kg		65	50 - 120
PCB-1260	370		67.0	303	4	ug/Kg		-106	50 - 120

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
DCB Decachlorobiphenyl (Surr)	*72*		*20 - 150*
Tetrachloro-m-xylene	*58*		*30 - 150*

Lab Sample ID: 180-28328-1 MSD
Matrix: Solid
Analysis Batch: 93408

Client Sample ID: TD-1
Prep Type: Total/NA
Prep Batch: 93080

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
PCB-1016	ND		67.0	43.3		ug/Kg		65	50 - 120	1	30
PCB-1260	370		67.0	304	4	ug/Kg		-104	50 - 120	0	30

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
DCB Decachlorobiphenyl (Surr)	*74*		*20 - 150*
Tetrachloro-m-xylene	*52*		*30 - 150*

Method: 8082 - Polychlorinated Biphenyls (PCBs) (GC) (Continued)

Lab Sample ID: MB 180-93081/1-C
Matrix: Solid
Analysis Batch: 93409

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 93081

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
PCB-1016	ND		0.83	0.12	ug/Kg		12/23/13 05:24	12/23/13 23:45	1
PCB-1221	ND		0.83	0.16	ug/Kg		12/23/13 05:24	12/23/13 23:45	1
PCB-1232	ND		0.83	0.14	ug/Kg		12/23/13 05:24	12/23/13 23:45	1
PCB-1242	ND		0.83	0.14	ug/Kg		12/23/13 05:24	12/23/13 23:45	1
PCB-1248	ND		0.83	0.079	ug/Kg		12/23/13 05:24	12/23/13 23:45	1
PCB-1254	ND		0.83	0.12	ug/Kg		12/23/13 05:24	12/23/13 23:45	1
PCB-1260	ND		0.83	0.12	ug/Kg		12/23/13 05:24	12/23/13 23:45	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
DCB Decachlorobiphenyl (Surr)	*96*		*20 - 150*	*12/23/13 05:24*	*12/23/13 23:45*	*1*
Tetrachloro-m-xylene	*92*		*30 - 150*	*12/23/13 05:24*	*12/23/13 23:45*	*1*

Lab Sample ID: LCS 180-93081/2-C
Matrix: Solid
Analysis Batch: 93409

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 93081

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
PCB-1016	66.7	55.6		ug/Kg		83	50 - 120
PCB-1260	66.7	58.3		ug/Kg		87	50 - 120

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
DCB Decachlorobiphenyl (Surr)	*93*		*20 - 150*
Tetrachloro-m-xylene	*92*		*30 - 150*

Lab Sample ID: 180-28328-21 MS
Matrix: Solid
Analysis Batch: 93409

Client Sample ID: MH-WHEEL STORAGE
Prep Type: Total/NA
Prep Batch: 93081

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
PCB-1016	ND		67.1	147	F	ug/Kg		219	50 - 120
PCB-1260	200		67.1	316	F	ug/Kg		174	50 - 120

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
DCB Decachlorobiphenyl (Surr)	*85*		*20 - 150*
Tetrachloro-m-xylene	*74*		*30 - 150*

Lab Sample ID: 180-28328-21 MSD
Matrix: Solid
Analysis Batch: 93409

Client Sample ID: MH-WHEEL STORAGE
Prep Type: Total/NA
Prep Batch: 93081

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
PCB-1016	ND		67.1	133	F	ug/Kg		198	50 - 120	10	30
PCB-1260	200		67.1	289	F	ug/Kg		135	50 - 120	9	30

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
DCB Decachlorobiphenyl (Surr)	*75*		*20 - 150*
Tetrachloro-m-xylene	*68*		*30 - 150*

QC Sample Results

Client: Stantec Consulting Corp.
Project/Site: AMTRAK WILMINGTON

TestAmerica Job ID: 180-28328-1

Method: 2540G - SM 2540G

Lab Sample ID: 180-28328-1 DU
Matrix: Solid
Analysis Batch: 93007

Client Sample ID: TD-1
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Percent Moisture	0.53		0.52		%		2	20

Lab Sample ID: 180-28328-11 DU
Matrix: Solid
Analysis Batch: 93007

Client Sample ID: TD-11
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Percent Moisture	0.96		0.89		%		8	20

Lab Sample ID: 180-28328-21 DU
Matrix: Solid
Analysis Batch: 93008

Client Sample ID: MH-WHEEL STORAGE
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Percent Moisture	1.3		1.3		%		3	20

Lab Sample ID: 180-28328-31 DU
Matrix: Solid
Analysis Batch: 93008

Client Sample ID: GRATE BLDG 23
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Percent Moisture	1.7		1.8		%		7	20

QC Association Summary

Client: Stantec Consulting Corp.
Project/Site: AMTRAK WILMINGTON

TestAmerica Job ID: 180-28328-1

GC Semi VOA

Prep Batch: 93080

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-28328-1	TD-1	Total/NA	Solid	3541	
180-28328-1 MS	TD-1	Total/NA	Solid	3541	
180-28328-1 MSD	TD-1	Total/NA	Solid	3541	
180-28328-2	TD-2	Total/NA	Solid	3541	
180-28328-3	TD-3	Total/NA	Solid	3541	
180-28328-4	TD-4	Total/NA	Solid	3541	
180-28328-5	TD-5	Total/NA	Solid	3541	
180-28328-6	TD-6	Total/NA	Solid	3541	
180-28328-7	TD-7	Total/NA	Solid	3541	
180-28328-8	TD-8	Total/NA	Solid	3541	
180-28328-9	TD-9	Total/NA	Solid	3541	
180-28328-10	TD-10	Total/NA	Solid	3541	
180-28328-11	TD-11	Total/NA	Solid	3541	
180-28328-12	GRATE-SE-LS	Total/NA	Solid	3541	
180-28328-13	ZD-1	Total/NA	Solid	3541	
180-28328-14	ZD-2	Total/NA	Solid	3541	
180-28328-15	ZD-3	Total/NA	Solid	3541	
180-28328-16	ZD-4	Total/NA	Solid	3541	
180-28328-17	MH-N-SS	Total/NA	Solid	3541	
180-28328-18	MH-NE-WS	Total/NA	Solid	3541	
180-28328-19	MH-SE-WS-ADDITION	Total/NA	Solid	3541	
180-28328-20	MH-13	Total/NA	Solid	3541	
LCS 180-93080/2-C	Lab Control Sample	Total/NA	Solid	3541	
MB 180-93080/1-C	Method Blank	Total/NA	Solid	3541	

Prep Batch: 93081

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-28328-21	MH-WHEEL STORAGE	Total/NA	Solid	3541	
180-28328-21 MS	MH-WHEEL STORAGE	Total/NA	Solid	3541	
180-28328-21 MSD	MH-WHEEL STORAGE	Total/NA	Solid	3541	
180-28328-22	CB-11	Total/NA	Solid	3541	
180-28328-23	MH-LS DOOR#17	Total/NA	Solid	3541	
180-28328-24	MH-NY-RW-2	Total/NA	Solid	3541	
180-28328-25	MH-MS-DOOR#28	Total/NA	Solid	3541	
180-28328-26	MH-MS-DOOR#29	Total/NA	Solid	3541	
180-28328-27	GRATE-NE-LS	Total/NA	Solid	3541	
180-28328-28	MH-4	Total/NA	Solid	3541	
180-28328-29	CB-7E	Total/NA	Solid	3541	
180-28328-30	CB-9	Total/NA	Solid	3541	
180-28328-31	GRATE BLDG 23	Total/NA	Solid	3541	
180-28328-32	CB-12	Total/NA	Solid	3541	
180-28328-33	CB-14	Total/NA	Solid	3541	
180-28328-34	CB-18	Total/NA	Solid	3541	
LCS 180-93081/2-C	Lab Control Sample	Total/NA	Solid	3541	
MB 180-93081/1-C	Method Blank	Total/NA	Solid	3541	

Cleanup Batch: 93149

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-28328-1	TD-1	Total/NA	Solid	3665A	93080
180-28328-1 MS	TD-1	Total/NA	Solid	3665A	93080
180-28328-1 MSD	TD-1	Total/NA	Solid	3665A	93080

GC Semi VOA (Continued)

Cleanup Batch: 93149 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-28328-2	TD-2	Total/NA	Solid	3665A	93080
180-28328-3	TD-3	Total/NA	Solid	3665A	93080
180-28328-4	TD-4	Total/NA	Solid	3665A	93080
180-28328-5	TD-5	Total/NA	Solid	3665A	93080
180-28328-6	TD-6	Total/NA	Solid	3665A	93080
180-28328-7	TD-7	Total/NA	Solid	3665A	93080
180-28328-8	TD-8	Total/NA	Solid	3665A	93080
180-28328-9	TD-9	Total/NA	Solid	3665A	93080
180-28328-10	TD-10	Total/NA	Solid	3665A	93080
180-28328-11	TD-11	Total/NA	Solid	3665A	93080
180-28328-12	GRATE-SE-LS	Total/NA	Solid	3665A	93080
180-28328-13	ZD-1	Total/NA	Solid	3665A	93080
180-28328-14	ZD-2	Total/NA	Solid	3665A	93080
180-28328-15	ZD-3	Total/NA	Solid	3665A	93080
180-28328-16	ZD-4	Total/NA	Solid	3665A	93080
180-28328-17	MH-N-SS	Total/NA	Solid	3665A	93080
180-28328-18	MH-NE-WS	Total/NA	Solid	3665A	93080
180-28328-19	MH-SE-WS-ADDITION	Total/NA	Solid	3665A	93080
180-28328-20	MH-13	Total/NA	Solid	3665A	93080
LCS 180-93080/2-C	Lab Control Sample	Total/NA	Solid	3665A	93080
MB 180-93080/1-C	Method Blank	Total/NA	Solid	3665A	93080

Cleanup Batch: 93150

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-28328-1	TD-1	Total/NA	Solid	3660B	93149
180-28328-1 MS	TD-1	Total/NA	Solid	3660B	93149
180-28328-1 MSD	TD-1	Total/NA	Solid	3660B	93149
180-28328-2	TD-2	Total/NA	Solid	3660B	93149
180-28328-3	TD-3	Total/NA	Solid	3660B	93149
180-28328-4	TD-4	Total/NA	Solid	3660B	93149
180-28328-5	TD-5	Total/NA	Solid	3660B	93149
180-28328-6	TD-6	Total/NA	Solid	3660B	93149
180-28328-7	TD-7	Total/NA	Solid	3660B	93149
180-28328-8	TD-8	Total/NA	Solid	3660B	93149
180-28328-9	TD-9	Total/NA	Solid	3660B	93149
180-28328-10	TD-10	Total/NA	Solid	3660B	93149
180-28328-11	TD-11	Total/NA	Solid	3660B	93149
180-28328-12	GRATE-SE-LS	Total/NA	Solid	3660B	93149
180-28328-13	ZD-1	Total/NA	Solid	3660B	93149
180-28328-14	ZD-2	Total/NA	Solid	3660B	93149
180-28328-15	ZD-3	Total/NA	Solid	3660B	93149
180-28328-16	ZD-4	Total/NA	Solid	3660B	93149
180-28328-17	MH-N-SS	Total/NA	Solid	3660B	93149
180-28328-18	MH-NE-WS	Total/NA	Solid	3660B	93149
180-28328-19	MH-SE-WS-ADDITION	Total/NA	Solid	3660B	93149
180-28328-20	MH-13	Total/NA	Solid	3660B	93149
LCS 180-93080/2-C	Lab Control Sample	Total/NA	Solid	3660B	93149
MB 180-93080/1-C	Method Blank	Total/NA	Solid	3660B	93149

GC Semi VOA (Continued)

Cleanup Batch: 93152

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-28328-21	MH-WHEEL STORAGE	Total/NA	Solid	3665A	93081
180-28328-21 MS	MH-WHEEL STORAGE	Total/NA	Solid	3665A	93081
180-28328-21 MSD	MH-WHEEL STORAGE	Total/NA	Solid	3665A	93081
180-28328-22	CB-11	Total/NA	Solid	3665A	93081
180-28328-23	MH-LS DOOR#17	Total/NA	Solid	3665A	93081
180-28328-24	MH-NY-RW-2	Total/NA	Solid	3665A	93081
180-28328-25	MH-MS-DOOR#28	Total/NA	Solid	3665A	93081
180-28328-26	MH-MS-DOOR#29	Total/NA	Solid	3665A	93081
180-28328-27	GRATE-NE-LS	Total/NA	Solid	3665A	93081
180-28328-28	MH-4	Total/NA	Solid	3665A	93081
180-28328-29	CB-7E	Total/NA	Solid	3665A	93081
180-28328-30	CB-9	Total/NA	Solid	3665A	93081
180-28328-31	GRATE BLDG 23	Total/NA	Solid	3665A	93081
180-28328-32	CB-12	Total/NA	Solid	3665A	93081
180-28328-33	CB-14	Total/NA	Solid	3665A	93081
180-28328-34	CB-18	Total/NA	Solid	3665A	93081
LCS 180-93081/2-C	Lab Control Sample	Total/NA	Solid	3665A	93081
MB 180-93081/1-C	Method Blank	Total/NA	Solid	3665A	93081

Cleanup Batch: 93154

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-28328-21	MH-WHEEL STORAGE	Total/NA	Solid	3660B	93152
180-28328-21 MS	MH-WHEEL STORAGE	Total/NA	Solid	3660B	93152
180-28328-21 MSD	MH-WHEEL STORAGE	Total/NA	Solid	3660B	93152
180-28328-22	CB-11	Total/NA	Solid	3660B	93152
180-28328-23	MH-LS DOOR#17	Total/NA	Solid	3660B	93152
180-28328-24	MH-NY-RW-2	Total/NA	Solid	3660B	93152
180-28328-25	MH-MS-DOOR#28	Total/NA	Solid	3660B	93152
180-28328-26	MH-MS-DOOR#29	Total/NA	Solid	3660B	93152
180-28328-27	GRATE-NE-LS	Total/NA	Solid	3660B	93152
180-28328-28	MH-4	Total/NA	Solid	3660B	93152
180-28328-29	CB-7E	Total/NA	Solid	3660B	93152
180-28328-30	CB-9	Total/NA	Solid	3660B	93152
180-28328-31	GRATE BLDG 23	Total/NA	Solid	3660B	93152
180-28328-32	CB-12	Total/NA	Solid	3660B	93152
180-28328-33	CB-14	Total/NA	Solid	3660B	93152
180-28328-34	CB-18	Total/NA	Solid	3660B	93152
LCS 180-93081/2-C	Lab Control Sample	Total/NA	Solid	3660B	93152
MB 180-93081/1-C	Method Blank	Total/NA	Solid	3660B	93152

Analysis Batch: 93408

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-28328-1	TD-1	Total/NA	Solid	8082	93150
180-28328-1 MS	TD-1	Total/NA	Solid	8082	93150
180-28328-1 MSD	TD-1	Total/NA	Solid	8082	93150
180-28328-2	TD-2	Total/NA	Solid	8082	93150
180-28328-3	TD-3	Total/NA	Solid	8082	93150
180-28328-4	TD-4	Total/NA	Solid	8082	93150
180-28328-5	TD-5	Total/NA	Solid	8082	93150
180-28328-6	TD-6	Total/NA	Solid	8082	93150
180-28328-7	TD-7	Total/NA	Solid	8082	93150

GC Semi VOA (Continued)

Analysis Batch: 93408 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-28328-8	TD-8	Total/NA	Solid	8082	93150
180-28328-9	TD-9	Total/NA	Solid	8082	93150
180-28328-10	TD-10	Total/NA	Solid	8082	93150
180-28328-11	TD-11	Total/NA	Solid	8082	93150
180-28328-12	GRATE-SE-LS	Total/NA	Solid	8082	93150
180-28328-13	ZD-1	Total/NA	Solid	8082	93150
180-28328-14	ZD-2	Total/NA	Solid	8082	93150
180-28328-15	ZD-3	Total/NA	Solid	8082	93150
180-28328-16	ZD-4	Total/NA	Solid	8082	93150
180-28328-17	MH-N-SS	Total/NA	Solid	8082	93150
180-28328-18	MH-NE-WS	Total/NA	Solid	8082	93150
180-28328-19	MH-SE-WS-ADDITION	Total/NA	Solid	8082	93150
180-28328-20	MH-13	Total/NA	Solid	8082	93150
LCS 180-93080/2-C	Lab Control Sample	Total/NA	Solid	8082	93150
MB 180-93080/1-C	Method Blank	Total/NA	Solid	8082	93150

Analysis Batch: 93409

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-28328-21	MH-WHEEL STORAGE	Total/NA	Solid	8082	93154
180-28328-21 MS	MH-WHEEL STORAGE	Total/NA	Solid	8082	93154
180-28328-21 MSD	MH-WHEEL STORAGE	Total/NA	Solid	8082	93154
180-28328-22	CB-11	Total/NA	Solid	8082	93154
180-28328-23	MH-LS DOOR#17	Total/NA	Solid	8082	93154
180-28328-24	MH-NY-RW-2	Total/NA	Solid	8082	93154
180-28328-25	MH-MS-DOOR#28	Total/NA	Solid	8082	93154
180-28328-26	MH-MS-DOOR#29	Total/NA	Solid	8082	93154
180-28328-27	GRATE-NE-LS	Total/NA	Solid	8082	93154
180-28328-28	MH-4	Total/NA	Solid	8082	93154
180-28328-29	CB-7E	Total/NA	Solid	8082	93154
180-28328-30	CB-9	Total/NA	Solid	8082	93154
180-28328-31	GRATE BLDG 23	Total/NA	Solid	8082	93154
180-28328-32	CB-12	Total/NA	Solid	8082	93154
180-28328-33	CB-14	Total/NA	Solid	8082	93154
180-28328-34	CB-18	Total/NA	Solid	8082	93154
LCS 180-93081/2-C	Lab Control Sample	Total/NA	Solid	8082	93154
MB 180-93081/1-C	Method Blank	Total/NA	Solid	8082	93154

General Chemistry

Analysis Batch: 93007

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-28328-1	TD-1	Total/NA	Solid	2540G	
180-28328-1 DU	TD-1	Total/NA	Solid	2540G	
180-28328-2	TD-2	Total/NA	Solid	2540G	
180-28328-3	TD-3	Total/NA	Solid	2540G	
180-28328-4	TD-4	Total/NA	Solid	2540G	
180-28328-5	TD-5	Total/NA	Solid	2540G	
180-28328-6	TD-6	Total/NA	Solid	2540G	
180-28328-7	TD-7	Total/NA	Solid	2540G	
180-28328-8	TD-8	Total/NA	Solid	2540G	

General Chemistry (Continued)

Analysis Batch: 93007 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-28328-9	TD-9	Total/NA	Solid	2540G	
180-28328-10	TD-10	Total/NA	Solid	2540G	
180-28328-11	TD-11	Total/NA	Solid	2540G	
180-28328-11 DU	TD-11	Total/NA	Solid	2540G	
180-28328-12	GRATE-SE-LS	Total/NA	Solid	2540G	
180-28328-13	ZD-1	Total/NA	Solid	2540G	
180-28328-14	ZD-2	Total/NA	Solid	2540G	
180-28328-15	ZD-3	Total/NA	Solid	2540G	
180-28328-16	ZD-4	Total/NA	Solid	2540G	
180-28328-17	MH-N-SS	Total/NA	Solid	2540G	
180-28328-18	MH-NE-WS	Total/NA	Solid	2540G	
180-28328-19	MH-SE-WS-ADDITION	Total/NA	Solid	2540G	
180-28328-20	MH-13	Total/NA	Solid	2540G	

Analysis Batch: 93008

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-28328-21	MH-WHEEL STORAGE	Total/NA	Solid	2540G	
180-28328-21 DU	MH-WHEEL STORAGE	Total/NA	Solid	2540G	
180-28328-22	CB-11	Total/NA	Solid	2540G	
180-28328-23	MH-LS DOOR#17	Total/NA	Solid	2540G	
180-28328-24	MH-NY-RW-2	Total/NA	Solid	2540G	
180-28328-25	MH-MS-DOOR#28	Total/NA	Solid	2540G	
180-28328-26	MH-MS-DOOR#29	Total/NA	Solid	2540G	
180-28328-27	GRATE-NE-LS	Total/NA	Solid	2540G	
180-28328-28	MH-4	Total/NA	Solid	2540G	
180-28328-29	CB-7E	Total/NA	Solid	2540G	
180-28328-30	CB-9	Total/NA	Solid	2540G	
180-28328-31	GRATE BLDG 23	Total/NA	Solid	2540G	
180-28328-31 DU	GRATE BLDG 23	Total/NA	Solid	2540G	
180-28328-32	CB-12	Total/NA	Solid	2540G	
180-28328-33	CB-14	Total/NA	Solid	2540G	
180-28328-34	CB-18	Total/NA	Solid	2540G	

TestAmerica Pittsburgh
301 Alpha Drive
Pittsburgh, PA 15238
Phone: 412.963.7058 Fax: 412.963.2470

Chain of Custody Record

008162

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING
TestAmerica Laboratories, Inc.
TAL-8210 (0713)

Regulatory Program: ☐ DW ☐ NPDES ☐ RCRA ☐ Other:

Client Contact			
Company Name: STANTEC	Project Manager: STEVE BARGETT	Site Contact:	Date:
Address: 1060 ANDREW DRIVE SUITE 140	Tel/Fax: 610.840.2500	Lab Contact:	Carrier:
City/State/Zip: WEST CHESTER, PA 19380	Analysis Turnaround Time		
Phone: 610.840.2500	☐ CALENDAR DAYS ☐ WORKING DAYS		
Fax:	TAT if different from Below _____		
Project Name: AMTRAK WILMINGTON	☐ 2 weeks		
Site: WILMINGTON, DE	☑ 1 week		
P O # 2134020 48	☐ 2 days		
	☐ 1 day		

COC No: 1 of 3 COCs
Sampler:
For Lab Use Only:
Walk-in Client:
Lab Sampling:
Job / SDG No.:

Sample Identification	Sample Date	Sample Time	Sample Type (C=Comp, G=Grab)	Matrix	# of Cont.	Filtered Sample (Y/N)	Perform MS/MSD (Y/N)	PCB's By 8082	Sample Specific Notes:
TD-1	12.18.13	1200	G	S	1	N	N	X	
TD-2		1255							
TD-3		1110							
TD-4		1310							
TD-5		1150							
TD-6		1250							
TD-7		1300							
TD-8		1125							
TD-9		1115							
TD-10		1245							
TD-11		1050							
GRATE-SE-LS		1130							

180-28328 Chain of Custody

Preservation Used: 1=Ice, 2=HCL, 3=H2SO4, 4=HNO3, 5=NaOH, 6=Other

Possible Hazard Identification:
Are any samples from a listed EPA Hazardous Waste? Please List any EPA Waste Codes for the sample in the Comments Section if the lab is to dispose of the sample.
☐ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
☐ Return to Client ☐ Disposal by Lab ☐ Archive for _____ Months

Special Instructions/QC Requirements & Comments:
* SAMPLES ANALYZED BY LOW LEVEL DETECTION METHODS BY TEST AMERICA IN PITTSBURGH

Custody Seals Intact: ☐ Yes ☐ No | Custody Seal No.: | Cooler Temp. (°C): Obs'd: _____ Corr'd: _____ Therm ID No.: _____

Relinquished by:	Company:	Date/Time:	Received by:	Company:	Date/Time:
[signature]	STANTEC	12.19.13	[signature]	TA	12-19-13 9:12
Relinquished by: [signature]	Company: TA	Date/Time: 12/19/13 1330	Received by: [signature]	Company: TA Pitts	Date/Time: 12-20-13 1000
Relinquished by:	Company:	Date/Time:	Received in Laboratory by:	Company:	Date/Time:

TestAmerica Pittsburgh
301 Alpha Drive
Pittsburgh, PA 15238
Phone: 412.963.7058 Fax: 412.963.2478

Chain of Custody Record

008161

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING
TestAmerica Laboratories, Inc.
TAL-8210 (0713)

Regulatory Program: ☐ DW ☐ NPDES ☐ RCRA ☐ Other:

Client Contact	Project Manager: Steve Baggett	Site Contact:	Date:	COC No:
Company Name: Stantec	Tel/Fax: 610.840.2500	Lab Contact:	Carrier:	2 of 3 COCs
Address: 1060 Andrew Drive Suite 140	Analysis Turnaround Time			Sampler:
City/State/Zip: West Chester, PA 19380	☐ CALENDAR DAYS ☐ WORKING DAYS			For Lab Use Only:
Phone: 610.840.2500	TAT if different from Below _____			Walk-in Client:
Fax:	☐ 2 weeks			Lab Sampling:
Project Name: Amtrak - Wilmington	☑ 1 week			
Site: Wilmington, DE	☐ 2 days			Job / SDG No.:
PO# 2134020498	☐ 1 day			

Sample Identification	Sample Date	Sample Time	Sample Type (C=Comp, G=Grab)	Matrix	# of Cont.	Filtered Sample (Y/N)	Perform MS / MSD (Y/N)	PCB's By 8082	Sample Specific Notes:
ZD-1	12.18.13	1240	G	S	1	N	N	X	
ZD-2		1250							
ZD-3		1340							
ZD-4		1145							
MH-N-SS		1055							
MH-NE-WS		1330							
MH-SE-WS-Addition		1350							
MH-13		1335							
MH-Wheel Storage		1205							
CB-11		1325							
MH-LS Door #17		1320							
MH-NY-RW-2		1345							

Preservation Used: 1=Ice, 2=HCl, 3=H2SO4, 4=HNO3, 5=NaOH, 6=Other

Possible Hazard Identification:
Are any samples from a listed EPA Hazardous Waste? Please List any EPA Waste Codes for the sample in the Comments Section if the lab is to dispose of the sample.
☐ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
☐ Return to Client ☐ Disposal by Lab ☐ Archive for _____ Months

Special Instructions/QC Requirements & Comments:
* Analyze samples using low level detection methods by Test America in Pittsburgh

Custody Seals Intact: ☐ Yes ☐ No | Custody Seal No.: | Cooler Temp. (°C): Obs'd: _____ Corr'd: _____ Therm ID No.: _____

Relinquished by:	Company:	Date/Time:	Received by:	Company:	Date/Time:
[signature]	Stantec	12.19.13	[signature]	TA	12/19/13 9:12
Relinquished by: [signature]	Company: TA	Date/Time: 12/19/13 1330	Received by: [signature]	Company: TA Pitt	Date/Time: 12-20-13 1000
Relinquished by:	Company:	Date/Time:	Received in Laboratory by:	Company:	Date/Time:

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

777 New Durham Road
Edison, New Jersey 08817
Phone: (732) 549-3900 Fax: (732) 549-3679

CHAIN OF CUSTODY / ANALYSIS REQUEST

Name (for report and invoice): STEVE BAGGETT	Samplers Name (Printed): J. CORBETT	Site/Project Identification: AMTRAK - WILMINGTON
Company: STANTEC	P. O. #: 213402048	State (Location of site): NJ: ☐ NY: ☐ Other: DE
		Regulatory Program:
Address: 1060 ANDREW DR. SUITE 140	Analysis Turnaround Time: Standard ☑	
City: WEST CHESTER State: PA 19380	Rush Chrages Authorized For: 2 Week ☐ 1 Week ☐ Other ☐	
Phone: 610. 840. 2500 Fax:		

ANALYSIS REQUESTED (ENTER "X" BELOW TO INDICATE REQUEST)

LAB USE ONLY
Project No:
Job No:

Sample Identification	Date	Time	Matrix	No. of. Cont.	PCBs by 8082											Sample Numbers
MH-MS-DOOR #28	12.18.13	1045	S	1	X											
MH-MS-DOOR #29		1235														
GRATE-NE-LS		1155														
MH-4		1315														
CB-7E		1120														
CB-9		1140														
GRATE BLDG 23		1105														
CB-12		1135														
CB-14		1305														
CB-18		1100														

Preservation Used: 1 = ICE, 2 = HCl, 3 = H_2SO_4, 4 = HNO_3, 5 = NaOH
6 = Other _____, 7 = Other _____

Soil:
Water:

Special Instructions * ANALYZE SAMPLES USING LOW LEVEL DETECTION METHODS BY TEST AMERICA IN PITTSBURGH

Water Metals Filtered (Yes/No)?

Relinquished by	Company	Date / Time	Received by	Company
	STANTEC	12.19.13 | 910	D. Pollard	TA 12-19-13 9:12
Relinquished by 2)	Company TA	Date / Time 12/19/13 | 1330	Received by 2) Michael Sow	Company TA Pitt 1000
Relinquished by 3)	Company	Date / Time |	Received by 3)	Company
Relinquished by 4)	Company	Date / Time |	Received by 4)	Company

Laboratory Certifications: New Jersey (12028), New York (11452), Pennsylvania (68-522), Connecticut (PH-0200), Rhode Island (132).
Massachusetts (M-NJ312), North Carolina (No. 578)

TAL - 0016 (0408)

180-28328 Waybill

ORIGIN ID:KPDA (610) 337-9992
SAMPLE RECEIPT
TEST AMERICA
1008 WEST 9TH AVE

KING OF PRUSSIA, PA 19406
UNITED STATES US

SHIP DATE: 19DEC13
ACTWGT: 53.0 LB
CAD: 8490299/INET3430

BILL RECIPIENT

TO SAMPLE RECEIPT
TEST AMERICA - PITTSBURGH
301 ALPHA DR

PITTSBURGH PA 15238
(412) 963-7058 REF:
INV:
PO: DEPT:

51AG4/99D5/1A9E

FedEx Express

E

J13201386280126

1 of 3

TRK# 0201 7974 6138 6800

FRI - 20 DEC AA
STANDARD OVERNIGHT

MASTER

EV AGCA

15238
PA-US PIT

Uncorrected temp 3.8 °C
Thermometer ID #4
CF -0.1 Initials WH
PT-WI-SR-001 effective 7/26/13

Part # 156297-435 RIT2 10/13

Login Sample Receipt Checklist

Client: Stantec Consulting Corp.

Job Number: 180-28328-1

Login Number: 28328
List Number: 1
Creator: Kovitch, Christina M

List Source: TestAmerica Pittsburgh

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time.	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

APPENDIX E - TRANSFER TABLE STORM SEWER CLEANOUT SOIL AND GROUNDWATER LABORATORY DATA

APPENDIX F - OUTFALLS 002, 006 AND 007 SAMPLING ANALYTICAL RESULTS

DRBC Sampling Program
Wet Weather
November 26, 2013
Outfall 002
DE0050962-WW-002-11262013

Amtrak Former Fueling Facility
4001 Vandever Avenue
Wilmington, Delaware

COMPOUND	IUPAC	Result (pg/l)	Estimated Detection Limit	Data Qualifier
2-Chlorobiphenyl	1	96.3	1.13	B
3-Chlorobiphenyl	2		1.26	U
4-Chlorobiphenyl	3	36.8	1.42	BJ
2,2'-Dichlorobiphenyl	4	1110	11.4	B
2,3-Dichlorobiphenyl	5		9.2	U
2,3'Dichlorobiphenyl	6	142	8.65	QB
2,4-Dichlorobiphenyl	7	15.1	8.89	QJ
2,4'Dichlorobiphenyl	8	155	8.47	B
2,5-Dichlorobiphenyl	9	6.87	8.93	QJ
2,6-Dichlorobiphenyl	10	66	9.6	Q
3,3'-Dichlorobiphenyl	11	214	8.51	QB
3,4-Dichlorobiphenyl	12	129	8.72	BC
3,4'Dichlorobiphenyl	13		8.72	C12
3,5-Dichlorobiphenyl	14		7.52	U
4,4'-Dichlorobiphenyl	15	246	9.25	B
2,2',3-Trichlorobiphenyl	16	88.4	9.9	
2,2',4-Trichlorobiphenyl	17	410	8.26	B
2,2',5-Trichlorobiphenyl	18	368	7.31	C
2,2',6-Trichlorobiphenyl	19	748	10.1	
2,3,3'-Trichlorobiphenyl	20	736	5.6	BC
2,3,4-Trichlorobiphenyl	21	188	5.62	BC
2,3,4'-Trichlorobiphenyl	22	199	5.71	
2,3,5-Trichlorobiphenyl	23		5.82	U
2,3,6-Trichlorobiphenyl	24	32.7	6.92	QJ
2,3',4-Trichlorobiphenyl	25	533	5.19	
2,3',5-Trichlorobiphenyl	26	614	5.51	BC
2,3',6-Trichlorobiphenyl	27	307	5.97	
2,4,4'-Trichlorobiphenyl	28		5.6	C20
2,4,5-Trichlorobiphenyl	29		5.51	C26
2,4,6-Trichlorobiphenyl	30		7.31	C18
2,4',5-Trichlorobiphenyl	31	429	5.47	B
2,4',6-Trichlorobiphenyl	32	898	5.85	
2,3',4'-Trichlorobiphenyl	33		5.62	C21
2,3',5'-Trichlorobiphenyl	34		5.73	U
3,3',4-Trichlorobiphenyl	35	10.3	5.89	QJ
3,3',5-Trichlorobiphenyl	36		5.69	U
3,4,4'-Trichlorobiphenyl	37	132	5.84	
3,4,5-Trichlorobiphenyl	38		6.01	U
3,4'-5-Trichlorobiphenyl	39		5.34	U
2,2',3,3'-Tetrachlorobiphenyl	40	1920	11.4	C
2,2',3,4-Tetrachlorobiphenyl	41		11.4	C40
2,2',3,4'-Tetrachlorobiphenyl	42	532	11.6	
2,2',3,5-Tetrachlorobiphenyl	43	142	10.7	QC
2,2',3,5'-Tetrachlorobiphenyl	44	4710	10.2	BC
2,2',3,6-Tetrachlorobiphenyl	45	2720	11.8	C
2,2',3,6'-Tetrachlorobiphenyl	46	308	14	
2,2',4,4'-Tetrachlorobiphenyl	47		10.2	C44
2,2',4,5-Tetrachlorobiphenyl	48	153	11.3	
2,2',4,5'-Tetrachlorobiphenyl	49	3780	9.4	C
2,2',4,6-Tetrachlorobiphenyl	50	2900	11	C
2,2',4,6'-Tetrachlorobiphenyl	51		11.8	C45
2,2',5,5'-Tetrachlorobiphenyl	52	6620	11	B
2,2',5,6'-Tetrachlorobiphenyl	53		11	C50
2,2',6,6'-Tetrachlorobiphenyl	54	595	12.3	
2,3,3',4-Tetrachlorobiphenyl	55	96.1	8.84	Q
2,3,3',4'-Tetrachlorobiphenyl	56	2230	8.31	B
2,3,3',5-Tetrachlorobiphenyl	57	12.4	8.41	J
2,3,3',5'-Tetrachlorobiphenyl	58		8.37	U
2,3,3',6-Tetrachlorobiphenyl	59	179	8.12	C
2,3,4,4'-Tetrachlorobiphenyl	60	927	8.56	
2,3,4,5-Tetrachlorobiphenyl	61	6440	8.11	BC
2,3,4,6-Tetrachlorobiphenyl	62		8.12	C59
2,3,4',5-Tetrachlorobiphenyl	63	99.6	7.8	
2,3,4',6-Tetrachlorobiphenyl	64	1320	7.69	B
2,3,5,6-Tetrachlorobiphenyl	65		10.2	C44
2,3',4,4'-Tetrachlorobiphenyl	66	5300	8.06	B
2,3',4,5-Tetrachlorobiphenyl	67	33.7	7.56	J
2,3',4,5'-Tetrachlorobiphenyl	68	79.2	7.62	
2,3',4,6-Tetrachlorobiphenyl	69		9.4	C49
2,3',4',5-Tetrachlorobiphenyl	70		8.11	C61
2,3',4',6-Tetrachlorobiphenyl	71		11.4	C40
2,3',5,5'-Tetrachlorobiphenyl	72	47.2	8.18	QJ
2,3',5',6-Tetrachlorobiphenyl	73		10.7	C43
2,4,4',5-Tetrachlorobiphenyl	74		8.11	C61
2,4,4',6-Tetrachlorobiphenyl	75		8.12	C59
2,3',4',5'-Tetrachlorobiphenyl	76		8.11	C61
3,3',4,4'-Tetrachlorobiphenyl	77	340	8.25	
3,3',4,5-Tetrachlorobiphenyl	78		8.69	U
3,3'4,5'-Tetrachlorobiphenyl	79	149	7.63	

DRBC Sampling Program
Wet Weather
November 26, 2013
Outfall 002
DE0050962-WW-002-11262013

Amtrak Former Fueling Facility
4001 Vandever Avenue
Wilmington, Delaware

COMPOUND	IUPAC	Result (pg/l)	Estimated Detection Limit	Data Qualifier
3,3',5,5'-Tetrachlorobiphenyl	80		7.45	U
3,4,4',5-Tetrachlorobiphenyl	81		7.54	U
2,2',3,3',4-Pentachlorobiphenyl	82	2940	20.6	
2,2',3,3',5-Pentachlorobiphenyl	83	13000	17.3	C
2,2',3,3',6-Pentachlorobiphenyl	84	4420	19.7	
2,2',3,4,4'-Pentachlorobiphenyl	85	4440	14.2	C
2,2',3,4,5-Pentachlorobiphenyl	86	14800	14.6	BC
2,2',3,4,5'-Pentachlorobiphenyl	87		14.6	C86
2,2',3,4,6-Pentachlorobiphenyl	88	2080	17.5	C
2,2',3,4,6'-Pentachlorobiphenyl	89	107	19	
2,2',3,4',5-Pentachlorobiphenyl	90	28900	14.8	C
2,2',3,4',6-Pentachlorobiphenyl	91		17.5	C88
2,2',3,5,5'-Pentachlorobiphenyl	92	3630	16.8	
2,2',3,5,6-Pentachlorobiphenyl	93	392	16.9	C
2,2',3,5,6'-Pentachlorobiphenyl	94	203	19	
2,2',3,5',6-Pentachlorobiphenyl	95	21000	17.9	B
2,2',3,6,6'-Pentachlorobiphenyl	96	134	14.2	Q
2,2',3,4',5'-Pentachlorobiphenyl	97		14.6	C86
2,2',3,4,6'-Pentachlorobiphenyl	98	691	16.4	C
2,2',4,4',5-Pentachlorobiphenyl	99		17.3	C83
2,2',4,4',6-Pentachlorobiphenyl	100		16.9	C93
2,2',4,5,5'-Pentachlorobiphenyl	101		14.8	C90
2,2',4,5,6'-Pentachlorobiphenyl	102		16.4	C98
2,2',4,5',6-Pentachlorobiphenyl	103	270	16.7	
2,2',4,6,6'-Pentachlorobiphenyl	104	30.3	12.7	QJ
2,3,3',4,4'-Pentachlorobiphenyl	105	13200	9.42	
2,3,3',4,5-Pentachlorobiphenyl	106		9.95	U
2,3,3',4',5-Pentachlorobiphenyl	107	1860	9.66	
2,3,3',4,5'-Pentachlorobiphenyl	108	995	10.2	C
2,3,3',4,6-Pentachlorobiphenyl	109		14.6	C86
2,3,3',4',6-Pentachlorobiphenyl	110	32100	12.6	BC
2,3,3',5,5'-Pentachlorobiphenyl	111	21.3	11.9	QJ
2,3,3',5,6-Pentachlorobiphenyl	112		12.9	U
2,3,3',5',6-Pentachlorobiphenyl	113		14.8	C90
2,3,4,4',5-Pentachlorobiphenyl	114	647	8.66	
2,3,4,4',6-Pentachlorobiphenyl	115		12.6	C110
2,3,4,5,6-Pentachlorobiphenyl	116		14.2	C85
2,3,4',5,6-Pentachlorobiphenyl	117		14.2	C85
2,3',4,4',5-Pentachlorobiphenyl	118	27000	8.86	B
2,3',4,4',6-Pentachlorobiphenyl	119		14.6	C86
2,3',4,5,5'-Pentachlorobiphenyl	120	60.1	12.3	
2,3',4,5',6-Pentachlorobiphenyl	121		12.4	U
2,3,3',4',5'-Pentachlorobiphenyl	122	539	10.8	
2,3',4,4',5'-Pentachlorobiphenyl	123	502	9.57	
2,3',4',5,5'-Pentachlorobiphenyl	124		10.2	C108
2,3',4',5',6-Pentachlorobiphenyl	125		14.6	C86
3,3',4,4',5-Pentachlorobiphenyl	126	75.4	11.7	Q
3,3',4,5,5'-Pentachlorobiphenyl	127	30.6	9.84	QJ
2,2',3,3',4,4'-Hexachlorobiphenyl	128	6050	16.1	C
2,2',3,3',4,5-Hexachlorobiphenyl	129	59900	16.6	BC
2,2',3,3',4,5'-Hexachlorobiphenyl	130	2320	21.5	
2,2',3,3',4,6-Hexachlorobiphenyl	131	404	22	
2,2',3,3',4,6'-Hexachlorobiphenyl	132	16100	20.9	
2,2',3,3',5,5'-Hexachlorobiphenyl	133	559	20.2	
2,2',3,3',5,6-Hexachlorobiphenyl	134	2110	21.5	C
2,2',3,3',5,6'-Hexachlorobiphenyl	135	23200	24.2	C
2,2',3,3',6,6'-Hexachlorobiphenyl	136	6760	17.8	
2,2',3,4,4',5-Hexachlorobiphenyl	137	1220	18.5	
2,2',3,4,4',5'-Hexachlorobiphenyl	138		16.6	C129
2,2',3,4,4',6-Hexachlorobiphenyl	139	433	18.4	C
2,2',3,4,4',6'-Hexachlorobiphenyl	140		18.4	C139
2,2',3,4,5,5'-Hexachlorobiphenyl	141	14200	19.2	
2,2',3,4,5,6-Hexachlorobiphenyl	142		21.2	U
2,2',3,4,5,6'-Hexachlorobiphenyl	143		21.5	C134
2,2',3,4,5',6-Hexachlorobiphenyl	144	2910	22.5	
2,2',3,4,6,6'-Hexachlorobiphenyl	145		17	U
2,2',3,4',5,5'-Hexachlorobiphenyl	146	7330	17.5	
2,2',3,4',5,6-Hexachlorobiphenyl	147	44300	17.9	BC
2,2',3,4',5,6'-Hexachlorobiphenyl	148		23.8	U
2,2',3,4',5',6-Hexachlorobiphenyl	149		17.9	C147
2,2',3,4',6,6'-Hexachlorobiphenyl	150	46.7	16.6	QJ
2,2',3,5,5',6-Hexachlorobiphenyl	151		24.2	C135
2,2',3,5,6,6'-Hexachlorobiphenyl	152		16.9	U
2,2',4,4',5,5'-Hexachlorobiphenyl	153	52800	14.4	C
2,2',4,4',5,6'-Hexachlorobiphenyl	154	367	19.7	
2,2',4,4',6,6'-Hexachlorobiphenyl	155		16.1	U
2,3,3',4,4',5-Hexachlorobiphenyl	156	5170	18.1	C
2,3,3',4,4',5'-Hexachlorobiphenyl	157		18.1	C156
2,3,3',4,4',6-Hexachlorobiphenyl	158	5580	13.1	

DRBC Sampling Program
Wet Weather
November 26, 2013
Outfall 002
DE0050962-WW-002-11262013

Amtrak Former Fueling Facility
4001 Vandever Avenue
Wilmington, Delaware

COMPOUND	IUPAC	Result (pg/l)	Estimated Detection Limit	Data Qualifier
2,3,3',4,5,5'-Hexachlorobiphenyl	159	635	14.1	
2,3,3',4,5,6-Hexachlorobiphenyl	160		16.6	C129
2,3,3',4,5',6-Hexachlorobiphenyl	161		14	U
2,3,3',4',5,5'-Hexachlorobiphenyl	162	135	13.9	
2,3,3',4',5,6-Hexachlorobiphenyl	163		16.6	C129
2,3,3',4',5',6-Hexachlorobiphenyl	164	4120	14.7	
2,3,3',5,5',6-Hexachlorobiphenyl	165		15.4	U
2,3,4,4',5,6-Hexachlorobiphenyl	166		16.1	C128
2,3',4,4',5,5'-Hexachlorobiphenyl	167	1950	10.6	
2,3',4,4',5',6-Hexachlorobiphenyl	168		14.4	C153
3,3',4,4',5,5'-Hexachlorobiphenyl	169	130	10.3	
2,2',3,3',4,4',5-Heptachlorobiphenyl	170	26000	17.3	
2,2',3,3',4,4',6-Heptachlorobiphenyl	171	7360	16.9	C
2,2',3,3',4,5,5'-Heptachlorobiphenyl	172	4320	16.7	
2,2',3,3',4,5,6-Heptachlorobiphenyl	173		16.9	C171
2,2',3,3',4,5,6'-Heptachlorobiphenyl	174	25900	15.7	
2,2',3,3',4,5',6-Heptachlorobiphenyl	175	899	15	
2,2',3,3',4,6,6'-Heptachlorobiphenyl	176	2480	11.5	
2,2',3,3',4,5',6'-Heptachlorobiphenyl	177	14200	16	
2,2',3,3',5,5',6-Heptachlorobiphenyl	178	4190	16.3	
2,2',3,3',5,6,6'-Heptachlorobiphenyl	179	8930	12.1	
2,2',3,4,4',5,5'-Heptachlorobiphenyl	180	58300	12.8	C
2,2',3,4,4',5,6-Heptachlorobiphenyl	181	88.6	15	Q
2,2',3,4,4',5,6'-Heptachlorobiphenyl	182	81.3	14.6	Q
2,2',3,4,4',5',6-Heptachlorobiphenyl	183	16700	14.9	C
2,2',3,4,4',6,6'-Heptachlorobiphenyl	184		12.4	U
2,2',3,4,5,5',6-Heptachlorobiphenyl	185		14.9	C183
2,2',3,4,5,6,6'-Heptachlorobiphenyl	186		12	U
2,2',3,4',5,5',6-Heptachlorobiphenyl	187	26900	14	
2,2',3,4',5,6,6'-Heptachlorobiphenyl	188		10.8	U
2,3,3',4,4',5,5'-Heptachlorobiphenyl	189	746	9.33	
2,3,3',4,4',5,6-Heptachlorobiphenyl	190	5310	11.6	
2,3,3',4,4',5',6-Heptachlorobiphenyl	191	1050	11.4	
2,3,3',4,5,5',6-Heptachlorobiphenyl	192		12.8	U
2,3,3',4',5,5',6-Heptachlorobiphenyl	193		12.8	C180
2,2',3,3',4,4',5,5'-Octachlorobiphenyl	194	12700	8.82	
2,2',3,3',4,4',5,6-Octachlorobiphenyl	195	4940	9.57	
2,2',3,3',4,4',5,6'-Octachlorobiphenyl	196	5580	11	
2,2',3,3',4,4',6,6'-Octachlorobiphenyl	197	323	8.19	
2,2',3,3',4,5,5',6-Octachlorobiphenyl	198	11200	11.4	C
2,2',3,3',4,5,5',6'-Octachlorobiphenyl	199		11.4	C198
2,2',3,3',4,5,6,6'-Octachlorobiphenyl	200	1120	8.04	
2,2',3,3',4,5',6,6'-Octachlorobiphenyl	201	1050	7.77	
2,2',3,3',5,5',6,6'-Octachlorobiphenyl	202	1420	8.75	
2,2',3,4,4',5,5',6-Octachlorobiphenyl	203	6610	10.2	
2,2',3,4,4',5,6,6'-Octachlorobiphenyl	204		8.52	U
2,3,3',4,4',5,5',6-Octachlorobiphenyl	205	645	7.43	
2,2',3,3',4,4',5,5',6-Nonachlorobiphenyl	206	1680	6.76	
2,2',3,3',4,4',5,6,6'-Nonachlorobiphenyl	207	202	5.07	
2,2',3,3',4,5,5',6,6'-Nonachlorobiphenyl	208	250	5.48	
2,2',3,3',4,4',5,5',6,6'-Decachlorobiphenyl	209	39.9	6.79	QJ
Total PCB Congeners		733,555.87		
Total Pentachlorobiphenyls		174,067.70		
Total Suspended Solids (mg/L)		11 H		

NOTES:
pg/L - picograms per liter
B - Method Blank contamination. The associated method blank contains the target analyte at reportable level
C - Co-eluting isomer
J - Estimated Result
Q - Estimated maximum possible concentration (EMPC)
ND (0.54) = Analyte not detected at or above this detection limit
Analytical data validated by STANTEC personnel
PCB Congeners analyzed by Method 1668A

DRBC Sampling Program
Wet Weather
November 26, 2013
Outfall 006
DE0050962-WW-006-11262013

Amtrak Former Fueling Facility
4001 Vandever Avenue
Wilmington, Delaware

COMPOUND	IUPAC	Result (pg/l)	Estimated Detection Limit	Data Qualifier
2-Chlorobiphenyl	1	5.61	0.129	B
3-Chlorobiphenyl	2	1.78	0.142	BJ
4-Chlorobiphenyl	3	1.58	0.155	BJ
2,2'-Dichlorobiphenyl	4	739	0.559	B
2,3-Dichlorobiphenyl	5	0.374	0.413	QBJ
2,3'Dichlorobiphenyl	6	5.24	0.388	QB
2,4-Dichlorobiphenyl	7	0.867	0.399	QJ
2,4'Dichlorobiphenyl	8	15.4	0.38	B
2,5-Dichlorobiphenyl	9	1.21	0.401	QJ
2,6-Dichlorobiphenyl	10	33.3	0.431	
3,3'-Dichlorobiphenyl	11	5.09	0.382	QB
3,4-Dichlorobiphenyl	12	3.48	0.391	QBCJ
3,4'Dichlorobiphenyl	13		0.391	C12
3,5-Dichlorobiphenyl	14		0.338	U
4,4'-Dichlorobiphenyl	15	43	0.388	B
2,2',3-Trichlorobiphenyl	16	25.4	0.547	
2,2',4-Trichlorobiphenyl	17	80	0.456	B
2,2',5-Trichlorobiphenyl	18	93.7	0.404	C
2,2',6-Trichlorobiphenyl	19	321	0.559	
2,3,3'-Trichlorobiphenyl	20	112	0.224	BC
2,3,4-Trichlorobiphenyl	21	16.5	0.224	BC
2,3,4'-Trichlorobiphenyl	22	15.9	0.228	
2,3,5-Trichlorobiphenyl	23		0.232	U
2,3,6-Trichlorobiphenyl	24	1.24	0.382	J
2,3',4-Trichlorobiphenyl	25	24.4	0.207	
2,3',5-Trichlorobiphenyl	26	32.3	0.22	BC
2,3',6-Trichlorobiphenyl	27	35.4	0.33	
2,4,4'-Trichlorobiphenyl	28		0.224	C20
2,4,5-Trichlorobiphenyl	29		0.22	C26
2,4,6-Trichlorobiphenyl	30		0.404	C18
2,4',5-Trichlorobiphenyl	31	62.6	0.218	B
2,4',6-Trichlorobiphenyl	32	123	0.323	
2,3',4'-Trichlorobiphenyl	33		0.224	C21
2,3',5'-Trichlorobiphenyl	34		0.229	U
3,3',4-Trichlorobiphenyl	35	0.685	0.235	J
3,3',5-Trichlorobiphenyl	36		0.227	U
3,4,4'-Trichlorobiphenyl	37	14.6	0.233	
3,4,5-Trichlorobiphenyl	38		0.24	U
3,4'-5-Trichlorobiphenyl	39		0.213	U
2,2',3,3'-Tetrachlorobiphenyl	40	98.3	0.491	C
2,2',3,4-Tetrachlorobiphenyl	41		0.491	C40
2,2',3,4'-Tetrachlorobiphenyl	42	37.2	0.5	
2,2',3,5-Tetrachlorobiphenyl	43	12.6	0.459	C
2,2',3,5'-Tetrachlorobiphenyl	44	386	0.439	BC
2,2',3,6-Tetrachlorobiphenyl	45	193	0.509	C
2,2',3,6'-Tetrachlorobiphenyl	46	19.7	0.602	
2,2',4,4'-Tetrachlorobiphenyl	47		0.439	C44
2,2',4,5-Tetrachlorobiphenyl	48	9.71	0.487	
2,2',4,5'-Tetrachlorobiphenyl	49	238	0.405	C
2,2',4,6-Tetrachlorobiphenyl	50	160	0.473	C
2,2',4,6'-Tetrachlorobiphenyl	51		0.509	C45
2,2',5,5'-Tetrachlorobiphenyl	52	404	0.474	B
2,2',5,6'-Tetrachlorobiphenyl	53		0.473	C50
2,2',6,6'-Tetrachlorobiphenyl	54	38.6	0.711	
2,3,3',4-Tetrachlorobiphenyl	55	1.25	0.381	J
2,3,3',4'-Tetrachlorobiphenyl	56	24.9	0.358	B
2,3,3',5-Tetrachlorobiphenyl	57	1.47	0.362	QJ
2,3,3',5'-Tetrachlorobiphenyl	58	0.47	0.361	QJ
2,3,3',6-Tetrachlorobiphenyl	59	15	0.35	C
2,3,4,4'-Tetrachlorobiphenyl	60	8.97	0.369	Q
2,3,4,5-Tetrachlorobiphenyl	61	156	0.35	BC
2,3,4,6-Tetrachlorobiphenyl	62		0.35	C59
2,3,4',5-Tetrachlorobiphenyl	63	5.37	0.336	
2,3,4',6-Tetrachlorobiphenyl	64	38.7	0.331	B
2,3,5,6-Tetrachlorobiphenyl	65		0.439	C44
2,3',4,4'-Tetrachlorobiphenyl	66	85.1	0.347	B
2,3',4,5-Tetrachlorobiphenyl	67	3.16	0.326	J
2,3',4,5'-Tetrachlorobiphenyl	68	4.32	0.328	Q
2,3',4,6-Tetrachlorobiphenyl	69		0.405	C49
2,3',4',5-Tetrachlorobiphenyl	70		0.35	C61
2,3',4',6-Tetrachlorobiphenyl	71		0.491	C40
2,3',5,5'-Tetrachlorobiphenyl	72	6.39	0.353	
2,3',5',6-Tetrachlorobiphenyl	73		0.459	C43
2,4,4',5-Tetrachlorobiphenyl	74		0.35	C61
2,4,4',6-Tetrachlorobiphenyl	75		0.35	C59
2,3',4',5'-Tetrachlorobiphenyl	76		0.35	C61
3,3',4,4'-Tetrachlorobiphenyl	77	7.79	0.34	
3,3',4,5-Tetrachlorobiphenyl	78		0.375	U
3,3'4,5'-Tetrachlorobiphenyl	79	2.97	0.329	J

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COMPOUND	IUPAC	Result (pg/l)	Estimated Detection Limit	Data Qualifier
3,3',5,5'-Tetrachlorobiphenyl	80		0.321	U
3,4,4',5-Tetrachlorobiphenyl	81		0.339	U
2,2',3,3',4-Pentachlorobiphenyl	82	37.2	1.14	
2,2',3,3',5-Pentachlorobiphenyl	83	306	0.956	C
2,2',3,3',6-Pentachlorobiphenyl	84	123	1.09	
2,2',3,4,4'-Pentachlorobiphenyl	85	52.8	0.787	C
2,2',3,4,5-Pentachlorobiphenyl	86	320	0.806	BC
2,2',3,4,5'-Pentachlorobiphenyl	87		0.806	C86
2,2',3,4,6-Pentachlorobiphenyl	88	105	0.969	C
2,2',3,4,6'-Pentachlorobiphenyl	89		1.05	U
2,2',3,4',5-Pentachlorobiphenyl	90	1320	0.82	C
2,2',3,4',6-Pentachlorobiphenyl	91		0.969	C88
2,2',3,5,5'-Pentachlorobiphenyl	92	257	0.931	
2,2',3,5,6-Pentachlorobiphenyl	93	32.6	0.934	C
2,2',3,5,6'-Pentachlorobiphenyl	94	12.4	1.05	
2,2',3,5',6-Pentachlorobiphenyl	95	1380	0.99	B
2,2',3,6,6'-Pentachlorobiphenyl	96	7.31	0.787	Q
2,2',3,4',5'-Pentachlorobiphenyl	97		0.806	C86
2,2',3,4,6'-Pentachlorobiphenyl	98	32.9	0.906	C
2,2',4,4',5-Pentachlorobiphenyl	99		0.956	C83
2,2',4,4',6-Pentachlorobiphenyl	100		0.934	C93
2,2',4,5,5'-Pentachlorobiphenyl	101		0.82	C90
2,2',4,5,6'-Pentachlorobiphenyl	102		0.906	C98
2,2',4,5',6-Pentachlorobiphenyl	103	31.9	0.922	
2,2',4,6,6'-Pentachlorobiphenyl	104	2.34	0.701	QJ
2,3,3',4,4'-Pentachlorobiphenyl	105	125	0.525	
2,3,3',4,5-Pentachlorobiphenyl	106		0.568	U
2,3,3',4',5-Pentachlorobiphenyl	107	55.2	0.551	
2,3,3',4,5'-Pentachlorobiphenyl	108	21.7	0.579	C
2,3,3',4,6-Pentachlorobiphenyl	109		0.806	C86
2,3,3',4',6-Pentachlorobiphenyl	110	915	0.695	BC
2,3,3',5,5'-Pentachlorobiphenyl	111	1.05	0.659	QJ
2,3,3',5,6-Pentachlorobiphenyl	112		0.716	U
2,3,3',5',6-Pentachlorobiphenyl	113		0.82	C90
2,3,4,4',5-Pentachlorobiphenyl	114	7.29	0.513	
2,3,4,4',6-Pentachlorobiphenyl	115		0.695	C110
2,3,4,5,6-Pentachlorobiphenyl	116		0.787	C85
2,3,4',5,6-Pentachlorobiphenyl	117		0.787	C85
2,3',4,4',5-Pentachlorobiphenyl	118	381	0.539	B
2,3',4,4',6-Pentachlorobiphenyl	119		0.806	C86
2,3',4,5,5'-Pentachlorobiphenyl	120	6.59	0.678	
2,3',4,5',6-Pentachlorobiphenyl	121		0.683	U
2,3,3',4',5'-Pentachlorobiphenyl	122	5.99	0.618	
2,3',4,4',5'-Pentachlorobiphenyl	123	5.97	0.567	
2,3',4',5,5'-Pentachlorobiphenyl	124		0.579	C108
2,3',4',5',6-Pentachlorobiphenyl	125		0.806	C86
3,3',4,4',5-Pentachlorobiphenyl	126	4.48	0.581	
3,3',4,5,5'-Pentachlorobiphenyl	127		0.561	U
2,2',3,3',4,4'-Hexachlorobiphenyl	128	234	0.996	C
2,2',3,3',4,5-Hexachlorobiphenyl	129	3060	1.03	BC
2,2',3,3',4,5'-Hexachlorobiphenyl	130	147	1.33	
2,2',3,3',4,6-Hexachlorobiphenyl	131	21.6	1.36	
2,2',3,3',4,6'-Hexachlorobiphenyl	132	968	1.3	
2,2',3,3',5,5'-Hexachlorobiphenyl	133	47.8	1.25	
2,2',3,3',5,6-Hexachlorobiphenyl	134	141	1.33	C
2,2',3,3',5,6'-Hexachlorobiphenyl	135	1800	1.58	C
2,2',3,3',6,6'-Hexachlorobiphenyl	136	574	1.16	
2,2',3,4,4',5-Hexachlorobiphenyl	137	29.3	1.15	
2,2',3,4,4',5'-Hexachlorobiphenyl	138		1.03	C129
2,2',3,4,4',6-Hexachlorobiphenyl	139	21.3	1.14	C
2,2',3,4,4',6'-Hexachlorobiphenyl	140		1.14	C139
2,2',3,4,5,5'-Hexachlorobiphenyl	141	796	1.19	
2,2',3,4,5,6-Hexachlorobiphenyl	142		1.31	U
2,2',3,4,5,6'-Hexachlorobiphenyl	143		1.33	C134
2,2',3,4,5',6-Hexachlorobiphenyl	144	202	1.47	
2,2',3,4,6,6'-Hexachlorobiphenyl	145		1.11	U
2,2',3,4',5,5'-Hexachlorobiphenyl	146	558	1.08	
2,2',3,4',5,6-Hexachlorobiphenyl	147	3140	1.11	BC
2,2',3,4',5,6'-Hexachlorobiphenyl	148	3.93	1.56	J
2,2',3,4',5',6-Hexachlorobiphenyl	149		1.11	C147
2,2',3,4',6,6'-Hexachlorobiphenyl	150	4.83	1.08	Q
2,2',3,5,5',6-Hexachlorobiphenyl	151		1.58	C135
2,2',3,5,6,6'-Hexachlorobiphenyl	152	1.82	1.11	QJ
2,2',4,4',5,5'-Hexachlorobiphenyl	153	3200	0.89	C
2,2',4,4',5,6'-Hexachlorobiphenyl	154	31.1	1.29	Q
2,2',4,4',6,6'-Hexachlorobiphenyl	155		1.05	U
2,3,3',4,4',5-Hexachlorobiphenyl	156	154	1.16	C
2,3,3',4,4',5'-Hexachlorobiphenyl	157		1.16	C156
2,3,3',4,4',6-Hexachlorobiphenyl	158	239	0.812	

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COMPOUND	IUPAC	Result (pg/l)	Estimated Detection Limit	Data Qualifier
2,3,3',4,5,5'-Hexachlorobiphenyl	159	35.4	0.871	
2,3,3',4,5,6-Hexachlorobiphenyl	160		1.03	C129
2,3,3',4,5',6-Hexachlorobiphenyl	161		0.867	U
2,3,3',4',5,5'-Hexachlorobiphenyl	162	11.1	0.86	
2,3,3',4',5,6-Hexachlorobiphenyl	163		1.03	C129
2,3,3',4',5',6-Hexachlorobiphenyl	164	237	0.907	
2,3,3',5,5',6-Hexachlorobiphenyl	165		0.953	U
2,3,4,4',5,6-Hexachlorobiphenyl	166		0.996	C128
2,3',4,4',5,5'-Hexachlorobiphenyl	167	103	0.693	
2,3',4,4',5',6-Hexachlorobiphenyl	168		0.89	C153
3,3',4,4',5,5'-Hexachlorobiphenyl	169	6.62	0.582	
2,2',3,3',4,4',5-Heptachlorobiphenyl	170	1310	1.01	
2,2',3,3',4,4',6-Heptachlorobiphenyl	171	419	1.03	C
2,2',3,3',4,5,5'-Heptachlorobiphenyl	172	244	1.02	
2,2',3,3',4,5,6-Heptachlorobiphenyl	173		1.03	C171
2,2',3,3',4,5,6'-Heptachlorobiphenyl	174	1400	0.956	
2,2',3,3',4,5',6-Heptachlorobiphenyl	175	49.9	0.918	
2,2',3,3',4,6,6'-Heptachlorobiphenyl	176	161	0.699	
2,2',3,3',4,5',6'-Heptachlorobiphenyl	177	784	0.979	
2,2',3,3',5,5',6-Heptachlorobiphenyl	178	261	0.992	
2,2',3,3',5,6,6'-Heptachlorobiphenyl	179	614	0.737	
2,2',3,4,4',5,5'-Heptachlorobiphenyl	180	3040	0.779	C
2,2',3,4,4',5,6-Heptachlorobiphenyl	181	4.76	0.917	Q
2,2',3,4,4',5,6'-Heptachlorobiphenyl	182		0.891	U
2,2',3,4,4',5',6-Heptachlorobiphenyl	183	937	0.911	C
2,2',3,4,4',6,6'-Heptachlorobiphenyl	184		0.757	U
2,2',3,4,5,5',6-Heptachlorobiphenyl	185		0.911	C183
2,2',3,4,5,6,6'-Heptachlorobiphenyl	186		0.735	U
2,2',3,4',5,5',6-Heptachlorobiphenyl	187	1560	0.853	
2,2',3,4',5,6,6'-Heptachlorobiphenyl	188		0.681	U
2,3,3',4,4',5,5'-Heptachlorobiphenyl	189	40	0.556	
2,3,3',4,4',5,6-Heptachlorobiphenyl	190	227	0.711	
2,3,3',4,4',5',6-Heptachlorobiphenyl	191	50.8	0.698	
2,3,3',4,5,5',6-Heptachlorobiphenyl	192		0.78	U
2,3,3',4',5,5',6-Heptachlorobiphenyl	193		0.779	C180
2,2',3,3',4,4',5,5'-Octachlorobiphenyl	194	541	0.701	
2,2',3,3',4,4',5,6-Octachlorobiphenyl	195	218	0.761	
2,2',3,3',4,4',5,6'-Octachlorobiphenyl	196	279	0.94	
2,2',3,3',4,4',6,6'-Octachlorobiphenyl	197	18.7	0.699	
2,2',3,3',4,5,5',6-Octachlorobiphenyl	198	536	0.97	C
2,2',3,3',4,5,5',6'-Octachlorobiphenyl	199		0.97	C198
2,2',3,3',4,5,6,6'-Octachlorobiphenyl	200	58.4	0.686	
2,2',3,3',4,5',6,6'-Octachlorobiphenyl	201	52.5	0.663	
2,2',3,3',5,5',6,6'-Octachlorobiphenyl	202	75.7	0.746	
2,2',3,4,4',5,5',6-Octachlorobiphenyl	203	311	0.866	
2,2',3,4,4',5,6,6'-Octachlorobiphenyl	204		0.727	U
2,3,3',4,4',5,5',6-Octachlorobiphenyl	205	26.3	0.591	
2,2',3,3',4,4',5,5',6-Nonachlorobiphenyl	206	67	0.537	
2,2',3,3',4,4',5,6,6'-Nonachlorobiphenyl	207	7.57	0.408	
2,2',3,3',4,5,5',6,6'-Nonachlorobiphenyl	208	11.5	0.445	
2,2',3,3',4,4',5,5',6,6'-Decachlorobiphenyl	209	14.6	0.543	
Total PCB Congeners		38,410.88		
Total Pentachlorobiphenyls		5,549.72		
Total Suspended Solids (mg/L)		6.0 H		

NOTES:
pg/L - picograms per liter
B - Method Blank contamination. The associated method blank contains the target analyte at reportable level
C - Co-eluting isomer
J - Estimated Result
Q - Estimated maximum possible concentration (EMPC)
ND (0.54) = Analyte not detected at or above this detection limit
Analytical data validated by STANTEC personnel
PCB Congeners analyzed by Method 1668A

DRBC Sampling Program
Wet Weather
November 26, 2013
Outfall 007
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Amtrak Former Fueling Facility
4001 Vandever Avenue
Wilmington, Delaware

COMPOUND	IUPAC	Result (pg/l)	Estimated Detection Limit	Data Qualifier
2-Chlorobiphenyl	1	29.9	0.115	B
3-Chlorobiphenyl	2	4.08	0.131	BJ
4-Chlorobiphenyl	3	4.59	0.15	BJ
2,2'-Dichlorobiphenyl	4	3610	0.717	B
2,3-Dichlorobiphenyl	5	2.57	0.52	QBJ
2,3'Dichlorobiphenyl	6	34	0.489	B
2,4-Dichlorobiphenyl	7	6.46	0.503	Q
2,4'Dichlorobiphenyl	8	106	0.479	B
2,5-Dichlorobiphenyl	9	8.99	0.505	Q
2,6-Dichlorobiphenyl	10	134	0.543	
3,3'-Dichlorobiphenyl	11	47.5	0.481	B
3,4-Dichlorobiphenyl	12	31.7	0.493	BC
3,4'Dichlorobiphenyl	13		0.493	C12
3,5-Dichlorobiphenyl	14		0.426	U
4,4'-Dichlorobiphenyl	15	391	0.484	B
2,2',3-Trichlorobiphenyl	16	338	1.04	
2,2',4-Trichlorobiphenyl	17	696	0.871	B
2,2',5-Trichlorobiphenyl	18	905	0.771	C
2,2',6-Trichlorobiphenyl	19	1670	1.07	
2,3,3'-Trichlorobiphenyl	20	1210	0.398	BC
2,3,4-Trichlorobiphenyl	21	254	0.399	BC
2,3,4'-Trichlorobiphenyl	22	273	0.406	
2,3,5-Trichlorobiphenyl	23	0.998	0.414	QJ
2,3,6-Trichlorobiphenyl	24	17.9	0.729	
2,3',4-Trichlorobiphenyl	25	145	0.369	
2,3',5-Trichlorobiphenyl	26	196	0.392	BC
2,3',6-Trichlorobiphenyl	27	207	0.629	
2,4,4'-Trichlorobiphenyl	28		0.398	C20
2,4,5-Trichlorobiphenyl	29		0.392	C26
2,4,6-Trichlorobiphenyl	30		0.771	C18
2,4',5-Trichlorobiphenyl	31	799	0.389	B
2,4',6-Trichlorobiphenyl	32	793	0.617	
2,3',4'-Trichlorobiphenyl	33		0.399	C21
2,3',5'-Trichlorobiphenyl	34	6.2	0.408	
3,3',4-Trichlorobiphenyl	35	18.8	0.419	
3,3',5-Trichlorobiphenyl	36	1.4	0.405	J
3,4,4'-Trichlorobiphenyl	37	369	0.415	
3,4,5-Trichlorobiphenyl	38	2.12	0.427	J
3,4'-5-Trichlorobiphenyl	39	6.25	0.38	
2,2',3,3'-Tetrachlorobiphenyl	40	1230	0.838	C
2,2',3,4-Tetrachlorobiphenyl	41		0.838	C40
2,2',3,4'-Tetrachlorobiphenyl	42	555	0.853	
2,2',3,5-Tetrachlorobiphenyl	43	133	0.783	C
2,2',3,5'-Tetrachlorobiphenyl	44	4590	0.749	BC
2,2',3,6-Tetrachlorobiphenyl	45	2450	0.869	C
2,2',3,6'-Tetrachlorobiphenyl	46	278	1.03	
2,2',4,4'-Tetrachlorobiphenyl	47		0.749	C44
2,2',4,5-Tetrachlorobiphenyl	48	168	0.831	
2,2',4,5'-Tetrachlorobiphenyl	49	2740	0.69	C
2,2',4,6-Tetrachlorobiphenyl	50	1700	0.806	C
2,2',4,6'-Tetrachlorobiphenyl	51		0.869	C45
2,2',5,5'-Tetrachlorobiphenyl	52	3600	0.808	B
2,2',5,6'-Tetrachlorobiphenyl	53		0.806	C50
2,2',6,6'-Tetrachlorobiphenyl	54	521	1.45	
2,3,3',4-Tetrachlorobiphenyl	55	34.5	0.649	
2,3,3',4'-Tetrachlorobiphenyl	56	741	0.611	B
2,3,3',5-Tetrachlorobiphenyl	57	8.17	0.618	
2,3,3',5'-Tetrachlorobiphenyl	58	15.5	0.615	
2,3,3',6-Tetrachlorobiphenyl	59	163	0.597	C
2,3,4,4'-Tetrachlorobiphenyl	60	253	0.629	
2,3,4,5-Tetrachlorobiphenyl	61	3480	0.596	BC
2,3,4,6-Tetrachlorobiphenyl	62		0.597	C59
2,3,4',5-Tetrachlorobiphenyl	63	77.6	0.573	
2,3,4',6-Tetrachlorobiphenyl	64	586	0.565	B
2,3,5,6-Tetrachlorobiphenyl	65		0.749	C44
2,3',4,4'-Tetrachlorobiphenyl	66	2100	0.592	B
2,3',4,5-Tetrachlorobiphenyl	67	31.8	0.556	
2,3',4,5'-Tetrachlorobiphenyl	68	72.4	0.56	
2,3',4,6-Tetrachlorobiphenyl	69		0.69	C49
2,3',4',5-Tetrachlorobiphenyl	70		0.596	C61
2,3',4',6-Tetrachlorobiphenyl	71		0.838	C40
2,3',5,5'-Tetrachlorobiphenyl	72	49.6	0.601	
2,3',5',6-Tetrachlorobiphenyl	73		0.783	C43
2,4,4',5-Tetrachlorobiphenyl	74		0.596	C61
2,4,4',6-Tetrachlorobiphenyl	75		0.597	C59
2,3',4',5'-Tetrachlorobiphenyl	76		0.596	C61
3,3',4,4'-Tetrachlorobiphenyl	77	282	0.571	
3,3',4,5-Tetrachlorobiphenyl	78	2.84	0.639	QJ
3,3'4,5'-Tetrachlorobiphenyl	79	63.1	0.561	

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4001 Vandever Avenue
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COMPOUND	IUPAC	Result (pg/l)	Estimated Detection Limit	Data Qualifier
3,3',5,5'-Tetrachlorobiphenyl	80		0.547	U
3,4,4',5-Tetrachlorobiphenyl	81	9.37	0.587	Q
2,2',3,3',4-Pentachlorobiphenyl	82	1010	1.89	
2,2',3,3',5-Pentachlorobiphenyl	83	5080	1.59	C
2,2',3,3',6-Pentachlorobiphenyl	84	1880	1.81	
2,2',3,4,4'-Pentachlorobiphenyl	85	1500	1.31	C
2,2',3,4,5-Pentachlorobiphenyl	86	5630	1.34	BC
2,2',3,4,5'-Pentachlorobiphenyl	87		1.34	C86
2,2',3,4,6-Pentachlorobiphenyl	88	1570	1.61	C
2,2',3,4,6'-Pentachlorobiphenyl	89	64.8	1.75	
2,2',3,4',5-Pentachlorobiphenyl	90	11800	1.36	C
2,2',3,4',6-Pentachlorobiphenyl	91		1.61	C88
2,2',3,5,5'-Pentachlorobiphenyl	92	2010	1.55	
2,2',3,5,6-Pentachlorobiphenyl	93	566	1.55	C
2,2',3,5,6'-Pentachlorobiphenyl	94	180	1.75	
2,2',3,5',6-Pentachlorobiphenyl	95	8660	1.65	B
2,2',3,6,6'-Pentachlorobiphenyl	96	158	1.31	
2,2',3,4',5'-Pentachlorobiphenyl	97		1.34	C86
2,2',3,4,6'-Pentachlorobiphenyl	98	340	1.5	C
2,2',4,4',5-Pentachlorobiphenyl	99		1.59	C83
2,2',4,4',6-Pentachlorobiphenyl	100		1.55	C93
2,2',4,5,5'-Pentachlorobiphenyl	101		1.36	C90
2,2',4,5,6'-Pentachlorobiphenyl	102		1.5	C98
2,2',4,5',6-Pentachlorobiphenyl	103	284	1.53	
2,2',4,6,6'-Pentachlorobiphenyl	104	66.1	1.16	
2,3,3',4,4'-Pentachlorobiphenyl	105	4350	0.794	
2,3,3',4,5-Pentachlorobiphenyl	106		0.863	U
2,3,3',4',5-Pentachlorobiphenyl	107	761	0.838	
2,3,3',4,5'-Pentachlorobiphenyl	108	404	0.881	C
2,3,3',4,6-Pentachlorobiphenyl	109		1.34	C86
2,3,3',4',6-Pentachlorobiphenyl	110	12600	1.16	BC
2,3,3',5,5'-Pentachlorobiphenyl	111	9.3	1.09	Q
2,3,3',5,6-Pentachlorobiphenyl	112		1.19	U
2,3,3',5',6-Pentachlorobiphenyl	113		1.36	C90
2,3,4,4',5-Pentachlorobiphenyl	114	203	0.773	
2,3,4,4',6-Pentachlorobiphenyl	115		1.16	C110
2,3,4,5,6-Pentachlorobiphenyl	116		1.31	C85
2,3,4',5,6-Pentachlorobiphenyl	117		1.31	C85
2,3',4,4',5-Pentachlorobiphenyl	118	9700	0.8	B
2,3',4,4',6-Pentachlorobiphenyl	119		1.34	C86
2,3',4,5,5'-Pentachlorobiphenyl	120	46	1.13	
2,3',4,5',6-Pentachlorobiphenyl	121	14.6	1.13	Q
2,3,3',4',5'-Pentachlorobiphenyl	122	163	0.94	
2,3',4,4',5'-Pentachlorobiphenyl	123	199	0.873	
2,3',4',5,5'-Pentachlorobiphenyl	124		0.881	C108
2,3',4',5',6-Pentachlorobiphenyl	125		1.34	C86
3,3',4,4',5-Pentachlorobiphenyl	126	114	0.912	
3,3',4,5,5'-Pentachlorobiphenyl	127	21.4	0.853	
2,2',3,3',4,4'-Hexachlorobiphenyl	128	4020	2.17	C
2,2',3,3',4,5-Hexachlorobiphenyl	129	40000	2.24	BC
2,2',3,3',4,5'-Hexachlorobiphenyl	130	1580	2.89	
2,2',3,3',4,6-Hexachlorobiphenyl	131	268	2.96	
2,2',3,3',4,6'-Hexachlorobiphenyl	132	10000	2.82	
2,2',3,3',5,5'-Hexachlorobiphenyl	133	411	2.72	
2,2',3,3',5,6-Hexachlorobiphenyl	134	1460	2.89	C
2,2',3,3',5,6'-Hexachlorobiphenyl	135	12900	3.55	C
2,2',3,3',6,6'-Hexachlorobiphenyl	136	3770	2.6	
2,2',3,4,4',5-Hexachlorobiphenyl	137	775	2.49	
2,2',3,4,4',5'-Hexachlorobiphenyl	138		2.24	C129
2,2',3,4,4',6-Hexachlorobiphenyl	139	298	2.48	C
2,2',3,4,4',6'-Hexachlorobiphenyl	140		2.48	C139
2,2',3,4,5,5'-Hexachlorobiphenyl	141	9260	2.58	
2,2',3,4,5,6-Hexachlorobiphenyl	142		2.85	U
2,2',3,4,5,6'-Hexachlorobiphenyl	143		2.89	C134
2,2',3,4,5',6-Hexachlorobiphenyl	144	1680	3.29	
2,2',3,4,6,6'-Hexachlorobiphenyl	145		2.49	U
2,2',3,4',5,5'-Hexachlorobiphenyl	146	5010	2.35	
2,2',3,4',5,6-Hexachlorobiphenyl	147	27300	2.41	BC
2,2',3,4',5,6'-Hexachlorobiphenyl	148	45.4	3.48	
2,2',3,4',5',6-Hexachlorobiphenyl	149		2.41	C147
2,2',3,4',6,6'-Hexachlorobiphenyl	150	56.8	2.43	
2,2',3,5,5',6-Hexachlorobiphenyl	151		3.55	C135
2,2',3,5,6,6'-Hexachlorobiphenyl	152	34	2.47	
2,2',4,4',5,5'-Hexachlorobiphenyl	153	34600	1.94	C
2,2',4,4',5,6'-Hexachlorobiphenyl	154	306	2.88	
2,2',4,4',6,6'-Hexachlorobiphenyl	155	6.16	2.36	
2,3,3',4,4',5-Hexachlorobiphenyl	156	3310	2.5	C
2,3,3',4,4',5'-Hexachlorobiphenyl	157		2.5	C156
2,3,3',4,4',6-Hexachlorobiphenyl	158	3610	1.77	

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COMPOUND	IUPAC	Result (pg/l)	Estimated Detection Limit	Data Qualifier
2,3,3',4,5,5'-Hexachlorobiphenyl	159	514	1.89	
2,3,3',4,5,6-Hexachlorobiphenyl	160		2.24	C129
2,3,3',4,5',6-Hexachlorobiphenyl	161		1.88	U
2,3,3',4',5,5'-Hexachlorobiphenyl	162	85.5	1.87	
2,3,3',4',5,6-Hexachlorobiphenyl	163		2.24	C129
2,3,3',4',5',6-Hexachlorobiphenyl	164	2800	1.97	
2,3,3',5,5',6-Hexachlorobiphenyl	165	14.7	2.07	
2,3,4,4',5,6-Hexachlorobiphenyl	166		2.17	C128
2,3',4,4',5,5'-Hexachlorobiphenyl	167	1290	1.38	
2,3',4,4',5',6-Hexachlorobiphenyl	168		1.94	C153
3,3',4,4',5,5'-Hexachlorobiphenyl	169	86.5	1.4	
2,2',3,3',4,4',5-Heptachlorobiphenyl	170	17500	2.16	
2,2',3,3',4,4',6-Heptachlorobiphenyl	171	4860	2.16	C
2,2',3,3',4,5,5'-Heptachlorobiphenyl	172	2930	2.14	
2,2',3,3',4,5,6-Heptachlorobiphenyl	173		2.16	C171
2,2',3,3',4,5,6'-Heptachlorobiphenyl	174	16500	2	
2,2',3,3',4,5',6-Heptachlorobiphenyl	175	492	1.92	
2,2',3,3',4,6,6'-Heptachlorobiphenyl	176	1680	1.46	
2,2',3,3',4,5',6'-Heptachlorobiphenyl	177	9210	2.05	
2,2',3,3',5,5',6-Heptachlorobiphenyl	178	2920	2.08	
2,2',3,3',5,6,6'-Heptachlorobiphenyl	179	4850	1.54	
2,2',3,4,4',5,5'-Heptachlorobiphenyl	180	38500	1.63	C
2,2',3,4,4',5,6-Heptachlorobiphenyl	181	65.3	1.92	
2,2',3,4,4',5,6'-Heptachlorobiphenyl	182	95.3	1.87	
2,2',3,4,4',5',6-Heptachlorobiphenyl	183	11100	1.91	C
2,2',3,4,4',6,6'-Heptachlorobiphenyl	184	17	1.58	
2,2',3,4,5,5',6-Heptachlorobiphenyl	185		1.91	C183
2,2',3,4,5,6,6'-Heptachlorobiphenyl	186		1.54	U
2,2',3,4',5,5',6-Heptachlorobiphenyl	187	17100	1.78	
2,2',3,4',5,6,6'-Heptachlorobiphenyl	188	19.1	1.4	
2,3,3',4,4',5,5'-Heptachlorobiphenyl	189	584	1.14	
2,3,3',4,4',5,6-Heptachlorobiphenyl	190	2620	1.49	
2,3,3',4,4',5',6-Heptachlorobiphenyl	191	720	1.46	
2,3,3',4,5,5',6-Heptachlorobiphenyl	192	3.64	1.63	QJ
2,3,3',4',5,5',6-Heptachlorobiphenyl	193		1.63	C180
2,2',3,3',4,4',5,5'-Octachlorobiphenyl	194	8390	0.884	
2,2',3,3',4,4',5,6-Octachlorobiphenyl	195	3520	0.96	
2,2',3,3',4,4',5,6'-Octachlorobiphenyl	196	3950	1.18	
2,2',3,3',4,4',6,6'-Octachlorobiphenyl	197	246	0.88	
2,2',3,3',4,5,5',6-Octachlorobiphenyl	198	6960	1.22	C
2,2',3,3',4,5,5',6'-Octachlorobiphenyl	199		1.22	C198
2,2',3,3',4,5,6,6'-Octachlorobiphenyl	200	798	0.863	
2,2',3,3',4,5',6,6'-Octachlorobiphenyl	201	740	0.834	
2,2',3,3',5,5',6,6'-Octachlorobiphenyl	202	995	0.939	
2,2',3,4,4',5,5',6-Octachlorobiphenyl	203	4500	1.09	
2,2',3,4,4',5,6,6'-Octachlorobiphenyl	204		0.914	U
2,3,3',4,4',5,5',6-Octachlorobiphenyl	205	459	0.745	
2,2',3,3',4,4',5,5',6-Nonachlorobiphenyl	206	1220	0.561	
2,2',3,3',4,4',5,6,6'-Nonachlorobiphenyl	207	136	0.424	
2,2',3,3',4,5,5',6,6'-Nonachlorobiphenyl	208	194	0.46	
2,2',3,3',4,4',5,5',6,6'-Decachlorobiphenyl	209	65.2	0.523	
Total PCB Congeners		437,069.14		
Total Pentachlorobiphenyls		69,384.20		
Total Suspended Solids (mg/L)		7.5 H		

NOTES

pg/L - picograms per liter

B - Method Blank contamination. The associated method blank contains the target analyte at reportable level

C - Co-eluting isomer

J - Estimated Result

Q - Estimated maximum possible concentration (EMPC)

ND (0.54) = Analyte not detected at or above this detection limit

Analytical data validated by STANTEC personnel

PCB Congeners analyzed by Method 1668A

DRBC Sampling Program
Wet Weather
November 26, 2013
Rinsate Blank
DE0050962-RB-002-11262013

Amtrak Former Fueling Facility
4001 Vandever Avenue
Wilmington, Delaware

COMPOUND	IUPAC	Result (pg/l)	Estimated Detection Limit	Data Qualifier
2-Chlorobiphenyl	1	0.916	0.0747	BJ
3-Chlorobiphenyl	2	1.35	0.0896	QBJ
4-Chlorobiphenyl	3	1.34	0.11	BJ
2,2'-Dichlorobiphenyl	4	1.1	0.508	QBJ
2,3-Dichlorobiphenyl	5		0.423	U
2,3'Dichlorobiphenyl	6	0.578	0.397	QBJ
2,4-Dichlorobiphenyl	7		0.408	U
2,4'Dichlorobiphenyl	8	1.9	0.389	QBJ
2,5-Dichlorobiphenyl	9		0.41	U
2,6-Dichlorobiphenyl	10		0.441	U
3,3'-Dichlorobiphenyl	11	6.26	0.391	QB
3,4-Dichlorobiphenyl	12		0.401	U
3,4'Dichlorobiphenyl	13		0.401	U
3,5-Dichlorobiphenyl	14		0.346	U
4,4'-Dichlorobiphenyl	15	1.33	0.436	QBJ
2,2',3-Trichlorobiphenyl	16		0.451	U
2,2',4-Trichlorobiphenyl	17	1.07	0.376	QBJ
2,2',5-Trichlorobiphenyl	18	2.38	0.333	CJ
2,2',6-Trichlorobiphenyl	19		0.461	U
2,3,3'-Trichlorobiphenyl	20	3.51	0.208	BCJ
2,3,4-Trichlorobiphenyl	21	1.93	0.208	BCJ
2,3,4'-Trichlorobiphenyl	22	0.855	0.211	QJ
2,3,5-Trichlorobiphenyl	23		0.216	U
2,3,6-Trichlorobiphenyl	24		0.315	U
2,3',4-Trichlorobiphenyl	25		0.192	U
2,3',5-Trichlorobiphenyl	26	0.503	0.204	BCJ
2,3',6-Trichlorobiphenyl	27		0.272	U
2,4,4'-Trichlorobiphenyl	28		0.208	C20
2,4,5-Trichlorobiphenyl	29		0.204	C26
2,4,6-Trichlorobiphenyl	30		0.333	C18
2,4',5-Trichlorobiphenyl	31	2.59	0.203	BJ
2,4',6-Trichlorobiphenyl	32	0.787	0.266	QJ
2,3',4'-Trichlorobiphenyl	33		0.208	C21
2,3',5'-Trichlorobiphenyl	34		0.212	U
3,3',4-Trichlorobiphenyl	35		0.218	U
3,3',5-Trichlorobiphenyl	36		0.211	U
3,4,4'-Trichlorobiphenyl	37	1.01	0.216	J
3,4,5-Trichlorobiphenyl	38		0.222	U
3,4'-5-Trichlorobiphenyl	39		0.198	U
2,2',3,3'-Tetrachlorobiphenyl	40	1.52	0.429	CJ
2,2',3,4-Tetrachlorobiphenyl	41		0.429	C40
2,2',3,4'-Tetrachlorobiphenyl	42		0.437	U
2,2',3,5-Tetrachlorobiphenyl	43		0.401	U
2,2',3,5'-Tetrachlorobiphenyl	44	8.96	0.384	BCJ
2,2',3,6-Tetrachlorobiphenyl	45	3.33	0.445	QCJ
2,2',3,6'-Tetrachlorobiphenyl	46		0.526	U
2,2',4,4'-Tetrachlorobiphenyl	47		0.384	C44
2,2',4,5-Tetrachlorobiphenyl	48		0.426	U
2,2',4,5'-Tetrachlorobiphenyl	49	1.52	0.353	CJ

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COMPOUND	IUPAC	Result (pg/l)	Estimated Detection Limit	Data Qualifier
2,2',4,6-Tetrachlorobiphenyl	50		0.413	U
2,2',4,6'-Tetrachlorobiphenyl	51		0.445	C45
2,2',5,5'-Tetrachlorobiphenyl	52	4.08	0.414	BJ
2,2',5,6'-Tetrachlorobiphenyl	53		0.413	U
2,2',6,6'-Tetrachlorobiphenyl	54		0.52	U
2,3,3',4-Tetrachlorobiphenyl	55		0.332	U
2,3,3',4'-Tetrachlorobiphenyl	56	1.48	0.313	BJ
2,3,3',5-Tetrachlorobiphenyl	57		0.316	U
2,3,3',5'-Tetrachlorobiphenyl	58		0.315	U
2,3,3',6-Tetrachlorobiphenyl	59		0.305	U
2,3,4,4'-Tetrachlorobiphenyl	60	0.875	0.322	J
2,3,4,5-Tetrachlorobiphenyl	61	5.7	0.305	BCJ
2,3,4,6-Tetrachlorobiphenyl	62		0.305	U
2,3,4',5-Tetrachlorobiphenyl	63		0.293	U
2,3,4',6-Tetrachlorobiphenyl	64	1.43	0.289	QBJ
2,3,5,6-Tetrachlorobiphenyl	65		0.384	C44
2,3',4,4'-Tetrachlorobiphenyl	66	2.67	0.303	BJ
2,3',4,5-Tetrachlorobiphenyl	67		0.285	U
2,3',4,5'-Tetrachlorobiphenyl	68	0.696	0.287	QJ
2,3',4,6-Tetrachlorobiphenyl	69		0.353	C49
2,3',4',5-Tetrachlorobiphenyl	70		0.305	C61
2,3',4',6-Tetrachlorobiphenyl	71		0.429	C40
2,3',5,5'-Tetrachlorobiphenyl	72		0.308	U
2,3',5',6-Tetrachlorobiphenyl	73		0.401	U
2,4,4',5-Tetrachlorobiphenyl	74		0.305	C61
2,4,4',6-Tetrachlorobiphenyl	75		0.305	U
2,3',4',5'-Tetrachlorobiphenyl	76		0.305	C61
3,3',4,4'-Tetrachlorobiphenyl	77		0.291	U
3,3',4,5-Tetrachlorobiphenyl	78		0.327	U
3,3'4,5'-Tetrachlorobiphenyl	79		0.287	U
3,3',5,5'-Tetrachlorobiphenyl	80		0.28	U
3,4,4',5-Tetrachlorobiphenyl	81		0.302	U
2,2',3,3',4-Pentachlorobiphenyl	82		0.516	U
2,2',3,3',5-Pentachlorobiphenyl	83	1.51	0.433	QCJ
2,2',3,3',6-Pentachlorobiphenyl	84		0.493	U
2,2',3,4,4'-Pentachlorobiphenyl	85	1.07	0.357	CJ
2,2',3,4,5-Pentachlorobiphenyl	86	4.19	0.365	QBCJ
2,2',3,4,5'-Pentachlorobiphenyl	87		0.365	C86
2,2',3,4,6-Pentachlorobiphenyl	88		0.439	U
2,2',3,4,6'-Pentachlorobiphenyl	89		0.477	U
2,2',3,4',5-Pentachlorobiphenyl	90	4.69	0.372	QCJ
2,2',3,4',6-Pentachlorobiphenyl	91		0.439	U
2,2',3,5,5'-Pentachlorobiphenyl	92		0.422	U
2,2',3,5,6-Pentachlorobiphenyl	93		0.423	U
2,2',3,5,6'-Pentachlorobiphenyl	94		0.477	U
2,2',3,5',6-Pentachlorobiphenyl	95	2.84	0.449	QBJ
2,2',3,6,6'-Pentachlorobiphenyl	96		0.357	U
2,2',3,4',5'-Pentachlorobiphenyl	97		0.365	C86
2,2',3,4,6'-Pentachlorobiphenyl	98		0.41	U

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2,2',4,4',5-Pentachlorobiphenyl	99		0.433	C83
2,2',4,4',6-Pentachlorobiphenyl	100		0.423	U
2,2',4,5,5'-Pentachlorobiphenyl	101		0.372	C90
2,2',4,5,6'-Pentachlorobiphenyl	102		0.41	U
2,2',4,5',6-Pentachlorobiphenyl	103		0.418	U
2,2',4,6,6'-Pentachlorobiphenyl	104		0.318	U
2,3,3',4,4'-Pentachlorobiphenyl	105	2.03	0.264	QJ
2,3,3',4,5-Pentachlorobiphenyl	106		0.284	U
2,3,3',4',5-Pentachlorobiphenyl	107	0.382	0.275	QJ
2,3,3',4,5'-Pentachlorobiphenyl	108		0.29	U
2,3,3',4,6-Pentachlorobiphenyl	109		0.365	C86
2,3,3',4',6-Pentachlorobiphenyl	110	5.37	0.315	BCJ
2,3,3',5,5'-Pentachlorobiphenyl	111		0.299	U
2,3,3',5,6-Pentachlorobiphenyl	112		0.324	U
2,3,3',5',6-Pentachlorobiphenyl	113		0.372	C90
2,3,4,4',5-Pentachlorobiphenyl	114		0.265	U
2,3,4,4',6-Pentachlorobiphenyl	115		0.315	C110
2,3,4,5,6-Pentachlorobiphenyl	116		0.357	C85
2,3,4',5,6-Pentachlorobiphenyl	117		0.357	C85
2,3',4,4',5-Pentachlorobiphenyl	118	5.11	0.261	B
2,3',4,4',6-Pentachlorobiphenyl	119		0.365	C86
2,3',4,5,5'-Pentachlorobiphenyl	120		0.307	U
2,3',4,5',6-Pentachlorobiphenyl	121		0.31	U
2,3,3',4',5'-Pentachlorobiphenyl	122		0.309	U
2,3',4,4',5'-Pentachlorobiphenyl	123		0.289	U
2,3',4',5,5'-Pentachlorobiphenyl	124		0.29	U
2,3',4',5',6-Pentachlorobiphenyl	125		0.365	C86
3,3',4,4',5-Pentachlorobiphenyl	126		0.284	U
3,3',4,5,5'-Pentachlorobiphenyl	127		0.281	U
2,2',3,3',4,4'-Hexachlorobiphenyl	128	0.924	0.417	QCJ
2,2',3,3',4,5-Hexachlorobiphenyl	129	11.3	0.431	BCJ
2,2',3,3',4,5'-Hexachlorobiphenyl	130		0.557	U
2,2',3,3',4,6-Hexachlorobiphenyl	131		0.57	U
2,2',3,3',4,6'-Hexachlorobiphenyl	132	2.95	0.543	J
2,2',3,3',5,5'-Hexachlorobiphenyl	133		0.523	U
2,2',3,3',5,6-Hexachlorobiphenyl	134		0.557	U
2,2',3,3',5,6'-Hexachlorobiphenyl	135	2.89	0.607	QCJ
2,2',3,3',6,6'-Hexachlorobiphenyl	136		0.446	U
2,2',3,4,4',5-Hexachlorobiphenyl	137		0.48	U
2,2',3,4,4',5'-Hexachlorobiphenyl	138		0.431	C129
2,2',3,4,4',6-Hexachlorobiphenyl	139		0.477	U
2,2',3,4,4',6'-Hexachlorobiphenyl	140		0.477	U
2,2',3,4,5,5'-Hexachlorobiphenyl	141	2.32	0.497	J
2,2',3,4,5,6-Hexachlorobiphenyl	142		0.548	U
2,2',3,4,5,6'-Hexachlorobiphenyl	143		0.557	U
2,2',3,4,5',6-Hexachlorobiphenyl	144		0.564	U
2,2',3,4,6,6'-Hexachlorobiphenyl	145		0.426	U
2,2',3,4',5,5'-Hexachlorobiphenyl	146	0.93	0.453	QJ
2,2',3,4',5,6-Hexachlorobiphenyl	147	6.91	0.463	BCJ

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COMPOUND	IUPAC	Result (pg/l)	Estimated Detection Limit	Data Qualifier
2,2',3,4',5,6'-Hexachlorobiphenyl	148		0.596	U
2,2',3,4',5',6-Hexachlorobiphenyl	149		0.463	C147
2,2',3,4',6,6'-Hexachlorobiphenyl	150		0.416	U
2,2',3,5,5',6-Hexachlorobiphenyl	151		0.607	C135
2,2',3,5,6,6'-Hexachlorobiphenyl	152		0.424	U
2,2',4,4',5,5'-Hexachlorobiphenyl	153	7.81	0.373	CJ
2,2',4,4',5,6'-Hexachlorobiphenyl	154		0.494	U
2,2',4,4',6,6'-Hexachlorobiphenyl	155		0.404	U
2,3,3',4,4',5-Hexachlorobiphenyl	156	1.09	0.464	QCJ
2,3,3',4,4',5'-Hexachlorobiphenyl	157		0.464	C156
2,3,3',4,4',6-Hexachlorobiphenyl	158	0.642	0.34	QJ
2,3,3',4,5,5'-Hexachlorobiphenyl	159		0.365	U
2,3,3',4,5,6-Hexachlorobiphenyl	160		0.431	C129
2,3,3',4,5',6-Hexachlorobiphenyl	161		0.363	U
2,3,3',4',5,5'-Hexachlorobiphenyl	162		0.36	U
2,3,3',4',5,6-Hexachlorobiphenyl	163		0.431	C129
2,3,3',4',5',6-Hexachlorobiphenyl	164		0.38	U
2,3,3',5,5',6-Hexachlorobiphenyl	165		0.399	U
2,3,4,4',5,6-Hexachlorobiphenyl	166		0.417	C128
2,3',4,4',5,5'-Hexachlorobiphenyl	167		0.281	U
2,3',4,4',5',6-Hexachlorobiphenyl	168		0.373	C153
3,3',4,4',5,5'-Hexachlorobiphenyl	169		0.264	U
2,2',3,3',4,4',5-Heptachlorobiphenyl	170	4.45	0.511	Q
2,2',3,3',4,4',6-Heptachlorobiphenyl	171		0.504	U
2,2',3,3',4,5,5'-Heptachlorobiphenyl	172		0.499	U
2,2',3,3',4,5,6-Heptachlorobiphenyl	173		0.504	U
2,2',3,3',4,5,6'-Heptachlorobiphenyl	174	4.7	0.467	
2,2',3,3',4,5',6-Heptachlorobiphenyl	175		0.449	U
2,2',3,3',4,6,6'-Heptachlorobiphenyl	176	0.766	0.342	QJ
2,2',3,3',4,5',6'-Heptachlorobiphenyl	177	2.22	0.479	QJ
2,2',3,3',5,5',6-Heptachlorobiphenyl	178		0.485	U
2,2',3,3',5,6,6'-Heptachlorobiphenyl	179	0.958	0.361	QJ
2,2',3,4,4',5,5'-Heptachlorobiphenyl	180	11.6	0.381	C
2,2',3,4,4',5,6-Heptachlorobiphenyl	181		0.449	U
2,2',3,4,4',5,6'-Heptachlorobiphenyl	182		0.436	U
2,2',3,4,4',5',6-Heptachlorobiphenyl	183	2.04	0.446	QCJ
2,2',3,4,4',6,6'-Heptachlorobiphenyl	184		0.37	U
2,2',3,4,5,5',6-Heptachlorobiphenyl	185		0.446	C183
2,2',3,4,5,6,6'-Heptachlorobiphenyl	186		0.359	U
2,2',3,4',5,5',6-Heptachlorobiphenyl	187	3.8	0.417	QJ
2,2',3,4',5,6,6'-Heptachlorobiphenyl	188		0.325	U
2,3,3',4,4',5,5'-Heptachlorobiphenyl	189		0.284	U
2,3,3',4,4',5,6-Heptachlorobiphenyl	190	0.767	0.348	QJ
2,3,3',4,4',5',6-Heptachlorobiphenyl	191		0.342	U
2,3,3',4,5,5',6-Heptachlorobiphenyl	192		0.382	U
2,3,3',4',5,5',6-Heptachlorobiphenyl	193		0.381	C180
2,2',3,3',4,4',5,5'-Octachlorobiphenyl	194	2.82	0.34	J
2,2',3,3',4,4',5,6-Octachlorobiphenyl	195	1.26	0.369	J
2,2',3,3',4,4',5,6'-Octachlorobiphenyl	196	0.908	0.44	QJ

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COMPOUND	IUPAC	Result (pg/l)	Estimated Detection Limit	Data Qualifier
2,2',3,3',4,4',6,6'-Octachlorobiphenyl	197		0.327	U
2,2',3,3',4,5,5',6-Octachlorobiphenyl	198	2.03	0.454	QCJ
2,2',3,3',4,5,5',6'-Octachlorobiphenyl	199		0.454	C198
2,2',3,3',4,5,6,6'-Octachlorobiphenyl	200		0.321	U
2,2',3,3',4,5',6,6'-Octachlorobiphenyl	201		0.31	U
2,2',3,3',5,5',6,6'-Octachlorobiphenyl	202		0.349	U
2,2',3,4,4',5,5',6-Octachlorobiphenyl	203	1.28	0.405	QJ
2,2',3,4,4',5,6,6'-Octachlorobiphenyl	204		0.34	U
2,3,3',4,4',5,5',6-Octachlorobiphenyl	205		0.287	U
2,2',3,3',4,4',5,5',6-Nonachlorobiphenyl	206		0.393	U
2,2',3,3',4,4',5,6,6'-Nonachlorobiphenyl	207		0.301	U
2,2',3,3',4,5,5',6,6'-Nonachlorobiphenyl	208		0.331	U
2,2',3,3',4,4',5,5',6,6'-Decachlorobiphenyl	209	0.798	0.396	QJ
Total PCB Congeners		167.03		
Total Pentachlorobiphenyls		27.19		

NOTES:
pg/L - picograms per liter
B - Method Blank contamination. The associated method blank contains the target analyte at reportable level
C - Co-eluting isomer
J - Estimated Result
Q - Estimated maximum possible concentration (EMPC)
ND (0.54) = Analyte not detected at or above this detection limit
Analytical data validated by STANTEC personnel
PCB Congeners analyzed by Method 1668A

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COMPOUND	IUPAC	Result (pg/l)	Estimated Detection Limit	Data Qualifier
2-Chlorobiphenyl	1	1.39	0.123	BJ
3-Chlorobiphenyl	2	1.96	0.129	QBJ
4-Chlorobiphenyl	3	1.82	0.135	BJ
2,2'-Dichlorobiphenyl	4	1.48	0.809	QBJ
2,3-Dichlorobiphenyl	5		0.616	U
2,3'Dichlorobiphenyl	6	0.876	0.579	QBJ
2,4-Dichlorobiphenyl	7		0.595	U
2,4'Dichlorobiphenyl	8	3.02	0.567	QBJ
2,5-Dichlorobiphenyl	9	0.656	0.598	QJ
2,6-Dichlorobiphenyl	10		0.643	U
3,3'-Dichlorobiphenyl	11	7.92	0.57	QB
3,4-Dichlorobiphenyl	12	1.11	0.584	QBCJ
3,4'Dichlorobiphenyl	13		0.584	C12
3,5-Dichlorobiphenyl	14	0.646	0.504	QJ
4,4'-Dichlorobiphenyl	15	1.42	0.592	QBJ
2,2',3-Trichlorobiphenyl	16		0.586	U
2,2',4-Trichlorobiphenyl	17	1.42	0.489	BJ
2,2',5-Trichlorobiphenyl	18	2.75	0.433	CJ
2,2',6-Trichlorobiphenyl	19		0.6	U
2,3,3'-Trichlorobiphenyl	20	2.86	0.229	BCJ
2,3,4-Trichlorobiphenyl	21	1.72	0.23	QBCJ
2,3,4'-Trichlorobiphenyl	22	0.912	0.233	J
2,3,5-Trichlorobiphenyl	23		0.238	U
2,3,6-Trichlorobiphenyl	24		0.41	U
2,3',4-Trichlorobiphenyl	25		0.212	U
2,3',5-Trichlorobiphenyl	26		0.225	U
2,3',6-Trichlorobiphenyl	27		0.354	U
2,4,4'-Trichlorobiphenyl	28		0.229	C20
2,4,5-Trichlorobiphenyl	29		0.225	U
2,4,6-Trichlorobiphenyl	30		0.433	C18
2,4',5-Trichlorobiphenyl	31	2.16	0.224	BJ
2,4',6-Trichlorobiphenyl	32	1.38	0.347	QJ
2,3',4'-Trichlorobiphenyl	33		0.23	C21
2,3',5'-Trichlorobiphenyl	34		0.234	U
3,3',4-Trichlorobiphenyl	35		0.241	U
3,3',5-Trichlorobiphenyl	36		0.233	U
3,4,4'-Trichlorobiphenyl	37	0.919	0.239	QJ
3,4,5-Trichlorobiphenyl	38		0.246	U
3,4'-5-Trichlorobiphenyl	39		0.218	U
2,2',3,3'-Tetrachlorobiphenyl	40		0.503	U
2,2',3,4-Tetrachlorobiphenyl	41		0.503	U
2,2',3,4'-Tetrachlorobiphenyl	42		0.512	U
2,2',3,5-Tetrachlorobiphenyl	43		0.47	U
2,2',3,5'-Tetrachlorobiphenyl	44	10.1	0.45	BCJ
2,2',3,6-Tetrachlorobiphenyl	45	6.32	0.522	QCJ
2,2',3,6'-Tetrachlorobiphenyl	46		0.617	U
2,2',4,4'-Tetrachlorobiphenyl	47		0.45	C44
2,2',4,5-Tetrachlorobiphenyl	48		0.5	U
2,2',4,5'-Tetrachlorobiphenyl	49	1.1	0.415	QCJ

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2,2',4,6-Tetrachlorobiphenyl	50		0.485	U
2,2',4,6'-Tetrachlorobiphenyl	51		0.522	C45
2,2',5,5'-Tetrachlorobiphenyl	52	2.85	0.485	BJ
2,2',5,6'-Tetrachlorobiphenyl	53		0.485	U
2,2',6,6'-Tetrachlorobiphenyl	54		0.652	U
2,3,3',4-Tetrachlorobiphenyl	55		0.39	U
2,3,3',4'-Tetrachlorobiphenyl	56		0.367	U
2,3,3',5-Tetrachlorobiphenyl	57		0.371	U
2,3,3',5'-Tetrachlorobiphenyl	58		0.37	U
2,3,3',6-Tetrachlorobiphenyl	59		0.358	U
2,3,4,4'-Tetrachlorobiphenyl	60		0.378	U
2,3,4,5-Tetrachlorobiphenyl	61	3.44	0.358	BCJ
2,3,4,6-Tetrachlorobiphenyl	62		0.358	U
2,3,4',5-Tetrachlorobiphenyl	63		0.344	U
2,3,4',6-Tetrachlorobiphenyl	64	1.22	0.339	QBJ
2,3,5,6-Tetrachlorobiphenyl	65		0.45	C44
2,3',4,4'-Tetrachlorobiphenyl	66	1.71	0.356	BJ
2,3',4,5-Tetrachlorobiphenyl	67		0.334	U
2,3',4,5'-Tetrachlorobiphenyl	68		0.337	U
2,3',4,6-Tetrachlorobiphenyl	69		0.415	C49
2,3',4',5-Tetrachlorobiphenyl	70		0.358	C61
2,3',4',6-Tetrachlorobiphenyl	71		0.503	U
2,3',5,5'-Tetrachlorobiphenyl	72		0.361	U
2,3',5',6-Tetrachlorobiphenyl	73		0.47	U
2,4,4',5-Tetrachlorobiphenyl	74		0.358	C61
2,4,4',6-Tetrachlorobiphenyl	75		0.358	U
2,3',4',5'-Tetrachlorobiphenyl	76		0.358	C61
3,3',4,4'-Tetrachlorobiphenyl	77		0.344	U
3,3',4,5-Tetrachlorobiphenyl	78		0.384	U
3,3'4,5'-Tetrachlorobiphenyl	79		0.337	U
3,3',5,5'-Tetrachlorobiphenyl	80		0.329	U
3,4,4',5-Tetrachlorobiphenyl	81		0.352	U
2,2',3,3',4-Pentachlorobiphenyl	82		0.657	U
2,2',3,3',5-Pentachlorobiphenyl	83	2.47	0.552	CJ
2,2',3,3',6-Pentachlorobiphenyl	84	1.12	0.627	J
2,2',3,4,4'-Pentachlorobiphenyl	85		0.454	U
2,2',3,4,5-Pentachlorobiphenyl	86	5.67	0.465	BCJ
2,2',3,4,5'-Pentachlorobiphenyl	87		0.465	C86
2,2',3,4,6-Pentachlorobiphenyl	88		0.559	U
2,2',3,4,6'-Pentachlorobiphenyl	89		0.607	U
2,2',3,4',5-Pentachlorobiphenyl	90	6.2	0.473	QCJ
2,2',3,4',6-Pentachlorobiphenyl	91		0.559	U
2,2',3,5,5'-Pentachlorobiphenyl	92		0.537	U
2,2',3,5,6-Pentachlorobiphenyl	93		0.539	U
2,2',3,5,6'-Pentachlorobiphenyl	94		0.607	U
2,2',3,5',6-Pentachlorobiphenyl	95	4.56	0.571	QB
2,2',3,6,6'-Pentachlorobiphenyl	96		0.454	U
2,2',3,4',5'-Pentachlorobiphenyl	97		0.465	C86
2,2',3,4,6'-Pentachlorobiphenyl	98		0.523	U

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2,2',4,4',5-Pentachlorobiphenyl	99		0.552	C83
2,2',4,4',6-Pentachlorobiphenyl	100		0.539	U
2,2',4,5,5'-Pentachlorobiphenyl	101		0.473	C90
2,2',4,5,6'-Pentachlorobiphenyl	102		0.523	U
2,2',4,5',6-Pentachlorobiphenyl	103		0.532	U
2,2',4,6,6'-Pentachlorobiphenyl	104		0.405	U
2,3,3',4,4'-Pentachlorobiphenyl	105	1.46	0.312	QJ
2,3,3',4,5-Pentachlorobiphenyl	106		0.341	U
2,3,3',4',5-Pentachlorobiphenyl	107		0.331	U
2,3,3',4,5'-Pentachlorobiphenyl	108		0.348	U
2,3,3',4,6-Pentachlorobiphenyl	109		0.465	C86
2,3,3',4',6-Pentachlorobiphenyl	110	5.43	0.401	BCJ
2,3,3',5,5'-Pentachlorobiphenyl	111		0.38	U
2,3,3',5,6-Pentachlorobiphenyl	112		0.413	U
2,3,3',5',6-Pentachlorobiphenyl	113		0.473	C90
2,3,4,4',5-Pentachlorobiphenyl	114		0.315	U
2,3,4,4',6-Pentachlorobiphenyl	115		0.401	C110
2,3,4,5,6-Pentachlorobiphenyl	116		0.454	U
2,3,4',5,6-Pentachlorobiphenyl	117		0.454	U
2,3',4,4',5-Pentachlorobiphenyl	118	3.57	0.313	BJ
2,3',4,4',6-Pentachlorobiphenyl	119		0.465	C86
2,3',4,5,5'-Pentachlorobiphenyl	120		0.391	U
2,3',4,5',6-Pentachlorobiphenyl	121		0.394	U
2,3,3',4',5'-Pentachlorobiphenyl	122		0.372	U
2,3',4,4',5'-Pentachlorobiphenyl	123		0.339	U
2,3',4',5,5'-Pentachlorobiphenyl	124		0.348	U
2,3',4',5',6-Pentachlorobiphenyl	125		0.465	C86
3,3',4,4',5-Pentachlorobiphenyl	126		0.36	U
3,3',4,5,5'-Pentachlorobiphenyl	127		0.337	U
2,2',3,3',4,4'-Hexachlorobiphenyl	128	1.7	0.482	CJ
2,2',3,3',4,5-Hexachlorobiphenyl	129	14.2	0.499	BCJ
2,2',3,3',4,5'-Hexachlorobiphenyl	130		0.644	U
2,2',3,3',4,6-Hexachlorobiphenyl	131		0.66	U
2,2',3,3',4,6'-Hexachlorobiphenyl	132	4.19	0.628	
2,2',3,3',5,5'-Hexachlorobiphenyl	133		0.605	U
2,2',3,3',5,6-Hexachlorobiphenyl	134		0.645	U
2,2',3,3',5,6'-Hexachlorobiphenyl	135	9.85	0.739	C
2,2',3,3',6,6'-Hexachlorobiphenyl	136	1.9	0.542	QJ
2,2',3,4,4',5-Hexachlorobiphenyl	137		0.555	U
2,2',3,4,4',5'-Hexachlorobiphenyl	138		0.499	C129
2,2',3,4,4',6-Hexachlorobiphenyl	139		0.552	U
2,2',3,4,4',6'-Hexachlorobiphenyl	140		0.552	U
2,2',3,4,5,5'-Hexachlorobiphenyl	141	4.05	0.575	
2,2',3,4,5,6-Hexachlorobiphenyl	142		0.634	U
2,2',3,4,5,6'-Hexachlorobiphenyl	143		0.645	U
2,2',3,4,5',6-Hexachlorobiphenyl	144		0.685	U
2,2',3,4,6,6'-Hexachlorobiphenyl	145		0.518	U
2,2',3,4',5,5'-Hexachlorobiphenyl	146	2.34	0.525	J
2,2',3,4',5,6-Hexachlorobiphenyl	147	13.5	0.536	BC

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2,2',3,4',5,6'-Hexachlorobiphenyl	148		0.725	U
2,2',3,4',5',6-Hexachlorobiphenyl	149		0.536	C147
2,2',3,4',6,6'-Hexachlorobiphenyl	150		0.505	U
2,2',3,5,5',6-Hexachlorobiphenyl	151		0.739	C135
2,2',3,5,6,6'-Hexachlorobiphenyl	152		0.515	U
2,2',4,4',5,5'-Hexachlorobiphenyl	153	14.3	0.431	C
2,2',4,4',5,6'-Hexachlorobiphenyl	154		0.601	U
2,2',4,4',6,6'-Hexachlorobiphenyl	155		0.491	U
2,3,3',4,4',5-Hexachlorobiphenyl	156	1.29	0.555	CJ
2,3,3',4,4',5'-Hexachlorobiphenyl	157		0.555	C156
2,3,3',4,4',6-Hexachlorobiphenyl	158	0.962	0.394	J
2,3,3',4,5,5'-Hexachlorobiphenyl	159		0.422	U
2,3,3',4,5,6-Hexachlorobiphenyl	160		0.499	C129
2,3,3',4,5',6-Hexachlorobiphenyl	161		0.42	U
2,3,3',4',5,5'-Hexachlorobiphenyl	162		0.417	U
2,3,3',4',5,6-Hexachlorobiphenyl	163		0.499	C129
2,3,3',4',5',6-Hexachlorobiphenyl	164	1.24	0.439	J
2,3,3',5,5',6-Hexachlorobiphenyl	165		0.462	U
2,3,4,4',5,6-Hexachlorobiphenyl	166		0.482	C128
2,3',4,4',5,5'-Hexachlorobiphenyl	167		0.327	U
2,3',4,4',5',6-Hexachlorobiphenyl	168		0.431	C153
3,3',4,4',5,5'-Hexachlorobiphenyl	169		0.292	U
2,2',3,3',4,4',5-Heptachlorobiphenyl	170	7.07	0.562	
2,2',3,3',4,4',6-Heptachlorobiphenyl	171	2.39	0.568	QCJ
2,2',3,3',4,5,5'-Heptachlorobiphenyl	172	1.18	0.562	QJ
2,2',3,3',4,5,6-Heptachlorobiphenyl	173		0.568	C171
2,2',3,3',4,5,6'-Heptachlorobiphenyl	174	9	0.527	
2,2',3,3',4,5',6-Heptachlorobiphenyl	175		0.506	U
2,2',3,3',4,6,6'-Heptachlorobiphenyl	176		0.385	U
2,2',3,3',4,5',6'-Heptachlorobiphenyl	177	4.25	0.539	Q
2,2',3,3',5,5',6-Heptachlorobiphenyl	178	1.38	0.547	QJ
2,2',3,3',5,6,6'-Heptachlorobiphenyl	179	3.04	0.406	QJ
2,2',3,4,4',5,5'-Heptachlorobiphenyl	180	16.8	0.429	C
2,2',3,4,4',5,6-Heptachlorobiphenyl	181		0.505	U
2,2',3,4,4',5,6'-Heptachlorobiphenyl	182		0.491	U
2,2',3,4,4',5',6-Heptachlorobiphenyl	183	5.41	0.502	CJ
2,2',3,4,4',6,6'-Heptachlorobiphenyl	184		0.417	U
2,2',3,4,5,5',6-Heptachlorobiphenyl	185		0.502	C183
2,2',3,4,5,6,6'-Heptachlorobiphenyl	186		0.405	U
2,2',3,4',5,5',6-Heptachlorobiphenyl	187	8.23	0.47	Q
2,2',3,4',5,6,6'-Heptachlorobiphenyl	188		0.371	U
2,3,3',4,4',5,5'-Heptachlorobiphenyl	189		0.317	U
2,3,3',4,4',5,6-Heptachlorobiphenyl	190	1.11	0.392	QJ
2,3,3',4,4',5',6-Heptachlorobiphenyl	191		0.385	U
2,3,3',4,5,5',6-Heptachlorobiphenyl	192		0.43	U
2,3,3',4',5,5',6-Heptachlorobiphenyl	193		0.429	C180
2,2',3,3',4,4',5,5'-Octachlorobiphenyl	194	3.96	0.411	J
2,2',3,3',4,4',5,6-Octachlorobiphenyl	195	1.73	0.446	QJ
2,2',3,3',4,4',5,6'-Octachlorobiphenyl	196	1.68	0.532	QJ

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2,2',3,3',4,4',6,6'-Octachlorobiphenyl	197		0.396	U
2,2',3,3',4,5,5',6-Octachlorobiphenyl	198	4.1	0.549	CJ
2,2',3,3',4,5,5',6'-Octachlorobiphenyl	199		0.549	C198
2,2',3,3',4,5,6,6'-Octachlorobiphenyl	200		0.389	U
2,2',3,3',4,5',6,6'-Octachlorobiphenyl	201		0.375	U
2,2',3,3',5,5',6,6'-Octachlorobiphenyl	202		0.423	U
2,2',3,4,4',5,5',6-Octachlorobiphenyl	203	2.17	0.491	QJ
2,2',3,4,4',5,6,6'-Octachlorobiphenyl	204		0.412	U
2,3,3',4,4',5,5',6-Octachlorobiphenyl	205		0.346	U
2,2',3,3',4,4',5,5',6-Nonachlorobiphenyl	206	1.07	0.464	QJ
2,2',3,3',4,4',5,6,6'-Nonachlorobiphenyl	207		0.356	U
2,2',3,3',4,5,5',6,6'-Nonachlorobiphenyl	208		0.391	U
2,2',3,3',4,4',5,5',6,6'-Decachlorobiphenyl	209		0.449	U
Total PCB Congeners		237.73		
Total Pentachlorobiphenyls		30.48		

NOTES:
pg/L - picograms per liter
B - Method Blank contamination. The associated method blank contains the target analyte at reportable level
C - Co-eluting isomer
J - Estimated Result
Q - Estimated maximum possible concentration (EMPC)
ND (0.54) = Analyte not detected at or above this detection limit
Analytical data validated by STANTEC personnel
PCB Congeners analyzed by Method 1668A

APPENDIX G - LOADING CALCULATIONS FOR OUTFALL 002

PCB Loading Estimate
2013 Estimate based on 2013 precipitation data

Outfall	002
Drainage Area (ft^2)	693984.51
Runoff Coefficient	0.9332
WW PCB (g/l)	1.26851E-07
DW PCB (g/l)	7.50101E-08

	Precipitation		Runoff Q (in)	Vol. Runoff Q_v (l)	PCB Load (kg)
1/1/2013	0	DW	0	163728	1.22812E-05
1/2/2013	0	DW	0	163728	1.22812E-05
1/3/2013	0	DW	0	163728	1.22812E-05
1/4/2013	0	DW	0	163728	1.22812E-05
1/5/2013	0	DW	0	163728	1.22812E-05
1/6/2013	0.04	DW	0	163728	1.22812E-05
1/7/2013	0	DW	0	163728	1.22812E-05
1/8/2013	0	DW	0	163728	1.22812E-05
1/9/2013	0	DW	0	163728	1.22812E-05
1/10/2013	0	DW	0	163728	1.22812E-05
1/11/2013	0.69	WW	0.643908	1218322.74	0.000154546
1/12/2013	0	DW	0	163728	1.22812E-05
1/13/2013	0.03	DW	0	163728	1.22812E-05
1/14/2013	0.21	WW	0.195972	484691.616	6.14836E-05
1/15/2013	0.42	WW	0.391944	805655.233	0.000102198
1/16/2013	0.82	WW	0.765224	1417014.5	0.00017975
1/17/2013	0	DW	0	163728	1.22812E-05
1/18/2013	0	DW	0	163728	1.22812E-05
1/19/2013	0	DW	0	163728	1.22812E-05
1/20/2013	0	DW	0	163728	1.22812E-05
1/21/2013	0.07	DW	0	163728	1.22812E-05
1/22/2013	0	DW	0	163728	1.22812E-05
1/23/2013	0	DW	0	163728	1.22812E-05
1/24/2013	0	DW	0	163728	1.22812E-05
1/25/2013	0.04	DW	0	163728	1.22812E-05
1/26/2013	0	DW	0	163728	1.22812E-05
1/27/2013	0	DW	0	163728	1.22812E-05
1/28/2013	0.12	WW	0.111984	347135.781	4.40345E-05
1/29/2013	0	DW	0	163728	1.22812E-05
1/30/2013	0.71	WW	0.662572	1248890.7	0.000158423
1/31/2013	0.55	WW	0.51326	1004347	0.000127402
2/1/2013	0.03	DW	0	163728	1.22812E-05
2/2/2013	0.03	DW	0	163728	1.22812E-05
2/3/2013	0.03	DW	0	163728	1.22812E-05
2/4/2013	0	DW	0	163728	1.22812E-05
2/5/2013	0.01	DW	0	163728	1.22812E-05
2/6/2013	0	DW	0	163728	1.22812E-05
2/7/2013	0	DW	0	163728	1.22812E-05
2/8/2013	0.35	WW	0.32662	698667.361	8.86267E-05
2/9/2013	0	DW	0	163728	1.22812E-05
2/10/2013	0	DW	0	163728	1.22812E-05
2/11/2013	0.53	WW	0.494596	973779.032	0.000123525
2/12/2013	0	DW	0	163728	1.22812E-05
2/13/2013	0.25	WW	0.2333	545827.543	6.92388E-05
2/14/2013	0	DW	0	163728	1.22812E-05
2/15/2013	0.02	DW	0	163728	1.22812E-05
2/16/2013	0.03	DW	0	163728	1.22812E-05
2/17/2013	0	DW	0	163728	1.22812E-05
2/18/2013	0	DW	0	163728	1.22812E-05
2/19/2013	0.18	WW	0.167976	438839.671	5.56673E-05
2/20/2013	0	DW	0	163728	1.22812E-05
2/21/2013	0	DW	0	163728	1.22812E-05
2/22/2013	0	DW	0	163728	1.22812E-05
2/23/2013	0.18	WW	0.167976	438839.671	5.56673E-05
2/24/2013	0	DW	0	163728	1.22812E-05
2/25/2013	0	DW	0	163728	1.22812E-05
2/26/2013	0.5	WW	0.4666	927927.087	0.000117709
2/27/2013	0.17	WW	0.158644	423555.69	5.37285E-05
2/28/2013	0	DW	0	163728	1.22812E-05
3/1/2013	0	DW	0	163728	1.22812E-05
3/2/2013	0	DW	0	163728	1.22812E-05
3/3/2013	0	DW	0	163728	1.22812E-05
3/4/2013	0	DW	0	163728	1.22812E-05
3/5/2013	0	DW	0	163728	1.22812E-05
3/6/2013	0.24	WW	0.223968	530543.562	6.73E-05
3/7/2013	0	DW	0	163728	1.22812E-05
3/8/2013	0	DW	0	163728	1.22812E-05

	Precipitation		Q (in)	Q_v (l)	(kg)
3/9/2013	0	DW	0	163728	1.22812E-05
3/10/2013	0	DW	0	163728	1.22812E-05
3/11/2013	0	DW	0	163728	1.22812E-05
3/12/2013	0.81	WW	0.755892	1401730.52	0.000177811
3/13/2013	0	DW	0	163728	1.22812E-05
3/14/2013	0	DW	0	163728	1.22812E-05
3/15/2013	0	DW	0	163728	1.22812E-05
3/16/2013	0.05	DW	0	163728	1.22812E-05
3/17/2013	0	DW	0	163728	1.22812E-05
3/18/2013	0.5	WW	0.4666	927927.087	0.000117709
3/19/2013	0.2	WW	0.18664	469407.635	5.95449E-05
3/20/2013	0	DW	0	163728	1.22812E-05
3/21/2013	0.02	DW	0	163728	1.22812E-05
3/22/2013	0	DW	0	163728	1.22812E-05
3/23/2013	0	DW	0	163728	1.22812E-05
3/24/2013	0	DW	0	163728	1.22812E-05
3/25/2013	0.58	WW	0.541256	1050198.94	0.000133219
3/26/2013	0	DW	0	163728	1.22812E-05
3/27/2013	0	DW	0	163728	1.22812E-05
3/28/2013	0	DW	0	163728	1.22812E-05
3/29/2013	0	DW	0	163728	1.22812E-05
3/30/2013	0	DW	0	163728	1.22812E-05
3/31/2013	0.14	WW	0.130648	377703.744	4.79121E-05
4/1/2013	0	DW	0	163728	1.22812E-05
4/2/2013	0	DW	0	163728	1.22812E-05
4/3/2013	0	DW	0	163728	1.22812E-05
4/4/2013	0.01	DW	0	163728	1.22812E-05
4/5/2013	0.12	WW	0.111984	347135.781	4.40345E-05
4/6/2013	0	DW	0	163728	1.22812E-05
4/7/2013	0	DW	0	163728	1.22812E-05
4/8/2013	0	DW	0	163728	1.22812E-05
4/9/2013	0	DW	0	163728	1.22812E-05
4/10/2013	0.06	DW	0	163728	1.22812E-05
4/11/2013	0	DW	0	163728	1.22812E-05
4/12/2013	1.07	WW	0.998524	1799114.05	0.00022822
4/13/2013	0	DW	0	163728	1.22812E-05
4/14/2013	0	DW	0	163728	1.22812E-05
4/15/2013	0	DW	0	163728	1.22812E-05
4/16/2013	0	DW	0	163728	1.22812E-05
4/17/2013	0	DW	0	163728	1.22812E-05
4/18/2013	0.13	WW	0.121316	362419.763	4.59733E-05
4/19/2013	0.67	WW	0.625244	1187754.78	0.000150668
4/20/2013	0.12	WW	0.111984	347135.781	4.40345E-05
4/21/2013	0	DW	0	163728	1.22812E-05
4/22/2013	0	DW	0	163728	1.22812E-05
4/23/2013	0	DW	0	163728	1.22812E-05
4/24/2013	0	DW	0	163728	1.22812E-05
4/25/2013	0.01	DW	0	163728	1.22812E-05
4/26/2013	0	DW	0	163728	1.22812E-05
4/27/2013	0	DW	0	163728	1.22812E-05
4/28/2013	0	DW	0	163728	1.22812E-05
4/29/2013	0.47	WW	0.438604	882075.142	0.000111892
4/30/2013	0.03	DW	0	163728	1.22812E-05
5/1/2013	0	DW	0	163728	1.22812E-05
5/2/2013	0	DW	0	163728	1.22812E-05
5/3/2013	0	DW	0	163728	1.22812E-05
5/4/2013	0	DW	0	163728	1.22812E-05
5/5/2013	0	DW	0	163728	1.22812E-05
5/6/2013	0	DW	0	163728	1.22812E-05
5/7/2013	0.13	WW	0.121316	362419.763	4.59733E-05
5/8/2013	0.46	WW	0.429272	866791.16	0.000109953
5/9/2013	0.18	WW	0.167976	438839.671	5.56673E-05
5/10/2013	0.47	WW	0.438604	882075.142	0.000111892
5/11/2013	0.25	WW	0.2333	545827.543	6.92388E-05
5/12/2013	0.09	DW	0	163728	1.22812E-05
5/13/2013	0	DW	0	163728	1.22812E-05
5/14/2013	0.01	DW	0	163728	1.22812E-05
5/15/2013	0.04	DW	0	163728	1.22812E-05
5/16/2013	0.01	DW	0	163728	1.22812E-05
5/17/2013	0	DW	0	163728	1.22812E-05
5/18/2013	0.05	DW	0	163728	1.22812E-05
5/19/2013	0.13	WW	0.121316	362419.763	4.59733E-05
5/20/2013	0	DW	0	163728	1.22812E-05
5/21/2013	0	DW	0	163728	1.22812E-05
5/22/2013	0	DW	0	163728	1.22812E-05
5/23/2013	0.18	WW	0.167976	438839.671	5.56673E-05

	Precipitation		Q (in)	Q_v (l)	(kg)
5/24/2013	0.11	WW	0.102652	331851.799	4.20958E-05
5/25/2013	0	DW	0	163728	1.22812E-05
5/26/2013	0	DW	0	163728	1.22812E-05
5/27/2013	0	DW	0	163728	1.22812E-05
5/28/2013	0.05	DW	0	163728	1.22812E-05
5/29/2013	0	DW	0	163728	1.22812E-05
5/30/2013	0	DW	0	163728	1.22812E-05
5/31/2013	0	DW	0	163728	1.22812E-05
6/1/2013	0	DW	0	163728	1.22812E-05
6/2/2013	0.04	DW	0	163728	1.22812E-05
6/3/2013	1.66	WW	1.549112	2700868.97	0.000342608
6/4/2013	0	DW	0	163728	1.22812E-05
6/5/2013	0	DW	0	163728	1.22812E-05
6/6/2013	0.26	WW	0.242632	561111.525	7.11776E-05
6/7/2013	3.36	WW	3.135552	5299145.86	0.000672202
6/8/2013	0	DW	0	163728	1.22812E-05
6/9/2013	0	DW	0	163728	1.22812E-05
6/10/2013	1.81	WW	1.689092	2930128.69	0.00037169
6/11/2013	0	DW	0	163728	1.22812E-05
6/12/2013	0	DW	0	163728	1.22812E-05
6/13/2013	0.85	WW	0.79322	1462866.45	0.000185566
6/14/2013	0.11	WW	0.102652	331851.799	4.20958E-05
6/15/2013	0	DW	0	163728	1.22812E-05
6/16/2013	0.35	WW	0.32662	698667.361	8.86267E-05
6/17/2013	0.49	WW	0.457268	912643.105	0.00011577
6/18/2013	1.06	WW	0.989192	1783830.06	0.000226281
6/19/2013	0	DW	0	163728	1.22812E-05
6/20/2013	0	DW	0	163728	1.22812E-05
6/21/2013	0	DW	0	163728	1.22812E-05
6/22/2013	0	DW	0	163728	1.22812E-05
6/23/2013	0.06	DW	0	163728	1.22812E-05
6/24/2013	0.02	DW	0	163728	1.22812E-05
6/25/2013	0.02	DW	0	163728	1.22812E-05
6/26/2013	0	DW	0	163728	1.22812E-05
6/27/2013	0.57	WW	0.531924	1034914.96	0.00013128
6/28/2013	1.25	WW	1.1665	2074225.72	0.000263118
6/29/2013	0	DW	0	163728	1.22812E-05
6/30/2013	1.75	WW	1.6331	2838424.8	0.000360057
7/1/2013	0.08	DW	0	163728	1.22812E-05
7/2/2013	0.02	DW	0	163728	1.22812E-05
7/3/2013	0.11	WW	0.102652	331851.799	4.20958E-05
7/4/2013	0	DW	0	163728	1.22812E-05
7/5/2013	0	DW	0	163728	1.22812E-05
7/6/2013	0	DW	0	163728	1.22812E-05
7/7/2013	0.03	DW	0	163728	1.22812E-05
7/8/2013	0	DW	0	163728	1.22812E-05
7/9/2013	0	DW	0	163728	1.22812E-05
7/10/2013	0.15	WW	0.13998	392987.726	4.98509E-05
7/11/2013	0.01	DW	0	163728	1.22812E-05
7/12/2013	1.4	WW	1.30648	2303485.44	0.0002922
7/13/2013	0	DW	0	163728	1.22812E-05
7/14/2013	0	DW	0	163728	1.22812E-05
7/15/2013	0	DW	0	163728	1.22812E-05
7/16/2013	0	DW	0	163728	1.22812E-05
7/17/2013	0	DW	0	163728	1.22812E-05
7/18/2013	0	DW	0	163728	1.22812E-05
7/19/2013	0	DW	0	163728	1.22812E-05
7/20/2013	0	DW	0	163728	1.22812E-05
7/21/2013	0.04	DW	0	163728	1.22812E-05
7/22/2013	0.21	WW	0.195972	484691.616	6.14836E-05
7/23/2013	0.28	WW	0.261296	591679.489	7.50552E-05
7/24/2013	0	DW	0	163728	1.22812E-05
7/25/2013	0	DW	0	163728	1.22812E-05
7/26/2013	0	DW	0	163728	1.22812E-05
7/27/2013	0	DW	0	163728	1.22812E-05
7/28/2013	1.5	WW	1.3998	2456325.26	0.000311587
7/29/2013	0.22	WW	0.205304	499975.598	6.34224E-05
7/30/2013	0	DW	0	163728	1.22812E-05
7/31/2013	0	DW	0	163728	1.22812E-05
8/1/2013	1.17	WW	1.091844	1951953.86	0.000247607
8/2/2013	0	DW	0	163728	1.22812E-05
8/3/2013	0	DW	0	163728	1.22812E-05
8/4/2013	0	DW	0	163728	1.22812E-05
8/5/2013	0	DW	0	163728	1.22812E-05
8/6/2013	0.13	WW	0.121316	362419.763	4.59733E-05
8/7/2013	0.05	DW	0	163728	1.22812E-05

	Precipitation		Q (in)	Q_v (l)	(kg)
8/8/2013	0.12	WW	0.111984	347135.781	4.40345E-05
8/9/2013	0	DW	0	163728	1.22812E-05
8/10/2013	0	DW	0	163728	1.22812E-05
8/11/2013	0	DW	0	163728	1.22812E-05
8/12/2013	0	DW	0	163728	1.22812E-05
8/13/2013	3.1	WW	2.89292	4901762.34	0.000621794
8/14/2013	0	DW	0	163728	1.22812E-05
8/15/2013	0	DW	0	163728	1.22812E-05
8/16/2013	0	DW	0	163728	1.22812E-05
8/17/2013	0	DW	0	163728	1.22812E-05
8/18/2013	0.03	DW	0	163728	1.22812E-05
8/19/2013	0	DW	0	163728	1.22812E-05
8/20/2013	0	DW	0	163728	1.22812E-05
8/21/2013	0	DW	0	163728	1.22812E-05
8/22/2013	0.08	DW	0	163728	1.22812E-05
8/23/2013	0	DW	0	163728	1.22812E-05
8/24/2013	0	DW	0	163728	1.22812E-05
8/25/2013	0	DW	0	163728	1.22812E-05
8/26/2013	0	DW	0	163728	1.22812E-05
8/27/2013	0.06	DW	0	163728	1.22812E-05
8/28/2013	0.32	WW	0.298624	652815.416	8.28103E-05
8/29/2013	0	DW	0	163728	1.22812E-05
8/30/2013	0.16	WW	0.149312	408271.708	5.17897E-05
8/31/2013	0	DW	0	163728	1.22812E-05
9/1/2013	0	DW	0	163728	1.22812E-05
9/2/2013	0.41	WW	0.382612	790371.251	0.000100259
9/3/2013	0	DW	0	163728	1.22812E-05
9/4/2013	0	DW	0	163728	1.22812E-05
9/5/2013	0	DW	0	163728	1.22812E-05
9/6/2013	0	DW	0	163728	1.22812E-05
9/7/2013	0	DW	0	163728	1.22812E-05
9/8/2013	0	DW	0	163728	1.22812E-05
9/9/2013	0	DW	0	163728	1.22812E-05
9/10/2013	0	DW	0	163728	1.22812E-05
9/11/2013	0	DW	0	163728	1.22812E-05
9/12/2013	0.04	DW	0	163728	1.22812E-05
9/13/2013	0	DW	0	163728	1.22812E-05
9/14/2013	0	DW	0	163728	1.22812E-05
9/15/2013	0	DW	0	163728	1.22812E-05
9/16/2013	0.01	DW	0	163728	1.22812E-05
9/17/2013	0	DW	0	163728	1.22812E-05
9/18/2013	0	DW	0	163728	1.22812E-05
9/19/2013	0	DW	0	163728	1.22812E-05
9/20/2013	0	DW	0	163728	1.22812E-05
9/21/2013	1.44	WW	1.343808	2364621.37	0.000299955
9/22/2013	0.02	DW	0	163728	1.22812E-05
9/23/2013	0	DW	0	163728	1.22812E-05
9/24/2013	0	DW	0	163728	1.22812E-05
9/25/2013	0	DW	0	163728	1.22812E-05
9/26/2013	0	DW	0	163728	1.22812E-05
9/27/2013	0	DW	0	163728	1.22812E-05
9/28/2013	0	DW	0	163728	1.22812E-05
9/29/2013	0	DW	0	163728	1.22812E-05
9/30/2013	0	DW	0	163728	1.22812E-05
10/1/2013	0.02	DW	0	163728	1.22812E-05
10/2/2013	0.03	DW	0	163728	1.22812E-05
10/3/2013	0	DW	0	163728	1.22812E-05
10/4/2013	0	DW	0	163728	1.22812E-05
10/5/2013	0	DW	0	163728	1.22812E-05
10/6/2013	0	DW	0	163728	1.22812E-05
10/7/2013	0	DW	0	163728	1.22812E-05
10/8/2013	0	DW	0	163728	1.22812E-05
10/9/2013	0	DW	0	163728	1.22812E-05
10/10/2013	0	DW	0	163728	1.22812E-05
10/11/2013	0	DW	0	163728	1.22812E-05
10/12/2013	0	DW	0	163728	1.22812E-05
10/13/2013	0.02	DW	0	163728	1.22812E-05
10/14/2013	0	DW	0	163728	1.22812E-05
10/15/2013	0	DW	0	163728	1.22812E-05
10/16/2013	0	DW	0	163728	1.22812E-05
10/17/2013	0	DW	0	163728	1.22812E-05
10/18/2013	0	DW	0	163728	1.22812E-05
10/19/2013	0	DW	0	163728	1.22812E-05
10/20/2013	0.01	DW	0	163728	1.22812E-05
10/21/2013	0.93	WW	0.867876	1585138.3	0.000201076
10/22/2013	0.57	WW	0.531924	1034914.96	0.00013128
10/23/2013	0	DW	0	163728	1.22812E-05

	Precipitation		Q (in)	Q_v (l)	(kg)
10/24/2013	0	DW	0	163728	1.22812E-05
10/25/2013	0.39	WW	0.363948	759803.288	9.63819E-05
10/26/2013	0	DW	0	163728	1.22812E-05
10/27/2013	0	DW	0	163728	1.22812E-05
10/28/2013	0	DW	0	163728	1.22812E-05
10/29/2013	0	DW	0	163728	1.22812E-05
10/30/2013	0	DW	0	163728	1.22812E-05
10/31/2013	0	DW	0	163728	1.22812E-05
11/1/2013	0.1	WW	0.09332	316567.817	4.0157E-05
11/2/2013	0	DW	0	163728	1.22812E-05
11/3/2013	0	DW	0	163728	1.22812E-05
11/4/2013	0	DW	0	163728	1.22812E-05
11/5/2013	0	DW	0	163728	1.22812E-05
11/6/2013	0	DW	0	163728	1.22812E-05
11/7/2013	0.05	DW	0	163728	1.22812E-05
11/8/2013	0	DW	0	163728	1.22812E-05
11/9/2013	0	DW	0	163728	1.22812E-05
11/10/2013	0	DW	0	163728	1.22812E-05
11/11/2013	0	DW	0	163728	1.22812E-05
11/12/2013	0.01	DW	0	163728	1.22812E-05
11/13/2013	0	DW	0	163728	1.22812E-05
11/14/2013	0	DW	0	163728	1.22812E-05
11/15/2013	0	DW	0	163728	1.22812E-05
11/16/2013	0.04	DW	0	163728	1.22812E-05
11/17/2013	0	DW	0	163728	1.22812E-05
11/18/2013	0.19	WW	0.177308	454123.653	5.76061E-05
11/19/2013	0	DW	0	163728	1.22812E-05
11/20/2013	0	DW	0	163728	1.22812E-05
11/21/2013	0	DW	0	163728	1.22812E-05
11/22/2013	0.01	DW	0	163728	1.22812E-05
11/23/2013	0	DW	0	163728	1.22812E-05
11/24/2013	0	DW	0	163728	1.22812E-05
11/25/2013	0	DW	0	163728	1.22812E-05
11/26/2013	0.88	WW	0.821216	1508718.39	0.000191383
11/27/2013	1.63	WW	1.521116	2655017.02	0.000336792
11/28/2013	0	DW	0	163728	1.22812E-05
11/29/2013	0	DW	0	163728	1.22812E-05
11/30/2013	0	DW	0	163728	1.22812E-05
12/1/2013	0	DW	0	163728	1.22812E-05
12/2/2013	0	DW	0	163728	1.22812E-05
12/3/2013	0	DW	0	163728	1.22812E-05
12/4/2013	0	DW	0	163728	1.22812E-05
12/5/2013	0	DW	0	163728	1.22812E-05
12/6/2013	0.77	WW	0.718564	1340594.59	0.000170056
12/7/2013	0.12	WW	0.111984	347135.781	4.40345E-05
12/8/2013	0.76	WW	0.709232	1325310.61	0.000168117
12/9/2013	0.39	WW	0.363948	759803.288	9.63819E-05
12/10/2013	0.26	WW	0.242632	561111.525	7.11776E-05
12/11/2013	0	DW	0	163728	1.22812E-05
12/12/2013	0	DW	0	163728	1.22812E-05
12/13/2013	0	DW	0	163728	1.22812E-05
12/14/2013	0.85	WW	0.79322	1462866.45	0.000185566
12/15/2013	0.01	DW	0	163728	1.22812E-05
12/16/2013	0	DW	0	163728	1.22812E-05
12/17/2013	0.06	DW	0	163728	1.22812E-05
12/18/2013	0	DW	0	163728	1.22812E-05
12/19/2013	0	DW	0	163728	1.22812E-05
12/20/2013	0	DW	0	163728	1.22812E-05
12/21/2013	0	DW	0	163728	1.22812E-05
12/22/2013	0.02	DW	0	163728	1.22812E-05
12/23/2013	0.61	WW	0.569252	1096050.89	0.000139035
12/24/2013	0	DW	0	163728	1.22812E-05
12/25/2013	0	DW	0	163728	1.22812E-05
12/26/2013	0	DW	0	163728	1.22812E-05
12/27/2013	0	DW	0	163728	1.22812E-05
12/28/2013	0	DW	0	163728	1.22812E-05
12/29/2013	1.37	WW	1.278484	2257633.5	0.000286383
12/30/2013	0	DW	0	163728	1.22812E-05
12/31/2013	0	DW	0	163728	1.22812E-05
	48.35	Total	43.58044	130973187	0.014181876
				PCB (kg/day)	3.88545E-05
				PCB (mg/day)	38.85445532

Note: "Trace" amount of precipitation recorded as 0 inches
Precipitation data collected for (Wilmington) New Castle County
Airport Station from http://climod.nrcc.cornell.edu/

APPENDIX H - LOADING CALCULATIONS FOR OUTFALL 007

PCB Loading Estimate
2013 Estimate (using 2013 precipitation data)

Outfall	007
Drainage Area (ft^2)	1,265,555.75
Runoff Coefficient	0.824
Average PCB (g/l)	4.37069E-07 (one event)

	Precipitation		Runoff Q (in)	Vol. Runoff Q_v (l)	PCB Load (kg)
1/1/2013	0	DW	0	0	0
1/2/2013	0	DW	0	0	0
1/3/2013	0	DW	0	0	0
1/4/2013	0	DW	0	0	0
1/5/2013	0	DW	0	0	0
1/6/2013	0.04	DW	0	0	0
1/7/2013	0	DW	0	0	0
1/8/2013	0	DW	0	0	0
1/9/2013	0	DW	0	0	0
1/10/2013	0	DW	0	0	0
1/11/2013	0.69	WW	0.56856	1698124.73	0.000742198
1/12/2013	0	DW	0	0	0
1/13/2013	0.03	DW	0	0	0
1/14/2013	0.21	WW	0.17304	516820.57	0.000225886
1/15/2013	0.42	WW	0.34608	1033641.14	0.000451773
1/16/2013	0.82	WW	0.67568	2018061.27	0.000882032
1/17/2013	0	DW	0	0	0
1/18/2013	0	DW	0	0	0
1/19/2013	0	DW	0	0	0
1/20/2013	0	DW	0	0	0
1/21/2013	0.07	DW	0	0	0
1/22/2013	0	DW	0	0	0
1/23/2013	0	DW	0	0	0
1/24/2013	0	DW	0	0	0
1/25/2013	0.04	DW	0	0	0
1/26/2013	0	DW	0	0	0
1/27/2013	0	DW	0	0	0
1/28/2013	0.12	WW	0.09888	295326.04	0.000129078
1/29/2013	0	DW	0	0	0
1/30/2013	0.71	WW	0.58504	1747345.74	0.000763711
1/31/2013	0.55	WW	0.4532	1353577.68	0.000591607
2/1/2013	0.03	DW	0	0	0
2/2/2013	0.03	DW	0	0	0
2/3/2013	0.03	DW	0	0	0
2/4/2013	0	DW	0	0	0
2/5/2013	0.01	DW	0	0	0
2/6/2013	0	DW	0	0	0
2/7/2013	0	DW	0	0	0
2/8/2013	0.35	WW	0.2884	861367.617	0.000376477
2/9/2013	0	DW	0	0	0
2/10/2013	0	DW	0	0	0
2/11/2013	0.53	WW	0.43672	1304356.68	0.000570094
2/12/2013	0	DW	0	0	0
2/13/2013	0.25	WW	0.206	615262.583	0.000268912
2/14/2013	0	DW	0	0	0
2/15/2013	0.02	DW	0	0	0
2/16/2013	0.03	DW	0	0	0
2/17/2013	0	DW	0	0	0
2/18/2013	0	DW	0	0	0
2/19/2013	0.18	WW	0.14832	442989.06	0.000193617
2/20/2013	0	DW	0	0	0
2/21/2013	0	DW	0	0	0
2/22/2013	0	DW	0	0	0
2/23/2013	0.18	WW	0.14832	442989.06	0.000193617
2/24/2013	0	DW	0	0	0
2/25/2013	0	DW	0	0	0
2/26/2013	0.5	WW	0.412	1230525.17	0.000537825
2/27/2013	0.17	WW	0.14008	418378.557	0.00018286
2/28/2013	0	DW	0	0	0
3/1/2013	0	DW	0	0	0
3/2/2013	0	DW	0	0	0
3/3/2013	0	DW	0	0	0
3/4/2013	0	DW	0	0	0
3/5/2013	0	DW	0	0	0
3/6/2013	0.24	WW	0.19776	590652.08	0.000258156
3/7/2013	0	DW	0	0	0
3/8/2013	0	DW	0	0	0
3/9/2013	0	DW	0	0	0
3/10/2013	0	DW	0	0	0

	Precipitation		Runoff Q (in)	Vol. Runoff Q_v (l)	PCB Load (kg)
3/11/2013	0	DW	0	0	0
3/12/2013	0.81	WW	0.66744	1993450.77	0.000871276
3/13/2013	0	DW	0	0	0
3/14/2013	0	DW	0	0	0
3/15/2013	0	DW	0	0	0
3/16/2013	0.05	DW	0	0	0
3/17/2013	0	DW	0	0	0
3/18/2013	0.5	WW	0.412	1230525.17	0.000537825
3/19/2013	0.2	WW	0.1648	492210.067	0.00021513
3/20/2013	0	DW	0	0	0
3/21/2013	0.02	DW	0	0	0
3/22/2013	0	DW	0	0	0
3/23/2013	0	DW	0	0	0
3/24/2013	0	DW	0	0	0
3/25/2013	0.58	WW	0.47792	1427409.19	0.000623877
3/26/2013	0	DW	0	0	0
3/27/2013	0	DW	0	0	0
3/28/2013	0	DW	0	0	0
3/29/2013	0	DW	0	0	0
3/30/2013	0	DW	0	0	0
3/31/2013	0.14	WW	0.11536	344547.047	0.000150591
4/1/2013	0	DW	0	0	0
4/2/2013	0	DW	0	0	0
4/3/2013	0	DW	0	0	0
4/4/2013	0.01	DW	0	0	0
4/5/2013	0.12	WW	0.09888	295326.04	0.000129078
4/6/2013	0	DW	0	0	0
4/7/2013	0	DW	0	0	0
4/8/2013	0	DW	0	0	0
4/9/2013	0	DW	0	0	0
4/10/2013	0.06	DW	0	0	0
4/11/2013	0	DW	0	0	0
4/12/2013	1.07	WW	0.88168	2633323.86	0.001150945
4/13/2013	0	DW	0	0	0
4/14/2013	0	DW	0	0	0
4/15/2013	0	DW	0	0	0
4/16/2013	0	DW	0	0	0
4/17/2013	0	DW	0	0	0
4/18/2013	0.13	WW	0.10712	319936.543	0.000139834
4/19/2013	0.67	WW	0.55208	1648903.72	0.000720685
4/20/2013	0.12	WW	0.09888	295326.04	0.000129078
4/21/2013	0	DW	0	0	0
4/22/2013	0	DW	0	0	0
4/23/2013	0	DW	0	0	0
4/24/2013	0	DW	0	0	0
4/25/2013	0.01	DW	0	0	0
4/26/2013	0	DW	0	0	0
4/27/2013	0	DW	0	0	0
4/28/2013	0	DW	0	0	0
4/29/2013	0.47	WW	0.38728	1156693.66	0.000505555
4/30/2013	0.03	DW	0	0	0
5/1/2013	0	DW	0	0	0
5/2/2013	0	DW	0	0	0
5/3/2013	0	DW	0	0	0
5/4/2013	0	DW	0	0	0
5/5/2013	0	DW	0	0	0
5/6/2013	0	DW	0	0	0
5/7/2013	0.13	WW	0.10712	319936.543	0.000139834
5/8/2013	0.46	WW	0.37904	1132083.15	0.000494799
5/9/2013	0.18	WW	0.14832	442989.06	0.000193617
5/10/2013	0.47	WW	0.38728	1156693.66	0.000505555
5/11/2013	0.25	WW	0.206	615262.583	0.000268912
5/12/2013	0.09	DW	0	0	0
5/13/2013	0	DW	0	0	0
5/14/2013	0.01	DW	0	0	0
5/15/2013	0.04	DW	0	0	0
5/16/2013	0.01	DW	0	0	0
5/17/2013	0	DW	0	0	0
5/18/2013	0.05	DW	0	0	0
5/19/2013	0.13	WW	0.10712	319936.543	0.000139834
5/20/2013	0	DW	0	0	0
5/21/2013	0	DW	0	0	0
5/22/2013	0	DW	0	0	0
5/23/2013	0.18	WW	0.14832	442989.06	0.000193617
5/24/2013	0.11	WW	0.09064	270715.537	0.000118321
5/25/2013	0	DW	0	0	0
5/26/2013	0	DW	0	0	0

	Precipitation		Runoff Q (in)	Vol. Runoff Q_v (l)	PCB Load (kg)
5/27/2013	0	DW	0	0	0
5/28/2013	0.05	DW	0	0	0
5/29/2013	0	DW	0	0	0
5/30/2013	0	DW	0	0	0
5/31/2013	0	DW	0	0	0
6/1/2013	0	DW	0	0	0
6/2/2013	0.04	DW	0	0	0
6/3/2013	1.66	WW	1.36784	4085343.55	0.001785578
6/4/2013	0	DW	0	0	0
6/5/2013	0	DW	0	0	0
6/6/2013	0.26	WW	0.21424	639873.087	0.000279669
6/7/2013	3.36	WW	2.76864	8269129.12	0.003614181
6/8/2013	0	DW	0	0	0
6/9/2013	0	DW	0	0	0
6/10/2013	1.81	WW	1.49144	4454501.1	0.001946925
6/11/2013	0	DW	0	0	0
6/12/2013	0	DW	0	0	0
6/13/2013	0.85	WW	0.7004	2091892.78	0.000914302
6/14/2013	0.11	WW	0.09064	270715.537	0.000118321
6/15/2013	0	DW	0	0	0
6/16/2013	0.35	WW	0.2884	861367.617	0.000376477
6/17/2013	0.49	WW	0.40376	1205914.66	0.000527068
6/18/2013	1.06	WW	0.87344	2608713.35	0.001140188
6/19/2013	0	DW	0	0	0
6/20/2013	0	DW	0	0	0
6/21/2013	0	DW	0	0	0
6/22/2013	0	DW	0	0	0
6/23/2013	0.06	DW	0	0	0
6/24/2013	0.02	DW	0	0	0
6/25/2013	0.02	DW	0	0	0
6/26/2013	0	DW	0	0	0
6/27/2013	0.57	WW	0.46968	1402798.69	0.00061312
6/28/2013	1.25	WW	1.03	3076312.92	0.001344561
6/29/2013	0	DW	0	0	0
6/30/2013	1.75	WW	1.442	4306838.08	0.001882386
7/1/2013	0.08	DW	0	0	0
7/2/2013	0.02	DW	0	0	0
7/3/2013	0.11	WW	0.09064	270715.537	0.000118321
7/4/2013	0	DW	0	0	0
7/5/2013	0	DW	0	0	0
7/6/2013	0	DW	0	0	0
7/7/2013	0.03	DW	0	0	0
7/8/2013	0	DW	0	0	0
7/9/2013	0	DW	0	0	0
7/10/2013	0.15	WW	0.1236	369157.55	0.000161347
7/11/2013	0.01	DW	0	0	0
7/12/2013	1.4	WW	1.1536	3445470.47	0.001505909
7/13/2013	0	DW	0	0	0
7/14/2013	0	DW	0	0	0
7/15/2013	0	DW	0	0	0
7/16/2013	0	DW	0	0	0
7/17/2013	0	DW	0	0	0
7/18/2013	0	DW	0	0	0
7/19/2013	0	DW	0	0	0
7/20/2013	0	DW	0	0	0
7/21/2013	0.04	DW	0	0	0
7/22/2013	0.21	WW	0.17304	516820.57	0.000225886
7/23/2013	0.28	WW	0.23072	689094.093	0.000301182
7/24/2013	0	DW	0	0	0
7/25/2013	0	DW	0	0	0
7/26/2013	0	DW	0	0	0
7/27/2013	0	DW	0	0	0
7/28/2013	1.5	WW	1.236	3691575.5	0.001613474
7/29/2013	0.22	WW	0.18128	541431.073	0.000236643
7/30/2013	0	DW	0	0	0
7/31/2013	0	DW	0	0	0
8/1/2013	1.17	WW	0.96408	2879428.89	0.00125851
8/2/2013	0	DW	0	0	0
8/3/2013	0	DW	0	0	0
8/4/2013	0	DW	0	0	0
8/5/2013	0	DW	0	0	0
8/6/2013	0.13	WW	0.10712	319936.543	0.000139834
8/7/2013	0.05	DW	0	0	0
8/8/2013	0.12	WW	0.09888	295326.04	0.000129078
8/9/2013	0	DW	0	0	0
8/10/2013	0	DW	0	0	0
8/11/2013	0	DW	0	0	0

	Precipitation		Runoff Q (in)	Vol. Runoff Q_v (l)	PCB Load (kg)
8/12/2013	0	DW	0	0	0
8/13/2013	3.1	WW	2.5544	7629256.03	0.003334512
8/14/2013	0	DW	0	0	0
8/15/2013	0	DW	0	0	0
8/16/2013	0	DW	0	0	0
8/17/2013	0	DW	0	0	0
8/18/2013	0.03	DW	0	0	0
8/19/2013	0	DW	0	0	0
8/20/2013	0	DW	0	0	0
8/21/2013	0	DW	0	0	0
8/22/2013	0.08	DW	0	0	0
8/23/2013	0	DW	0	0	0
8/24/2013	0	DW	0	0	0
8/25/2013	0	DW	0	0	0
8/26/2013	0	DW	0	0	0
8/27/2013	0.06	DW	0	0	0
8/28/2013	0.32	WW	0.26368	787536.107	0.000344208
8/29/2013	0	DW	0	0	0
8/30/2013	0.16	WW	0.13184	393768.053	0.000172104
8/31/2013	0	DW	0	0	0
9/1/2013	0	DW	0	0	0
9/2/2013	0.41	WW	0.33784	1009030.64	0.000441016
9/3/2013	0	DW	0	0	0
9/4/2013	0	DW	0	0	0
9/5/2013	0	DW	0	0	0
9/6/2013	0	DW	0	0	0
9/7/2013	0	DW	0	0	0
9/8/2013	0	DW	0	0	0
9/9/2013	0	DW	0	0	0
9/10/2013	0	DW	0	0	0
9/11/2013	0	DW	0	0	0
9/12/2013	0.04	DW	0	0	0
9/13/2013	0	DW	0	0	0
9/14/2013	0	DW	0	0	0
9/15/2013	0	DW	0	0	0
9/16/2013	0.01	DW	0	0	0
9/17/2013	0	DW	0	0	0
9/18/2013	0	DW	0	0	0
9/19/2013	0	DW	0	0	0
9/20/2013	0	DW	0	0	0
9/21/2013	1.44	WW	1.18656	3543912.48	0.001548935
9/22/2013	0.02	DW	0	0	0
9/23/2013	0	DW	0	0	0
9/24/2013	0	DW	0	0	0
9/25/2013	0	DW	0	0	0
9/26/2013	0	DW	0	0	0
9/27/2013	0	DW	0	0	0
9/28/2013	0	DW	0	0	0
9/29/2013	0	DW	0	0	0
9/30/2013	0	DW	0	0	0
10/1/2013	0.02	DW	0	0	0
10/2/2013	0.03	DW	0	0	0
10/3/2013	0	DW	0	0	0
10/4/2013	0	DW	0	0	0
10/5/2013	0	DW	0	0	0
10/6/2013	0	DW	0	0	0
10/7/2013	0	DW	0	0	0
10/8/2013	0	DW	0	0	0
10/9/2013	0	DW	0	0	0
10/10/2013	0	DW	0	0	0
10/11/2013	0	DW	0	0	0
10/12/2013	0	DW	0	0	0
10/13/2013	0.02	DW	0	0	0
10/14/2013	0	DW	0	0	0
10/15/2013	0	DW	0	0	0
10/16/2013	0	DW	0	0	0
10/17/2013	0	DW	0	0	0
10/18/2013	0	DW	0	0	0
10/19/2013	0	DW	0	0	0
10/20/2013	0.01	DW	0	0	0
10/21/2013	0.93	WW	0.76632	2288776.81	0.001000354
10/22/2013	0.57	WW	0.46968	1402798.69	0.00061312
10/23/2013	0	DW	0	0	0
10/24/2013	0	DW	0	0	0
10/25/2013	0.39	WW	0.32136	959809.63	0.000419503
10/26/2013	0	DW	0	0	0
10/27/2013	0	DW	0	0	0

	Precipitation		Runoff Q (in)	Vol. Runoff Q_v (l)	PCB Load (kg)
10/28/2013	0	DW	0	0	0
10/29/2013	0	DW	0	0	0
10/30/2013	0	DW	0	0	0
10/31/2013	0	DW	0	0	0
11/1/2013	0.1	WW	0.0824	246105.033	0.000107565
11/2/2013	0	DW	0	0	0
11/3/2013	0	DW	0	0	0
11/4/2013	0	DW	0	0	0
11/5/2013	0	DW	0	0	0
11/6/2013	0	DW	0	0	0
11/7/2013	0.05	DW	0	0	0
11/8/2013	0	DW	0	0	0
11/9/2013	0	DW	0	0	0
11/10/2013	0	DW	0	0	0
11/11/2013	0	DW	0	0	0
11/12/2013	0.01	DW	0	0	0
11/13/2013	0	DW	0	0	0
11/14/2013	0	DW	0	0	0
11/15/2013	0	DW	0	0	0
11/16/2013	0.04	DW	0	0	0
11/17/2013	0	DW	0	0	0
11/18/2013	0.19	WW	0.15656	467599.563	0.000204373
11/19/2013	0	DW	0	0	0
11/20/2013	0	DW	0	0	0
11/21/2013	0	DW	0	0	0
11/22/2013	0.01	DW	0	0	0
11/23/2013	0	DW	0	0	0
11/24/2013	0	DW	0	0	0
11/25/2013	0	DW	0	0	0
11/26/2013	0.88	WW	0.72512	2165724.29	0.000946571
11/27/2013	1.63	WW	1.34312	4011512.04	0.001753308
11/28/2013	0	DW	0	0	0
11/29/2013	0	DW	0	0	0
11/30/2013	0	DW	0	0	0
12/1/2013	0	DW	0	0	0
12/2/2013	0	DW	0	0	0
12/3/2013	0	DW	0	0	0
12/4/2013	0	DW	0	0	0
12/5/2013	0	DW	0	0	0
12/6/2013	0.77	WW	0.63448	1895008.76	0.00082825
12/7/2013	0.12	WW	0.09888	295326.04	0.000129078
12/8/2013	0.76	WW	0.62624	1870398.25	0.000817493
12/9/2013	0.39	WW	0.32136	959809.63	0.000419503
12/10/2013	0.26	WW	0.21424	639873.087	0.000279669
12/11/2013	0	DW	0	0	0
12/12/2013	0	DW	0	0	0
12/13/2013	0	DW	0	0	0
12/14/2013	0.85	WW	0.7004	2091892.78	0.000914302
12/15/2013	0.01	DW	0	0	0
12/16/2013	0	DW	0	0	0
12/17/2013	0.06	DW	0	0	0
12/18/2013	0	DW	0	0	0
12/19/2013	0	DW	0	0	0
12/20/2013	0	DW	0	0	0
12/21/2013	0	DW	0	0	0
12/22/2013	0.02	DW	0	0	0
12/23/2013	0.61	WW	0.50264	1501240.7	0.000656146
12/24/2013	0	DW	0	0	0
12/25/2013	0	DW	0	0	0
12/26/2013	0	DW	0	0	0
12/27/2013	0	DW	0	0	0
12/28/2013	0	DW	0	0	0
12/29/2013	1.37	WW	1.12888	3371638.96	0.001473639
12/30/2013	0	DW	0	0	0
12/31/2013	0	DW	0	0	0
12/31/2012	0	DW	0	0	0
Total ppt	48.35	Total	38.4808	114931051	0.050232815
				PCB (kg/day)	0.000137624
				PCB (mg/day)	137.6241519

Note: "Trace" amount of precipitation recorded as 0 inches
Precipitation data collected for (Wilmington) New Castle County Airport Station from http://climod.nrcc.cornell.edu/

APPENDIX I – LOADING CALCULATIONS FOR THE WASTE WATER TREATMENT BUILDING

Waste Water Treatment Plant Loading Calculations (2013)

Sample Collection Date	Total PCB Congner Conc.(ug/l)
2/28/2013	1.498423
11/7/2013	1.179601
Average	1.339

Ave. PCB Conc. (mg/l)	Total Dicharge 2013 (gal)	Total discharge 2013 (L)	Mass PCBs Dicharged 2013 (mg)	Daily Loading (mg/day)
0.001339012	2,542,390.0	9,622,946.2	12885.23739	35.30202024

APPENDIX J – LOADING CALCULATIONS FOR OUTFALL 006

Outfall 006 loading calculations (2013)

Sample Collection Date	Total PCB Congner Conc.(ug/l)
Average all wet weather samples (2008 through 2013)	0.078687
Average all dry weather samples (2008 through 2013)	0.073635
Average	0.0761609

Ave. PCB Conc. (mg/l)	Ave Flow thru Dec 2013 (gpm)	Total Dicharge 2013 (gal)	Total discharge 2013(L)	Mass PCBs Dicharged 2013 (mg)	Daily Loading (mg/day)
7.61609E-05	135.5	71,218,800.0	269,563,158.0	20530.16463	56.24702639