UNITED STATES

ENVIRONMENTAL PROTECTION AGENCY

REGION 3

FINAL DECISION AND RESPONSE TO COMMENTS

Chemtrade Solutions LLC
(Formerly General Chemical Corp.)
Delaware Valley Works Facility
Claymont, Delaware

EPA ID NO. DED154576698

Prepared by

RCRA Corrective Action Section West
Land, Chemicals and Redevelopment Division

June 2024

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List of Acronyms

AUL	Activity and Use Limitations
DNREC	Department of Natural Resources and Environmental Control
DVW	Delaware Valley Works
EPA	Environmental Protection Agency
FDRTC	Final Decision and Response to Comments
RCRA	Resource Conservation and Recovery Act
SB	Statement of Basis
SPSP	South Plant South Parcel
SWMU	Solid Waste Management Unit
TI	Technical Impracticability

Section 1: Purpose

The United States Environmental Protection Agency (EPA) is issuing this Final Decision and Response to Comments (FDRTC) selecting the Final Remedy for the Delaware River shoreline and nearshore sediments and porewater, Solid Waste Management Unit (SWMU) 9 soil and groundwater, and the South Plant South Parcel (SPSP) groundwater (Final Remedy) at the Honeywell Delaware Valley Works Facility, also known as the former General Chemical Facility, located at 6300 Philadelphia Pike, Claymont, New Castle County, Delaware (Facility or DVW Facility). The EPA is issuing this FDRTC under the authority of the Solid Waste Disposal Act, as amended by the Resource Conservation and Recovery Act of 1976, and the Hazardous and Solid Waste Amendments of 1984, 42 U.S.C. Sections 6901, et seq. (RCRA).

Section 2: Public Comment Period

On April 25, 2024, the EPA proposed a remedy consisting of the implementation of engineering controls; land and groundwater use restrictions implemented by an enforceable document such as an order and/or an Environmental Covenant to control exposure to contaminated pore water/sediment, soil/waste, and groundwater; a Technical Impracticability Waiver; and long-term groundwater monitoring. Consistent with public participation provisions under the RCRA, the EPA requested comments from the public on the proposed remedy as described in the Statement of Basis (SB). The commencement of a thirty (30)-day public comment period was announced in the Delaware Online/The News Journal and on the EPA Region 3 website. Additionally, the EPA hosted a public meeting on May 9, 2024 due to known community interest regarding environmental cleanup actions at the Facility and in the Delaware River. The public comment period ended on May 25, 2024.

The EPA received seven comments on the proposed remedy during the public comment period. See Attachment A. The comments and the EPA's responses are provided in Section IV, below.

The EPA has determined that the public comments do not substantially change, or cause reason to change, the proposed remedy in the SB and therefore, the Final Remedy is unchanged from the proposed remedy. The SB is incorporated by reference into this FDRTC as Attachment B.

Section 3: Final Remedy

The EPA has determined that corrective measures are necessary at the Facility to address residual contamination in sediment, porewater, soil, and groundwater. The EPA's Final Remedy for the Facility consists of the following components:

1. For SWMU 9: The EPA's final remedy for SWMU 9 is to install and maintain a cover system (soil cap with marker fabric above the alum mud) that controls, minimizes, or eliminates post remedial action escape of hazardous waste, hazardous constituents, leachate, contaminated run-off, and hazardous waste decomposition products to the ground or surface waters or to the atmosphere, to the extent necessary to protect human health and the environment. In addition

to the cover system, stabilization of SWMU 9 soil and construction of other necessary erosion and stormwater control components will also be completed. Climate change considerations to account for an increased probability of flooding events will be incorporated into the sediment cap design.

2. For SWMU 9 and South Plant South Parcel Groundwater: The EPA's final remedy for SWMU 9 and SPSP groundwater consists of establishing a Technical Impracticability (TI) Zone and long-term groundwater monitoring.
3. For the Delaware River Shoreline and Nearshore Sediment Area: The final shoreline and nearshore sediment remedy consists of installing and maintaining a multi-layer capping system consisting of an isolation layer, filter layer, and armor layer. In areas where dissolved arsenic has the potential to migrate up through the cap, the capping systems will include a chemical isolation layer (e.g., zero valent iron amendment). Climate change considerations to account for an increased probability of flooding events will be incorporated into the sediment cap design.
4. The EPA is requiring the following land and groundwater use restrictions be implemented:
    a. The SPSP and SWMU 9 shall be restricted to commercial and/or industrial purposes and shall not be used for residential purposes unless it is demonstrated to the EPA, in consultation with the Delaware Department of Natural Resources and Environmental Control (DNREC), that such use will not pose a threat to human health or the environment or adversely affect or interfere with the final remedy and the EPA, in consultation with the DNREC, provides prior written approval for such use.
    b. All monitoring, maintenance and inspections of the SWMU 9 engineered cover system shall be conducted in compliance with an EPA/DNREC approved Cap Management Plan that includes, at a minimum, procedures to maintain the cap over the contaminated soil; a schedule for inspections to be performed as part of cap maintenance, no less frequent than once a year; and physical maintenance requirements of the capped areas to prevent degradation of the cap and unacceptable exposure to the underlying soil.
    c. Groundwater at the Facility shall not be used for any purpose other than the operation, maintenance, and monitoring activities required by the EPA, unless it is demonstrated to the EPA and DNREC that such use will not pose a threat to human health or the environment or adversely affect or interfere with the final remedy and the EPA provides prior written approval for such use.
    d. No new wells shall be installed on Facility property unless it is demonstrated to the EPA and DNREC that such wells are necessary to implement the final remedy and the EPA provides prior written approval to install such wells.

The land and groundwater use restrictions necessary to prevent human exposure to contaminants from the Delaware River shoreline and nearshore sediments and porewater, SWMU 9 soil and groundwater, and SPSP groundwater will be implemented through enforceable Institutional Controls such as an order and/or an Environmental Covenant pursuant to 7 *Del. C*. ch. 79, subchapter II, Uniform Environmental Covenants Act to be recorded with the deed for the Facility property.

Section 4: Response to Comments

The EPA received comments on the proposed remedy from seven individuals during the public comment period. All seven comments are identical. Below is the comment that EPA received from the seven individuals and the EPA's response. All comments are included in Attachment A.

Comment: I thank the U.S. Environmental Protection Agency (EPA) for proposing several measures to reduce groundwater pollution from the Delaware Valley Works, formerly General Chemical, site in Claymont, DE. The site's soil is contaminated with the known carcinogens arsenic and benzo(a)pyrene as well as lead, which is known to impair childhood brain development and damage kidneys and cardiovascular systems in adults.

The part of the site immediately adjacent to the Delaware River contains large amounts of arsenic that are migrating into the Delaware River. I endorse several of EPA's proposed remedies to reduce the risk that arsenic in soil and groundwater at the site will travel into the Delaware River. EPA's proposed cap of the northern section of the site that directly borders Pennsylvania will thankfully prevent precipitation and groundwater from disturbing arsenic and other pollutants found at the site. I also support EPA's proposal to stabilize and cap the shoreline of the site to prevent contaminants, specifically arsenic, from traveling into the Delaware River.

Unfortunately, EPA is proposing to limit the use of the southern portion of the site to industrial and commercial purposes because it is currently unsafe for residential occupancy. New industrial or commercial development at this site is inappropriate and could significantly damage the engineering controls that EPA is proposing to install in order to protect human health and the environment. Significant portions of this site are located in the 100-year floodplain and any development could increase the already substantial flood-risk at the site. This is especially risky because the cover system or cap that will be installed closer to the Pennsylvania border of the site will push stormwater into other areas. Increased stormwater discharges from this site could damage the shoreline caps that EPA is proposing to install at the site. EPA must also consider the significant and often polluted discharges of stormwater that come from the neighboring Marcus Hook Terminal. This heavily polluted, flood-prone region does not need more coastal industrial and commercial development.

This environmental cleanup is absolutely necessary, but EPA must not allow portions of this site to be redeveloped as industrial or commercial properties in the future. This could exacerbate existing pollution and flooding concerns.

EPA Response: The EPA appreciates your support of its remediation efforts at the Facility. Sampling results show that the contaminants that remain in the soil and groundwater at the SPSP and SWMU 9 are at levels appropriate for commercial and industrial use. In addition, New Castle County, Delaware has zoned the Facility property for Heavy Industry (HI) use. Therefore, the EPA's final remedy for SPSP and SWMU 9 follows federal guidelines and allows for commercial and industrial use of the Facility property.

With respect to your concern that new industrial or commercial development could damage the caps,

the final remedy requires that the integrity of the caps be maintained through an EPA and DNREC approved Cap Management Plan. The FDRTC specifies that Plan, at a minimum, will include procedures to maintain the cap over the contaminated soil; a schedule for inspections to be performed as part of cap maintenance, no less frequent than once a year; physical maintenance requirements of the capped areas to prevent degradation of the cap and unacceptable exposure to the underlying soil.

As discussed in the SB, the EPA recognizes that the Facility is considered a concern for climate adaptation; and, therefore, climate adaptation information was considered during the RCRA Corrective Action decision-making process. The EPA has clarified in the FDRTC that climate change considerations to account for an increased probability of flooding events will be incorporated into the sediment cap design. Additionally, the SB proposed that erosion and stormwater controls be incorporated into the sediment cap and SWMU 9 cap designs and the FDRTC clarifies that such controls be incorporated into the cap designs. Lastly, the neighboring Marcus Hook Terminal is a RCRA Corrective Action facility and contaminated media originating from that facility will be addressed through the RCRA Corrective Action process.

Section 5: Declaration

Based on the Administrative Record compiled for the Corrective Action at the DVW Facility, the EPA has determined that the Final Remedy selected in this Final Decision and Response to Comments is protective of human health and the environment.

Driscoll, Stacie

Digitally signed by Driscoll, Stacie
Date: 2024.07.01 09:17:35 -04'00'

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Date: _____

Stacie Driscoll, Acting Director
Land, Chemicals, and Redevelopment Division
US EPA, Region 3

ATTACHMENT A

Dear U.S. Environmental Protection Agency,

I thank the U.S. Environmental Protection Agency (EPA) for proposing several measures to reduce groundwater pollution from the Delaware Valley Works, formerly General Chemical, site in Claymont, DE. The site's soil is contaminated with the known carcinogens arsenic and benzo(a)pyrene as well as lead, which is known to impair childhood brain development and damage kidneys and cardiovascular systems in adults.

The part of the site immediately adjacent to the Delaware River contains large amounts of arsenic that are migrating into the Delaware River. I endorse several of EPA's proposed remedies to reduce the risk that arsenic in soil and groundwater at the site will travel into the Delaware River. EPA's proposed cap of the northern section of the site that directly borders Pennsylvania will thankfully prevent precipitation and groundwater from disturbing arsenic and other pollutants found at the site. I also support EPA's proposal to stabilize and cap the shoreline of the site to prevent contaminants, specifically arsenic, from traveling into the Delaware River.

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This environmental cleanup is absolutely necessary, but EPA must not allow portions of this site to be redeveloped as industrial or commercial properties in the future. This could exacerbate existing pollution and flooding concerns.

Sincerely,
Ruth Panella
2317 Woodland Ln
Wilmington, DE 19810
234-567-8901

Dear U.S. Environmental Protection Agency,

I thank the U.S. Environmental Protection Agency (EPA) for proposing several measures to reduce groundwater pollution from the Delaware Valley Works, formerly General Chemical, site in Claymont, DE. The site's soil is contaminated with the known carcinogens arsenic and benzo(a)pyrene as well as lead, which is known to impair childhood brain development and damage kidneys and cardiovascular systems in adults.

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Sincerely,
Thom Nixon
2117 w 10 th street
Chester, PA 19013
610-436-3408

Dear U.S. Environmental Protection Agency,

I thank the U.S. Environmental Protection Agency (EPA) for proposing several measures to reduce groundwater pollution from the Delaware Valley Works, formerly General Chemical, site in Claymont, DE. The site's soil is contaminated with the known carcinogens arsenic and benzo(a)pyrene as well as lead, which is known to impair childhood brain development and damage kidneys and cardiovascular systems in adults.

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Sincerely,
Joseph McCullough
1854 Plymouth Drive
Woodlyn, PA 19094
610-996-2738

Dear U.S. Environmental Protection Agency,

I thank the U.S. Environmental Protection Agency (EPA) for proposing several measures to reduce groundwater pollution from the Delaware Valley Works, formerly General Chemical, site in Claymont, DE. The site's soil is contaminated with the known carcinogens arsenic and benzo(a)pyrene as well as lead, which is known to impair childhood brain development and damage kidneys and cardiovascular systems in adults.

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Sincerely,
Mike Peale
5 Worth Hill Ln
Aston, PA 19014
610-358-4984

Dear U.S. Environmental Protection Agency,

I thank the U.S. Environmental Protection Agency (EPA) for proposing several measures to reduce groundwater pollution from the Delaware Valley Works, formerly General Chemical, site in Claymont, DE. The site's soil is contaminated with the known carcinogens arsenic and benzo(a)pyrene as well as lead, which is known to impair childhood brain development and damage kidneys and cardiovascular systems in adults.

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Sincerely,
Philip Pegan
693 Boxwood Dr
Upper Chichester, PA 19014
484-340-6320

Dear U.S. Environmental Protection Agency,

I thank the U.S. Environmental Protection Agency (EPA) for proposing several measures to reduce groundwater pollution from the Delaware Valley Works, formerly General Chemical, site in Claymont, DE. The site's soil is contaminated with the known carcinogens arsenic and benzo(a)pyrene as well as lead, which is known to impair childhood brain development and damage kidneys and cardiovascular systems in adults.

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Sincerely,
Elizabeth Seltzer
11 W Ridge Rd
Media, PA 19063
610-556-3464

Dear U.S. Environmental Protection Agency,

I thank the U.S. Environmental Protection Agency (EPA) for proposing several measures to reduce groundwater pollution from the Delaware Valley Works, formerly General Chemical, site in Claymont, DE. The site's soil is contaminated with the known carcinogens arsenic and benzo(a)pyrene as well as lead, which is known to impair childhood brain development and damage kidneys and cardiovascular systems in adults.

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This environmental cleanup is absolutely necessary, but EPA must not allow portions of this site to be redeveloped as industrial or commercial properties in the future. This could exacerbate existing pollution and flooding concerns.

Sincerely,
Echo Alford
963 Kingsman rd
Boothwyn, PA 19061

ATTACHMENT B

UNITED STATES

ENVIRONMENTAL PROTECTION AGENCY

REGION III

STATEMENT OF BASIS

Chemtrade Solutions LLC
(Formerly General Chemical Corp.)
Delaware Valley Works Facility
Claymont, Delaware

EPA ID NO. DED154576698

Prepared by

RCRA Corrective Action Section West
Land, Chemicals and Redevelopment Division

February 2024

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List of Acronyms

ACO	Administrative Order on Consent
amsl	Above mean sea level
AOC	Area of Concern
AR	Administrative Record
BERA	Baseline Ecological Risk Assessment
BF3	Boron trifluoride
BHC	Benzene hexachlorides
bgs	Below ground surface
CAO	Corrective Action Objective
CMP	Cap Management Plan
COC	Constituent of Concern
COPC	Chemical of Potential Concern
DDD	Dichlorodiphenyldichloroethane
DDE	Dichlorodiphenyldichloroethylene
DDT	Dichlorodiphenyltrichloroethane

DMA	Dimethylarsinic acid
DNREC	Department of Natural Resources and Environmental Control
DVW	Delaware Valley Works
EC	Environmental Covenant
EJ	Environmental Justice
EPA	Environmental Protection Agency
FSA	Fluorosulfonic acid
GCC	General Chemical Corporation
HHRA	Human Health Risk Assessment
HSWA	Hazardous and Solid Waste Amendments
IC	Institutional Control
IM	Interim Measure
MCL	Maximum Contaminant Level
MMA	Monomethylarsonic acid
NPDES	National Pollutant Discharge Elimination System
PAH	Polycyclic aromatic hydrocarbons
RBC	Risk-Based Concentration
RCRA	Resource Conservation and Recovery Act
RFI	RCRA Facility Investigation
RG	Remediation Goal
RSL	Regional Screening Level
SB	Statement of Basis
SPSP	South Plant South Parcel
SVOC	Semi-Volatile Organic Compound
SWMU	Solid Waste Management Unit
TAL	Target Analyte List
TI	Technical Impracticability
TOC	Total Organic Carbon
UECA	Uniform Environmental Covenants Act
VOC	Volatile Organic Compound

Section 1: Introduction

The United States Environmental Protection Agency (EPA) has prepared this Statement of Basis (SB) to solicit public comment on its proposed remedy for the Delaware River shoreline and nearshore sediments and porewater, Solid Waste Management Unit (SWMU) 9 soil and groundwater, and the South Plant South Parcel (SPSP) groundwater at the Honeywell Delaware Valley Works Facility, also known as the former General Chemical Facility, located at 6300 Philadelphia Pike, Claymont, New Castle County, Delaware (Facility or DVW Facility). The EPA issued a Final Decision and Response to Comments (Final Decision) in 2016 in which it selected a Final Remedy for soils (only) at the SPSP. That Final Remedy consists of installation and maintenance of a low permeability cap.

The EPA's proposed remedy in this SB consists of the implementation of engineering controls described in detail below; land and groundwater use restrictions implemented by an enforceable document such as an order and/or an Environmental Covenant to control exposure to contaminated pore water/sediment, soil/waste, and groundwater; a Technical Impracticability Waiver; and long-term groundwater monitoring. This SB highlights key information relied upon by the EPA in proposing its remedy.

The Facility is subject to the EPA's Corrective Action Program under the Solid Waste Disposal Act, as amended by the Resource Conservation and Recovery Act (RCRA) of 1976, and the Hazardous and Solid Waste Amendments (HSWA) of 1984, 42 U.S.C. §§ 6901 et seq. The Corrective Action Program requires that owners and/or operators of facilities subject to certain provisions of RCRA investigate and address releases of hazardous waste and hazardous constituents, usually in the form of soil or groundwater contamination, that have occurred at or from their property. This Facility is considered a concern for Environmental Justice (EJ) and Climate Adaptation; therefore, EJ and Climate Adaptation information were considered during the RCRA Corrective Action decision-making process.

The EPA is providing a thirty (30) day public comment period on the EPA's proposed remedy described in this SB. The EPA will evaluate comments received after the public comment period has ended and may modify its proposed remedy based on such comments. If the final remedy is substantially unchanged from the one proposed, the EPA will issue a Final Decision and inform all persons who submitted written comments or requested notice of the EPA's final determination. If the final remedy is significantly different from the one proposed, the EPA will issue a public notice explaining the new remedy and will reopen the comment period. The EPA will respond in writing to all relevant comments received during the comment period.

Information on the Corrective Action program and the Government Performance and Results Act Environmental Indicator Determinations for the Facility can be found by navigating to https://www.epa.gov/hwcorrectiveactioncleanups/hazardous-waste-cleanup-chemtrade-solutions-llc-formerly-general.

The EPA has compiled an Administrative Record (AR) containing all documents, including data and quality assurance information, upon which the EPA's proposed remedy is based. See Section 11, Public Participation, below, for information on how you may review the AR.

Statement of Basis

Section 2: Facility Background

The DVW Facility was a chemical manufacturing plant located along the Delaware-Pennsylvania border between Claymont, Delaware and Marcus Hook, Pennsylvania as shown on **Figure 1**. The Facility consists of approximately one hundred acres divided by Philadelphia Pike (U.S. Route 13). The portion north of Philadelphia Pike is referred to as the "North Plant," and the portion south of Philadelphia Pike, historically known as the "South Plant," is further divided into northern and southern parcels (**Figure 2**).

The two plants were previously owned by Allied Chemical Corporation, which became Allied-Signal Inc., then AlliedSignal Inc. (AlliedSignal), and now Honeywell International, Inc. (Honeywell). General Chemical Corporation (GCC) acquired the Facility from Allied Signal in 1986. Allied Signal retained ownership of several contiguous parcels of property upon which chemical operations were conducted and continue today and SWMU 9 in the South Plant. In 2004, Honeywell re-acquired the North Plant from GCC. In 2014, Chemtrade acquired GCC and later sold the South Plant to Drawbridge Claymont, LLC (Drawbridge). Drawbridge currently owns and operates the South Plant. The North Plant remains owned by Honeywell and is currently vacant. The South Plant is currently owned and operated by Drawbridge Claymont, LLC (Drawbridge). SWMU 9 is located adjacent to the SPSP along the Delaware River and is owned by Honeywell.

The Facility began operations in 1913. Over its history, the DVW Facility manufactured various chemical products including pesticides (dichlorodiphenyltrichloroethane [DDT] and dichlorodiphenyldichloroethane [DDD]), organic and inorganic acids, and specialty chemicals including boron trifluoride (BF3), a reaction catalyst used in a variety of process applications, and fluorosulfonic acid (FSA). Manufacturing operations ceased at the South Plant in 2004, and the South Plant North Parcel is currently being used by a trucking operation with on-site offices on a portion of the North Parcel. The northern portion of the SPSP was redeveloped as an active rail yard.

SWMU 9 is a former settling pond that encompasses 14.56 acres and is situated on the Delaware River. SWMU 9 was created by infilling marsh area and the near shore area of the Delaware River. Beginning in 1966, it was used for storage and dewatering of alum mud sludge. Alum mud was placed within containment berms and bulkheads, and water entrained in the mud was allowed to decant into the Delaware River. This practice continued into the 1980s, with air photos from 1982 and 1987 showing that SWMU 9 had reached its current configuration.

The shoreline and nearshore sediment areas along the Delaware River consist of the shoreline riverbank and shallow-water sediment cove area adjacent to the SPSP, and a shallow-water sediment area adjacent to the SWMU 9 parcel (**Figure 2**). A wooden bulkhead is present along the SWMU 9 shoreline fronting the Delaware River, and the cove area along the southern side of the South Plant has a steel sheetpile containment wall fronting it. The nearshore remedy area is defined by sediment sampling conducted to delineate to the established project remediation goals and by the limits of sediments not disturbed by previous or anticipated dredging (i.e., inward of the pierhead line).

In September 2000, the EPA issued an Administrative Order (Order) to GCC pursuant to Section 3008(h)

of RCRA which required a Facility-wide investigation and cleanup of the Facility. In addition, in 2000 Honeywell entered into a Facility Lead Corrective Action Agreement with the EPA, and on September 14, 2011, Honeywell entered into an Administrative Order on Consent (ACO) with the EPA.

Section 3: Conceptual Site Model

Topography

The topography of the SPSP varies between 9.6 feet above mean sea level (amsl) and 17.8 feet amsl in the northeast corner adjacent to the Marcus Hook Industrial Complex (formerly Sunoco) (located west of the SPSP and SWMU 9) and north of SWMU 9. The topography in this area has some mounds of soil and slopes to the southwest toward the sluiceway where the topography is between 10 feet to 11 feet amsl. The SPSP is generally flat west of the sluiceway and has decreased elevations from approximately 10 feet amsl down to zero amsl at the shoreline of the Delaware River. SWMU 9 topography varies greatly from the surrounding land (SPSP and Sunoco property) and is a discernable mound when viewed from a distance. SWMU 9 can be defined as having steep slopes on all sides of the area where the elevations of SWMU 9 vary from approximately 11 feet amsl in the northern area, increasing to approximately 45 feet amsl in the center of SWMU 9 and then decreasing to zero amsl on the eastern (Middle Creek), western (sluiceway) and southern (Delaware River) boundaries of SWMU 9.

Geology

The Facility is situated within the Coastal Plan Physiographic Province. The Coastal Plain consists of unconsolidated sediments from the Cretaceous, Tertiary, and Quaternary ages overlying pre-Cambrian bedrock. These unconsolidated sediments consist of gravel, sand, silt, and clay deposits. The DVW Facility lies approximately 1 mile east of the Fall Line, which marks the beginning of the Piedmont Physiographic Province. Local subsurface geology is known from boring logs provided by the RCRA Facility Investigation (RFI). The surficial unit over the majority of the DVW Facility consists of an historic fill material used to create grades for building and to level the Facility property. The historic fill typically ranges from 0 to 7 feet below ground surface (bgs). It is underlain by unconsolidated fluvial deposits of silty clay, which are in turn underlain by sand and gravel deposits of varying thickness. These unconsolidated overburden units extend downward to a saprolite/weathered bedrock (Wissahickon Schist). The bedrock dips downward and is reportedly encountered at depths ranging from approximately 16 feet bgs along Philadelphia Pike to as deep as 54 feet bgs along the Delaware River. Saprolitic materials have been identified at depths of 35 feet bgs and greater.

Hydrogeology

The principal water-bearing zone consists of unconsolidated sand and gravel units of the Coastal Plain Sediments. Characteristic of the Coastal Plain sediments of the region, the principal water-bearing zone at the DVW Facility consists of an unconsolidated sand and gravel which underlies historical fill materials and discontinuous silty-clay units. Groundwater occurs in these units under water table conditions and was encountered generally between 7 and 13 feet bgs during well installations. Where present, silty-clay units may create locally semi-confined conditions. Shallow water level data collected

in synoptic water level measurements during the prior RFI investigation work indicate groundwater flow direction to the south-southwest toward the Delaware River discharge boundary and deep water level data indicate flow to the east-northeast.

Section 4: Summary of Environmental Investigations

On November 11, 1980, Allied Chemical Corporation submitted a RCRA Part A Hazardous Waste Permit Application to the EPA for the DVW Facility. In June 1986, AlliedSignal completed a RCRA Facility Assessment (RFA) in which 14 SWMUs and one Area of Concern (AOC) were identified on what is now DVW Facility property. In 1999, the EPA Region 3 issued an ACO to GCC to conduct an RFI at the Facility which included land later sold to Honeywell.

SWMU 9

During the 2003 Phase I RFI, a total of 18 soil borings were installed throughout the SWMU. Soil samples were collected from three depth intervals and analyzed for Target Analyte List (TAL) metals. The analytical results were compared to the EPA Residential Risk-Based Concentrations (RBCs), Industrial RBCs, and Ecological Screening Values. Exceedances of the Residential RBCs and/or Ecological Screening Levels were observed throughout the SWMU for aluminum, antimony, arsenic, and iron.

In 2010 as part of the offshore sediment investigation, surface soil samples from the 0 to 0.5-foot depth interval were collected over much of the surface of SWMU 9 and analyzed for pesticides (benzene hexachlorides [BHCs], DDT, DDD, dichlorodiphenyldichloroethylene [DDE] (collectively referred to as DDx)), arsenic, and lead. Generally, DDx soil concentrations greater than 1 milligram per kilogram (mg/kg) were limited to immediately along the shoreline. The arsenic concentration distribution generally was similar to that of DDx (i.e., areas of elevated arsenic concentrations also had elevated DDx concentrations). During the 2010 investigation, groundwater samples were also collected from the monitoring wells along the Delaware River and analyzed for DDx, lead, and arsenic (dissolved and total).

A 2014-2015 RFI included the installation and sampling of one new groundwater monitoring well at SWMU 9. The 2015 RFI also included a geotechnical investigation.

In 2016, an additional investigation was conducted to supplement the previous investigations and to assess the impact of arsenic in groundwater. The 2016 additional investigation included the installation of one groundwater monitoring well at SWMU 9. Groundwater samples were collected for arsenic speciation analysis and slug tests were performed to evaluate hydraulic conductivity at the Facility.

In 2018, a geotechnical investigation was conducted to collect supplemental geotechnical and other data necessary to support the design of a corrective measure including a slope stability analysis. Six soil borings were advanced and one monitoring well was installed. Soil samples were analyzed for physical and engineering properties to support the corrective measure at the Facility.

In 2019, six soil borings were advanced in the southeastern portion of the Facility for the collection of

soil samples and four monitoring wells (two shallow and two deep) were installed between the Facility and the Sunoco property to the northeast.

Soil boring locations are shown on **Figure 3** and results are provided in **Appendix A**. Monitoring well locations are shown on **Figure 4** and results are provided in **Appendix B**.

South Plant South Parcel Groundwater

The following phases of groundwater investigation have been conducted at the South Plant which included investigations at the SPSP:

- 2003 Phase I RFI;
- 2007 Phase II RFI;
- 2010 Pathway Investigation; and
- 2016 Supplemental Pathway Investigation.

The 2003 Phase I RFI included sampling of 32 shallow groundwater monitoring wells (15 existing and 17 new) located in both the North and South Plants. Based upon review of the Phase I RFI results, a subsequent groundwater sampling effort was conducted under the 2007 Phase II RFI.

The presence of volatile organic compounds (VOCs) and semi-volatile organic compounds (SVOCs) in groundwater at the South Plant appears to be localized and limited in extent. While certain VOCs and SVOCs were detected at concentrations exceeding corresponding Maximum Contaminant Levels (MCLs) or the EPA Region 3 Tap Water RBCs in limited locations, VOCs and SVOCs (to the extent detected) were generally found at low concentrations. Chlorinated VOCs appear to be locally limited to the extreme northwest corner of the South Plant North Parcel near monitoring well MW-106. DDx compounds were present at three scattered locations and generally detected at concentrations of less than 1 microgram per liter (µg/L). BHC compounds were locally present at six locations investigated; however, BHC compounds generally were present at only trace levels (less than 1 µg/L).

Dissolved arsenic, cadmium, chromium, copper, lead, nickel, thallium, vanadium, and zinc were detected at concentrations exceeding their respective MCLs in groundwater in the South Plant. With the exception of dissolved arsenic, all of the detected compounds exceeding screening levels were found to be localized and limited in extent. Dissolved arsenic was found in groundwater beneath several areas of the South Plant, including in groundwater near the Delaware River at the southern boundary of the South Plant.

In 2010, a pathway investigation was conducted to assess the potential impacts of arsenic in groundwater on adjacent Delaware River water quality. To further assess possible cross-media migration of arsenic from soils to groundwater, and subsequently to the Delaware River, calculations (originally developed in 2004) were updated to assess concentrations of dissolved arsenic in monitoring wells. Based on the designated uses for the Delaware River, which are listed as primary contact recreation, secondary contact recreation, and fish, aquatic life, and wildlife under Title 7 Delaware Administrative Code 7401 § 3, the water quality criteria for protection of human health (fish and water ingestion) are not applicable because the designated uses for the Delaware River do not include use as a public water supply source. Accordingly, the relevant water quality standard for arsenic is the Saltwater Continuous Chronic Criterion of 36 µg/L (found in Title 7 Delaware

Administrative Code 7401 § 4.5.9.3, Table 1). Based on this cross-media assessment, it was estimated that concentrations of dissolved arsenic migrating to the Delaware River from the diffuse discharge of groundwater from beneath the South Plant will result in concentrations of arsenic in surface water that are two orders of magnitude below the relevant water quality standard of 36 µg/L.

Monitoring well locations are shown on **Figure 4** and results are provided in **Appendix B**.

Shoreline and Nearshore Sediment Area

On September 19, 2008, the EPA collected Delaware River sediment samples within the tidal mudflats adjacent to the South Plant and SWMU 9. Sampling data indicated the presence of DDx, arsenic, and lead. Re-sampling of the sediment (0- to 6-inch depth interval [bioactive zone only]) in the vicinity of the previously the EPA sampled sediment locations was conducted on June 11, 2009.

Additional sampling of shoreline sediment, the stormwater sluiceway, groundwater, and surface soils was conducted in July 2010. During that event, 29 sediment samples were collected from the confluence box and down the sluiceway into the area between the dock and cove area. This investigation identified the presence of DDx, lead, and arsenic in the confluence box, sluiceway, and shoreline river sediment.

A series of six additional sediment sampling events were conducted from July 2012 through February 2015 to characterize and delineate DDx, lead, and arsenic in river sediments within the on-site nearshore study area extending outward (south/southeast) toward the pierhead line that defines the outer limit of the nearshore environment and west/southwest toward the existing facility pier. The corrective measures would extend to the pierhead line. These sediment sampling efforts also completed the on-site nearshore sediment delineation to the upstream property boundary. In addition to delineation of DDx, arsenic, and lead in sediments, additional sediment investigations were conducted to assess bathymetry and geotechnical properties of nearshore river sediments and shoreline soils.

In January 2016, the EPA requested that a supplemental sediment investigation be performed to complete the delineation of impacted surface sediments to the east (off-site) of the DVW Facility adjacent to the Sunoco Site. The supplemental study area extended approximately 1,000 feet eastward and adjacent to the Sunoco Site (**Figure 1**). A total of 30 surface sediment samples (0-6 inches) were collected; 15 primary samples were analyzed for DDT and its isomers, as well as Total Organic Carbon (TOC). Four sediment samples exhibited concentrations of DDx in excess of the sediment remedial goal.

A supplemental pathway investigation was also conducted in 2016 to evaluate groundwater impacts and potential nearshore discharge in the southern portion of the Facility to support the design for subsequent capping of the nearshore sediments. The purpose of the sampling and analysis was to collect data to assess the fate of arsenic in groundwater potentially discharging from the Facility to the nearshore sediments of the Delaware River. Results of the sampling for groundwater, porewater, sediment, and surface water were reported as follows:

- Dissolved arsenic concentrations in the sampled wells ranged from 1.15 to 154,000 µg/L. Total arsenic concentrations were consistent with dissolved concentrations in the sampled wells,

indicating arsenic in groundwater is present in the dissolved phase. The highest groundwater dissolved arsenic concentrations were detected in monitoring wells immediately upgradient of the cove, including MW-108R, MW-119, and MW-120. Dissolved arsenic concentrations in groundwater within SWMU 9 (MW-16, MW-17, and MW-122) were generally low (less than 27 µg/L) and characterized by a greater proportion of As(V).

- Porewater dissolved arsenic concentrations ranged from 40 to 417,000 µg/L and were generally highest in the cove sampling locations. Arsenic in porewater consists predominantly of As(III), which typically accounts for more than 80% of the dissolved arsenic in any given sample, with minor to trace amounts of As(V). Monomethylarsonic acid (MMA) and dimethylarsinic acid (DMA) were not detected in porewater. At three of the four in-water sampling locations in the cove (DVW-16-01, DVW-16-03, and DVW-16-08), deep porewater dissolved arsenic concentrations were higher than concentrations in co-located shallow porewater. The lower concentrations in shallow porewater compared to the deeper samples at most locations in the cove indicate dissolved arsenic is attenuated within the sediment. In contrast, at most of the porewater sampling locations offshore of SWMU 9 (DVW-16-04, DVW-16-05, DVW-16-06, DVW-16-07, DVW-16-08, DVW-16- 09, and DVW-16-10), dissolved arsenic concentrations were much greater than those detected in the upland SWMU-9 wells. Deep porewater dissolved arsenic concentrations were also lower, by up to one to two orders of magnitude, than those observed in the cove. Arsenic speciation in shallow porewater in this area was generally more than 90% As(III). The elevated porewater arsenic concentrations compared to upland groundwater and the predominance of reduced As(III) indicate porewater arsenic concentrations are influenced by the presence of arsenic in the local sediments and local redox conditions rather than by migration of upland groundwater.
- Total arsenic concentrations in surface water ranged between 3.45 and 19.5 µg/L, and dissolved arsenic concentrations ranged between 1.67 and 5.98 µg/L. All surface water concentrations were below the chronic water quality standard of 36 µg/L.
- Total arsenic concentrations in sediment samples ranged from 48.7 to 1,830 mg/kg and were highest at sample locations located within the cove. These locations coincide with highest dissolved arsenic concentrations in pore water samples and are downgradient of monitoring wells which also have higher dissolved arsenic concentrations relative to other areas of the Facility.

In October 2018, additional nearshore data was collected, including along the Sunoco property to characterize sediment pore water for select pesticides and arsenic. These sampling results indicated elevated arsenic concentrations in pore water along the Sunoco property and the SPSP cove shoreline.

Spatial and depth distributions of arsenic concentrations and major ion chemistry of groundwater and porewater confirmed that groundwater discharge as a source of elevated arsenic to sediments is limited to the nearshore in the cove area adjacent to the SPSP south of the sluiceway discharge. Sediment and pore water sample locations are shown on **Figures 5** through **10** and results are provided in **Appendix C**. Results specific to the 2016 Supplemental Pathway investigation are provided in **Appendix D**.

Section 5: Risk Assessment

A Human Health Risk Assessment (HHRA) was conducted for SWMU 9 as part of the North Plant RFI. SWMU 9 soil samples were collected and analyzed for VOCs, SVOCs, pesticides, and metals. Detected concentrations were screened against the EPA Regional Screening Levels (RSLs) (November 2021) to determine chemicals of potential concern (COPCs). COPCs identified include VOCs, polycyclic aromatic hydrocarbons (PAHs), chlorinated and nitrogenated benzenes, DDx, and metals (in particular arsenic, mercury, and thallium). The HHRA examined site construction workers and adult and child trespassers as potential receptors. The results of the HHRA indicated that carcinogenic risk estimates exceeded the EPA risk threshold for current and for future construction workers at SWMU 9. Noncarcinogenic risk estimates exceeded the EPA threshold for future construction workers at SWMU 9. The risk drivers are arsenic and thallium. Residential exposure to soil and groundwater, and exposure to groundwater as a drinking water source was eliminated due to current and foreseeable future industrial land use conditions.

A baseline ecological risk assessment (BERA) was conducted only at SWMU 9 since there is little or no area of the remainder of the Facility that serves or could serve as habitat. Three potential ecological receptors were identified as having complete exposures to surficial soil contaminants: the short-tailed shrew, the American robin, and the raccoon.

Section 6: Interim Measures

The potential source of DDx, arsenic, and lead in nearshore river sediments was suspected to be impacted sediment in the storm water sewer system at both the North Plant and the South Plant. Stormwater is collected by a stormwater sewer collection system, which conveys stormwater by gravity beneath U.S. Highway 13 and into the stormwater sewer system that serves the former South Plant facility. From the storm sewer, stormwater is discharged to the Delaware River outfall via a sluiceway. The stormwater outfall is permitted under a National Pollutant Discharge Elimination System (NPDES) discharge permit.

Stormwater Sewer System

Honeywell completed a maintenance storm sewer cleaning project in August 2011 to remove accumulated sediment from the DVW Facility storm sewer system and a main trunk line leading from the North Plant across the South Plant North Parcel to the confluence box discharge point at the upper end of the sluiceway located on the Facility property. Approximately 10,480 linear feet of storm sewer lines were jet cleaned and video inspected. During the jetting process, approximately 254 tons of accumulated sediment and debris were removed. All solids collected from the cleaning operations were dewatered and mixed with a polymer to ensure passing a paint filter test for transportation and disposal. Solids characterized as hazardous based on TCLP analytical testing were transported to an approved disposal facility for incineration. Non-RCRA hazardous materials were transported and disposed of at an approved landfill between October 27, 2011 and April 3, 2012.

Upper Sluiceway

The upper sluiceway is defined as the portion of the Facility storm water conveyance system from the storm water confluence box to the existing weir structure (**Figure 2**). The IMs for the upper sluiceway were completed between December 2012 and June 2013. The scope of interim measures work consisted of removing soft sediment from the upper sluiceway and the subsequent installation of a cover system over the sluiceway base. The tasks completed included dewatering and flow control/diversion of the upper sluiceway, debris removal, removal and solidification of sediment from the subsurface concrete pipeline and subsequent video inspection, removal and solidification of soft sediment from the remaining portions of the upper sluiceway, and the placement of a geotextile fabric and minimum 6-inch thick AquaBlok® layer throughout the open channel portion of the upper sluiceway. The excavation of the soft sediment was considered complete once competent material was encountered that provided a suitable, stable base for the placement of the cover system.

Lower Sluiceway

The IM for the uppermost 500 feet of the lower sluiceway was completed in 2022. Sediment excavation from the lower sluiceway consisted of approximately 0.5 to 2.5 feet of soft sediment excavation within the limits of sluiceway work with an additional over-excavation allowance of 0.5 feet. The weir box and road crossing culvert within the lower sluiceway were cleared of visible sediment and debris. Following sediment removal, the sediment cover was placed consisting of an initial sand layer, geotextile layer, and a layer of AquaBlok® material. A geotextile layer was placed over the AquaBlok® material and armor stone was installed over the geotextile. In addition, the culvert within the lower sluiceway was removed and replaced with a layer of riprap stone to line the channel; the culvert will be replaced at a later date in coordination with current owner. The remediation of the remaining 335-foot portion of the Lower Sluiceway ("Segment 3" as shown on **Figure 2**) will be coordinated with the implementation of the shoreline and nearshore sediment corrective measures.

Section 7: Corrective Action Objectives

The EPA's Corrective Action Objectives (CAOs) are as follows:

SWMU 9 Soils

The EPA's CAOs for SWMU 9 soils are to prevent uncontrolled exposure due to direct contact of constituents of concern (COCs), mitigate particulate transport to Delaware River and sluiceway, and minimize cross media transfer from potential inhalation and ingestion of airborne particles from disturbance of COC-impacted soils.

The EPA's Direct Contact Industrial Soil RSL and Protection of Groundwater RSLs apply to all soils that could leach contaminants to groundwater.

			Protection of GW SSL	
Parameter Group	**COPC**	**Direct Contact Industrial Soil RSL (mg/kg)**	**Risk Based Soil Screening Level (SSL) (mg/kg)**	**MCL Based Soil Screening Level (SSL) (mg/kg)**
VOCs	Methylcyclohexane	NS	NS	NS
Metals	Aluminum	1100000	30000	NS
	Arsenic	3	0.0015	0.29
	Lead	800	NS	14
	Thallium	12	0.014	0.14
	Vanadium	5800	86	NS
Pesticides	Aldrin	0.18	0.00015	NS
	alpha-BHC	0.36	0.000042	NS
	beta-BHC	1.3	0.00015	NS
	gamma-BHC	2.5	0.00024	0.0012
	4,4'-DDD	9.6	0.0075	NS
	4,4'-DDE	9.3	0.011	NS
	4,4'-DDT	8.5	0.077	NS
	Dieldrin	0.14	0.000071	NS

Note: NS – No Standard

SWMU 9 and South Plant South Parcel Groundwater

The EPA expects final remedies to return usable groundwater to its maximum beneficial use, where practicable, within a timeframe that is reasonable. For projects where aquifers are either currently used for water supply or have the potential to be used for water supply, EPA will use the National Primary Drinking Water Standard Maximum Contaminant Levels (MCLs) promulgated pursuant to Section 42 U.S.C. §§ 300f et seq. of the Safe Drinking Water Act and codified at 40 C.F.R. Part 141.

The EPA has determined that restoration of groundwater to MCLs is technically impracticable at SWMU 9 and SPSP. Technical impracticability (TI) for contaminated groundwater refers to a situation where achieving groundwater cleanup standards associated with final cleanup standards is not practicable from an engineering perspective. The term "engineering perspective" refers to factors such as feasibility, reliability, scale or magnitude of a project, and safety. Restoration of groundwater at SWMU 9 and SPSP to MCLs has been deemed technically impracticable for the following reasons:

1. The large volume of the contaminated fill material. The distribution of arsenic in groundwater at the Facility does not appear to be from a release or particular unit but appears to be associated with the historical fill used along the Delaware River shoreline.
2. Hydrogeologic factors such as heterogeneous soil conditions consisting of fill material and low permeability materials with low groundwater seepage velocities, such as silts and clays.
3. Site-setting factors such as:

a. The highly industrialized environment with significant surficial and subsurface infrastructure and
b. The presence of offsite sources and regional characteristics that could render any restoration within the SPSP and SWMU 9 temporary, as these offsite sources could recontaminate the area.

Therefore, the standard in this proposed remedy is the levels established by DNREC's surface water criteria to protect the Delaware River from groundwater discharging from the Facility. EPA's Corrective Action Objectives for Facility groundwater are to control exposure to the hazardous constituents remaining in the groundwater; protect the current existing receptors, namely site workers, construction workers, trespassers and wildlife, from unacceptable concentrations from COC impacts; ensure that the dissolved groundwater plume is contained and will not migrate beyond the extent of the current groundwater plume; and ensure that no groundwater discharge concentrations would result in surface water concentrations that are above the Delaware surface water criteria. The TI Zone applies to the entirety of the SPSP and SWMU 9, and applies to COPCs including VOCs, SVOCs, metals, and pesticides.

Relevant groundwater-specific goals are provided by the EPA's MCLs and, if an MCL does not exist for a specific compound, the EPA's May 2023 RSLs for tap water would apply. The following groundwater MCLs and RSLs will be used as groundwater specific goals for the Facility COPCs at the point of compliance (shoreline monitoring wells):

Parameter Group	Constituent	May 2020 EPA MCL (µg/L)	May 2023 RSL (µg/L)
VOCs	1,1-Dichloroethane	NS	2.8
	1,2-Dichloroethane	5	0.17
	1,2-Dichloropropane	5	0.85
	1,4-Dichlorobenzene	75	0.48
	Benzene	5	0.46
	Chlorobenzene	100	78
	Chloroform	80	0.22
	cis-1,2-Dichloroethene	70	25
	Ethylbenzene	700	1.5
	Methylene Chloride	5	11
	Tetrachloroethene	5	11
	Trichloroethene	5	0.49
	Vinyl Chloride	2	0.019
	Xylenes	10000	190
SVOCs	2-Methylnaphthalene	NS	36
	Benzo(a)anthracene	NS	0.03
	Benzo(a)pyrene	NS	0.025

Parameter Group	Constituent	May 2020 EPA MCL (µg/L)	May 2023 RSL (µg/L)
	Benzo(b)fluoranthene	NS	0.25
SVOCs	Naphthalene	NS	0.12
	n-Nitrodiphenylamine	NS	12
Metals	Antimony	6	7.8
	Aluminum	NS	20000
	Barium	2000	3800
	Berylium	4	25
	Cadmium	5	1.8
Metals	Cobalt	NS	6
	Copper	1300	800
	Iron	NS	14000
	Lead	15	15
	Manganese	NS	430
	Mercury	2	0.63
	Nickel	NS	390
	Selenium	50	100
	Silver	NS	94
	Thallium	2	0.2
	Vanadium	NS	86
	Zinc	NS	6000
Pesticides	4,4'-DDD	NS	0.032
	4,4'-DDE	NS	0.046
	4,4'-DDT	NS	0.23
Pesticides	Aldrin	NS	0.00092
	alpha-BHC	NS	0.0072
	beta-BHC	NS	0.025
	gamma-BHC	0.2	0.042
	Dieldrin	NS	0.0018
	Heptachlor	0.4	0.0014
	Heptachlor Epoxide	0.2	0.0014

Note: NS – No Standard

Pore Water and Sediment

The CAO for pore water/sediment is to achieve risk-based remediation goals for arsenic in pore water and DDx, arsenic, and lead in sediments. Site-specific sediment remediation goals were developed to be protective of potential human and ecological receptors that could be present in the Delaware River adjacent to the Facility. The risk-based remediation goals for total DDx, arsenic, and lead are:

Chemical	RG Range	Controlling Endpoint(s)
Total DDx (µg/gOC)	40-60	Benthic invertebrates, fish, humans
Arsenic (mg/kg)	130-170	Benthic invertebrates
Lead (mg/kg)	150	Fish

A risk-based screening level was developed to assess the potential significance of arsenic concentrations detected in sediment pore water in the nearshore area of the Delaware River. The risk-based remediation goal for arsenic in pore water is 1,253 ug/L, designed to be protective of the benthic community in surface sediment.

Section 8: Proposed Remedy

The EPA's proposed remedy includes an engineered cover system at SWMU 9; establishing a Technical Impracticability Zone and long-term groundwater monitoring for SWMU 9 and South Plant South Parcel groundwater; implementing use restrictions through Institutional Controls; and constructing and maintaining a sediment cap for the shoreline and nearshore sediment. Additional details are provided below. A description and analysis of the other alternatives considered by the EPA can be found in the Corrective Measures Study Reports prepared by Honeywell. EPA approved the SWMU 9 and SPSP Groundwater CMS on December 21, 2023 and approved the Nearshore Sediment CMS on June 26, 2023.

SWMU 9

The EPA's proposed remedy for SWMU 9 is to install and maintain a cover system (soil cap with marker fabric above the alum mud) that controls, minimizes, or eliminates post remedial action escape of hazardous waste, hazardous constituents, leachate, contaminated run-off, or hazardous waste decomposition products to the ground or surface waters or to the atmosphere, to the extent necessary to protect human health and the environment. The cap shall be designed and constructed to prevent infiltration to mitigate potential cross-media migration (soil to groundwater) of COCs. The cap shall be functionally equivalent to the performance standards documented in 40 CFR Section 265.310.

A Cap Management Plan (CMP) shall be submitted for EPA and the state of Delaware's Department of Natural Resources and Environmental Control's (DNREC) review and approval and, at a minimum will include the following: the procedures to maintain the cap over the contaminated soil; a schedule for inspections to be performed as part of cap maintenance, no less frequent than once a year; physical maintenance requirements of the capped areas to prevent degradation of the cap and unacceptable exposure to the underlying soil.

In addition to the cover system, stabilization of SWMU 9 soil and construction of other necessary erosion and stormwater control components will also be completed.

SWMU 9 and South Plant South Parcel Groundwater

EPA's proposed remedy for SWMU 9 and SPSP groundwater consists of establishing a Technical Impracticability (TI) Zone. The TI Zone is defined as groundwater within the area depicted on Figure 11 of this SB. The distribution of arsenic in groundwater at the Facility does not appear to be from a release or particular unit but appears to be associated with the historical fill used along the Delaware River shoreline. Further, as characterized during the RFI, the low hydraulic conductivity of the fill material results in low groundwater seepage velocities which, combined with the volume of fill present on the Facility, supports the conclusion that groundwater restoration is technically impracticable.

Further, the findings of the previous investigations characterized the extensive nature of the heterogeneous and contaminated fill in contact with groundwater, and estimates to achieve RSLs indicate that it is technically impracticable from an engineering perspective to restore groundwater at the Facility. Therefore, the following alternative remedial approach has been developed in consideration of the potential for exposure to groundwater and the means available with which to control it:

- Prevent/minimize potential exposure by contact or ingestion that presents unacceptable risk.
- Prevent migration and preferential flow of COCs to the Delaware River at levels resulting in risk above acceptable levels to human health or ecological receptors. Specifically, a remedy is proposed that combines:
    - Capping of SWMU 9 and SPSP soils to reduce infiltration into the underlying fill material (capping of SPSP soils is addressed by the remedy selected in the EPA's 2016 FDRTC for SPSP soils);
    - Treatment of groundwater via a reactive cap over the area of sediment where groundwater discharges to the Delaware River;
    - Conducting long-term groundwater monitoring; and
    - Implementing land and groundwater use restrictions through institutional controls to preclude use of groundwater at the Facility.

Delaware River Shoreline and Nearshore Sediment Area

The proposed shoreline (cove and SWMU 9) and nearshore sediment remedy consists of a multi-layer capping system consisting of an isolation layer, filter layer, and armor layer. A total of 12.4 acres of nearshore sediments would be capped (**Figure 2**) including an approximately 10.2-acre on-site area and an approximately 2.2-acre off-site area (i.e., the supplemental study area). This off-site portion of the cap may extend east of the DVW Facility property adjacent to the Sunoco property. Additionally, approximately 1.8 acres of shoreline fronting the South Plant and SWMU 9 will be regraded, capped, and armored. The sediment cap will generally consist of a base isolation layer of sand overlying the existing sediment surface. An intermediate gravel filter layer has been designated for certain cap types, depending on the size of the overlying erosion protection armor stone for a given area where the cap is to be placed. The erosion protection armor layer varies across the cap types, depending upon the modeled erosive forces for certain areas and inclinations of the sediment surface. In areas where dissolved arsenic has the potential to migrate up through the cap, the capping systems will include a

chemical isolation layer (e.g., zero valent iron amendment). It is currently estimated that the shoreline cap will be approximately 30 to 39-inches thick in the cove area and 33- to 42-inches for SMWU 9. It is currently estimated that the nearshore sediment cap thickness may range from approximately 18 to 66 inches thick, depending on the armor layer requirements.

These limits of impacted sediments were defined by delineation of COC concentrations to the established site-specific risk-based remediation goals and limits of the shallow nearshore environment. Arsenic and DDx have been delineated in the western and eastern portions of the study area, and to the limits of nearshore area defined by the pierhead line. This delineated area consists of the shoreline banks of the cove area and the SWMU 9 parcel, which are separated by the Facility sluiceway and discharge conveyance.

Remediation of Segment 3 of the Lower Sluiceway will be completed as part of the shoreline and sediment remedy implementation.

Data demonstrate that the Sunoco property may be contributing to sediment arsenic and lead in the nearshore remedy area. Therefore, EPA proposes that for any portion of the cap that may extend beyond the DVW Facility property, Honeywell will maintain cap integrity, but not conduct chemical monitoring or address lead or arsenic that may recontaminate the portions of the cap that lie beyond the DVW property.

Institutional Controls

The 2016 Baseline HHRA identified unacceptable risk regarding residential and non-residential exposure to groundwater, and therefore the exposure pathway will be eliminated for residents and non-residents using Institutional Controls (ICs), as well as health and safety controls for any potential construction worker exposure. Because contaminants remain in the soil and groundwater at the SPSP and SWMU 9 above levels appropriate for residential use, the EPA's proposed remedy requires land use restrictions to restrict activities that may result in exposure to those contaminants. The EPA proposes that the restrictions be implemented and maintained through ICs. ICs are non-engineered instruments such as administrative and/or legal controls that minimize the potential for human exposure to contamination and/or protect the integrity of the remedy by limiting land or resource use.

The EPA is proposing the following land and groundwater use restrictions be implemented:

a. The SPSP and SWMU 9 shall be restricted to commercial and/or industrial purposes and shall not be used for residential purposes unless it is demonstrated to EPA, in consultation with DNREC, that such use will not pose a threat to human health or the environment or adversely affect or interfere with the selected remedy and the EPA, in consultation with DNREC, provides prior written approval for such use.
b. All monitoring, maintenance and inspections of the SWMU 9 engineered cover system shall be conducted in compliance with an EPA/DNREC approved CMP.
c. Groundwater at the Facility shall not be used for any purpose other than the operation, maintenance, and monitoring activities required by the EPA, unless it is demonstrated to the EPA that such use will not pose a threat to human health or the environment or adversely affect or interfere with the final remedy and the EPA provides prior written approval for such use.

Statement of Basis

d. No new wells shall be installed on Facility property unless it is demonstrated to the EPA that such wells are necessary to implement the final remedy and the EPA provides prior written approval to install such wells.

The land and groundwater use restrictions necessary to prevent human exposure to contaminants at the Facility will be implemented through enforceable ICs such as an order and/or an Environmental Covenant pursuant to 7 *Del. C*. ch. 79, subchapter II, Uniform Environmental Covenants Act to be recorded with the deed for the Facility property. If the EPA determines that additional monitoring activities, institutional controls, or other corrective actions are necessary to protect human health or the environment, the EPA has the authority to require and enforce such additional corrective actions through an enforceable mechanism which may include an order or Environmental Covenant, provided any necessary public participation requirements are met. If any individual with an interest in the Facility property believes that information shows that any use restrictions proposed and later selected by the EPA are no longer necessary to protect public health and the environment, the individual may submit such information to the EPA for consideration. The EPA can change any such restriction if it determines it is no longer necessary, after any required public comment period.

Section 9: Evaluation of Proposed Remedy

This section provides a description of the criteria the EPA used to evaluate the proposed remedy consistent with the EPA guidance. The criteria are applied in two phases. In the first phase, the EPA evaluates three decision threshold criteria as general goals. In the second phase, for those remedies which meet the threshold criteria, the EPA then evaluates seven balancing criteria.

Threshold Criteria	**Evaluation**
1) Protect human health and the environment	<u>SWMU 9</u> The engineered cover system at SWMU 9 will protect human health and environmental exposure by preventing direct contact. <u>Groundwater</u> Human health and environmental exposure for groundwater will be protected through restrictions on potable groundwater use. In addition, data demonstrate that groundwater discharge to surface water will not cause exceedances of DNREC's surface water criteria, and therefore does not pose an unacceptable risk to the Delaware River. <u>Sediments</u> The proposed sediment remedy protects current and reasonably anticipated future receptors by isolating sediments and eliminating the exposure pathway for human and

	ecological receptors. The sediment capping achieves overall risk reduction objectives by reducing contaminant flux to the overlying water and reducing concentrations in pore-water and bulk solids at the sediment-water interface.
2) Achieve media cleanup objectives	The proposed remedies meet the media cleanup objectives based on assumptions regarding current and reasonably anticipated land and water resource use(s). <u>SWMU 9</u> The engineered cover system at SWMU 9 will prevent direct contact to impacted soils and will reduce stormwater infiltration to impacted groundwater and prevent receptor direct contact exposure. <u>Groundwater</u> The proposed remedy does not meet MCLs. Achieving groundwater MCLs is technically impracticable due to various contaminant-related, hydrogeologic, and site-setting factors. The proposed use restrictions at the Facility will eliminate future unacceptable exposures to groundwater. Groundwater monitoring of the onsite wells will continue long-term. <u>Sediments</u> The proposed sediment remedy will achieve the site-specific risk-based remediation goals for arsenic in pore water (1,253 ug/L) and DDx, arsenic and lead in sediments (160 ug/gOC, 170 mg/kg and 150 mg/kg, respectively) to be protective of human health and ecological receptors.
3) Remediating the Source of Releases	In all proposed remedies, the EPA seeks to eliminate or reduce further releases of hazardous wastes and hazardous constituents that may pose a threat to human health and the environment. Controlling the sources of contamination relates to the ability of the proposed remedy to reduce or eliminate, to the maximum extent practicable, further releases. <u>SWMU 9</u> The engineered cover system at SWMU 9 will reduce stormwater infiltration to impacted groundwater and prevent releases of particulates.

	Groundwater The proposed use restrictions at the Facility will eliminate future unacceptable exposures to groundwater. Sediments The completed sewer system and sluiceway IMs eliminated a source of the contamination entering the nearshore area via the sluiceway. The proposed sediment remedy will prevent exposure of human and ecological receptors to impacted sediments and prevent migration of dissolved phase arsenic through the sediment cap.
Balancing Criteria	**Evaluation**
1) Long-term effectiveness	SWMU 9 The long-term effectiveness of the engineered cover system will be maintained by the implementation of engineering controls. Groundwater The proposed use restrictions at the Facility will eliminate future unacceptable exposures to groundwater. Sediments The sediment cap will be designed to permanently establish a clean sediment surface and to withstand potential erosive forces that could disturb the surface of the cap. Long-term monitoring and maintenance will identify and address any disturbances to the cap.
2) Reduction of toxicity, mobility, or volume of the Hazardous Constituents	SWMU 9 The engineered cover system at SWMU 9 will reduce the mobility of soil contaminants. Groundwater Groundwater use will be restricted to prevent exposure. Sediments The completed IMs reduced the volume and mass of COCs representing a source to the nearshore sediments. The proposed sediment remedy will reduce the mobility of the COCs within the nearshore sediments through containment using isolation and reactive media to prevent migration to the sediment surface. The cap will provide long-term and

	permanent risk reduction by protecting humans and ecological receptors from exposure to contaminants in underlying sediments.
3) Short-term effectiveness	<u>SWMU 9</u> The engineered cover system at SWMU 9 would provide immediate risk reduction. Exposure potential is increased in the short-term during construction. <u>Groundwater</u> The use restrictions would become effective immediately upon implementation an enforceable mechanism such as an EC or order. <u>Sediments</u> The short-term effects of capping are generally minimal. Resuspension of sediment or turbidity generated by the capping material during installation is limited and can be controlled by appropriate cap placement techniques. Short-term impacts to the river can be mitigated by well-established best management practices for turbidity control during cap placement. Given its location, it is expected that the short-term risks to the community associated with the on-site construction activities will be minimal.
4) Implementability	The remedy is readily implementable at the Facility. The proposed capping remedies will use conventional techniques and readily available marine construction services. It is expected that federal and state permits will be required for construction. The proposed remedy also includes implementation of use restrictions through the enforceable mechanism.
5) Cost	The costs associated with this proposed remedy are associated with construction of the cover system at SWMU 9, construction of the cap for the shoreline and nearshore sediments and lower sluiceway segment 3, cap maintenance and monitoring and continued sampling and maintenance of the monitoring wells.
6) Community Acceptance	The EPA will evaluate community acceptance based on comments received during the public comment period and will address any comments in the Final Decision.
7) State/Support Agency Acceptance	State involvement has been solicited throughout the RCRA corrective action process and DNREC concurred with the proposed remedy.

Overall, based on the evaluation criteria, the EPA has determined the proposed remedy meets the threshold criteria and provides the best balance of tradeoffs with respect to the evaluation criteria.

Section 10: Financial Assurance

EPA will require Honeywell to provide financial assurance. The estimated cost of the for the nearshore sediment, shoreline, and lower sluiceway remedy is $15,500,200. The estimated cost of the engineered cover system at SWMU 9 is $7,075,000 with annual OM&M costs projected at $167,500 through 30 years. The estimated total costs associated with the ICs is $25,000. Long-term groundwater monitoring for 30 years is estimated at $97,500. The financial assurance will be maintained in an instrument acceptable to the EPA and renewed annually. The amount of financial assurance is based on design, construction, permitting, and OM&M costs.

Section 11: Public Participation

The public may participate in the remedy selection process by reviewing this SB and documents contained in the AR for the Facility and providing comments. The AR contains all information considered by the EPA when proposing this remedy. The AR documents are available for public review at the location below:

U.S. EPA Region III
4 Penn Center
1600 JFK Boulevard
Philadelphia, PA 19103
Contact: Christine Kimak (3LD11)
Phone: 215-814-2798
Fax: (215) 814-3113
Email: kimak.christine@epa.gov

The public comment period will last thirty (30) calendar days from the date that the notice is published in a local newspaper. You may submit comments by mail, fax, or e-mail to Christine Kimak. The EPA will hold a public meeting to discuss this proposed remedy upon request. If you would like to request a public meeting, please contact Christine Kimak.

The EPA will respond to all relevant comments received during the comment period. If the EPA determines that new information warrants a modification to the proposed remedy, the EPA will modify the proposed remedy or select an alternative based on the new information and/or public comments. In the Final Decision, the EPA will announce the selection of its final remedy, respond to all relevant comments received, and explain the rationale for any changes to the proposed remedy. All persons who comment on this proposed remedy will receive a copy of the Final Decision. Others may obtain a copy by contacting Christine Kimak at the address listed above. The Final Decision will also be made publicly available on the EPA's website for the Facility.

Statement of Basis

Section 12: Signature

DANA AUNKST Digitally signed by DANA AUNKST Date: 2024.02.26 09:28:32 -05'00'

_____ Date: _____

Dana Aunkst, Director
Land, Chemicals, and Redevelopment Division
US EPA, Region III

Section 13: Index to Administrative Record

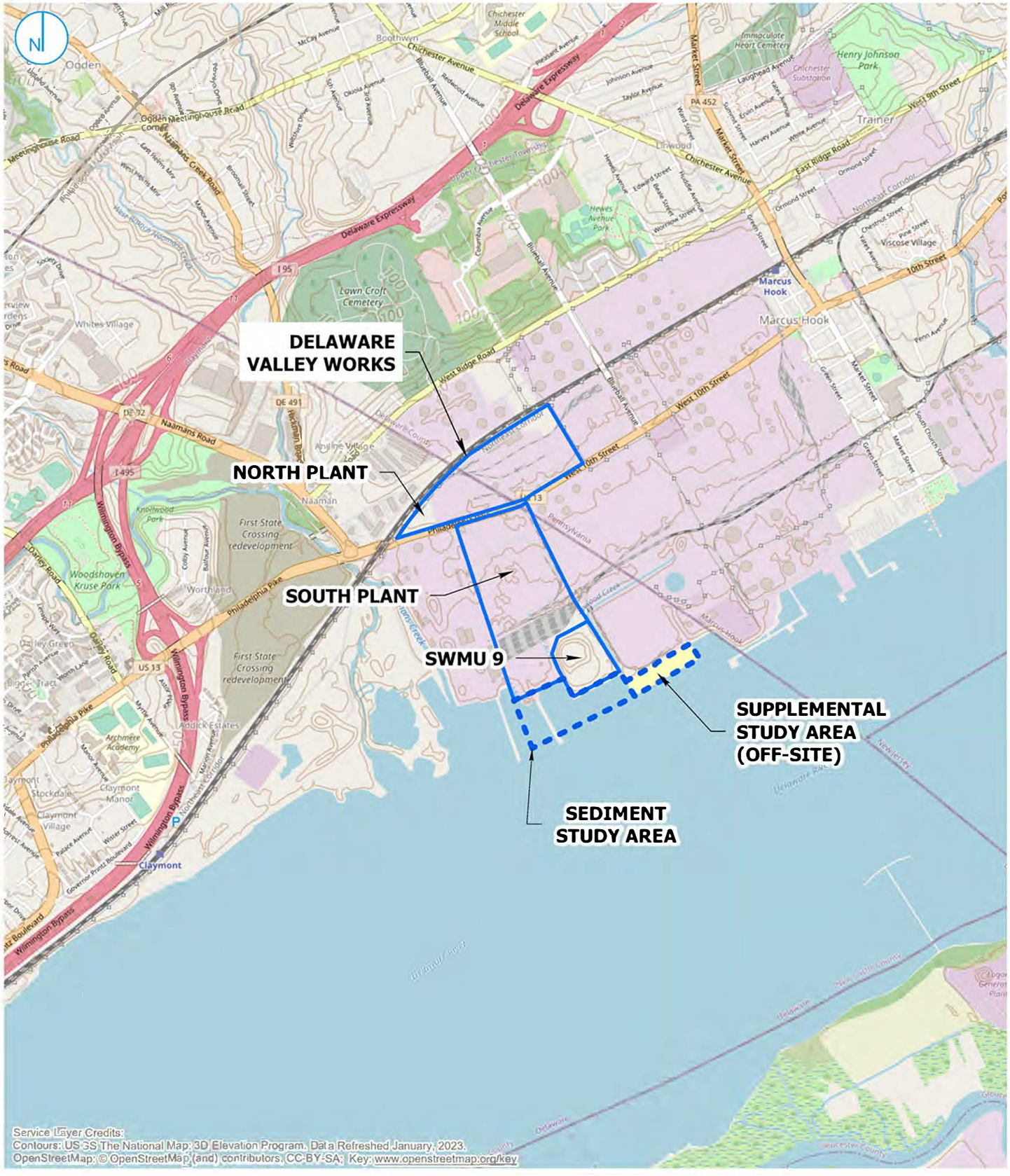
RCRA Facility Assessment for Delaware Valley Works South Plant, 1986
Initial Administrative Order General Chemical Corporation, 2000
RCRA Facility Investigation Phase I Report, 2003
RCRA Facility Investigation Phase II Report, 2007
RFI Summary and Presumptive Remedy for Proposed Industrial Redevelopment Area, 2016
Corrective Measures Study, SWMU 9 and South Plan South Parcel Groundwater, 2022
Corrective Measures Study for Nearshore Sediments, 2023
Technical Guidance Document: Final Covers on Hazardous Waste Landfills and Surface Impoundments, 1989

Section 14: Attachments

Figure 1 – Site Location Map
Figure 2 – Nearshore Sediment Remedy Areas
Figure 3 – SWMU 9 Soil Boring Location Map
Figure 4 – South Plant South Parcel and SWMU 9 Monitoring Wells
Figure 5 – Surface Sediment Arsenic Concentrations
Figure 6 – Surface Sediment Lead Concentrations
Figure 7 – Surface Sediment Total DDx Concentrations – OC-Normalized
Figure 8 – Surface Sediment Total DDx Concentrations
Figure 9 – Surface Sediment Total Organic Carbon (TOC) Concentrations
Figure 10 – Sample Locations and Sampling Results – Supplemental Study Area Sediment Sampling
Figure 11 – Technical Impracticability Zones

Appendix A – SWMU 9 Soil Results
Appendix B – SWMU 9 and South Plant South Parcel Results
Appendix C – Sediment and Pore Water Results
Appendix D – 2016 Supplemental Pathway Investigation Results

Figures



PROJECT: 1690011223 | DATED: 2/14/2023 | DESIGNER: KMAUGHAN
F:\1690011223_Honeywell DVW4 Delivery\Regulatory EPA_2023 1st Qtr\Sample Locations & Results_Supplemental Study & Sediment\Sample Locations & Results_Supplemental Study & Sediment.aprx

KEY MAP

LEGEND

- SITE BOUNDARY
- SEDIMENT STUDY AREA
- SUPPLEMENTAL STUDY AREA

Map Scale: 1:1:24,000;
Map Center: 75°26'2"W 39°48'31"N

0 1,000 2,000 Feet

SITE LOCATION MAP

DELAWARE VALLEY WORKS

CLAYMONT, DELAWARE

FIGURE 1

RAMBOLL US CONSULTING, INC.
A RAMBOLL COMPANY

RAMBOLL

PROJECT: 1690011223 DATED: 6/2/2023 DESIGNER: KMAUGHAN F:\1690011223_Honeywell DVW\4 Delivery\Regulatory EPA_2023 1st Qtr\Nearshore Sediment Remedy Area.dwg

LEGEND

- BOUNDARY BETWEEN COMMONWEALTH OF PENNSYLVANIA AND STATE OF DELAWARE
- APPROXIMATE PLANT BOUNDARY
- APPROXIMATE SWMU 9 BOUNDARY
- APPROXIMATE UPPER SLUICEWAY REMEDIATION AREA
- APPROXIMATE LOWER SLUICEWAY REMEDIATION AREA
- APPROXIMATE SHORELINE CAP AREA
- APPROXIMATE NEARSHORE SEDIMENT CAP AREA
- PIERHEAD LINE

0 250 Feet

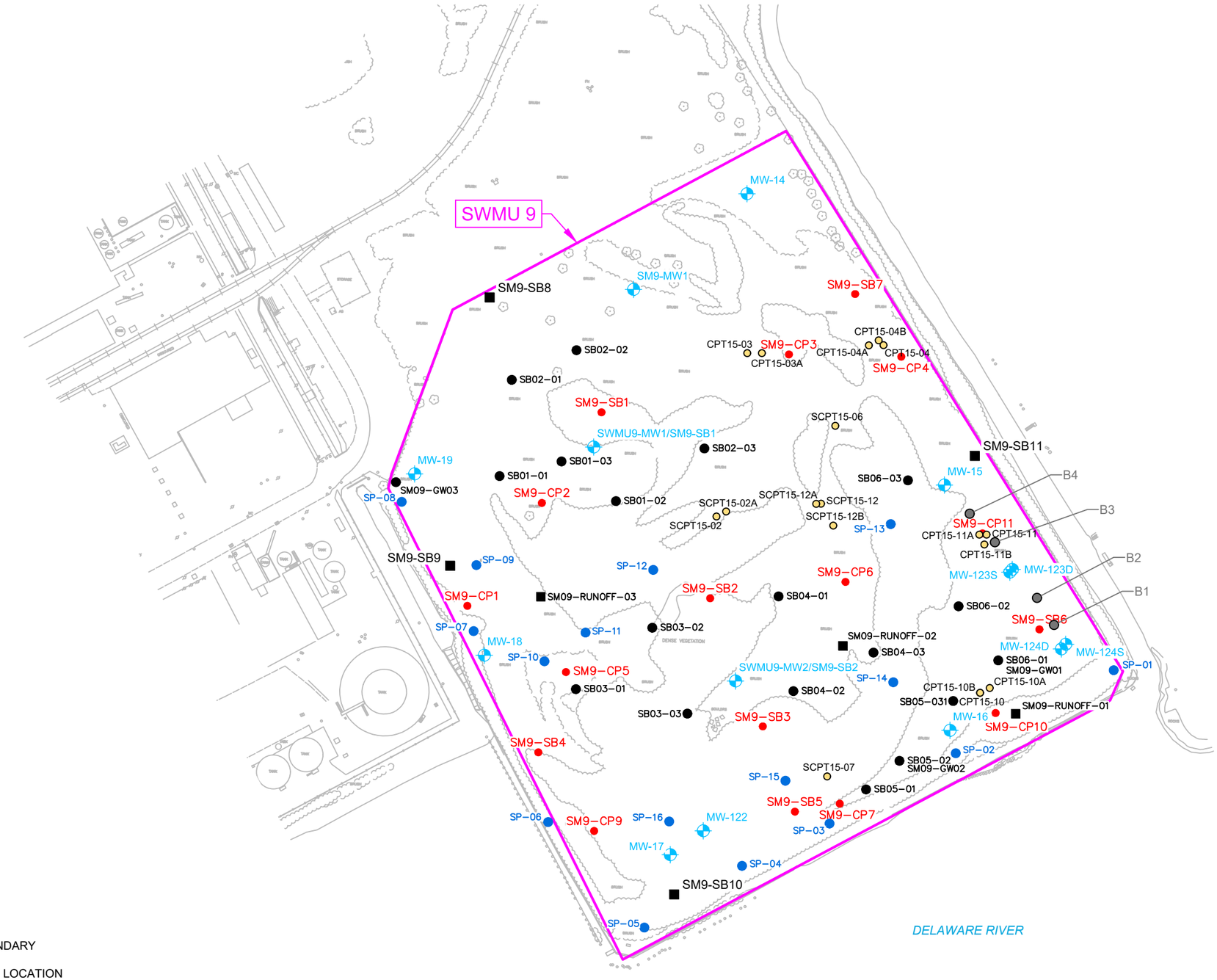
NEARSHORE SEDIMENT REMEDY AREAS

FIGURE 2

DELAWARE VALLEY WORKS

CLAYMONT, DELAWARE

RAMBOLL US CONSULTING, INC.
A RAMBOLL COMPANY



LEGEND

- APPROXIMATE SWMU 9 BOUNDARY
- EXISTING MONITORING WELL LOCATION
- HISTORICAL BORING LOCATION PERFORMED BY MWH/CUMMINGS RITTER
- 2010 SOIL POINT LOCATION
- 2014 RFI SOIL BORING LOCATION
- 2015 RFI CPT BORING LOCATION
- 2018 SOIL BORING LOCATION
- 2019 SOIL BORING LOCATION

PROJECTION / DATUM: DE83F 0 75' 150' SCALE: 1" = 150'	Honeywell DELAWARE VALLEY WORKS CLAYMONT, DELAWARE	WSP USA Environment & Infrastructure Inc. 751 Arbor Way, Suite 180 Blue Bell, PA 19422 Tel. 610-828-8100 www.wsp.com	PREPARED BY: PJC CHECKED BY: JPM REVIEWED BY: JPM	**FIGURE 3** **SWMU 9 SOIL BORING LOCATION MAP** **CORRECTIVE MEASURES STUDY** HONEYWELL DELAWARE VALLEY WORKS, CLAYMONT, DELAWARE	PROJECT NO.: 3482230886 REVISION NO.: 0 DATE: JUNE 2023

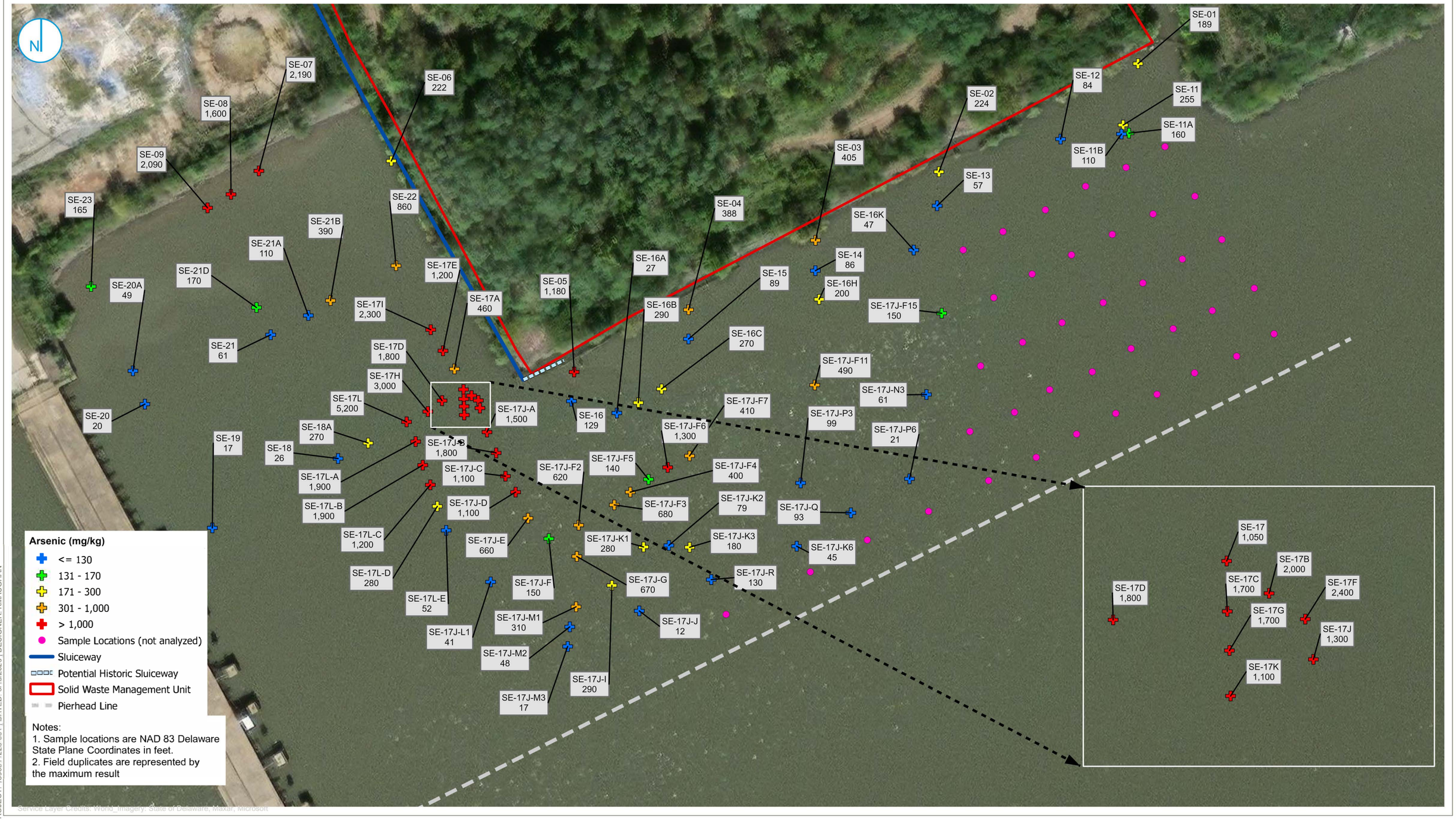
\\phl-fs1\projects\Honeywell - Claymont, DE\North Plant\2021 SWMU 9 CMS 3482210797 and 3482230886\14 CAD_figures\Fig 4 Soil Boring Location Map_SWMU 9.dwg Thu, 22 Jun 2023 - 1:21pm philip.carney2 Layout: Fig 4 Soil Boring Location Map_SWMU 9

LEGEND

- APPROXIMATE SOUTH PLANT SOUTH PARCEL BOUNDARY
- APPROXIMATE SWMU 9 BOUNDARY
- EXISTING MONITORING WELL LOCATION
- WELL DESTROYED OR COVERED
- WELL DECOMMISSIONED
- WELL NOT LOCATED

PROJECTION / DATUM: DE83F 0 100' 200' SCALE: 1" = 200'	Honeywell DELAWARE VALLEY WORKS CLAYMONT, DELAWARE	WSP USA Environment & Infrastructure Inc. 751 Arbor Way, Suite 180 Tel. 610-828-8100 Blue Bell, PA 19422 www.wsp.com	PREPARED BY: PJC CHECKED BY: JPM REVIEWED BY: JPM	**FIGURE 4** **SOUTH PLANT SOUTH PARCEL AND SWMU 9 MONITORING WELLS** **CORRECTIVE MEASURES STUDY** HONEYWELL DELAWARE VALLEY WORKS, CLAYMONT, DELAWARE	PROJECT NO.: 3482230886 REVISION NO.: 0 DATE: JUNE 2023

\\phl-fs1\projects\Honeywell - Claymont, DE\North Plant\2021 SWMU 9 CMS 3482210797 and 3482230886\14 CAD_figures\Fig 3 SPSP-SWMU 9 MWs.dwg Thu, 22 Jun 2023 - 1:16pm philip.carney2 Layout: Fig 3 SPSP-SWMU 9 MWs



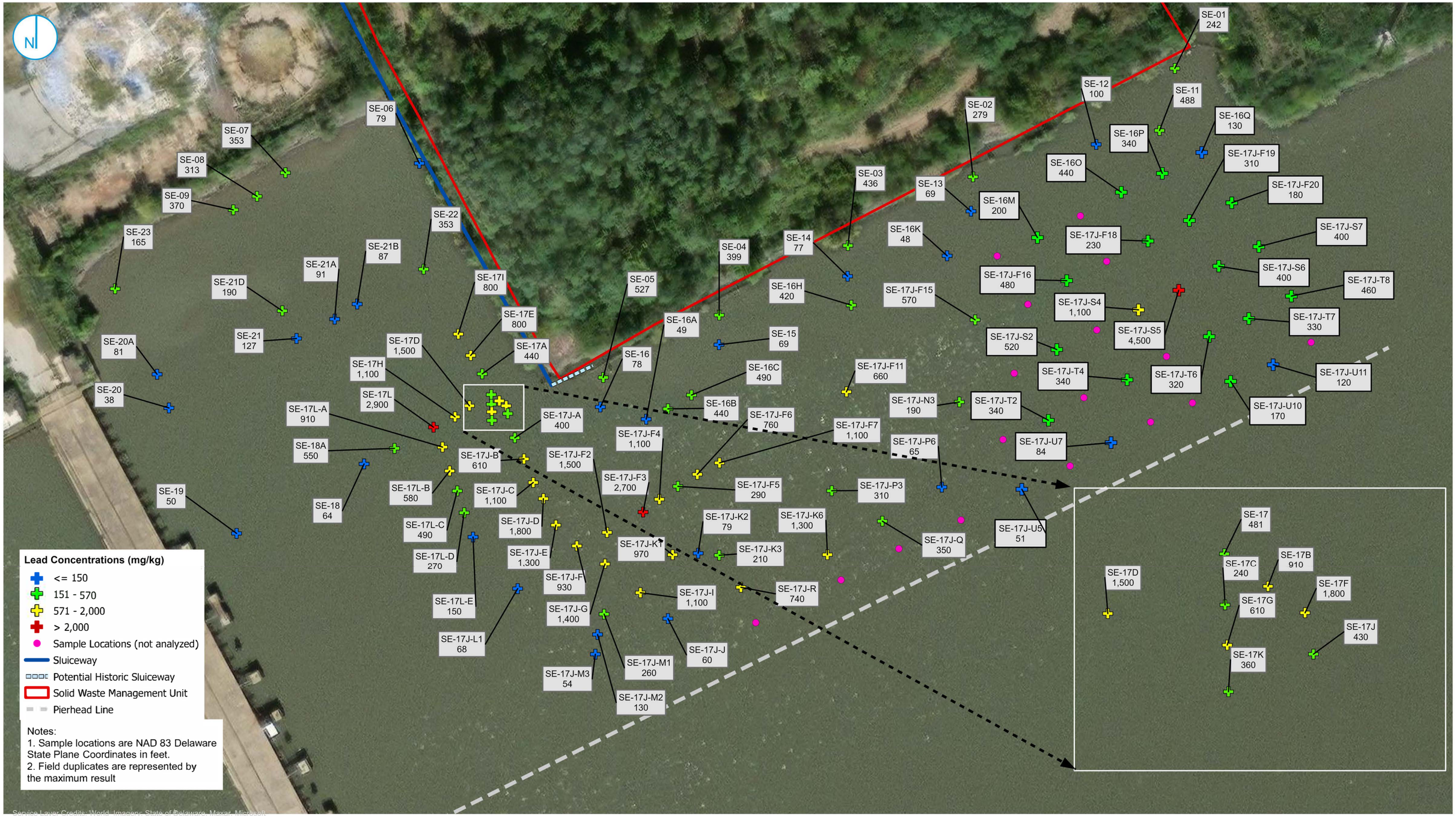
PROJECT: 1690011223-001 | DATED: 5/18/2023 | DESIGNER: KMAUGHAN

SURFACE SEDIMENT ARSENIC CONCENTRATIONS
DELAWARE RIVER

DELAWARE VALLEY WORKS
CLAYMONT, DELAWARE

FIGURE 5

RAMBOLL US CONSULTING, INC.
A RAMBOLL COMPANY



PROJECT: 1690011223-001 | DATED: 5/18/2023 | DESIGNER: KMALIGHAN

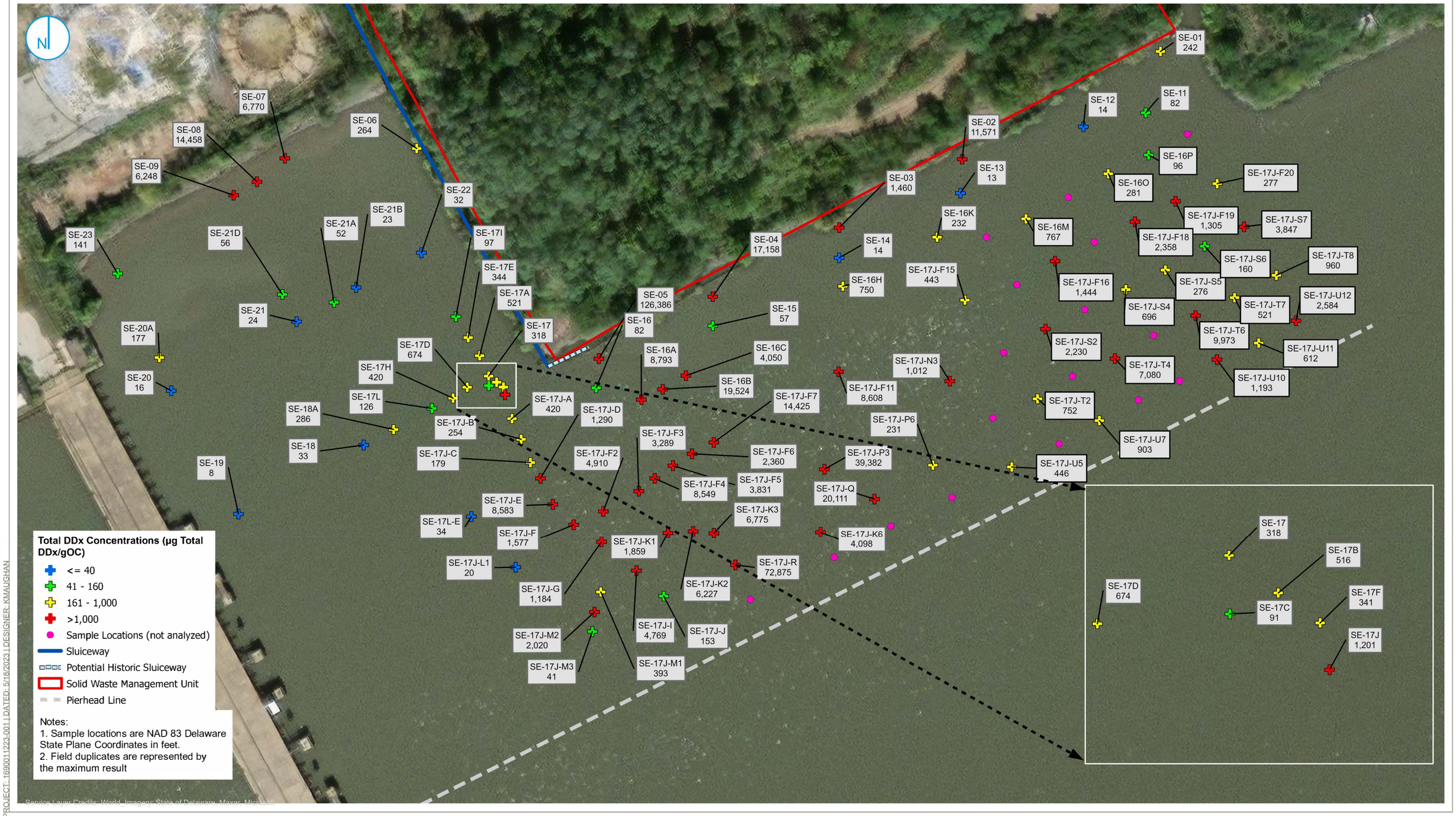
SURFACE SEDIMENT LEAD CONCENTRATIONS
DELAWARE RIVER

DELAWARE VALLEY WORKS
CLAYMONT, DELAWARE

FIGURE 6

RAMBOLL US CONSULTING, INC.
A RAMBOLL COMPANY

RAMBOLL



PROJECT: 1690011223-001 | DATED: 5/18/2023 | DESIGNER: KMAUGHAN

SURFACE SEDIMENT TOTAL DDx CONCENTRATIONS - OC-NORMALIZED

DELAWARE RIVER

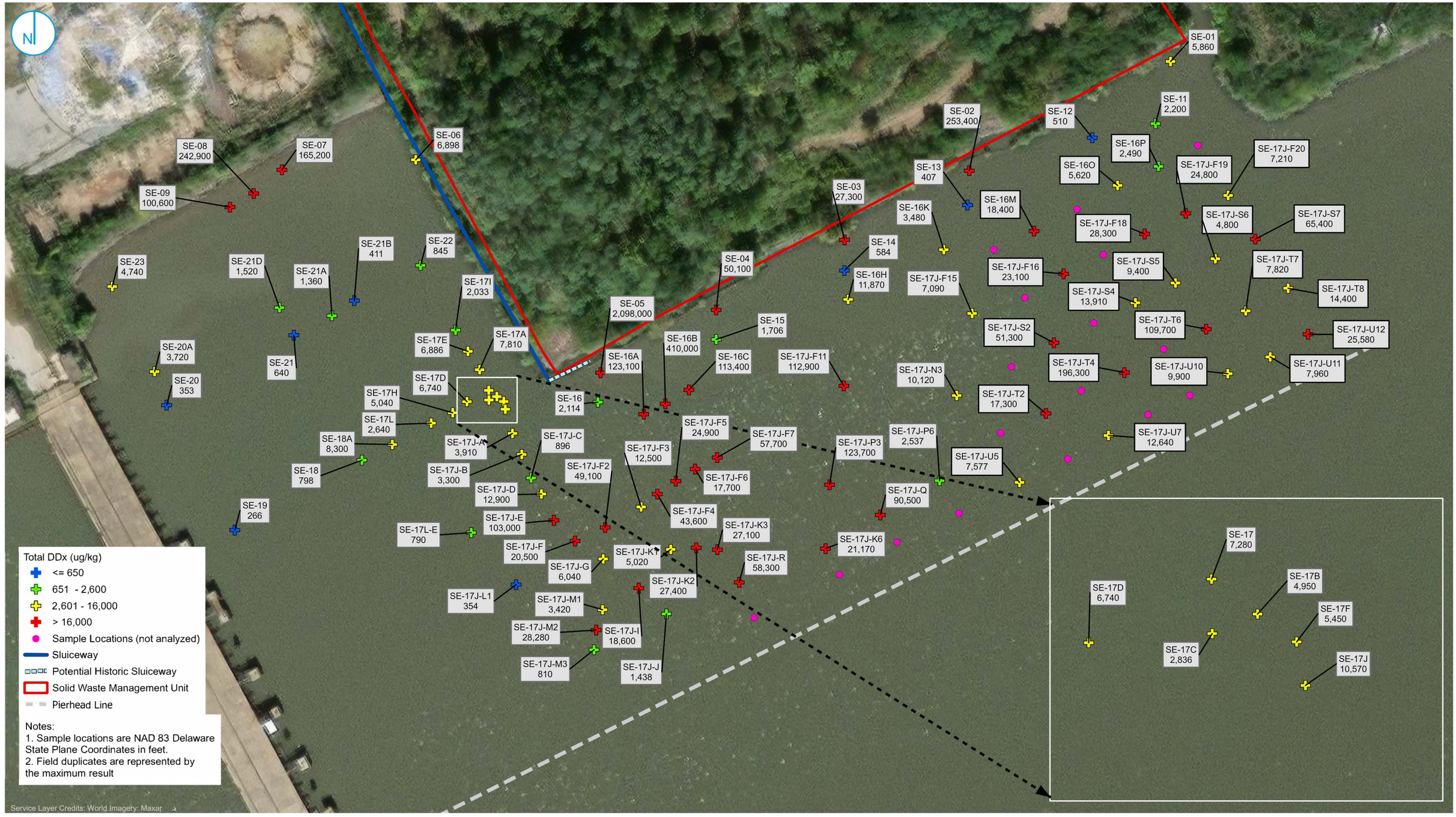
DELAWARE VALLEY WORKS

CLAYMONT, DELAWARE

FIGURE 7

RAMBOLL US CONSULTING, INC.
A RAMBOLL COMPANY

RAMBOLL



PROJECT: 1690011223-001 | DATED: 5/18/2023 | DESIGNER: KMAUGHAN

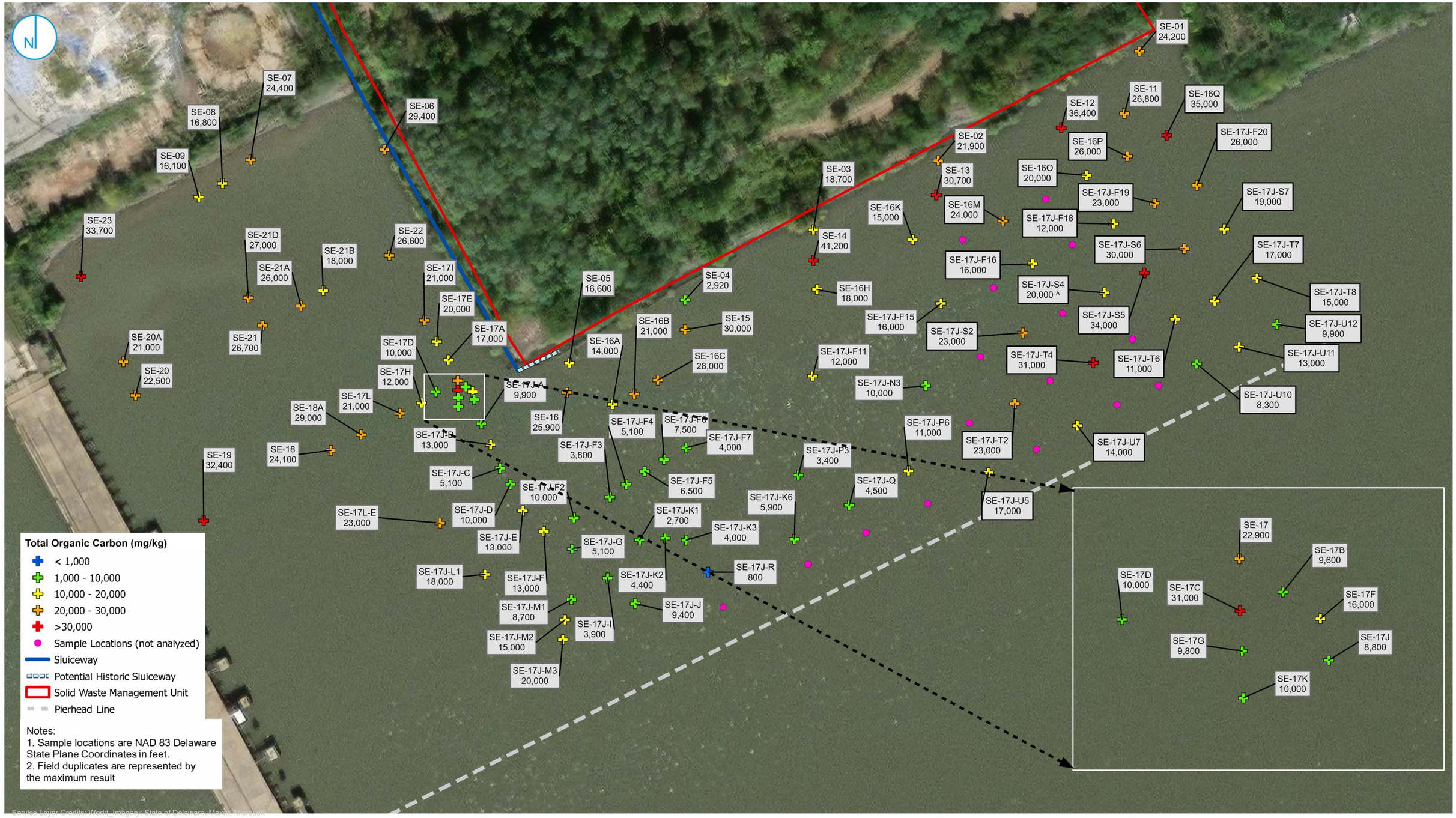
SURFACE SEDIMENT TOTAL DDx CONCENTRATIONS
DELAWARE RIVER

DELAWARE VALLEY WORKS
CLAYMONT, DELAWARE

FIGURE 8

RAMBOLL US CONSULTING, INC.
A RAMBOLL COMPANY

RAMBOLL



PROJECT: 1690011223-001 | DATED: 5/18/2023 | DESIGNER: KMAUGHAN

SURFACE SEDIMENT TOTAL ORGANIC CARBON (TOC) CONCENTRATIONS
DELAWARE RIVER

DELAWARE VALLEY WORKS
CLAYMONT, DELAWARE

FIGURE 9

RAMBOLL US CONSULTING, INC.
A RAMBOLL COMPANY

RAMBOLL

SAMPLE LOCATIONS & SAMPLING RESULTS -
SUPPLEMENTAL STUDY AREA SEDIMENT SAMPLING

DELAWARE VALLEY WORKS

CLAYMONT, DELAWARE

0 150 Feet

FIGURE 10

RAMBOLL US CONSULTING, INC.
A RAMBOLL COMPANY

RAMBOLL

LEGEND

- APPROXIMATE TECHNICAL IMPRACTICABILITY (TI) ZONE
- APPROXIMATE ARSENIC TECHNICAL IMPRACTICABILITY (TI) ZONE
- APPROXIMATE SOUTH PLANT SOUTH PARCEL BOUNDARY
- APPROXIMATE SWMU 9 BOUNDARY
- COMPLIANCE MONITORING WELL LOCATION
- EXISTING MONITORING WELL LOCATION
- WELL DESTROYED OR COVERED
- WELL DECOMMISSIONED
- WELL NOT LOCATED

PROJECTION / DATUM: DE83F

0 100' 200'

SCALE: 1" = 200'

Honeywell

DELAWARE VALLEY WORKS
CLAYMONT, DELAWARE

WSP USA
Environment & Infrastructure Inc.
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Tel. 610-828-8100
www.wsp.com

PREPARED BY: PJC

CHECKED BY: JPM

REVIEWED BY: JPM

FIGURE 11
TECHNICAL IMPRACTICABILITY ZONES, SWMU 9 AND SOUTH PLANT SOUTH PARCEL

CORRECTIVE MEASURES STUDY
HONEYWELL DELAWARE VALLEY WORKS, CLAYMONT, DELAWARE

PROJECT NO.: 3482230886

REVISION NO.: 0

DATE: DECEMBER 2023

Appendix A

Table 1. SWMU 9 Soil Analytical Results
Corrective Measures Study
Honeywell Delaware Valley Works
Claymont, Delaware
WSP Project No. 3482230886

Parameter	Industrial SSL	Risk-Based SSL DAF-20	MCL-Based SSL DAF-20	Units	Location	SM09-SB01-01		SM09-SB01-02		SM09-SB01-02		SM09-SB01-03		SM09-SB02-01		SM09-SB02-02		SM09-SB02-03		SM09-SB03-01		SM09-SB03-02		SM09-SB03-03		SM09-SB04-01	
					Sample ID	SM09-SB01-010529031		SM09-SB01-020529031		SM09-SB01-020604031D		SM09-SB01-030529031		SM09-SB02-010530031		SM09-SB02-020530031		SM09-SB02-030530031		SM09-SB03-010530031		SM09-SB03-020530031		SM09-SB03-030530031		SM09-SB04-010602031	
					Sample Date	5/29/2003		5/29/2003		6/4/2003		5/29/2003		5/30/2003		5/30/2003		5/30/2003		5/30/2003		5/30/2003		5/30/2003		6/2/2003	
						Result	Qual	Result	Qual	Result	Qual	Result	Qual	Result	Qual	Result	Qual	Result	Qual	Result	Qual	Result	Qual	Result	Qual	Result	Qual
Metals																											
Aluminum	1100000	600000		mg/kg		95500		17400		13400		31200		3310		5280		13600		95500		24900		18400		130000	
Antimony	470	**7**	*5.4*	mg/kg		7.3	U	5.5	U	5.7	U	22	B	5.1	U	5.8	U	5.5	U	6.6	U	5.5	U	*77.9*		6.2	U
Arsenic	3	**0.03**	*5.8*	mg/kg		7.1	U	5.4	U	5.6	U	*743*		5	U	5.6	U	5.4	U	6.5	U	*47.1*		*6850*		6.1	U
Barium	220000	**3200**	*1640*	mg/kg		23.3	B	267		252		726		263		360		471		35	B	303		1000		106	B
Beryllium	2300	380	64	mg/kg		0.5	B	0.6	B	0.7	B	0.8	B	0.5	B	1	B	0.3	U	0.4	B	0.4	B	1.2	B	0.7	B
Boron	230000	260		mg/kg		4.9	B	1	B	0.9	U	0.8	U	0.8	U	0.9	U	0.9	U	2.9	B	0.9	U	0.9	U	23.2	
Cadmium	100	**2.8**	*7.6*	mg/kg		0.6	U	0.8	B	0.8	B	*7.9*		0.4	U	0.5	U	1.4	B	0.6	U	3.3	B	*9.4*		0.5	U
Calcium				mg/kg		102000		238000		243000		169000		268000		247000		257000		37300		179000		134000		65400	
Chromium			3600000	mg/kg		96.8		25.3		17.9		33.9		6.8	B	7.2	B	19		92.7		36.4		64.6		99.7	
Cobalt	350	**5.4**		mg/kg		4.4	U	9.4	B	11.5	B	16.2	B	3.1	U	3.5	U	3.3	U	4.1	B	**83.6**		54.1	B	10.4	B
Copper	47000	**560**	*920*	mg/kg		9.7	B	97.1		119		*6280*		5.2	B	2.9	U	6.2	B	22.7	B	316		388		106	
Iron	820000	**7000**		mg/kg		3690		**15500**		**20900**		**40900**		912		1200		1530		6240		**93200**		**74600**		**8900**	
Lead	800		*280*	mg/kg		57.1		*347*		*415*		*2480*		85.7		95.6		184		84.5		*338*		*5410*		205	
Magnesium				mg/kg		449	U	2860	B	3040	B	334	U	314	U	354	U	337	U	405	U	341	U	1420	B	382	U
Manganese	26000	560		mg/kg		27.4		31.9		32.3		26.4		12.3	B	8.5	B	10.6	B	23.9		63.1		100		81.1	
Nickel	22000	520		mg/kg		4.5	B	7.8	B	5.1	B	4.9	B	2.8	U	3.1	U	3	U	3.7	B	8.3	B	15.7	B	80.1	
Potassium				mg/kg		1310	B	377	U	390	U	545	B	539	B	393	U	373	U	2040	B	378	U	1320	B	869	B
Selenium	5800	**10.4**	*5.2*	mg/kg		5.9	U	*7*		5.4	B	*9.9*		4.1	U	4.7	U	4.4	U	5.4	U	*129*		*170*		5	U
Silver	5800	16		mg/kg		2.6	U	2	U	2	U	5.1	B	1.8	U	3.6	B	1.9	U	2.3	U	2.5	B	6.5	B	2.2	U
Sodium				mg/kg		779	U	590	U	610	U	580	U	545	U	615	U	585	U	704	U	592	U	640	U	664	U
Thallium	12	**0.28**	*2.8*	mg/kg		0.6	U	0.6	B	0.5	B	*16.1*		0.4	U	0.8	B	0.4	U	0.5	U	**2**		*9.1*		0.5	U
Vanadium	5800	1720		mg/kg		81.9		20.7	B	15.7	B	52.3	B	5	B	8.8	B	28.1	B	105		23.3	B	43.3	B	91.5	
Zinc	350000	7400		mg/kg		20.9	B	173		209		1670		9.2	B	9.2	B	22.3	B	19.1	B	499		1510		705	
Mercury	46	**0.66**	*2*	mg/kg		0.1		*4*		*2.7*		*4.5*		*13.7*		*5.4*		*2.4*		0.5		0.6		*48.2*		**1**	
Pesticides																											
4,4'-DDD	9.6	**0.15**		mg/kg																							
4,4'-DDE	9.3	**0.22**		mg/kg																							
4,4'-DDT	8.5	**1.54**		mg/kg																							
Aldrin	0.18	**0.003**		mg/kg																							
Alpha-BHC	0.36	**0.00084**		mg/kg																							
Beta-BHC	1.3	**0.003**		mg/kg																							
cis-Chlordane	500	9.8		mg/kg																							
Delta-BHC				mg/kg																							
Dieldrin	0.14	**0.00142**		mg/kg																							
Endosulfan I				mg/kg																							
Endosulfan II				mg/kg																							
Endosulfan Sulfate	4900	42		mg/kg																							
Endrin	250	1.84	1.62	mg/kg																							
Endrin Aldehyde				mg/kg																							
Endrin Ketone				mg/kg																							
Gamma-BHC (Lindane)	2.5	**0.0048**	*0.024*	mg/kg																							
Heptachlor	0.63	**0.0024**	0.66	mg/kg																							
Heptachlor Epoxide	0.33	**0.00056**	*0.082*	mg/kg																							
Methoxychlor	4100	40	44	mg/kg																							
Toxaphene	2.1	0.22	9.2	mg/kg																							
trans-Chlordane	500	28		mg/kg																							
Volatile Organic Compounds																											
1,1,1-Trichloroethane	36000	56	1.4	mg/kg																							
1,1,2,2-Tetrachloroethane	2.7	0.0006		mg/kg																							
1,1,2-Trichloro-1,2,2-Trifluoroethane	28000	520		mg/kg																							
1,1,2-Trichloroethane	5	0.00178	0.032	mg/kg																							
1,1-Dichloroethane	16	0.0156		mg/kg																							
1,1-Dichloroethene	1000	2	0.05	mg/kg																							
1,2,3-Trichlorobenzene	930	0.42		mg/kg																							
1,2,4-Trichlorobenzene	110	0.068	4	mg/kg																							
1,2-Dibromo-3-Chloropropane	0.064	0.0000028	0.00172	mg/kg																							
1,2-Dibromoethane	0.16	0.000042	0.00028	mg/kg																							
1,2-Dichlorobenzene	9300	6	11.6	mg/kg																							
1,2-Dichloroethane	2	0.00096	0.028	mg/kg																							
1,2-Dichloropropane	11	0.0056	0.034	mg/kg																							
1,3-Dichlorobenzene				mg/kg																							
1,4-Dichlorobenzene	11	0.0092	1.44	mg/kg																							
1,4-Dioxane	24	0.00188		mg/kg																							
2-Butanone	190000	24		mg/kg																							

Prepared by: DP 02/16/22
Checked by: JM 02/17/22

Table 1. SWMU 9 Soil Analytical Results
Corrective Measures Study
Honeywell Delaware Valley Works
Claymont, Delaware
WSP Project No. 3482230886

				Location	SM09-SB01-01		SM09-SB01-02		SM09-SB01-02		SM09-SB01-03		SM09-SB02-01		SM09-SB02-02		SM09-SB02-03		SM09-SB03-01		SM09-SB03-02		SM09-SB03-03		SM09-SB04-01	
				Sample ID	SM09-SB01-010529031		SM09-SB01-020529031		SM09-SB01-020604031D		SM09-SB01-030529031		SM09-SB02-010530031		SM09-SB02-020530031		SM09-SB02-030530031		SM09-SB03-010530031		SM09-SB03-020530031		SM09-SB03-030530031		SM09-SB04-010602031	
				Sample Date	5/29/2003		5/29/2003		6/4/2003		5/29/2003		5/30/2003		5/30/2003		5/30/2003		5/30/2003		5/30/2003		5/30/2003		6/2/2003	
Parameter	Industrial SSL	Risk-Based SSL DAF-20	MCL-Based SSL DAF-20	Units	Result	Qual	Result	Qual	Result	Qual	Result	Qual	Result	Qual	Result	Qual	Result	Qual	Result	Qual	Result	Qual	Result	Qual	Result	Qual
2-Hexanone	1300	0.176		mg/kg																						
4-Methyl-2-Pentanone	140000	28		mg/kg																						
Acetone	1100000	74		mg/kg																						
Benzene	5.1	**0.0046**	0.052	mg/kg																						
Bromochloromethane	630	0.42		mg/kg																						
Bromodichloromethane	1.3	0.00072	0.44	mg/kg																						
Bromoform	86	0.0174	0.42	mg/kg																						
Bromomethane	30	0.038		mg/kg																						
Carbon Disulfide	3500	4.8		mg/kg																						
Carbon Tetrachloride	2.9	0.0036	0.038	mg/kg																						
Chlorobenzene	1300	**1.06**	*1.36*	mg/kg																						
Chloroethane	23000	48		mg/kg																						
Chloroform	1.4	**0.00122**	0.44	mg/kg																						
Chloromethane	460	0.98		mg/kg																						
cis-1,2-Dichloroethene	2300	0.22	0.42	mg/kg																						
cis-1,3-Dichloropropene				mg/kg																						
Cyclohexane	27000	260		mg/kg																						
Dibromochloromethane	39	0.0046	0.42	mg/kg																						
Dichlorodifluoromethane	370	6		mg/kg																						
Ethylbenzene	25	**0.034**	15.6	mg/kg																						
Isopropylbenzene	9900	14.8		mg/kg																						
m&p-Xylenes				mg/kg																						
Methyl Acetate	1200000	82		mg/kg																						
Methyl Tert-Butyl Ether	210	0.064		mg/kg																						
Methylcyclohexane				mg/kg																						
Methylene Chloride	1000	0.058	0.026	mg/kg																						
o-Xylene	2800	3.8		mg/kg																						
Styrene	35000	26	2.2	mg/kg																						
Tetrachloroethene	100	0.102	0.046	mg/kg																						
Toluene	47000	15.2	13.8	mg/kg																						
Total Xylenes	2500	3.8	198	mg/kg																						
trans-1,2-Dichloroethene	300	0.42	0.62	mg/kg																						
trans-1,3-Dichloropropene				mg/kg																						
Trichloroethene	6	**0.0036**	0.036	mg/kg																						
Trichlorofluoromethane	350000	66		mg/kg																						
Vinyl Chloride	1.7	**0.00013**	0.0138	mg/kg																						
Semi-Volatile Organic Compounds																										
1,1'-Biphenyl	200	**0.174**		mg/kg																						
1,2,4,5-Tetrachlorobenzene	35	**0.0158**		mg/kg																						
2,3,4,6-Tetrachlorophenol	25000	3.6		mg/kg																						
2,4,5-Trichlorophenol	82000	80		mg/kg																						
2,4,6-Trichlorophenol	210	0.08		mg/kg																						
2,4-Dichlorophenol	2500	**0.46**		mg/kg																						
2,4-Dimethylphenol	16000	8.4		mg/kg																						
2,4-Dinitrophenol	1600	0.88		mg/kg																						
2,4-Dinitrotoluene	7.4	0.0064		mg/kg																						
2,6-Dinitrotoluene	1.5	0.00134		mg/kg																						
2-Chloronaphthalene	60000	78		mg/kg																						
2-Chlorophenol	5800	1.78		mg/kg																						
2-Methylnaphthalene	3000	**3.8**		mg/kg																						
2-Methylphenol	41000	15		mg/kg																						
2-Nitroaniline	8000	1.6		mg/kg																						
2-Nitrophenol				mg/kg																						
3,3'-Dichlorobenzidine	5.1	0.0164		mg/kg																						
3-Nitroaniline				mg/kg																						
4,6-Dinitro-2-Methylphenol	66	0.052		mg/kg																						
4-Bromophenyl Phenyl Ether				mg/kg																						
4-Chloro-3-Methylphenol	82000	34		mg/kg																						
4-Chloroaniline	11	0.0032		mg/kg																						
4-Chlorophenyl Phenyl Ether				mg/kg																						
4-Methylphenol	16000	6		mg/kg																						
4-Nitroaniline	110	0.032		mg/kg																						
4-Nitrophenol				mg/kg																						
Acenaphthene	45000	110		mg/kg																						
Acenaphthylene				mg/kg																						

Prepared by: DP 02/16/22
Checked by: JM 02/17/22

Table 1. SWMU 9 Soil Analytical Results
Corrective Measures Study
Honeywell Delaware Valley Works
Claymont, Delaware
WSP Project No. 3482230886

					Location	SM09-SB01-01		SM09-SB01-02		SM09-SB01-02		SM09-SB01-03		SM09-SB02-01		SM09-SB02-02		SM09-SB02-03		SM09-SB03-01		SM09-SB03-02		SM09-SB03-03		SM09-SB04-01									
					Sample ID	SM09-SB01-010529031		SM09-SB01-020529031		SM09-SB01-020604031D		SM09-SB01-030529031		SM09-SB02-010530031		SM09-SB02-020530031		SM09-SB02-030530031		SM09-SB03-010530031		SM09-SB03-020530031		SM09-SB03-030530031		SM09-SB04-010602031									
					Sample Date	5/29/2003		5/29/2003		6/4/2003		5/29/2003		5/30/2003		5/30/2003		5/30/2003		5/30/2003		5/30/2003		5/30/2003		6/2/2003									
Parameter	Industrial SSL	Risk-Based SSL DAF-20	MCL-Based SSL DAF-20	Units	Result	Qual	Result	Qual	Result	Qual	Result	Qual	Result	Qual	Result	Qual	Result	Qual	Result	Qual	Result	Qual	Result	Qual	Result	Qual									
Acetophenone	120000	11.6		mg/kg																														
Anthracene	230000	1160		mg/kg																														
Atrazine	10	0.004	0.038	mg/kg																														
Benzaldehyde	820	0.082		mg/kg																														
Benzo(A)Anthracene	21	**0.22**		mg/kg																														
Benzo(A)Pyrene	2.1	**0.58**	4.8	mg/kg																														
Benzo(B)Fluoranthene	21	6		mg/kg																														
Benzo(G,H,I)perylene				mg/kg																														
Benzo(K)Fluoranthene	210	58		mg/kg																														
bis-(2-Chloroethoxy)Methane	2500	0.26		mg/kg																														
bis-(2-Chloroethyl)Ether	1	0.000072		mg/kg																														
bis(2-Chloroisopropyl)Ether				mg/kg																														
bis-(2-Ethylhexyl)Phthalate	160	26	28	mg/kg																														
Butylbenzyl Phthalate	1200	4.8		mg/kg																														
Caprolactam	400000	50		mg/kg																														
Carbazole				mg/kg																														
Chrysene	2100	180		mg/kg																														
Dibenzo(a,h)Anthracene	2.1	1.92		mg/kg																														
Dibenzofuran	1200	3		mg/kg																														
Diethyl Phthalate	660000	122		mg/kg																														
Dimethyl Phthalate				mg/kg																														
Di-n-Butyl Phthalate	82000	46		mg/kg																														
Di-n-Octyl Phthalate	8200	1140		mg/kg																														
Fluoranthene	30000	1780		mg/kg																														
Fluorene	30000	108		mg/kg																														
Hexachlorobenzene	0.96	0.0024	0.26	mg/kg																														
Hexachlorobutadiene	5.3	0.0054		mg/kg																														
Hexachlorocyclopentadiene	7.5	0.026	3.2	mg/kg																														
Hexachloroethane	8	0.004		mg/kg																														
Indeno(1,2,3-Cd)Pyrene	21	19.6		mg/kg																														
Isophorone	2400	0.52		mg/kg																														
Naphthalene	8.6	**0.0076**		mg/kg																														
Nitrobenzene	22	0.00184		mg/kg																														
n-Nitroso-di-n-Propylamine	0.33	0.000162		mg/kg																														
n-Nitrosodiphenylamine	470	1.34		mg/kg																														
Pentachlorophenol	4	0.00114	0.028	mg/kg																														
Phenanthrene				mg/kg																														
Phenol	250000	66		mg/kg																														
Pyrene	23000	260		mg/kg																														

Notes:

Exceeds the U.S. Environmental Protection Agency (EPA) Regional Screening Level (RSL), Industrial Soil Screening Level (SSL) (May 2023)

Exceeds the EPA RSL, Risk-Based SSL assuming a dilution attenuation factor (DAF) of 20

Exceeds the EPA RSL, Maximum Contaminant Level (MCL) SSL assuming a DAF of 20

Blanks indicate RSL not established or constituent not analyzed

RSLs assume target cancer risk (TR) of 1E-06 and target hazard quotient (THQ) of 1.0

U = undetected

J = estimated value

J+ = estimated biased high

J- = estimated biased low

R = rejected

MG/KG - milligram per kilogram

Sample depth shown in Sample ID (e.g., SBBF3-04_6-8 indicates 6 to 8-foot sample)

DUP = Duplicate sample

Exceedances shown may exceed one or more criteria if available

Prepared by: DP 02/16/22
Checked by: JM 02/17/22

Table 1. SWMU 9 Soil Analytical Results
Corrective Measures Study
Honeywell Delaware Valley Works
Claymont, Delaware
WSP Project No. 3482230886

Parameter	Industrial SSL	Risk-Based SSL DAF-20	MCL-Based SSL DAF-20	Units	Location	SM09-SB04-02		SM09-SB04-03		SM09-SB05-01		SM09-SB05-02		SM09-SB05-02		SM09-SB06-01		SM09-SB06-02		SM9-SB03		SM9-SB05		SP-1		SP-10	
					Sample ID	SM09-SB04-020602031		SM09-SB04-030602031		SM09-SB05-010604031		SM09-SB05-020604031		SM09-SB05-020604031D		SM09-SB06-010604031		SM09-SB06-020604031		M9-SB3 (7.0-8.0)_07171		M9-SB5 (1.5-2.0)_07151		SP-1 7/7/10		SP-10 7/7/10	
					Sample Date	6/2/2003		6/2/2003		6/4/2003		6/4/2003		6/4/2003		6/4/2003		6/4/2003		7/17/2015		7/15/2015		7/7/2010		7/7/2010	
						Result	Qual	Result	Qual	Result	Qual	Result	Qual	Result	Qual	Result	Qual	Result	Qual	Result	Qual	Result	Qual	Result	Qual	Result	Qual
Metals																											
Aluminum	1100000	600000		mg/kg		81000		19100		8710		30200		26900		50700		17200									
Antimony	470	**7**	*5.4*	mg/kg		6.4	U	24.8	B	5.5	B	5.6	U	5.7	U	8.2	B	21.8	B								
Arsenic	3	**0.03**	*5.8*	mg/kg		6.3	U	*176*		*205*		*16.7*		*25.1*		*700*		*324*		*18.5*		*13.2*		*973*		**0.24**	**JB**
Barium	220000	**3200**	*1640*	mg/kg		47.4	B	308		319		122	B	80.9	B	1060		607		56		74.2					
Beryllium	2300	380	64	mg/kg		0.5	B	0.5	B	0.7	B	0.5	B	0.6	B	0.8	B	0.7	B								
Boron	230000	260		mg/kg		5.3	B	0.8	U	0.8	U	0.9	U	0.9	U	2	B	0.8	U								
Cadmium	100	**2.8**	*7.6*	mg/kg		0.5	U	**5.5**		0.5	B	0.5	U	0.5	U	5.1	B	4	B	0.62	J	0.288	J				
Calcium				mg/kg		182000		125000		221000		241000		236000		125000		150000									
Chromium			3600000	mg/kg		96.2		48.9		20.9		29.9		31.4		74.7		40.1		160		103					
Cobalt	350	**5.4**		mg/kg		4.1	B	**140**		16.5	B	5.3	B	5.8	B	11.9	B	**60.3**									
Copper	47000	**560**	*920*	mg/kg		25.8	B	447		89.9		38.7		90.4		229		521									
Iron	820000	**7000**		mg/kg		5920		**184000**		**24500**		**13000**		**14500**		**21500**		**97200**									
Lead	800		*280*	mg/kg		57.3		*421*		238		93.2		118		*969*		*2010*		88.6		139		*3400*		39.1	
Magnesium				mg/kg		498	B	707	B	9200		4260	B	4440	B	775	B	2040	B								
Manganese	26000	560		mg/kg		24.5		61		73.1		25.8		27		56.9		80									
Nickel	22000	520		mg/kg		3.5	U	15.6	B	6	B	3.5	B	3.1	U	8	B	10.6	B								
Potassium				mg/kg		436	U	361	U	883	B	380	U	390	U	402	U	494	B								
Selenium	5800	**10.4**	*5.2*	mg/kg		5.2	U	*271*		*15.2*		*7.8*		*10*		*26*		*117*		4.23	U	16.4	U				
Silver	5800	16		mg/kg		2.3	U	8.8	B	1.9	U	2	U	2	U	2.1	U	3.2	B	5.29	U	0.818	U				
Sodium				mg/kg		682	U	565	U	580	U	595	U	610	U	1290	B	783	B								
Thallium	12	**0.28**	*2.8*	mg/kg		0.5	U	*4*		0.5	B	0.4	U	0.4	U	**2.1**		*3.6*									
Vanadium	5800	1720		mg/kg		77		31.1	B	15.9	B	27.1	B	30.5	B	60.9	B	37.6	B								
Zinc	350000	7400		mg/kg		85.4		1030		141		49.1		59.9		951		1460									
Mercury	46	**0.66**	*2*	mg/kg		**0.7**		*3.6*		*2.3*		*2.1*		**2**		*17.5*		*19.9*		0.108	J	0.228					
Pesticides																											
4,4'-DDD	9.6	**0.15**		mg/kg																				**22**		0.0019	
4,4'-DDE	9.3	**0.22**		mg/kg																				**9.3**		0.0016	
4,4'-DDT	8.5	**1.54**		mg/kg																				**55**		0.0055	
Aldrin	0.18	**0.003**		mg/kg																				0.86	U	0.00093	U
Alpha-BHC	0.36	**0.00084**		mg/kg																				**2.4**		0.00093	U
Beta-BHC	1.3	**0.003**		mg/kg																				**2.2**		0.00093	U
cis-Chlordane	500	9.8		mg/kg																				0.86	U	0.00093	U
Delta-BHC				mg/kg																				0.32		0.00014	J
Dieldrin	0.14	**0.00142**		mg/kg																				**0.18**	**J**	0.001	
Endosulfan I				mg/kg																				0.86	U	0.00093	U
Endosulfan II				mg/kg																				0.19		0.00031	J
Endosulfan Sulfate	4900	42		mg/kg																				0.86	U	0.00061	J
Endrin	250	1.84	1.62	mg/kg																				0.86	U	0.00093	U
Endrin Aldehyde				mg/kg																				0.86	U	0.00093	U
Endrin Ketone				mg/kg																				0.86	U	0.00016	J
Gamma-BHC (Lindane)	2.5	**0.0048**	*0.024*	mg/kg																				*1.4*		0.0013	
Heptachlor	0.63	**0.0024**	0.66	mg/kg																				0.86	U	0.00093	U
Heptachlor Epoxide	0.33	**0.00056**	*0.082*	mg/kg																				0.86	U	0.00093	U
Methoxychlor	4100	40	44	mg/kg																				1.7	U	0.0019	U
Toxaphene	2.1	0.22	9.2	mg/kg																				34	U	0.037	U
trans-Chlordane	500	28		mg/kg																				0.67	J	0.00093	U
Volatile Organic Compounds																											
1,1,1-Trichloroethane	36000	56	1.4	mg/kg																							
1,1,2,2-Tetrachloroethane	2.7	0.0006		mg/kg																							
1,1,2-Trichloro-1,2,2-Trifluoroethane	28000	520		mg/kg																							
1,1,2-Trichloroethane	5	0.00178	0.032	mg/kg																							
1,1-Dichloroethane	16	0.0156		mg/kg																							
1,1-Dichloroethene	1000	2	0.05	mg/kg																							
1,2,3-Trichlorobenzene	930	0.42		mg/kg																							
1,2,4-Trichlorobenzene	110	0.068	4	mg/kg																							
1,2-Dibromo-3-Chloropropane	0.064	0.0000028	0.00172	mg/kg																							
1,2-Dibromoethane	0.16	0.000042	0.00028	mg/kg																							
1,2-Dichlorobenzene	9300	6	11.6	mg/kg																							
1,2-Dichloroethane	2	0.00096	0.028	mg/kg																							
1,2-Dichloropropane	11	0.0056	0.034	mg/kg																							
1,3-Dichlorobenzene				mg/kg																							
1,4-Dichlorobenzene	11	0.0092	1.44	mg/kg																							
1,4-Dioxane	24	0.00188		mg/kg																							
2-Butanone	190000	24		mg/kg																							

Prepared by: DP 02/16/22
Checked by: JM 02/17/22

Table 1. SWMU 9 Soil Analytical Results
Corrective Measures Study
Honeywell Delaware Valley Works
Claymont, Delaware
WSP Project No. 3482230886

Parameter	Industrial SSL	Risk-Based SSL DAF-20	MCL-Based SSL DAF-20	Units	Location	SM09-SB04-02		SM09-SB04-03		SM09-SB05-01		SM09-SB05-02		SM09-SB05-02		SM09-SB06-01		SM09-SB06-02		SM9-SB03		SM9-SB05		SP-1		SP-10	
					Sample ID	SM09-SB04-020602031		SM09-SB04-030602031		SM09-SB05-010604031		SM09-SB05-020604031		SM09-SB05-020604031D		SM09-SB06-010604031		SM09-SB06-020604031		M9-SB3 (7.0-8.0)_07171		M9-SB5 (1.5-2.0)_07151		SP-1 7/7/10		SP-10 7/7/10	
					Sample Date	6/2/2003		6/2/2003		6/4/2003		6/4/2003		6/4/2003		6/4/2003		6/4/2003		7/17/2015		7/15/2015		7/7/2010		7/7/2010	
						Result	Qual	Result	Qual	Result	Qual	Result	Qual	Result	Qual	Result	Qual	Result	Qual	Result	Qual	Result	Qual	Result	Qual	Result	Qual
2-Hexanone	1300	0.176		mg/kg																							
4-Methyl-2-Pentanone	140000	28		mg/kg																							
Acetone	1100000	74		mg/kg																							
Benzene	5.1	**0.0046**	0.052	mg/kg																							
Bromochloromethane	630	0.42		mg/kg																							
Bromodichloromethane	1.3	0.00072	0.44	mg/kg																							
Bromoform	86	0.0174	0.42	mg/kg																							
Bromomethane	30	0.038		mg/kg																							
Carbon Disulfide	3500	4.8		mg/kg																							
Carbon Tetrachloride	2.9	0.0036	0.038	mg/kg																							
Chlorobenzene	1300	**1.06**	*1.36*	mg/kg																							
Chloroethane	23000	48		mg/kg																							
Chloroform	1.4	**0.00122**	0.44	mg/kg																							
Chloromethane	460	0.98		mg/kg																							
cis-1,2-Dichloroethene	2300	0.22	0.42	mg/kg																							
cis-1,3-Dichloropropene				mg/kg																							
Cyclohexane	27000	260		mg/kg																							
Dibromochloromethane	39	0.0046	0.42	mg/kg																							
Dichlorodifluoromethane	370	6		mg/kg																							
Ethylbenzene	25	**0.034**	15.6	mg/kg																							
Isopropylbenzene	9900	14.8		mg/kg																							
m&p-Xylenes				mg/kg																							
Methyl Acetate	1200000	82		mg/kg																							
Methyl Tert-Butyl Ether	210	0.064		mg/kg																							
Methylcyclohexane				mg/kg																							
Methylene Chloride	1000	0.058	0.026	mg/kg																							
o-Xylene	2800	3.8		mg/kg																							
Styrene	35000	26	2.2	mg/kg																							
Tetrachloroethene	100	0.102	0.046	mg/kg																							
Toluene	47000	15.2	13.8	mg/kg																							
Total Xylenes	2500	3.8	198	mg/kg																							
trans-1,2-Dichloroethene	300	0.42	0.62	mg/kg																							
trans-1,3-Dichloropropene				mg/kg																							
Trichloroethene	6	**0.0036**	0.036	mg/kg																							
Trichlorofluoromethane	350000	66		mg/kg																							
Vinyl Chloride	1.7	**0.00013**	0.0138	mg/kg																							
Semi-Volatile Organic Compounds																											
1,1'-Biphenyl	200	**0.174**		mg/kg																							
1,2,4,5-Tetrachlorobenzene	35	**0.0158**		mg/kg																							
2,3,4,6-Tetrachlorophenol	25000	3.6		mg/kg																							
2,4,5-Trichlorophenol	82000	80		mg/kg																							
2,4,6-Trichlorophenol	210	0.08		mg/kg																							
2,4-Dichlorophenol	2500	**0.46**		mg/kg																							
2,4-Dimethylphenol	16000	8.4		mg/kg																							
2,4-Dinitrophenol	1600	0.88		mg/kg																							
2,4-Dinitrotoluene	7.4	0.0064		mg/kg																							
2,6-Dinitrotoluene	1.5	0.00134		mg/kg																							
2-Chloronaphthalene	60000	78		mg/kg																							
2-Chlorophenol	5800	1.78		mg/kg																							
2-Methylnaphthalene	3000	**3.8**		mg/kg																							
2-Methylphenol	41000	15		mg/kg																							
2-Nitroaniline	8000	1.6		mg/kg																							
2-Nitrophenol				mg/kg																							
3,3'-Dichlorobenzidine	5.1	0.0164		mg/kg																							
3-Nitroaniline				mg/kg																							
4,6-Dinitro-2-Methylphenol	66	0.052		mg/kg																							
4-Bromophenyl Phenyl Ether				mg/kg																							
4-Chloro-3-Methylphenol	82000	34		mg/kg																							
4-Chloroaniline	11	0.0032		mg/kg																							
4-Chlorophenyl Phenyl Ether				mg/kg																							
4-Methylphenol	16000	6		mg/kg																							
4-Nitroaniline	110	0.032		mg/kg																							
4-Nitrophenol				mg/kg																							
Acenaphthene	45000	110		mg/kg																							
Acenaphthylene				mg/kg																							

Prepared by: DP 02/16/22
Checked by: JM 02/17/22

Table 1. SWMU 9 Soil Analytical Results
Corrective Measures Study
Honeywell Delaware Valley Works
Claymont, Delaware
WSP Project No. 3482230886

Parameter	Industrial SSL	Risk-Based SSL DAF-20	MCL-Based SSL DAF-20	Units	Location	SM09-SB04-02		SM09-SB04-03		SM09-SB05-01		SM09-SB05-02		SM09-SB05-02		SM09-SB06-01		SM09-SB06-02		SM9-SB03		SM9-SB05		SP-1		SP-10	
					Sample ID	SM09-SB04-020602031		SM09-SB04-030602031		SM09-SB05-010604031		SM09-SB05-020604031		SM09-SB05-020604031D		SM09-SB06-010604031		SM09-SB06-020604031		M9-SB3 (7.0-8.0)_07171		M9-SB5 (1.5-2.0)_07151		SP-1 7/7/10		SP-10 7/7/10	
					Sample Date	6/2/2003		6/2/2003		6/4/2003		6/4/2003		6/4/2003		6/4/2003		6/4/2003		7/17/2015		7/15/2015		7/7/2010		7/7/2010	
						Result	Qual	Result	Qual	Result	Qual	Result	Qual	Result	Qual	Result	Qual	Result	Qual	Result	Qual	Result	Qual	Result	Qual	Result	Qual
Acetophenone	120000	11.6		mg/kg																							
Anthracene	230000	1160		mg/kg																							
Atrazine	10	0.004	0.038	mg/kg																							
Benzaldehyde	820	0.082		mg/kg																							
Benzo(A)Anthracene	21	**0.22**		mg/kg																							
Benzo(A)Pyrene	2.1	**0.58**	4.8	mg/kg																							
Benzo(B)Fluoranthene	21	6		mg/kg																							
Benzo(G,H,I)perylene				mg/kg																							
Benzo(K)Fluoranthene	210	58		mg/kg																							
bis-(2-Chloroethoxy)Methane	2500	0.26		mg/kg																							
bis-(2-Chloroethyl)Ether	1	0.000072		mg/kg																							
bis(2-Chloroisopropyl)Ether				mg/kg																							
bis-(2-Ethylhexyl)Phthalate	160	26	28	mg/kg																							
Butylbenzyl Phthalate	1200	4.8		mg/kg																							
Caprolactam	400000	50		mg/kg																							
Carbazole				mg/kg																							
Chrysene	2100	180		mg/kg																							
Dibenzo(a,h)Anthracene	2.1	1.92		mg/kg																							
Dibenzofuran	1200	3		mg/kg																							
Diethyl Phthalate	660000	122		mg/kg																							
Dimethyl Phthalate				mg/kg																							
Di-n-Butyl Phthalate	82000	46		mg/kg																							
Di-n-Octyl Phthalate	8200	1140		mg/kg																							
Fluoranthene	30000	1780		mg/kg																							
Fluorene	30000	108		mg/kg																							
Hexachlorobenzene	0.96	0.0024	0.26	mg/kg																							
Hexachlorobutadiene	5.3	0.0054		mg/kg																							
Hexachlorocyclopentadiene	7.5	0.026	3.2	mg/kg																							
Hexachloroethane	8	0.004		mg/kg																							
Indeno(1,2,3-Cd)Pyrene	21	19.6		mg/kg																							
Isophorone	2400	0.52		mg/kg																							
Naphthalene	8.6	**0.0076**		mg/kg																							
Nitrobenzene	22	0.00184		mg/kg																							
n-Nitroso-di-n-Propylamine	0.33	0.000162		mg/kg																							
n-Nitrosodiphenylamine	470	1.34		mg/kg																							
Pentachlorophenol	4	0.00114	0.028	mg/kg																							
Phenanthrene				mg/kg																							
Phenol	250000	66		mg/kg																							
Pyrene	23000	260		mg/kg																							

Notes:

Exceeds the U.S. Environmental Protection Agency (EPA) Regional Screening Level (RSL), Industrial Soil Screening Level (SSL) (May 2023)

Exceeds the EPA RSL, Risk-Based SSL assuming a dilution attenuation factor (DAF) of 20

Exceeds the EPA RSL, Maximum Contaminant Level (MCL) SSL assuming a DAF of 20

Blanks indicate RSL not established or constituent not analyzed

RSLs assume target cancer risk (TR) of 1E-06 and target hazard quotient (THQ) of 1.0

U = undetected

J = estimated value

J+ = estimated biased high

J- = estimated biased low

R = rejected

MG/KG - milligram per kilogram

Sample depth shown in Sample ID (e.g., SBBF3-04_6-8 indicates 6 to 8-foot sample)

DUP = Duplicate sample

Exceedances shown may exceed one or more criteria if available

Prepared by: DP 02/16/22
Checked by: JM 02/17/22

Table 1. SWMU 9 Soil Analytical Results
Corrective Measures Study
Honeywell Delaware Valley Works
Claymont, Delaware
WSP Project No. 3482230886

Location					SP-11		SP-12		SP-13		SP-14		SP-15		SP-16		SP-16		SP-17		SP-18		SP-19		SP-2	
Sample ID					SP-11 7/7/10		SP-12 7/7/10		SP-13 7/8/10		SP-14 7/8/10		SP-15 7/8/10		SP-16 7/8/10		SP-16 7/8/10 DUP		SP-17 7/8/10		SP-18 7/8/10		SP-19 7/8/10		SP-2 7/7/10	
Sample Date					7/7/2010		7/7/2010		7/8/2010		7/8/2010		7/8/2010		7/8/2010		7/8/2010		7/8/2010		7/8/2010		7/8/2010		7/7/2010	
Parameter	Industrial SSL	Risk-Based SSL DAF-20	MCL-Based SSL DAF-20	Units	Result	Qual	Result	Qual	Result	Qual	Result	Qual	Result	Qual	Result	Qual	Result	Qual	Result	Qual	Result	Qual	Result	Qual	Result	Qual
Metals																										
Aluminum	1100000	600000		mg/kg																						
Antimony	470	**7**	*5.4*	mg/kg																						
Arsenic	3	**0.03**	*5.8*	mg/kg	*11.5*		**0.98**		**0.44**	**JB**	*6.1*		*8.7*		**1.1**		**1**		*540*		*703*		*526*		*123*	
Barium	220000	**3200**	*1640*	mg/kg																						
Beryllium	2300	380	64	mg/kg																						
Boron	230000	260		mg/kg																						
Cadmium	100	**2.8**	*7.6*	mg/kg																						
Calcium				mg/kg																						
Chromium			3600000	mg/kg																						
Cobalt	350	**5.4**		mg/kg																						
Copper	47000	**560**	*920*	mg/kg																						
Iron	820000	**7000**		mg/kg																						
Lead	800		*280*	mg/kg	128		60.9		77.7		248		108		89.4		86.9		*740*		*1280*		*753*		*382*	
Magnesium				mg/kg																						
Manganese	26000	560		mg/kg																						
Nickel	22000	520		mg/kg																						
Potassium				mg/kg																						
Selenium	5800	**10.4**	*5.2*	mg/kg																						
Silver	5800	16		mg/kg																						
Sodium				mg/kg																						
Thallium	12	**0.28**	*2.8*	mg/kg																						
Vanadium	5800	1720		mg/kg																						
Zinc	350000	7400		mg/kg																						
Mercury	46	**0.66**	*2*	mg/kg																						
Pesticides																										
4,4'-DDD	9.6	**0.15**		mg/kg	0.0081		0.0061		0.034		0.014		0.11		0.0099		0.0066		**0.8**		**0.35**		**1.2**		**5.7**	
4,4'-DDE	9.3	**0.22**		mg/kg	0.0068		0.0089		0.029		0.015	J	0.075		0.0095		0.011		**0.75**		**0.24**		0.057		**2.2**	
4,4'-DDT	8.5	**1.54**		mg/kg	0.023		0.028		0.087		0.038		0.38		0.041	J	0.02	J	**1.8**		0.9		1.2		**10**	
Aldrin	0.18	**0.003**		mg/kg	0.0011		0.001	U	0.00051	J	**0.022**		0.011	U	0.0011	U	0.0021		0.034	U	0.017	U	**0.0066**	**JPG**	0.2	U
Alpha-BHC	0.36	**0.00084**		mg/kg	0.00044	J	0.001	U	0.0019	U	0.0018	U	**0.0026**	**J**	0.0011	U	0.00046	U	0.034	U	0.017	U	0.017	U	0.2	U
Beta-BHC	1.3	**0.003**		mg/kg	0.0011	U	0.001	U	0.0011	J	0.0018	U	0.011	U	0.0011	U	0.001		0.034	U	0.017	U	0.017	U	0.2	U
cis-Chlordane	500	9.8		mg/kg	0.0011	U	0.001	U	0.0019	U	0.0018	U	0.011	U	0.0011	U	0.00046	U	0.034	U	0.017	U	0.017	U	0.2	U
Delta-BHC				mg/kg	0.0011	U	0.00022	J	0.00035	J	0.0068	J	0.011	U	0.0011	U	0.00046	U	0.034	U	0.017	U	0.017	U	0.2	U
Dieldrin	0.14	**0.00142**		mg/kg	0.00098	J	0.00069	J	0.0006	J	0.0018	U	**0.026**		**0.0023**	**J**	**0.0024**	**J**	**0.23**		**0.1**		**0.27**		0.2	U
Endosulfan I				mg/kg	0.0011	U	0.001	U	0.0019	U	0.0018	U	0.011	U	0.0011	U	0.00046	U	0.034	U	0.017	U	0.017	U	0.2	U
Endosulfan II				mg/kg	0.0011	U	0.001	U	0.0019	U	0.0018	U	0.011	U	0.0011	U	0.00046	U	0.034	U	0.017	U	0.017	U	0.2	U
Endosulfan Sulfate	4900	42		mg/kg	0.001	J	0.001	U	0.0019	U	0.0018	U	0.011	U	0.0011	U	0.00018	J	0.034	U	0.017	U	0.017	U	0.2	U
Endrin	250	1.84	1.62	mg/kg	0.0014	J	0.00029	J	0.017		0.023		0.011	U	0.001	J	0.0012		0.034	U	0.017	U	0.008	JPG	0.2	U
Endrin Aldehyde				mg/kg	0.0011	U	0.001	U	0.0019	U	0.0018	U	0.011	U	0.0011	U	0.00046	U	0.034	U	0.017	U	0.017	U	0.2	U
Endrin Ketone				mg/kg	0.0016	J	0.00067	J	0.0019	U	0.0021		0.011	U	0.0014		0.0012	J	0.034	U	0.011	JPG	0.0055	JPG	0.2	U
Gamma-BHC (Lindane)	2.5	**0.0048**	*0.024*	mg/kg	0.00079	J	0.00063	J	0.0017	J	0.0011	J	0.011	U	0.00065	J	0.0007		**0.0074**	**JPG**	**0.0065**	**J**	0.017	U	0.2	U
Heptachlor	0.63	**0.0024**	0.66	mg/kg	0.0011	U	0.001	U	0.0019	U	**0.0087**	**J**	0.011	U	0.0011	U	0.00017	J	0.034	U	0.017	U	0.017	U	0.2	U
Heptachlor Epoxide	0.33	**0.00056**	*0.082*	mg/kg	**0.001**	**J**	0.00029	J	0.0019	U	**0.037**		0.011	U	0.0011	U	**0.00087**	**J**	0.034	U	0.017	U	0.017	U	0.2	U
Methoxychlor	4100	40	44	mg/kg	0.0021	U	0.0021	U	0.0039	U	0.0036	U	0.022	U	0.0023	U	0.00092	U	0.067	U	0.034	U	0.0082	JPG	0.4	U
Toxaphene	2.1	0.22	9.2	mg/kg	0.043	U	0.042	U	0.077	U	0.072	U	0.43	U	0.046	U	0.018	U	1.3	U	0.68	U	0.69	U	7.9	U
trans-Chlordane	500	28		mg/kg	0.0005	J	0.001	U	0.0022	J	0.023		0.011	U	0.0011	U	0.0014	J	0.067		0.0054	JPG	0.0059	JPG	0.13	J
Volatile Organic Compounds																										
1,1,1-Trichloroethane	36000	56	1.4	mg/kg																						
1,1,2,2-Tetrachloroethane	2.7	0.0006		mg/kg																						
1,1,2-Trichloro-1,2,2-Trifluoroethane	28000	520		mg/kg																						
1,1,2-Trichloroethane	5	0.00178	0.032	mg/kg																						
1,1-Dichloroethane	16	0.0156		mg/kg																						
1,1-Dichloroethene	1000	2	0.05	mg/kg																						
1,2,3-Trichlorobenzene	930	0.42		mg/kg																						
1,2,4-Trichlorobenzene	110	0.068	4	mg/kg																						
1,2-Dibromo-3-Chloropropane	0.064	0.0000028	0.00172	mg/kg																						
1,2-Dibromoethane	0.16	0.000042	0.00028	mg/kg																						
1,2-Dichlorobenzene	9300	6	11.6	mg/kg																						
1,2-Dichloroethane	2	0.00096	0.028	mg/kg																						
1,2-Dichloropropane	11	0.0056	0.034	mg/kg																						
1,3-Dichlorobenzene				mg/kg																						
1,4-Dichlorobenzene	11	0.0092	1.44	mg/kg																						
1,4-Dioxane	24	0.00188		mg/kg																						
2-Butanone	190000	24		mg/kg																						

Prepared by: DP 02/16/22
Checked by: JM 02/17/22

Table 1. SWMU 9 Soil Analytical Results
Corrective Measures Study
Honeywell Delaware Valley Works
Claymont, Delaware
WSP Project No. 3482230886

					Location	SP-11		SP-12		SP-13		SP-14		SP-15		SP-16		SP-16		SP-17		SP-18		SP-19		SP-2	
					Sample ID	SP-11 7/7/10		SP-12 7/7/10		SP-13 7/8/10		SP-14 7/8/10		SP-15 7/8/10		SP-16 7/8/10		SP-16 7/8/10 DUP		SP-17 7/8/10		SP-18 7/8/10		SP-19 7/8/10		SP-2 7/7/10	
					Sample Date	7/7/2010		7/7/2010		7/8/2010		7/8/2010		7/8/2010		7/8/2010		7/8/2010		7/8/2010		7/8/2010		7/8/2010		7/7/2010	
Parameter	Industrial SSL	Risk-Based SSL DAF-20	MCL-Based SSL DAF-20	Units		Result	Qual	Result	Qual	Result	Qual	Result	Qual	Result	Qual	Result	Qual	Result	Qual	Result	Qual	Result	Qual	Result	Qual	Result	Qual
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Benzene	5.1	**0.0046**	0.052	mg/kg																							
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cis-1,2-Dichloroethene	2300	0.22	0.42	mg/kg																							
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m&p-Xylenes				mg/kg																							
Methyl Acetate	1200000	82		mg/kg																							
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Methylene Chloride	1000	0.058	0.026	mg/kg																							
o-Xylene	2800	3.8		mg/kg																							
Styrene	35000	26	2.2	mg/kg																							
Tetrachloroethene	100	0.102	0.046	mg/kg																							
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trans-1,3-Dichloropropene				mg/kg																							
Trichloroethene	6	**0.0036**	0.036	mg/kg																							
Trichlorofluoromethane	350000	66		mg/kg																							
Vinyl Chloride	1.7	**0.00013**	0.0138	mg/kg																							
Semi-Volatile Organic Compounds																											
1,1'-Biphenyl	200	**0.174**		mg/kg																							
1,2,4,5-Tetrachlorobenzene	35	**0.0158**		mg/kg																							
2,3,4,6-Tetrachlorophenol	25000	3.6		mg/kg																							
2,4,5-Trichlorophenol	82000	80		mg/kg																							
2,4,6-Trichlorophenol	210	0.08		mg/kg																							
2,4-Dichlorophenol	2500	**0.46**		mg/kg																							
2,4-Dimethylphenol	16000	8.4		mg/kg																							
2,4-Dinitrophenol	1600	0.88		mg/kg																							
2,4-Dinitrotoluene	7.4	0.0064		mg/kg																							
2,6-Dinitrotoluene	1.5	0.00134		mg/kg																							
2-Chloronaphthalene	60000	78		mg/kg																							
2-Chlorophenol	5800	1.78		mg/kg																							
2-Methylnaphthalene	3000	**3.8**		mg/kg																							
2-Methylphenol	41000	15		mg/kg																							
2-Nitroaniline	8000	1.6		mg/kg																							
2-Nitrophenol				mg/kg																							
3,3'-Dichlorobenzidine	5.1	0.0164		mg/kg																							
3-Nitroaniline				mg/kg																							
4,6-Dinitro-2-Methylphenol	66	0.052		mg/kg																							
4-Bromophenyl Phenyl Ether				mg/kg																							
4-Chloro-3-Methylphenol	82000	34		mg/kg																							
4-Chloroaniline	11	0.0032		mg/kg																							
4-Chlorophenyl Phenyl Ether				mg/kg																							
4-Methylphenol	16000	6		mg/kg																							
4-Nitroaniline	110	0.032		mg/kg																							
4-Nitrophenol				mg/kg																							
Acenaphthene	45000	110		mg/kg																							
Acenaphthylene				mg/kg																							

Prepared by: DP 02/16/22
Checked by: JM 02/17/22

Table 1. SWMU 9 Soil Analytical Results
Corrective Measures Study
Honeywell Delaware Valley Works
Claymont, Delaware
WSP Project No. 3482230886

				Location	SP-11		SP-12		SP-13		SP-14		SP-15		SP-16		SP-16		SP-17		SP-18		SP-19		SP-2	
				Sample ID	SP-11 7/7/10		SP-12 7/7/10		SP-13 7/8/10		SP-14 7/8/10		SP-15 7/8/10		SP-16 7/8/10		SP-16 7/8/10 DUP		SP-17 7/8/10		SP-18 7/8/10		SP-19 7/8/10		SP-2 7/7/10	
				Sample Date	7/7/2010		7/7/2010		7/8/2010		7/8/2010		7/8/2010		7/8/2010		7/8/2010		7/8/2010		7/8/2010		7/8/2010		7/7/2010	
Parameter	Industrial SSL	Risk-Based SSL DAF-20	MCL-Based SSL DAF-20	Units	Result	Qual	Result	Qual	Result	Qual	Result	Qual	Result	Qual	Result	Qual	Result	Qual	Result	Qual	Result	Qual	Result	Qual	Result	Qual
Acetophenone	120000	11.6		mg/kg																						
Anthracene	230000	1160		mg/kg																						
Atrazine	10	0.004	0.038	mg/kg																						
Benzaldehyde	820	0.082		mg/kg																						
Benzo(A)Anthracene	21	**0.22**		mg/kg																						
Benzo(A)Pyrene	2.1	**0.58**	4.8	mg/kg																						
Benzo(B)Fluoranthene	21	6		mg/kg																						
Benzo(G,H,I)perylene				mg/kg																						
Benzo(K)Fluoranthene	210	58		mg/kg																						
bis-(2-Chloroethoxy)Methane	2500	0.26		mg/kg																						
bis-(2-Chloroethyl)Ether	1	0.000072		mg/kg																						
bis(2-Chloroisopropyl)Ether				mg/kg																						
bis-(2-Ethylhexyl)Phthalate	160	26	28	mg/kg																						
Butylbenzyl Phthalate	1200	4.8		mg/kg																						
Caprolactam	400000	50		mg/kg																						
Carbazole				mg/kg																						
Chrysene	2100	180		mg/kg																						
Dibenzo(a,h)Anthracene	2.1	1.92		mg/kg																						
Dibenzofuran	1200	3		mg/kg																						
Diethyl Phthalate	660000	122		mg/kg																						
Dimethyl Phthalate				mg/kg																						
Di-n-Butyl Phthalate	82000	46		mg/kg																						
Di-n-Octyl Phthalate	8200	1140		mg/kg																						
Fluoranthene	30000	1780		mg/kg																						
Fluorene	30000	108		mg/kg																						
Hexachlorobenzene	0.96	0.0024	0.26	mg/kg																						
Hexachlorobutadiene	5.3	0.0054		mg/kg																						
Hexachlorocyclopentadiene	7.5	0.026	3.2	mg/kg																						
Hexachloroethane	8	0.004		mg/kg																						
Indeno(1,2,3-Cd)Pyrene	21	19.6		mg/kg																						
Isophorone	2400	0.52		mg/kg																						
Naphthalene	8.6	**0.0076**		mg/kg																						
Nitrobenzene	22	0.00184		mg/kg																						
n-Nitroso-di-n-Propylamine	0.33	0.000162		mg/kg																						
n-Nitrosodiphenylamine	470	1.34		mg/kg																						
Pentachlorophenol	4	0.00114	0.028	mg/kg																						
Phenanthrene				mg/kg																						
Phenol	250000	66		mg/kg																						
Pyrene	23000	260		mg/kg																						

Notes:

Exceeds the U.S. Environmental Protection Agency (EPA) Regional Screening Level (RSL), Industrial Soil Screening Level (SSL) (May 2023)

Exceeds the EPA RSL, Risk-Based SSL assuming a dilution attenuation factor (DAF) of 20

Exceeds the EPA RSL, Maximum Contaminant Level (MCL) SSL assuming a DAF of 20

Blanks indicate RSL not established or constituent not analyzed

RSLs assume target cancer risk (TR) of 1E-06 and target hazard quotient (THQ) of 1.0

U = undetected

J = estimated value

J+ = estimated biased high

J- = estimated biased low

R = rejected

MG/KG - milligram per kilogram

Sample depth shown in Sample ID (e.g., SBBF3-04_6-8 indicates 6 to 8-foot sample)

DUP = Duplicate sample

Exceedances shown may exceed one or more criteria if available

Prepared by: DP 02/16/22
Checked by: JM 02/17/22

Table 1. SWMU 9 Soil Analytical Results
Corrective Measures Study
Honeywell Delaware Valley Works
Claymont, Delaware
WSP Project No. 3482230886

				Location	SP-20		SP-21		SP-3		SP-4		SP-5		SP-6		SP-7		SP-8		SP-9		B-1		B-1	
				Sample ID	SP-20 7/8/10		SP-21 7/8/2010		SP-3 7/7/10		SP-4 7/7/10		SP-5 7/7/10		SP-6 7/7/10		SP-7 7/7/10		SP-8 7/7/10		SP-9 7/7/10		SBB1100119-01		SBB1100119-1416	
				Sample Date	7/8/2010		7/8/2010		7/7/2010		7/7/2010		7/7/2010		7/7/2010		7/7/2010		7/7/2010		7/7/2010		10/1/2019		10/1/2019	
Parameter	Industrial SSL	Risk-Based SSL DAF-20	MCL-Based SSL DAF-20	Units	Result	Qual	Result	Qual	Result	Qual	Result	Qual	Result	Qual	Result	Qual	Result	Qual	Result	Qual	Result	Qual	Result	Qual	Result	Qual
Metals																										
Aluminum	1100000	600000		mg/kg																			24700		34100	
Antimony	470	**7**	*5.4*	mg/kg																			4.46	J	*12.5*	*J*
Arsenic	3	**0.03**	*5.8*	mg/kg	*5520*		*102*		*84*		*179*		*159*		*94.1*		*37.5*		*50.2*		*8.9*		*168*		*1050*	
Barium	220000	**3200**	*1640*	mg/kg																			485		*1800*	
Beryllium	2300	380	64	mg/kg																			0.319	J	0.958	
Boron	230000	260		mg/kg																						
Cadmium	100	**2.8**	*7.6*	mg/kg																			0.417	J	**7.29**	
Calcium				mg/kg																			45800		29300	
Chromium			3600000	mg/kg																			54.4		122	
Cobalt	350	**5.4**		mg/kg																			**23.8**		**32.6**	
Copper	47000	**560**	*920*	mg/kg																			130		309	
Iron	820000	**7000**		mg/kg																			**43700**		**51700**	
Lead	800		*280*	mg/kg	*3590*		*2410*		*314*		*1230*		250		*323*		*477*		244		143		*430*		*1370*	
Magnesium				mg/kg																			8500		4280	
Manganese	26000	560		mg/kg																			356		168	
Nickel	22000	520		mg/kg																			20.7		27.8	
Potassium				mg/kg																			12200		3230	
Selenium	5800	**10.4**	*5.2*	mg/kg																			*13.7*		*72.1*	
Silver	5800	16		mg/kg																			1.92		5.51	
Sodium				mg/kg																			292		3610	
Thallium	12	**0.28**	*2.8*	mg/kg																			*8.15*		18.3	U
Vanadium	5800	1720		mg/kg																			91.1		84.3	
Zinc	350000	7400		mg/kg																			254		789	
Mercury	46	**0.66**	*2*	mg/kg																			*4.73*		*13.5*	
Pesticides																										
4,4'-DDD	9.6	**0.15**		mg/kg	0.012		0.094		**1.6**		0.062		**0.37**		**0.55**		**0.31**		**0.3**		0.017		**7.8**	**J**	**20**	**J-**
4,4'-DDE	9.3	**0.22**		mg/kg	0.0036	U	0.11		**1.4**		0.087		0.14		**0.74**		**0.79**		**0.31**		0.021		**2**		**18**	**J-**
4,4'-DDT	8.5	**1.54**		mg/kg	0.096		0.5		**4.5**		0.25		0.85		1		1.1		0.5		0.063		**14**		0.047	J-
Aldrin	0.18	**0.003**		mg/kg	**0.05**		**0.034**		0.096	U	0.0092	U	0.021	U	0.019	U	**0.23**		0.019	U	0.00097	U	0.0042	U	0.0064	UJ
Alpha-BHC	0.36	**0.00084**		mg/kg	0.0036	U	0.0095	U	0.096	U	**0.0017**	**J**	0.021	U	0.019	U	0.017	U	0.019	U	0.00097	U	**0.069**		0.0064	UJ
Beta-BHC	1.3	**0.003**		mg/kg	0.0028	JPG	0.0095	U	0.096	U	0.0092	U	0.021	U	**0.0056**	**J**	0.017	U	0.019	U	0.00097	U	**0.08**		0.0064	UJ
cis-Chlordane	500	9.8		mg/kg	0.0036	U	0.0095	U	0.096	U	0.0092	U	0.021	U	0.019	U	0.009	J	0.019	U	0.00097	U	0.0042	U	0.0064	UJ
Delta-BHC				mg/kg	0.011		0.0062	JPG	0.096	U	0.0092	U	0.021	U	0.019	U	0.017	U	0.019	U	0.00097	U	0.021		0.0064	UJ
Dieldrin	0.14	**0.00142**		mg/kg	**0.0057**		**0.013**		**0.49**		0.0092	U	**0.0064**	**J**	**0.09**		0.017	U	**0.092**		**0.0044**		0.0042	U	0.0064	UJ
Endosulfan I				mg/kg	0.0012	JPG	0.0095	U	0.096	U	0.0092	U	0.021	U	0.019	U	0.017	U	0.019	U	0.00097	U	0.0042	U	0.0064	UJ
Endosulfan II				mg/kg	0.0036	U	0.0095	U	0.096	U	0.0092	U	0.021	U	0.019	U	0.017	U	0.019	U	0.00097	U	0.0042	U	0.0064	UJ
Endosulfan Sulfate	4900	42		mg/kg	0.0034	J	0.0038	JPG	0.096	U	0.0092	U	0.021	U	0.019	U	0.017	U	0.019	U	0.00023	J	0.0042	U	0.0064	UJ
Endrin	250	1.84	1.62	mg/kg	0.0036	U	0.051		0.74		0.065		0.021	U	0.14		0.22		0.019	U	0.00097	U	0.0042	U	0.0064	UJ
Endrin Aldehyde				mg/kg	0.0036	U	0.0095	U	0.096	U	0.0092	U	0.021	U	0.019	U	0.017	U	0.019	U	0.00097	U	0.0042	U	0.0064	UJ
Endrin Ketone				mg/kg	0.0036	U	0.0091	JPG	0.096	U	0.0092	U	0.021	U	0.017	J	0.0097	J	0.019	U	0.00054	J	0.0042	U	0.0064	UJ
Gamma-BHC (Lindane)	2.5	**0.0048**	*0.024*	mg/kg	**0.0064**		0.0038	JPG	0.096	U	0.0092	U	0.021	U	**0.0063**	**J**	0.017	U	0.019	U	0.0004	J	*0.03*	*J*	0.0064	UJ
Heptachlor	0.63	**0.0024**	0.66	mg/kg	**0.014**		0.0095	U	0.096	U	0.0092	U	0.021	U	0.019	U	**0.061**	**J**	0.019	U	0.00097	U	0.0042	U	0.0064	UJ
Heptachlor Epoxide	0.33	**0.00056**	*0.082*	mg/kg	**0.027**		0.0095	U	0.096	U	0.0092	U	0.021	U	0.019	U	*0.28*		0.019	U	0.00097	U	0.0042	U	0.0064	UJ
Methoxychlor	4100	40	44	mg/kg	0.0072	U	0.019	U	0.19	U	0.018	U	0.043	U	0.038	U	0.034	U	0.038	U	0.0019	U	0.0082	U	0.012	UJ
Toxaphene	2.1	0.22	9.2	mg/kg	0.14	U	0.38	U	3.8	U	0.37	U	0.86	U	0.77	U	0.69	U	0.76	U	0.039	U	0.11	U	0.16	UJ
trans-Chlordane	500	28		mg/kg	0.046		0.039		0.036		0.0092	U	0.021	U	0.016	J	0.18	J	0.033		0.00097	U	0.0042	U	0.0064	UJ
Volatile Organic Compounds																										
1,1,1-Trichloroethane	36000	56	1.4	mg/kg																			0.006	U	10	U
1,1,2,2-Tetrachloroethane	2.7	0.0006		mg/kg																			0.006	U	10	U
1,1,2-Trichloro-1,2,2-Trifluoroethane	28000	520		mg/kg																			0.012	U	21	U
1,1,2-Trichloroethane	5	0.00178	0.032	mg/kg																			0.006	U	10	U
1,1-Dichloroethane	16	0.0156		mg/kg																			0.006	U	10	U
1,1-Dichloroethene	1000	2	0.05	mg/kg																			0.006	U	10	U
1,2,3-Trichlorobenzene	930	0.42		mg/kg																			0.012	U	21	U
1,2,4-Trichlorobenzene	110	0.068	4	mg/kg																			0.012	U	21	UJ
1,2-Dibromo-3-Chloropropane	0.064	0.0000028	0.00172	mg/kg																			0.006	U	10	UJ
1,2-Dibromoethane	0.16	0.000042	0.00028	mg/kg																			0.006	U	10	U
1,2-Dichlorobenzene	9300	6	11.6	mg/kg																			0.001	J	10	U
1,2-Dichloroethane	2	0.00096	0.028	mg/kg																			0.006	U	10	U
1,2-Dichloropropane	11	0.0056	0.034	mg/kg																			0.006	U	10	U
1,3-Dichlorobenzene				mg/kg																			0.006	U	10	U
1,4-Dichlorobenzene	11	0.0092	1.44	mg/kg																			0.0007	J	10	U
1,4-Dioxane	24	0.00188		mg/kg																			0.31	U	520	U
2-Butanone	190000	24		mg/kg																			0.006	J	21	U

Prepared by: DP 02/16/22
Checked by: JM 02/17/22

Table 1. SWMU 9 Soil Analytical Results
Corrective Measures Study
Honeywell Delaware Valley Works
Claymont, Delaware
WSP Project No. 3482230886

				Location	SP-20		SP-21		SP-3		SP-4		SP-5		SP-6		SP-7		SP-8		SP-9		B-1		B-1	
				Sample ID	SP-20 7/8/10		SP-21 7/8/10		SP-3 7/7/10		SP-4 7/7/10		SP-5 7/7/10		SP-6 7/7/10		SP-7 7/7/10		SP-8 7/7/10		SP-9 7/7/10		SBB1100119-01		SBB1100119-1416	
				Sample Date	7/8/2010		7/8/2010		7/7/2010		7/7/2010		7/7/2010		7/7/2010		7/7/2010		7/7/2010		7/7/2010		10/1/2019		10/1/2019	
Parameter	Industrial SSL	Risk-Based SSL DAF-20	MCL-Based SSL DAF-20	Units	Result	Qual	Result	Qual	Result	Qual	Result	Qual	Result	Qual	Result	Qual	Result	Qual	Result	Qual	Result	Qual	Result	Qual	Result	Qual
2-Hexanone	1300	0.176		mg/kg																			0.012	U	21	U
4-Methyl-2-Pentanone	140000	28		mg/kg																			0.012	U	21	U
Acetone	1100000	74		mg/kg																			0.064		41	U
Benzene	5.1	**0.0046**	0.052	mg/kg																			0.004	J	10	U
Bromochloromethane	630	0.42		mg/kg																			0.006	U	10	U
Bromodichloromethane	1.3	0.00072	0.44	mg/kg																			0.006	U	10	U
Bromoform	86	0.0174	0.42	mg/kg																			0.012	U	21	U
Bromomethane	30	0.038		mg/kg																			0.006	U	10	U
Carbon Disulfide	3500	4.8		mg/kg																			0.002	J	10	U
Carbon Tetrachloride	2.9	0.0036	0.038	mg/kg																			0.006	U	10	U
Chlorobenzene	1300	**1.06**	*1.36*	mg/kg																			0.015		*1.7*	***J***
Chloroethane	23000	48		mg/kg																			0.006	U	10	U
Chloroform	1.4	**0.00122**	0.44	mg/kg																			**0.003**	**J**	10	U
Chloromethane	460	0.98		mg/kg																			0.006	U	10	U
cis-1,2-Dichloroethene	2300	0.22	0.42	mg/kg																			0.0007	J	10	U
cis-1,3-Dichloropropene				mg/kg																			0.006	U	10	U
Cyclohexane	27000	260		mg/kg																			0.006	U	10	U
Dibromochloromethane	39	0.0046	0.42	mg/kg																			0.006	U	10	U
Dichlorodifluoromethane	370	6		mg/kg																			0.006	U	10	UJ
Ethylbenzene	25	**0.034**	15.6	mg/kg																			0.006	U	10	U
Isopropylbenzene	9900	14.8		mg/kg																			0.006	U	10	U
m&p-Xylenes				mg/kg																			0.006	U	10	U
Methyl Acetate	1200000	82		mg/kg																			0.006	U	10	U
Methyl Tert-Butyl Ether	210	0.064		mg/kg																			0.006	U	10	U
Methylcyclohexane				mg/kg																			0.006	U	10	U
Methylene Chloride	1000	0.058	0.026	mg/kg																			0.006	U	10	U
o-Xylene	2800	3.8		mg/kg																			0.006	U	10	U
Styrene	35000	26	2.2	mg/kg																			0.006	U	10	U
Tetrachloroethene	100	0.102	0.046	mg/kg																			0.01		10	U
Toluene	47000	15.2	13.8	mg/kg																			0.001	J	10	U
Total Xylenes	2500	3.8	198	mg/kg																			0.012	U	21	U
trans-1,2-Dichloroethene	300	0.42	0.62	mg/kg																			0.006	U	10	U
trans-1,3-Dichloropropene				mg/kg																			0.006	U	10	U
Trichloroethene	6	**0.0036**	0.036	mg/kg																			0.003	J	10	U
Trichlorofluoromethane	350000	66		mg/kg																			0.006	U	10	UJ
Vinyl Chloride	1.7	**0.00013**	0.0138	mg/kg																			0.006	U	10	U
Semi-Volatile Organic Compounds																										
1,1'-Biphenyl	200	**0.174**		mg/kg																			0.21	U	0.31	U
1,2,4,5-Tetrachlorobenzene	35	**0.0158**		mg/kg																			0.21	U	**0.53**	
2,3,4,6-Tetrachlorophenol	25000	3.6		mg/kg																			0.93	U	1.4	U
2,4,5-Trichlorophenol	82000	80		mg/kg																			0.37	U	0.56	U
2,4,6-Trichlorophenol	210	0.08		mg/kg																			0.32	U	0.48	U
2,4-Dichlorophenol	2500	**0.46**		mg/kg																			0.24	U	0.37	U
2,4-Dimethylphenol	16000	8.4		mg/kg																			0.37	U	0.56	U
2,4-Dinitrophenol	1600	0.88		mg/kg																			5.6	U	8.5	U
2,4-Dinitrotoluene	7.4	0.0064		mg/kg																			0.93	U	1.4	U
2,6-Dinitrotoluene	1.5	0.00134		mg/kg																			0.28	U	0.42	U
2-Chloronaphthalene	60000	78		mg/kg																			0.19	U	0.28	U
2-Chlorophenol	5800	1.78		mg/kg																			0.21	U	0.31	U
2-Methylnaphthalene	3000	**3.8**		mg/kg																			0.043	J	0.4	
2-Methylphenol	41000	15		mg/kg																			0.37	U	0.56	U
2-Nitroaniline	8000	1.6		mg/kg																			0.28	U	0.42	U
2-Nitrophenol				mg/kg																			0.32	U	0.48	U
3,3'-Dichlorobenzidine	5.1	0.0164		mg/kg																			1.9	U	2.8	U
3-Nitroaniline				mg/kg																			0.93	U	1.4	U
4,6-Dinitro-2-Methylphenol	66	0.052		mg/kg																			2.8	U	4.2	U
4-Bromophenyl Phenyl Ether				mg/kg																			0.28	U	0.42	U
4-Chloro-3-Methylphenol	82000	34		mg/kg																			0.28	U	0.42	U
4-Chloroaniline	11	0.0032		mg/kg																			0.93	U	1.4	U
4-Chlorophenyl Phenyl Ether				mg/kg																			0.24	U	0.37	U
4-Methylphenol	16000	6		mg/kg																			0.28	U	0.42	U
4-Nitroaniline	110	0.032		mg/kg																			0.93	U	1.4	U
4-Nitrophenol				mg/kg																			2.8	U	4.2	U
Acenaphthene	45000	110		mg/kg																			0.18		0.14	U
Acenaphthylene				mg/kg																			0.065	J	0.14	U

Prepared by: DP 02/16/22
Checked by: JM 02/17/22

Table 1. SWMU 9 Soil Analytical Results
Corrective Measures Study
Honeywell Delaware Valley Works
Claymont, Delaware
WSP Project No. 3482230886

				Location	SP-20		SP-21		SP-3		SP-4		SP-5		SP-6		SP-7		SP-8		SP-9		B-1		B-1	
				Sample ID	SP-20 7/8/10		SP-21 7/8/10		SP-3 7/7/10		SP-4 7/7/10		SP-5 7/7/10		SP-6 7/7/10		SP-7 7/7/10		SP-8 7/7/10		SP-9 7/7/10		SBB1100119-01		SBB1100119-1416	
				Sample Date	7/8/2010		7/8/2010		7/7/2010		7/7/2010		7/7/2010		7/7/2010		7/7/2010		7/7/2010		7/7/2010		10/1/2019		10/1/2019	
Parameter	Industrial SSL	Risk-Based SSL DAF-20	MCL-Based SSL DAF-20	Units	Result	Qual	Result	Qual	Result	Qual	Result	Qual	Result	Qual	Result	Qual	Result	Qual	Result	Qual	Result	Qual	Result	Qual	Result	Qual
Acetophenone	120000	11.6		mg/kg																			0.28	U	0.42	U
Anthracene	230000	1160		mg/kg																			0.31		0.17	
Atrazine	10	0.004	0.038	mg/kg																			2.4	U	3.7	U
Benzaldehyde	820	0.082		mg/kg																			0.93	U	1.4	U
Benzo(A)Anthracene	21	**0.22**		mg/kg																			**0.93**		0.2	
Benzo(A)Pyrene	2.1	**0.58**	4.8	mg/kg																			**0.82**		0.21	
Benzo(B)Fluoranthene	21	6		mg/kg																			1.3		0.27	
Benzo(G,H,I)perylene				mg/kg																			0.57		0.18	
Benzo(K)Fluoranthene	210	58		mg/kg																			0.44		0.083	J
bis-(2-Chloroethoxy)Methane	2500	0.26		mg/kg																			0.21	U	0.31	U
bis-(2-Chloroethyl)Ether	1	0.000072		mg/kg																			0.28	U	0.42	U
bis(2-Chloroisopropyl)Ether				mg/kg																			0.24	U	0.37	U
bis-(2-Ethylhexyl)Phthalate	160	26	28	mg/kg																			0.4	J	1.4	U
Butylbenzyl Phthalate	1200	4.8		mg/kg																			0.93	U	1.4	U
Caprolactam	400000	50		mg/kg																			0.93	U	1.4	U
Carbazole				mg/kg																			0.17	J	0.31	U
Chrysene	2100	180		mg/kg																			0.96		0.32	
Dibenzo(a,h)Anthracene	2.1	1.92		mg/kg																			0.17		0.14	U
Dibenzofuran	1200	3		mg/kg																			0.1	J	0.31	U
Diethyl Phthalate	660000	122		mg/kg																			0.93	U	1.4	U
Dimethyl Phthalate				mg/kg																			0.93	U	1.4	U
Di-n-Butyl Phthalate	82000	46		mg/kg																			0.93	U	1.4	U
Di-n-Octyl Phthalate	8200	1140		mg/kg																			0.93	U	1.4	U
Fluoranthene	30000	1780		mg/kg																			2.1		0.43	
Fluorene	30000	108		mg/kg																			0.14		0.24	
Hexachlorobenzene	0.96	0.0024	0.26	mg/kg																			0.093	U	0.14	U
Hexachlorobutadiene	5.3	0.0054		mg/kg																			0.43	U	0.65	UJ
Hexachlorocyclopentadiene	7.5	0.026	3.2	mg/kg																			2.8	U	4.2	U
Hexachloroethane	8	0.004		mg/kg																			0.93	U	1.4	U
Indeno(1,2,3-Cd)Pyrene	21	19.6		mg/kg																			0.5		0.1	J
Isophorone	2400	0.52		mg/kg																			0.21	U	0.31	U
Naphthalene	8.6	**0.0076**		mg/kg																			**0.099**		**0.15**	**J**
Nitrobenzene	22	0.00184		mg/kg																			0.37	U	0.56	U
n-Nitroso-di-n-Propylamine	0.33	0.000162		mg/kg																			0.28	U	0.42	U
n-Nitrosodiphenylamine	470	1.34		mg/kg																			0.21	U	0.31	U
Pentachlorophenol	4	0.00114	0.028	mg/kg																			0.93	U	1.4	U
Phenanthrene				mg/kg																			1.4		0.3	
Phenol	250000	66		mg/kg																			0.21	U	0.31	U
Pyrene	23000	260		mg/kg																			1.6		0.61	

Notes:

Exceeds the U.S. Environmental Protection Agency (EPA) Regional Screening Level (RSL), Industrial Soil Screening Level (SSL) (May 2023)

Exceeds the EPA RSL, Risk-Based SSL assuming a dilution attenuation factor (DAF) of 20

Exceeds the EPA RSL, Maximum Contaminant Level (MCL) SSL assuming a DAF of 20

Blanks indicate RSL not established or constituent not analyzed

RSLs assume target cancer risk (TR) of 1E-06 and target hazard quotient (THQ) of 1.0

U = undetected

J = estimated value

J+ = estimated biased high

J- = estimated biased low

R = rejected

MG/KG - milligram per kilogram

Sample depth shown in Sample ID (e.g., SBBF3-04_6-8 indicates 6 to 8-foot sample)

DUP = Duplicate sample

Exceedances shown may exceed one or more criteria if available

Prepared by: DP 02/16/22
Checked by: JM 02/17/22

Table 1. SWMU 9 Soil Analytical Results
Corrective Measures Study
Honeywell Delaware Valley Works
Claymont, Delaware
WSP Project No. 3482230886

Location					B-1		B-2		B-2		B-2		B-3		B-3		B-3		B-3		B-4		B-4		B-4	
Sample ID					SBB1100119-68		SBB2100119-01		SBB2100119-1416		SBB2100119-810		SBB3100319-01		SBB3100319-0810		SBB3100319-1416		FD100319		SBB4100319-01		SBB4100319-0608		SBB4100319-1416	
Sample Date					10/1/2019		10/1/2019		10/1/2019		10/1/2019		10/3/2019		10/3/2019		10/3/2019		10/3/2019		10/3/2019		10/3/2019		10/3/2019	
Parameter	Industrial SSL	Risk-Based SSL DAF-20	MCL-Based SSL DAF-20	Units	Result	Qual	Result	Qual	Result	Qual	Result	Qual	Result	Qual	Result	Qual	Result	Qual	Result	Qual	Result	Qual	Result	Qual	Result	Qual
Metals																										
Aluminum	1100000	600000		mg/kg	13000		58700		27800		5450		128000		477		42200		36700		7810		14200		29800	J
Antimony	470	**7**	*5.4*	mg/kg	3.48	J	5.21	U	*23.2*	*J-*	7.38	U	3.79	U	27.6	U	*202*		*211*		5.58	U	5.77	U	*60*	
Arsenic	3	**0.03**	*5.8*	mg/kg	*146*		*48*		*1630*		*35.4*		2.27	U	16.5	U	*7280*		*8060*		*24.6*		*7.48*		*12200*	
Barium	220000	**3200**	*1640*	mg/kg	179		87.6		671	J	99.8		11		321		*2260*	*J*	*4000*	*J*	25.9		28		*6940*	*J*
Beryllium	2300	380	64	mg/kg	0.316	J	0.324	J	0.865	J-	0.419	J	0.379	U	2.76	U	0.757		0.747		0.187	J	0.159	J	1.43	
Boron	230000	260		mg/kg																						
Cadmium	100	**2.8**	*7.6*	mg/kg	1.67		0.132	J	**6.24**		0.583	J	0.284	J	2.76	U	**5.94**		**5.18**		0.223	J	0.218	J	*13.4*	*J*
Calcium				mg/kg	35500		156000		47500	J	296000		4950		224000		13800		15400		263000		183000		17900	J
Chromium			3600000	mg/kg	42		61.8		155	J	33.1		143		8.27	J+	73.6		75.7		8.36		16.4		126	J
Cobalt	350	**5.4**		mg/kg	**67.9**		**24.3**		**32.3**	**J**	**10.1**		1.76		1.72	J	**8.13**		5.33		2.58		2.11		**7.9**	
Copper	47000	**560**	*920*	mg/kg	333		118		465		75.8		10.8		4.42	J	**641**		550		13.8		12.6		**686**	
Iron	820000	**7000**		mg/kg	**62100**		**24400**		**64100**		**12200**		4620		1820		**33700**		**29600**		3100		4630		**40000**	
Lead	800		*280*	mg/kg	*487*		173		*1950*	*J*	68.7		18.2		71.1		*18500*		*14200*		29.7		27.5		*4570*	
Magnesium				mg/kg	4940		12000		4780		11300		656		24.4	J	2650		2280		129		204		5080	J
Manganese	26000	560		mg/kg	166		74.9		202	J	74		28.5		8.67		278		256		49.9		22.6		368	J
Nickel	22000	520		mg/kg	23.3		9.39		29.5	J	11.2		2.87		5.51	U	25.3		25.3		2.82		2.71		31.2	J
Potassium				mg/kg	2280		750		3720		990		139		81.3		1900		2010		128		208		3760	
Selenium	5800	**10.4**	*5.2*	mg/kg	*11.1*		*10.3*		*116*		*8.4*		3.79	U	27.6	U	*300*		*227*		2.98	J	4.49	J	*48.7*	
Silver	5800	16		mg/kg	2.65		2.04		9.03	J-	1.48	U	0.758	U	5.51	U	10.1		8.08		1.12	U	1.15	U	4.54	
Sodium				mg/kg	441		305		11900		6590		75.8	U	551	J+	11200		12500		155		397		4470	J
Thallium	12	**0.28**	*2.8*	mg/kg	2.41	U	3.13	U	*4.76*	*J-*	4.43	U	2.27	U	16.5	U	4.21	UJ	*14.8*	*J*	3.35	U	3.46	U	*14.7*	*J-*
Vanadium	5800	1720		mg/kg	38.7		44.5		65	J	13.7		67.1		5.51	U	78		73.7		4.89		10.4		72.9	J
Zinc	350000	7400		mg/kg	519		178		918	J	113		21.5		18.3		420		477		33.9		41.1		1370	J
Mercury	46	**0.66**	*2*	mg/kg	**1.51**		**1.05**		*29.4*		**0.739**		0.21		0.449		*152*		*140*		*2.48*		*2.19*		*72.7*	
Pesticides																										
4,4'-DDD	9.6	**0.15**		mg/kg	**10**	**J**	**1.6**	**J**	**4.7**	**J**	**2.1**	**J**	0.047		**0.61**		**0.2**	**J**	**0.24**		0.047		**0.55**		0.0061	UJ
4,4'-DDE	9.3	**0.22**		mg/kg	**2.4**		**1.3**		**1.5**		**1**		0.037		0.077	J	0.17	J	**0.44**	**J**	0.055		**0.57**		0.0061	UJ
4,4'-DDT	8.5	**1.54**		mg/kg	**5.1**		**3.3**		0.95		1.5		0.067		1		0.0056	U	0.0056	U	0.025		0.54		0.0061	UJ
Aldrin	0.18	**0.003**		mg/kg	0.0038	U	0.0039	U	0.0056	U	0.0045	U	0.00073	U	0.00079	U	0.0056	U	0.0056	U	0.0008	U	0.038	U	0.0061	UJ
Alpha-BHC	0.36	**0.00084**		mg/kg	**0.026**		**0.008**	**J**	**0.0071**	**J-**	**0.0025**	**J**	0.00073	U	**0.0081**		0.0056	U	0.0056	U	**0.0021**		**0.038**		0.0061	UJ
Beta-BHC	1.3	**0.003**		mg/kg	0.0038	U	0.0039	U	0.0056	U	0.0045	U	0.00073	U	0.00079	U	0.0056	U	0.0056	U	0.0008	U	0.045	U	0.0061	UJ
cis-Chlordane	500	9.8		mg/kg	0.0038	U	0.0039	U	0.0056	U	0.0045	U	0.00073	U	0.00079	U	0.0056	U	0.0056	U	0.0008	U	0.038	U	0.0061	UJ
Delta-BHC				mg/kg	0.0064		0.0039	U	0.0056	U	0.013	J	0.00073	U	0.002		0.0056	U	0.0056	U	0.0008	U	0.045	U	0.0061	UJ
Dieldrin	0.14	**0.00142**		mg/kg	0.0038	U	0.0039	U	0.0056	U	0.0045	U	0.00073	U	0.00079	U	0.0056	U	0.0056	U	0.0008	U	0.077	U	0.0061	UJ
Endosulfan I				mg/kg	0.0038	U	0.0039	U	0.0056	U	0.0045	U	0.00073	U	0.00079	U	0.0056	U	0.0056	U	0.0008	U	0.038	U	0.0061	UJ
Endosulfan II				mg/kg	0.0038	U	0.0039	U	0.0056	U	0.0045	U	0.00073	U	0.00079	U	0.0056	U	0.0056	U	0.0008	U	0.1	U	0.0061	UJ
Endosulfan Sulfate	4900	42		mg/kg	0.0038	U	0.0039	U	0.0056	UJ	0.0045	U	0.00073	U	0.00079	U	0.0056	U	0.0056	U	0.0008	U	0.077	U	0.0061	UJ
Endrin	250	1.84	1.62	mg/kg	0.0038	U	0.0039	U	0.0056	UJ	0.0045	U	0.00073	U	0.00079	U	0.0056	U	0.0056	U	0.0008	U	0.077	U	0.0061	UJ
Endrin Aldehyde				mg/kg	0.0038	U	0.0039	U	0.0056	UJ	0.0045	U	0.00073	U	0.00079	U	0.0056	U	0.0056	U	0.0008	U	0.077	U	0.0061	UJ
Endrin Ketone				mg/kg	0.0038	U	0.0039	U	0.0056	U	0.0045	U	0.00073	U	0.00079	U	0.0056	U	0.0056	U	0.0008	U	0.091	U	0.0061	UJ
Gamma-BHC (Lindane)	2.5	**0.0048**	*0.024*	mg/kg	0.0038	U	0.0039	U	0.0056	UJ	0.0045	U	0.00073	U	0.00079	U	0.0056	U	0.0056	U	0.0008	U	**0.013**	**J**	0.0061	UJ
Heptachlor	0.63	**0.0024**	0.66	mg/kg	0.0038	U	0.0039	U	0.0056	U	0.0045	U	0.00073	U	0.00079	U	0.0056	U	0.0056	U	0.0008	U	0.038	U	0.0061	UJ
Heptachlor Epoxide	0.33	**0.00056**	*0.082*	mg/kg	0.0038	U	0.0039	U	0.0056	UJ	0.0045	U	0.00073	U	0.00079	U	0.0056	U	0.0056	U	0.0008	U	0.038	U	0.0061	UJ
Methoxychlor	4100	40	44	mg/kg	0.0074	U	0.0076	U	0.011	UJ	0.0086	U	0.0014	U	0.0015	U	0.011	U	0.011	U	0.0016	U	0.3	U	0.012	UJ
Toxaphene	2.1	0.22	9.2	mg/kg	0.097	U	0.1	U	0.14	U	0.11	U	0.019	U	0.02	U	0.14	U	0.14	U	0.02	U	1.5	U	0.15	UJ
trans-Chlordane	500	28		mg/kg	0.0038	U	0.0039	U	0.0056	U	0.0045	U	0.00073	U	0.00079	U	0.0056	U	0.0056	U	0.0008	U	0.038	U	0.0061	UJ
Volatile Organic Compounds																										
1,1,1-Trichloroethane	36000	56	1.4	mg/kg	0.004	U	0.006	U	19	U	0.009	U	0.005	U	0.007	U	8.8	U	0.007	U	0.006	U	0.006	U	5.1	U
1,1,2,2-Tetrachloroethane	2.7	0.0006		mg/kg	0.004	U	0.006	U	19	U	0.009	U	0.005	U	0.007	U	8.8	U	0.007	U	0.006	U	0.006	U	5.1	U
1,1,2-Trichloro-1,2,2-Trifluoroethane	28000	520		mg/kg	0.007	U	0.012	U	39	U	0.017	U	0.011	U	0.014	U	18	U	0.014	U	0.012	U	0.012	U	10	U
1,1,2-Trichloroethane	5	0.00178	0.032	mg/kg	0.004	U	0.006	U	19	U	0.009	U	0.005	U	0.007	U	8.8	U	0.007	U	0.006	U	0.006	U	5.1	U
1,1-Dichloroethane	16	0.0156		mg/kg	0.004	U	0.006	U	19	U	0.009	U	0.005	U	0.007	U	8.8	U	0.007	U	0.006	U	0.006	U	5.1	U
1,1-Dichloroethene	1000	2	0.05	mg/kg	0.004	U	0.006	U	19	U	0.009	U	0.005	U	0.007	U	8.8	U	0.007	U	0.006	U	0.006	U	5.1	U
1,2,3-Trichlorobenzene	930	0.42		mg/kg	0.007	U	0.012	U	39	U	0.017	U	0.011	U	0.014	U	18	U	0.014	U	0.012	U	0.012	U	10	U
1,2,4-Trichlorobenzene	110	0.068	4	mg/kg	0.007	U	0.012	UJ	39	UJ	0.017	U	0.011	U	0.014	U	18	U	0.014	U	0.012	U	0.012	U	10	U
1,2-Dibromo-3-Chloropropane	0.064	0.0000028	0.00172	mg/kg	0.004	U	0.006	UJ	19	UJ	0.009	U	0.005	U	0.007	U	8.8	U	0.007	U	0.006	U	0.006	U	5.1	U
1,2-Dibromoethane	0.16	0.000042	0.00028	mg/kg	0.004	U	0.006	U	19	U	0.009	U	0.005	U	0.007	U	8.8	U	0.007	U	0.006	U	0.006	U	5.1	U
1,2-Dichlorobenzene	9300	6	11.6	mg/kg	0.007		0.006	U	19	U	0.006	J	0.005	U	0.007	U	8.8	U	0.007	U	0.006	U	0.006	U	5.1	U
1,2-Dichloroethane	2	0.00096	0.028	mg/kg	0.004	U	0.006	U	19	U	0.009	U	0.005	U	0.007	U	8.8	U	0.007	U	0.006	U	0.006	U	5.1	U
1,2-Dichloropropane	11	0.0056	0.034	mg/kg	0.004	U	0.006	U	19	U	0.009	U	0.005	U	0.007	U	8.8	U	0.007	U	0.006	U	0.006	U	5.1	U
1,3-Dichlorobenzene				mg/kg	0.004	U	0.006	U	19	U	0.009	U	0.005	U	0.007	U	8.8	U	0.007	U	0.006	U	0.006	U	5.1	U
1,4-Dichlorobenzene	11	0.0092	1.44	mg/kg	0.002	J	0.006	U	19	U	0.009	U	0.005	U	0.007	U	8.8	U	0.007	U	0.006	U	0.006	U	5.1	U
1,4-Dioxane	24	0.00188		mg/kg	0.18	U	0.3	U	960	U	0.43	U	0.27	U	0.34	U	440	U	0.35	U	0.29	U	0.31	U	250	U
2-Butanone	190000	24		mg/kg	0.006	J	0.008	J	39	U	0.006	J	0.011	J	0.014	U	18	U	0.014	U	0.012	U	0.007	J	10	U

Prepared by: DP 02/16/22
Checked by: JM 02/17/22

Table 1. SWMU 9 Soil Analytical Results
Corrective Measures Study
Honeywell Delaware Valley Works
Claymont, Delaware
WSP Project No. 3482230886

				Location	B-1		B-2		B-2		B-2		B-3		B-3		B-3		B-3		B-4		B-4		B-4	
				Sample ID	SBB1100119-68		SBB2100119-01		SBB2100119-1416		SBB2100119-810		SBB3100319-01		SBB3100319-0810		SBB3100319-1416		FD100319		SBB4100319-01		SBB4100319-0608		SBB4100319-1416	
				Sample Date	10/1/2019		10/1/2019		10/1/2019		10/1/2019		10/3/2019		10/3/2019		10/3/2019		10/3/2019		10/3/2019		10/3/2019		10/3/2019	
Parameter	Industrial SSL	Risk-Based SSL DAF-20	MCL-Based SSL DAF-20	Units	Result	Qual	Result	Qual	Result	Qual	Result	Qual	Result	Qual	Result	Qual	Result	Qual	Result	Qual	Result	Qual	Result	Qual	Result	Qual
2-Hexanone	1300	0.176		mg/kg	0.007	U	0.012	U	39	U	0.017	U	0.011	U	0.014	U	18	U	0.014	U	0.012	U	0.012	U	10	U
4-Methyl-2-Pentanone	140000	28		mg/kg	0.007	U	0.012	U	39	U	0.017	U	0.011	U	0.014	U	18	U	0.014	U	0.012	U	0.012	U	10	U
Acetone	1100000	74		mg/kg	0.042		0.07	J	77	U	0.043		0.15		0.01	J	35	U	0.1		0.009	J	0.058		20	U
Benzene	5.1	**0.0046**	0.052	mg/kg	0.003	J	0.006	U	19	U	0.001	J	0.0008	J	0.007	U	8.8	U	**0.015**		0.006	U	0.006	U	5.1	U
Bromochloromethane	630	0.42		mg/kg	0.004	U	0.006	U	19	U	0.009	U	0.005	U	0.007	U	8.8	U	0.007	U	0.006	U	0.006	U	5.1	U
Bromodichloromethane	1.3	0.00072	0.44	mg/kg	0.004	U	0.006	U	19	U	0.009	U	0.005	U	0.007	U	8.8	U	0.007	U	0.006	U	0.006	U	5.1	U
Bromoform	86	0.0174	0.42	mg/kg	0.007	U	0.012	U	39	U	0.017	U	0.011	U	0.014	U	18	U	0.014	U	0.012	U	0.012	U	10	U
Bromomethane	30	0.038		mg/kg	0.004	U	0.006	U	19	U	0.009	U	0.005	UJ	0.007	UJ	8.8	U	0.007	UJ	0.006	UJ	0.006	UJ	5.1	U
Carbon Disulfide	3500	4.8		mg/kg	0.011		0.004	J	19	U	0.011		0.0009	J	0.001	J	8.8	U	0.002	J	0.006	U	0.001	J	5.1	U
Carbon Tetrachloride	2.9	0.0036	0.038	mg/kg	0.004	U	0.006	U	19	U	0.009	U	0.005	U	0.007	U	8.8	U	0.007	U	0.006	U	0.006	U	5.1	U
Chlorobenzene	1300	**1.06**	*1.36*	mg/kg	0.065		0.004	J	19	U	0.005	J	0.005	U	0.0008	J	8.8	U	0.007	U	0.006	U	0.006	U	5.1	U
Chloroethane	23000	48		mg/kg	0.004	U	0.006	U	19	U	0.009	U	0.005	UJ	0.007	UJ	8.8	U	0.007	UJ	0.006	UJ	0.006	UJ	5.1	U
Chloroform	1.4	**0.00122**	0.44	mg/kg	0.0008	J	0.006	U	19	U	0.009	U	0.005	U	0.007	U	8.8	U	0.007	U	0.006	U	0.006	U	5.1	U
Chloromethane	460	0.98		mg/kg	0.004	U	0.006	U	19	U	0.009	U	0.005	UJ	0.007	UJ	8.8	U	0.007	UJ	0.006	UJ	0.006	UJ	5.1	U
cis-1,2-Dichloroethene	2300	0.22	0.42	mg/kg	0.01		0.006	U	19	U	0.009	U	0.005	U	0.007	U	8.8	U	0.007	U	0.006	U	0.006	U	5.1	U
cis-1,3-Dichloropropene				mg/kg	0.004	U	0.006	U	19	U	0.009	U	0.005	U	0.007	U	8.8	U	0.007	U	0.006	U	0.006	U	5.1	U
Cyclohexane	27000	260		mg/kg	0.004	U	0.006	U	19	U	0.009	U	0.005	U	0.007	U	8.8	U	0.51	J	0.006	U	0.004	J	5.1	U
Dibromochloromethane	39	0.0046	0.42	mg/kg	0.004	U	0.006	U	19	U	0.009	U	0.005	U	0.007	U	8.8	U	0.007	U	0.006	U	0.006	U	5.1	U
Dichlorodifluoromethane	370	6		mg/kg	0.004	U	0.006	UJ	19	UJ	0.009	U	0.005	UJ	0.007	UJ	8.8	UJ	0.007	UJ	0.006	UJ	0.006	UJ	5.1	UJ
Ethylbenzene	25	**0.034**	15.6	mg/kg	0.0007	J	0.006	U	19	U	0.0008	J	0.005	U	0.007	U	8.8	U	**0.058**		0.006	U	0.006	U	5.1	U
Isopropylbenzene	9900	14.8		mg/kg	0.0005	J	0.006	U	19	U	0.002	J	0.005	U	0.007	U	8.8	U	0.069		0.006	U	0.0005	J	5.1	U
m&p-Xylenes				mg/kg	0.001	J	0.006	U	19	U	0.002	J	0.005	U	0.007	U	8.8	U	0.13		0.006	U	0.001	J	5.1	U
Methyl Acetate	1200000	82		mg/kg	0.039		0.006	U	19	U	0.009	U	0.005	U	0.007	U	8.8	U	0.007	U	0.006	U	0.046		5.1	U
Methyl Tert-Butyl Ether	210	0.064		mg/kg	0.004	U	0.006	U	19	U	0.009	U	0.005	U	0.007	U	8.8	U	0.007	U	0.006	U	0.006	U	5.1	U
Methylcyclohexane				mg/kg	0.007		0.006	J	5.4	J	0.019		0.0007	J	0.007	U	8.8	U	1.1	J	0.002	J	0.017		5.1	U
Methylene Chloride	1000	0.058	0.026	mg/kg	0.004	U	0.006	U	19	U	0.009	U	0.005	U	0.007	U	8.8	U	0.007	U	0.006	U	0.006	U	5.1	U
o-Xylene	2800	3.8		mg/kg	0.001	J	0.006	U	1.8	J	0.0008	J	0.005	U	0.007	U	8.8	U	0.11		0.006	U	0.0007	J	5.1	U
Styrene	35000	26	2.2	mg/kg	0.004	U	0.006	U	19	U	0.009	U	0.005	U	0.007	U	8.8	U	0.007	U	0.006	U	0.006	U	5.1	U
Tetrachloroethene	100	0.102	0.046	mg/kg	0.0006	J	0.006	U	19	U	0.009	U	0.005	U	0.007	U	8.8	U	0.007	U	0.006	U	0.006	U	5.1	U
Toluene	47000	15.2	13.8	mg/kg	0.002	J	0.001	J	19	U	0.002	J	0.005	U	0.007	U	8.8	U	0.052		0.006	U	0.006	U	5.1	U
Total Xylenes	2500	3.8	198	mg/kg	0.002	J	0.012	U	39	U	0.003	J	0.011	U	0.014	U	18	U	0.24		0.012	U	0.002	J	10	U
trans-1,2-Dichloroethene	300	0.42	0.62	mg/kg	0.002	J	0.006	U	19	U	0.009	U	0.005	U	0.007	U	8.8	U	0.007	U	0.006	U	0.006	U	5.1	U
trans-1,3-Dichloropropene				mg/kg	0.004	U	0.006	U	19	U	0.009	U	0.005	U	0.007	U	8.8	U	0.007	U	0.006	U	0.006	U	5.1	U
Trichloroethene	6	**0.0036**	0.036	mg/kg	**0.005**		0.006	U	19	U	0.009	U	0.005	U	0.007	U	8.8	U	0.007	U	0.006	U	0.006	U	5.1	U
Trichlorofluoromethane	350000	66		mg/kg	0.004	U	0.006	UJ	19	UJ	0.009	U	0.005	U	0.007	U	8.8	UJ	0.007	U	0.006	U	0.006	U	5.1	UJ
Vinyl Chloride	1.7	**0.00013**	0.0138	mg/kg	**0.001**	**J**	0.006	U	19	U	0.009	U	0.005	UJ	0.007	UJ	8.8	U	0.007	UJ	0.006	UJ	0.006	UJ	5.1	U
Semi-Volatile Organic Compounds																										
1,1'-Biphenyl	200	**0.174**		mg/kg	0.21	U	0.22	U	**1.1**		0.31	U	0.2	U	0.047	U	0.29	U	0.3	U	0.043	U	0.22	U	**0.72**	
1,2,4,5-Tetrachlorobenzene	35	**0.0158**		mg/kg	0.21	U	0.22	U	0.34	U	0.31	U	0.2	U	0.047	U	0.29	U	0.3	U	0.043	U	0.22	U	0.34	U
2,3,4,6-Tetrachlorophenol	25000	3.6		mg/kg	0.93	U	0.99	U	1.6	U	1.4	U	0.92	U	0.21	U	1.3	U	1.4	U	0.19	U	0.98	U	1.6	U
2,4,5-Trichlorophenol	82000	80		mg/kg	0.37	U	0.39	U	0.62	U	0.57	U	0.37	U	0.085	U	0.54	U	0.55	U	0.078	U	0.39	U	0.63	U
2,4,6-Trichlorophenol	210	0.08		mg/kg	0.32	U	0.34	U	0.53	U	0.49	U	0.31	U	0.072	U	0.45	U	0.47	U	0.066	U	0.33	U	0.53	U
2,4-Dichlorophenol	2500	**0.46**		mg/kg	0.24	U	0.26	U	0.4	U	0.37	U	0.24	U	0.055	U	0.35	U	0.36	U	0.051	U	0.25	U	0.41	U
2,4-Dimethylphenol	16000	8.4		mg/kg	0.37	U	0.39	U	0.62	U	0.57	U	0.37	UJ	0.085	UJ	0.54	UJ	0.55	UJ	0.078	UJ	0.39	UJ	0.63	UJ
2,4-Dinitrophenol	1600	0.88		mg/kg	5.6	U	5.9	U	9.3	U	8.6	U	5.5	U	1.3	U	8	U	8.3	U	1.2	U	5.9	U	9.4	U
2,4-Dinitrotoluene	7.4	0.0064		mg/kg	0.93	U	0.99	U	1.6	U	1.4	U	0.92	U	0.21	U	1.3	U	1.4	U	0.19	U	0.98	U	1.6	U
2,6-Dinitrotoluene	1.5	0.00134		mg/kg	0.28	U	0.3	U	0.47	U	0.43	U	0.28	U	0.064	U	0.4	U	0.41	U	0.058	U	0.29	U	0.47	U
2-Chloronaphthalene	60000	78		mg/kg	0.19	U	0.2	U	0.31	U	0.29	U	0.18	U	0.043	U	0.27	U	0.28	U	0.039	U	0.2	U	0.31	U
2-Chlorophenol	5800	1.78		mg/kg	0.21	U	0.22	U	0.34	U	0.31	U	0.2	U	0.047	U	0.29	U	0.3	U	0.043	U	0.22	U	0.34	U
2-Methylnaphthalene	3000	**3.8**		mg/kg	0.042	J	0.037	J	1.2		0.065	J	0.18	U	0.007	J	0.53		0.42		0.021	J	0.033	J	**19**	
2-Methylphenol	41000	15		mg/kg	0.37	U	0.39	U	0.62	U	0.57	U	0.37	U	0.085	U	0.54	U	0.55	U	0.078	U	0.39	U	0.63	U
2-Nitroaniline	8000	1.6		mg/kg	0.28	U	0.3	U	0.47	U	0.43	U	0.28	U	0.064	U	0.4	U	0.41	U	0.058	U	0.29	U	0.47	U
2-Nitrophenol				mg/kg	0.32	U	0.34	U	0.53	U	0.49	U	0.31	U	0.072	U	0.45	U	0.47	U	0.066	U	0.33	U	0.53	U
3,3'-Dichlorobenzidine	5.1	0.0164		mg/kg	1.9	U	2	U	3.1	U	2.9	U	1.8	U	0.43	U	2.7	U	2.8	U	0.39	U	2	U	3.1	U
3-Nitroaniline				mg/kg	0.93	U	0.99	U	1.6	U	1.4	U	0.92	U	0.21	U	1.3	U	1.4	U	0.19	U	0.98	U	1.6	U
4,6-Dinitro-2-Methylphenol	66	0.052		mg/kg	2.8	U	3	U	4.7	U	4.3	U	2.8	U	0.64	U	4	U	4.1	U	0.58	U	2.9	U	4.7	U
4-Bromophenyl Phenyl Ether				mg/kg	0.28	U	0.3	U	0.47	U	0.43	U	0.28	U	0.064	U	0.4	U	0.41	U	0.058	U	0.29	U	0.47	U
4-Chloro-3-Methylphenol	82000	34		mg/kg	0.28	U	0.3	U	0.47	U	0.43	U	0.28	U	0.064	U	0.4	U	0.41	U	0.058	U	0.29	U	0.47	U
4-Chloroaniline	11	0.0032		mg/kg	0.93	U	0.99	U	1.6	U	1.4	U	0.92	U	0.21	U	1.3	U	1.4	U	0.19	U	0.98	U	1.6	U
4-Chlorophenyl Phenyl Ether				mg/kg	0.24	U	0.26	U	0.4	U	0.37	U	0.24	U	0.055	U	0.35	U	0.36	U	0.051	U	0.25	U	0.41	U
4-Methylphenol	16000	6		mg/kg	0.28	U	0.3	U	0.95		0.43	U	0.28	U	0.064	U	0.4	J	0.26	J	0.058	U	0.29	U	1.4	
4-Nitroaniline	110	0.032		mg/kg	0.93	U	0.99	U	1.6	U	1.4	U	0.92	U	0.21	U	1.3	U	1.4	U	0.19	U	0.98	U	1.6	U
4-Nitrophenol				mg/kg	2.8	U	3	U	4.7	U	4.3	U	2.8	U	0.64	U	4	U	4.1	U	0.58	U	2.9	U	4.7	U
Acenaphthene	45000	110		mg/kg	0.11		0.099	U	1		0.039	J	0.092	U	0.021	U	0.12	J	0.14	U	0.019	U	0.098	U	0.16	U
Acenaphthylene				mg/kg	0.058	J	0.099	U	0.16	U	0.066	J	0.092	U	0.021	U	0.13	J	0.14	U	0.019	U	0.098	U	0.16	U

Prepared by: DP 02/16/22
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				Location	B-1		B-2		B-2		B-2		B-3		B-3		B-3		B-3		B-4		B-4		B-4	
				Sample ID	SBB1100119-68		SBB2100119-01		SBB2100119-1416		SBB2100119-810		SBB3100319-01		SBB3100319-0810		SBB3100319-1416		FD100319		SBB4100319-01		SBB4100319-0608		SBB4100319-1416	
				Sample Date	10/1/2019		10/1/2019		10/1/2019		10/1/2019		10/3/2019		10/3/2019		10/3/2019		10/3/2019		10/3/2019		10/3/2019		10/3/2019	
Parameter	Industrial SSL	Risk-Based SSL DAF-20	MCL-Based SSL DAF-20	Units	Result	Qual	Result	Qual	Result	Qual	Result	Qual	Result	Qual	Result	Qual	Result	Qual	Result	Qual	Result	Qual	Result	Qual	Result	Qual
Acetophenone	120000	11.6		mg/kg	0.28	U	0.3	U	0.47	U	0.43	U	0.28	U	0.064	U	0.4	U	0.41	U	0.058	U	0.29	U	0.47	U
Anthracene	230000	1160		mg/kg	0.3		0.055	J	1.6		0.12	J	0.092	U	0.021	U	0.23		0.14	J	0.013	J	0.098	U	1.1	
Atrazine	10	0.004	0.038	mg/kg	2.4	U	2.6	U	4	U	3.7	U	2.4	U	0.55	U	3.5	U	3.6	U	0.51	U	2.5	U	4.1	U
Benzaldehyde	820	0.082		mg/kg	0.93	U	0.99	U	1.6	U	1.4	U	0.92	U	0.21	U	1.3	U	1.4	U	0.19	U	0.98	U	1.6	U
Benzo(A)Anthracene	21	**0.22**		mg/kg	**1.2**		0.16		**1.5**		0.16		0.092	U	0.011	J	**0.34**		0.21		0.022		0.065	J	**1.7**	
Benzo(A)Pyrene	2.1	**0.58**	4.8	mg/kg	**0.97**		0.15		**2.1**		0.16		0.053	J	0.021	U	0.21		0.095	J	0.021		0.087	J	**2.7**	
Benzo(B)Fluoranthene	21	6		mg/kg	1.5		0.26		1		0.19		0.049	J	0.012	J	0.34		0.13	J	0.028		0.074	J	1.2	
Benzo(G,H,I)perylene				mg/kg	0.67		0.14		2.9		0.13	J	0.038	J	0.021	U	0.13	J	0.076	J	0.017	J	0.098	U	3.4	
Benzo(K)Fluoranthene	210	58		mg/kg	0.59		0.095	J	0.24		0.1	J	0.092	U	0.008	J	0.13	J	0.072	J	0.015	J	0.098	U	0.31	
bis-(2-Chloroethoxy)Methane	2500	0.26		mg/kg	0.21	U	0.22	U	0.34	U	0.31	U	0.2	U	0.047	U	0.29	U	0.3	U	0.043	U	0.22	U	0.34	U
bis-(2-Chloroethyl)Ether	1	0.000072		mg/kg	0.28	U	0.3	U	0.47	U	0.43	U	0.28	U	0.064	U	0.4	U	0.41	U	0.058	U	0.29	U	0.47	U
bis(2-Chloroisopropyl)Ether				mg/kg	0.24	U	0.26	U	0.4	U	0.37	U	0.24	U	0.055	U	0.35	U	0.36	U	0.051	U	0.25	U	0.41	U
bis-(2-Ethylhexyl)Phthalate	160	26	28	mg/kg	0.93	U	0.99	U	1.6	U	1.4	U	0.92	U	0.21	U	1.3	U	1.4	U	0.19	U	0.98	U	1.6	U
Butylbenzyl Phthalate	1200	4.8		mg/kg	0.93	U	0.99	U	1.6	U	1.4	U	0.92	U	0.21	U	1.3	U	1.4	U	0.19	U	0.98	U	1.6	U
Caprolactam	400000	50		mg/kg	0.93	U	0.99	U	1.6	U	1.4	U	0.92	U	0.21	U	1.3	U	1.4	U	0.19	U	0.98	U	1.6	U
Carbazole				mg/kg	0.11	J	0.22	U	0.34	U	0.31	U	0.2	U	0.047	U	0.29	U	0.3	U	0.043	U	0.22	U	0.34	U
Chrysene	2100	180		mg/kg	1.4		0.2		2.8		0.26		0.046	J	0.014	J	0.38		0.19		0.02		0.078	J	3.6	
Dibenzo(a,h)Anthracene	2.1	1.92		mg/kg	0.13		0.099	U	0.16	U	0.14	U	0.092	U	0.021	U	0.13	U	0.14	U	0.019	U	0.098	U	0.53	
Dibenzofuran	1200	3		mg/kg	0.21	U	0.22	U	1		0.31	U	0.2	U	0.047	U	0.29	U	0.3	U	0.043	U	0.22	U	0.99	
Diethyl Phthalate	660000	122		mg/kg	0.93	U	0.99	U	1.6	U	1.4	U	0.92	U	0.21	U	1.3	U	1.4	U	0.19	U	0.98	U	1.6	U
Dimethyl Phthalate				mg/kg	0.93	U	0.99	U	1.6	U	1.4	U	0.92	U	0.21	U	1.3	U	1.4	U	0.19	U	0.98	U	1.6	U
Di-n-Butyl Phthalate	82000	46		mg/kg	0.93	U	0.99	U	1.6	U	1.4	U	0.92	U	0.21	U	1.3	U	1.4	U	0.19	U	0.98	U	1.6	U
Di-n-Octyl Phthalate	8200	1140		mg/kg	0.93	U	0.99	U	1.6	U	1.4	U	0.92	U	0.21	U	1.3	U	1.4	U	0.19	U	0.98	U	1.6	U
Fluoranthene	30000	1780		mg/kg	2.6		0.26		1.9		0.34		0.047	J	0.016	J	0.58		0.34		0.047		0.13		1.9	
Fluorene	30000	108		mg/kg	0.11		0.099	U	3.4		0.062	J	0.092	U	0.005	J	0.39		0.15		0.012	J	0.098	U	3.4	
Hexachlorobenzene	0.96	0.0024	0.26	mg/kg	0.093	U	0.099	U	0.16	U	0.14	U	0.092	U	0.021	U	0.13	U	0.14	U	0.019	U	0.098	U	0.16	U
Hexachlorobutadiene	5.3	0.0054		mg/kg	0.43	U	0.45	UJ	0.71	UJ	0.66	U	0.42	U	0.098	U	0.62	U	0.63	U	0.09	U	0.45	U	0.72	U
Hexachlorocyclopentadiene	7.5	0.026	3.2	mg/kg	2.8	U	3	U	4.7	U	4.3	U	2.8	U	0.64	U	4	U	4.1	U	0.58	U	2.9	U	4.7	U
Hexachloroethane	8	0.004		mg/kg	0.93	U	0.99	U	1.6	U	1.4	U	0.92	U	0.21	U	1.3	U	1.4	U	0.19	U	0.98	U	1.6	U
Indeno(1,2,3-Cd)Pyrene	21	19.6		mg/kg	0.57		0.1		0.53		0.095	J	0.028	J	0.021	U	0.12	J	0.058	J	0.011	J	0.098	U	0.63	
Isophorone	2400	0.52		mg/kg	0.21	U	0.22	U	0.34	U	0.31	U	0.2	U	0.047	U	0.29	U	0.3	U	0.043	U	0.22	U	0.34	U
Naphthalene	8.6	**0.0076**		mg/kg	**0.068**	**J**	0.099	UJ	0.16	UJ	**0.096**	**J**	0.092	U	0.021	U	**0.32**		**0.32**		0.019	U	0.098	U	**3.1**	
Nitrobenzene	22	0.00184		mg/kg	0.37	U	0.39	U	0.62	U	0.57	U	0.37	U	0.085	U	0.54	U	0.55	U	0.078	U	0.39	U	0.63	U
n-Nitroso-di-n-Propylamine	0.33	0.000162		mg/kg	0.28	U	0.3	U	0.47	U	0.43	U	0.28	U	0.064	U	0.4	U	0.41	U	0.058	U	0.29	U	0.47	U
n-Nitrosodiphenylamine	470	1.34		mg/kg	0.21	U	0.22	U	0.34	U	0.31	U	0.2	U	0.047	U	0.33		0.3	U	0.043	U	0.22	U	0.34	U
Pentachlorophenol	4	0.00114	0.028	mg/kg	0.93	U	0.99	U	1.6	U	1.4	U	0.92	U	0.21	U	1.3	U	1.4	U	0.19	U	0.98	U	1.6	U
Phenanthrene				mg/kg	0.71		0.16		9.2		0.21		0.031	J	0.01	J	1	J	0.56	J	0.051		0.1		9.9	
Phenol	250000	66		mg/kg	0.21	U	0.22	U	0.34	U	0.31	U	0.2	U	0.047	U	0.29	U	0.3	U	0.043	U	0.22	U	0.34	U
Pyrene	23000	260		mg/kg	2.3		0.26		5.4		0.38		0.059	J	0.016	J	0.55		0.33		0.045		0.14		5.8	

Notes:
Exceeds the U.S. Environmental Protection Agency (EPA) Regional Screening Level (RSL), Industrial Soil Screening Level (SSL) (May 2023)
Exceeds the EPA RSL, Risk-Based SSL assuming a dilution attenuation factor (DAF) of 20
Exceeds the EPA RSL, Maximum Contaminant Level (MCL) SSL assuming a DAF of 20
Blanks indicate RSL not established or constituent not analyzed
RSLs assume target cancer risk (TR) of 1E-06 and target hazard quotient (THQ) of 1.0
U = undetected
J = estimated value
J+ = estimated biased high
J- = estimated biased low
R = rejected
MG/KG - milligram per kilogram
Sample depth shown in Sample ID (e.g., SBBF3-04_6-8 indicates 6 to 8-foot sample)
DUP = Duplicate sample
Exceedances shown may exceed one or more criteria if available

Prepared by: DP 02/16/22
Checked by: JM 02/17/22

Table 1. SWMU 9 Soil Analytical Results
Corrective Measures Study
Honeywell Delaware Valley Works
Claymont, Delaware
WSP Project No. 3482230886

Location					MW-123S		MW-123S		MW-123S		MW-123S		MW-124S		MW-124S		MW-124S	
Sample ID					SBMW123S-01		SBMW123S-1012		SBMW123S-1416		FD10011901		SBMW124S-01		SBMW124S-1012		SBMW124S-1416	
Sample Date					10/1/2019		10/1/2019		10/1/2019		10/1/2019		9/30/2019		9/30/2019		9/30/2019	
Parameter	Industrial SSL	Risk-Based SSL DAF-20	MCL-Based SSL DAF-20	Units	Result	Qual	Result	Qual	Result	Qual	Result	Qual	Result	Qual	Result	Qual	Result	Qual
Metals																		
Aluminum	1100000	600000		mg/kg	29600		14300		38500	J	13100	J	12300		270		27800	
Antimony	470	**7**	*5.4*	mg/kg	3.62	J	3.46	J	*126*	*J*	*11.5*	*J*	4.85	U	6.23	U	*12.2*	
Arsenic	3	**0.03**	*5.8*	mg/kg	*46.6*		*14.4*		*9200*	*J*	*301*	*J*	*119*		3.74	U	*14100*	
Barium	220000	**3200**	*1640*	mg/kg	55.4		175		*2480*	*J*	302	J	185		110		*5240*	
Beryllium	2300	380	64	mg/kg	0.419	J	0.584	U	0.965	J	0.253	J	0.633		0.623	U	1.14	
Boron	230000	260		mg/kg														
Cadmium	100	**2.8**	*7.6*	mg/kg	0.333	J	0.584	U	**4.7**	**J**	1.39	J	0.418	J	0.896		*8.11*	
Calcium				mg/kg	203000		242000		37300	J	226000	J	18100		269000		19900	
Chromium			3600000	mg/kg	41.7		15.3		79.8	J	35.6	J	30.8		5.6		122	
Cobalt	350	**5.4**		mg/kg	**12.9**		**10.8**		**7.11**		**7.68**		**14.3**		0.653		**19.9**	
Copper	47000	**560**	*920*	mg/kg	72.8		37.4		**681**	**J**	119	J	104		9.51		493	
Iron	820000	**7000**		mg/kg	**17600**		**18400**		**24900**		**20500**		**47000**		758		**34800**	
Lead	800		*280*	mg/kg	126		64.7		*14000*	*J*	*477*	*J*	235		138		*2000*	
Magnesium				mg/kg	862		373		2800	J	1490	J	2440		4620		5370	
Manganese	26000	560		mg/kg	71.9		28.6		190	J	61.1	J	139		26		269	
Nickel	22000	520		mg/kg	9.13		2.72		22.3	J	6.74	J	17.8		3.7		29.9	
Potassium				mg/kg	606		269		2000		2020		1730		187	U	3940	
Selenium	5800	**10.4**	*5.2*	mg/kg	*7.64*		*7.9*		*208*	*J*	*27.2*	*J*	*25.7*		6.23	U	*99.6*	
Silver	5800	16		mg/kg	1.26		0.955	J	9.81	J	2.3	J	1.6		1.25	U	4.74	
Sodium				mg/kg	233		1230		8830		7030		223		623	U	1100	
Thallium	12	**0.28**	*2.8*	mg/kg	**1.18**	**J**	3.51	U	*51.3*	*J*	3.7	UJ	2.91	U	3.74	U	**2.05**	**J**
Vanadium	5800	1720		mg/kg	27.7		7.52		79.1	J	17.9	J	38.4		1.25	U	66.6	
Zinc	350000	7400		mg/kg	186		38.1		620	J	35.5	J	150		256		1120	
Mercury	46	**0.66**	*2*	mg/kg	**0.846**		0.502		*106*	*J*	*4.69*	*J*	**1.23**		0.19		*16.8*	
Pesticides																		
4,4'-DDD	9.6	**0.15**		mg/kg	**0.37**	**J**	**0.46**	**J**	**6.4**	**J+**	0.11	J-	**0.29**	**J**	0.0048	J	**2.7**	**J+**
4,4'-DDE	9.3	**0.22**		mg/kg	**0.36**		0.13		**2.8**	**J+**	0.047	J-	0.19		0.018	J-	**0.67**	**J+**
4,4'-DDT	8.5	**1.54**		mg/kg	0.66		0.16		0.17	J+	0.005	UJ	0.74	J	0.0093	J-	0.0051	UJ
Aldrin	0.18	**0.003**		mg/kg	0.004	U	0.0044	U	0.0039	U	0.005	UJ	0.00081	U	0.0009	UJ	0.0051	U
Alpha-BHC	0.36	**0.00084**		mg/kg	**0.0094**	**J**	**0.0055**	**J**	**0.08**	**J+**	**0.0034**	**J-**	**0.0042**		0.0009	UJ	0.0051	U
Beta-BHC	1.3	**0.003**		mg/kg	0.004	U	0.0044	U	0.0039	U	0.005	UJ	**0.013**		0.0009	UJ	0.0051	U
cis-Chlordane	500	9.8		mg/kg	0.004	U	0.0044	U	0.0039	U	0.005	UJ	0.00081	U	0.0009	UJ	0.0051	U
Delta-BHC				mg/kg	0.004	U	0.0044	U	0.0039	U	0.005	UJ	0.0021		0.0009	UJ	0.0051	U
Dieldrin	0.14	**0.00142**		mg/kg	0.004	U	0.0044	U	0.0039	U	0.005	UJ	0.00081	U	0.0009	UJ	0.0051	U
Endosulfan I				mg/kg	0.004	U	0.0044	U	0.0039	U	0.005	UJ	0.00081	U	0.0009	UJ	0.0051	U
Endosulfan II				mg/kg	0.004	U	0.0044	U	0.011	J+	0.005	UJ	0.00081	U	0.0009	UJ	0.0051	U
Endosulfan Sulfate	4900	42		mg/kg	0.004	U	0.0044	U	0.0039	U	0.005	UJ	0.00081	U	0.0009	UJ	0.0051	U
Endrin	250	1.84	1.62	mg/kg	0.004	U	0.0044	U	0.0039	U	0.005	UJ	0.00081	U	0.0009	UJ	0.0051	U
Endrin Aldehyde				mg/kg	0.004	U	0.0044	U	0.0039	U	0.005	UJ	0.00081	U	0.0009	UJ	0.0051	U
Endrin Ketone				mg/kg	0.004	U	0.0044	U	0.0039	U	0.005	UJ	0.00081	U	0.0009	UJ	0.0051	U
Gamma-BHC (Lindane)	2.5	**0.0048**	*0.024*	mg/kg	0.004	U	0.0044	U	0.0039	U	0.005	UJ	0.0012	J	0.0009	UJ	0.0051	U
Heptachlor	0.63	**0.0024**	0.66	mg/kg	0.004	U	0.0044	U	0.0039	U	0.005	UJ	0.00081	U	0.0009	UJ	0.0051	U
Heptachlor Epoxide	0.33	**0.00056**	*0.082*	mg/kg	0.004	U	0.0044	U	0.0039	U	0.005	UJ	0.00081	U	0.0009	UJ	0.0051	U
Methoxychlor	4100	40	44	mg/kg	0.0078	U	0.0085	U	0.0076	U	0.0098	UJ	0.0016	UJ	0.0017	UJ	0.002	UJ
Toxaphene	2.1	0.22	9.2	mg/kg	0.1	U	0.11	U	0.099	U	0.13	UJ	0.02	U	0.023	UJ	0.026	U
trans-Chlordane	500	28		mg/kg	0.004	U	0.0044	U	0.0039	U	0.005	UJ	0.00081	U	0.0009	UJ	0.0051	U
Volatile Organic Compounds																		
1,1,1-Trichloroethane	36000	56	1.4	mg/kg	0.007	U	0.005	U	15	U	4	U	0.004	U	0.005	U	4.8	U
1,1,2,2-Tetrachloroethane	2.7	0.0006		mg/kg	0.007	U	0.005	U	15	U	4	U	0.004	U	0.005	U	4.8	U
1,1,2-Trichloro-1,2,2-Trifluoroethane	28000	520		mg/kg	0.014	U	0.009	U	31	U	8	U	0.009	U	0.01	U	9.5	U
1,1,2-Trichloroethane	5	0.00178	0.032	mg/kg	0.007	U	0.005	U	15	U	4	U	0.004	U	0.005	U	4.8	U
1,1-Dichloroethane	16	0.0156		mg/kg	0.007	U	0.005	U	15	U	4	U	0.004	U	0.005	U	4.8	U
1,1-Dichloroethene	1000	2	0.05	mg/kg	0.007	U	0.005	U	15	U	4	U	0.004	U	0.005	U	4.8	U
1,2,3-Trichlorobenzene	930	0.42		mg/kg	0.014	U	0.009	U	31	U	8	U	0.009	U	0.01	U	9.5	U
1,2,4-Trichlorobenzene	110	0.068	4	mg/kg	0.014	U	0.009	U	31	UJ	8	U	0.009	U	0.01	U	9.5	UJ
1,2-Dibromo-3-Chloropropane	0.064	0.0000028	0.00172	mg/kg	0.007	U	0.005	U	15	UJ	4	U	0.004	U	0.005	U	4.8	UJ
1,2-Dibromoethane	0.16	0.000042	0.00028	mg/kg	0.007	U	0.005	U	15	U	4	U	0.004	U	0.005	U	4.8	U
1,2-Dichlorobenzene	9300	6	11.6	mg/kg	0.007	U	0.011		15	U	4	U	0.004	U	0.005	U	4.8	U
1,2-Dichloroethane	2	0.00096	0.028	mg/kg	0.007	U	0.005	U	15	U	4	U	0.004	U	0.005	U	4.8	U
1,2-Dichloropropane	11	0.0056	0.034	mg/kg	0.007	U	0.005	U	15	U	4	U	0.004	U	0.005	U	4.8	U
1,3-Dichlorobenzene				mg/kg	0.007	U	0.005	U	15	U	4	U	0.004	U	0.005	U	4.8	U
1,4-Dichlorobenzene	11	0.0092	1.44	mg/kg	0.007	U	0.008		15	U	4	U	0.004	U	0.005	U	4.8	U
1,4-Dioxane	24	0.00188		mg/kg	0.35	U	0.24	U	770	U	200	U	0.22	U	0.24	U	240	U
2-Butanone	190000	24		mg/kg	0.01	J	0.011		31	U	8	U	0.014		0.01	U	9.5	U

Prepared by: DP 02/16/22
Checked by: JM 02/17/22

Table 1. SWMU 9 Soil Analytical Results
Corrective Measures Study
Honeywell Delaware Valley Works
Claymont, Delaware
WSP Project No. 3482230886

				Location	MW-123S		MW-123S		MW-123S		MW-123S		MW-124S		MW-124S		MW-124S	
				Sample ID	SBMW123S-01		SBMW123S-1012		SBMW123S-1416		FD10011901		SBMW124S-01		SBMW124S-1012		SBMW124S-1416	
				Sample Date	10/1/2019		10/1/2019		10/1/2019		10/1/2019		9/30/2019		9/30/2019		9/30/2019	
Parameter	Industrial SSL	Risk-Based SSL DAF-20	MCL-Based SSL DAF-20	Units	Result	Qual	Result	Qual	Result	Qual	Result	Qual	Result	Qual	Result	Qual	Result	Qual
2-Hexanone	1300	0.176		mg/kg	0.014	U	0.009	U	31	U	8	U	0.009	U	0.01	U	9.5	U
4-Methyl-2-Pentanone	140000	28		mg/kg	0.014	U	0.009	U	31	U	8	U	0.009	U	0.01	U	9.5	U
Acetone	1100000	74		mg/kg	0.064		0.11		62	U	16	U	0.09		0.019	U	19	U
Benzene	5.1	**0.0046**	0.052	mg/kg	0.007	U	**0.021**		15	U	4	U	0.0008	J	0.005	U	4.8	U
Bromochloromethane	630	0.42		mg/kg	0.007	U	0.005	U	15	U	4	U	0.004	U	0.005	U	4.8	U
Bromodichloromethane	1.3	0.00072	0.44	mg/kg	0.007	U	0.005	U	15	U	4	U	0.004	U	0.005	U	4.8	U
Bromoform	86	0.0174	0.42	mg/kg	0.014	U	0.009	U	31	U	8	U	0.009	U	0.01	U	9.5	U
Bromomethane	30	0.038		mg/kg	0.007	U	0.005	UJ	15	U	4	U	0.004	U	0.005	U	4.8	U
Carbon Disulfide	3500	4.8		mg/kg	0.001	J	0.006		15	U	4	U	0.008		0.005	U	4.8	U
Carbon Tetrachloride	2.9	0.0036	0.038	mg/kg	0.007	U	0.005	U	15	U	4	U	0.004	U	0.005	U	4.8	U
Chlorobenzene	1300	**1.06**	*1.36*	mg/kg	0.007	U	0.016		15	U	4	U	0.004	U	0.004	J	4.8	U
Chloroethane	23000	48		mg/kg	0.007	U	0.005	U	15	U	4	U	0.004	U	0.005	U	4.8	U
Chloroform	1.4	**0.00122**	0.44	mg/kg	0.007	U	0.005	U	15	U	4	U	0.001	J	0.005	U	4.8	U
Chloromethane	460	0.98		mg/kg	0.007	U	0.005	UJ	15	U	4	U	0.004	U	0.005	U	4.8	U
cis-1,2-Dichloroethene	2300	0.22	0.42	mg/kg	0.007	U	0.005	U	15	U	4	U	0.004	U	0.005	U	4.8	U
cis-1,3-Dichloropropene				mg/kg	0.007	U	0.005	U	15	U	4	U	0.004	U	0.005	U	4.8	U
Cyclohexane	27000	260		mg/kg	0.007	U	0.002	J	15	U	4	U	0.004	U	0.005	U	4.8	U
Dibromochloromethane	39	0.0046	0.42	mg/kg	0.007	U	0.005	UJ	15	U	4	U	0.004	U	0.005	U	4.8	U
Dichlorodifluoromethane	370	6		mg/kg	0.007	U	0.001	J	15	UJ	4	UJ	0.004	U	0.005	U	4.8	UJ
Ethylbenzene	25	**0.034**	15.6	mg/kg	0.0009	J	0.0008	J	15	U	**0.43**	**J**	0.004	U	0.005	U	4.8	U
Isopropylbenzene	9900	14.8		mg/kg	0.0007	J	0.005	U	15	U	0.36	J	0.004	U	0.005	U	4.8	U
m&p-Xylenes				mg/kg	0.002	J	0.001	J	15	U	0.85	J	0.004	U	0.005	U	4.8	U
Methyl Acetate	1200000	82		mg/kg	0.006	J	0.005	U	15	U	1	J	0.004	U	0.005	U	4.8	U
Methyl Tert-Butyl Ether	210	0.064		mg/kg	0.007	U	0.005	U	15	U	4	U	0.004	U	0.005	U	4.8	U
Methylcyclohexane				mg/kg	0.037		0.004	J	15	U	3.6	J	0.004	U	0.005	U	2	J
Methylene Chloride	1000	0.058	0.026	mg/kg	0.007	U	0.005	U	15	U	4	U	0.004	U	0.005	U	4.8	U
o-Xylene	2800	3.8		mg/kg	0.001	J	0.0006	J	15	U	0.39	J	0.004	U	0.005	U	4.8	U
Styrene	35000	26	2.2	mg/kg	0.007	U	0.005	U	15	U	4	U	0.004	U	0.005	U	4.8	U
Tetrachloroethene	100	0.102	0.046	mg/kg	0.007	U	0.005	U	15	U	4	U	0.004	U	0.005	U	4.8	U
Toluene	47000	15.2	13.8	mg/kg	0.001	J	0.002	J	15	U	0.59	J	0.0007	J	0.0006	J	4.8	U
Total Xylenes	2500	3.8	198	mg/kg	0.003	J	0.002	J	31	U	1.2	J	0.009	U	0.01	U	9.5	U
trans-1,2-Dichloroethene	300	0.42	0.62	mg/kg	0.007	U	0.005	U	15	U	4	U	0.004	U	0.005	U	4.8	U
trans-1,3-Dichloropropene				mg/kg	0.007	U	0.005	U	15	U	4	U	0.004	U	0.005	U	4.8	U
Trichloroethene	6	**0.0036**	0.036	mg/kg	0.007	U	0.005	U	15	U	4	U	0.004	U	0.005	U	4.8	U
Trichlorofluoromethane	350000	66		mg/kg	0.007	U	0.005	U	15	UJ	4	U	0.004	U	0.005	U	4.8	UJ
Vinyl Chloride	1.7	**0.00013**	0.0138	mg/kg	0.007	U	0.005	U	15	U	4	U	0.004	U	0.005	U	4.8	U
Semi-Volatile Organic Compounds																		
1,1'-Biphenyl	200	**0.174**		mg/kg	0.22	U	0.24	U	**0.23**	**J**	0.097	J	0.21	U	0.05	U	**0.34**	
1,2,4,5-Tetrachlorobenzene	35	**0.0158**		mg/kg	0.22	U	0.24	U	0.28	U	0.056	U	0.21	U	0.05	U	0.069	U
2,3,4,6-Tetrachlorophenol	25000	3.6		mg/kg	1	U	1.1	U	1.3	U	0.25	U	0.95	U	0.23	U	0.31	U
2,4,5-Trichlorophenol	82000	80		mg/kg	0.4	U	0.43	U	0.51	U	0.1	U	0.38	U	0.091	U	0.13	U
2,4,6-Trichlorophenol	210	0.08		mg/kg	0.34	U	0.37	U	0.43	U	0.087	U	0.32	U	0.077	U	0.11	U
2,4-Dichlorophenol	2500	**0.46**		mg/kg	0.26	U	0.28	U	0.33	U	0.066	U	0.25	U	0.059	U	**0.52**	
2,4-Dimethylphenol	16000	8.4		mg/kg	0.4	U	0.43	U	0.51	U	0.1	U	0.38	U	0.091	U	0.13	U
2,4-Dinitrophenol	1600	0.88		mg/kg	6	U	6.5	U	7.6	U	1.5	U	5.7	U	1.4	U	1.9	U
2,4-Dinitrotoluene	7.4	0.0064		mg/kg	1	U	1.1	U	1.3	U	0.25	U	0.95	U	0.23	U	0.31	U
2,6-Dinitrotoluene	1.5	0.00134		mg/kg	0.3	U	0.32	U	0.38	U	0.076	U	0.29	U	0.068	U	0.094	U
2-Chloronaphthalene	60000	78		mg/kg	0.2	U	0.22	U	0.25	U	0.051	U	0.19	U	0.045	U	0.063	U
2-Chlorophenol	5800	1.78		mg/kg	0.22	U	0.24	U	0.28	U	0.056	U	0.21	U	0.05	U	0.069	U
2-Methylnaphthalene	3000	**3.8**		mg/kg	0.021	J	0.22	U	2	J	0.91	J	0.022	J	0.045	U	1.9	
2-Methylphenol	41000	15		mg/kg	0.4	U	0.43	U	0.51	U	0.1	U	0.38	U	0.091	U	0.13	U
2-Nitroaniline	8000	1.6		mg/kg	0.3	U	0.32	U	0.38	U	0.076	U	0.29	U	0.068	U	0.094	U
2-Nitrophenol				mg/kg	0.34	U	0.37	U	0.43	U	0.087	U	0.32	U	0.077	U	0.11	U
3,3'-Dichlorobenzidine	5.1	0.0164		mg/kg	2	U	2.2	U	2.5	U	0.51	U	1.9	U	0.45	U	0.63	U
3-Nitroaniline				mg/kg	1	U	1.1	U	1.3	U	0.25	U	0.95	U	0.23	U	0.31	U
4,6-Dinitro-2-Methylphenol	66	0.052		mg/kg	3	U	3.2	U	3.8	U	0.76	U	2.9	U	0.68	U	0.94	U
4-Bromophenyl Phenyl Ether				mg/kg	0.3	U	0.32	U	0.38	U	0.076	U	0.29	U	0.068	U	0.094	U
4-Chloro-3-Methylphenol	82000	34		mg/kg	0.3	U	0.32	U	0.38	U	0.076	U	0.29	U	0.068	U	0.094	U
4-Chloroaniline	11	0.0032		mg/kg	1	U	1.1	U	1.3	U	0.25	U	0.95	U	0.23	U	0.31	U
4-Chlorophenyl Phenyl Ether				mg/kg	0.26	U	0.28	U	0.33	U	0.066	U	0.25	U	0.059	U	0.082	U
4-Methylphenol	16000	6		mg/kg	0.3	U	0.32	U	0.43	J	0.076	UJ	0.29	U	0.068	U	0.79	
4-Nitroaniline	110	0.032		mg/kg	1	U	1.1	U	1.3	U	0.25	U	0.95	U	0.23	U	0.31	U
4-Nitrophenol				mg/kg	3	U	3.2	U	3.8	U	0.76	U	2.9	U	0.68	U	0.94	U
Acenaphthene	45000	110		mg/kg	0.1	U	0.11	U	0.13	U	0.025	U	0.054	J	0.023	U	0.28	
Acenaphthylene				mg/kg	0.1	U	0.11	U	0.24	J	0.025	UJ	0.12		0.023	U	0.35	

Prepared by: DP 02/16/22
Checked by: JM 02/17/22

Table 1. SWMU 9 Soil Analytical Results
Corrective Measures Study
Honeywell Delaware Valley Works
Claymont, Delaware
WSP Project No. 3482230886

				Location	MW-123S		MW-123S		MW-123S		MW-123S		MW-124S		MW-124S		MW-124S	
				Sample ID	SBMW123S-01		SBMW123S-1012		SBMW123S-1416		FD10011901		SBMW124S-01		SBMW124S-1012		SBMW124S-1416	
				Sample Date	10/1/2019		10/1/2019		10/1/2019		10/1/2019		9/30/2019		9/30/2019		9/30/2019	
Parameter	Industrial SSL	Risk-Based SSL DAF-20	MCL-Based SSL DAF-20	Units	Result	Qual	Result	Qual	Result	Qual	Result	Qual	Result	Qual	Result	Qual	Result	Qual
Acetophenone	120000	11.6		mg/kg	0.3	U	0.32	U	0.38	U	0.076	U	0.29	U	0.068	U	0.094	U
Anthracene	230000	1160		mg/kg	0.039	J	0.11	U	0.51	J	0.13	J	0.21		0.023	U	0.68	
Atrazine	10	0.004	0.038	mg/kg	2.6	U	2.8	U	3.3	U	0.66	U	2.5	U	0.59	U	0.82	U
Benzaldehyde	820	0.082		mg/kg	1	U	1.1	U	1.3	U	0.25	U	0.95	U	0.23	U	0.31	U
Benzo(A)Anthracene	21	**0.22**		mg/kg	0.13		0.046	J	**0.57**	**J**	0.14	J	**0.62**		0.023	U	**0.64**	
Benzo(A)Pyrene	2.1	**0.58**	4.8	mg/kg	0.15		0.053	J	0.36	J	0.16	J	**0.59**		0.023	U	0.57	
Benzo(B)Fluoranthene	21	6		mg/kg	0.18		0.075	J	0.54	J	0.091	J	1.1		0.023	U	0.45	
Benzo(G,H,I)perylene				mg/kg	0.12		0.11	U	0.22		0.16		0.54		0.023	U	0.81	
Benzo(K)Fluoranthene	210	58		mg/kg	0.076	J	0.11	U	0.2	J	0.024	J	0.3		0.023	U	0.11	
bis-(2-Chloroethoxy)Methane	2500	0.26		mg/kg	0.22	U	0.24	U	0.28	U	0.056	U	0.21	U	0.05	U	0.069	U
bis-(2-Chloroethyl)Ether	1	0.000072		mg/kg	0.3	U	0.32	U	0.38	U	0.076	U	0.29	U	0.068	U	0.094	U
bis(2-Chloroisopropyl)Ether				mg/kg	0.26	U	0.28	U	0.33	U	0.066	U	0.25	U	0.059	U	0.082	U
bis-(2-Ethylhexyl)Phthalate	160	26	28	mg/kg	1	U	1.1	U	1.3	U	0.25	U	0.95	U	0.23	U	0.31	U
Butylbenzyl Phthalate	1200	4.8		mg/kg	1	U	1.1	U	1.3	U	0.25	U	0.95	U	0.23	U	0.31	U
Caprolactam	400000	50		mg/kg	1	U	1.1	U	1.3	U	0.25	U	0.95	U	0.23	U	0.31	U
Carbazole				mg/kg	0.22	U	0.24	U	0.28	U	0.056	U	0.21	U	0.05	U	0.069	U
Chrysene	2100	180		mg/kg	0.15		0.056	J	0.78	J	0.22	J	0.64		0.023	U	1.1	
Dibenzo(a,h)Anthracene	2.1	1.92		mg/kg	0.1	U	0.11	U	0.13	UJ	0.027	J	0.15		0.023	U	0.11	
Dibenzofuran	1200	3		mg/kg	0.22	U	0.24	U	0.21	J	0.087	J	0.21	U	0.05	U	0.42	
Diethyl Phthalate	660000	122		mg/kg	1	U	1.1	U	1.3	U	0.25	U	0.95	U	0.23	U	0.31	U
Dimethyl Phthalate				mg/kg	1	U	1.1	U	1.3	U	0.25	U	0.95	U	0.23	U	0.31	U
Di-n-Butyl Phthalate	82000	46		mg/kg	1	U	1.1	U	1.3	U	0.25	U	0.95	U	0.23	U	0.31	U
Di-n-Octyl Phthalate	8200	1140		mg/kg	1	U	1.1	U	1.3	U	0.25	U	0.95	U	0.23	U	0.31	U
Fluoranthene	30000	1780		mg/kg	0.18		0.071	J	1.3	J	0.15	J	1.2		0.023	U	1.3	
Fluorene	30000	108		mg/kg	0.1	U	0.11	U	0.74	J	0.23	J	0.055	J	0.023	U	1.3	
Hexachlorobenzene	0.96	0.0024	0.26	mg/kg	0.1	U	0.11	U	0.13	U	0.025	U	0.095	U	0.023	U	0.031	U
Hexachlorobutadiene	5.3	0.0054		mg/kg	0.46	U	0.5	U	0.58	UJ	0.12	U	0.44	U	0.1	U	0.14	UJ
Hexachlorocyclopentadiene	7.5	0.026	3.2	mg/kg	3	U	3.2	U	3.8	U	0.76	U	2.9	U	0.68	U	0.94	U
Hexachloroethane	8	0.004		mg/kg	1	U	1.1	U	1.3	U	0.25	U	0.95	U	0.23	U	0.31	U
Indeno(1,2,3-Cd)Pyrene	21	19.6		mg/kg	0.097	J	0.032	J	0.15	J	0.042	J	0.43		0.023	U	0.2	
Isophorone	2400	0.52		mg/kg	0.22	U	0.24	U	0.28	U	0.056	U	0.21	U	0.05	U	0.069	U
Naphthalene	8.6	**0.0076**		mg/kg	0.1	U	0.11	U	**0.85**	**J**	**0.15**	**J**	0.095	U	0.023	U	**0.57**	**J**
Nitrobenzene	22	0.00184		mg/kg	0.4	U	0.43	U	0.51	U	0.1	U	0.38	U	0.091	U	0.13	U
n-Nitroso-di-n-Propylamine	0.33	0.000162		mg/kg	0.3	U	0.32	U	0.38	U	0.076	U	0.29	U	0.068	U	0.094	U
n-Nitrosodiphenylamine	470	1.34		mg/kg	0.22	U	0.24	U	0.28	U	0.056	U	0.21	U	0.05	U	0.069	U
Pentachlorophenol	4	0.00114	0.028	mg/kg	1	U	1.1	U	1.3	U	0.25	U	0.95	U	0.23	U	0.31	U
Phenanthrene				mg/kg	0.15		0.047	J	2.1	J	0.61	J	0.66		0.006	J	1.8	
Phenol	250000	66		mg/kg	0.22	U	0.24	U	0.28	U	0.056	U	0.21	U	0.05	U	0.069	U
Pyrene	23000	260		mg/kg	0.21		0.057	J	1.2	J	0.37	J	0.91		0.023	U	2.5	

Notes:
Exceeds the U.S. Environmental Protection Agency (EPA) Regional Screening Level (RSL), Industrial Soil Screening Level (SSL) (May 2023)
Exceeds the EPA RSL, Risk-Based SSL assuming a dilution attenuation factor (DAF) of 20
Exceeds the EPA RSL, Maximum Contaminant Level (MCL) SSL assuming a DAF of 20
Blanks indicate RSL not established or constituent not analyzed
RSLs assume target cancer risk (TR) of 1E-06 and target hazard quotient (THQ) of 1.0
U = undetected
J = estimated value
J+ = estimated biased high
J- = estimated biased low
R = rejected
MG/KG - milligram per kilogram
Sample depth shown in Sample ID (e.g., SBBF3-04_6-8 indicates 6 to 8-foot sample)
DUP = Duplicate sample
Exceedances shown may exceed one or more criteria if available

Prepared by: DP 02/16/22
Checked by: JM 02/17/22

Appendix B

Table 2. 2003 Groundwater Analytical Results
SWMU 9 and South Plant South Parcel
Corrective Measures Study
Honeywell Delaware Valley Works
Claymont, Delaware
WSP Project No. 3482230886

			Location ID	B-1		B-1		B-1		B-1		B-2		B-2		B-2		B-2		B-2D		B-2D		B-2D	
			Sample ID	B-1020603		B-1020603		B-1071403		B-1071403		B-2020503		B-2020503		B-2071603		B-2071603		B-2D020603		B-2D020603		B-2D071603	
			Sample Date	2/6/2003		2/6/2003		7/14/2003		7/14/2003		2/5/2003		2/5/2003		7/16/2003		7/16/2003		2/6/2003		2/6/2003		7/16/2003	
			Fraction	D		T		D		T		D		T		D		T		D		T		D	
Parameter	Units	MAY 2023 RSL MCL	MAY 2023 RSL TAPW	Result	Lab Qual	Result	Lab Qual	Result	Lab Qual	Result	Lab Qual	Result	Lab Qual	Result	Lab Qual	Result	Lab Qual	Result	Lab Qual	Result	Lab Qual	Result	Lab Qual	Result	Lab Qual
Metals																									
Aluminum	ug/l		**20000**																						
Antimony	ug/l	**6**	**7.8**	**80**		**80**		**100**		**150**		**80**		**120**		**80**		**120**		**30**		**30**		**10**	
Arsenic	ug/l	**10**	**0.052**	**16000**		**17000**		**15100**		**17700**		**11000**	**K**	**12000**	**K**	**8800**		**9290**		**92000**		**85000**		**49600**	
Barium	ug/l	2000	3800	10	J	10	J	10	J	30		10	J	30		20		60		10	J	10	J	9.1	J
Beryllium	ug/l	**4**	25	0.82	B	0.39	B	0.29	B	0.28	B	0.35	B	0.24	B	0.73	B	0.44	B	1.5	B	1.3	B	0.87	B
Boron	ug/l		4000																						
Cadmium	ug/l	**5**	**1.8**	**6**		**4.8**		4.2	B	3.8	B	3.1	B	3.3	B	**2.8**		**2.4**		**9.5**		**7.8**		**5.5**	
Calcium	ug/l																								
Chromium	ug/l	**100**		6.1		5.2		6.1		40		7.9	B	10		10		20		4.2	J	4.9	J	2.8	B
Cobalt	ug/l		**6**	**30**		**30**		**30**		**40**		**40**	**K**	**40**	**K**	**40**		**40**		**360**		**320**		**200**	
Copper	ug/l	**1300**	**800**	210		220		290		330		40		150		70		300		340		260		210	
Iron	ug/l		**14000**																						
Lead	ug/l	**15**	**15**	10		**50**		**20**		**350**		**50**		**220**		**60**		**270**		2	U	7.7		7.4	B
Magnesium	ug/l																								
Manganese	ug/l		**430**																						
Nickel	ug/l		**390**	40		50		60		90		60		60		50		60		230		200		130	
Potassium	ug/l																								
Selenium	ug/l	50	100	9.9	B	10	B	1.8	U	2.3	J	5	B	4.4	B	7.2	B	4.6	B	8.5		10	B	1.8	U
Silver	ug/l		94	1	U	1	U	0.3	U	0.3	U	1	U	1	U	0.59	B	0.3	U	1	U	1	U	0.3	U
Sodium	ug/l																								
Thallium	ug/l	**2**	**0.2**	**30**	**L**	**30**	**L**	**40**	**L**	**40**	**L**	**10**	**L**	**10**	**L**	**10**	**L**	**10**	**L**	**140**	**L**	**120**	**L**	**80**	**L**
Tin	ug/l		12000	2.6	U	1.2	U	3.9	U	3.9	U	2.4	U	5.4	J	3.9	U	7.2	J	5.8	J	4.6	J	5.4	J
Vanadium	ug/l		**86**	10		10		9.4	J	10		8.2	J	10	J	10		10		40		30		20	
Zinc	ug/l		**6000**	990		1000		860		870		1200	K	1200	K	1020	K	1060		**12000**		**10000**		**6950**	**K**
Mercury	ug/l	**2**	**0.63**	0.13	U	0.15	U	0.2	UL	**0.68**		0.2	UL	**0.7**	**L**	0.2	U	**1.9**		0.2	U	0.2	U	0.2	U
Pesticides																									
4,4'-DDD	ug/l		**0.032**											0.1	U			0.1	UL			0.11	U		
4,4'-DDE	ug/l		**0.046**											0.1	U			0.1	UL			0.11	U		
4,4'-DDT	ug/l		**0.23**											0.1	U			0.1	UL			0.11	U		
Aldrin	ug/l		**0.00092**											0.05	U			0.05	UL			0.05	U		
Alpha-BHC	ug/l		**0.0072**											**0.04**	**J**			0.05	UL			0.05	U		
Beta-BHC	ug/l		**0.025**											0.02	J			0.05	UL			0.05	U		
Chlordane	ug/l													0.51	U			0.5	UL			0.53	U		
cis-Chlordane	ug/l		3.6											0.1	U			0.1	UL			0.1	U		
Delta-BHC	ug/l													0.05	U			0.05	UL			0.05	U		
Dieldrin	ug/l		0.0018											0.1	U			0.1	UL			0.11	U		
Endosulfan I	ug/l													0.05	U			0.05	UL			0.05	U		
Endosulfan II	ug/l													0.1	U			0.1	UL			0.11	U		
Endosulfan Sulfate	ug/l		110											0.1	U			0.1	UL			0.11	U		
Endrin	ug/l	2	2.3											0.1	U			0.1	UL			0.11	U		
Endrin Aldehyde	ug/l													0.1	U			0.1	UL			0.11	U		
Endrin Ketone	ug/l													0.1	U			0.1	UL			0.1	U		
Gamma-BHC (Lindane)	ug/l	0.2	**0.042**											0.05	U			0.05	UL			0.05	U		
Heptachlor	ug/l	0.4	0.0014											0.05	U			0.05	UL			0.05	U		
Heptachlor Epoxide	ug/l	**0.2**	**0.0014**											0.05	U			0.05	UL			0.05	U		
Methoxychlor	ug/l	40	37											0.51	U			0.5	UL			0.53	U		
Toxaphene	ug/l	3	0.071											1	U			1	UL			1.1	U		
trans-Chlordane	ug/l		10											0.1	U			0.1	UL			0.1	U		
Herbicides																									
2,4,5-T	ug/l		160											0.08	U			0.08	UJ			0.17	U		
2,4,5-TP (Silvex)	ug/l	50	110											0.08	U			0.04	J			0.4	U		
2,4-D	ug/l	70	170											0.22	U			0.2	UJ			3.8	U		
Volatile Organic Compounds																									
1,1,1,2-Tetrachloroethane	ug/l		0.57											5	U			5	U			5	U		
1,1,1-Trichloroethane	ug/l	200	8000											5	U			5	U			5	U		
1,1,2,2-Tetrachloroethane	ug/l		0.076											5	U			5	U			5	U		
1,1,2-Trichloroethane	ug/l	5	0.28											5	U			5	U			5	U		
1,1-Dichloroethane	ug/l		**2.8**											5	U			5	U			5	U		
1,1-Dichloroethene	ug/l	7	280											5	U			5	U			5	J		
1,2,3-Trichloropropane	ug/l		0.00075											5	U			5	U			5	U		
1,2-Dibromo-3-Chloropropane	ug/l	0.2	0.00033											5	U			5	U			5	U		
1,2-Dibromoethane	ug/l	0.05	0.0075											5	U			5	U			5	U		
1,2-Dichloroethane	ug/l	5	**0.17**											**4.3**	**J**			**3**	**J**			5	U		

Created By: DP 2/8/22
Checked By: KH 3/8/22

Table 2. 2003 Groundwater Analytical Results
SWMU 9 and South Plant South Parcel
Corrective Measures Study
Honeywell Delaware Valley Works
Claymont, Delaware
WSP Project No. 3482230886

				Location ID	B-1		B-1		B-1		B-1		B-2		B-2		B-2		B-2		B-2D		B-2D		B-2D	
				Sample ID	B-1020603		B-1020603		B-1071403		B-1071403		B-2020503		B-2020503		B-2071603		B-2071603		B-2D020603		B-2D020603		B-2D071603	
				Sample Date	2/6/2003		2/6/2003		7/14/2003		7/14/2003		2/5/2003		2/5/2003		7/16/2003		7/16/2003		2/6/2003		2/6/2003		7/16/2003	
				Fraction	D		T		D		T		D		T		D		T		D		T		D	
Parameter	Units	MAY 2023 RSL MCL	MAY 2023 RSL TAPW		Result	Lab Qual	Result	Lab Qual	Result	Lab Qual	Result	Lab Qual	Result	Lab Qual	Result	Lab Qual	Result	Lab Qual	Result	Lab Qual	Result	Lab Qual	Result	Lab Qual	Result	Lab Qual
1,2-Dichloropropane	ug/l	5	0.85												5	U			5	U			5	U		
1,4-Dioxane	ug/l		0.46												100	R			100	R			100	R		
2-Butanone	ug/l		5600												10	U			10	U			10	U		
2-Hexanone	ug/l		38												10	U			10	U			10	U		
4-Methyl-2-Pentanone	ug/l		6300												10	U			10	U			10	U		
Acetone	ug/l		18000												10	U			10	U			10	U		
Acetonitrile	ug/l		130												50	U			10	U			50	U		
Acrolein	ug/l		0.042												50	R			50	R			50	R		
Acrylonitrile	ug/l		0.052												10	U			50	R			10	U		
Allyl Chloride	ug/l		0.73												5	U			5	U			5	U		
Benzene	ug/l	**5**	**0.46**												**5**	**J**			**5**	**J**			**11**			
Bromodichloromethane	ug/l	80	0.13												5	U			5	U			5	U		
Bromoform	ug/l	80	3.3												5	U			5	U			5	U		
Bromomethane	ug/l		7.5												5	UJ			5	U			5	UJ		
Carbon Disulfide	ug/l		810												5	U			5	U			5	U		
Carbon Tetrachloride	ug/l	5	0.46												5	U			5	U			5	U		
Chlorobenzene	ug/l	100	78												5	U			5	U			5	U		
Chloroethane	ug/l		8300												5	U			5	U			5	U		
Chloroform	ug/l	80	**0.22**												**9.7**				**7**				5	B		
Chloromethane	ug/l		190												5	U			5	U			5	U		
Chloroprene	ug/l		0.019												5	U			5	U			5	U		
cis-1,2-Dichloroethene	ug/l	70	36												5	U			5	U			5	U		
cis-1,3-Dichloropropene	ug/l														5	U			5	U			5	U		
Dibromochloromethane	ug/l	80	0.87												5	U			5	U			5	U		
Dibromomethane	ug/l		8.3												5	U			5	U			5	U		
Dichlorodifluoromethane	ug/l		200												5	U			5	U			5	U		
Ethyl Cyanide	ug/l														10	R			10	R			10	R		
Ethyl Methacrylate	ug/l		630												5	U			5	U			5	U		
Ethylbenzene	ug/l	700	**1.5**												5	U			5	U			5	U		
Iodomethane	ug/l														25	U			25	U			25	U		
Isobutanol	ug/l		5900												5	U			5	R			5	U		
m&p-Xylenes	ug/l														10	U			10	U			10	U		
Methacrylonitrile	ug/l		1.9												5	U			5	U			5	U		
Methyl Methacrylate	ug/l		1400												5	U			5	U			5	U		
Methylene Chloride	ug/l	**5**	**11**												6.4	B			**45**				5	J		
o-Xylene	ug/l		190												5	U			5	U			5	U		
Styrene	ug/l	100	1200												5	U			5	U			5	U		
Tetrachloroethene	ug/l	5	11												5	U			5	U			5	U		
Toluene	ug/l	1000	1100												5	J			5	J			5	J		
trans-1,2-Dichloroethene	ug/l	100	68												5	U			5	U			5	U		
trans-1,3-Dichloropropene	ug/l														5	U			5	U			5	U		
trans-1,4-Dichloro-2-Butene	ug/l		0.0013												5	U			5	U			5	U		
Trichloroethene	ug/l	5	0.49												5	U			5	U			5	U		
Trichlorofluoromethane	ug/l		5200												5	U			5	U			5	U		
Vinyl Acetate	ug/l		410												5	U			5	U			5	U		
Vinyl Chloride	ug/l	**2**	**0.019**												5	U			5	U			5	U		
Semi-Volatile Organic Compounds																										
1,2,4,5-Tetrachlorobenzene	ug/l		0.17												10	UJ			10	U			10	U		
1,2,4-Trichlorobenzene	ug/l	70	1.2												10	UJ			10	U			10	U		
1,2-Dichlorobenzene	ug/l	600	300												10	UJ			10	U			10	U		
1,3,5-Trinitrobenzene	ug/l		590												10	UJ			10	U			10	U		
1,3-Dichlorobenzene	ug/l														10	UJ			10	U			10	U		
1,3-Dinitrobenzene	ug/l		2												10	UJ			10	U			10	U		
1,4-Dichlorobenzene	ug/l	75	0.48												10	UJ			10	U			10	U		
1,4-Naphthoquinone	ug/l														10	UJ			10	U			10	U		
1-Naphthylamine	ug/l														10	UJ			10	U			10	U		
2,2'-Oxybis(1-Chloropropane)	ug/l		710												10	UJ			10	U			10	U		
2,3,4,6-Tetrachlorophenol	ug/l		240												10	UJ			10	U			10	U		
2,4,5-Trichlorophenol	ug/l		1200												25	UJ			25	U			25	U		
2,4,6-Trichlorophenol	ug/l		4.1												10	UJ			10	U			10	U		
2,4-Dichlorophenol	ug/l		46												10	UJ			10	U			10	U		
2,4-Dimethylphenol	ug/l		360												10	UJ			10	U			10	U		
2,4-Dinitrophenol	ug/l		39												25	UJ			25	UJ			25	U		
2,4-Dinitrotoluene	ug/l		0.24												10	UJ			10	U			10	U		

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Table 2. 2003 Groundwater Analytical Results
SWMU 9 and South Plant South Parcel
Corrective Measures Study
Honeywell Delaware Valley Works
Claymont, Delaware
WSP Project No. 3482230886

			Location ID	B-1		B-1		B-1		B-1		B-2		B-2		B-2		B-2		B-2D		B-2D		B-2D			
			Sample ID	B-1020603		B-1020603		B-1071403		B-1071403		B-2020503		B-2020503		B-2071603		B-2071603		B-2D020603		B-2D020603		B-2D071603			
			Sample Date	2/6/2003		2/6/2003		7/14/2003		7/14/2003		2/5/2003		2/5/2003		7/16/2003		7/16/2003		2/6/2003		2/6/2003		7/16/2003			
			Fraction	D		T		D		T		D		T		D		T		D		T		D			
Parameter	Units	MAY 2023 RSL MCL	MAY 2023 RSL TAPW	Result	Lab Qual	Result	Lab Qual	Result	Lab Qual	Result	Lab Qual	Result	Lab Qual	Result	Lab Qual	Result	Lab Qual	Result	Lab Qual	Result	Lab Qual	Result	Lab Qual	Result	Lab Qual		
2,6-Dichlorophenol	ug/l													10	UJ			10	U			10	U				
2,6-Dinitrotoluene	ug/l		0.049											10	UJ			10	U			10	U				
2-Acetylaminofluorene (TIC)	ug/l		0.016											10	UJ			10	U			10	U				
2-Chloronaphthalene	ug/l		750											10	UJ			10	U			10	U				
2-Chlorophenol	ug/l		91											10	UJ			10	U			10	U				
2-Methylnaphthalene	ug/l		**36**											10	UJ			10	U			10	U				
2-Methylphenol	ug/l		930											10	UJ			10	U			10	U				
2-Naphthylamine	ug/l		0.039											10	UJ			10	U			10	U				
2-Nitroaniline	ug/l		190											25	UJ			25	U			25	U				
2-Nitrophenol	ug/l													10	UJ			10	U			10	U				
2-Picoline	ug/l													10	UJ			10	U			10	U				
3&4-Methylphenol	ug/l													10	UJ			10	U			10	U				
3,3'-Dichlorobenzidine	ug/l		0.13											10	UJ			10	U			10	U				
3,3'-Dimethylbenzidine	ug/l		0.0065											10	UJ			10	UJ			10	U				
3-Methylcholanthrene	ug/l		0.0011											10	UJ			10	U			10	U				
3-Nitroaniline	ug/l													25	UJ			25	U			25	U				
4,6-Dinitro-2-Methylphenol	ug/l		1.5											25	UJ			25	U			25	U				
4-Aminobiphenyl	ug/l		0.003											10	UJ			10	U			10	U				
4-Bromophenyl Phenyl Ether	ug/l													10	UJ			10	U			10	U				
4-Chloro-3-Methylphenol	ug/l		1400											10	UJ			10	U			10	U				
4-Chloroaniline	ug/l		0.37											10	UJ			10	U			10	U				
4-Chlorophenyl Phenyl Ether	ug/l													10	UJ			10	U			10	U				
4-Nitroaniline	ug/l		3.8											25	UJ			25	U			25	U				
4-Nitrophenol	ug/l													25	UJ			25	U			25	U				
5-Nitro-o-Toluidine	ug/l		8.2											10	UJ			10	U			10	U				
7,12-Dimethylbenz(A)Anthracene	ug/l		0.0001											10	UJ			10	U			10	U				
Acenaphthene	ug/l		530											10	UJ			10	U			10	U				
Acenaphthylene	ug/l													10	UJ			10	U			10	U				
Acetophenone	ug/l		1900											10	UJ			10	U			10	U				
Aniline	ug/l		13											10	UJ			10	U			10	U				
Anthracene	ug/l		1800											10	UJ			10	U			10	U				
Benzenamine, N,N-Dimethyl-4-(Pehnylazo)-	ug/l		0.005											10	UJ			10	U			10	U				
Benzeneethanamine, Alpha, Alpha-Dimethyl-	ug/l													10	UJ			10	U			10	U				
Benzo(A)Anthracene	ug/l		0.03											10	UJ			10	U			10	U				
Benzo(A)Pyrene	ug/l	0.2	0.025											10	UJ			10	U			10	U				
Benzo(B)Fluoranthene	ug/l		0.25											10	UJ			10	U			10	U				
Benzo(G,H,I)perylene	ug/l													10	UJ			10	U			10	U				
Benzo(K)Fluoranthene	ug/l		2.5											10	UJ			10	U			10	U				
Benzoic Acid	ug/l		75000											25	UJ			25	U			25	U				
Benzyl Alcohol	ug/l		2000											10	UJ			10	U			10	U				
bis-(2-Chloroethoxy)Methane	ug/l		59											10	UJ			10	U			10	U				
bis-(2-Chloroethyl)Ether	ug/l		0.014											10	UJ			10	U			10	U				
bis-(2-Ethylhexyl)Phthalate	ug/l	6	5.6											10	UJ			10	U			10	U				
Butylbenzyl Phthalate	ug/l		16											10	UJ			10	U			10	U				
Chlorobenzilate	ug/l		0.31											10	UJ			10	U			10	U				
Chrysene	ug/l		25											10	UJ			10	U			10	U				
Diallate	ug/l		0.54											10	UJ			10	U			10	U				
Dibenzo(a,h)Anthracene	ug/l		0.025											10	UJ			10	U			10	U				
Dibenzofuran	ug/l		7.9											10	UJ			10	U			10	U				
Diethyl Phthalate	ug/l		15000											10	UJ			10	U			10	U				
Dimethoate	ug/l		44											10	UJ			10	U			10	U				
Dimethyl Phthalate	ug/l													10	UJ			10	U			10	U				
Di-n-Butyl Phthalate	ug/l		900											10	UJ			10	U			10	U				
Di-n-Octyl Phthalate	ug/l		200											10	UJ			10	U			10	U				
Dinoseb	ug/l	7	15											10	UJ			10	U			10	U				
Diphenylamine	ug/l													10	UJ			10	U			10	U				
Disulfoton	ug/l		0.5											10	UJ			10	U			10	U				
Ethane, Pentachloro-	ug/l		0.65											10	UJ			10	U			10	U				
Ethyl Parathion	ug/l		86											10	UJ			10	U			10	U				
Famphur	ug/l													10	UJ			10	U			10	UJ				
Fluoranthene	ug/l		800											10	UJ			10	U			10	U				
Fluorene	ug/l		290											10	UJ			10	U			10	U				
Hexachlorobenzene	ug/l	1	0.0098											10	UJ			10	U			10	U				
Hexachlorobutadiene	ug/l		0.14											10	UJ			10	U			10	U				

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WSP Project No. 3482230886

			Location ID	B-1		B-1		B-1		B-1		B-2		B-2		B-2		B-2		B-2D		B-2D		B-2D	
			Sample ID	B-1020603		B-1020603		B-1071403		B-1071403		B-2020503		B-2020503		B-2071603		B-2071603		B-2D020603		B-2D020603		B-2D071603	
			Sample Date	2/6/2003		2/6/2003		7/14/2003		7/14/2003		2/5/2003		2/5/2003		7/16/2003		7/16/2003		2/6/2003		2/6/2003		7/16/2003	
			Fraction	D		T		D		T		D		T		D		T		D		T		D	
Parameter	Units	MAY 2023 RSL MCL	MAY 2023 RSL TAPW	Result	Lab Qual	Result	Lab Qual	Result	Lab Qual	Result	Lab Qual	Result	Lab Qual	Result	Lab Qual	Result	Lab Qual	Result	Lab Qual	Result	Lab Qual	Result	Lab Qual	Result	Lab Qual
Hexachlorocyclopentadiene	ug/l	50	0.41											10	UJ			10	U			10	U		
Hexachloroethane	ug/l		0.33											10	UJ			10	U			10	U		
Hexachlorophene	ug/l		6											80	UJ			81	R			80	U		
Hexachloropropene	ug/l													10	UJ			10	U			10	U		
Indeno(1,2,3-Cd)Pyrene	ug/l		0.25											10	UJ			10	U			10	U		
Isodrin	ug/l													10	UJ			10	U			10	U		
Isophorone	ug/l		78											10	UJ			10	U			10	U		
Isosafrole	ug/l													10	UJ			10	U			10	U		
Kepone	ug/l		0.0035											10	R			10	U			10	R		
Methanesulfonic Acid, Ethyl Ester	ug/l													10	UJ			10	U			10	U		
Methapyrilene	ug/l													10	UJ			10	U			10	U		
Methyl Methanesulfonate	ug/l		0.79											10	UJ			10	U			10	U		
Methyl Parathion	ug/l		4.5											10	UJ			10	U			10	U		
Naphthalene	ug/l		**0.12**											10	UJ			10	U			**3**	**J**		
Nitrobenzene	ug/l		0.14											10	UJ			10	U			10	U		
n-Nitrosodiethylamine	ug/l		0.00017											10	UJ			10	U			10	U		
n-Nitrosodimethylamine	ug/l		0.00011											10	UJ			10	U			10	U		
n-Nitrosodi-n-Butylamine	ug/l		0.0027											10	UJ			10	U			10	U		
n-Nitroso-di-n-Propylamine	ug/l		0.011											10	UJ			10	U			10	U		
n-Nitrosodiphenylamine	ug/l		12											10	UJ			10	U			10	U		
n-Nitrosomethylethylamine	ug/l		0.00071											10	UJ			10	U			10	U		
n-Nitrosomorpholine	ug/l		0.012											10	UJ			10	U			10	U		
n-Nitrosopiperidine	ug/l		0.0082											10	UJ			10	U			10	U		
n-Nitrosopyrrolidine	ug/l		0.037											10	UJ			10	U			10	U		
O,O,O-Triethyl Phosphorothioate	ug/l													10	UJ			10	U			10	U		
o-Toluidine	ug/l		4.7											10	UJ			10	U			10	U		
Pentachlorobenzene	ug/l		3.2											10	UJ			10	U			10	U		
Pentachloronitrobenzene	ug/l		0.12											25	UJ			25	U			25	U		
Pentachlorophenol	ug/l	1	0.041											25	UJ			25	U			25	U		
Phenacetin	ug/l		34											10	UJ			10	U			10	U		
Phenanthrene	ug/l													10	UJ			10	U			10	U		
Phenol	ug/l		5800											10	UJ			10	U			10	U		
Phorate	ug/l		3											10	UJ			10	U			10	U		
p-Phenylenediamine	ug/l		20											10	UJ			10	UJ			10	U		
Pronamide	ug/l		1200											10	UJ			10	U			10	U		
Pyrene	ug/l		120											10	UJ			10	U			10	U		
Pyridine	ug/l		20											10	UJ			10	U			10	U		
Quinoline, 4-Nitro-1-Oxide-	ug/l													10	R			10	R			10	R		
Safrole	ug/l		0.096											10	UJ			10	U			10	U		
Thionazine	ug/l													10	UJ			10	U			10	U		
Thiopyrophosphoric Acid ([(Ho)2P(S)]2O), Tetraethyl	ug/l		7.1											10	UJ			10	U			10	U		
Total Aramite	ug/l		1.3											10	UJ			10	U			10	U		
Cyanide, Total	ug/l	**200**	**1.5**											5	U			5	U			5	U		

Notes:
Exceeds the U.S. Environmental Protection Agency (EPA) Regional Screening Level (RSL), Maximum Contaminant Level (MCL) (May 2023)
Exceeds the EPA Tapwater RSL
Blanks indicate RSL not established or sample not analyzed for that constituent
RSLs assume target cancer risk (TR) of 1E-06 and target hazard quotient (THQ) of 1.0
U = undetected
J = estimated value
J+ = estimated biased high
J- = estimated biased low
R = rejected
ug/L = micrograms per liter
FD = Duplicate sample
Exceedances shown may exceed one or more criteria if available
T = Total
D = Dissolved

Created By: DP 2/8/22
Checked By: KH 3/8/22

Table 2. 2003 Groundwater Analytical Results
SWMU 9 and South Plant South Parcel
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Claymont, Delaware
WSP Project No. 3482230886

				Location ID	B-2D		B-3		B-3		B-3		B-3		B-4		B-4		B-4		B-4		B-5		B-5	
				Sample ID	B-2D071603		B-3020503		B-3020503		B-3071403		B-3071403		B-4020503		B-4020503		B-4071403		B-4071403		B-5020403		B-5020403	
				Sample Date	7/16/2003		2/5/2003		2/5/2003		7/14/2003		7/14/2003		2/5/2003		2/5/2003		7/14/2003		7/14/2003		2/4/2003		2/4/2003	
				Fraction	T		D		T		D		T		D		T		D		T		D		T	
Parameter	Units	MAY 2023 RSL MCL	MAY 2023 RSL TAPW		Result	Lab Qual	Result	Lab Qual	Result	Lab Qual	Result	Lab Qual	Result	Lab Qual	Result	Lab Qual	Result	Lab Qual	Result	Lab Qual	Result	Lab Qual	Result	Lab Qual	Result	Lab Qual
Metals																										
Aluminum	ug/l		**20000**																							
Antimony	ug/l	**6**	**7.8**		**10**		**170**		**1000**		**140**		**310**		**20**		**20**		**30**		**30**		**220**		**230**	
Arsenic	ug/l	**10**	**0.052**		**52400**		**24000**		**30000**		**29900**		**31700**		**3800**		**4600**		**19400**		**26700**		**33000**		**35000**	
Barium	ug/l	2000	3800		10	J	20		40		20		20		6.3	J	10		30		40		10	J	10	J
Beryllium	ug/l	**4**	25		0.97	B	0.38	J	1.3		0.31	B	0.33	B	1	U	0.25	J	0.07	U	0.07	U	1.2	B	1.2	B
Boron	ug/l		4000																							
Cadmium	ug/l	**5**	**1.8**		**5.6**		**5**		**6.4**		4.1	B	**4.5**		0.2	J	0.75	J	1.6	B	2.1	B	**30**		**30**	
Calcium	ug/l																									
Chromium	ug/l	**100**			5	J	6.9		10		2.4	B	6.1		0.35	J	4.2	J	1.2	B	3.2	B	20		30	
Cobalt	ug/l		**6**		**200**		**70**		**70**		**100**		**100**		5.7		5.6		**20**		**30**		**70**		**70**	
Copper	ug/l	**1300**	**800**		250		10		50		10		20		10		10		50		60		**3800**		**3900**	
Iron	ug/l		**14000**																							
Lead	ug/l	**15**	**15**		10	B	**160**		**5000**		**170**		**1180**		2	U	10		3	B	7.7	B	**2700**		**3000**	
Magnesium	ug/l																									
Manganese	ug/l		**430**																							
Nickel	ug/l		**390**		130		80		80		100		100		10		10		50		50		210		220	
Potassium	ug/l																									
Selenium	ug/l	50	100		1.8	U	1.3	J	7		1.8	U	1.8		5	U	4.8	J	6.6		1.8	U	20		20	
Silver	ug/l		94		0.3	U	1	U	1	U	0.3	U	0.3	U	1	U	0.02	J	0.3	U	0.3	U	1	U	1	U
Sodium	ug/l																									
Thallium	ug/l	**2**	**0.2**		**100**		**280**	**L**	**340**	**L**	**240**	**L**	**7.48**	**L**	**2.58**	**L**	**2.7**	**L**	**260**	**L**	**7.64**	**L**	**180**	**L**	**160**	**L**
Tin	ug/l		12000		3.9	U	1.2	J	2.2	J	4.2	J	5.6	J	50	U	2.5	J	3.9	U	3.9	U	1.7	U	4.8	J
Vanadium	ug/l		**86**		20		7.2		10		7.6	J	8.6	J	1.6	J	3.2	J	2.3	B	4		50		50	
Zinc	ug/l		**6000**		**6980**		2700		2700		3530		3610		160		140		670		730		5600		5700	
Mercury	ug/l	**2**	**0.63**		0.2	U	0.2	U	**0.74**		0.2	UL	0.2	U	0.001	J	0.072	J	0.2	UL	0.21		0.16	UL	**1.1**	**L**
Pesticides																										
4,4'-DDD	ug/l		**0.032**		0.11	UL																				
4,4'-DDE	ug/l		**0.046**		0.11	UL																				
4,4'-DDT	ug/l		**0.23**		0.11	UL																				
Aldrin	ug/l		**0.00092**		0.05	UL																				
Alpha-BHC	ug/l		**0.0072**		0.05	UL																				
Beta-BHC	ug/l		**0.025**		0.05	UL																				
Chlordane	ug/l				0.51	UL																				
cis-Chlordane	ug/l		3.6		0.1	UL																				
Delta-BHC	ug/l				0.05	UL																				
Dieldrin	ug/l		0.0018		0.1	UL																				
Endosulfan I	ug/l				0.05	UL																				
Endosulfan II	ug/l				0.1	UL																				
Endosulfan Sulfate	ug/l		110		0.1	UL																				
Endrin	ug/l	2	2.3		0.1	UL																				
Endrin Aldehyde	ug/l				0.1	UL																				
Endrin Ketone	ug/l				0.1	UL																				
Gamma-BHC (Lindane)	ug/l	0.2	**0.042**		0.05	UL																				
Heptachlor	ug/l	0.4	0.0014		0.05	UL																				
Heptachlor Epoxide	ug/l	**0.2**	**0.0014**		**0.11**	**L**																				
Methoxychlor	ug/l	40	37		0.51	UL																				
Toxaphene	ug/l	3	0.071		1.02	UL																				
trans-Chlordane	ug/l		10		0.1	UL																				
Herbicides																										
2,4,5-T	ug/l		160		0.08	UJ																				
2,4,5-TP (Silvex)	ug/l	50	110		0.08	UJ																				
2,4-D	ug/l	70	170		0.21	UJ																				
Volatile Organic Compounds																										
1,1,1,2-Tetrachloroethane	ug/l		0.57		5	U																				
1,1,1-Trichloroethane	ug/l	200	8000		5	U																				
1,1,2,2-Tetrachloroethane	ug/l		0.076		5	U																				
1,1,2-Trichloroethane	ug/l	5	0.28		5	U																				
1,1-Dichloroethane	ug/l		**2.8**		5	U																				
1,1-Dichloroethene	ug/l	7	280		5	U																				
1,2,3-Trichloropropane	ug/l		0.00075		5	U																				
1,2-Dibromo-3-Chloropropane	ug/l	0.2	0.00033		5	U																				
1,2-Dibromoethane	ug/l	0.05	0.0075		5	U																				
1,2-Dichloroethane	ug/l	5	**0.17**		5	R																				

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Table 2. 2003 Groundwater Analytical Results
SWMU 9 and South Plant South Parcel
Corrective Measures Study
Honeywell Delaware Valley Works
Claymont, Delaware
WSP Project No. 3482230886

				Location ID	B-2D		B-3		B-3		B-3		B-3		B-4		B-4		B-4		B-4		B-5		B-5	
				Sample ID	B-2D071603		B-3020503		B-3020503		B-3071403		B-3071403		B-4020503		B-4020503		B-4071403		B-4071403		B-5020403		B-5020403	
				Sample Date	7/16/2003		2/5/2003		2/5/2003		7/14/2003		7/14/2003		2/5/2003		2/5/2003		7/14/2003		7/14/2003		2/4/2003		2/4/2003	
				Fraction	T		D		T		D		T		D		T		D		T		D		T	
Parameter	Units	MAY 2023 RSL MCL	MAY 2023 RSL TAPW		Result	Lab Qual	Result	Lab Qual	Result	Lab Qual	Result	Lab Qual	Result	Lab Qual	Result	Lab Qual	Result	Lab Qual	Result	Lab Qual	Result	Lab Qual	Result	Lab Qual	Result	Lab Qual
1,2-Dichloropropane	ug/l	5	0.85		5	U																				
1,4-Dioxane	ug/l		0.46		100	R																				
2-Butanone	ug/l		5600		10	U																				
2-Hexanone	ug/l		38		10	U																				
4-Methyl-2-Pentanone	ug/l		6300		10	U																				
Acetone	ug/l		18000		10	U																				
Acetonitrile	ug/l		130		50	R																				
Acrolein	ug/l		0.042		50	R																				
Acrylonitrile	ug/l		0.052		10	U																				
Allyl Chloride	ug/l		0.73		5	U																				
Benzene	ug/l	**5**	**0.46**		**9**																					
Bromodichloromethane	ug/l	80	0.13		5	U																				
Bromoform	ug/l	80	3.3		5	U																				
Bromomethane	ug/l		7.5		5	U																				
Carbon Disulfide	ug/l		810		5	U																				
Carbon Tetrachloride	ug/l	5	0.46		5	U																				
Chlorobenzene	ug/l	100	78		5	U																				
Chloroethane	ug/l		8300		5	U																				
Chloroform	ug/l	80	**0.22**		**1**	**J**																				
Chloromethane	ug/l		190		5	U																				
Chloroprene	ug/l		0.019		5	U																				
cis-1,2-Dichloroethene	ug/l	70	36		5	U																				
cis-1,3-Dichloropropene	ug/l				5	U																				
Dibromochloromethane	ug/l	80	0.87		5	U																				
Dibromomethane	ug/l		8.3		5	U																				
Dichlorodifluoromethane	ug/l		200		5	U																				
Ethyl Cyanide	ug/l				10	R																				
Ethyl Methacrylate	ug/l		630		5	U																				
Ethylbenzene	ug/l	700	**1.5**		5	U																				
Iodomethane	ug/l				25	U																				
Isobutanol	ug/l		5900		5	U																				
m&p-Xylenes	ug/l				0.6	J																				
Methacrylonitrile	ug/l		1.9		5	U																				
Methyl Methacrylate	ug/l		1400		5	U																				
Methylene Chloride	ug/l	**5**	**11**		5	U																				
o-Xylene	ug/l		190		0.7	J																				
Styrene	ug/l	100	1200		5	U																				
Tetrachloroethene	ug/l	5	11		5	U																				
Toluene	ug/l	1000	1100		0.6	J																				
trans-1,2-Dichloroethene	ug/l	100	68		5	U																				
trans-1,3-Dichloropropene	ug/l				5	U																				
trans-1,4-Dichloro-2-Butene	ug/l		0.0013		5	U																				
Trichloroethene	ug/l	5	0.49		5	U																				
Trichlorofluoromethane	ug/l		5200		5	U																				
Vinyl Acetate	ug/l		410		5	U																				
Vinyl Chloride	ug/l	**2**	**0.019**		5	U																				
Semi-Volatile Organic Compounds																										
1,2,4,5-Tetrachlorobenzene	ug/l		0.17		10	U																				
1,2,4-Trichlorobenzene	ug/l	70	1.2		10	U																				
1,2-Dichlorobenzene	ug/l	600	300		10	U																				
1,3,5-Trinitrobenzene	ug/l		590		10	U																				
1,3-Dichlorobenzene	ug/l				10	U																				
1,3-Dinitrobenzene	ug/l		2		10	U																				
1,4-Dichlorobenzene	ug/l	75	0.48		10	U																				
1,4-Naphthoquinone	ug/l				10	U																				
1-Naphthylamine	ug/l				10	U																				
2,2'-Oxybis(1-Chloropropane)	ug/l		710		10	U																				
2,3,4,6-Tetrachlorophenol	ug/l		240		10	U																				
2,4,5-Trichlorophenol	ug/l		1200		25	U																				
2,4,6-Trichlorophenol	ug/l		4.1		10	U																				
2,4-Dichlorophenol	ug/l		46		10	U																				
2,4-Dimethylphenol	ug/l		360		10	U																				
2,4-Dinitrophenol	ug/l		39		25	U																				
2,4-Dinitrotoluene	ug/l		0.24		10	U																				

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WSP Project No. 3482230886

			Location ID	B-2D		B-3		B-3		B-3		B-3		B-4		B-4		B-4		B-4		B-5		B-5	
			Sample ID	B-2D071603		B-3020503		B-3020503		B-3071403		B-3071403		B-4020503		B-4020503		B-4071403		B-4071403		B-5020403		B-5020403	
			Sample Date	7/16/2003		2/5/2003		2/5/2003		7/14/2003		7/14/2003		2/5/2003		2/5/2003		7/14/2003		7/14/2003		2/4/2003		2/4/2003	
			Fraction	T		D		T		D		T		D		T		D		T		D		T	
Parameter	Units	MAY 2023 RSL MCL	MAY 2023 RSL TAPW	Result	Lab Qual	Result	Lab Qual	Result	Lab Qual	Result	Lab Qual	Result	Lab Qual	Result	Lab Qual	Result	Lab Qual	Result	Lab Qual	Result	Lab Qual	Result	Lab Qual	Result	Lab Qual
2,6-Dichlorophenol	ug/l			10	U																				
2,6-Dinitrotoluene	ug/l		0.049	10	U																				
2-Acetylaminofluorene (TIC)	ug/l		0.016	10	U																				
2-Chloronaphthalene	ug/l		750	10	U																				
2-Chlorophenol	ug/l		91	10	U																				
2-Methylnaphthalene	ug/l		**36**	10	U																				
2-Methylphenol	ug/l		930	10	U																				
2-Naphthylamine	ug/l		0.039	10	U																				
2-Nitroaniline	ug/l		190	25	U																				
2-Nitrophenol	ug/l			10	U																				
2-Picoline	ug/l			10	U																				
3&4-Methylphenol	ug/l			10	U																				
3,3'-Dichlorobenzidine	ug/l		0.13	10	U																				
3,3'-Dimethylbenzidine	ug/l		0.0065	10	UJ																				
3-Methylcholanthrene	ug/l		0.0011	10	U																				
3-Nitroaniline	ug/l			25	U																				
4,6-Dinitro-2-Methylphenol	ug/l		1.5	26	U																				
4-Aminobiphenyl	ug/l		0.003	10	U																				
4-Bromophenyl Phenyl Ether	ug/l			10	U																				
4-Chloro-3-Methylphenol	ug/l		1400	10	U																				
4-Chloroaniline	ug/l		0.37	10	U																				
4-Chlorophenyl Phenyl Ether	ug/l			10	U																				
4-Nitroaniline	ug/l		3.8	25	U																				
4-Nitrophenol	ug/l			25	U																				
5-Nitro-o-Toluidine	ug/l		8.2	10	U																				
7,12-Dimethylbenz(A)Anthracene	ug/l		0.0001	10	U																				
Acenaphthene	ug/l		530	10	U																				
Acenaphthylene	ug/l			10	U																				
Acetophenone	ug/l		1900	10	U																				
Aniline	ug/l		13	10	U																				
Anthracene	ug/l		1800	10	U																				
Benzenamine, N,N-Dimethyl-4-(Pehnylazo)-	ug/l		0.005	10	U																				
Benzeneethanamine, Alpha, Alpha-Dimethyl-	ug/l			10	U																				
Benzo(A)Anthracene	ug/l		0.03	10	U																				
Benzo(A)Pyrene	ug/l	0.2	0.025	10	U																				
Benzo(B)Fluoranthene	ug/l		0.25	10	U																				
Benzo(G,H,I)perylene	ug/l			10	U																				
Benzo(K)Fluoranthene	ug/l		2.5	10	U																				
Benzoic Acid	ug/l		75000	26	U																				
Benzyl Alcohol	ug/l		2000	10	U																				
bis-(2-Chloroethoxy)Methane	ug/l		59	10	U																				
bis-(2-Chloroethyl)Ether	ug/l		0.014	10	U																				
bis-(2-Ethylhexyl)Phthalate	ug/l	6	5.6	10	U																				
Butylbenzyl Phthalate	ug/l		16	10	U																				
Chlorobenzilate	ug/l		0.31	10	U																				
Chrysene	ug/l		25	10	U																				
Diallate	ug/l		0.54	10	U																				
Dibenzo(a,h)Anthracene	ug/l		0.025	10	U																				
Dibenzofuran	ug/l		7.9	10	U																				
Diethyl Phthalate	ug/l		15000	10	U																				
Dimethoate	ug/l		44	10	U																				
Dimethyl Phthalate	ug/l			10	U																				
Di-n-Butyl Phthalate	ug/l		900	10	U																				
Di-n-Octyl Phthalate	ug/l		200	10	U																				
Dinoseb	ug/l	7	15	10	U																				
Diphenylamine	ug/l			10	U																				
Disulfoton	ug/l		0.5	10	U																				
Ethane, Pentachloro-	ug/l		0.65	10	U																				
Ethyl Parathion	ug/l		86	10	U																				
Famphur	ug/l			10	UJ																				
Fluoranthene	ug/l		800	10	U																				
Fluorene	ug/l		290	10	U																				
Hexachlorobenzene	ug/l	1	0.0098	10	U																				
Hexachlorobutadiene	ug/l		0.14	10	U																				

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SWMU 9 and South Plant South Parcel
Corrective Measures Study
Honeywell Delaware Valley Works
Claymont, Delaware
WSP Project No. 3482230886

			Location ID	B-2D		B-3		B-3		B-3		B-3		B-4		B-4		B-4		B-4		B-5		B-5	
			Sample ID	B-2D071603		B-3020503		B-3020503		B-3071403		B-3071403		B-4020503		B-4020503		B-4071403		B-4071403		B-5020403		B-5020403	
			Sample Date	7/16/2003		2/5/2003		2/5/2003		7/14/2003		7/14/2003		2/5/2003		2/5/2003		7/14/2003		7/14/2003		2/4/2003		2/4/2003	
			Fraction	T		D		T		D		T		D		T		D		T		D		T	
Parameter	Units	MAY 2023 RSL MCL	MAY 2023 RSL TAPW	Result	Lab Qual	Result	Lab Qual	Result	Lab Qual	Result	Lab Qual	Result	Lab Qual	Result	Lab Qual	Result	Lab Qual	Result	Lab Qual	Result	Lab Qual	Result	Lab Qual	Result	Lab Qual
Hexachlorocyclopentadiene	ug/l	50	0.41	10	U																				
Hexachloroethane	ug/l		0.33	10	U																				
Hexachlorophene	ug/l		6	82	R																				
Hexachloropropene	ug/l			10	U																				
Indeno(1,2,3-Cd)Pyrene	ug/l		0.25	10	U																				
Isodrin	ug/l			10	U																				
Isophorone	ug/l		78	10	U																				
Isosafrole	ug/l			10	U																				
Kepone	ug/l		0.0035	10	U																				
Methanesulfonic Acid, Ethyl Ester	ug/l			10	U																				
Methapyrilene	ug/l			10	U																				
Methyl Methanesulfonate	ug/l		0.79	10	U																				
Methyl Parathion	ug/l		4.5	10	U																				
Naphthalene	ug/l		**0.12**	10	U																				
Nitrobenzene	ug/l		0.14	10	U																				
n-Nitrosodiethylamine	ug/l		0.00017	10	U																				
n-Nitrosodimethylamine	ug/l		0.00011	10	U																				
n-Nitrosodi-n-Butylamine	ug/l		0.0027	10	U																				
n-Nitroso-di-n-Propylamine	ug/l		0.011	10	U																				
n-Nitrosodiphenylamine	ug/l		12	10	U																				
n-Nitrosomethylethylamine	ug/l		0.00071	10	U																				
n-Nitrosomorpholine	ug/l		0.012	10	U																				
n-Nitrosopiperidine	ug/l		0.0082	10	U																				
n-Nitrosopyrrolidine	ug/l		0.037	10	U																				
O,O,O-Triethyl Phosphorothioate	ug/l			10	U																				
o-Toluidine	ug/l		4.7	10	U																				
Pentachlorobenzene	ug/l		3.2	10	U																				
Pentachloronitrobenzene	ug/l		0.12	25	U																				
Pentachlorophenol	ug/l	1	0.041	25	U																				
Phenacetin	ug/l		34	10	U																				
Phenanthrene	ug/l			10	U																				
Phenol	ug/l		5800	10	U																				
Phorate	ug/l		3	10	U																				
p-Phenylenediamine	ug/l		20	10	U																				
Pronamide	ug/l		1200	10	U																				
Pyrene	ug/l		120	10	U																				
Pyridine	ug/l		20	10	U																				
Quinoline, 4-Nitro-1-Oxide-	ug/l			10	R																				
Safrole	ug/l		0.096	10	U																				
Thionazine	ug/l			10	U																				
Thiopyrophosphoric Acid ([(Ho)2P(S)]2O), Tetraethyl	ug/l		7.1	10	U																				
Total Aramite	ug/l		1.3	10	U																				
Cyanide, Total	ug/l	**200**	**1.5**	5	U																				

Notes:
Exceeds the U.S. Environmental Protection Agency (EPA) Regional Screening Level (RSL), Maximum Contaminant Level (MCL) (May 2023)
Exceeds the EPA Tapwater RSL
Blanks indicate RSL not established or sample not analyzed for that constituent
RSLs assume target cancer risk (TR) of 1E-06 and target hazard quotient (THQ) of 1.0
U = undetected
J = estimated value
J+ = estimated biased high
J- = estimated biased low
R = rejected
ug/L = micrograms per liter
FD = Duplicate sample
Exceedances shown may exceed one or more criteria if available
T = Total
D = Dissolved

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Checked By: KH 3/8/22

Table 2. 2003 Groundwater Analytical Results
SWMU 9 and South Plant South Parcel
Corrective Measures Study
Honeywell Delaware Valley Works
Claymont, Delaware
WSP Project No. 3482230886

				Location ID	B-5		B-5		B-5D		B-5D		B-5D		B-5D		MW-105		MW-105		MW-105		MW-105		MW-105	
				Sample ID	B-5071403		B-5071403		B-5D020403		B-5D020403		B-5D071403		B-5D071403		MW-105020603		MW-105020603		MW-105070803		MW-105070803		MW-105070803FD	
				Sample Date	7/14/2003		7/14/2003		2/4/2003		2/4/2003		7/14/2003		7/14/2003		2/6/2003		2/6/2003		7/8/2003		7/8/2003		7/8/2003	
				Fraction	D		T		D		T		D		T		D		T		D		T		D	
Parameter	Units	MAY 2023 RSL MCL	MAY 2023 RSL TAPW		Result	Lab Qual.	Result	Lab Qual.	Result	Lab Qual.	Result	Lab Qual.	Result	Lab Qual.	Result	Lab Qual.	Result	Lab Qual.	Result	Lab Qual.	Result	Lab Qual.	Result	Lab Qual.	Result	Lab Qual.
Metals																										
Aluminum	ug/l		**20000**																							
Antimony	ug/l	**6**	**7.8**		**280**		**300**		**8.6**		**30**		**70**		**7**		2.7	J	3.3	J	2.3	U	2.3	U	2.3	U
Arsenic	ug/l	**10**	**0.052**		**25500**		**27000**		**50**		**220**		**550**		**50**		2.7	B	9.5	B	8.7	B	6.2	B	7.2	B
Barium	ug/l	2000	3800		9.9	J	10	J	70		250		390		70		30		90		20		20		20	
Beryllium	ug/l	**4**	25		1.4	B	1.3	B	0.05	U	0.52	B	0.64	B	0.07	U	**6.3**		**9.6**		**7.4**		**7.4**		**7.2**	
Boron	ug/l		4000																							
Cadmium	ug/l	**5**	**1.8**		**30**		**30**		2.2	B	**2.9**		1.5	B	1	B	**10**		**10**		**10**		**10**		**10**	
Calcium	ug/l																									
Chromium	ug/l	**100**			20		30		1.2	B	30		**110**		3.3	J	2.4	B	20		5.5	J	10	J	10	J
Cobalt	ug/l		**6**		**70**		**70**		**10**		**10**		2		**10**		**200**		**210**		**220**		**210**		**220**	
Copper	ug/l	**1300**	**800**		**4810**		**4860**		6.6	J	80		230		2.2	J	350		**850**		490		570		440	
Iron	ug/l		**14000**																							
Lead	ug/l	**15**	**15**		**2190**		**2430**		2	U	**790**		**2290**		2.3	B	3.6	J	10		4.9	J	4.7	J	3.8	B
Magnesium	ug/l																									
Manganese	ug/l		**430**																							
Nickel	ug/l		**390**		250		260		4.7	B	20		60		3.9	B	130		150		140		140		150	
Potassium	ug/l																									
Selenium	ug/l	50	100		20		20		3.4	B	10	B	10		1.8	U	4.6	B	5.6	B	1.8	U	1.8	U	1.8	U
Silver	ug/l		94		0.3	U	0.3	U	1	U	0.61	J	2	J	1.1	B	0.24	U	1	U	0.73	B	0.3	U	0.3	U
Sodium	ug/l																									
Thallium	ug/l	**2**	**0.2**		**170**	**L**	**190**	**L**	2	UL	2	UL	0	R	0	R	2	UL	2	UL	0	UL	0	UL	0	UL
Tin	ug/l		12000		3.9	U	3.9	U	50	U	5.8	J	10	J	3.9	U	1.4	U	3.2	U	3.9	U	3.9	U	3.9	U
Vanadium	ug/l		**86**		40		40		3.1	J	10	J	30		3.9	J	1.9	B	30		3.5	B	4.3	B	3.6	B
Zinc	ug/l		**6000**		5340		5450		10		30		80		0.4	U	2900		3000		3090		3010		3190	
Mercury	ug/l	**2**	**0.63**		0.29	L	**1.2**		0.056	UL	**3.3**	**L**	0.2	UL	**20**		0.2	U	0.029	U	0.2	U	0.2	U	0.2	U
Pesticides																										
4,4'-DDD	ug/l		**0.032**												0.1	UJ			0.11	U			0.1	UJ		
4,4'-DDE	ug/l		**0.046**												0.1	UJ			0.11	U			0.1	UJ		
4,4'-DDT	ug/l		**0.23**												0.1	UJ			0.11	U			0.1	UJ		
Aldrin	ug/l		**0.00092**												0.05	UJ			0.05	U			0.05	UJ		
Alpha-BHC	ug/l		**0.0072**												0.05	UJ			0.05	B			0.01	UJ		
Beta-BHC	ug/l		**0.025**												0.05	UJ			**0.05**	**J**			0.05	UJ		
Chlordane	ug/l														0.1	UJ			0.56	U			0.51	UJ		
cis-Chlordane	ug/l		3.6												0.1	UJ			0.11	U			0.1	UJ		
Delta-BHC	ug/l														0.05	UJ			0.12	B			0.05	UJ		
Dieldrin	ug/l		0.0018												0.1	UJ			0.11	U			0.1	UJ		
Endosulfan I	ug/l														0.05	UJ			0.05	U			0.05	UJ		
Endosulfan II	ug/l														0.1	UJ			0.11	U			0.1	UJ		
Endosulfan Sulfate	ug/l		110												0.1	UJ			0.11	U			0.1	UJ		
Endrin	ug/l	2	2.3												0.1	UJ			0.11	U			0.1	UJ		
Endrin Aldehyde	ug/l														0.1	UJ			0.11	U			0.1	UJ		
Endrin Ketone	ug/l														0.1	UJ			0.11	U			0.1	UJ		
Gamma-BHC (Lindane)	ug/l	0.2	**0.042**												0.05	UJ			0.05	U			0.02	J		
Heptachlor	ug/l	0.4	0.0014												0.05	UJ			0.05	U			0.05	UJ		
Heptachlor Epoxide	ug/l	**0.2**	**0.0014**												0.05	UJ			0.05	U			0.05	UJ		
Methoxychlor	ug/l	40	37												0.1	UJ			0.56	U			0.51	UJ		
Toxaphene	ug/l	3	0.071												1	UJ			1.1	U			1.03	UJ		
trans-Chlordane	ug/l		10												0.1	UJ			0.11	U			0.1	UJ		
Herbicides																										
2,4,5-T	ug/l		160												0.08	U			0.08	U			0.08	U		
2,4,5-TP (Silvex)	ug/l	50	110												0.1	J			0.08	U			0.1	J		
2,4-D	ug/l	70	170												0.2	U			0.22	U			0.27	J		
Volatile Organic Compounds																										
1,1,1,2-Tetrachloroethane	ug/l		0.57												5	U			5	U			5	U		
1,1,1-Trichloroethane	ug/l	200	8000												5	U			5	U			5	U		
1,1,2,2-Tetrachloroethane	ug/l		0.076												5	U			5	U			5	U		
1,1,2-Trichloroethane	ug/l	5	0.28												5	U			5	U			5	U		
1,1-Dichloroethane	ug/l		**2.8**												5	U			5	U			5	U		
1,1-Dichloroethene	ug/l	7	280												5	U			5	U			5	U		
1,2,3-Trichloropropane	ug/l		0.00075												5	U			5	U			5	U		
1,2-Dibromo-3-Chloropropane	ug/l	0.2	0.00033												5	U			5	U			5	U		
1,2-Dibromoethane	ug/l	0.05	0.0075												5	U			5	U			5	U		
1,2-Dichloroethane	ug/l	5	**0.17**												5	U			5	U			5	U		

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WSP Project No. 3482230886

			Location ID	B-5		B-5		B-5D		B-5D		B-5D		B-5D		MW-105		MW-105		MW-105		MW-105		MW-105		MW-105	
			Sample ID	B-5071403		B-5071403		B-5D020403		B-5D020403		B-5D071403		B-5D071403		MW-105020603		MW-105020603		MW-105070803		MW-105070803		MW-105070803FD			
			Sample Date	7/14/2003		7/14/2003		2/4/2003		2/4/2003		7/14/2003		7/14/2003		2/6/2003		2/6/2003		7/8/2003		7/8/2003		7/8/2003			
			Fraction	D		T		D		T		D		T		D		T		D		T		D			
Parameter	Units	MAY 2023 RSL MCL	MAY 2023 RSL TAPW	Result	Lab Qual.	Result	Lab Qual.	Result	Lab Qual.	Result	Lab Qual.	Result	Lab Qual.	Result	Lab Qual.	Result	Lab Qual.	Result	Lab Qual.	Result	Lab Qual.	Result	Lab Qual.	Result	Lab Qual.		
1,2-Dichloropropane	ug/l	5	0.85											5	U			5	U			5	U				
1,4-Dioxane	ug/l		0.46											100	R			100	R			100	R				
2-Butanone	ug/l		5600											10	U			10	U			2	J				
2-Hexanone	ug/l		38											10	U			10	U			10	U				
4-Methyl-2-Pentanone	ug/l		6300											10	U			10	U			10	U				
Acetone	ug/l		18000											10	U			10	U			10	U				
Acetonitrile	ug/l		130											50	R			50	U			50	R				
Acrolein	ug/l		0.042											50	R			50	R			50	R				
Acrylonitrile	ug/l		0.052											10	U			10	U			10	U				
Allyl Chloride	ug/l		0.73											5	U			5	U			5	U				
Benzene	ug/l	**5**	**0.46**											5	U			**5**	**J**			**2**	**J**				
Bromodichloromethane	ug/l	80	0.13											5	U			5	U			5	U				
Bromoform	ug/l	80	3.3											5	U			5	U			5	U				
Bromomethane	ug/l		7.5											5	U			5	UJ			5	U				
Carbon Disulfide	ug/l		810											5	U			5	U			5	U				
Carbon Tetrachloride	ug/l	5	0.46											5	U			5	U			5	U				
Chlorobenzene	ug/l	100	78											5	U			5	J			5	U				
Chloroethane	ug/l		8300											5	U			5	U			5	U				
Chloroform	ug/l	80	**0.22**											5	U			5	U			5	U				
Chloromethane	ug/l		190											5	U			5	J			5	U				
Chloroprene	ug/l		0.019											5	U			5	U			5	U				
cis-1,2-Dichloroethene	ug/l	70	36											5	U			5	U			5	U				
cis-1,3-Dichloropropene	ug/l													5	U			5	U			5	U				
Dibromochloromethane	ug/l	80	0.87											5	U			5	U			5	U				
Dibromomethane	ug/l		8.3											5	U			5	U			5	U				
Dichlorodifluoromethane	ug/l		200											5	U			5	U			5	U				
Ethyl Cyanide	ug/l													10	U			10	R			10	U				
Ethyl Methacrylate	ug/l		630											5	U			5	U			5	U				
Ethylbenzene	ug/l	700	**1.5**											5	U			**35**				**30**					
Iodomethane	ug/l													25	U			25	U			25	U				
Isobutanol	ug/l		5900											5	R			5	U			5	R				
m&p-Xylenes	ug/l													10	U			65				36					
Methacrylonitrile	ug/l		1.9											5	U			5	U			5	U				
Methyl Methacrylate	ug/l		1400											5	U			5	U			5	U				
Methylene Chloride	ug/l	**5**	**11**											5	U			5	U			5	U				
o-Xylene	ug/l		190											5	U			21				13					
Styrene	ug/l	100	1200											5	U			5	U			5	U				
Tetrachloroethene	ug/l	5	11											5	U			5	J			0.7	J				
Toluene	ug/l	1000	1100											5	U			7.5				5	J				
trans-1,2-Dichloroethene	ug/l	100	68											5	U			5	U			5	U				
trans-1,3-Dichloropropene	ug/l													5	U			5	U			5	U				
trans-1,4-Dichloro-2-Butene	ug/l		0.0013											5	U			5	U			5	U				
Trichloroethene	ug/l	5	0.49											5	U			5	U			5	U				
Trichlorofluoromethane	ug/l		5200											5	U			5	U			5	U				
Vinyl Acetate	ug/l		410											5	U			5	U			5	U				
Vinyl Chloride	ug/l	**2**	**0.019**											5	U			5	U			5	U				
Semi-Volatile Organic Compounds																											
1,2,4,5-Tetrachlorobenzene	ug/l		0.17											10	U			10	U			10	U				
1,2,4-Trichlorobenzene	ug/l	70	1.2											10	U			10	U			10	U				
1,2-Dichlorobenzene	ug/l	600	300											10	U			10	U			10	U				
1,3,5-Trinitrobenzene	ug/l		590											10	U			10	U			10	U				
1,3-Dichlorobenzene	ug/l													10	U			10	U			10	U				
1,3-Dinitrobenzene	ug/l		2											10	U			10	U			10	U				
1,4-Dichlorobenzene	ug/l	75	0.48											10	U			10	U			10	U				
1,4-Naphthoquinone	ug/l													10	U			10	U			10	U				
1-Naphthylamine	ug/l													10	U			10	U			10	U				
2,2'-Oxybis(1-Chloropropane)	ug/l		710											10	U			10	U			10	U				
2,3,4,6-Tetrachlorophenol	ug/l		240											10	U			10	U			10	U				
2,4,5-Trichlorophenol	ug/l		1200											25	U			25	U			25	U				
2,4,6-Trichlorophenol	ug/l		4.1											10	U			10	U			10	U				
2,4-Dichlorophenol	ug/l		46											10	U			10	U			10	U				
2,4-Dimethylphenol	ug/l		360											10	U			10	U			10	U				
2,4-Dinitrophenol	ug/l		39											25	U			25	U			25	U				
2,4-Dinitrotoluene	ug/l		0.24											10	U			10	U			10	U				

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			Location ID	B-5		B-5		B-5D		B-5D		B-5D		B-5D		MW-105		MW-105		MW-105		MW-105		MW-105	
			Sample ID	B-5071403		B-5071403		B-5D020403		B-5D020403		B-5D071403		B-5D071403		MW-105020603		MW-105020603		MW-105070803		MW-105070803		MW-105070803FD	
			Sample Date	7/14/2003		7/14/2003		2/4/2003		2/4/2003		7/14/2003		7/14/2003		2/6/2003		2/6/2003		7/8/2003		7/8/2003		7/8/2003	
			Fraction	D		T		D		T		D		T		D		T		D		T		D	
Parameter	Units	MAY 2023 RSL MCL	MAY 2023 RSL TAPW	Result	Lab Qual.	Result	Lab Qual.	Result	Lab Qual.	Result	Lab Qual.	Result	Lab Qual.	Result	Lab Qual.	Result	Lab Qual.	Result	Lab Qual.	Result	Lab Qual.	Result	Lab Qual.	Result	Lab Qual.
2,6-Dichlorophenol	ug/l													10	U			10	U			10	U		
2,6-Dinitrotoluene	ug/l		0.049											10	U			10	U			10	U		
2-Acetylaminofluorene (TIC)	ug/l		0.016											10	U			10	U			10	U		
2-Chloronaphthalene	ug/l		750											10	U			10	U			10	U		
2-Chlorophenol	ug/l		91											10	U			10	U			10	U		
2-Methylnaphthalene	ug/l		**36**											10	U			16				21			
2-Methylphenol	ug/l		930											10	U			10	U			10	U		
2-Naphthylamine	ug/l		0.039											10	U			10	U			10	U		
2-Nitroaniline	ug/l		190											25	U			25	U			25	U		
2-Nitrophenol	ug/l													10	U			10	U			10	U		
2-Picoline	ug/l													10	U			10	U			10	U		
3&4-Methylphenol	ug/l													10	U			10	U			10	U		
3,3'-Dichlorobenzidine	ug/l		0.13											10	U			10	U			10	U		
3,3'-Dimethylbenzidine	ug/l		0.0065											10	UJ			10	U			10	U		
3-Methylcholanthrene	ug/l		0.0011											10	U			10	U			10	U		
3-Nitroaniline	ug/l													25	U			25	U			25	U		
4,6-Dinitro-2-Methylphenol	ug/l		1.5											25	U			25	U			25	U		
4-Aminobiphenyl	ug/l		0.003											10	U			10	U			10	U		
4-Bromophenyl Phenyl Ether	ug/l													10	U			10	U			10	U		
4-Chloro-3-Methylphenol	ug/l		1400											10	U			10	U			10	U		
4-Chloroaniline	ug/l		0.37											10	U			10	U			10	U		
4-Chlorophenyl Phenyl Ether	ug/l													10	U			10	U			10	U		
4-Nitroaniline	ug/l		3.8											25	U			25	U			25	U		
4-Nitrophenol	ug/l													25	U			25	U			25	U		
5-Nitro-o-Toluidine	ug/l		8.2											10	U			10	U			10	U		
7,12-Dimethylbenz(A)Anthracene	ug/l		0.0001											10	U			10	U			10	U		
Acenaphthene	ug/l		530											10	U			10	U			10	U		
Acenaphthylene	ug/l													10	U			10	U			10	U		
Acetophenone	ug/l		1900											10	U			10	U			10	U		
Aniline	ug/l		13											10	U			10	U			10	U		
Anthracene	ug/l		1800											10	U			10	U			10	U		
Benzenamine, N,N-Dimethyl-4-(Pehnylazo)-	ug/l		0.005											10	U			10	U			10	U		
Benzeneethanamine, Alpha, Alpha-Dimethyl-	ug/l													10	U			10	U			10	U		
Benzo(A)Anthracene	ug/l		0.03											10	U			10	U			10	U		
Benzo(A)Pyrene	ug/l	0.2	0.025											10	U			10	U			10	U		
Benzo(B)Fluoranthene	ug/l		0.25											10	U			10	U			10	U		
Benzo(G,H,I)perylene	ug/l													10	U			10	U			10	U		
Benzo(K)Fluoranthene	ug/l		2.5											10	U			10	U			10	U		
Benzoic Acid	ug/l		75000											25	U			25	U			25	U		
Benzyl Alcohol	ug/l		2000											10	U			10	U			10	U		
bis-(2-Chloroethoxy)Methane	ug/l		59											10	U			10	U			10	U		
bis-(2-Chloroethyl)Ether	ug/l		0.014											10	U			10	U			10	U		
bis-(2-Ethylhexyl)Phthalate	ug/l	6	5.6											10	U			10	U			10	U		
Butylbenzyl Phthalate	ug/l		16											10	U			10	U			10	U		
Chlorobenzilate	ug/l		0.31											10	U			10	U			10	U		
Chrysene	ug/l		25											10	U			10	U			10	U		
Diallate	ug/l		0.54											10	U			10	U			10	U		
Dibenzo(a,h)Anthracene	ug/l		0.025											10	U			10	U			10	U		
Dibenzofuran	ug/l		7.9											10	U			10	U			10	U		
Diethyl Phthalate	ug/l		15000											10	U			10	U			10	U		
Dimethoate	ug/l		44											10	U			10	U			10	U		
Dimethyl Phthalate	ug/l													10	U			10	U			10	U		
Di-n-Butyl Phthalate	ug/l		900											10	U			10	U			10	U		
Di-n-Octyl Phthalate	ug/l		200											10	U			10	U			10	U		
Dinoseb	ug/l	7	15											10	U			10	U			10	U		
Diphenylamine	ug/l													10	U			10	U			10	U		
Disulfoton	ug/l		0.5											10	U			10	U			10	U		
Ethane, Pentachloro-	ug/l		0.65											10	U			10	U			10	U		
Ethyl Parathion	ug/l		86											10	U			10	U			10	U		
Famphur	ug/l													10	U			10	UJ			10	U		
Fluoranthene	ug/l		800											10	U			10	U			10	U		
Fluorene	ug/l		290											10	U			10	U			10	U		
Hexachlorobenzene	ug/l	1	0.0098											10	U			10	U			10	U		
Hexachlorobutadiene	ug/l		0.14											10	U			10	U			10	U		

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			Location ID	B-5		B-5		B-5D		B-5D		B-5D		B-5D		MW-105		MW-105		MW-105		MW-105		MW-105		MW-105	
			Sample ID	B-5071403		B-5071403		B-5D020403		B-5D020403		B-5D071403		B-5D071403		MW-105020603		MW-105020603		MW-105070803		MW-105070803		MW-105070803FD			
			Sample Date	7/14/2003		7/14/2003		2/4/2003		2/4/2003		7/14/2003		7/14/2003		2/6/2003		2/6/2003		7/8/2003		7/8/2003		7/8/2003			
			Fraction	D		T		D		T		D		T		D		T		D		T		D			
Parameter	Units	MAY 2023 RSL MCL	MAY 2023 RSL TAPW	Result	Lab Qual	Result	Lab Qual	Result	Lab Qual	Result	Lab Qual	Result	Lab Qual	Result	Lab Qual	Result	Lab Qual	Result	Lab Qual	Result	Lab Qual	Result	Lab Qual	Result	Lab Qual		
Hexachlorocyclopentadiene	ug/l	50	0.41											10	U			10	U			10	U				
Hexachloroethane	ug/l		0.33											10	U			10	U			10	U				
Hexachlorophene	ug/l		6											80	R			80	U			81	R				
Hexachloropropene	ug/l													10	U			10	U			10	U				
Indeno(1,2,3-Cd)Pyrene	ug/l		0.25											10	U			10	U			10	U				
Isodrin	ug/l													10	U			10	U			10	U				
Isophorone	ug/l		78											10	U			10	U			10	U				
Isosafrole	ug/l													10	U			10	U			10	U				
Kepone	ug/l		0.0035											10	U			10	R			10	U				
Methanesulfonic Acid, Ethyl Ester	ug/l													10	U			10	U			10	U				
Methapyrilene	ug/l													10	U			10	U			10	U				
Methyl Methanesulfonate	ug/l		0.79											10	U			10	U			10	U				
Methyl Parathion	ug/l		4.5											10	U			10	U			10	U				
Naphthalene	ug/l		**0.12**											10	U			**15**				**16**					
Nitrobenzene	ug/l		0.14											10	U			10	U			10	U				
n-Nitrosodiethylamine	ug/l		0.00017											10	U			10	U			10	U				
n-Nitrosodimethylamine	ug/l		0.00011											10	U			10	U			10	U				
n-Nitrosodi-n-Butylamine	ug/l		0.0027											10	U			10	U			10	U				
n-Nitroso-di-n-Propylamine	ug/l		0.011											10	U			10	U			10	U				
n-Nitrosodiphenylamine	ug/l		12											10	U			10	U			10	U				
n-Nitrosomethylethylamine	ug/l		0.00071											10	U			10	U			10	U				
n-Nitrosomorpholine	ug/l		0.012											10	U			10	U			10	U				
n-Nitrosopiperidine	ug/l		0.0082											10	U			10	U			10	U				
n-Nitrosopyrrolidine	ug/l		0.037											10	U			10	U			10	U				
O,O,O-Triethyl Phosphorothioate	ug/l													10	U			10	U			10	U				
o-Toluidine	ug/l		4.7											10	U			10	U			10	U				
Pentachlorobenzene	ug/l		3.2											10	U			10	U			10	U				
Pentachloronitrobenzene	ug/l		0.12											10	U			25	U			25	U				
Pentachlorophenol	ug/l	1	0.041											25	U			25	U			25	U				
Phenacetin	ug/l		34											10	U			10	U			10	U				
Phenanthrene	ug/l													10	U			10	U			10	U				
Phenol	ug/l		5800											10	U			10	U			10	U				
Phorate	ug/l		3											10	U			10	U			10	U				
p-Phenylenediamine	ug/l		20											10	UJ			10	U			10	U				
Pronamide	ug/l		1200											10	U			10	U			10	U				
Pyrene	ug/l		120											10	U			10	U			10	U				
Pyridine	ug/l		20											10	U			10	U			10	U				
Quinoline, 4-Nitro-1-Oxide-	ug/l													10	R			10	R			10	R				
Safrole	ug/l		0.096											10	U			10	U			10	U				
Thionazine	ug/l													10	U			10	U			10	U				
Thiopyrophosphoric Acid ([(Ho)2P(S)]2O), Tetraethyl	ug/l		7.1											10	U			10	U			10	U				
Total Aramite	ug/l		1.3											10	U			10	U			10	U				
Cyanide, Total	ug/l	**200**	**1.5**											5	U			**5.4**				5	U				

Notes:
Exceeds the U.S. Environmental Protection Agency (EPA) Regional Screening Level (RSL), Maximum Contaminant Level (MCL) (May 2023)
Exceeds the EPA Tapwater RSL
Blanks indicate RSL not established or sample not analyzed for that constituent
RSLs assume target cancer risk (TR) of 1E-06 and target hazard quotient (THQ) of 1.0
U = undetected
J = estimated value
J+ = estimated biased high
J- = estimated biased low
R = rejected
ug/L = micrograms per liter
FD = Duplicate sample
Exceedances shown may exceed one or more criteria if available
T = Total
D = Dissolved

Created By: DP 2/8/22
Checked By: KH 3/8/22

Table 2. 2003 Groundwater Analytical Results
SWMU 9 and South Plant South Parcel
Corrective Measures Study
Honeywell Delaware Valley Works
Claymont, Delaware
WSP Project No. 3482230886

				Location ID	MW-105		MW-106		MW-106		MW-106		MW-106		MW-107		MW-107		MW-107		MW-107		MW-108		MW-108	
				Sample ID	MW-105070803FD		MW-106020603		MW-106020603		MW-106071603		MW-106071603		MW-107020703		MW-107020703		MW-107071603		MW-107071603		MW-108020603		MW-108020603	
				Sample Date	7/8/2003		2/6/2003		2/6/2003		7/16/2003		7/16/2003		2/7/2003		2/7/2003		7/16/2003		7/16/2003		2/6/2003		2/6/2003	
				Fraction	T		D		T		D		T		D		T		D		T		D		T	
Parameter	Units	MAY 2023 RSL MCL	MAY 2023 RSL TAPW		Result	Lab Qual	Result	Lab Qual	Result	Lab Qual	Result	Lab Qual	Result	Lab Qual	Result	Lab Qual	Result	Lab Qual	Result	Lab Qual	Result	Lab Qual	Result	Lab Qual	Result	Lab Qual
Metals																										
Aluminum	ug/l		**20000**																							
Antimony	ug/l	**6**	**7.8**		2.3	U	1.1	J	2.2	UJ	2.3	U	2.3	U	**9.1**		**30**	**J**	5.6		2.3	U	**390**		**770**	**J**
Arsenic	ug/l	**10**	**0.052**		8.9	B	**110**		**50**	**L**	3.5	B	10	B	10	B	**860**	**L**	10	B	10	B	**45000**		**49000**	**L**
Barium	ug/l	2000	3800		20		20		90	J	10	J	40		40		1500	J	20		40		290		720	J
Beryllium	ug/l	**4**	25		**7.5**		1.1		2.3	B	0.65	B	1.3	B	**8.4**		**10**		1.7	B	1.2	B	1.1		1.3	B
Boron	ug/l		4000																							
Cadmium	ug/l	**5**	**1.8**		**10**		**9.9**		**10**		**6.8**		**10**		**20**		**40**		**10**		**10**		**10**		**10**	
Calcium	ug/l																									
Chromium	ug/l	**100**			9.3	J	6.4		60	J	2.1	B	20		50		**750**	**J**	20		30		10		20	J
Cobalt	ug/l		**6**		**220**		**140**		**150**		**70**		**90**		**150**		**310**		**30**		**10**		**110**		**120**	
Copper	ug/l	**1300**	**800**		590		190		280	J	120		180		**3100**		**9300**	**J**	**830**		790		520		**1400**	**J**
Iron	ug/l		**14000**																							
Lead	ug/l	**15**	**15**		4.4	J	**20**		**30**	**L**	3.7	B	10		5.4	B	**660**	**L**	4.3	B	10		**3900**		**9500**	**L**
Magnesium	ug/l																									
Manganese	ug/l		**430**																							
Nickel	ug/l		**390**		140		60		100	J	70		80		320		**690**	**J**	50		40		180		190	J
Potassium	ug/l																									
Selenium	ug/l	50	100		1.8	U	1.7	J	8.8	B	1.8	U	1.8	U	10		20		8.7	B	4.1	B	10		20	
Silver	ug/l		94		0.3	U	0.52	J	0.18	U	0.46	B	0.33	B	0.6	B	4.1		1.7	B	5.7		7		10	
Sodium	ug/l																									
Thallium	ug/l	**2**	**0.2**		0	UL	2	U	2	UL	0	UL	0	U	2	U	2	UL	0	UL	0	U	**150**		**170**	**L**
Tin	ug/l		12000		3.9	U	0.22	J	3.8	U	3.9	U	3.9	U	3.5	U	10	B	3.9	U	3.9	U	30	J	90	
Vanadium	ug/l		**86**		4.1	B	2.7	J	50		0.4	U	20		40		**830**		9.7	J	10		20		30	
Zinc	ug/l		**6000**		3070		1600		1700	J	700	K	1050		4300		5500	J	1820	K	1470		**8400**		**9500**	**J**
Mercury	ug/l	**2**	**0.63**		0.2	U	0.44		**0.82**	**J**	0.2	U	0.22		0.2	U	**1.1**	**J**	0.2	U	0.2	U	**6.5**		**10**	**J**
Pesticides																										
4,4'-DDD	ug/l		**0.032**		0.1	UL			0.12	U			0.1	UJ			**1.1**				0.1	UL			0.11	U
4,4'-DDE	ug/l		**0.046**		0.1	UL			0.12	U			0.1	UJ			**0.23**				0.1	UL			0.11	U
4,4'-DDT	ug/l		**0.23**		0.1	UL			0.12	U			0.1	UJ			**1.1**				0.1	UL			0.07	J
Aldrin	ug/l		**0.00092**		0.05	UL			0.05	U			0.05	UJ			0.05	U			0.05	UL			**0.04**	**J**
Alpha-BHC	ug/l		**0.0072**		0.05	UL			**0.54**	**D**			**0.15**	**J**			**0.1**				**0.05**	**L**			0.05	U
Beta-BHC	ug/l		**0.025**		0.05	UL			**0.18**	**J**			**0.17**	**J**			**0.06**				0.05	UL			0.05	U
Chlordane	ug/l				0.51	UL			0.58	U			0.5	UJ			0.58	U			0.5	UL			0.53	U
cis-Chlordane	ug/l		3.6		0.1	UL			0.11	U			0.1	UJ			0.11	U			0.1	UL			0.1	U
Delta-BHC	ug/l				0.05	UL			0.25	B			0.11	J			0.05	U			0.05	UL			0.04	B
Dieldrin	ug/l		0.0018		0.1	UL			0.12	U			0.1	UJ			0.12	U			0.1	UL			0.11	U
Endosulfan I	ug/l				0.05	UL			0.05	U			0.05	UJ			0.05	U			0.05	UL			0.05	U
Endosulfan II	ug/l				0.1	UL			0.12	U			0.1	UJ			0.12	U			0.1	UL			0.11	U
Endosulfan Sulfate	ug/l		110		0.1	UL			0.12	U			0.1	UJ			0.12	U			0.1	UL			0.11	U
Endrin	ug/l	2	2.3		0.1	UL			0.13	J			0.1	UJ			0.12	U			0.1	UL			0.11	U
Endrin Aldehyde	ug/l				0.1	UL			0.11	U			0.1	UJ			0.11	U			0.1	UL			0.1	U
Endrin Ketone	ug/l				0.1	UL			0.12	U			0.1	UJ			0.12	U			0.1	UL			0.11	U
Gamma-BHC (Lindane)	ug/l	0.2	**0.042**		0.05	UL			0.09	R			**0.08**	**J**			0.04	J			0.05	UL			0.05	U
Heptachlor	ug/l	0.4	0.0014		0.05	UL			0.05	U			0.05	UJ			0.05	U			0.05	UL			0.05	U
Heptachlor Epoxide	ug/l	**0.2**	**0.0014**		0.05	UL			0.05	U			**0.04**	**J**			0.05	U			0.05	UL			0.05	U
Methoxychlor	ug/l	40	37		0.51	UL			0.58	U			0.5	UJ			0.58	U			0.5	UL			0.53	U
Toxaphene	ug/l	3	0.071		1.03	UL			1.2	U			1	UJ			1.2	U			1	UL			1.1	U
trans-Chlordane	ug/l		10		0.1	UL			0.11	U			0.1	UJ			0.11	U			0.1	UL			0.1	U
Herbicides																										
2,4,5-T	ug/l		160		0.08	U			0.08	U			0.07	R			0.08	U			0.08	U			0.08	UJ
2,4,5-TP (Silvex)	ug/l	50	110		0.11	J			0.04	J			0.08	UJ			0.08	U			0.03	R			0.05	J
2,4-D	ug/l	70	170		0.42				0.22	U			0.12	J			0.25	B			0.24				0.32	B
Volatile Organic Compounds																										
1,1,1,2-Tetrachloroethane	ug/l		0.57		5	U			5	U			5	U			5	U			5	U			5	U
1,1,1-Trichloroethane	ug/l	200	8000		5	U			2	J			2	J			5	U			5	U			5	U
1,1,2,2-Tetrachloroethane	ug/l		0.076		5	U			5	U			5	U			5	U			5	U			5	U
1,1,2-Trichloroethane	ug/l	5	0.28		5	U			5	U			5	U			5	U			5	U			5	U
1,1-Dichloroethane	ug/l		**2.8**		5	U			5	U			5	U			5	U			5	U			5	U
1,1-Dichloroethene	ug/l	7	280		5	U			**79**				0.8	J			5	U			5	U			5	U
1,2,3-Trichloropropane	ug/l		0.00075		5	U			5	U			5	U			5	U			5	U			5	U
1,2-Dibromo-3-Chloropropane	ug/l	0.2	0.00033		5	U			5	U			5	U			5	U			5	U			5	U
1,2-Dibromoethane	ug/l	0.05	0.0075		5	U			5	U			5	U			5	U			5	U			5	U
1,2-Dichloroethane	ug/l	5	**0.17**		5	U			5	U			5	U			5	U			5	U			5	U

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				Location ID	MW-105		MW-106		MW-106		MW-106		MW-106		MW-107		MW-107		MW-107		MW-107		MW-108		MW-108	
				Sample ID	MW-105070803FD		MW-106020603		MW-106020603		MW-106071603		MW-106071603		MW-107020703		MW-107020703		MW-107071603		MW-107071603		MW-108020603		MW-108020603	
				Sample Date	7/8/2003		2/6/2003		2/6/2003		7/16/2003		7/16/2003		2/7/2003		2/7/2003		7/16/2003		7/16/2003		2/6/2003		2/6/2003	
				Fraction	T		D		T		D		T		D		T		D		T		D		T	
Parameter	Units	MAY 2023 RSL MCL	MAY 2023 RSL TAPW		Result	Lab Qual	Result	Lab Qual	Result	Lab Qual	Result	Lab Qual	Result	Lab Qual	Result	Lab Qual	Result	Lab Qual	Result	Lab Qual	Result	Lab Qual	Result	Lab Qual	Result	Lab Qual
1,2-Dichloropropane	ug/l	5	0.85		5	U			5	U			5	U			5	U			5	U			5	U
1,4-Dioxane	ug/l		0.46		100	R			100	R			100	R			100	R			100	R			100	R
2-Butanone	ug/l		5600		2	J			10	U			10	U			10	U			10	U			10	U
2-Hexanone	ug/l		38		0.9	J			10	U			10	U			10	U			10	U			10	U
4-Methyl-2-Pentanone	ug/l		6300		10	U			10	U			10	U			10	U			10	U			10	U
Acetone	ug/l		18000		10	U			10	U			10	U			7	J			6	B			5	J
Acetonitrile	ug/l		130		50	R			50	U			50	R			50	U			50	R			50	U
Acrolein	ug/l		0.042		50	R			50	R			50	R			50	R			50	R			50	R
Acrylonitrile	ug/l		0.052		10	U			10	U			10	U			10	U			10	U			10	U
Allyl Chloride	ug/l		0.73		5	U			5	U			5	U			5	U			5	U			5	U
Benzene	ug/l	**5**	**0.46**		**2**	**J**			**3**	**J**			**0.8**	**J**			**2**	**J**			5	U			**48**	
Bromodichloromethane	ug/l	80	0.13		5	U			5	U			5	U			5	U			5	U			5	U
Bromoform	ug/l	80	3.3		5	U			5	U			5	U			5	U			5	U			5	U
Bromomethane	ug/l		7.5		5	U			5	UJ			5	U			5	UJ			5	U			5	UJ
Carbon Disulfide	ug/l		810		5	U			5	U			5	U			5	U			5	U			0.8	J
Carbon Tetrachloride	ug/l	5	0.46		5	U			5	U			5	U			5	U			5	U			5	U
Chlorobenzene	ug/l	100	78		5	U			30				5	U			5	U			5	U			0.6	J
Chloroethane	ug/l		8300		5	U			5	U			5	U			5	U			5	U			5	U
Chloroform	ug/l	80	**0.22**		5	U			3	B			**0.9**	**J**			5	U			5	U			1	B
Chloromethane	ug/l		190		5	U			5	U			5	U			5	U			5	U			5	U
Chloroprene	ug/l		0.019		5	U			5	U			5	U			5	U			5	U			5	U
cis-1,2-Dichloroethene	ug/l	70	36		5	U			0.8	J			**96**				5	U			5	U			5	U
cis-1,3-Dichloropropene	ug/l				5	U			5	U			5	U			5	U			5	U			5	U
Dibromochloromethane	ug/l	80	0.87		5	U			5	U			5	U			5	U			5	U			5	U
Dibromomethane	ug/l		8.3		5	U			5	U			5	U			5	U			5	U			5	U
Dichlorodifluoromethane	ug/l		200		5	U			5	U			5	U			5	U			5	U			5	U
Ethyl Cyanide	ug/l				10	U			10	R			10	R			10	R			10	R			10	R
Ethyl Methacrylate	ug/l		630		5	U			5	U			5	U			5	U			5	U			5	U
Ethylbenzene	ug/l	700	**1.5**		**29**				5	U			5	U			**2**	**J**			**10**				**6.9**	
Iodomethane	ug/l				25	U			25	U			25	U			25	U			25	U			25	U
Isobutanol	ug/l		5900		5	R			5	U			5	R			5	U			5	R			5	U
m&p-Xylenes	ug/l				35				10	U			10	U			2	J			2	J			17	
Methacrylonitrile	ug/l		1.9		5	R			5	U			5	U			5	U			5	U			5	U
Methyl Methacrylate	ug/l		1400		5	U			5	U			5	U			5	U			5	U			5	U
Methylene Chloride	ug/l	**5**	**11**		5	U			5	U			5	U			5	U			5	U			0.7	J
o-Xylene	ug/l		190		13				5	U			5	U			1	J			0.8	J			13	
Styrene	ug/l	100	1200		5	U			5	U			5	U			5	U			5	U			3	J
Tetrachloroethene	ug/l	5	11		0.7	J			**3600**				**2500**				5	U			1	J			0.7	J
Toluene	ug/l	1000	1100		5	J			5	U			5	U			5	U			5	U			13	
trans-1,2-Dichloroethene	ug/l	100	68		5	U			1	J			1	J			5	U			5	U			5	U
trans-1,3-Dichloropropene	ug/l				5	U			5	U			5	U			5	U			5	U			5	U
trans-1,4-Dichloro-2-Butene	ug/l		0.0013		5	U			5	U			5	U			5	U			5	U			5	U
Trichloroethene	ug/l	5	0.49		5	U			**99**				**96**				5	U			5	U			5	U
Trichlorofluoromethane	ug/l		5200		5	U			5	U			5	U			5	U			5	U			5	U
Vinyl Acetate	ug/l		410		5	U			5	U			5	U			5	U			5	U			5	U
Vinyl Chloride	ug/l	**2**	**0.019**		5	U			**8**				**8**				5	U			5	U			5	U
Semi-Volatile Organic Compounds																										
1,2,4,5-Tetrachlorobenzene	ug/l		0.17		10	U			10	U			10	U			10	U			10	U			10	U
1,2,4-Trichlorobenzene	ug/l	70	1.2		10	U			10	U			10	U			10	U			10	U			10	U
1,2-Dichlorobenzene	ug/l	600	300		10	U			10	U			10	U			10	U			10	U			10	U
1,3,5-Trinitrobenzene	ug/l		590		10	U			10	U			10	U			10	U			10	U			10	U
1,3-Dichlorobenzene	ug/l				10	U			10	U			10	U			10	U			10	U			10	U
1,3-Dinitrobenzene	ug/l		2		10	U			10	U			10	U			10	U			10	U			10	U
1,4-Dichlorobenzene	ug/l	75	0.48		10	U			10	U			10	U			10	U			10	U			10	U
1,4-Naphthoquinone	ug/l				10	U			10	U			10	U			10	U			10	U			10	U
1-Naphthylamine	ug/l				10	U			10	U			10	U			10	U			10	U			10	U
2,2'-Oxybis(1-Chloropropane)	ug/l		710		10	U			10	U			10	U			10	U			10	U			10	U
2,3,4,6-Tetrachlorophenol	ug/l		240		10	R			10	U			10	U			10	R			10	U			10	U
2,4,5-Trichlorophenol	ug/l		1200		25	U			25	U			25	U			25	R			25	U			25	U
2,4,6-Trichlorophenol	ug/l		4.1		10	U			10	U			10	U			10	R			10	U			10	U
2,4-Dichlorophenol	ug/l		46		10	U			10	U			10	U			10	R			10	U			10	U
2,4-Dimethylphenol	ug/l		360		10	U			10	U			10	U			10	R			10	U			10	U
2,4-Dinitrophenol	ug/l		39		25	U			25	U			25	UJ			25	R			25	UJ			25	U
2,4-Dinitrotoluene	ug/l		0.24		10	U			10	U			10	U			10	U			10	U			10	U

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Table 2. 2003 Groundwater Analytical Results
SWMU 9 and South Plant South Parcel
Corrective Measures Study
Honeywell Delaware Valley Works
Claymont, Delaware
WSP Project No. 3482230886

				Location ID	MW-105		MW-106		MW-106		MW-106		MW-106		MW-107		MW-107		MW-107		MW-107		MW-108		MW-108	
				Sample ID	MW-105070803FD		MW-106020603		MW-106020603		MW-106071603		MW-106071603		MW-107020703		MW-107020703		MW-107071603		MW-107071603		MW-108020603		MW-108020603	
				Sample Date	7/8/2003		2/6/2003		2/6/2003		7/16/2003		7/16/2003		2/7/2003		2/7/2003		7/16/2003		7/16/2003		2/6/2003		2/6/2003	
				Fraction	T		D		T		D		T		D		T		D		T		D		T	
Parameter	Units	MAY 2023 RSL MCL	MAY 2023 RSL TAPW		Result	Lab Qual	Result	Lab Qual	Result	Lab Qual	Result	Lab Qual	Result	Lab Qual	Result	Lab Qual	Result	Lab Qual	Result	Lab Qual	Result	Lab Qual	Result	Lab Qual	Result	Lab Qual
2,6-Dichlorophenol	ug/l				10	U			10	U			10	U			10	R			10	U			10	U
2,6-Dinitrotoluene	ug/l		0.049		10	U			10	U			10	U			10	U			10	U			10	U
2-Acetylaminofluorene (TIC)	ug/l		0.016		10	U			10	U			10	U			10	U			10	U			10	U
2-Chloronaphthalene	ug/l		750		10	U			10	U			10	U			10	U			10	U			10	U
2-Chlorophenol	ug/l		91		10	U			10	U			10	U			10	R			10	U			10	U
2-Methylnaphthalene	ug/l		**36**		19				3	J			10	U			10	U			**130**				10	U
2-Methylphenol	ug/l		930		10	U			10	U			10	U			10	R			10	U			10	U
2-Naphthylamine	ug/l		0.039		10	U			10	U			10	U			10	U			10	U			10	U
2-Nitroaniline	ug/l		190		25	U			25	U			25	U			25	U			25	U			25	U
2-Nitrophenol	ug/l				10	U			10	U			10	U			10	R			10	U			10	U
2-Picoline	ug/l				10	U			10	U			10	U			10	U			10	U			10	U
3&4-Methylphenol	ug/l				10	U			10	U			10	U			10	R			10	U			10	U
3,3'-Dichlorobenzidine	ug/l		0.13		10	U			10	U			10	U			10	U			10	U			10	U
3,3'-Dimethylbenzidine	ug/l		0.0065		10	U			10	U			10	UJ			10	U			10	UJ			10	U
3-Methylcholanthrene	ug/l		0.0011		10	U			10	U			10	U			10	U			10	U			10	U
3-Nitroaniline	ug/l				25	U			25	U			25	U			25	U			25	U			25	U
4,6-Dinitro-2-Methylphenol	ug/l		1.5		25	U			25	U			25	U			25	R			25	U			25	U
4-Aminobiphenyl	ug/l		0.003		10	U			10	U			10	U			10	U			10	U			10	U
4-Bromophenyl Phenyl Ether	ug/l				10	U			10	U			10	U			10	U			10	U			10	U
4-Chloro-3-Methylphenol	ug/l		1400		10	U			10	U			10	U			10	R			10	U			10	U
4-Chloroaniline	ug/l		0.37		10	U			10	U			10	U			10	U			10	U			10	U
4-Chlorophenyl Phenyl Ether	ug/l				10	U			10	U			10	U			10	U			10	U			10	U
4-Nitroaniline	ug/l		3.8		25	U			25	U			25	U			25	U			25	U			25	U
4-Nitrophenol	ug/l				25	U			25	U			25	U			25	R			25	U			25	U
5-Nitro-o-Toluidine	ug/l		8.2		10	U			10	U			10	U			10	U			10	U			10	U
7,12-Dimethylbenz(A)Anthracene	ug/l		0.0001		10	U			10	U			10	U			10	U			10	U			10	U
Acenaphthene	ug/l		530		10	U			5.8				10	U			10	U			10	U			10	U
Acenaphthylene	ug/l				10	U			10	U			10	U			10	U			10	U			10	U
Acetophenone	ug/l		1900		10	U			10	U			10	U			10	U			10	U			10	U
Aniline	ug/l		13		10	U			10	U			10	U			10	U			10	U			10	U
Anthracene	ug/l		1800		10	U			10	U			10	U			10	U			10	U			10	U
Benzenamine, N,N-Dimethyl-4-(Pehnylazo)-	ug/l		0.005		10	U			10	U			10	U			10	U			10	U			10	U
Benzeneethanamine, Alpha, Alpha-Dimethyl-	ug/l				10	U			10	U			10	U			10	U			10	U			10	U
Benzo(A)Anthracene	ug/l		0.03		10	U			10	U			10	U			10	U			10	U			10	U
Benzo(A)Pyrene	ug/l	0.2	0.025		10	U			10	U			10	U			10	U			10	U			10	U
Benzo(B)Fluoranthene	ug/l		0.25		10	U			10	U			10	U			10	U			10	U			10	U
Benzo(G,H,I)perylene	ug/l				10	U			10	U			10	U			10	U			10	U			10	U
Benzo(K)Fluoranthene	ug/l		2.5		10	U			10	U			10	U			10	U			10	U			10	U
Benzoic Acid	ug/l		75000		25	U			25	U			25	U			25	U			25	U			25	U
Benzyl Alcohol	ug/l		2000		10	U			10	U			10	U			10	U			10	U			10	U
bis-(2-Chloroethoxy)Methane	ug/l		59		10	U			10	U			10	U			10	U			10	U			10	U
bis-(2-Chloroethyl)Ether	ug/l		0.014		10	U			10	U			10	U			10	U			10	U			10	U
bis-(2-Ethylhexyl)Phthalate	ug/l	6	5.6		10	U			10	U			10	U			4	J			10	U			10	U
Butylbenzyl Phthalate	ug/l		16		10	U			10	U			10	U			10	U			10	U			10	U
Chlorobenzilate	ug/l		0.31		10	U			10	U			10	U			10	U			10	U			10	U
Chrysene	ug/l		25		10	U			10	U			10	U			10	U			10	U			10	U
Diallate	ug/l		0.54		10	U			10	U			10	U			10	U			10	U			10	U
Dibenzo(a,h)Anthracene	ug/l		0.025		10	U			10	U			10	U			10	U			10	U			10	U
Dibenzofuran	ug/l		7.9		10	U			10	U			10	U			10	U			10	U			10	U
Diethyl Phthalate	ug/l		15000		10	U			10	U			10	U			10	U			10	U			10	U
Dimethoate	ug/l		44		10	U			10	U			10	U			10	U			10	U			10	U
Dimethyl Phthalate	ug/l				10	U			10	U			10	U			10	U			10	U			10	U
Di-n-Butyl Phthalate	ug/l		900		10	U			10	U			10	U			10	U			10	U			10	U
Di-n-Octyl Phthalate	ug/l		200		10	U			10	U			10	U			10	U			10	U			10	U
Dinoseb	ug/l	7	15		10	U			10	U			10	U			10	U			10	U			10	U
Diphenylamine	ug/l				10	U			10	U			10	U			10	U			10	U			10	U
Disulfoton	ug/l		0.5		10	U			10	U			10	U			10	U			10	U			10	U
Ethane, Pentachloro-	ug/l		0.65		10	U			10	U			10	U			10	U			10	U			10	U
Ethyl Parathion	ug/l		86		10	U			10	U			10	U			10	U			10	U			10	U
Famphur	ug/l				10	U			10	UJ			10	U			10	UJ			10	U			10	UJ
Fluoranthene	ug/l		800		10	U			3	J			10	U			10	U			10	U			10	U
Fluorene	ug/l		290		10	U			5.4				10	U			10	U			10	U			10	U
Hexachlorobenzene	ug/l	1	0.0098		10	U			10	U			10	U			10	U			10	U			10	U
Hexachlorobutadiene	ug/l		0.14		10	U			10	U			10	U			10	U			10	U			10	U

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Table 2. 2003 Groundwater Analytical Results
SWMU 9 and South Plant South Parcel
Corrective Measures Study
Honeywell Delaware Valley Works
Claymont, Delaware
WSP Project No. 3482230886

			Location ID	MW-105		MW-106		MW-106		MW-106		MW-106		MW-107		MW-107		MW-107		MW-108		MW-108	
			Sample ID	MW-105070803FD		MW-106020603		MW-106020603		MW-106071603		MW-106071603		MW-107020703		MW-107020703		MW-107071603		MW-107071603		MW-108020603		MW-108020603	
			Sample Date	7/8/2003		2/6/2003		2/6/2003		7/16/2003		7/16/2003		2/7/2003		2/7/2003		7/16/2003		7/16/2003		2/6/2003		2/6/2003	
			Fraction	T		D		T		D		T		D		T		D		T		D		T	
Parameter	Units	MAY 2023 RSL MCL	MAY 2023 RSL TAPW	Result	Lab Qual	Result	Lab Qual	Result	Lab Qual	Result	Lab Qual	Result	Lab Qual	Result	Lab Qual	Result	Lab Qual	Result	Lab Qual	Result	Lab Qual	Result	Lab Qual	Result	Lab Qual
Hexachlorocyclopentadiene	ug/l	50	0.41	10	U			10	U			10	U			10	U			10	U			10	U
Hexachloroethane	ug/l		0.33	10	U			10	U			10	U			10	U			10	U			10	U
Hexachlorophene	ug/l		6	80	R			80	U			80	R			80	U			80	R			80	U
Hexachloropropene	ug/l			10	U			10	U			10	U			10	U			10	U			10	U
Indeno(1,2,3-Cd)Pyrene	ug/l		0.25	10	U			10	U			10	U			10	U			10	U			10	U
Isodrin	ug/l			10	U			10	U			10	U			10	U			10	U			10	U
Isophorone	ug/l		78	10	U			10	U			10	U			10	U			10	U			10	U
Isosafrole	ug/l			10	U			10	U			10	U			10	U			10	U			10	U
Kepone	ug/l		0.0035	10	U			10	R			10	U			10	R			10	U			10	R
Methanesulfonic Acid, Ethyl Ester	ug/l			10	U			10	U			10	U			10	U			10	U			10	U
Methapyrilene	ug/l			10	U			10	U			10	U			10	U			10	U			10	U
Methyl Methanesulfonate	ug/l		0.79	10	U			10	U			10	U			10	U			10	U			10	U
Methyl Parathion	ug/l		4.5	10	U			10	U			10	U			10	U			10	U			10	U
Naphthalene	ug/l		**0.12**	**16**				10	U			10	U			10	U			**110**				10	U
Nitrobenzene	ug/l		0.14	10	U			10	U			10	U			10	U			10	U			10	U
n-Nitrosodiethylamine	ug/l		0.00017	10	U			10	U			10	U			10	U			10	U			10	U
n-Nitrosodimethylamine	ug/l		0.00011	10	U			10	U			10	U			10	U			10	U			10	U
n-Nitrosodi-n-Butylamine	ug/l		0.0027	10	U			10	U			10	U			10	U			10	U			10	U
n-Nitroso-di-n-Propylamine	ug/l		0.011	10	U			10	U			10	U			10	U			10	U			10	U
n-Nitrosodiphenylamine	ug/l		12	10	U			10	U			10	U			10	U			10	U			10	U
n-Nitrosomethylethylamine	ug/l		0.00071	10	U			10	U			10	U			10	U			10	U			10	U
n-Nitrosomorpholine	ug/l		0.012	10	U			10	U			10	U			10	U			10	U			10	U
n-Nitrosopiperidine	ug/l		0.0082	10	U			10	U			10	U			10	U			10	U			10	U
n-Nitrosopyrrolidine	ug/l		0.037	10	U			10	U			10	U			10	U			10	U			10	U
O,O,O-Triethyl Phosphorothioate	ug/l			10	U			10	U			10	U			10	U			10	U			10	U
o-Toluidine	ug/l		4.7	10	U			10	U			10	U			10	U			10	U			10	U
Pentachlorobenzene	ug/l		3.2	10	U			10	U			10	U			10	U			10	U			10	U
Pentachloronitrobenzene	ug/l		0.12	25	U			25	U			25	U			25	U			25	U			25	U
Pentachlorophenol	ug/l	1	0.041	25	U			25	U			25	U			25	R			25	U			25	U
Phenacetin	ug/l		34	10	U			10	U			10	U			10	U			10	U			10	U
Phenanthrene	ug/l			10	U			9.1				10	U			10	U			6	J			10	U
Phenol	ug/l		5800	10	U			10	U			10	U			10	R			10	U			10	U
Phorate	ug/l		3	10	U			10	U			10	U			10	U			10	U			10	U
p-Phenylenediamine	ug/l		20	10	U			10	U			10	UJ			10	U			10	UJ			10	U
Pronamide	ug/l		1200	10	U			10	U			10	U			10	U			10	U			10	U
Pyrene	ug/l		120	10	U			3	J			10	U			10	U			10	U			10	U
Pyridine	ug/l		20	10	U			10	U			10	U			10	U			10	U			10	U
Quinoline, 4-Nitro-1-Oxide-	ug/l			10	U			10	R			10	R			10	R			10	R			10	R
Safrole	ug/l		0.096	10	U			10	U			10	U			10	U			10	U			10	U
Thionazine	ug/l			10	U			10	U			10	U			10	U			10	U			10	U
Thiopyrophosphoric Acid ([(Ho)2P(S)]2O), Tetraethyl	ug/l		7.1	10	U			10	U			10	U			10	U			10	U			10	U
Total Aramite	ug/l		1.3	10	U			10	U			10	U			10	U			10	U			10	U
Cyanide, Total	ug/l	**200**	**1.5**	5	U			5	U			5	U			5	U			5	U			5	U

Notes:
Exceeds the U.S. Environmental Protection Agency (EPA) Regional Screening Level (RSL), Maximum Contaminant Level (MCL) (May 2023)
Exceeds the EPA Tapwater RSL
Blanks indicate RSL not established or sample not analyzed for that constituent
RSLs assume target cancer risk (TR) of 1E-06 and target hazard quotient (THQ) of 1.0
U = undetected
J = estimated value
J+ = estimated biased high
J- = estimated biased low
R = rejected
ug/L = micrograms per liter
FD = Duplicate sample
Exceedances shown may exceed one or more criteria if available
T = Total
D = Dissolved

Created By: DP 2/8/22
Checked By: KH 3/8/22

Table 2. 2003 Groundwater Analytical Results
SWMU 9 and South Plant South Parcel
Corrective Measures Study
Honeywell Delaware Valley Works
Claymont, Delaware
WSP Project No. 3482230886

				Location ID	MW-108		MW-108		MW-108		MW-108		MW-109		MW-109		MW-109		MW-109		MW-110		MW-110		MW-110	
				Sample ID	MW-108071403		MW-108071403		MW-108071403FD		MW-108071403FD		MW-109020603		MW-109020603		MW-109071403		MW-109071403		MW-110020603		MW-110020603		MW-110020603FD	
				Sample Date	7/14/2003		7/14/2003		7/14/2003		7/14/2003		2/6/2003		2/6/2003		7/14/2003		7/14/2003		2/6/2003		2/6/2003		2/6/2003	
				Fraction	D		T		D		T		D		T		D		T		D		T		D	
Parameter	Units	MAY 2023 RSL MCL	MAY 2023 RSL TAPW		Result	Lab Qual	Result	Lab Qual	Result	Lab Qual	Result	Lab Qual	Result	Lab Qual	Result	Lab Qual	Result	Lab Qual	Result	Lab Qual	Result	Lab Qual	Result	Lab Qual	Result	Lab Qual
Metals																										
Aluminum	ug/l		**20000**																							
Antimony	ug/l	**6**	**7.8**		**140**		**220**	**J**	**160**		**220**		**40**		**50**		**40**		**40**		**180**		**180**		**180**	
Arsenic	ug/l	**10**	**0.052**		**49400**		**51600**		**50500**		**50300**		**10000**		**10000**		**5400**		**5520**		**1700**		**1400**		**1500**	
Barium	ug/l	2000	3800		8.4	J	100		9	J	90		10	J	40		10	J	20		20	J	20		10	J
Beryllium	ug/l	**4**	25		0.96	B	90	B	0.85	B	0.82	B	0.22	B	0.35	B	0.17	B	0.18	B	1	U	1	U	1	U
Boron	ug/l		4000																							
Cadmium	ug/l	**5**	**1.8**		**9.7**		**10**		**10**		**10**		4.2	B	**5.2**		**4.6**		**5.1**		2.3	B	2.7	B	2.8	B
Calcium	ug/l																									
Chromium	ug/l	**100**			5.9		9.7		3.1	B	10		5.5		10		4.3	J	10		4.4	J	0.5	B	0.54	B
Cobalt	ug/l		**6**		**110**		**120**		**110**		**110**		**20**		**20**		**20**		**20**		**50**		**50**		**50**	
Copper	ug/l	**1300**	**800**		20		170		30		160		0.89	B	90		1.4	J	40		4.4	B	9.4	J	6.1	B
Iron	ug/l		**14000**																							
Lead	ug/l	**15**	**15**		**20**		**870**		**20**		**820**		2	U	**30**		0.9	B	10		10		**40**		10	
Magnesium	ug/l																									
Manganese	ug/l		**430**																							
Nickel	ug/l		**390**		160		180		170		170		80		80		80		90		10	J	10	J	10	J
Potassium	ug/l																									
Selenium	ug/l	50	100		1.8		1.8	U	1.8	U	1.8	U	8.3	B	10	B	10		8.4		0.18	U	1.2	U	4.2	B
Silver	ug/l		94		0.3	U	0.83	B	0.3	U	0.33	B	1	U	1	U	0.3	U	0.3	U	1	U	1	U	1	U
Sodium	ug/l																									
Thallium	ug/l	**2**	**0.2**		**240**	**L**	**180**	**L**	**240**	**L**	**200**	**L**	**3.9**	**L**	**4.8**	**L**	**5.83**	**L**	**5.44**	**L**	**40**	**L**	**50**	**L**	**40**	**L**
Tin	ug/l		12000		3.9	U	10	J	3.9	U	10	J	3.2	U	7.4	J	3.9	U	3.9	U	2	U	3.1	U	1.8	U
Vanadium	ug/l		**86**		10		20		10		20		7.9	J	20		7.7	J	10		0.84	B	0.86	B	1.1	B
Zinc	ug/l		**6000**		**8040**		**8330**		**8150**		**8080**		690		700		750		760		920		960		950	
Mercury	ug/l	**2**	**0.63**		0.2	UL	**1.2**		0.2	UL	**0.95**		0.012	U	0.094	U	0.2	UL	0.2	U	0.093	U	0.19	U	0.13	U
Pesticides																										
4,4'-DDD	ug/l		**0.032**				0.1	U			0.1	U			0.1	U			0.1	U			0.1	UJ		
4,4'-DDE	ug/l		**0.046**				0.1	U			0.1	U			0.1	U			0.1	U			0.1	UJ		
4,4'-DDT	ug/l		**0.23**				0.1	U			0.1	U			0.1	U			0.1	U			0.1	UJ		
Aldrin	ug/l		**0.00092**				0.05	U			0.05	U			0.05	U			0.05	U			0.05	UJ		
Alpha-BHC	ug/l		**0.0072**				0.05	U			0.05	U			0.04	B			**0.02**	**J**			0.04	B		
Beta-BHC	ug/l		**0.025**				0.05	U			0.05	U			0.05	U			0.05	U			0.05	UJ		
Chlordane	ug/l						0.51	U			0.51	U			0.51	U			0.5	U			0.51	UJ		
cis-Chlordane	ug/l		3.6				0.1	U			0.13	U			0.1	U			0.1	U			0.1	UJ		
Delta-BHC	ug/l						0.05	U			0.05	U			0.03	B			0.05	U			0.05	UJ		
Dieldrin	ug/l		0.0018				0.1	U			0.1	U			0.1	U			0.1	U			0.1	UJ		
Endosulfan I	ug/l						0.05	U			0.05	U			0.05	U			0.05	U			0.05	UJ		
Endosulfan II	ug/l						0.1	U			0.1	U			0.1	U			0.1	U			0.1	UJ		
Endosulfan Sulfate	ug/l		110				0.1	U			0.1	U			0.1	U			0.1	U			0.1	UJ		
Endrin	ug/l	2	2.3				0.1	U			0.1	U			0.1	U			0.1	U			0.1	UJ		
Endrin Aldehyde	ug/l						0.1	U			0.1	U			0.1	U			0.1	U			0.1	UJ		
Endrin Ketone	ug/l						0.1	U			0.1	U			0.1	U			0.1	U			0.1	UJ		
Gamma-BHC (Lindane)	ug/l	0.2	**0.042**				0.05	U			0.05	U			0.05	U			0.05	U			0.05	UJ		
Heptachlor	ug/l	0.4	0.0014				0.05	U			0.05	U			0.05	U			0.05	U			0.05	UJ		
Heptachlor Epoxide	ug/l	**0.2**	**0.0014**				**0.86**				**0.87**				0.05	U			**0.09**				0.05	UJ		
Methoxychlor	ug/l	40	37				0.51	U			0.51	U			0.51	U			0.5	U			0.51	UJ		
Toxaphene	ug/l	3	0.071				1.04	U			1.03	U			1	U			1	U			1	UJ		
trans-Chlordane	ug/l		10				0.1	U			0.13	U			0.1	U			0.1	U			0.1	UJ		
Herbicides																										
2,4,5-T	ug/l		160				0.08	U			0.08	U			0.08	U			0.08	U			0.08	U		
2,4,5-TP (Silvex)	ug/l	50	110				0.08	U			0.08	U			0.08	U			0.08	U			0.08	U		
2,4-D	ug/l	70	170				0.2	J			0.23				0.22	U			0.2	U			0.21	U		
Volatile Organic Compounds																										
1,1,1,2-Tetrachloroethane	ug/l		0.57				5	U			5	U			5	U			5	U			5	U		
1,1,1-Trichloroethane	ug/l	200	8000				5	U			5	U			5	U			5	U			5	U		
1,1,2,2-Tetrachloroethane	ug/l		0.076				5	U			5	U			5	U			5	U			5	U		
1,1,2-Trichloroethane	ug/l	5	0.28				5	U			5	U			5	U			5	U			5	U		
1,1-Dichloroethane	ug/l		**2.8**				5	U			5	U			5	U			5	U			5	U		
1,1-Dichloroethene	ug/l	7	280				5	U			5	U			5	U			5	U			5	U		
1,2,3-Trichloropropane	ug/l		0.00075				5	U			5	U			5	U			5	U			5	U		
1,2-Dibromo-3-Chloropropane	ug/l	0.2	0.00033				5	U			5	U			5	U			5	U			5	U		
1,2-Dibromoethane	ug/l	0.05	0.0075				5	U			5	U			5	U			5	U			5	U		
1,2-Dichloroethane	ug/l	5	**0.17**				5	U			5	U			5	U			5	U			5	U		

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Honeywell Delaware Valley Works
Claymont, Delaware
WSP Project No. 3482230886

				Location ID	MW-108		MW-108		MW-108		MW-108		MW-109		MW-109		MW-109		MW-109		MW-110		MW-110		MW-110	
				Sample ID	MW-108071403		MW-108071403		MW-108071403FD		MW-108071403FD		MW-109020603		MW-109020603		MW-109071403		MW-109071403		MW-110020603		MW-110020603		MW-110020603FD	
				Sample Date	7/14/2003		7/14/2003		7/14/2003		7/14/2003		2/6/2003		2/6/2003		7/14/2003		7/14/2003		2/6/2003		2/6/2003		2/6/2003	
				Fraction	D		T		D		T		D		T		D		T		D		T		D	
Parameter	Units	MAY 2023 RSL MCL	MAY 2023 RSL TAPW		Result	Lab Qual	Result	Lab Qual	Result	Lab Qual	Result	Lab Qual	Result	Lab Qual	Result	Lab Qual	Result	Lab Qual	Result	Lab Qual	Result	Lab Qual	Result	Lab Qual	Result	Lab Qual
1,2-Dichloropropane	ug/l	5	0.85				5	U			5	U			5	U			5	U			5	U		
1,4-Dioxane	ug/l		0.46				100	R			100	R			100	U			100	R			100	R		
2-Butanone	ug/l		5600				10	U			10	U			10	U			10	U			10	U		
2-Hexanone	ug/l		38				10	U			10	U			10	U			10	U			10	U		
4-Methyl-2-Pentanone	ug/l		6300				10	U			10	U			10	U			10	U			10	U		
Acetone	ug/l		18000				6	B			5	B			10	U			10	U			10	U		
Acetonitrile	ug/l		130				50	R			50	R			50	U			50	R			50	U		
Acrolein	ug/l		0.042				50	R			50	R			50	U			50	R			50	R		
Acrylonitrile	ug/l		0.052				10	U			10	U			10	U			10	U			10	U		
Allyl Chloride	ug/l		0.73				5	U			5	U			5	U			5	U			5	U		
Benzene	ug/l	**5**	**0.46**				**44**				**43**				5	U			**0.9**	**J**			5	U		
Bromodichloromethane	ug/l	80	0.13				5	U			5	U			5	U			5	U			5	U		
Bromoform	ug/l	80	3.3				5	U			5	U			5	U			5	U			5	U		
Bromomethane	ug/l		7.5				5	U			5	U			5	U			5	U			5	UJ		
Carbon Disulfide	ug/l		810				5	U			5	U			5	U			5	U			5	U		
Carbon Tetrachloride	ug/l	5	0.46				5	U			5	U			5	U			5	U			5	U		
Chlorobenzene	ug/l	100	78				5	U			5	U			5	U			5	U			5	U		
Chloroethane	ug/l		8300				5	U			5	U			5	U			5	U			5	U		
Chloroform	ug/l	80	**0.22**				1	B			1	B			5	U			0.9	B			5	U		
Chloromethane	ug/l		190				5	U			5	U			5	U			5	U			5	U		
Chloroprene	ug/l		0.019				5	U			5	U			5	U			5	U			5	U		
cis-1,2-Dichloroethene	ug/l	70	36				5	U			5	U			5	U			5	U			5	U		
cis-1,3-Dichloropropene	ug/l						5	U			5	U			5	U			5	U			5	U		
Dibromochloromethane	ug/l	80	0.87				5	U			5	U			5	U			5	U			5	U		
Dibromomethane	ug/l		8.3				5	U			5	U			5	U			5	U			5	U		
Dichlorodifluoromethane	ug/l		200				5	U			5	U			5	U			5	U			5	U		
Ethyl Cyanide	ug/l						10	U			10	U			10	R			10	U			10	R		
Ethyl Methacrylate	ug/l		630				5	U			5	U			5	U			5	U			5	U		
Ethylbenzene	ug/l	700	**1.5**				**5**	**J**			**5**	**J**			5	U			5	U			5	U		
Iodomethane	ug/l						25	U			25	U			25	U			25	U			25	U		
Isobutanol	ug/l		5900				5	R			5	R			5	U			5	R			5	U		
m&p-Xylenes	ug/l						13				13				10	U			10	U			10	U		
Methacrylonitrile	ug/l		1.9				5	U			5	U			5	U			5	U			5	U		
Methyl Methacrylate	ug/l		1400				5	U			5	U			5	U			5	U			5	U		
Methylene Chloride	ug/l	**5**	**11**				0.7	B			0.7	B			5	U			5	U			5	U		
o-Xylene	ug/l		190				10				10				5	U			5	U			5	U		
Styrene	ug/l	100	1200				5	U			5	U			5	U			5	U			5	U		
Tetrachloroethene	ug/l	5	11				5	U			5	U			5	U			5	U			5	U		
Toluene	ug/l	1000	1100				6				6				5	U			5	U			5	U		
trans-1,2-Dichloroethene	ug/l	100	68				5	U			5	U			5	U			5	U			5	U		
trans-1,3-Dichloropropene	ug/l						5	U			5	U			5	U			5	U			5	U		
trans-1,4-Dichloro-2-Butene	ug/l		0.0013				5	U			5	U			5	U			5	U			5	U		
Trichloroethene	ug/l	5	0.49				5	U			5	U			5	U			5	U			5	U		
Trichlorofluoromethane	ug/l		5200				5	U			5	U			5	U			5	U			5	U		
Vinyl Acetate	ug/l		410				5	U			5	U			5	U			5	U			5	U		
Vinyl Chloride	ug/l	**2**	**0.019**				5	U			5	U			5	U			5	U			5	U		
Semi-Volatile Organic Compounds																										
1,2,4,5-Tetrachlorobenzene	ug/l		0.17				10	U			10	U			10	U			10	U			10	U		
1,2,4-Trichlorobenzene	ug/l	70	1.2				10	U			10	U			10	U			10	U			10	U		
1,2-Dichlorobenzene	ug/l	600	300				10	U			10	U			10	U			10	U			10	U		
1,3,5-Trinitrobenzene	ug/l		590				10	U			10	U			10	U			10	U			10	U		
1,3-Dichlorobenzene	ug/l						10	U			10	U			10	U			10	U			10	U		
1,3-Dinitrobenzene	ug/l		2				10	U			10	U			10	U			10	U			10	U		
1,4-Dichlorobenzene	ug/l	75	0.48				10	U			10	U			10	U			10	U			10	U		
1,4-Naphthoquinone	ug/l						10	U			10	U			10	U			10	U			10	U		
1-Naphthylamine	ug/l						10	U			10	U			10	U			10	U			10	U		
2,2'-Oxybis(1-Chloropropane)	ug/l		710				10	U			10	U			10	U			10	U			10	U		
2,3,4,6-Tetrachlorophenol	ug/l		240				10	U			10	U			10	U			10	U			10	U		
2,4,5-Trichlorophenol	ug/l		1200				25	U			25	U			25	U			25	U			25	U		
2,4,6-Trichlorophenol	ug/l		4.1				10	U			10	U			10	U			10	U			10	U		
2,4-Dichlorophenol	ug/l		46				10	U			10	U			10	U			10	U			10	U		
2,4-Dimethylphenol	ug/l		360				10	U			10	U			10	U			10	U			10	U		
2,4-Dinitrophenol	ug/l		39				25	UJ			25	U			25	U			25	U			25	U		
2,4-Dinitrotoluene	ug/l		0.24				10	U			10	U			10	U			10	U			10	U		

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				Location ID	MW-108		MW-108		MW-108		MW-108		MW-109		MW-109		MW-109		MW-109		MW-110		MW-110		MW-110	
				Sample ID	MW-108071403		MW-108071403		MW-108071403FD		MW-108071403FD		MW-109020603		MW-109020603		MW-109071403		MW-109071403		MW-110020603		MW-110020603		MW-110020603FD	
				Sample Date	7/14/2003		7/14/2003		7/14/2003		7/14/2003		2/6/2003		2/6/2003		7/14/2003		7/14/2003		2/6/2003		2/6/2003		2/6/2003	
				Fraction	D		T		D		T		D		T		D		T		D		T		D	
Parameter	Units	MAY 2023 RSL MCL	MAY 2023 RSL TAPW		Result	Lab Qual	Result	Lab Qual	Result	Lab Qual	Result	Lab Qual	Result	Lab Qual	Result	Lab Qual	Result	Lab Qual	Result	Lab Qual	Result	Lab Qual	Result	Lab Qual	Result	Lab Qual
2,6-Dichlorophenol	ug/l						10	U			10	U			10	U			10	U			10	U		
2,6-Dinitrotoluene	ug/l		0.049				10	U			10	U			10	U			10	U			10	U		
2-Acetylaminofluorene (TIC)	ug/l		0.016				10	U			10	U			10	U			10	U			10	U		
2-Chloronaphthalene	ug/l		750				10	U			10	U			10	U			10	U			10	U		
2-Chlorophenol	ug/l		91				10	U			10	U			10	U			10	U			10	U		
2-Methylnaphthalene	ug/l		**36**				7	J			6	J			10	U			10	U			10	U		
2-Methylphenol	ug/l		930				10	U			10	U			10	U			10	U			10	U		
2-Naphthylamine	ug/l		0.039				10	U			10	U			10	U			10	U			10	U		
2-Nitroaniline	ug/l		190				25	U			25	U			25	U			25	U			25	U		
2-Nitrophenol	ug/l						10	U			10	U			10	U			10	U			10	U		
2-Picoline	ug/l						10	U			10	U			10	U			10	U			10	U		
3&4-Methylphenol	ug/l						10	U			10	U			10	U			10	U			10	U		
3,3'-Dichlorobenzidine	ug/l		0.13				10	U			10	U			10	U			10	U			10	U		
3,3'-Dimethylbenzidine	ug/l		0.0065				10	UJ			10	U			10	U			10	U			10	U		
3-Methylcholanthrene	ug/l		0.0011				10	U			10	U			10	U			10	U			10	U		
3-Nitroaniline	ug/l						25	U			25	U			25	U			25	U			25	U		
4,6-Dinitro-2-Methylphenol	ug/l		1.5				25	U			25	U			25	U			25	U			25	U		
4-Aminobiphenyl	ug/l		0.003				10	U			10	U			10	U			10	U			10	U		
4-Bromophenyl Phenyl Ether	ug/l						10	U			10	U			10	U			10	U			10	U		
4-Chloro-3-Methylphenol	ug/l		1400				10	U			10	U			10	U			10	U			10	U		
4-Chloroaniline	ug/l		0.37				10	U			10	U			10	U			10	U			10	U		
4-Chlorophenyl Phenyl Ether	ug/l						10	U			10	U			10	U			10	U			10	U		
4-Nitroaniline	ug/l		3.8				25	U			25	U			25	U			25	U			25	U		
4-Nitrophenol	ug/l						25	U			25	U			25	U			25	U			25	U		
5-Nitro-o-Toluidine	ug/l		8.2				10	U			10	U			10	U			10	U			10	U		
7,12-Dimethylbenz(A)Anthracene	ug/l		0.0001				10	U			10	U			10	U			10	U			10	U		
Acenaphthene	ug/l		530				10	U			10	U			10	U			10	U			10	U		
Acenaphthylene	ug/l						10	U			10	U			10	U			10	U			10	U		
Acetophenone	ug/l		1900				10	U			10	U			10	U			10	U			10	U		
Aniline	ug/l		13				10	U			10	U			10	U			10	U			10	U		
Anthracene	ug/l		1800				10	U			10	U			10	U			10	U			10	U		
Benzenamine, N,N-Dimethyl-4-(Pehnylazo)-	ug/l		0.005				10	U			10	U			10	U			10	U			10	U		
Benzeneethanamine, Alpha, Alpha-Dimethyl-	ug/l						10	U			10	U			10	U			10	U			10	U		
Benzo(A)Anthracene	ug/l		0.03				10	U			10	U			10	U			10	U			10	U		
Benzo(A)Pyrene	ug/l	0.2	0.025				10	U			10	U			10	U			10	U			10	U		
Benzo(B)Fluoranthene	ug/l		0.25				10	U			10	U			10	U			10	U			10	U		
Benzo(G,H,I)perylene	ug/l						10	U			10	U			10	U			10	U			10	U		
Benzo(K)Fluoranthene	ug/l		2.5				10	U			10	U			10	U			10	U			10	U		
Benzoic Acid	ug/l		75000				25	U			25	U			25	U			25	U			25	U		
Benzyl Alcohol	ug/l		2000				10	U			10	U			10	U			10	U			10	U		
bis-(2-Chloroethoxy)Methane	ug/l		59				10	U			10	U			10	U			10	U			10	U		
bis-(2-Chloroethyl)Ether	ug/l		0.014				10	U			10	U			10	U			10	U			10	U		
bis-(2-Ethylhexyl)Phthalate	ug/l	6	5.6				10	U			10	U			10	U			10	U			10	U		
Butylbenzyl Phthalate	ug/l		16				10	U			10	U			10	U			10	U			10	U		
Chlorobenzilate	ug/l		0.31				10	U			10	U			10	U			10	U			10	U		
Chrysene	ug/l		25				10	U			10	U			10	U			10	U			10	U		
Diallate	ug/l		0.54				10	U			10	U			10	U			10	U			10	U		
Dibenzo(a,h)Anthracene	ug/l		0.025				10	U			10	U			10	U			10	U			10	U		
Dibenzofuran	ug/l		7.9				10	U			10	U			10	U			10	U			10	U		
Diethyl Phthalate	ug/l		15000				10	U			10	U			10	U			10	U			10	U		
Dimethoate	ug/l		44				10	U			10	U			10	U			10	U			10	U		
Dimethyl Phthalate	ug/l						10	U			10	U			10	U			10	U			10	U		
Di-n-Butyl Phthalate	ug/l		900				10	U			10	U			10	U			10	U			10	U		
Di-n-Octyl Phthalate	ug/l		200				10	U			10	U			10	U			10	U			10	U		
Dinoseb	ug/l	7	15				10	U			10	U			10	U			10	U			10	U		
Diphenylamine	ug/l						10	U			10	U			10	U			10	U			10	U		
Disulfoton	ug/l		0.5				10	U			10	U			10	U			10	U			10	U		
Ethane, Pentachloro-	ug/l		0.65				10	U			10	U			10	U			10	U			10	U		
Ethyl Parathion	ug/l		86				10	U			10	U			10	U			10	U			10	U		
Famphur	ug/l						10	U			10	U			10	UJ			10	U			10	UJ		
Fluoranthene	ug/l		800				10	U			10	U			10	U			10	U			10	U		
Fluorene	ug/l		290				10	U			10	U			10	U			10	U			10	U		
Hexachlorobenzene	ug/l	1	0.0098				10	U			10	U			10	U			10	U			10	U		
Hexachlorobutadiene	ug/l		0.14				10	U			10	U			10	U			10	U			10	U		

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Table 2. 2003 Groundwater Analytical Results
SWMU 9 and South Plant South Parcel
Corrective Measures Study
Honeywell Delaware Valley Works
Claymont, Delaware
WSP Project No. 3482230886

			Location ID	MW-108		MW-108		MW-108		MW-108		MW-109		MW-109		MW-109		MW-109		MW-110		MW-110		MW-110	
			Sample ID	MW-108071403		MW-108071403		MW-108071403FD		MW-108071403FD		MW-109020603		MW-109020603		MW-109071403		MW-109071403		MW-110020603		MW-110020603		MW-110020603FD	
			Sample Date	7/14/2003		7/14/2003		7/14/2003		7/14/2003		2/6/2003		2/6/2003		7/14/2003		7/14/2003		2/6/2003		2/6/2003		2/6/2003	
			Fraction	D		T		D		T		D		T		D		T		D		T		D	
Parameter	Units	MAY 2023 RSL MCL	MAY 2023 RSL TAPW	Result	Lab Qual	Result	Lab Qual	Result	Lab Qual	Result	Lab Qual	Result	Lab Qual	Result	Lab Qual	Result	Lab Qual	Result	Lab Qual	Result	Lab Qual	Result	Lab Qual	Result	Lab Qual
Hexachlorocyclopentadiene	ug/l	50	0.41			10	U			10	U			10	U			10	U			10	U		
Hexachloroethane	ug/l		0.33			10	U			10	U			10	U			10	U			10	U		
Hexachlorophene	ug/l		6			80	R			80	R			80	U			80	R			80	U		
Hexachloropropene	ug/l					10	U			10	U			10	U			10	U			10	U		
Indeno(1,2,3-Cd)Pyrene	ug/l		0.25			10	U			10	U			10	U			10	U			10	U		
Isodrin	ug/l					10	U			10	U			10	U			10	U			10	U		
Isophorone	ug/l		78			10	U			10	U			10	U			10	U			10	U		
Isosafrole	ug/l					10	U			10	U			10	U			10	U			10	U		
Kepone	ug/l		0.0035			10	U			10	U			10	R			10	U			10	R		
Methanesulfonic Acid, Ethyl Ester	ug/l					10	U			10	U			10	U			10	U			10	U		
Methapyrilene	ug/l					10	U			10	U			10	U			10	U			10	U		
Methyl Methanesulfonate	ug/l		0.79			10	U			10	U			10	U			10	U			10	U		
Methyl Parathion	ug/l		4.5			10	U			10	U			10	U			10	U			10	U		
Naphthalene	ug/l		**0.12**			**20**				**19**				10	U			10	U			10	U		
Nitrobenzene	ug/l		0.14			10	U			10	U			10	U			10	U			10	U		
n-Nitrosodiethylamine	ug/l		0.00017			10	U			10	U			10	U			10	U			10	U		
n-Nitrosodimethylamine	ug/l		0.00011			10	U			10	U			10	U			10	U			10	U		
n-Nitrosodi-n-Butylamine	ug/l		0.0027			10	U			10	U			10	U			10	U			10	U		
n-Nitroso-di-n-Propylamine	ug/l		0.011			10	U			10	U			10	U			10	U			10	U		
n-Nitrosodiphenylamine	ug/l		12			10	U			10	U			10	U			10	U			10	U		
n-Nitrosomethylethylamine	ug/l		0.00071			10	U			10	U			10	U			10	U			10	U		
n-Nitrosomorpholine	ug/l		0.012			10	U			10	U			10	U			10	U			10	U		
n-Nitrosopiperidine	ug/l		0.0082			10	U			10	U			10	U			10	U			10	U		
n-Nitrosopyrrolidine	ug/l		0.037			10	U			10	U			10	U			10	U			10	U		
O,O,O-Triethyl Phosphorothioate	ug/l					10	U			10	U			10	U			10	U			10	U		
o-Toluidine	ug/l		4.7			10	U			10	U			10	U			10	U			10	U		
Pentachlorobenzene	ug/l		3.2			10	U			10	U			10	U			10	U			10	U		
Pentachloronitrobenzene	ug/l		0.12			25	U			25	U			25	U			25	U			25	U		
Pentachlorophenol	ug/l	1	0.041			25	U			25	U			25	U			25	U			25	U		
Phenacetin	ug/l		34			10	U			10	U			10	U			10	U			10	U		
Phenanthrene	ug/l					7	J			6	J			10	U			10	U			10	U		
Phenol	ug/l		5800			10	U			10	U			10	U			10	U			10	U		
Phorate	ug/l		3			10	U			10	U			10	U			10	U			10	U		
p-Phenylenediamine	ug/l		20			10	UJ			10	U			10	U			10	U			10	U		
Pronamide	ug/l		1200			10	U			10	U			10	U			10	U			10	U		
Pyrene	ug/l		120			10	U			10	U			10	U			10	U			10	U		
Pyridine	ug/l		20			10	U			10	U			10	U			10	U			10	U		
Quinoline, 4-Nitro-1-Oxide-	ug/l					10	R			10	R			10	R			10	R			10	R		
Safrole	ug/l		0.096			10	U			10	U			10	U			10	U			10	U		
Thionazine	ug/l					10	U			10	U			10	U			10	U			10	U		
Thiopyrophosphoric Acid ([(Ho)2P(S)]2O), Tetraethyl	ug/l		7.1			10	U			10	U			10	U			10	U			10	U		
Total Aramite	ug/l		1.3			10	U			10	U			10	U			10	U			10	U		
Cyanide, Total	ug/l	**200**	**1.5**			5	U			5	U			5	U			5	U			5	U		

Notes:
Exceeds the U.S. Environmental Protection Agency (EPA) Regional Screening Level (RSL), Maximum Contaminant Level (MCL) (May 2023)
Exceeds the EPA Tapwater RSL
Blanks indicate RSL not established or sample not analyzed for that constituent
RSLs assume target cancer risk (TR) of 1E-06 and target hazard quotient (THQ) of 1.0
U = undetected
J = estimated value
J+ = estimated biased high
J- = estimated biased low
R = rejected
ug/L = micrograms per liter
FD = Duplicate sample
Exceedances shown may exceed one or more criteria if available
T = Total
D = Dissolved

Created By: DP 2/8/22
Checked By: KH 3/8/22

Table 2. 2003 Groundwater Analytical Results
SWMU 9 and South Plant South Parcel
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Honeywell Delaware Valley Works
Claymont, Delaware
WSP Project No. 3482230886

				Location ID	MW-110		MW-110		MW-110		MW-111		MW-111		MW-111		MW-111		MW-111		MW-113		MW-113	
				Sample ID	MW-110020603FD		MW-110071403		MW-110071403		MW-111020403		MW-111020403		MW-111071603		MW-111071603		MW-111071603FD		MW-111071603FD		MW-113020503		MW-113020503	
				Sample Date	2/6/2003		7/14/2003		7/14/2003		2/4/2003		2/4/2003		7/16/2003		7/16/2003		7/16/2003		7/16/2003		2/5/2003		2/5/2003	
				Fraction	T		D		T		D		T		D		T		D		T		D		T	
Parameter	Units	MAY 2023 RSL MCL	MAY 2023 RSL TAPW		Result	Lab Qual	Result	Lab Qual	Result	Lab Qual	Result	Lab Qual	Result	Lab Qual	Result	Lab Qual	Result	Lab Qual	Result	Lab Qual	Result	Lab Qual	Result	Lab Qual	Result	Lab Qual
Metals																										
Aluminum	ug/l		**20000**																							
Antimony	ug/l	**6**	**7.8**		**180**		**300**		**290**		5.9		**8.8**		5.5	B	**8.5**		6.5	B	8.7	B	**20**		**20**	
Arsenic	ug/l	**10**	**0.052**		**1500**		**1960**		**2220**		**490**		**540**		**500**		**510**	**J**	**490**		**530**	**J**	**1600**	**K**	**1700**	**K**
Barium	ug/l	2000	3800		20		20		20		10	J	20		9.8	J	10	J	9.6	J	20		10	J	10	J
Beryllium	ug/l	**4**	25		1	U	0.07	U	0.07	U	1	U	0.18	B	0.08	B	0.07	U	0.07	U	0.07	U	2.2	B	2.6	B
Boron	ug/l		4000																							
Cadmium	ug/l	**5**	**1.8**		3	B	2.3	B	2.2	B	1.9	B	2.3	B	1	B	0.77	B	0.59	B	0.52	B	**7.6**		**6.9**	
Calcium	ug/l																									
Chromium	ug/l	**100**			0.87	B	10		5.1		0.75	B	6.4		4.8	J	10		3.8	B	10		5	U	0.25	U
Cobalt	ug/l		**6**		**50**		**50**		**50**		**10**		**10**		**10**		**10**		**10**		**10**		**150**	**K**	**160**	**K**
Copper	ug/l	**1300**	**800**		9.8	J	6	J	10		1.7	B	20		1.3	J	10		0.6	U	10		7.9	J	10	
Iron	ug/l		**14000**																							
Lead	ug/l	**15**	**15**		**40**		10		**80**		2	U	**60**		1.4	B	**40**		1.7	B	**40**		2.1	B	7.5	
Magnesium	ug/l																									
Manganese	ug/l		**430**																							
Nickel	ug/l		**390**		10	J	40		10	J	8.4	J	10	J	10	J	10	J	9.8	J	10	J	30		30	
Potassium	ug/l																									
Selenium	ug/l	50	100		3	B	7.3		5.6	U	2.6	B	7.8	B	1.8	U	1.8	U	1.8	U	1.8	U	5	U	5	U
Silver	ug/l		94		1	U	0.3	U	0.48	B	1	U	1	U	0.38	B	0.3	U	0.3	U	0.3	U	1	U	1	U
Sodium	ug/l																									
Thallium	ug/l	**2**	**0.2**		**40**	**L**	**70**	**L**	**50**	**L**	2	UL	2	UL	0	UL	0	U	0	UL	0	U	2	UL	2	UL
Tin	ug/l		12000		3.7	U	3.9	U	3.9	U	1.7	U	2.8	U	5.9	J	3.9	U	3.9	U	3.9	U	5	J	2.6	U
Vanadium	ug/l		**86**		1.1	B	0.73	B	1.3	B	2.8	B	3.9	J	2.7	B	3.4	B	2.8	B	3.3	B	10		10	
Zinc	ug/l		**6000**		960		940		940		80		120		60	K	80		60	K	80		220	K	230	K
Mercury	ug/l	**2**	**0.63**		0.17	U	0.2	UL	0.2	U	0.2	UL	0.15	UL	0.2	U	0.2	U	0.2	U	0.2	U	0.2	UL	0.2	UL
Pesticides																										
4,4'-DDD	ug/l		**0.032**		0.1	UJ			0.1	U			0.39	U			0.2	UL			0.2	UJ			**0.76**	**L**
4,4'-DDE	ug/l		**0.046**		0.1	UJ			0.1	U			0.39	U			0.2	UL			0.2	UJ			**0.07**	**L**
4,4'-DDT	ug/l		**0.23**		0.1	UJ			0.1	U			0.39	U			0.2	UL			0.2	UJ			0.24	R
Aldrin	ug/l		**0.00092**		0.05	UJ			0.05	U			0.2	U			0.1	UL			0.1	UJ			0.05	UL
Alpha-BHC	ug/l		**0.0072**		0.05	B			**0.03**	**J**			**1.4**				**1.62**	**L**			**1.64**	**J**			**0.61**	**J**
Beta-BHC	ug/l		**0.025**		0.02	J			0.05	U			**0.36**				**0.33**	**L**			**0.34**	**J**			**0.19**	**L**
Chlordane	ug/l				0.52	UJ			0.5	U			2	UD			1.02	UL			1	UJ			0.53	UL
cis-Chlordane	ug/l		3.6		0.1	UJ			0.1	U			0.39	U			0.2	UL			0.2	UJ			0.1	UL
Delta-BHC	ug/l				0.05	UJ			0.05	U			0.19	B			0.09	L			0.09	J			0.08	L
Dieldrin	ug/l		0.0018		0.1	UJ			0.1	U			0.39	U			0.2	UL			0.2	UJ			0.05	U
Endosulfan I	ug/l				0.05	UJ			0.05	U			0.2	U			0.1	UL			0.1	UJ			0.05	UL
Endosulfan II	ug/l				0.1	UJ			0.1	U			0.39	U			0.2	UL			0.2	UJ			0.11	UL
Endosulfan Sulfate	ug/l		110		0.1	UJ			0.1	U			0.39	U			0.2	UL			0.2	UJ			0.11	UL
Endrin	ug/l	2	2.3		0.1	UJ			0.1	U			0.39	U			0.2	UL			0.2	UJ			0.11	UL
Endrin Aldehyde	ug/l				0.1	UJ			0.1	U			0.39	U			0.2	UL			0.2	UJ			0.11	UL
Endrin Ketone	ug/l				0.1	UJ			0.1	U			0.39	U			0.2	UL			0.2	UJ			0.1	UL
Gamma-BHC (Lindane)	ug/l	0.2	**0.042**		0.05	UJ			0.05	U			0.2	U			**0.06**	**L**			**0.06**	**J**			0.06	R
Heptachlor	ug/l	0.4	0.0014		0.05	UJ			0.05	U			0.2	U			0.1	UL			0.1	UJ			0.05	UL
Heptachlor Epoxide	ug/l	**0.2**	**0.0014**		0.05	UJ			0.05	U			0.2	U			0.1	UL			0.1	UJ			0.05	UL
Methoxychlor	ug/l	40	37		0.52	UJ			0.5	U			2	U			1.02	UL			1	UJ			0.53	UL
Toxaphene	ug/l	3	0.071		1	UJ			1	U			3.9	U			2.04	UL			2	UJ			1.1	UL
trans-Chlordane	ug/l		10		0.1	UJ			0.1	U			0.39	U			0.2	UL			0.2	UJ			0.1	UL
Herbicides																										
2,4,5-T	ug/l		160		0.08	U			0.08	U			0.05	J			0.08	UJ			0.08	UJ			0.08	U
2,4,5-TP (Silvex)	ug/l	50	110		0.08	U			0.08	U			0.21	J			0.08	UJ			0.08	UJ			0.08	U
2,4-D	ug/l	70	170		0.21	U			0.2	U			0.23	J			0.16	R			0.12	R			0.39	J
Volatile Organic Compounds																										
1,1,1,2-Tetrachloroethane	ug/l		0.57		5	U			5	U			5	U			5	U			5	U			5	U
1,1,1-Trichloroethane	ug/l	200	8000		5	U			5	U			5	U			5	U			5	U			5	U
1,1,2,2-Tetrachloroethane	ug/l		0.076		5	U			5	U			5	U			5	U			5	U			5	U
1,1,2-Trichloroethane	ug/l	5	0.28		5	U			5	U			5	U			5	U			5	U			5	U
1,1-Dichloroethane	ug/l		**2.8**		5	U			5	U			5	U			5	U			5	U			**5**	**J**
1,1-Dichloroethene	ug/l	7	280		5	U			5	U			5	U			5	U			5	U			5	J
1,2,3-Trichloropropane	ug/l		0.00075		5	U			5	U			5	U			5	U			5	U			5	U
1,2-Dibromo-3-Chloropropane	ug/l	0.2	0.00033		5	U			5	U			5	U			5	U			5	U			5	U
1,2-Dibromoethane	ug/l	0.05	0.0075		5	U			5	U			5	U			5	U			5	U			5	U
1,2-Dichloroethane	ug/l	5	**0.17**		5	U			5	U			5	U			5	U			5	U			**5**	**J**

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				Location ID	MW-110		MW-110		MW-110		MW-111		MW-111		MW-111		MW-111		MW-111		MW-113		MW-113	
				Sample ID	MW-110020603FD		MW-110071403		MW-110071403		MW-111020403		MW-111020403		MW-111071603		MW-111071603		MW-111071603FD		MW-113020503		MW-113020503	
				Sample Date	2/6/2003		7/14/2003		7/14/2003		2/4/2003		2/4/2003		7/16/2003		7/16/2003		7/16/2003		2/5/2003		2/5/2003	
				Fraction	T		D		T		D		T		D		T		D		D		T	
Parameter	Units	MAY 2023 RSL MCL	MAY 2023 RSL TAPW		Result	Lab Qual	Result	Lab Qual	Result	Lab Qual	Result	Lab Qual	Result	Lab Qual	Result	Lab Qual	Result	Lab Qual	Result	Lab Qual	Result	Lab Qual	Result	Lab Qual
1,2-Dichloropropane	ug/l	5	0.85		5	U			5	U			5	U			5	U			5	U	5	U
1,4-Dioxane	ug/l		0.46		100	R			100	R			100	R			100	R			100	R	100	R
2-Butanone	ug/l		5600		10	U			10	U			10	U			10	U			10	U	10	U
2-Hexanone	ug/l		38		10	U			10	U			10	U			10	U			10	U	10	U
4-Methyl-2-Pentanone	ug/l		6300		10	U			10	U			10	U			10	U			10	U	10	U
Acetone	ug/l		18000		10	U			10	U			10	U			10	U			10	U	10	U
Acetonitrile	ug/l		130		50	U			50	R			50	U			50	R			50	R	50	U
Acrolein	ug/l		0.042		50	R			50	R			50	R			50	R			50	R	50	R
Acrylonitrile	ug/l		0.052		10	U			10	U			10	U			10	U			10	U	10	U
Allyl Chloride	ug/l		0.73		5	U			5	U			5	U			5	U			5	U	5	U
Benzene	ug/l	**5**	**0.46**		5	U			5	U			5	U			5	U			5	U	5	U
Bromodichloromethane	ug/l	80	0.13		5	U			5	U			5	U			5	U			5	U	5	U
Bromoform	ug/l	80	3.3		5	U			5	U			5	U			5	U			5	U	5	U
Bromomethane	ug/l		7.5		5	UJ			5	U			5	UJ			5	U			5	U	5	UJ
Carbon Disulfide	ug/l		810		5	U			5	U			5	U			5	U			5	U	5	U
Carbon Tetrachloride	ug/l	5	0.46		5	U			5	U			5	U			5	U			5	U	5	U
Chlorobenzene	ug/l	100	78		5	U			5	U			5	U			0.6	J			0.5	J	7.9	
Chloroethane	ug/l		8300		5	U			5	U			5	U			5	U			5	U	5	U
Chloroform	ug/l	80	**0.22**		5	U			5	U			5	U			5	U			5	U	5	U
Chloromethane	ug/l		190		5	U			5	U			5	U			5	U			0.6	J	5	U
Chloroprene	ug/l		0.019		5	U			5	U			5	U			5	U			5	U	5	U
cis-1,2-Dichloroethene	ug/l	70	36		5	U			5	U			5	U			5	U			5	U	5	U
cis-1,3-Dichloropropene	ug/l				5	U			5	U			5	U			5	U			5	U	5	U
Dibromochloromethane	ug/l	80	0.87		5	U			5	U			5	U			5	U			5	U	5	U
Dibromomethane	ug/l		8.3		5	U			5	U			5	U			5	U			5	U	5	U
Dichlorodifluoromethane	ug/l		200		5	U			5	U			5	U			5	U			5	U	5	U
Ethyl Cyanide	ug/l				10	R			10	U			10	R			10	R			10	R	10	R
Ethyl Methacrylate	ug/l		630		5	U			5	U			5	U			5	U			5	U	5	U
Ethylbenzene	ug/l	700	**1.5**		5	U			5	U			5	U			5	U			5	U	5	U
Iodomethane	ug/l				25	U			25	U			25	U			25	U			25	U	25	U
Isobutanol	ug/l		5900		5	U			5	R			5	U			5	R			5	R	5	U
m&p-Xylenes	ug/l				10	U			10	U			10	U			10	U			10	U	10	J
Methacrylonitrile	ug/l		1.9		5	U			5	U			5	U			5	U			5	U	5	U
Methyl Methacrylate	ug/l		1400		5	U			5	U			5	U			5	U			5	U	5	U
Methylene Chloride	ug/l	**5**	**11**		5	U			5	U			5	U			5	U			5	U	5	U
o-Xylene	ug/l		190		5	U			5	U			5	U			5	U			5	U	5	U
Styrene	ug/l	100	1200		5	U			5	U			5	U			5	U			5	U	5	U
Tetrachloroethene	ug/l	5	11		5	U			5	U			5	U			1	J			5	U	5	U
Toluene	ug/l	1000	1100		5	U			5	U			5	U			5	U			5	U	5	J
trans-1,2-Dichloroethene	ug/l	100	68		5	U			5	U			5	U			5	U			5	U	5	U
trans-1,3-Dichloropropene	ug/l				5	U			5	U			5	U			5	U			5	U	5	U
trans-1,4-Dichloro-2-Butene	ug/l		0.0013		5	U			5	U			5	U			5	U			5	U	5	U
Trichloroethene	ug/l	5	0.49		5	U			5	U			5	U			5	U			5	U	5	U
Trichlorofluoromethane	ug/l		5200		5	U			5	U			5	U			5	U			5	U	5	U
Vinyl Acetate	ug/l		410		5	U			5	U			5	U			5	U			5	U	5	U
Vinyl Chloride	ug/l	**2**	**0.019**		5	U			5	U			5	U			5	U			5	U	**5**	**J**
Semi-Volatile Organic Compounds																								
1,2,4,5-Tetrachlorobenzene	ug/l		0.17		10	U			10	U			10	U			10	U			10	U	10	UJ
1,2,4-Trichlorobenzene	ug/l	70	1.2		10	U			10	U			10	U			10	U			10	U	10	UJ
1,2-Dichlorobenzene	ug/l	600	300		10	U			10	U			10	U			10	U			10	U	10	UJ
1,3,5-Trinitrobenzene	ug/l		590		10	U			10	U			10	U			10	U			10	U	10	UJ
1,3-Dichlorobenzene	ug/l				10	U			10	U			10	U			10	U			10	U	10	UJ
1,3-Dinitrobenzene	ug/l		2		10	U			10	U			10	U			10	U			10	U	10	UJ
1,4-Dichlorobenzene	ug/l	75	0.48		10	U			10	U			10	U			10	U			10	U	10	UJ
1,4-Naphthoquinone	ug/l				10	U			10	U			10	U			10	U			10	U	10	UJ
1-Naphthylamine	ug/l				10	U			10	U			10	U			10	U			10	U	10	UJ
2,2'-Oxybis(1-Chloropropane)	ug/l		710		10	U			10	U			10	U			10	U			10	U	10	UJ
2,3,4,6-Tetrachlorophenol	ug/l		240		10	U			10	U			10	U			10	U			10	U	10	UJ
2,4,5-Trichlorophenol	ug/l		1200		25	U			25	U			25	U			25	U			25	U	25	UJ
2,4,6-Trichlorophenol	ug/l		4.1		10	U			10	U			10	U			10	U			10	U	10	UJ
2,4-Dichlorophenol	ug/l		46		10	U			10	U			10	U			10	U			10	U	10	UJ
2,4-Dimethylphenol	ug/l		360		10	U			10	U			10	U			10	U			10	U	10	UJ
2,4-Dinitrophenol	ug/l		39		25	U			25	U			25	U			25	U			25	U	25	UJ
2,4-Dinitrotoluene	ug/l		0.24		10	U			10	U			10	U			10	U			10	U	10	UJ

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Checked By: KH 3/8/22

Table 2. 2003 Groundwater Analytical Results
SWMU 9 and South Plant South Parcel
Corrective Measures Study
Honeywell Delaware Valley Works
Claymont, Delaware
WSP Project No. 3482230886

			Location ID	MW-110		MW-110		MW-110		MW-111		MW-111		MW-111		MW-111		MW-111		MW-111		MW-113		MW-113	
			Sample ID	MW-110020603FD		MW-110071403		MW-110071403		MW-111020403		MW-111020403		MW-111071603		MW-111071603		MW-111071603FD		MW-111071603FD		MW-113020503		MW-113020503	
			Sample Date	2/6/2003		7/14/2003		7/14/2003		2/4/2003		2/4/2003		7/16/2003		7/16/2003		7/16/2003		7/16/2003		2/5/2003		2/5/2003	
			Fraction	T		D		T		D		T		D		T		D		T		D		T	
Parameter	Units	MAY 2023 RSL MCL	MAY 2023 RSL TAPW	Result	Lab Qual	Result	Lab Qual	Result	Lab Qual	Result	Lab Qual	Result	Lab Qual	Result	Lab Qual	Result	Lab Qual	Result	Lab Qual	Result	Lab Qual	Result	Lab Qual	Result	Lab Qual
2,6-Dichlorophenol	ug/l			10	U			10	U			10	U			10	U			10	U			10	UJ
2,6-Dinitrotoluene	ug/l		0.049	10	U			10	U			10	U			10	U			10	U			10	UJ
2-Acetylaminofluorene (TIC)	ug/l		0.016	10	U			10	U			10	U			10	U			10	U			10	UJ
2-Chloronaphthalene	ug/l		750	10	U			10	U			10	U			10	U			10	U			10	UJ
2-Chlorophenol	ug/l		91	10	U			10	U			10	U			10	U			10	U			10	UJ
2-Methylnaphthalene	ug/l		**36**	10	U			10	U			10	U			10	U			10	U			10	UJ
2-Methylphenol	ug/l		930	10	U			10	U			10	U			10	U			10	U			10	UJ
2-Naphthylamine	ug/l		0.039	10	U			10	U			10	U			10	U			10	U			10	UJ
2-Nitroaniline	ug/l		190	25	U			25	U			25	U			25	U			25	U			25	UJ
2-Nitrophenol	ug/l			10	U			10	U			10	U			10	U			10	U			10	UJ
2-Picoline	ug/l			10	U			10	U			10	U			10	U			10	U			10	UJ
3&4-Methylphenol	ug/l			10	U			10	U			10	U			10	U			10	U			10	UJ
3,3'-Dichlorobenzidine	ug/l		0.13	10	U			10	U			10	U			10	U			10	U			10	UJ
3,3'-Dimethylbenzidine	ug/l		0.0065	10	U			10	U			10	U			10	U			10	U			10	UJ
3-Methylcholanthrene	ug/l		0.0011	10	U			10	U			10	U			10	U			10	U			10	UJ
3-Nitroaniline	ug/l			25	U			25	U			25	U			25	U			25	U			25	UJ
4,6-Dinitro-2-Methylphenol	ug/l		1.5	25	U			25	U			25	U			25	U			25	U			25	UJ
4-Aminobiphenyl	ug/l		0.003	10	U			10	U			10	U			10	U			10	U			10	UJ
4-Bromophenyl Phenyl Ether	ug/l			10	U			10	U			10	U			10	U			10	U			10	UJ
4-Chloro-3-Methylphenol	ug/l		1400	10	U			10	U			10	U			10	U			10	U			10	UJ
4-Chloroaniline	ug/l		0.37	10	U			10	U			10	U			10	U			10	U			10	UJ
4-Chlorophenyl Phenyl Ether	ug/l			10	U			10	U			10	U			10	U			10	U			10	UJ
4-Nitroaniline	ug/l		3.8	25	U			25	U			25	U			25	U			25	U			25	UJ
4-Nitrophenol	ug/l			25	U			25	U			25	U			25	U			25	U			25	UJ
5-Nitro-o-Toluidine	ug/l		8.2	10	U			10	U			10	U			10	U			10	U			10	UJ
7,12-Dimethylbenz(A)Anthracene	ug/l		0.0001	10	U			10	U			10	U			10	U			10	U			10	UJ
Acenaphthene	ug/l		530	10	U			10	U			10	U			10	U			10	U			10	UJ
Acenaphthylene	ug/l			10	U			10	U			10	U			10	U			10	U			10	UJ
Acetophenone	ug/l		1900	10	U			10	U			10	U			10	U			10	U			10	UJ
Aniline	ug/l		13	10	U			10	U			10	U			10	U			10	U			10	UJ
Anthracene	ug/l		1800	10	U			10	U			10	U			10	U			10	U			10	UJ
Benzenamine, N,N-Dimethyl-4-(Pehnylazo)-	ug/l		0.005	10	U			10	U			10	U			10	U			10	U			10	UJ
Benzeneethanamine, Alpha, Alpha-Dimethyl-	ug/l			10	U			10	U			10	U			10	U			10	U			10	UJ
Benzo(A)Anthracene	ug/l		0.03	10	U			10	U			10	U			10	U			10	U			10	UJ
Benzo(A)Pyrene	ug/l	0.2	0.025	10	U			10	U			10	U			10	U			10	U			10	UJ
Benzo(B)Fluoranthene	ug/l		0.25	10	U			10	U			10	U			10	U			10	U			10	UJ
Benzo(G,H,I)perylene	ug/l			10	U			10	U			10	U			10	U			10	U			10	UJ
Benzo(K)Fluoranthene	ug/l		2.5	10	U			10	U			10	U			10	U			10	U			10	UJ
Benzoic Acid	ug/l		75000	25	U			25	U			26	U			25	U			25	U			25	UJ
Benzyl Alcohol	ug/l		2000	10	U			10	U			10	U			10	U			10	U			10	UJ
bis-(2-Chloroethoxy)Methane	ug/l		59	10	U			10	U			10	U			10	U			10	U			10	UJ
bis-(2-Chloroethyl)Ether	ug/l		0.014	10	U			10	U			10	U			10	U			10	U			10	UJ
bis-(2-Ethylhexyl)Phthalate	ug/l	6	5.6	10	U			10	U			10	U			10	U			10	U			10	UJ
Butylbenzyl Phthalate	ug/l		16	10	U			10	U			10	U			10	U			10	U			10	UJ
Chlorobenzilate	ug/l		0.31	10	U			10	U			10	U			10	U			10	U			10	UJ
Chrysene	ug/l		25	10	U			10	U			10	U			10	U			10	U			10	UJ
Diallate	ug/l		0.54	10	U			10	U			10	U			10	U			10	U			10	UJ
Dibenzo(a,h)Anthracene	ug/l		0.025	10	U			10	U			10	U			10	U			10	U			10	UJ
Dibenzofuran	ug/l		7.9	10	U			10	U			10	U			10	U			10	U			10	UJ
Diethyl Phthalate	ug/l		15000	10	U			10	U			10	U			10	U			10	U			10	UJ
Dimethoate	ug/l		44	10	U			10	U			10	U			10	U			10	U			10	UJ
Dimethyl Phthalate	ug/l			10	U			10	U			10	U			10	U			10	U			10	UJ
Di-n-Butyl Phthalate	ug/l		900	10	U			10	U			10	U			10	U			10	U			10	UJ
Di-n-Octyl Phthalate	ug/l		200	10	U			10	U			10	U			10	U			10	U			10	UJ
Dinoseb	ug/l	7	15	10	U			10	U			10	U			10	U			10	U			10	UJ
Diphenylamine	ug/l			10	U			10	U			10	U			10	U			10	U			10	UJ
Disulfoton	ug/l		0.5	10	U			10	U			10	U			10	U			10	U			10	UJ
Ethane, Pentachloro-	ug/l		0.65	10	U			10	U			10	U			10	U			10	U			10	UJ
Ethyl Parathion	ug/l		86	10	U			10	U			10	U			10	U			10	U			10	UJ
Famphur	ug/l			10	UJ			10	U			10	UJ			10	UJ			10	UJ			10	UJ
Fluoranthene	ug/l		800	10	U			10	U			10	U			10	U			10	U			10	UJ
Fluorene	ug/l		290	10	U			10	U			10	U			10	U			10	U			10	UJ
Hexachlorobenzene	ug/l	1	0.0098	10	U			10	U			10	U			10	U			10	U			10	UJ
Hexachlorobutadiene	ug/l		0.14	10	U			10	U			10	U			10	U			10	U			10	UJ

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WSP Project No. 3482230886

			Location ID	MW-110		MW-110		MW-110		MW-111		MW-111		MW-111		MW-111		MW-111		MW-111		MW-113		MW-113	
			Sample ID	MW-110020603FD		MW-110071403		MW-110071403		MW-111020403		MW-111020403		MW-111071603		MW-111071603		MW-111071603FD		MW-111071603FD		MW-113020503		MW-113020503	
			Sample Date	2/6/2003		7/14/2003		7/14/2003		2/4/2003		2/4/2003		7/16/2003		7/16/2003		7/16/2003		7/16/2003		2/5/2003		2/5/2003	
			Fraction	T		D		T		D		T		D		T		D		T		D		T	
Parameter	Units	MAY 2023 RSL MCL	MAY 2023 RSL TAPW	Result	Lab Qual	Result	Lab Qual	Result	Lab Qual	Result	Lab Qual	Result	Lab Qual	Result	Lab Qual	Result	Lab Qual	Result	Lab Qual	Result	Lab Qual	Result	Lab Qual	Result	Lab Qual
Hexachlorocyclopentadiene	ug/l	50	0.41	10	U			10	U			10	U			10	U			10	U			10	UJ
Hexachloroethane	ug/l		0.33	10	U			10	U			10	U			10	U			10	U			10	UJ
Hexachlorophene	ug/l		6	80	U			80	R			83	U			81	R			80	R			80	UJ
Hexachloropropene	ug/l			10	U			10	U			10	U			10	U			10	U			10	UJ
Indeno(1,2,3-Cd)Pyrene	ug/l		0.25	10	U			10	U			10	U			10	U			10	U			10	UJ
Isodrin	ug/l			10	U			10	U			10	U			10	U			10	U			10	UJ
Isophorone	ug/l		78	10	U			10	U			10	U			10	U			10	U			10	UJ
Isosafrole	ug/l			10	U			10	U			10	U			10	U			10	U			10	UJ
Kepone	ug/l		0.0035	10	R			10	U			10	R			10	U			10	U			10	R
Methanesulfonic Acid, Ethyl Ester	ug/l			10	U			10	U			10	U			10	U			10	U			10	UJ
Methapyrilene	ug/l			10	U			10	U			10	U			10	U			10	U			10	UJ
Methyl Methanesulfonate	ug/l		0.79	10	U			10	U			10	U			10	U			10	U			10	UJ
Methyl Parathion	ug/l		4.5	10	U			10	U			10	U			10	U			10	U			10	UJ
Naphthalene	ug/l		**0.12**	10	U			10	U			10	U			10	U			10	U			10	UJ
Nitrobenzene	ug/l		0.14	10	U			10	U			10	U			10	U			10	U			10	UJ
n-Nitrosodiethylamine	ug/l		0.00017	10	U			10	U			10	U			10	U			10	U			10	UJ
n-Nitrosodimethylamine	ug/l		0.00011	10	U			10	U			10	U			10	U			10	U			10	UJ
n-Nitrosodi-n-Butylamine	ug/l		0.0027	10	U			10	U			10	U			10	U			10	U			10	UJ
n-Nitroso-di-n-Propylamine	ug/l		0.011	10	U			10	U			10	U			10	U			10	U			10	UJ
n-Nitrosodiphenylamine	ug/l		12	10	U			10	U			10	U			10	U			10	U			10	UJ
n-Nitrosomethylethylamine	ug/l		0.00071	10	U			10	U			10	U			10	U			10	U			10	UJ
n-Nitrosomorpholine	ug/l		0.012	10	U			10	U			10	U			10	U			10	U			10	UJ
n-Nitrosopiperidine	ug/l		0.0082	10	U			10	U			10	U			10	U			10	U			10	UJ
n-Nitrosopyrrolidine	ug/l		0.037	10	U			10	U			10	U			10	U			10	U			10	UJ
O,O,O-Triethyl Phosphorothioate	ug/l			10	U			10	U			10	U			10	U			10	U			10	UJ
o-Toluidine	ug/l		4.7	10	U			10	U			10	U			10	U			10	U			10	UJ
Pentachlorobenzene	ug/l		3.2	10	U			10	U			10	U			10	U			10	U			10	UJ
Pentachloronitrobenzene	ug/l		0.12	25	U			25	U			25	U			25	U			25	U			25	UJ
Pentachlorophenol	ug/l	1	0.041	25	U			25	U			25	U			25	U			25	U			25	UJ
Phenacetin	ug/l		34	10	U			10	U			10	U			10	U			10	U			10	UJ
Phenanthrene	ug/l			10	U			10	U			10	U			10	U			10	U			10	UJ
Phenol	ug/l		5800	10	U			10	U			10	U			10	U			10	U			10	UJ
Phorate	ug/l		3	10	U			10	U			10	U			10	U			10	U			10	UJ
p-Phenylenediamine	ug/l		20	10	U			10	U			10	U			10	U			10	U			10	UJ
Pronamide	ug/l		1200	10	U			10	U			10	U			10	U			10	U			10	UJ
Pyrene	ug/l		120	10	U			10	U			10	U			10	U			10	U			10	UJ
Pyridine	ug/l		20	10	U			10	U			10	U			10	U			10	U			10	UJ
Quinoline, 4-Nitro-1-Oxide-	ug/l			10	R			10	R			10	R			10	R			10	R			10	R
Safrole	ug/l		0.096	10	U			10	U			10	U			10	U			10	U			10	UJ
Thionazine	ug/l			10	U			10	U			10	U			10	U			10	U			10	UJ
Thiopyrophosphoric Acid ([(Ho)2P(S)]2O), Tetraethyl	ug/l		7.1	10	U			10	U			10	U			10	U			10	U			10	UJ
Total Aramite	ug/l		1.3	10	U			10	U			10	U			10	U			10	U			10	UJ
Cyanide, Total	ug/l	**200**	**1.5**	5	U			5	U			**9.7**				1.3				**10**				**350**	

Notes:
Exceeds the U.S. Environmental Protection Agency (EPA) Regional Screening Level (RSL), Maximum Contaminant Level (MCL) (May 2023)
Exceeds the EPA Tapwater RSL
Blanks indicate RSL not established or sample not analyzed for that constituent
RSLs assume target cancer risk (TR) of 1E-06 and target hazard quotient (THQ) of 1.0
U = undetected
J = estimated value
J+ = estimated biased high
J- = estimated biased low
R = rejected
ug/L = micrograms per liter
FD = Duplicate sample
Exceedances shown may exceed one or more criteria if available
T = Total
D = Dissolved

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Table 2. 2003 Groundwater Analytical Results
SWMU 9 and South Plant South Parcel
Corrective Measures Study
Honeywell Delaware Valley Works
Claymont, Delaware
WSP Project No. 3482230886

			Location ID	MW-113		MW-113		SM09-GW01		SM09-GW01	
			Sample ID	MW-113071403		MW-113071403		SM09-GW010604031		SM09-GW010604031	
			Sample Date	7/14/2003		7/14/2003		6/4/2003		6/4/2003	
			Fraction	D		T		T		D	
Parameter	Units	MAY 2023 RSL MCL	MAY 2023 RSL TAPW	Result	Lab Qual.	Result	Lab Qual.	Result	Lab Qual.	Result	Lab Qual.
Metals											
Aluminum	ug/l		**20000**					**37400**		87.2	B
Antimony	ug/l	**6**	**7.8**	**20**		**20**		15.7	B	5.8	B
Arsenic	ug/l	**10**	**0.052**	**1000**		**970**		**174**		**22.5**	
Barium	ug/l	2000	3800	10	J	10	J	926		18.1	B
Beryllium	ug/l	**4**	25	1.9	B	1.9	B	3.5	B	0.3	U
Boron	ug/l		4000					522		671	
Cadmium	ug/l	**5**	**1.8**	**9.3**		**9.2**		**7.9**		0.6	B
Calcium	ug/l							701000		522000	
Chromium	ug/l	**100**		1.2	B	4.2	J	54.8		2.9	B
Cobalt	ug/l		**6**	**90**		**90**		**57.6**		8.2	B
Copper	ug/l	**1300**	**800**	10		40		156		2.5	B
Iron	ug/l		**14000**					**67700**		29.9	U
Lead	ug/l	**15**	**15**	10		**20**		**665**		1.4	U
Magnesium	ug/l							1130000		1010000	
Manganese	ug/l		**430**					**3110**		**2230**	
Nickel	ug/l		**390**	10	J	20		171		14.2	B
Potassium	ug/l							53100		70000	
Selenium	ug/l	50	100	1.8	U	1.8	U	31.1		22.4	
Silver	ug/l		94	0.3	U	0.3	U	3.3	B	1.7	U
Sodium	ug/l							724000		728000	
Thallium	ug/l	**2**	**0.2**	0	R	0	R	3.6	U	3.6	U
Tin	ug/l		12000	6.9	J	4.9	J				
Vanadium	ug/l		**86**	10		10		49.2	B	3.1	B
Zinc	ug/l		**6000**	100		150		**7790**		79.8	
Mercury	ug/l	**2**	**0.63**	0.2	UL	0.2	U	0.5		0.1	U
Pesticides											
4,4'-DDD	ug/l		**0.032**			**0.72**	**L**				
4,4'-DDE	ug/l		**0.046**			**0.07**	**L**				
4,4'-DDT	ug/l		**0.23**			0.16	L				
Aldrin	ug/l		**0.00092**			0.05	UL				
Alpha-BHC	ug/l		**0.0072**			**0.41**	**L**				
Beta-BHC	ug/l		**0.025**			0.09	R				
Chlordane	ug/l					0.51	UL				
cis-Chlordane	ug/l		3.6			0.1	UL				
Delta-BHC	ug/l					0.07	R				
Dieldrin	ug/l		0.0018			0.1	UL				
Endosulfan I	ug/l					0.05	UL				
Endosulfan II	ug/l					0.1	UL				
Endosulfan Sulfate	ug/l		110			0.1	UL				
Endrin	ug/l	2	2.3			0.1	UL				
Endrin Aldehyde	ug/l					0.1	UL				
Endrin Ketone	ug/l					0.1	UL				
Gamma-BHC (Lindane)	ug/l	0.2	**0.042**			**0.05**	**L**				
Heptachlor	ug/l	0.4	0.0014			0.05	UL				
Heptachlor Epoxide	ug/l	**0.2**	**0.0014**			0.05	UL				
Methoxychlor	ug/l	40	37			0.51	UL				
Toxaphene	ug/l	3	0.071			1.04	UL				
trans-Chlordane	ug/l		10			0.1	UL				
Herbicides											
2,4,5-T	ug/l		160			0.08	UJ				
2,4,5-TP (Silvex)	ug/l	50	110			0.08	UJ				
2,4-D	ug/l	70	170			0.11	R				
Volatile Organic Compounds											
1,1,1,2-Tetrachloroethane	ug/l		0.57			5	U				
1,1,1-Trichloroethane	ug/l	200	8000			5	U				
1,1,2,2-Tetrachloroethane	ug/l		0.076			5	U				
1,1,2-Trichloroethane	ug/l	5	0.28			5	U				
1,1-Dichloroethane	ug/l		**2.8**			**5**	**J**				
1,1-Dichloroethene	ug/l	7	280			5	J				
1,2,3-Trichloropropane	ug/l		0.00075			5	U				
1,2-Dibromo-3-Chloropropane	ug/l	0.2	0.00033			5	U				
1,2-Dibromoethane	ug/l	0.05	0.0075			5	U				
1,2-Dichloroethane	ug/l	5	**0.17**			**5**	**J**				

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Table 2. 2003 Groundwater Analytical Results
SWMU 9 and South Plant South Parcel
Corrective Measures Study
Honeywell Delaware Valley Works
Claymont, Delaware
WSP Project No. 3482230886

			Location ID	MW-113		MW-113		SM09-GW01		SM09-GW01	
			Sample ID	MW-113071403		MW-113071403		SM09-GW010604031		SM09-GW010604031	
			Sample Date	7/14/2003		7/14/2003		6/4/2003		6/4/2003	
			Fraction	D		T		T		D	
Parameter	Units	MAY 2023 RSL MCL	MAY 2023 RSL TAPW	Result	Lab Qual.	Result	Lab Qual.	Result	Lab Qual.	Result	Lab Qual.
1,2-Dichloropropane	ug/l	5	0.85			5	U				
1,4-Dioxane	ug/l		0.46			100	R				
2-Butanone	ug/l		5600			10	U				
2-Hexanone	ug/l		38			10	U				
4-Methyl-2-Pentanone	ug/l		6300			10	U				
Acetone	ug/l		18000			10	U				
Acetonitrile	ug/l		130			50	R				
Acrolein	ug/l		0.042			50	R				
Acrylonitrile	ug/l		0.052			10	U				
Allyl Chloride	ug/l		0.73			5	U				
Benzene	ug/l	**5**	**0.46**			**2**	**J**				
Bromodichloromethane	ug/l	80	0.13			5	U				
Bromoform	ug/l	80	3.3			5	U				
Bromomethane	ug/l		7.5			5	U				
Carbon Disulfide	ug/l		810			5	U				
Carbon Tetrachloride	ug/l	5	0.46			5	U				
Chlorobenzene	ug/l	100	78			4	J				
Chloroethane	ug/l		8300			5	U				
Chloroform	ug/l	80	**0.22**			5	U				
Chloromethane	ug/l		190			5	U				
Chloroprene	ug/l		0.019			5	U				
cis-1,2-Dichloroethene	ug/l	70	36			5	U				
cis-1,3-Dichloropropene	ug/l					5	U				
Dibromochloromethane	ug/l	80	0.87			5	U				
Dibromomethane	ug/l		8.3			5	U				
Dichlorodifluoromethane	ug/l		200			5	U				
Ethyl Cyanide	ug/l					10	U				
Ethyl Methacrylate	ug/l		630			5	U				
Ethylbenzene	ug/l	700	**1.5**			5	U				
Iodomethane	ug/l					25	U				
Isobutanol	ug/l		5900			5	R				
m&p-Xylenes	ug/l					10	U				
Methacrylonitrile	ug/l		1.9			5	U				
Methyl Methacrylate	ug/l		1400			5	U				
Methylene Chloride	ug/l	**5**	**11**			5	U				
o-Xylene	ug/l		190			5	U				
Styrene	ug/l	100	1200			5	U				
Tetrachloroethene	ug/l	5	11			5	U				
Toluene	ug/l	1000	1100			5	U				
trans-1,2-Dichloroethene	ug/l	100	68			5	U				
trans-1,3-Dichloropropene	ug/l					5	U				
trans-1,4-Dichloro-2-Butene	ug/l		0.0013			5	U				
Trichloroethene	ug/l	5	0.49			5	U				
Trichlorofluoromethane	ug/l		5200			5	U				
Vinyl Acetate	ug/l		410			5	U				
Vinyl Chloride	ug/l	**2**	**0.019**			**5**	**J**				
Semi-Volatile Organic Compounds											
1,2,4,5-Tetrachlorobenzene	ug/l		0.17			10	U				
1,2,4-Trichlorobenzene	ug/l	70	1.2			10	U				
1,2-Dichlorobenzene	ug/l	600	300			10	U				
1,3,5-Trinitrobenzene	ug/l		590			10	U				
1,3-Dichlorobenzene	ug/l					10	U				
1,3-Dinitrobenzene	ug/l		2			10	U				
1,4-Dichlorobenzene	ug/l	75	0.48			10	U				
1,4-Naphthoquinone	ug/l					10	U				
1-Naphthylamine	ug/l					10	U				
2,2'-Oxybis(1-Chloropropane)	ug/l		710			10	U				
2,3,4,6-Tetrachlorophenol	ug/l		240			10	U				
2,4,5-Trichlorophenol	ug/l		1200			25	U				
2,4,6-Trichlorophenol	ug/l		4.1			10	U				
2,4-Dichlorophenol	ug/l		46			10	U				
2,4-Dimethylphenol	ug/l		360			10	U				
2,4-Dinitrophenol	ug/l		39			25	UJ				
2,4-Dinitrotoluene	ug/l		0.24			10	U				

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SWMU 9 and South Plant South Parcel
Corrective Measures Study
Honeywell Delaware Valley Works
Claymont, Delaware
WSP Project No. 3482230886

			Location ID	MW-113		MW-113		SM09-GW01		SM09-GW01	
			Sample ID	MW-113071403		MW-113071403		SM09-GW010604031		SM09-GW010604031	
			Sample Date	7/14/2003		7/14/2003		6/4/2003		6/4/2003	
			Fraction	D		T		T		D	
Parameter	Units	MAY 2023 RSL MCL	MAY 2023 RSL TAPW	Result	Lab Qual.	Result	Lab Qual.	Result	Lab Qual.	Result	Lab Qual.
2,6-Dichlorophenol	ug/l					10	U				
2,6-Dinitrotoluene	ug/l		0.049			10	U				
2-Acetylaminofluorene (TIC)	ug/l		0.016			10	U				
2-Chloronaphthalene	ug/l		750			10	U				
2-Chlorophenol	ug/l		91			10	U				
2-Methylnaphthalene	ug/l		**36**			10	U				
2-Methylphenol	ug/l		930			10	U				
2-Naphthylamine	ug/l		0.039			10	U				
2-Nitroaniline	ug/l		190			25	U				
2-Nitrophenol	ug/l					10	U				
2-Picoline	ug/l					10	U				
3&4-Methylphenol	ug/l					10	U				
3,3'-Dichlorobenzidine	ug/l		0.13			10	U				
3,3'-Dimethylbenzidine	ug/l		0.0065			10	UJ				
3-Methylcholanthrene	ug/l		0.0011			10	U				
3-Nitroaniline	ug/l					25	U				
4,6-Dinitro-2-Methylphenol	ug/l		1.5			25	U				
4-Aminobiphenyl	ug/l		0.003			10	U				
4-Bromophenyl Phenyl Ether	ug/l					10	U				
4-Chloro-3-Methylphenol	ug/l		1400			10	U				
4-Chloroaniline	ug/l		0.37			10	U				
4-Chlorophenyl Phenyl Ether	ug/l					10	U				
4-Nitroaniline	ug/l		3.8			25	U				
4-Nitrophenol	ug/l					25	U				
5-Nitro-o-Toluidine	ug/l		8.2			10	U				
7,12-Dimethylbenz(A)Anthracene	ug/l		0.0001			10	U				
Acenaphthene	ug/l		530			10	U				
Acenaphthylene	ug/l					10	U				
Acetophenone	ug/l		1900			10	U				
Aniline	ug/l		13			10	U				
Anthracene	ug/l		1800			10	U				
Benzenamine, N,N-Dimethyl-4-(Pehnylazo)-	ug/l		0.005			10	U				
Benzeneethanamine, Alpha, Alpha-Dimethyl-	ug/l					10	U				
Benzo(A)Anthracene	ug/l		0.03			10	U				
Benzo(A)Pyrene	ug/l	0.2	0.025			10	U				
Benzo(B)Fluoranthene	ug/l		0.25			10	U				
Benzo(G,H,I)perylene	ug/l					10	U				
Benzo(K)Fluoranthene	ug/l		2.5			10	U				
Benzoic Acid	ug/l		75000			25	U				
Benzyl Alcohol	ug/l		2000			10	U				
bis-(2-Chloroethoxy)Methane	ug/l		59			10	U				
bis-(2-Chloroethyl)Ether	ug/l		0.014			10	U				
bis-(2-Ethylhexyl)Phthalate	ug/l	6	5.6			10	U				
Butylbenzyl Phthalate	ug/l		16			10	U				
Chlorobenzilate	ug/l		0.31			10	U				
Chrysene	ug/l		25			10	U				
Diallate	ug/l		0.54			10	U				
Dibenzo(a,h)Anthracene	ug/l		0.025			10	U				
Dibenzofuran	ug/l		7.9			10	U				
Diethyl Phthalate	ug/l		15000			10	U				
Dimethoate	ug/l		44			10	U				
Dimethyl Phthalate	ug/l					10	U				
Di-n-Butyl Phthalate	ug/l		900			10	U				
Di-n-Octyl Phthalate	ug/l		200			10	U				
Dinoseb	ug/l	7	15			10	U				
Diphenylamine	ug/l					10	U				
Disulfoton	ug/l		0.5			10	U				
Ethane, Pentachloro-	ug/l		0.65			10	U				
Ethyl Parathion	ug/l		86			10	U				
Famphur	ug/l					10	U				
Fluoranthene	ug/l		800			10	U				
Fluorene	ug/l		290			10	U				
Hexachlorobenzene	ug/l	1	0.0098			10	U				
Hexachlorobutadiene	ug/l		0.14			10	U				

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Table 2. 2003 Groundwater Analytical Results
SWMU 9 and South Plant South Parcel
Corrective Measures Study
Honeywell Delaware Valley Works
Claymont, Delaware
WSP Project No. 3482230886

			Location ID	MW-113		MW-113		SM09-GW01		SM09-GW01	
			Sample ID	MW-113071403		MW-113071403		SM09-GW010604031		SM09-GW010604031	
			Sample Date	7/14/2003		7/14/2003		6/4/2003		6/4/2003	
			Fraction	D		T		T		D	
Parameter	Units	MAY 2023 RSL MCL	MAY 2023 RSL TAPW	Result	Lab Qual.	Result	Lab Qual.	Result	Lab Qual.	Result	Lab Qual.
Hexachlorocyclopentadiene	ug/l	50	0.41			10	U				
Hexachloroethane	ug/l		0.33			10	U				
Hexachlorophene	ug/l		6			82	R				
Hexachloropropene	ug/l					10	U				
Indeno(1,2,3-Cd)Pyrene	ug/l		0.25			10	U				
Isodrin	ug/l					10	U				
Isophorone	ug/l		78			10	U				
Isosafrole	ug/l					10	U				
Kepone	ug/l		0.0035			10	U				
Methanesulfonic Acid, Ethyl Ester	ug/l					10	U				
Methapyrilene	ug/l					10	U				
Methyl Methanesulfonate	ug/l		0.79			10	U				
Methyl Parathion	ug/l		4.5			10	U				
Naphthalene	ug/l		**0.12**			10	U				
Nitrobenzene	ug/l		0.14			10	U				
n-Nitrosodiethylamine	ug/l		0.00017			10	U				
n-Nitrosodimethylamine	ug/l		0.00011			10	U				
n-Nitrosodi-n-Butylamine	ug/l		0.0027			10	U				
n-Nitroso-di-n-Propylamine	ug/l		0.011			10	U				
n-Nitrosodiphenylamine	ug/l		12			10	U				
n-Nitrosomethylethylamine	ug/l		0.00071			10	U				
n-Nitrosomorpholine	ug/l		0.012			10	U				
n-Nitrosopiperidine	ug/l		0.0082			10	U				
n-Nitrosopyrrolidine	ug/l		0.037			10	U				
O,O,O-Triethyl Phosphorothioate	ug/l					10	U				
o-Toluidine	ug/l		4.7			10	U				
Pentachlorobenzene	ug/l		3.2			10	U				
Pentachloronitrobenzene	ug/l		0.12			25	U				
Pentachlorophenol	ug/l	1	0.041			25	U				
Phenacetin	ug/l		34			10	U				
Phenanthrene	ug/l					10	U				
Phenol	ug/l		5800			10	U				
Phorate	ug/l		3			10	U				
p-Phenylenediamine	ug/l		20			10	UJ				
Pronamide	ug/l		1200			10	U				
Pyrene	ug/l		120			10	U				
Pyridine	ug/l		20			10	U				
Quinoline, 4-Nitro-1-Oxide-	ug/l					10	R				
Safrole	ug/l		0.096			10	U				
Thionazine	ug/l					10	U				
Thiopyrophosphoric Acid ([(Ho)2P(S)]2O), Tetraethyl	ug/l		7.1			10	U				
Total Aramite	ug/l		1.3			10	U				
Cyanide, Total	ug/l	**200**	**1.5**			**1000**					

Notes:
Exceeds the U.S. Environmental Protection Agency (EPA) Regional Screening Level (RSL), Maximum Contaminant Level (MCL) (May 2023)
Exceeds the EPA Tapwater RSL
Blanks indicate RSL not established or sample not analyzed for that constituent
RSLs assume target cancer risk (TR) of 1E-06 and target hazard quotient (THQ) of 1.0
U = undetected
J = estimated value
J+ = estimated biased high
J- = estimated biased low
R = rejected
ug/L = micrograms per liter
FD = Duplicate sample
Exceedances shown may exceed one or more criteria if available
T = Total
D = Dissolved

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Checked By: KH 3/8/22

Table 3. 2004 Groundwater Analytical Results
South Plant South Parcel
Corrective Measures Study
Honeywell Delaware Valley Works
Claymont, Delaware
WSP Project No. 3482230886

			Location ID	MW-113		MW-113	
			Sample ID	37982-0034-04		37982-0034-05	
			Sample Date	12/21/2004		12/21/2004	
			Fraction	T		D	
Parameter	Units	MAY 2023 RSL MCL	MAY 2023 RSL TAPW	Result	Lab Qual.	Result	Lab Qual.
Metals							
Aluminum	ug/l		20000	10700		9970	J
Antimony	ug/l	6	7.8	0.24	B	0.14	B
Arsenic	ug/l	**10**	**0.052**	**1280**		**1250**	
Barium	ug/l	2000	3800	11.1	L	11	L
Beryllium	ug/l	4	25	2.3	J	0.0022	B
Cadmium	ug/l	5	1.8	0.0092	J	0.0038	U
Calcium	ug/l			497000	J	459000	J
Chromium	ug/l	100		2.5	UL	0.0025	UL
Cobalt	ug/l		**6**	**112**	**J**	**102**	**K**
Copper	ug/l	1300	800	6	J	0.0066	J
Iron	ug/l		**14000**	**452000**		**404000**	
Lead	ug/l	15	15	10	UL	10	UL
Magnesium	ug/l			286000	J	261000	J
Manganese	ug/l		**430**	**6110**	**J**	**5800**	**J**
Nickel	ug/l		390	23.7	J	23	J
Potassium	ug/l			44400	J	40000	
Selenium	ug/l	50	100	5.9	U	10.8	L
Silver	ug/l		94	2	UJ	2	U
Sodium	ug/l			409000		442000	
Thallium	ug/l	2	0.2	0.12	U	0.12	U
Vanadium	ug/l		86	1.6	U	25.4	J
Zinc	ug/l		6000	88.8	J	87.3	
Mercury	ug/l	2	0.63	0.061	B	0.066	B
Pesticides							
4,4'-DDD	ug/l		**0.032**	**0.66**			
4,4'-DDE	ug/l		**0.046**	**0.11**	**J**		
4,4'-DDT	ug/l		**0.23**	**0.29**			
Aldrin	ug/l		**0.00092**	**0.015**			
Alpha-BHC	ug/l		**0.0072**	**0.56**			
Beta-BHC	ug/l		**0.025**	**0.08**	**J**		
cis-Chlordane	ug/l		3.6	0.0024	U		
Delta-BHC	ug/l			0.045	J		
Dieldrin	ug/l		0.0018	0.0039	U		
Endosulfan I	ug/l			0.0039	U		
Endosulfan II	ug/l			0.018	J		
Endosulfan Sulfate	ug/l		110	0.0041	U		
Endrin	ug/l	2	2.3	0.031	J		
Endrin Aldehyde	ug/l			0.02	U		
Endrin Ketone	ug/l			0.0039	U		
Gamma-BHC (Lindane)	ug/l	0.2	0.042	0.023	J		
Heptachlor	ug/l	0.4	0.0014	0.002	U		
Heptachlor Epoxide	ug/l	0.2	0.0014	0.0032	U		
Kepone	ug/l		0.0035	1	UJ		
Methoxychlor	ug/l	40	37	0.03	U		
Toxaphene	ug/l	3	0.071	0.3	U		
trans-Chlordane	ug/l		10	0.022	U		
General Chemistry							
Alkalinity to pH 4.5	ug/l			80600			
Alkalinity to pH 8.3	ug/l			410	U		
Chloride	ug/l			44400			
Nitrogen, Nitrate	ug/l	10000	32000	40	UL		
Nitrogen, Nitrite	ug/l	1000	2000	160			
Sulfate	ug/l			4310000			

Notes:
Exceeds the U.S. Environmental Protection Agency (EPA) Regional Screening Level (RSL), Maximum Contaminant Level (MCL) (May 2023)
Exceeds the EPA Tapwater RSL
Blanks indicate RSL not established or sample not analyzed for that constituent
RSLs assume target cancer risk (TR) of 1E-06 and target hazard quotient (THQ) of 1.0
U = undetected
J = estimated value
J+ = estimated biased high
J- = estimated biased low
R = rejected
ug/L = micrograms per liter
Exceedances shown may exceed one or more criteria if available
T = Total
D = Dissolved

Created By: DP 2/8/22
Checked By: KH 3/8/22

Table 4. 2006 Groundwater Analytical Results
South Plant South Parcel
Corrective Measures Study
Honeywell Delaware Valley Works
Claymont, Delaware
WSP Project No. 3482230886

				Location ID	SWMU1-HP-01		SWMU1-HP-01		SWMU1-HP-02		SWMU1-HP-02		SWMU1-HP-02		SWMU1-HP-02		W106-HP-02		W106-HP-02		W106-HP-03		W106-HP-03		W106-HP-03	
				Sample ID	SWMU1-HP01_121406		SWMU1-HP01_121406		SWMU1-HP02_121406		SWMU1-HP02_121406		SWMU1-HP02D_121406		SWMU1-HP02D_12140		W106-HP-02		W106-HP02_121406		W106-HP03_121406		W106-HP03_121406		W106-HP03D_121406	
				Sample Date	12/14/2006		12/14/2006		12/14/2006		12/14/2006		12/14/2006		12/14/2006		12/14/2006		12/14/2006		12/14/2006		12/14/2006		12/14/2006	
				Fraction	T		D		T		D		T		D		T		D		T		D		T	
Parameter	Units	MAY 2023 RSL MCL	MAY 2023 RSL TAPW		Result	Lab Qual.	Result	Lab Qual.	Result	Lab Qual.	Result	Lab Qual.	Result	Lab Qual.	Result	Lab Qual.	Result	Lab Qual.	Result	Lab Qual.	Result	Lab Qual.	Result	Lab Qual.	Result	Lab Qual.
Metals																										
Aluminum	ug/l		**20000**		**58400**		217		6820		80.2	U	5540		80.2	U	8120		5830	K	19800		4100		14600	
Antimony	ug/l	**6**	**7.8**		**31.3**	**K**	**12.2**	**B**	9.7	U	9.7	U	9.7	U	9.7	U	9.7	U	48.3	U	9.7	U	9.7	U	9.7	U
Arsenic	ug/l	**10**	**0.052**		**7440**	**J**	**9050**		**4250**	**J**	**3820**		**4280**	**J**	**3780**		**81100**	**L**	**79100**	**L**	**65700**	**L**	**66400**	**L**	**65600**	**L**
Barium	ug/l	2000	3800		358	L	9.1		77	L	1.9	J	47.9	L	2.4	J	16.7	L	14.1	J	178	L	7.2		147	L
Beryllium	ug/l	**4**	**25**		2.3	K	0.94	U	0.94	U	0.94	U	0.94	U	0.94	U	1.3	K	4.7	U	1.3	K	0.94	U	0.96	K
Cadmium	ug/l	**5**	**1.8**		0.91	U	0.91	U	0.91	U	0.91	U	0.91	U	0.91	U	**12.1**	**L**	**15.2**	**K**	0.91	UL	0.91	U	0.91	UL
Calcium	ug/l				75400		47600		55500		48500		59700		50000		433000		413000		486000		449000		465000	
Chromium	ug/l	**100**			**110**	**K**	6.9	J	**229**	**K**	2.3	U	**194**	**K**	2.3	U	3.2	K	11.5	UL	32	K	2.3	U	19.6	K
Cobalt	ug/l		**6**		**67.1**	**K**	2.1	U	**6.3**	**K**	2.1	U	4.4	K	2.1	U	**714**	**K**	**725**	**L**	**68.5**	**K**	**64**		**58.4**	**K**
Copper	ug/l	**1300**	**800**		**849**	**K**	2.2	U	106	K	2.2	U	59	K	2.2	U	19.8	K	8.7	K	538	K	5.6	K	391	K
Iron	ug/l		**14000**		**61700**		171	B	**28900**		3080		**20500**		3130		**1320000**		**1340000**		**769000**		**757000**		**754000**	
Lead	ug/l	**15**	**15**		**808**	**J**	6.9	U	**59.6**	**J**	6.9	U	**37.9**	**J**	6.9	U	12.1	K	34.3	U	**337**	**K**	6.9	U	**274**	**K**
Magnesium	ug/l				16900		10400		10800		9700		11300		9720		223000		217000		344000		334000		338000	
Manganese	ug/l		**430**		**1240**	**K**	239		399	K	249		397	K	251		**6400**	**K**	**6700**	**K**	**2020**	**K**	**1810**	**K**	**1800**	**K**
Nickel	ug/l		**390**		58	K	7.8	J	74.5	K	15.7		64.7	K	16.3		114	K	117		33.3	K	24.8	K	27.8	K
Potassium	ug/l				43800	J	41500	J	21300	J	18800	J	22100	J	18200	J	14600	J	14100	J	39000	J	37000	J	38600	J
Selenium	ug/l	**50**	100		9.4	U	9.4	UL	9.4	U	9.4	UL	9.4	U	9.4	UL	9.4	U	46.9	UL	25.1	K	27.7	L	22.4	K
Silver	ug/l		94		2.7	J	1.6	U	1.6	U	1.6	U	1.6	U	1.6	U	1.6	U	8	U	1.6	U	1.6	U	1.6	U
Sodium	ug/l				2880000		2980000		1610000		1600000		1510000		1570000		284000	K	267000	K	207000	K	207000	K	205000	K
Thallium	ug/l	**2**	**0.2**		13.5	U	13.5	U	13.5	U	13.5	U	13.5	U	13.5	U	13.5	U	67.5	U	13.5	U	13.5	U	13.5	U
Vanadium	ug/l		**86**		**138**	**K**	24.1		29	K	3.2	J	29.8	K	4.6	J	15	UL	39.6	L	23.1	K	1.5	U	7.9	K
Zinc	ug/l		**6000**		483	K	8.1	U	306	K	8.1	U	238	K	8.1	U	4330	K	4280	K	1090	K	428	K	617	K
Mercury	ug/l	**2**	**0.63**		**5.9**		0.28	U	0.15	J	0.056	U	0.19	J	0.056	U	0.28	U	0.28	U	**1.4**		0.28	U	**1.1**	
Pesticides																										
4,4'-DDD	ug/l		**0.032**														0.019	U			**0.99**	**J**			**0.48**	**J**
4,4'-DDE	ug/l		**0.046**														0.024	U			**0.2**				**0.1**	
4,4'-DDT	ug/l		**0.23**														0.029	U			**0.91**				**0.48**	
Aldrin	ug/l		0.00092														0.019	U			0.019	U			0.0038	U
Alpha-BHC	ug/l		**0.0072**														**0.052**				**0.08**				**0.042**	
Beta-BHC	ug/l		**0.025**														0.038	U			0.038	U			0.022	J
cis-Chlordane	ug/l		3.6														0.014	U			0.014	U			0.0029	U
Delta-BHC	ug/l																0.038	U			0.038	U			0.03	
Dieldrin	ug/l		**0.0018**														0.019	U			**0.024**	**J**			**0.037**	
Endosulfan I	ug/l																0.014	U			0.014	U			0.0029	U
Endosulfan II	ug/l																0.019	U			0.019	U			0.0038	U
Endosulfan Sulfate	ug/l		110														0.057	U			0.058	U			0.011	U
Endrin	ug/l	2	2.3														0.019	U			0.019	U			0.0038	U
Endrin Aldehyde	ug/l																0.096	U			0.096	U			0.019	U
Endrin Ketone	ug/l																0.062	U			0.063	U			0.012	U
Gamma-BHC (Lindane)	ug/l	**0.2**	**0.042**														0.0096	U			0.0096	U			0.0019	U
Heptachlor	ug/l	0.4	**0.0014**														0.014	U			0.014	U			0.0029	U
Heptachlor Epoxide	ug/l	0.2	**0.0014**														0.038	U			0.038	U			0.0076	U
Methoxychlor	ug/l	40	37														0.14	U			0.14	U			0.029	U
Toxaphene	ug/l	3	0.071														1.4	U			1.4	U			0.29	U
trans-Chlordane	ug/l		10														0.014	U			0.014	U			0.0029	U
Volatile Organic Compounds																										
1,1,1-Trichloroethane	ug/l	200	8000														0.8	U			0.8	U			0.8	U
1,1,2,2-Tetrachloroethane	ug/l		0.076														1	U			1	U			1	U
1,1,2-Trichloro-1,2,2-Trifluoroethane	ug/l		10000														2	U			2	U			2	U
1,1,2-Trichloroethane	ug/l	5	0.28														0.8	U			0.8	U			0.8	U
1,1-Dichloroethane	ug/l		2.8														1	U			1	U			1	U
1,1-Dichloroethene	ug/l	7	280														0.8	U			0.8	U			0.8	U
1,2,4-Trichlorobenzene	ug/l	70	1.2														1	U			1	U			1	U
1,2-Dibromo-3-Chloropropane	ug/l	0.2	0.00033														2	U			2	U			2	U
1,2-Dibromoethane	ug/l	0.05	0.0075														1	U			1	U			1	U
1,2-Dichlorobenzene	ug/l	600	300														1	U			1	U			1	U
1,2-Dichloroethane	ug/l	5	**0.17**														1	U			1	U			1	U
1,2-Dichloropropane	ug/l	**5**	**0.85**														1	U			1	U			1	U
1,3-Dichlorobenzene	ug/l																1	U			1	U			1	U
1,4-Dichlorobenzene	ug/l	75	**0.48**														1	U			1	U			1	U
2-Butanone	ug/l		5600														3	U			3	U			3	U
2-Hexanone	ug/l		38														3	U			3	U			3	U
4-Methyl-2-Pentanone	ug/l		6300														3	U			3	U			3	U

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Checked By: KH 3/8/22

Table 4. 2006 Groundwater Analytical Results
South Plant South Parcel
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Claymont, Delaware
WSP Project No. 3482230886

			Location ID	SWMU1-HP-01		SWMU1-HP-01		SWMU1-HP-02		SWMU1-HP-02		SWMU1-HP-02		SWMU1-HP-02		W106-HP-02		W106-HP-02		W106-HP-03		W106-HP-03		W106-HP-03	
			Sample ID	SWMU1-HP01_121406		SWMU1-HP01_121406		SWMU1-HP02_121406		SWMU1-HP02_121406		SWMU1-HP02D_121406		SWMU1-HP02D_121406		W106-HP02_121406		W106-HP02_121406		W106-HP03_121406		W106-HP03_121406		W106-HP03D_121406	
			Sample Date	12/14/2006		12/14/2006		12/14/2006		12/14/2006		12/14/2006		12/14/2006		12/14/2006		12/14/2006		12/14/2006		12/14/2006		12/14/2006	
			Fraction	T		D		T		D		T		D		T		D		T		D		T	
Parameter	Units	MAY 2023 RSL MCL	MAY 2023 RSL TAPW	Result	Lab Qual.	Result	Lab Qual.	Result	Lab Qual.	Result	Lab Qual.	Result	Lab Qual.	Result	Lab Qual.	Result	Lab Qual.	Result	Lab Qual.	Result	Lab Qual.	Result	Lab Qual.	Result	Lab Qual.
Acetone	ug/l		18000													6	U			6	U			6	U
Acetonitrile	ug/l		130													25	U			25	U			25	U
Benzene	ug/l	**5**	**0.46**													0.5	U			0.5	U			0.5	U
Bromodichloromethane	ug/l	80	0.13													1	U			1	U			1	U
Bromoform	ug/l	80	3.3													1	U			1	U			1	U
Bromomethane	ug/l		7.5													1	U			1	U			1	U
Carbon Disulfide	ug/l		810													1	U			1	U			1	U
Carbon Tetrachloride	ug/l	5	0.46													1	U			1	U			1	U
Chlorobenzene	ug/l	100	78													0.8	U			0.8	U			0.8	U
Chloroethane	ug/l		8300													1	U			1	U			1	U
Chloroform	ug/l	80	**0.22**													0.8	U			0.8	U			0.8	U
Chloromethane	ug/l		190													1	U			1	U			1	U
cis-1,2-Dichloroethene	ug/l	70	36													0.8	U			0.8	U			0.8	U
cis-1,3-Dichloropropene	ug/l															1	U			1	U			1	U
Cyclohexane	ug/l		13000													2	U			2	U			2	U
Dibromochloromethane	ug/l	80	0.87													1	U			1	U			1	U
Dichlorodifluoromethane	ug/l		200													2	U			2	U			2	U
Ethylbenzene	ug/l	700	**1.5**													0.8	U			0.8	U			0.8	U
Isopropylbenzene	ug/l		450													1	U			1	U			1	U
Methyl Acetate	ug/l		20000													1	U			1	U			1	U
Methyl Tert-Butyl Ether	ug/l		14													0.5	U			0.5	U			0.5	U
Methylcyclohexane	ug/l															1	U			1	U			1	U
Methylene Chloride	ug/l	5	11													2	U			2	U			2	U
o-Xylene	ug/l		190																						
Styrene	ug/l	100	1200													1	U			1	U			1	U
Tetrachloroethene	ug/l	**5**	11													0.8	U			0.8	U			0.8	U
Toluene	ug/l	1000	1100													0.7	U			0.7	U			0.7	U
Total Xylenes	ug/l	10000	190													0.8	U			0.8	U			0.8	U
trans-1,2-Dichloroethene	ug/l	100	68													0.8	U			0.8	U			0.8	U
trans-1,3-Dichloropropene	ug/l															1	U			1	U			1	U
Trichloroethene	ug/l	**5**	**0.49**													1	U			1	U			1	U
Trichlorofluoromethane	ug/l		5200													2	U			2	U			2	U
Vinyl Chloride	ug/l	2	0.019													1	U			1	U			1	U
Semi-Volatile Organic Compounds																									
1,1'-Biphenyl	ug/l		0.83													1	U			0.9	U			0.9	U
2,2'-Oxybis(1-Chloropropane)	ug/l		710													1	U			0.9	U			0.9	U
2,4,5-Trichlorophenol	ug/l		1200													1	U			0.9	U			0.9	U
2,4,6-Trichlorophenol	ug/l		4.1													1	U			0.9	U			0.9	U
2,4-Dichlorophenol	ug/l		46													1	U			0.9	U			0.9	U
2,4-Dimethylphenol	ug/l		360													3	U			3	U			3	U
2,4-Dinitrophenol	ug/l		39													19	U			19	U			19	U
2,4-Dinitrotoluene	ug/l		0.24													1	U			0.9	U			0.9	U
2,6-Dinitrotoluene	ug/l		0.049													1	U			0.9	U			0.9	U
2-Chloronaphthalene	ug/l		750													2	U			2	U			2	U
2-Chlorophenol	ug/l		91													1	U			0.9	U			0.9	U
2-Methylnaphthalene	ug/l		36													1	U			0.9	U			0.9	U
2-Methylphenol	ug/l		930													1	U			0.9	U			0.9	U
2-Nitroaniline	ug/l		190													1	U			0.9	U			0.9	U
2-Nitrophenol	ug/l															1	U			0.9	U			0.9	U
3,3'-Dichlorobenzidine	ug/l		0.13													2	U			2	U			2	U
3-Nitroaniline	ug/l															1	U			0.9	U			0.9	U
4,6-Dinitro-2-Methylphenol	ug/l		1.5													5	U			5	U			5	U
4-Bromophenyl Phenyl Ether	ug/l															1	U			0.9	U			0.9	U
4-Chloro-3-Methylphenol	ug/l		1400													1	U			0.9	U			0.9	U
4-Chloroaniline	ug/l		0.37													1	U			0.9	U			0.9	U
4-Chlorophenyl Phenyl Ether	ug/l															2	U			2	U			2	U
4-Methylphenol	ug/l		370													2	U			2	U			2	U
4-Nitroaniline	ug/l		3.8													1	U			0.9	U			0.9	U
4-Nitrophenol	ug/l															10	U			9	U			9	U
Acenaphthene	ug/l		530													1	U			0.9	U			0.9	U
Acenaphthylene	ug/l															1	U			0.9	U			0.9	U
Acetophenone	ug/l		1900													2	U			2	U			2	U
Anthracene	ug/l		1800													1	U			0.9	U			0.9	U
Atrazine	ug/l	3	0.3													2	U			2	U			2	U

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			Location ID	SWMU1-HP-01		SWMU1-HP-01		SWMU1-HP-02		SWMU1-HP-02		SWMU1-HP-02		SWMU1-HP-02		W106-HP-02		W106-HP-02		W106-HP-03		W106-HP-03		W106-HP-03	
			Sample ID	SWMU1-HP01_121406		SWMU1-HP01_121406		SWMU1-HP02_121406		SWMU1-HP02_121406		SWMU1-HP02D_121406		SWMU1-HP02D_121406		W106-HP02_121406		W106-HP02_121406		W106-HP03_121406		W106-HP03_121406		W106-HP03D_121406	
			Sample Date	12/14/2006		12/14/2006		12/14/2006		12/14/2006		12/14/2006		12/14/2006		12/14/2006		12/14/2006		12/14/2006		12/14/2006		12/14/2006	
			Fraction	T		D		T		D		T		D		T		D		T		D		T	
Parameter	Units	MAY 2023 RSL MCL	MAY 2023 RSL TAPW	Result	Lab Qual.	Result	Lab Qual.	Result	Lab Qual.	Result	Lab Qual.	Result	Lab Qual.	Result	Lab Qual.	Result	Lab Qual.	Result	Lab Qual.	Result	Lab Qual.	Result	Lab Qual.	Result	Lab Qual.
Benzaldehyde	ug/l		19													1	U			0.9	U			0.9	U
Benzo(A)Anthracene	ug/l		0.03													1	U			0.9	U			0.9	U
Benzo(A)Pyrene	ug/l	0.2	0.025													1	U			0.9	U			0.9	U
Benzo(B)Fluoranthene	ug/l		0.25													1	U			0.9	U			0.9	U
Benzo(G,H,I)perylene	ug/l															1	U			0.9	U			0.9	U
Benzo(K)Fluoranthene	ug/l		2.5													1	U			0.9	U			0.9	U
bis-(2-Chloroethoxy)Methane	ug/l		59													1	U			0.9	U			0.9	U
bis-(2-Chloroethyl)Ether	ug/l		0.014													1	U			0.9	U			0.9	U
bis-(2-Ethylhexyl)Phthalate	ug/l	6	5.6													2	U			2	U			2	U
Butylbenzyl Phthalate	ug/l		16													2	U			2	U			2	U
Caprolactam	ug/l		9900													5	U			5	U			5	U
Carbazole	ug/l															1	U			0.9	U			0.9	U
Chrysene	ug/l		25													1	U			1	J			1	J
Dibenzo(a,h)Anthracene	ug/l		0.025													1	U			0.9	U			0.9	U
Dibenzofuran	ug/l		7.9													1	U			0.9	U			0.9	U
Diethyl Phthalate	ug/l		15000													2	U			2	U			2	U
Dimethyl Phthalate	ug/l															2	U			2	U			2	U
Di-n-Butyl Phthalate	ug/l		900													2	U			2	U			2	U
Di-n-Octyl Phthalate	ug/l		200													2	U			2	U			2	U
Fluoranthene	ug/l		800													1	U			1	J			1	J
Fluorene	ug/l		290													1	U			0.9	U			0.9	U
Hexachlorobenzene	ug/l	1	0.0098													1	U			0.9	U			0.9	U
Hexachlorobutadiene	ug/l		0.14													1	U			0.9	U			0.9	U
Hexachlorocyclopentadiene	ug/l	50	0.41													5	U			5	U			5	U
Hexachloroethane	ug/l		0.33													1	U			0.9	U			0.9	U
Indeno(1,2,3-Cd)Pyrene	ug/l		0.25													1	U			0.9	U			0.9	U
Isophorone	ug/l		78													1	U			0.9	U			0.9	U
Naphthalene	ug/l		**0.12**													1	U			0.9	U			0.9	U
Nitrobenzene	ug/l		0.14													1	U			0.9	U			0.9	U
n-Nitroso-di-n-Propylamine	ug/l		0.011													1	U			0.9	U			0.9	U
n-Nitrosodiphenylamine	ug/l		12													2	U			2	U			2	U
Pentachlorophenol	ug/l	1	0.041													3	U			3	U			3	U
Phenanthrene	ug/l															1	U			1	J			1	J
Phenol	ug/l		5800													1	U			0.9	U			0.9	U
Pyrene	ug/l		120													1	U			1	J			1	J
Pyridine	ug/l		**20**													2	U			2	U			2	U

Notes:
Exceeds the U.S. Environmental Protection Agency (EPA) Regional Screening Level (RSL), Maximum Contaminant Level (MCL) (May 2023)
Exceeds the EPA Tapwater RSL
Blanks indicate RSL not established or sample not analyzed for that constituent
RSLs assume target cancer risk (TR) of 1E-06 and target hazard quotient (THQ) of 1.0
U = undetected
J = estimated value
J+ = estimated biased high
J- = estimated biased low
R = rejected
ug/L = micrograms per liter
Exceedances shown may exceed one or more criteria if available
T = Total
D = Dissolved

Created By: DP 2/8/22
Checked By: KH 3/8/22

Table 4. 2006 Groundwater Analytical Results
South Plant South Parcel
Corrective Measures Study
Honeywell Delaware Valley Works
Claymont, Delaware
WSP Project No. 3482230886

			Location ID	W106-HP-03	
			Sample ID	W106-HP03D_121406	
			Sample Date	12/14/2006	
			Fraction	D	
Parameter	Units	MAY 2023 RSL MCL	MAY 2023 RSL TAPW	Result	Lab Qual.
Metals					
Aluminum	ug/l		**20000**	4120	
Antimony	ug/l	**6**	**7.8**	9.7	U
Arsenic	ug/l	**10**	**0.052**	**66400**	**L**
Barium	ug/l	2000	3800	5.7	
Beryllium	ug/l	**4**	**25**	0.94	U
Cadmium	ug/l	**5**	**1.8**	**12.5**	**K**
Calcium	ug/l			440000	
Chromium	ug/l	**100**		2.3	U
Cobalt	ug/l		**6**	**45.2**	
Copper	ug/l	**1300**	**800**	5.3	K
Iron	ug/l		**14000**	**747000**	
Lead	ug/l	**15**	**15**	6.9	U
Magnesium	ug/l			331000	
Manganese	ug/l		**430**	**1670**	**K**
Nickel	ug/l		**390**	17.4	K
Potassium	ug/l			36400	J
Selenium	ug/l	**50**	100	31.1	L
Silver	ug/l		94	1.6	U
Sodium	ug/l			197000	K
Thallium	ug/l	**2**	**0.2**	13.5	U
Vanadium	ug/l		**86**	1.5	U
Zinc	ug/l		**6000**	128	K
Mercury	ug/l	**2**	**0.63**	0.28	U
Pesticides					
4,4'-DDD	ug/l		**0.032**		
4,4'-DDE	ug/l		**0.046**		
4,4'-DDT	ug/l		**0.23**		
Aldrin	ug/l		0.00092		
Alpha-BHC	ug/l		**0.0072**		
Beta-BHC	ug/l		**0.025**		
cis-Chlordane	ug/l		3.6		
Delta-BHC	ug/l				
Dieldrin	ug/l		**0.0018**		
Endosulfan I	ug/l				
Endosulfan II	ug/l				
Endosulfan Sulfate	ug/l		110		
Endrin	ug/l	2	2.3		
Endrin Aldehyde	ug/l				
Endrin Ketone	ug/l				
Gamma-BHC (Lindane)	ug/l	**0.2**	**0.042**		
Heptachlor	ug/l	0.4	**0.0014**		
Heptachlor Epoxide	ug/l	0.2	**0.0014**		
Methoxychlor	ug/l	40	37		
Toxaphene	ug/l	3	0.071		
trans-Chlordane	ug/l		10		
Volatile Organic Compounds					
1,1,1-Trichloroethane	ug/l	200	8000		
1,1,2,2-Tetrachloroethane	ug/l		0.076		
1,1,2-Trichloro-1,2,2-Trifluoroethane	ug/l		10000		
1,1,2-Trichloroethane	ug/l	5	0.28		
1,1-Dichloroethane	ug/l		2.8		
1,1-Dichloroethene	ug/l	7	280		
1,2,4-Trichlorobenzene	ug/l	70	1.2		
1,2-Dibromo-3-Chloropropane	ug/l	0.2	0.00033		
1,2-Dibromoethane	ug/l	0.05	0.0075		
1,2-Dichlorobenzene	ug/l	600	300		
1,2-Dichloroethane	ug/l	5	**0.17**		
1,2-Dichloropropane	ug/l	**5**	**0.85**		
1,3-Dichlorobenzene	ug/l				
1,4-Dichlorobenzene	ug/l	75	**0.48**		
2-Butanone	ug/l		5600		
2-Hexanone	ug/l		38		
4-Methyl-2-Pentanone	ug/l		6300		

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Checked By: KH 3/8/22

Table 4. 2006 Groundwater Analytical Results
South Plant South Parcel
Corrective Measures Study
Honeywell Delaware Valley Works
Claymont, Delaware
WSP Project No. 3482230886

			Location ID	W106-HP-03	
			Sample ID	W106-HP03D_121406	
			Sample Date	12/14/2006	
			Fraction	D	
Parameter	Units	MAY 2023 RSL MCL	MAY 2023 RSL TAPW	Result	Lab Qual.
Acetone	ug/l		18000		
Acetonitrile	ug/l		130		
Benzene	ug/l	**5**	**0.46**		
Bromodichloromethane	ug/l	80	0.13		
Bromoform	ug/l	80	3.3		
Bromomethane	ug/l		7.5		
Carbon Disulfide	ug/l		810		
Carbon Tetrachloride	ug/l	5	0.46		
Chlorobenzene	ug/l	100	78		
Chloroethane	ug/l		8300		
Chloroform	ug/l	80	**0.22**		
Chloromethane	ug/l		190		
cis-1,2-Dichloroethene	ug/l	70	36		
cis-1,3-Dichloropropene	ug/l				
Cyclohexane	ug/l		13000		
Dibromochloromethane	ug/l	80	0.87		
Dichlorodifluoromethane	ug/l		200		
Ethylbenzene	ug/l	700	**1.5**		
Isopropylbenzene	ug/l		450		
Methyl Acetate	ug/l		20000		
Methyl Tert-Butyl Ether	ug/l		14		
Methylcyclohexane	ug/l				
Methylene Chloride	ug/l	5	11		
o-Xylene	ug/l		190		
Styrene	ug/l	100	1200		
Tetrachloroethene	ug/l	**5**	11		
Toluene	ug/l	1000	1100		
Total Xylenes	ug/l	10000	190		
trans-1,2-Dichloroethene	ug/l	100	68		
trans-1,3-Dichloropropene	ug/l				
Trichloroethene	ug/l	**5**	**0.49**		
Trichlorofluoromethane	ug/l		5200		
Vinyl Chloride	ug/l	2	0.019		
Semi-Volatile Organic Compounds					
1,1'-Biphenyl	ug/l		0.83		
2,2'-Oxybis(1-Chloropropane)	ug/l		710		
2,4,5-Trichlorophenol	ug/l		1200		
2,4,6-Trichlorophenol	ug/l		4.1		
2,4-Dichlorophenol	ug/l		46		
2,4-Dimethylphenol	ug/l		360		
2,4-Dinitrophenol	ug/l		39		
2,4-Dinitrotoluene	ug/l		0.24		
2,6-Dinitrotoluene	ug/l		0.049		
2-Chloronaphthalene	ug/l		750		
2-Chlorophenol	ug/l		91		
2-Methylnaphthalene	ug/l		36		
2-Methylphenol	ug/l		930		
2-Nitroaniline	ug/l		190		
2-Nitrophenol	ug/l				
3,3'-Dichlorobenzidine	ug/l		0.13		
3-Nitroaniline	ug/l				
4,6-Dinitro-2-Methylphenol	ug/l		1.5		
4-Bromophenyl Phenyl Ether	ug/l				
4-Chloro-3-Methylphenol	ug/l		1400		
4-Chloroaniline	ug/l		0.37		
4-Chlorophenyl Phenyl Ether	ug/l				
4-Methylphenol	ug/l		370		
4-Nitroaniline	ug/l		3.8		
4-Nitrophenol	ug/l				
Acenaphthene	ug/l		530		
Acenaphthylene	ug/l				
Acetophenone	ug/l		1900		
Anthracene	ug/l		1800		
Atrazine	ug/l	3	0.3		

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Table 4. 2006 Groundwater Analytical Results
South Plant South Parcel
Corrective Measures Study
Honeywell Delaware Valley Works
Claymont, Delaware
WSP Project No. 3482230886

			Location ID	W106-HP-03	
			Sample ID	W106-HP03D_121406	
			Sample Date	12/14/2006	
			Fraction	D	
Parameter	Units	MAY 2023 RSL MCL	MAY 2023 RSL TAPW	Result	Lab Qual.
Benzaldehyde	ug/l		19		
Benzo(A)Anthracene	ug/l		0.03		
Benzo(A)Pyrene	ug/l	0.2	0.025		
Benzo(B)Fluoranthene	ug/l		0.25		
Benzo(G,H,I)perylene	ug/l				
Benzo(K)Fluoranthene	ug/l		2.5		
bis-(2-Chloroethoxy)Methane	ug/l		59		
bis-(2-Chloroethyl)Ether	ug/l		0.014		
bis-(2-Ethylhexyl)Phthalate	ug/l	6	5.6		
Butylbenzyl Phthalate	ug/l		16		
Caprolactam	ug/l		9900		
Carbazole	ug/l				
Chrysene	ug/l		25		
Dibenzo(a,h)Anthracene	ug/l		0.025		
Dibenzofuran	ug/l		7.9		
Diethyl Phthalate	ug/l		15000		
Dimethyl Phthalate	ug/l				
Di-n-Butyl Phthalate	ug/l		900		
Di-n-Octyl Phthalate	ug/l		200		
Fluoranthene	ug/l		800		
Fluorene	ug/l		290		
Hexachlorobenzene	ug/l	1	0.0098		
Hexachlorobutadiene	ug/l		0.14		
Hexachlorocyclopentadiene	ug/l	50	0.41		
Hexachloroethane	ug/l		0.33		
Indeno(1,2,3-Cd)Pyrene	ug/l		0.25		
Isophorone	ug/l		78		
Naphthalene	ug/l		**0.12**		
Nitrobenzene	ug/l		0.14		
n-Nitroso-di-n-Propylamine	ug/l		0.011		
n-Nitrosodiphenylamine	ug/l		12		
Pentachlorophenol	ug/l	1	0.041		
Phenanthrene	ug/l				
Phenol	ug/l		5800		
Pyrene	ug/l		120		
Pyridine	ug/l		**20**		

Notes:
Exceeds the U.S. Environmental Protection Agency (EPA) Regional Screening Level (
Maximum Contaminant Level (MCL) (May 2023)
Exceeds the EPA Tapwater RSL
Blanks indicate RSL not established or sample not analyzed for that constituent
RSLs assume target cancer risk (TR) of 1E-06 and target hazard quotient (THQ) of 1.0
U = undetected
J = estimated value
J+ = estimated biased high
J- = estimated biased low
R = rejected
ug/L = micrograms per liter
Exceedances shown may exceed one or more criteria if available
T = Total
D = Dissolved

Created By: DP 2/8/22
Checked By: KH 3/8/22

Table 5. 2010 Groundwater Analytical Results
South Plant South Parcel
Corrective Measures Study
Honeywell Delaware Valley Works
Claymont, Delaware
WSP Project No. 3482230886

				Location ID	B-2		B-2		B-2		MW-108		MW-108		MW-108		MW-109		MW-109		MW-109		MW-110	
				Sample ID	B-2 7/6/10		B-2 7/6/10		B-2 7/6/10		MW-108 7/6/10		MW-108 7/6/10		MW-108 7/6/10		MW-109 7/6/10		MW-109 7/6/10		MW-109 7/6/10		MW-110 7/6/10	
				Sample Date	7/6/2010		7/6/2010		7/6/2010		7/6/2010		7/6/2010		7/6/2010		7/6/2010		7/6/2010		7/6/2010		7/6/2010	
				Fraction	T		D		T		T		D		T		T		D		T		T	
Parameter	Units	MAY 2023 RSL MCL	MAY 2023 RSL TAPW		Result	Lab Qual.	Result	Lab Qual.	Result	Lab Qual.	Result	Lab Qual.	Result	Lab Qual.	Result	Lab Qual.	Result	Lab Qual.	Result	Lab Qual.	Result	Lab Qual.	Result	Lab Qual.
Metals																								
Arsenic	ug/l	**10**	**0.052**				**8260**	**J**	**8300**				**28600**	**J**	**30200**				**3820**	**J**	**4130**			
Iron	ug/l		**14000**		**140000**				**132000**		**170000**				**147000**		**24000**				**21200**		**19000**	
Lead	ug/l	**15**	**15**				0.38	J	**112**				12.5		**255**				5	U	2.1	J		
Pesticides																								
4,4'-DDD	ug/l		0.032						0.0062	U					0.0025	U					0.0062	R		
4,4'-DDE	ug/l		0.046						0.0062	U					0.0025	U					0.0062	R		
4,4'-DDT	ug/l		0.23						0.0062	U					0.0025	U					0.0062	R		
Aldrin	ug/l		**0.00092**						0.0062	U					0.0025	U					0.0062	R		
Alpha-BHC	ug/l		**0.0072**						**0.031**	**J**					**0.025**	**J**					**0.01**	**L**		
Beta-BHC	ug/l		0.025						0.0062	J					0.0094						0.0062	R		
cis-Chlordane	ug/l		3.6						0.0062	U					0.0025	U					0.0062	R		
Delta-BHC	ug/l								0.0091	J					0.0055	J					0.0026	JL		
Dieldrin	ug/l		0.0018						0.0062	U					0.0025	U					0.0062	R		
Endosulfan I	ug/l								0.0062	U					0.0025	U					0.0062	R		
Endosulfan II	ug/l								0.0062	U					0.0025	U					0.0062	R		
Endosulfan Sulfate	ug/l		110						0.0062	U					0.0025	U					0.0062	R		
Endrin	ug/l	2	2.3						0.0062	UJ					0.0025	UJ					0.0062	R		
Endrin Aldehyde	ug/l								0.0062	U					0.0025	U					0.0062	R		
Endrin Ketone	ug/l								0.0062	U					0.0025	U					0.0062	R		
Gamma-BHC (Lindane)	ug/l	0.2	**0.042**						0.01	J					**0.047**						0.0062	R		
Heptachlor	ug/l	0.4	**0.0014**						0.0062	U					**0.0027**	**J**					0.0062	R		
Heptachlor Epoxide	ug/l	0.2	**0.0014**						0.0062	U					0.0025	U					0.0062	R		
Methoxychlor	ug/l	40	37						0.012	U					0.0031	J					0.012	R		
Toxaphene	ug/l	3	0.071						0.48	U					0.19	U					0.48	R		
trans-Chlordane	ug/l		10						0.018						0.021						0.0062	R		
General Chemistry																								
Chloride	ug/l								60200						34400						65300			
Ferric Iron (III)	ug/l				100	UJ					100	UJ					1000	J					100	UJ
Ferrous Iron (II)	ug/l				150000	J					170000	J					23000	J					19000	J
Nitrogen, Nitrate (As N)	ug/l								250	U					93	J					250	U		
Nitrogen, Nitrite	ug/l								250	U					250	U					220			
Orthophosphate	ug/l				94000						32000						15000						1200	
Sulfate	ug/l								1600000	L					1480000	L					954000	L		
Sulfide	ug/l				1000	U					2800						1000	U					1000	U
Sulfite	ug/l				5000	UJ					5000	UJ					5000	UJ					5000	UJ
Total Dissolved Solids	ug/l								2740000						2330000						2080000			
Total Organic Carbon	ug/l								7000						7900						5600			

Notes:
Exceeds the U.S. Environmental Protection Agency (EPA) Regional Screening Level (RSL), Maximum Contaminant Level (MCL) (May 2023)
Exceeds the EPA Tapwater RSL
Blanks indicate RSL not established or sample not analyzed for that constituent
RSLs assume target cancer risk (TR) of 1E-06 and target hazard quotient (THQ) of 1.0
U = undetected
J = estimated value
J+ = estimated biased high
J- = estimated biased low
R = rejected
ug/L = micrograms per liter
DUP = Duplicate sample
Exceedances shown may exceed one or more criteria if available
T = Total
D = Dissolved

Created By: DP 2/8/22
Checked By: KH 3/8/22

Table 5. 2010 Groundwater Analytical Results
South Plant South Parcel
Corrective Measures Study
Honeywell Delaware Valley Works
Claymont, Delaware
WSP Project No. 3482230886

				Location ID	MW-110		MW-110		MW-110		MW-110		MW-110	
				Sample ID	MW-110 7/6/10		MW-110 7/6/10		MW-110 7/6/10 DUP		MW-110 7/6/10 DUP		MW-110 7/6/10 DUP	
				Sample Date	7/6/2010		7/6/2010		7/6/2010		7/6/2010		7/6/2010	
				Fraction	D		T		T		D		T	
Parameter	Units	MAY 2023 RSL MCL	MAY 2023 RSL TAPW	Result	Lab Qual.	Result	Lab Qual.	Result	Lab Qual.	Result	Lab Qual.	Result	Lab Qual.
Metals													
Arsenic	ug/l	**10**	**0.052**	**1540**	**J**	**2350**				**1400**	**J**	**2180**	
Iron	ug/l		**14000**			**18200**		**18000**				**16400**	
Lead	ug/l	**15**	**15**	4.8	J	**104**				5	U	**69.1**	
Pesticides													
4,4'-DDD	ug/l		0.032			0.0012	U					0.0025	U
4,4'-DDE	ug/l		0.046			0.0012	U					0.0025	U
4,4'-DDT	ug/l		0.23			0.0012	U					0.0025	U
Aldrin	ug/l		**0.00092**			**0.0018**	**J**					0.0025	UJ
Alpha-BHC	ug/l		**0.0072**			**0.035**	**J**					**0.014**	**J**
Beta-BHC	ug/l		0.025			0.015	J					0.0043	J
cis-Chlordane	ug/l		3.6			0.0012	U					0.0025	U
Delta-BHC	ug/l					0.0082	J					0.0022	J
Dieldrin	ug/l		0.0018			0.0012	U					0.0025	U
Endosulfan I	ug/l					0.0012	U					0.0025	U
Endosulfan II	ug/l					0.0012	U					0.0025	U
Endosulfan Sulfate	ug/l		110			0.0012	U					0.0025	U
Endrin	ug/l	2	2.3			0.0012	UJ					0.0025	UJ
Endrin Aldehyde	ug/l					0.0012	U					0.0025	U
Endrin Ketone	ug/l					0.0012	U					0.0025	U
Gamma-BHC (Lindane)	ug/l	0.2	**0.042**			0.0045	J					0.0027	J
Heptachlor	ug/l	0.4	**0.0014**			0.0012	U					0.0025	U
Heptachlor Epoxide	ug/l	0.2	**0.0014**			**0.0041**						0.0025	U
Methoxychlor	ug/l	40	37			0.0024	U					0.0048	U
Toxaphene	ug/l	3	0.071			0.095	U					0.19	U
trans-Chlordane	ug/l		10			0.01	J					0.063	J
General Chemistry													
Chloride	ug/l					104000						104000	
Ferric Iron (III)	ug/l							100	UJ				
Ferrous Iron (II)	ug/l							19000	J				
Nitrogen, Nitrate (As N)	ug/l					250	U					100	J
Nitrogen, Nitrite	ug/l					250	U					250	U
Orthophosphate	ug/l							1300					
Sulfate	ug/l					1510000	L					1430000	L
Sulfide	ug/l							1000	U				
Sulfite	ug/l							5000	UJ				
Total Dissolved Solids	ug/l					2640000						2620000	
Total Organic Carbon	ug/l					2400						2500	

Notes:
Exceeds the U.S. Environmental Protection Agency (EPA) Regional Screening Level (RSL), Maximum Contaminant Level (MCL) (May 2023)
Exceeds the EPA Tapwater RSL
Blanks indicate RSL not established or sample not analyzed for that constituent
RSLs assume target cancer risk (TR) of 1E-06 and target hazard quotient (THQ) of 1.0
U = undetected
J = estimated value
J+ = estimated biased high
J- = estimated biased low
R = rejected
ug/L = micrograms per liter
DUP = Duplicate sample
Exceedances shown may exceed one or more criteria if available
T = Total
D = Dissolved

Created By: DP 2/8/22
Checked By: KH 3/8/22

Table 6. 2015 Groundwater Analytical Results
SWMU 9
Corrective Measures Study
Honeywell Delaware Valley Works
Claymont, Delaware
WSP Project No. 3482230886

				Location ID	MW-14		MW-15		MW-16		MW-17		MW-17		MW-18		MW-19		SM9-MW01	
				Sample ID	MW-14_092915		MW-15_092915		MW-16_092915		DUP18_100515		MW-17_100515		MW-18_100515		MW-19_092915		SM9-MW01_100515	
				Sample Date	9/29/2015		9/29/2015		9/29/2015		10/5/2015		10/5/2015		10/5/2015		9/29/2015		10/5/2015	
				Sample Type	REG		REG		REG		FD		REG		REG		REG		REG	
				Lab Sample ID	8068279		8068283		8068280		8076575		8076579		8076581		8068282		8076577	
Parameter	Units	MAY 2023 RSL MCL	MAY 2023 RSL TAPW		CONC	Q	CONC	Q	CONC	Q	CONC	Q	CONC	Q	CONC	Q	CONC	Q	CONC	Q
Volatile Organic Compounds																				
1,1,1-Trichloroethane	ug/l	200	8000		0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,1,2-Trichloro-1,2,2-Trifluoroethane	ug/l		10000		0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,1-Dichloroethane	ug/l		**2.8**		0.5	U	0.1	J	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,1-Dichloroethene	ug/l	7	280		0.5	U	0.2	J	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,2,3-Trichlorobenzene	ug/l		7		0.5	U	0.1	J	0.5	U	0.5	U	0.5	U	0.5	U	0.5	UJ	0.5	U
1,2,4-Trichlorobenzene	ug/l	70	1.2		0.5	U	0.6		0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,2-Dichlorobenzene	ug/l	600	300		0.5	U	3.9		0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,2-Dichloroethane	ug/l	5	**0.17**		0.5	U	0.5	U	0.5	U	**0.2**	**J**	0.1	J	0.5	U	**0.5**		0.5	U
1,2-Dichloropropane	ug/l	5	**0.85**		0.5	U	**3.2**		0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,3-Dichlorobenzene	ug/l				0.5	U	0.3	J	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,4-Dichlorobenzene	ug/l	75	**0.48**		0.5	U	**4.3**		0.5	U	0.5	U	0.5	U	0.5	U	0.1	J	0.5	U
2-Butanone	ug/l		5600		5	U	5	U	5	U	5	U	5	UJ	5	UJ	5	U	8.3	UJ
Acetone	ug/l		18000		5	U	5	U	5	U	5	U	5	U	5	U	5	U	44	U
Benzene	ug/l	5	**0.46**		**0.6**		**5.9**		0.5	U	0.5	U	0.5	U	0.5	U	**2.5**		0.5	U
Bromochloromethane	ug/l		83		0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Carbon Disulfide	ug/l		810		1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U
Chlorobenzene	ug/l	100	**78**		0.5	U	**81**		0.5	U	0.5	U	0.5	U	0.2	J	0.9	U	0.1	J
Chloroform	ug/l	80	**0.22**		**0.4**	**J**	**0.7**		0.5	U	0.1	J	0.5	U	0.2	J	**0.4**	**J**	0.2	J
Chloromethane	ug/l		190		0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
cis-1,2-Dichloroethene	ug/l	70	**25**		0.5	U	9.2		0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Cyclohexane	ug/l		13000		0.5	U	0.3	J	0.5	U	0.5	U	0.5	U	0.5	U	0.1	J	0.5	U
Ethylbenzene	ug/l	700	**1.5**		0.5	U	0.8	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Isopropylbenzene	ug/l		450		0.5	U	0.3	J	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
m&p-Xylenes	ug/l	10000	**190**		0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Methyl Tert-Butyl Ether	ug/l		14		0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Methylcyclohexane	ug/l				0.5	U	0.1	J	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Methylene Chloride	ug/l	5	**11**		0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
o-Xylene	ug/l		190		0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Styrene	ug/l	100	1200		0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Tetrachloroethene	ug/l	5	11		0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	5.4		0.5	U
Toluene	ug/l	1000	1100		0.5	U	1.6		0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Total Xylenes	ug/l	10000	**190**		0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
trans-1,2-Dichloroethene	ug/l	100	68		0.5	U	0.6		0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Trichloroethene	ug/l	5	**0.49**		0.5	U	**16**		0.5	U	0.5	U	0.5	U	0.5	U	3.7	U	0.5	U
Trichlorofluoromethane	ug/l		5200		0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Vinyl Chloride	ug/l	2	**0.019**		0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Semi-Volatile Organic Compounds																				
2,4,5-Trichlorophenol	ug/l		1200		1	U	1	U	1	U	1	U	1	U	1	U	13		1	U
2,4-Dichlorophenol	ug/l		46		1	U	1	U	1	U	1	U	1	U	1	U	1		1	U
2-Methylnaphthalene	ug/l		**36**		0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
2-Methylphenol	ug/l		930		1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U
Acenaphthene	ug/l		530		0.2	J	4		0.5	U	0.5	U	0.5	U	0.5	U	0.5	J	0.5	U

Prepared by: DP 062023
Checked by: JM 062123

Table 6. 2015 Groundwater Analytical Results
SWMU 9
Corrective Measures Study
Honeywell Delaware Valley Works
Claymont, Delaware
WSP Project No. 3482230886

			Location ID	MW-14		MW-15		MW-16		MW-17		MW-17		MW-18		MW-19		SM9-MW01	
			Sample ID	MW-14_092915		MW-15_092915		MW-16_092915		DUP18_100515		MW-17_100515		MW-18_100515		MW-19_092915		SM9-MW01_100515	
			Sample Date	9/29/2015		9/29/2015		9/29/2015		10/5/2015		10/5/2015		10/5/2015		9/29/2015		10/5/2015	
			Sample Type	REG		REG		REG		FD		REG		REG		REG		REG	
			Lab Sample ID	8068279		8068283		8068280		8076575		8076579		8076581		8068282		8076577	
Parameter	Units	MAY 2023 RSL MCL	MAY 2023 RSL TAPW	CONC	Q	CONC	Q	CONC	Q	CONC	Q	CONC	Q	CONC	Q	CONC	Q	CONC	Q
Acenaphthylene	ug/l			0.5	U	0.1	J	0.5	U	0.5	U	0.5	U	0.5	U	0.1	J	0.5	U
Anthracene	ug/l		1800	0.5	U	0.5		0.5	U	0.5	U	0.5	U	0.5	U	0.2	J	0.5	U
Benzo(A)Anthracene	ug/l		**0.03**	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Benzo(A)Pyrene	ug/l	0.2	**0.025**	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Benzo(B)Fluoranthene	ug/l		**0.25**	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Benzo(G,H,I)perylene	ug/l			0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
bis-(2-Ethylhexyl)Phthalate	ug/l	6	5.6	5	U	5	U	5	U	5	U	5	U	5	U	5	U	5	U
Carbazole	ug/l			1	U	1	U	1	U	1	U	1	U	1	U	1		1	U
Chrysene	ug/l		25	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Dibenzofuran	ug/l		7.9	1	U	1	U	1	U	1	U	1	U	1	U	0.9	J	1	U
Fluoranthene	ug/l		800	0.5	U	1		0.5	U	0.5	U	0.5	U	0.5	U	0.4	J	0.5	U
Fluorene	ug/l		290	0.5	U	1		0.5	U	0.5	U	0.5	U	0.5	U	0.3	J	0.5	U
Naphthalene	ug/l		**0.12**	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
n-Nitrosodiphenylamine	ug/l		**12**	1	U	**59**		1	U	1	U	1	U	1	U	1	U	1	U
Phenanthrene	ug/l			0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.7		0.5	U
Phenol	ug/l		5800	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U
Pyrene	ug/l		120	0.5	U	0.6		0.5	U	0.5	U	0.5	U	0.5	U	0.3	J	0.5	U
Pesticides																			
4,4'-DDD	ug/l		**0.032**	0.025	UJ	**1.3**		0.011	U	**0.32**	**J**	**0.3**		0.012	U	**0.42**	**J**	0.071	UJ
4,4'-DDE	ug/l		**0.046**	0.011	UJ	**0.26**	**J**	0.011	U	0.037	UJ	0.03	U	0.011	U	**0.06**	**J**	0.011	UJ
4,4'-DDT	ug/l		**0.23**	0.011	UJ	0.011	UJ	0.029	U	**0.28**	**J**	**0.31**	**J**	0.015	U	0.11	J	0.16	UJ
Aldrin	ug/l		**0.00092**	0.011	UJ	0.011	UJ	0.011	U	0.011	UJ	0.011	U	0.011	U	0.011	UJ	0.011	UJ
Alpha-BHC	ug/l		**0.0072**	**61**		**5.5**		0.069	U	**0.39**	**J**	**0.46**		**0.69**		**22**		**0.38**	**J**
Beta-BHC	ug/l		**0.025**	**6.8**		**2.6**		0.023	U	**0.56**	**J**	**0.64**		**0.49**		**1.7**		**0.16**	**J**
Delta-BHC	ug/l			6.3		9		0.039		0.044	J	0.048		0.42		1.1		0.16	J
Endosulfan I	ug/l		100	0.011	UJ	0.011	UJ	0.011	U	0.011	UJ	0.011	U	0.011	U	0.011	UJ	0.011	UJ
Endosulfan II	ug/l		100	0.011	UJ	0.011	UJ	0.011	U	0.011	UJ	0.011	U	0.011	U	0.011	UJ	0.011	UJ
Endosulfan Sulfate	ug/l		110	0.011	UJ	0.011	UJ	0.011	U	0.011	UJ	0.011	U	0.011	U	0.011	UJ	0.011	UJ
Endrin	ug/l	2	2.3	0.011	UJ	0.011	UJ	0.011	U	0.011	UJ	0.011	U	0.011	U	0.011	UJ	0.011	UJ
Gamma-BHC (Lindane)	ug/l	0.2	**0.042**	**11**		**0.096**	**J**	0.025		0.032	J	0.034		0.029		**2.8**		**0.069**	**J**
Heptachlor	ug/l	0.4	**0.0014**	0.011	UJ	0.011	UJ	0.011	U	0.011	UJ	0.011	U	0.011	U	0.011	UJ	0.011	UJ
Heptachlor Epoxide	ug/l	0.2	**0.0014**	0.011	UJ	0.011	UJ	0.011	U	0.011	UJ	0.011	U	0.011	U	0.011	UJ	0.011	UJ
Methoxychlor	ug/l	40	37	0.021	UJ	0.021	UJ	0.021	U	0.021	UJ	0.021	U	0.021	U	0.021	UJ	0.021	UJ
Dissolved Metals																			
Aluminum	ug/l		**20000**	19800		1930		275	U	3620		3320		111	J	**68300**		**199000**	
Antimony	ug/l	6	**7.8**	200	U	100	U	20	U	**12.4**	**J**	**8.6**	**J**	20	U	**1000**		200	U
Arsenic	ug/l	10	**0.052**	**13500**		278	U	20	U	20	U	20	U	**78.3**		**176000**		200	U
Barium	ug/l	2000	3800	7.6	U	25.6	U	24.3	U	12.4		10.9		14.4		3220		18	
Beryllium	ug/l	4	25	25	U	5	U	5	U	5	U	5	U	5	U	25	U	13.3	J
Cadmium	ug/l	5	**1.8**	50	U	25	U	0.49	J	**7.4**		**6.4**		1.6	J	25	U	50	U
Calcium	ug/l			426000		459000		226000		490000		536000		596000		542000		436000	
Chromium	ug/l	100		75	U	16.3	U	15	U	2.3	J	1.8	J	1.7	J	471		67	J
Cobalt	ug/l		**6**	**527**		22.5	U	5	U	**19.1**		**16.3**		**9.3**		**97**		**287**	

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Table 6. 2015 Groundwater Analytical Results
SWMU 9
Corrective Measures Study
Honeywell Delaware Valley Works
Claymont, Delaware
WSP Project No. 3482230886

				Location ID	MW-14		MW-15		MW-16		MW-17		MW-17		MW-18		MW-19		SM9-MW01	
				Sample ID	MW-14_092915		MW-15_092915		MW-16_092915		DUP18_100515		MW-17_100515		MW-18_100515		MW-19_092915		SM9-MW01_100515	
				Sample Date	9/29/2015		9/29/2015		9/29/2015		10/5/2015		10/5/2015		10/5/2015		9/29/2015		10/5/2015	
				Sample Type	REG		REG		REG		FD		REG		REG		REG		REG	
				Lab Sample ID	8068279		8068283		8068280		8076575		8076579		8076581		8068282		8076577	
Parameter	Units	MAY 2023 RSL MCL	MAY 2023 RSL TAPW		CONC	Q	CONC	Q	CONC	Q	CONC	Q	CONC	Q	CONC	Q	CONC	Q	CONC	Q
Copper	ug/l	1300	**800**		78	U	97.1	U	10	U	10	U	10	U	8.3	J	**8830**		63	J
Iron	ug/l		**14000**		**1360000**		**317000**		704	U	**89100**		**78100**		520		**1310000**		**2620000**	
Lead	ug/l	15	**15**		75	U	38.5	U	15	U	15	U	15	U	15	U	**33700**		150	U
Magnesium	ug/l				267000		67900		18800		325000		278000		19900		118000		414000	
Manganese	ug/l		**430**		**6980**		**2820**		13.6	U	**811**		**723**		12		**5060**		**76600**	
Mercury	ug/l	2	**0.63**		0.2	U	0.2	U	0.2	U	0.2	U	0.2	U	0.2	U	**122**		0.2	U
Nickel	ug/l		**390**		137	U	12.3	U	10	U	11.7		10.2		8.2	J	241		238	
Potassium	ug/l				49100		36000		7140		45000		39600		6780		43100		16600	
Selenium	ug/l	50	**100**		100	U	20	U	20	U	26.7		21.1		**123**		**769**		**469**	
Silver	ug/l		**94**		25	U	5	U	5	U	5	U	5	U	5	U	16.3	J	48.2	J
Sodium	ug/l				582000		917000		138000		45300		39800		7140		245000		2730000	
Thallium	ug/l	2	**0.2**		150	U	30	U	30	U	30	U	30	U	30	U	**102**	**J**	**178**	**J**
Vanadium	ug/l		**86**		25	U	1.7	J	2.1	J	5	U	5	U	5	U	**145**		50	U
Zinc	ug/l		**6000**		5280		58.5	U	20	U	1560		1380		446		2030		4460	

Notes:
Exceeds the U.S. Environmental Protection Agency (EPA) Regional Screening
Exceeds the EPA Tapwater RSL
Blanks indicate RSL not established
RSLs assume target cancer risk (TR) of 1E-06 and target hazard quotient
U = undetected
J = estimated value
J+ = estimated biased high
J- = estimated biased low
R = rejected
ug/L = micrograms per liter
FD = Duplicate sample
Exceedances shown may exceed one or more criteria if available

Prepared by: DP 062023
Checked by: JM 062123

Table 7. 2016 Groundwater Analytical Results
SWMU 9 and South Plant South Parcel
Corrective Measures Study
Honeywell Delaware Valley Works
Claymont, Delaware
WSP Project No. 3482230886

				Location ID	MW-108R		MW-108R		MW-108R		MW-108R		MW-108R		MW-109		MW-109		MW-109		MW-110R		MW-110R		MW-110R	
				Sample ID	MW-108R-11152016		MW-108R-11152016		MW-108R-11152016		MW-108R-11152016		MW-108R-11152016		MW-109-11152016		MW-109-11152016		MW-109-11152016		MW-110R-11172016		MW-110R-11172016		MW-110R-11172016	
				Sample Date	11/15/2016		11/15/2016		11/15/2016		11/15/2016		11/15/2016		11/15/2016		11/15/2016		11/15/2016		11/17/2016		11/17/2016		11/17/2016	
				Fraction	T		T		D		D		T		T		D		T		T		T		D	
Parameter	Units	MAY 2023 RSL MCL	MAY 2023 RSL TAPW		Result	Lab Qual	Result	Lab Qual	Result	Lab Qual	Result	Lab Qual	Result	Lab Qual	Result	Lab Qual	Result	Lab Qual	Result	Lab Qual	Result	Lab Qual	Result	Lab Qual	Result	Lab Qual
Metals																										
Calcium	ug/l												370000						240000							
Magnesium	ug/l												35000						41000							
Potassium	ug/l												8900						13000							
Silicon	ug/l												48000						49000							
Sodium	ug/l												57000						100000							
General Chemistry																										
Alkalinity	ug/l												5000	U					5000	U						
Alkalinity, Phenolphthalein Endpoint	ug/l												5000	U					5000	U						
Arsenic	ug/l	**10**	**0.052**				**56200**		**54900**						**7250**		**6950**						**2760**			
Arsenic Ion (As+3)	ug/l										33600						4470								2080	
Arsenic Ion (As+5)	ug/l										7550						1190								284	
Bicarbonate Alkalinity	ug/l												5000	U					5000	U						
Bromide	ug/l												1300	U					1300	U						
Carbonate Alkalinity	ug/l												5000	U					5000	U						
Chloride	ug/l												16000						25000							
Dimethylarsinic acid	ug/l		400								1050	U					21	U							21	U
Fluoride	ug/l	**4000**	**800**										**19000**						**10000**							
Iron	ug/l		**14000**				**167000**		**139000**						**33100**		**31000**				**48100**				**50000**	
Manganese	ug/l		**430**		**931**				**1010**						**1170**		**1150**				**580**				**563**	
Methyl Arsonic Acid	ug/l		200								1150	U					23	U							23	U
Nitrogen, Nitrate (As N)	ug/l												250	U					250	U						
Nitrogen, Nitrite	ug/l												130						190							
Phosphorus, Total Orthophosphate (As P)	ug/l												7700						7200							
Sulfate	ug/l												1400000						860000							
Sulfide	ug/l												100	U					100	U						

Notes:
Exceeds the U.S. Environmental Protection Agency (EPA) Regional Screening Level (RSL), Maximum Contaminant Level (MCL) (May 2023)
Exceeds the EPA Tapwater RSL
Blanks indicate RSL not established or sample not analyzed for that constituent
RSLs assume target cancer risk (TR) of 1E-06 and target hazard quotient (THQ) of 1.0
U = undetected
J = estimated value
J+ = estimated biased high
J- = estimated biased low
R = rejected
ug/L = micrograms per liter
DUP = Duplicate sample
Exceedances shown may exceed one or more criteria if available
T = Total
D = Dissolved

Created By: DP 2/8/22
Checked By: KH 3/8/22

Table 7. 2016 Groundwater Analytical Results
SWMU 9 and South Plant South Parcel
Corrective Measures Study
Honeywell Delaware Valley Works
Claymont, Delaware
WSP Project No. 3482230886

				Location ID	MW-110R		MW-110R		MW-111R		MW-111R		MW-111R		MW-111R		MW-111R		MW-118		MW-118		MW-118		MW-118	
				Sample ID	MW-110R-11172016		MW-110R-11172016		MW-111R-11172016		MW-111R-11172016		MW-111R-11172016		MW-111R-11172016		MW-111R-11172016		MW-118-11172016		MW-118-11172016		MW-118-11172016		MW-118-11172016	
				Sample Date	11/17/2016		11/17/2016		11/17/2016		11/17/2016		11/17/2016		11/17/2016		11/17/2016		11/17/2016		11/17/2016		11/17/2016		11/17/2016	
				Fraction	D		T		T		T		D		D		T		T		T		D		D	
Parameter	Units	MAY 2023 RSL MCL	MAY 2023 RSL TAPW		Result	Lab Qual	Result	Lab Qual	Result	Lab Qual	Result	Lab Qual	Result	Lab Qual	Result	Lab Qual	Result	Lab Qual	Result	Lab Qual	Result	Lab Qual	Result	Lab Qual	Result	Lab Qual
Metals																										
Calcium	ug/l						580000										280000									
Magnesium	ug/l						15000										34000									
Potassium	ug/l						11000										18000									
Silicon	ug/l						33000										27000									
Sodium	ug/l						56000										260000									
General Chemistry																										
Alkalinity	ug/l						5000	U									490000									
Alkalinity, Phenolphthalein Endpoint	ug/l						5000	U									5000	U								
Arsenic	ug/l	**10**	**0.052**		**2690**						**2260**				**1630**						**30.8**					
Arsenic Ion (As+3)	ug/l												1120												1	U
Arsenic Ion (As+5)	ug/l												1040												25.4	
Bicarbonate Alkalinity	ug/l						5000	U									490000									
Bromide	ug/l						1300	U									2500	U								
Carbonate Alkalinity	ug/l						5000	U									5000	U								
Chloride	ug/l						32000										110000									
Dimethylarsinic acid	ug/l		400										21	U											1.05	U
Fluoride	ug/l	**4000**	**800**				**3400**										**8700**									
Iron	ug/l		**14000**						**92500**				**85900**						**361000**				**364000**			
Manganese	ug/l		**430**						**847**				**830**						**5970**				**6100**			
Methyl Arsonic Acid	ug/l		200										23	U											1.15	U
Nitrogen, Nitrate (As N)	ug/l						250	U									500	U								
Nitrogen, Nitrite	ug/l						130	U									250	U								
Phosphorus, Total Orthophosphate (As P)	ug/l						1300	U									2500	U								
Sulfate	ug/l						1500000										800000									
Sulfide	ug/l						100	U									100	U								

Notes:
Exceeds the U.S. Environmental Protection Agency (EPA) Regional Screening Level (RSL), Maximum Contaminant Level (MCL) (May 2023)
Exceeds the EPA Tapwater RSL
Blanks indicate RSL not established or sample not analyzed for that constituent
RSLs assume target cancer risk (TR) of 1E-06 and target hazard quotient (THQ) of 1.0
U = undetected
J = estimated value
J+ = estimated biased high
J- = estimated biased low
R = rejected
ug/L = micrograms per liter
DUP = Duplicate sample
Exceedances shown may exceed one or more criteria if available
T = Total
D = Dissolved

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Table 7. 2016 Groundwater Analytical Results
SWMU 9 and South Plant South Parcel
Corrective Measures Study
Honeywell Delaware Valley Works
Claymont, Delaware
WSP Project No. 3482230886

				Location ID	MW-118		MW-118		MW-119		MW-119		MW-119		MW-119		MW-120		MW-120		MW-120		MW-120		MW-120	
				Sample ID	MW-118-11172016		MW-118-11172016		MW-119-11152016		MW-119-11152016		MW-119-11152016		MW-119-11152016		DUP-11152016		DUP-11152016		DUP-11152016		MW-120-11152016		MW-120-11152016	
				Sample Date	11/17/2016		11/17/2016		11/15/2016		11/15/2016		11/15/2016		11/15/2016		11/15/2016		11/15/2016		11/15/2016		11/15/2016		11/15/2016	
				Fraction	D		T		T		D		D		T		T		D		T		T		D	
Parameter	Units	MAY 2023 RSL MCL	MAY 2023 RSL TAPW		Result	Lab Qual	Result	Lab Qual	Result	Lab Qual	Result	Lab Qual	Result	Lab Qual	Result	Lab Qual	Result	Lab Qual	Result	Lab Qual	Result	Lab Qual	Result	Lab Qual	Result	Lab Qual
Metals																										
Calcium	ug/l						210000								360000						380000					
Magnesium	ug/l						77000								100000						63000					
Potassium	ug/l						5700								30000						24000					
Silicon	ug/l						16000								52000						52000					
Sodium	ug/l						92000								160000						110000					
General Chemistry																										
Alkalinity	ug/l						23000								5000	U					5000	U				
Alkalinity, Phenolphthalein Endpoint	ug/l						5000	U							5000	U					5000	U				
Arsenic	ug/l	**10**	**0.052**		**33.6**				**153000**		**154000**						**24400**		**24000**				**24000**		**23800**	
Arsenic Ion (As+3)	ug/l												93800						13200						12600	
Arsenic Ion (As+5)	ug/l												23100						6260						6490	
Bicarbonate Alkalinity	ug/l						23000								5000	U					5000	U				
Bromide	ug/l						2500	U							2500	U					1300	U				
Carbonate Alkalinity	ug/l						5000	U							5000	U					5000	U				
Chloride	ug/l						5000	U							42000						24000					
Dimethylarsinic acid	ug/l		400										2100	U					21	U					21	U
Fluoride	ug/l	**4000**	**800**				150	J							**7700**						**8700**					
Iron	ug/l		**14000**						**629000**		**630000**						**197000**		**189000**				**203000**		**188000**	
Manganese	ug/l		**430**						**10900**		**10700**						**2150**		**2150**				**2380**		**2060**	
Methyl Arsonic Acid	ug/l		200										2300	U					23	U					23	U
Nitrogen, Nitrate (As N)	ug/l						500	U							1000						250	U				
Nitrogen, Nitrite	ug/l						250	U							440						340					
Phosphorus, Total Orthophosphate (As P)	ug/l						2500	U							8800						31000					
Sulfate	ug/l						1400000								2800000						1600000					
Sulfide	ug/l						100	U							100	U					38	J				

Notes:
Exceeds the U.S. Environmental Protection Agency (EPA) Regional Screening Level (RSL), Maximum Contaminant Level (MCL) (May 2023)
Exceeds the EPA Tapwater RSL
Blanks indicate RSL not established or sample not analyzed for that constituent
RSLs assume target cancer risk (TR) of 1E-06 and target hazard quotient (THQ) of 1.0
U = undetected
J = estimated value
J+ = estimated biased high
J- = estimated biased low
R = rejected
ug/L = micrograms per liter
DUP = Duplicate sample
Exceedances shown may exceed one or more criteria if available
T = Total
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Checked By: KH 3/8/22

Table 7. 2016 Groundwater Analytical Results
SWMU 9 and South Plant South Parcel
Corrective Measures Study
Honeywell Delaware Valley Works
Claymont, Delaware
WSP Project No. 3482230886

				Location ID	MW-120		MW-121		MW-121		MW-121		MW-122		MW-122		MW-122		MW-122		MW-122		MW-123		MW-123	
				Sample ID	MW-120-11152016		MW-121-11162016		MW-121-11162016		MW-121-11162016		MW-122-11162016		MW-122-11162016		MW-122-11162016		MW-122-11162016		MW-122-11162016		MW-123-11162016		MW-123-11162016	
				Sample Date	11/15/2016		11/16/2016		11/16/2016		11/16/2016		11/16/2016		11/16/2016		11/16/2016		11/16/2016		11/16/2016		11/16/2016		11/16/2016	
				Fraction	T		T		D		T		T		T		D		D		T		T		T	
Parameter	Units	MAY 2023 RSL MCL	MAY 2023 RSL TAPW		Result	Lab Qual	Result	Lab Qual	Result	Lab Qual	Result	Lab Qual	Result	Lab Qual	Result	Lab Qual	Result	Lab Qual	Result	Lab Qual	Result	Lab Qual	Result	Lab Qual	Result	Lab Qual
Metals																										
Calcium	ug/l				350000						140000										470000					
Magnesium	ug/l				59000						160000										200000					
Potassium	ug/l				22000						6300										39000					
Silicon	ug/l				49000						23000										32000					
Sodium	ug/l				98000						860000										42000					
General Chemistry																										
Alkalinity	ug/l				5000	U					5000	U									64000					
Alkalinity, Phenolphthalein Endpoint	ug/l				5000	U					5000	U									5000	U				
Arsenic	ug/l	**10**	**0.052**				**815**		**998**								**17.1**				**12.2**				**62.8**	
Arsenic Ion (As+3)	ug/l								82.1												5.56					
Arsenic Ion (As+5)	ug/l								271												7.43					
Bicarbonate Alkalinity	ug/l				5000	U					5000	U									64000					
Bromide	ug/l				1300	U					2500	U									2500	U				
Carbonate Alkalinity	ug/l				5000	U					5000	U									5000	U				
Chloride	ug/l				28000						88000										14000					
Dimethylarsinic acid	ug/l		400						21	U									1.05	U						
Fluoride	ug/l	**4000**	**800**		**8800**						200	J									**24000**					
Iron	ug/l		**14000**				**880000**		**673000**				**193000**						**186000**						**649000**	
Manganese	ug/l		**430**				**27100**		**21600**				**1530**						**1390**				**40800**			
Methyl Arsonic Acid	ug/l		200						23	U									1.15	U						
Nitrogen, Nitrate (As N)	ug/l				250	U					500	U									500	U				
Nitrogen, Nitrite	ug/l				360						250	U									250	U				
Phosphorus, Total Orthophosphate (As P)	ug/l				33000						2500	U									2500	U				
Sulfate	ug/l				1600000						4200000										2500000					
Sulfide	ug/l				55	J					78	J									71	J				

Notes:
Exceeds the U.S. Environmental Protection Agency (EPA) Regional Screening Level (RSL), Maximum Contaminant Level (MCL) (May 2023)
Exceeds the EPA Tapwater RSL
Blanks indicate RSL not established or sample not analyzed for that constituent
RSLs assume target cancer risk (TR) of 1E-06 and target hazard quotient (THQ) of 1.0
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R = rejected
ug/L = micrograms per liter
DUP = Duplicate sample
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T = Total
D = Dissolved

Created By: DP 2/8/22
Checked By: KH 3/8/22

Table 7. 2016 Groundwater Analytical Results
SWMU 9 and South Plant South Parcel
Corrective Measures Study
Honeywell Delaware Valley Works
Claymont, Delaware
WSP Project No. 3482230886

				Location ID	MW-123		MW-123		MW-123		MW-124		MW-124		MW-124		MW-124		MW-124	
				Sample ID	MW-123-11162016		MW-123-11162016		MW-123-11162016		MW-124-11172016		MW-124-11172016		MW-124-11172016		MW-124-11172016		MW-124-11172016	
				Sample Date	11/16/2016		11/16/2016		11/16/2016		11/17/2016		11/17/2016		11/17/2016		11/17/2016		11/17/2016	
				Fraction	D		D		T		T		T		D		D		T	
Parameter	Units	MAY 2023 RSL MCL	MAY 2023 RSL TAPW		Result	Lab Qual.	Result	Lab Qual.	Result	Lab Qual.	Result	Lab Qual.	Result	Lab Qual.	Result	Lab Qual.	Result	Lab Qual.	Result	Lab Qual.
Metals																				
Calcium	ug/l								260000										89000	
Magnesium	ug/l								220000										41000	
Potassium	ug/l								9100										12000	
Silicon	ug/l								22000										19000	
Sodium	ug/l								370000										590000	
General Chemistry																				
Alkalinity	ug/l								170000										1700000	
Alkalinity, Phenolphthalein Endpoint	ug/l								5000	U									5000	U
Arsenic	ug/l	**10**	**0.052**		**60.7**								**245**				**203**			
Arsenic Ion (As+3)	ug/l						4.28								110					
Arsenic Ion (As+5)	ug/l						22								94.1					
Bicarbonate Alkalinity	ug/l								170000										1700000	
Bromide	ug/l								1300	J									2500	U
Carbonate Alkalinity	ug/l								5000	U									5000	U
Chloride	ug/l								180000										44000	
Dimethylarsinic acid	ug/l		400				1.05	U							21	U				
Fluoride	ug/l	**4000**	**800**						420	J									410	J
Iron	ug/l		**14000**		**574000**						**41300**				**40600**					
Manganese	ug/l		**430**		**40100**						**718**				**755**					
Methyl Arsonic Acid	ug/l		200				1.15	U							5.33	J				
Nitrogen, Nitrate (As N)	ug/l								500	U									500	U
Nitrogen, Nitrite	ug/l								250	U									250	U
Phosphorus, Total Orthophosphate (As P)	ug/l								2500	U									2500	U
Sulfate	ug/l								3000000										110000	
Sulfide	ug/l								38	J									53	J

Notes:
Exceeds the U.S. Environmental Protection Agency (EPA) Regional Screening Level (RSL), Maximum Contaminant Level (MCL) (May 2023)
Exceeds the EPA Tapwater RSL
Blanks indicate RSL not established or sample not analyzed for that constituent
RSLs assume target cancer risk (TR) of 1E-06 and target hazard quotient (THQ) of 1.0
U = undetected
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R = rejected
ug/L = micrograms per liter
DUP = Duplicate sample
Exceedances shown may exceed one or more criteria if available
T = Total
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Created By: DP 2/8/22
Checked By: KH 3/8/22

Table 8. 2019 Groundwater Analytical Results
SWMU 9
Corrective Measures Study
Honeywell Delaware Valley Works
Claymont, Delaware
WSP Project No. 3482230886

			Location ID	MW-122		MW-122		MW-123D		MW-123S		MW-124D		MW-124S	
			Sample ID	DUP02-09-120519		MW122-09-120519		MW123D-09-120519		MW123S-09-120619		MW124D-09-120519		DUP01-09-120419	
			Sample Date	12/5/2019		12/5/2019		12/5/2019		12/6/2019		12/5/2019		12/4/2019	
			Sample Type	FD		REG		REG		REG		REG		FD	
			Lab Sample ID	1219456		1219461		1216364		1219458		1216362		1216354	
Parameter	**Units**	**MAY 2023 RSL MCL**	**MAY 2023 RSL TAPW**	**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**
Volatile Organic Compounds															
1,1,1-Trichloroethane	ug/l	200	8000	0.5	U	0.5	U	0.5	U	5	U	0.5	U	0.5	U
1,1,2-Trichloro-1,2,2-Trifluoroethane	ug/l		10000	0.5	U	0.5	U	0.5	U	5	U	0.5	U	0.5	U
1,1-Dichloroethane	ug/l		**2.8**	0.5	U	0.5	U	0.5	U	5	U	0.1	J	0.5	U
1,1-Dichloroethene	ug/l	7	280	0.5	U	0.5	U	0.5	U	5	U	0.5	U	0.5	U
1,2,3-Trichlorobenzene	ug/l		7	0.5	U	0.5	U	0.5	U	5	U	0.5	U	0.5	U
1,2,4-Trichlorobenzene	ug/l	70	1.2	0.5	U	0.5	U	0.5	U	5	U	0.5	U	0.1	J
1,2-Dichlorobenzene	ug/l	600	300	0.5	U	0.5	U	0.1	J	6		0.5	U	0.2	J
1,2-Dichloroethane	ug/l	5	**0.17**	**0.4**	**J**	**0.4**	**J**	0.5	U	5	U	0.5	U	0.09	J
1,2-Dichloropropane	ug/l	5	**0.85**	0.5	U	0.5	U	0.5	U	5	U	0.5	U	0.5	U
1,3-Dichlorobenzene	ug/l			0.5	U	0.5	U	0.5	U	5	U	0.5	U	0.5	U
1,4-Dichlorobenzene	ug/l	75	**0.48**	0.5	U	0.5	U	0.08	J	**5.1**		0.5	U	0.2	J
2-Butanone	ug/l		5600	5	U	5	U	5	U	50	U	1.7	J	5	U
Acetone	ug/l		18000	5	U	5	U	10		50	U	8.7		5.6	
Benzene	ug/l	5	**0.46**	0.5	U	0.5	U	0.5	U	**19**		0.4	J	0.3	J
Bromochloromethane	ug/l		83	0.5	U	0.5	U	0.5	U	5	U	0.06	J	0.5	U
Carbon Disulfide	ug/l		810	1	U	1	U	0.1	J	10	U	0.9	J	1	U
Chlorobenzene	ug/l	100	**78**	0.5	U	0.5	U	1.6		55		0.6		22	
Chloroform	ug/l	80	**0.22**	0.5	U	0.5	U	0.5	U	5	U	**1.7**		0.2	J
Chloromethane	ug/l		190	0.5	U	0.5	U	0.5	UJ	5	U	0.5	UJ	0.5	UJ
cis-1,2-Dichloroethene	ug/l	70	**25**	0.5	U	0.5	U	0.5	U	5	U	0.5	U	0.5	
Cyclohexane	ug/l		13000	0.5	U	0.5	U	0.5	U	3.4	J	0.2	J	0.5	U
Ethylbenzene	ug/l	700	**1.5**	0.5	U	0.5	U	0.5	U	1.3	J	0.08	J	0.2	J
Isopropylbenzene	ug/l		450	0.5	U	0.5	U	0.5	U	0.5	J	0.4	J	0.2	J
m&p-Xylenes	ug/l	10000	**190**	0.5	U	0.5	U	0.5	U	2	J	0.7		0.6	
Methyl Tert-Butyl Ether	ug/l		14	0.5	U	0.5	U	0.5	U	5	U	0.07	J	0.5	U
Methylcyclohexane	ug/l			0.5	U	0.5	U	0.5	U	4	J	0.5		3.2	
Methylene Chloride	ug/l	5	**11**	0.5	U	0.5	U	0.5	U	5	U	0.5	U	0.5	U
o-Xylene	ug/l		190	0.5	U	0.5	U	0.5	U	1.7	J	0.4	J	0.5	J
Styrene	ug/l	100	1200	0.5	U	0.5	U	0.5	U	5	U	0.5	U	0.5	U
Tetrachloroethene	ug/l	5	11	0.5	U	0.5	U	0.5	U	5	U	0.5	U	0.1	J
Toluene	ug/l	1000	1100	0.5	U	0.5	U	0.5	U	5	U	0.1	J	0.3	J
Total Xylenes	ug/l	10000	**190**	1	U	1	U	1	U	3.7	J	1.1		1.1	
trans-1,2-Dichloroethene	ug/l	100	68	0.5	U	0.5	U	0.5	U	5	U	0.5	U	0.3	J
Trichloroethene	ug/l	5	**0.49**	0.07	J	0.07	J	0.5	U	5	U	0.5	U	**0.8**	
Trichlorofluoromethane	ug/l		5200	0.5	U	0.5	U	0.5	U	5	U	0.5	U	0.06	J
Vinyl Chloride	ug/l	2	**0.019**	0.5	U	0.5	U	0.5	U	5	U	0.5	U	**0.1**	**J**
Semi-Volatile Organic Compounds															
2,4,5-Trichlorophenol	ug/l		1200	2	U	2	U	2	U	2	U	2	U	2	U
2,4-Dichlorophenol	ug/l		46	2	U	2	U	2	U	0.9	J	2	U	2	U
2-Methylnaphthalene	ug/l		**36**	0.5	U	0.5	U	0.5	U	2		0.2	J	0.2	J
2-Methylphenol	ug/l		930	2	U	2	U	2	U	2	U	2	U	2	U
Acenaphthene	ug/l		530	0.5	U	0.5	U	0.5	U	0.3	J	110		0.2	J
Acenaphthylene	ug/l			0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Anthracene	ug/l		1800	0.5	U	0.5	U	0.5	U	0.5	U	1		0.2	J
Benzo(A)Anthracene	ug/l		**0.03**	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U

Prepared by: DP 062023
Checked by: JM 062123

Table 8. 2019 Groundwater Analytical Results
SWMU 9
Corrective Measures Study
Honeywell Delaware Valley Works
Claymont, Delaware
WSP Project No. 3482230886

			Location ID	MW-122		MW-122		MW-123D		MW-123S		MW-124D		MW-124S	
			Sample ID	DUP02-09-120519		MW122-09-120519		MW123D-09-120519		MW123S-09-120619		MW124D-09-120519		DUP01-09-120419	
			Sample Date	12/5/2019		12/5/2019		12/5/2019		12/6/2019		12/5/2019		12/4/2019	
			Sample Type	FD		REG		REG		REG		REG		FD	
			Lab Sample ID	1219456		1219461		1216364		1219458		1216362		1216354	
Parameter	**Units**	**MAY 2023 RSL MCL**	**MAY 2023 RSL TAPW**	**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**
Benzo(A)Pyrene	ug/l	0.2	**0.025**	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Benzo(B)Fluoranthene	ug/l		**0.25**	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Benzo(G,H,I)perylene	ug/l			0.5	U	0.5	U	0.5	U	0.2	J	0.5	U	0.1	J
bis-(2-Ethylhexyl)Phthalate	ug/l	6	5.6	11	U	11	U	11	U	11	U	11	U	11	U
Carbazole	ug/l			2	U	2	U	2	U	2	U	2	J	2	U
Chrysene	ug/l		25	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.2	J
Dibenzofuran	ug/l		7.9	2	U	2	U	2	U	2	U	2		2	U
Fluoranthene	ug/l		800	0.5	U	0.5	U	0.5	U	0.3	J	0.5	U	0.3	J
Fluorene	ug/l		290	0.5	U	0.5	U	0.5	U	0.7		10		0.3	J
Naphthalene	ug/l		**0.12**	0.5	U	0.5	U	0.5	U	**0.8**		**0.2**	**J**	0.1	J
n-Nitrosodiphenylamine	ug/l		**12**	3	U	3	U	3	U	3	U	3	U	3	U
Phenanthrene	ug/l			0.5	U	0.5	U	0.5	U	0.8		0.6		0.3	J
Phenol	ug/l		5800	2	U	2	U	2	U	2	U	2		2	U
Pyrene	ug/l		120	0.5	U	0.5	U	0.5	U	0.5	J	0.5	U	0.5	J
Pesticides															
4,4'-DDD	ug/l		**0.032**	**0.052**	**J-**	**0.056**	**J-**	**0.048**	**J**	**1.3**	**J-**	**0.13**	**J-**	**1.6**	**J-**
4,4'-DDE	ug/l		**0.046**	0.011	UJ	0.0042	J-	0.01	UJ	**0.18**	**J-**	0.011	UJ	0.01	UJ
4,4'-DDT	ug/l		**0.23**	0.011	UJ	0.011	UJ	0.052	UJ	**0.26**	**J-**	0.04	J-	0.011	J-
Aldrin	ug/l		**0.00092**	0.011	UJ	0.011	UJ	0.01	UJ	0.05	UJ	0.011	UJ	0.01	UJ
Alpha-BHC	ug/l		**0.0072**	**0.58**	**J-**	**0.55**	**J-**	**0.045**	**J-**	**0.2**	**J-**	**0.059**	**J-**	**0.1**	**J-**
Beta-BHC	ug/l		**0.025**	**0.07**	**J-**	**0.06**	**J-**	0.018	J	**0.21**	**J-**	**0.07**	**J-**	**0.14**	**J-**
Delta-BHC	ug/l			0.023	J-	0.024	J-	0.035	J-	0.25	J-	0.023	J-	0.2	J-
Endosulfan I	ug/l		100	0.011	UJ	0.011	UJ	0.01	UJ	0.05	UJ	0.011	UJ	0.01	UJ
Endosulfan II	ug/l		100	0.011	UJ	0.011	UJ	0.01	UJ	0.05	UJ	0.011	UJ	0.01	UJ
Endosulfan Sulfate	ug/l		110	0.011	UJ	0.011	UJ	0.01	UJ	0.05	UJ	0.011	UJ	0.01	UJ
Endrin	ug/l	2	2.3	0.011	UJ	0.011	UJ	0.01	UJ	0.05	UJ	0.011	UJ	0.0098	J-
Gamma-BHC (Lindane)	ug/l	0.2	**0.042**	0.031	J-	0.027	J-	0.01	UJ	0.05	UJ	0.011	UJ	0.01	UJ
Heptachlor	ug/l	0.4	**0.0014**	0.011	UJ	0.011	UJ	0.052	UJ	0.05	UJ	0.011	UJ	0.01	UJ
Heptachlor Epoxide	ug/l	0.2	**0.0014**	0.011	UJ	0.011	UJ	0.01	UJ	0.05	UJ	0.011	UJ	0.01	UJ
Methoxychlor	ug/l	40	37	0.022	UJ	0.021	UJ	0.1	UJ	0.1	UJ	0.021	UJ	0.021	UJ
trans-Chlordane	ug/l		10	0.011	UJ	0.011	UJ	0.01	UJ	0.05	UJ	0.011	UJ	0.01	UJ
Metals (Dissolved)															
Aluminum	ug/l		**20000**	10200		10300		200	U	521		200	U	189	J
Antimony	ug/l	6	**7.8**	50	U	50	U	50	U	50	U	50	U	50	U
Arsenic	ug/l	10	**0.052**	30	U	30	U	**27.4**	**J**	**409**		**435**		**369**	
Barium	ug/l	2000	3800	9.8		9.6		149		24.3		144		16.2	
Beryllium	ug/l	4	25	5	U	5	U	5	U	5	U	5	U	5	U
Cadmium	ug/l	5	**1.8**	5	U	5	U	5	U	5	U	5	U	5	U
Calcium	ug/l			583000		532000		349000		447000		293000		544000	
Chromium	ug/l	100		15	U	15	U	15	U	15	U	15	U	15	U
Cobalt	ug/l		**6**	**32.9**		**31.1**		3.8	J	3.3	J	1.6	J	2.4	J
Copper	ug/l	1300	**800**	20	U	20	U	20	U	20	U	20	U	20	U
Iron	ug/l		**14000**	**94700**		**93800**		**108000**		**267000**		**31600**		8880	
Lead	ug/l	15	**15**	15	U	15	U	15	U	**21.9**		15	U	15	U
Magnesium	ug/l			319000		317000		169000		102000		25500		201000	
Manganese	ug/l		**430**	**613**		**604**		**3170**		**2310**		395		286	

Prepared by: DP 062023
Checked by: JM 062123

Table 8. 2019 Groundwater Analytical Results
SWMU 9
Corrective Measures Study
Honeywell Delaware Valley Works
Claymont, Delaware
WSP Project No. 3482230886

			Location ID	MW-122		MW-122		MW-123D		MW-123S		MW-124D		MW-124S	
			Sample ID	DUP02-09-120519		MW122-09-120519		MW123D-09-120519		MW123S-09-120619		MW124D-09-120519		DUP01-09-120419	
			Sample Date	12/5/2019		12/5/2019		12/5/2019		12/6/2019		12/5/2019		12/4/2019	
			Sample Type	FD		REG		REG		REG		REG		FD	
			Lab Sample ID	1219456		1219461		1216364		1219458		1216362		1216354	
Parameter	**Units**	**MAY 2023 RSL MCL**	**MAY 2023 RSL TAPW**	**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**
Mercury	ug/l	2	**0.63**	0.2	U	0.2	U	0.2	U	0.23		0.2	U	0.2	U
Nickel	ug/l		**390**	9.2	J	8.3	J	10	U	14.1		3.4	J	13.2	
Potassium	ug/l			34700		36100		25000		244000		22400		16100	
Selenium	ug/l	50	**100**	50	U	50	U	50	U	50	U	50	U	**107**	
Silver	ug/l		**94**	10	U	10	U	10	U	200	U	10	U	10	U
Sodium	ug/l			31500		32600		526000		24300000		191000		63600	
Thallium	ug/l	2	**0.2**	30	U	30	U	30	U	30	U	30	U	30	U
Vanadium	ug/l		**86**	3.2	J	2.2	J	10	U	23.5		10	U	10	U
Zinc	ug/l		**6000**	76.9		83.2		20	U	20	U	20	U	59	

Notes:
Exceeds the U.S. Environmental Protection Agency (EPA) Regional Screening Level (RSL), Maximum Contaminant Level (MCL) (May 2023)

Exceeds the EPA Tapwater RSL
Blanks indicate RSL not established
RSLs assume target cancer risk (TR) of 1E-06 and target hazard quotient (THQ) of 1.0
U = undetected
J = estimated value
J+ = estimated biased high
J- = estimated biased low
R = rejected
ug/L = micrograms per liter
FD = Duplicate sample
Exceedances shown may exceed one or more criteria if available

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Table 8. 2019 Groundwater Analytical Results
SWMU 9
Corrective Measures Study
Honeywell Delaware Valley Works
Claymont, Delaware
WSP Project No. 3482230886

				Location ID	MW-124S		MW-14		MW-14		MW-15		MW-16		MW-17	
				Sample ID	MW124S-09-120419		MW14-09-120519		DUP-09-120519		MW15-09-120619		MW16-09-120519		MW17-09-120619	
				Sample Date	12/4/2019		12/5/2019		12/5/2019		12/6/2019		12/5/2019		12/6/2019	
				Sample Type	REG		REG	REG	FD (metals only)		REG		REG		REG	
				Lab Sample ID	1216356		1219462	1219462	1219465		1219459		1219455		1219460	
Parameter	**Units**	**MAY 2023 RSL MCL**	**MAY 2023 RSL TAPW**	**CONC**	**Q**		**CONC**	**Q**			**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**
Volatile Organic Compounds																
1,1,1-Trichloroethane	ug/l	200	8000	0.5	U		0.5	U			5	U	0.5	U	0.5	U
1,1,2-Trichloro-1,2,2-Trifluoroethane	ug/l		10000	0.5	U		0.5	U			5	U	0.5	U	0.5	U
1,1-Dichloroethane	ug/l		**2.8**	0.5	U		0.5	U			5	U	0.5	U	0.5	U
1,1-Dichloroethene	ug/l	7	280	0.5	U		0.5	U			5	U	0.5	U	0.5	U
1,2,3-Trichlorobenzene	ug/l		7	0.5	U		0.5	U			5	U	0.5	U	0.5	U
1,2,4-Trichlorobenzene	ug/l	70	1.2	0.09	J		0.5	U			0.8	J	0.5	U	0.08	J
1,2-Dichlorobenzene	ug/l	600	300	0.2	J		0.5	U			5.6		0.1	J	0.06	J
1,2-Dichloroethane	ug/l	5	**0.17**	0.1	J		0.06	J			**0.5**	**J**	0.5	U	0.07	J
1,2-Dichloropropane	ug/l	5	**0.85**	0.5	U		0.5	U			**4.4**	**J**	0.5	U	0.5	U
1,3-Dichlorobenzene	ug/l			0.5	U		0.5	U			5	U	0.5	U	0.5	U
1,4-Dichlorobenzene	ug/l	75	**0.48**	0.1	J		0.5	U			**5.8**		0.1	J	0.09	J
2-Butanone	ug/l		5600	5	U		5	U			50	U	5	U	5	U
Acetone	ug/l		18000	5	U		5	U			50	U	5	U	5	U
Benzene	ug/l	5	**0.46**	0.4	J		0.4	J			**5.4**		0.5	U	0.5	U
Bromochloromethane	ug/l		83	0.5	U		0.5	U			5	U	0.5	U	0.5	U
Carbon Disulfide	ug/l		810	0.07	J		1	U			10	U	0.09	J	1	U
Chlorobenzene	ug/l	100	**78**	20			0.3	J			**160**		1.8		0.08	J
Chloroform	ug/l	80	**0.22**	0.2	J		**0.8**				5	U	0.5	U	**0.6**	
Chloromethane	ug/l		190	0.5	UJ		0.5	U			5	U	0.5	U	0.5	U
cis-1,2-Dichloroethene	ug/l	70	**25**	0.5			0.5	U			5.8	J	0.5	U	0.5	U
Cyclohexane	ug/l		13000	0.5	U		0.5	U			5	U	0.5	U	0.5	U
Ethylbenzene	ug/l	700	**1.5**	0.2	J		0.5	U			5	U	0.5	U	0.5	U
Isopropylbenzene	ug/l		450	0.2	J		0.5	U			5	U	0.5	U	0.5	U
m&p-Xylenes	ug/l	10000	**190**	0.7			0.5	U			5	U	0.1	J	0.5	U
Methyl Tert-Butyl Ether	ug/l		14	0.5	U		0.05	J			5	U	0.5	U	0.5	U
Methylcyclohexane	ug/l			3.6			0.5	U			5	U	0.1	J	0.5	U
Methylene Chloride	ug/l	5	**11**	0.5	U		0.5	U			5	U	0.5	U	0.5	U
o-Xylene	ug/l		190	0.5			0.5	U			5	U	0.5	U	0.5	U
Styrene	ug/l	100	1200	0.5	U		0.5	U			5	U	0.5	U	0.5	U
Tetrachloroethene	ug/l	5	11	0.1	J		0.07	J			5	U	0.5	U	0.2	J
Toluene	ug/l	1000	1100	0.3	J		0.5	U			5	U	0.5	U	0.5	U
Total Xylenes	ug/l	10000	**190**	1.2			1	U			10	U	1	U	1	U
trans-1,2-Dichloroethene	ug/l	100	68	0.2	J		0.5	U			5	U	0.5	U	0.5	U
Trichloroethene	ug/l	5	**0.49**	**0.6**			0.4	J			**14**		0.5	U	0.2	J
Trichlorofluoromethane	ug/l		5200	0.5	U		0.5	U			5	U	0.5	U	0.5	U
Vinyl Chloride	ug/l	2	**0.019**	0.5	U		0.5	U			5	U	0.5	U	0.5	U
Semi-Volatile Organic Compounds																
2,4,5-Trichlorophenol	ug/l		1200	2	U		2	U			2	U	2	U	2	U
2,4-Dichlorophenol	ug/l		46	2	U		2	U			2	U	2	U	2	U
2-Methylnaphthalene	ug/l		**36**	0.2	J		0.5	U			0.5	U	0.5	U	0.5	U
2-Methylphenol	ug/l		930	2	U		2	U			2	U	2	U	2	U
Acenaphthene	ug/l		530	0.2	J		0.5	U			5		0.5	U	0.5	U
Acenaphthylene	ug/l			0.5	U		0.5	U			0.1	J	0.5	U	0.5	U
Anthracene	ug/l		1800	0.1	J		0.5	U			0.5	U	0.5	U	0.5	U
Benzo(A)Anthracene	ug/l		**0.03**	0.5	U		0.5	U			0.5	U	0.5	U	0.5	U

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Table 8. 2019 Groundwater Analytical Results
SWMU 9
Corrective Measures Study
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				Location ID	MW-124S		MW-14		MW-14		MW-15		MW-16		MW-17	
				Sample ID	MW124S-09-120419		MW14-09-120519		DUP-09-120519		MW15-09-120619		MW16-09-120519		MW17-09-120619	
				Sample Date	12/4/2019		12/5/2019		12/5/2019		12/6/2019		12/5/2019		12/6/2019	
				Sample Type	REG		REG	REG	FD (metals only)		REG		REG		REG	
				Lab Sample ID	1216356		1219462	1219462	1219465		1219459		1219455		1219460	
Parameter	**Units**	**MAY 2023 RSL MCL**	**MAY 2023 RSL TAPW**		**CONC**	**Q**	**CONC**	**Q**			**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**
Benzo(A)Pyrene	ug/l	0.2	**0.025**		0.5	U	0.5	U			0.5	U	0.5	U	0.5	U
Benzo(B)Fluoranthene	ug/l		**0.25**		0.5	U	0.5	U			0.5	U	0.5	U	0.5	U
Benzo(G,H,I)perylene	ug/l				0.5	U	0.5	U			0.5	U	0.5	U	0.5	U
bis-(2-Ethylhexyl)Phthalate	ug/l	6	5.6		11	U	11	U			11	U	12	U	12	U
Carbazole	ug/l				2	U	2	U			2	U	2	U	2	U
Chrysene	ug/l		25		0.5	U	0.5	U			0.5	U	0.5	U	0.5	U
Dibenzofuran	ug/l		7.9		2	U	2	U			2	U	2	U	2	U
Fluoranthene	ug/l		800		0.2	J	0.5	U			0.5		0.5	U	0.5	U
Fluorene	ug/l		290		0.3	J	0.5	U			0.5	U	0.5	U	0.2	J
Naphthalene	ug/l		**0.12**		0.1	J	0.5	U			0.5	U	0.5	U	0.5	U
n-Nitrosodiphenylamine	ug/l		**12**		3	U	3	U			**54**		3	U	3	U
Phenanthrene	ug/l				0.3	J	0.1	J			0.5	U	0.5	U	0.5	U
Phenol	ug/l		5800		2	U	2	U			2	U	2	U	2	U
Pyrene	ug/l		120		0.3	J	0.5	U			0.5	U	0.5	U	0.5	U
Pesticides																
4,4'-DDD	ug/l		**0.032**		**0.55**	**J-**	0.03	J-			**2**	**J-**	**0.62**	**J-**	**0.36**	**J-**
4,4'-DDE	ug/l		**0.046**		0.01	UJ	0.01	UJ			**0.26**	**J-**	0.055	UJ	0.011	UJ
4,4'-DDT	ug/l		**0.23**		0.029	J-	0.01	UJ			0.011	UJ	0.055	UJ	0.011	UJ
Aldrin	ug/l		**0.00092**		0.01	UJ	0.01	UJ			0.011	UJ	0.055	UJ	0.011	UJ
Alpha-BHC	ug/l		**0.0072**		**0.14**	**J-**	**16**	**J-**			**4.1**	**J-**	**0.2**	**J-**	**0.22**	**J-**
Beta-BHC	ug/l		**0.025**		**0.14**	**J-**	**0.81**	**J-**			**1**	**J-**	**0.091**	**J-**	**0.8**	**J-**
Delta-BHC	ug/l				0.19	J-	0.94	J-			10	J-	0.53	J-	0.011	J-
Endosulfan I	ug/l		100		0.01	UJ	0.01	UJ			0.011	UJ	0.055	UJ	0.011	UJ
Endosulfan II	ug/l		100		0.01	UJ	0.01	UJ			0.011	UJ	0.055	UJ	0.011	UJ
Endosulfan Sulfate	ug/l		110		0.01	UJ	0.01	UJ			0.0049	J-	0.055	UJ	0.011	UJ
Endrin	ug/l	2	2.3		0.01	UJ	0.01	UJ			0.011	UJ	0.055	UJ	0.011	UJ
Gamma-BHC (Lindane)	ug/l	0.2	**0.042**		0.01	UJ	**2.8**	**J-**			0.011	UJ	0.055	UJ	0.025	J-
Heptachlor	ug/l	0.4	**0.0014**		0.01	UJ	0.01	UJ			0.011	UJ	0.055	UJ	0.011	UJ
Heptachlor Epoxide	ug/l	0.2	**0.0014**		0.01	UJ	0.01	UJ			0.011	UJ	0.055	UJ	0.011	UJ
Methoxychlor	ug/l	40	37		0.02	UJ	0.021	UJ			0.021	UJ	0.11	UJ	0.023	UJ
trans-Chlordane	ug/l		10		0.01	UJ	0.01	UJ			0.011	UJ	0.055	UJ	0.011	UJ
Metals (Dissolved)																
Aluminum	ug/l		**20000**		200	U	**50200**		**48900**		1970		200	U	481	
Antimony	ug/l	6	**7.8**		50	U	50	UJ	50	U	50	U	50	U	50	U
Arsenic	ug/l	10	**0.052**		**309**		**8470**		**8430**		**314**		**85.6**		30	U
Barium	ug/l	2000	3800		11.1		5	U	5	U	10.9		10.4		11.1	
Beryllium	ug/l	4	25		5	U	5	U	5	U	5	U	5	U	5	U
Cadmium	ug/l	5	**1.8**		5	U	5	U	5	U	5	U	5	U	**4.5**	**J**
Calcium	ug/l				554000		444000		433000		435000		593000		539000	
Chromium	ug/l	100			15	U	15	U	15	U	15	U	15	U	15	U
Cobalt	ug/l		**6**		2.7	J	**539**		**538**		**13.6**		5	U	2.8	J
Copper	ug/l	1300	**800**		20	U	498		488		20	U	20	U	20	U
Iron	ug/l		**14000**		8430		**971000**		**970000**		**374000**		12900		9860	
Lead	ug/l	15	**15**		15	U	15	U	15	U	15		15	U	15	U
Magnesium	ug/l				193000		187000		182000		72400		44200		168000	
Manganese	ug/l		**430**		274		**6150**		**6090**		**2930**		238		107	

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Table 8. 2019 Groundwater Analytical Results
SWMU 9
Corrective Measures Study
Honeywell Delaware Valley Works
Claymont, Delaware
WSP Project No. 3482230886

			Location ID	MW-124S		MW-14		MW-14		MW-15		MW-16		MW-17	
			Sample ID	MW124S-09-120419		MW14-09-120519		DUP-09-120519		MW15-09-120619		MW16-09-120519		MW17-09-120619	
			Sample Date	12/4/2019		12/5/2019		12/5/2019		12/6/2019		12/5/2019		12/6/2019	
			Sample Type	REG		REG	REG	FD (metals only)		REG		REG		REG	
			Lab Sample ID	1216356		1219462	1219462	1219465		1219459		1219455		1219460	
Parameter	**Units**	**MAY 2023 RSL MCL**	**MAY 2023 RSL TAPW**	**CONC**	**Q**	**CONC**	**Q**			**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**
Mercury	ug/l	2	**0.63**	0.2	U	0.21		0.21		0.2	U	0.2	U	0.2	U
Nickel	ug/l		**390**	10.2		139		138		14.7		10	U	4	J
Potassium	ug/l			15700		33500		32700		39200		12000		24500	
Selenium	ug/l	50	**100**	72.9		250	U	250	U	50	U	50	U	28.5	J
Silver	ug/l		**94**	10	U	**111**		**117**		10	U	10	U	10	U
Sodium	ug/l			60200		430000		420000		877000		107000		98700	
Thallium	ug/l	2	**0.2**	30	U	**40.9**	**J-**	**41.3**		**9.5**	**J**	30	U	30	U
Vanadium	ug/l		**86**	10	U	58		58		19.9		10	U	10	U
Zinc	ug/l		**6000**	37.9		4440		4420		29.8		12.6	J	161	

Notes:
Exceeds the U.S. Environmental Protection Agency (EPA) Regional Screening Level (RSL), Maximum Contaminant Level (MCL) (May 2023)

Exceeds the EPA Tapwater RSL
Blanks indicate RSL not established
RSLs assume target cancer risk (TR) of 1E-06 and target hazard quotient (THQ) of 1.0
U = undetected
J = estimated value
J+ = estimated biased high
J- = estimated biased low
R = rejected
ug/L = micrograms per liter
FD = Duplicate sample
Exceedances shown may exceed one or more criteria if available

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Checked by: JM 062123

Table 8. 2019 Groundwater Analytical Results
SWMU 9
Corrective Measures Study
Honeywell Delaware Valley Works
Claymont, Delaware
WSP Project No. 3482230886

				Location ID	MW-18		MW-19		SM9-MW01		SWMU9-MW-1		SWMU9-MW-2	
				Sample ID	MW18-09-120619		MW19-09-120619		SM9MW1-09-120419		SWMU9-MW1-09-120419		SWMU9-MW2-09-120319	
				Sample Date	12/6/2019		12/6/2019		12/4/2019		12/4/2019		12/3/2019	
				Sample Type	REG		REG		REG		REG		REG	
				Lab Sample ID	1219452		1219454		1216366		1216358		1216352	
Parameter	**Units**	**MAY 2023 RSL MCL**	**MAY 2023 RSL TAPW**	**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**
Volatile Organic Compounds													
1,1,1-Trichloroethane	ug/l	200	8000	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,1,2-Trichloro-1,2,2-Trifluoroethane	ug/l		10000	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,1-Dichloroethane	ug/l		**2.8**	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,1-Dichloroethene	ug/l	7	280	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,2,3-Trichlorobenzene	ug/l		7	0.1	J	0.5	U	0.5	U	0.5	U	0.5	U
1,2,4-Trichlorobenzene	ug/l	70	1.2	0.5	J	0.5	U	0.5	U	0.5	U	0.2	J
1,2-Dichlorobenzene	ug/l	600	300	5.3		0.09	J	0.5	U	0.5	U	1.2	
1,2-Dichloroethane	ug/l	5	**0.17**	0.5	U	**0.3**	**J**	0.5	U	0.5	U	**0.4**	**J**
1,2-Dichloropropane	ug/l	5	**0.85**	0.5	U	0.5	U	0.5	U	0.5	U	0.3	J
1,3-Dichlorobenzene	ug/l			0.2	J	0.5	U	0.5	U	0.5	U	0.5	U
1,4-Dichlorobenzene	ug/l	75	**0.48**	**4.2**		0.1	J	0.5	U	0.5	U	0.2	J
2-Butanone	ug/l		5600	5	U	5	U	5	U	5	U	1.8	J
Acetone	ug/l		18000	5	U	5	U	1.8	J	5	U	12	
Benzene	ug/l	5	**0.46**	**6.8**		**1.8**		0.05	J	0.06	J	**7**	
Bromochloromethane	ug/l		83	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Carbon Disulfide	ug/l		810	0.06	J	1	U	0.2	J	1	U	10	
Chlorobenzene	ug/l	100	**78**	45		1.1		0.08	J	0.5	U	67	
Chloroform	ug/l	80	**0.22**	**0.4**	**J**	**0.5**	**J**	0.5	U	0.5	U	0.1	J
Chloromethane	ug/l		190	0.5	U	0.5	U	0.5	UJ	0.5	UJ	0.5	UJ
cis-1,2-Dichloroethene	ug/l	70	**25**	0.5	U	0.09	J	0.5	U	0.5	U	0.5	U
Cyclohexane	ug/l		13000	0.06	J	0.5	U	0.5	U	0.5	U	0.8	
Ethylbenzene	ug/l	700	**1.5**	0.08	J	0.5	U	0.5	U	0.07	J	1.1	
Isopropylbenzene	ug/l		450	0.2	J	0.08	J	0.5	U	0.5	U	0.2	J
m&p-Xylenes	ug/l	10000	**190**	0.2	J	0.5	U	0.5	U	0.5	U	3.1	
Methyl Tert-Butyl Ether	ug/l		14	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Methylcyclohexane	ug/l			0.5	U	0.5	U	0.5	U	0.5	U	1.8	
Methylene Chloride	ug/l	5	**11**	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
o-Xylene	ug/l		190	0.5	U	0.5	U	0.5	U	0.1	J	1.3	
Styrene	ug/l	100	1200	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Tetrachloroethene	ug/l	5	11	0.5	J	3		0.5	U	0.5	U	0.6	
Toluene	ug/l	1000	1100	0.5	U	0.5	U	0.5	U	0.5	U	1.6	
Total Xylenes	ug/l	10000	**190**	0.2	J	1	U	1	U	1	U	4.4	
trans-1,2-Dichloroethene	ug/l	100	68	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Trichloroethene	ug/l	5	**0.49**	0.1	J	**0.8**		0.5	U	0.5	U	0.1	J
Trichlorofluoromethane	ug/l		5200	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Vinyl Chloride	ug/l	2	**0.019**	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Semi-Volatile Organic Compounds													
2,4,5-Trichlorophenol	ug/l		1200	2	U	9		50	U	2	U	2	U
2,4-Dichlorophenol	ug/l		46	2	U	2	U	50	U	2	U	2	U
2-Methylnaphthalene	ug/l		**36**	0.5	U	0.5	U	13	U	0.5	U	0.5	
2-Methylphenol	ug/l		930	2	U	2	U	50	U	2	U	2	U
Acenaphthene	ug/l		530	0.5	U	0.2	J	13	U	0.5	U	0.5	U
Acenaphthylene	ug/l			0.5	U	0.5	U	13	U	0.5	U	0.5	U
Anthracene	ug/l		1800	0.5	U	0.2	J	13	U	0.5	U	0.5	U
Benzo(A)Anthracene	ug/l		**0.03**	0.5	U	0.5	U	**4**	**J**	0.5	U	0.5	U

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Checked by: JM 062123

Table 8. 2019 Groundwater Analytical Results
SWMU 9
Corrective Measures Study
Honeywell Delaware Valley Works
Claymont, Delaware
WSP Project No. 3482230886

			Location ID	MW-18		MW-19		SM9-MW01		SWMU9-MW-1		SWMU9-MW-2	
			Sample ID	MW18-09-120619		MW19-09-120619		SM9MW1-09-120419		SWMU9-MW1-09-120419		SWMU9-MW2-09-120319	
			Sample Date	12/6/2019		12/6/2019		12/4/2019		12/4/2019		12/3/2019	
			Sample Type	REG		REG		REG		REG		REG	
			Lab Sample ID	1219452		1219454		1216366		1216358		1216352	
Parameter	**Units**	**MAY 2023 RSL MCL**	**MAY 2023 RSL TAPW**	**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**
Benzo(A)Pyrene	ug/l	0.2	**0.025**	0.5	U	0.5	U	**4**	**J**	0.5	U	0.5	U
Benzo(B)Fluoranthene	ug/l		**0.25**	0.5	U	0.5	U	**4**	**J**	0.5	U	0.5	U
Benzo(G,H,I)perylene	ug/l			0.5	U	0.5	U	13	U	0.5	U	0.5	U
bis-(2-Ethylhexyl)Phthalate	ug/l	6	5.6	11	U	11	U	280	U	11	U	11	U
Carbazole	ug/l			2	U	0.6	J	50	U	2	U	2	U
Chrysene	ug/l		25	0.5	U	0.5	U	4	J	0.5	U	0.5	U
Dibenzofuran	ug/l		7.9	2	U	2	U	50	U	2	U	2	U
Fluoranthene	ug/l		800	0.5	U	0.2	J	10	J	0.5	U	0.5	U
Fluorene	ug/l		290	0.5	U	0.5	U	13	U	0.5	U	0.5	U
Naphthalene	ug/l		**0.12**	0.5	U	0.5	U	13	U	**0.3**	**J**	**0.7**	
n-Nitrosodiphenylamine	ug/l		**12**	3	U	3	U	75	U	3	U	3	U
Phenanthrene	ug/l			0.5	U	0.3	J	8	J	0.2	J	0.5	U
Phenol	ug/l		5800	2	U	2	U	50	U	2	U	2	U
Pyrene	ug/l		120	0.5	U	0.5	U	9	J	0.5	U	0.5	U
Pesticides													
4,4'-DDD	ug/l		**0.032**	0.011	UJ	**0.46**	**J-**	**3.2**	**J-**	0.012	J-	0.03	J-
4,4'-DDE	ug/l		**0.046**	0.011	UJ	0.01	UJ	**0.072**	**J-**	0.01	UJ	0.01	UJ
4,4'-DDT	ug/l		**0.23**	0.011	UJ	0.01	UJ	**0.5**	**J-**	0.01	UJ	0.01	UJ
Aldrin	ug/l		**0.00092**	0.011	UJ	0.01	UJ	0.011	UJ	0.01	UJ	0.01	UJ
Alpha-BHC	ug/l		**0.0072**	**75**	**J-**	**22**	**J-**	**0.22**	**J-**	**0.024**	**J-**	**0.13**	**J-**
Beta-BHC	ug/l		**0.025**	**10**	**J-**	**1.4**	**J-**	**0.07**	**J-**	0.0053	J-	**0.029**	**J-**
Delta-BHC	ug/l			20	J-	1.2	J-	0.052	J-	0.0062	J-	0.041	J-
Endosulfan I	ug/l		100	0.011	UJ	0.01	UJ	0.011	UJ	0.01	UJ	0.01	UJ
Endosulfan II	ug/l		100	0.011	UJ	0.01	UJ	0.011	UJ	0.01	UJ	0.01	UJ
Endosulfan Sulfate	ug/l		110	0.011	UJ	0.01	UJ	0.011	UJ	0.01	UJ	0.01	UJ
Endrin	ug/l	2	2.3	0.011	UJ	0.01	UJ	0.011	UJ	0.01	UJ	0.01	UJ
Gamma-BHC (Lindane)	ug/l	0.2	**0.042**	0.011	UJ	**2.3**	**J-**	0.026	J-	0.01	UJ	0.01	UJ
Heptachlor	ug/l	0.4	**0.0014**	0.011	UJ	0.01	UJ	0.011	UJ	0.01	UJ	0.01	UJ
Heptachlor Epoxide	ug/l	0.2	**0.0014**	0.011	UJ	0.01	UJ	0.011	UJ	0.01	UJ	0.01	UJ
Methoxychlor	ug/l	40	37	0.022	UJ	0.021	UJ	0.022	UJ	0.021	UJ	0.021	UJ
trans-Chlordane	ug/l		10	0.011	UJ	0.01	UJ	0.011	UJ	0.01	UJ	0.01	UJ
Metals (Dissolved)													
Aluminum	ug/l		**20000**	2790		**35200**		**296000**		322		**62000**	
Antimony	ug/l	6	**7.8**	50	U	50	U	500	U	50	U	50	U
Arsenic	ug/l	10	**0.052**	**20300**		**41800**		**409**		**33.6**		**71.8**	
Barium	ug/l	2000	3800	16.1		11.6		83.4		348		10.7	
Beryllium	ug/l	4	25	5	U	5	U	23.2	J	5	U	14.6	
Cadmium	ug/l	5	**1.8**	**9.1**		5	U	50	U	1.2	J	1.5	J
Calcium	ug/l			542000		460000		394000		40400		436000	
Chromium	ug/l	100		15	U	15	U	18	J	1.9	J	62.5	
Cobalt	ug/l		**6**	5	U	**75.6**		**170**		5	U	**207**	
Copper	ug/l	1300	**800**	20	U	29.3		100	U	20	U	20	U
Iron	ug/l		**14000**	**400000**		**675000**		**2440000**		**108000**		**372000**	
Lead	ug/l	15	**15**	15	U	**87.1**		**32.5**		15	U	**110**	
Magnesium	ug/l			51500		130000		363000		25700		407000	
Manganese	ug/l		**430**	**986**		**3450**		**64800**		**2060**		**4760**	

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Table 8. 2019 Groundwater Analytical Results
SWMU 9
Corrective Measures Study
Honeywell Delaware Valley Works
Claymont, Delaware
WSP Project No. 3482230886

			Location ID	MW-18		MW-19		SM9-MW01		SWMU9-MW-1		SWMU9-MW-2	
			Sample ID	MW18-09-120619		MW19-09-120619		SM9MW1-09-120419		SWMU9-MW1-09-120419		SWMU9-MW2-09-120319	
			Sample Date	12/6/2019		12/6/2019		12/4/2019		12/4/2019		12/3/2019	
			Sample Type	REG		REG		REG		REG		REG	
			Lab Sample ID	1219452		1219454		1216366		1216358		1216352	
Parameter	**Units**	**MAY 2023 RSL MCL**	**MAY 2023 RSL TAPW**	**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**
Mercury	ug/l	2	**0.63**	0.2	U	0.16	J	0.11	J	0.2	U	0.2	U
Nickel	ug/l		**390**	3	J	56.8		85.4		9.5	J	77.8	
Potassium	ug/l			15500		33500		25200		10000		46100	
Selenium	ug/l	50	**100**	50	U	50	U	500	U	50	U	50	U
Silver	ug/l		**94**	35.5		59.2		100	U	5.7	J	10	U
Sodium	ug/l			38500		157000		2840000		65500		200000	
Thallium	ug/l	2	**0.2**	30	U	**27.8**	**J**	**59.6**		30	U	30	U
Vanadium	ug/l		**86**	10	U	38		**102**		5.9	J	70.9	
Zinc	ug/l		**6000**	836		634		2570		20	U	1090	

Notes:
Exceeds the U.S. Environmental Protection Agency (EPA) Regional Screening Level (RSL), Maximum Contaminant Level (MCL) (May 2023)

Exceeds the EPA Tapwater RSL
Blanks indicate RSL not established
RSLs assume target cancer risk (TR) of 1E-06 and target hazard quotient (THQ) of 1.0
U = undetected
J = estimated value
J+ = estimated biased high
J- = estimated biased low
R = rejected
ug/L = micrograms per liter
FD = Duplicate sample
Exceedances shown may exceed one or more criteria if available

Prepared by: DP 062023
Checked by: JM 062123

Table 9. 2016 Pore Water Analytical Results
SWMU 9 and South Plant South Parcel
Corrective Measures Study
Honeywell Delaware Valley Works
Claymont, Delaware
WSP Project No. 3482230886

Location ID				DVW-16-01		DVW-16-01		DVW-16-01		DVW-16-01		DVW-16-01		DVW-16-01		DVW-16-01		DVW-16-01		DVW-16-01		DVW-16-01		DVW-1
Sample ID				DVW-16-01-PW-00-10-16111		DVW-16-01-PW-00-10-16111		DVW-16-01-PW-161101		DVW-16-01-PW-161118		DVW-16-01-PW-81-91-161101		DVW-16-01-SW-161117		DVW-16-01-SW-161117		DVW-16-1001-PW-00-10-16111		DVW-16-1001-PW-00-10-16111		DVW-16-02-PW-	
Sample Date				11/17/2016		11/17/2016		11/1/2016		11/18/2016		11/1/2016		11/17/2016		11/17/2016		11/17/2016		11/17/2016		11/15/	
Parameter	Units	MAY 2023 RSL MCL	MAY 2023 RSL TAPW	Result	Lab Qual.	Result	Lab Qual.	Result	Lab Qual.	Result	Lab Qual.	Result	Lab Qual.	Result	Lab Qual.	Result	Lab Qual.	Result	Lab Qual.	Result	Lab Qual.	Result	Lab Qual.	Result
Metals																								
Calcium	ug/l					310000														310000				
Iron	ug/l		**14000**			8100														8600				
Magnesium	ug/l					18000														17000				
Manganese	ug/l		**430**			**1600**														**1500**				
Potassium	ug/l					12000														11000				
Silicon	ug/l					37000														36000				
Sodium	ug/l					89000														88000				
General Chemistry																								
Alkalinity	ug/l					300000														340000				
Alkalinity, Phenolphthalein Endpoint	ug/l					5000	U													5000	U			
Arsenic	ug/l	**10**	**0.052**	**259**				**32700**						**3.94**		**1.67**	**U**	**254**						**4770**
Arsenic Ion (As+3)	ug/l			222						1710						0.247	J	228						3210
Arsenic Ion (As+5)	ug/l			10.1						96.2						1.19		10.3						2540
Bicarbonate Alkalinity	ug/l					300000														340000				
Bromide	ug/l					410	J													460	J			
Carbonate Alkalinity	ug/l					5000	U													5000	U			
Chloride	ug/l					94000														95000				
Dimethylarsinic acid	ug/l		400	0.6	U					3	U					0.15	U	0.6	U					3
Fluoride	ug/l	**4000**	**800**			**3600**														**3600**				
Methyl Arsonic Acid	ug/l		200	0.6	U					3	U					0.15	U	0.6	U					3
Nitrogen, Nitrate (As N)	ug/l					54	U													54	U			
Nitrogen, Nitrite	ug/l					70	U													70	U			
Phosphorus, Total Orthophosphate (As P)	ug/l					12000														12000				
Sulfate	ug/l					630000														600000				
Sulfide	ug/l					36	U					66000	J							36	U			

Notes:
Exceeds the U.S. Environmental Protection Agency (EPA) Regional Screening Level (RSL), Maximum Contaminant Level (MCL) (May 2023)
Exceeds the EPA Tapwater RSL
Blanks indicate RSL not established or sample not analyzed for that consituent
RSLs assume target cancer risk (TR) of 1E-06 and target hazard quotient (THQ) of 1.0
U = undetected
J = estimated value
J+ = estimated biased high
J- = estimated biased low
R = rejected
ug/L = micrograms per liter
Exceedances shown may exceed one or more criteria if available

Created By: DP 2/8/22
Checked By: KH 3/8/22

Table 9. 2016 Pore Water Analytical Results
SWMU 9 and South Plant South Parcel
Corrective Measures Study
Honeywell Delaware Valley Works
Claymont, Delaware
WSP Project No. 3482230886

				Location ID	6-02		DVW-16-02		DVW-16-02		DVW-16-02		DVW-16-02		DVW-16-02		DVW-16-03		DVW-16-03		DVW-16-03		DVW-16-03		DVW-16-03		DVW-1
				Sample ID	-00-10-161115		DVW-16-02-PW-00-10-16111		DVW-16-02-PW-161118		DVW-16-02-SW-161115		DVW-16-02-SW-161115		DVW-16-02-SW-161115		DVW-16-03-PW-161118		DVW-16-03-PW-81-91-16111		DVW-16-03-PW-81-91-16111		DVW-16-03-SW-161116		DVW-16-03-S			
				Sample Date	2016		11/15/2016		11/18/2016		11/15/2016		11/15/2016		11/15/2016		11/18/2016		11/16/2016		11/16/2016		11/16/2016		11/16/2			
Parameter	Units	MAY 2023 RSL MCL	MAY 2023 RSL TAPW	Lab Qual.	Result	Lab Qual.	Result	Lab Qual.	Result	Lab Qual.	Result	Lab Qual.	Result	Lab Qual.	Result	Lab Qual.	Result	Lab Qual.	Result	Lab Qual.	Result	Lab Qual.	Result	Lab Qual.	Result	Lab Qual.	Result
Metals																											
Calcium	ug/l				430000																480000						
Iron	ug/l		**14000**		**200000**																**290000**						
Magnesium	ug/l				42000																41000						
Manganese	ug/l		**430**		**1900**																**6800**						
Potassium	ug/l				14000																9500	J					
Silicon	ug/l				37000																27000						
Sodium	ug/l				99000																110000						
General Chemistry																											
Alkalinity	ug/l				5000	U															22000						
Alkalinity, Phenolphthalein Endpoint	ug/l				5000	U															5000	U					
Arsenic	ug/l	**10**	**0.052**										**5.98**		**19.5**				**417000**				**5.83**		**3.07**		
Arsenic Ion (As+3)	ug/l						3460		3.99								3770		329000						3.16		
Arsenic Ion (As+5)	ug/l						52.4		1.43								177		63900						1.53		
Bicarbonate Alkalinity	ug/l				5000	U															22000						
Bromide	ug/l				290	U															290	U					
Carbonate Alkalinity	ug/l				5000	U															5000	U					
Chloride	ug/l				69000																71000						
Dimethylarsinic acid	ug/l		400	U			3	U	0.15	U							3	U	300	U					0.15		
Fluoride	ug/l	**4000**	**800**		**2400**																**14000**						
Methyl Arsonic Acid	ug/l		200	U			3	U	0.15	U							3	U	300	U					0.15		
Nitrogen, Nitrate (As N)	ug/l				110	U															110	U					
Nitrogen, Nitrite	ug/l				140	U															140	U					
Phosphorus, Total Orthophosphate (As P)	ug/l				770	U															770	U					
Sulfate	ug/l				1500000																2100000						
Sulfide	ug/l				71	J																					

Notes:
Exceeds the U.S. Environmental Protection Agency (EPA) Regional Screening Level (RSL), Maximum Contaminant Level (MCL) (May 2023)
Exceeds the EPA Tapwater RSL
Blanks indicate RSL not established or sample not analyzed for that consituent
RSLs assume target cancer risk (TR) of 1E-06 and target hazard quotient (THQ) of 1.0
U = undetected
J = estimated value
J+ = estimated biased high
J- = estimated biased low
R = rejected
ug/L = micrograms per liter
Exceedances shown may exceed one or more criteria if available

Created By: DP 2/8/22
Checked By: KH 3/8/22

Table 9. 2016 Pore Water Analytical Results
SWMU 9 and South Plant South Parcel
Corrective Measures Study
Honeywell Delaware Valley Works
Claymont, Delaware
WSP Project No. 3482230886

				Location ID	6-03		DVW-16-03		DVW-16-03		DVW-16-04		DVW-16-04		DVW-16-04		DVW-16-04		DVW-16-05		DVW-16-06		DVW-1
				Sample ID	W-161116		DVW-16-103-SW-161116		DVW-16-103-SW-161116		DVW-16-04-PW-161118		DVW-16-04-PW-81-91-16111		DVW-16-04-PW-81-91-16111		DVW-16-04-SW-161118		DVW-16-04-SW-161118		DVW-16-05-PW-161118		DVW-16-06-PW-161118		DVW-16-106-I
				Sample Date	016		11/16/2016		11/16/2016		11/18/2016		11/18/2016		11/18/2016		11/18/2016		11/18/2016		11/18/2016		11/18/2
Parameter	Units	MAY 2023 RSL MCL	MAY 2023 RSL TAPW	Lab Qual.	Result	Lab Qual.	Result	Lab Qual.	Result	Lab Qual.	Result	Lab Qual.	Result	Lab Qual.	Result	Lab Qual.	Result	Lab Qual.	Result	Lab Qual.	Result	Lab Qual.	Result
Metals																							
Calcium	ug/l														790000								
Iron	ug/l		**14000**												**32000**								
Magnesium	ug/l														47000								
Manganese	ug/l		**430**												**5100**								
Potassium	ug/l														14000								
Silicon	ug/l														32000								
Sodium	ug/l														140000								
General Chemistry																							
Alkalinity	ug/l														1000000								
Alkalinity, Phenolphthalein Endpoint	ug/l														5000	U							
Arsenic	ug/l	**10**	**0.052**	J+	4.34		3.42	J+					1480				6.55		2.73	J+			
Arsenic Ion (As+3)	ug/l						2.19		845		1330								1.16		1820		475		427
Arsenic Ion (As+5)	ug/l						1.43		84.4		300								1.56		111		34.8		65.1
Bicarbonate Alkalinity	ug/l														1000000								
Bromide	ug/l														290	U							
Carbonate Alkalinity	ug/l														5000	U							
Chloride	ug/l														130000								
Dimethylarsinic acid	ug/l		400	U			0.15	U	3	U	3	U							0.15	U	3	U	3	U	3
Fluoride	ug/l	**4000**	**800**												**35000**								
Methyl Arsonic Acid	ug/l		200	U			0.15	U	3	U	3	U							0.15	U	3	U	3	U	3
Nitrogen, Nitrate (As N)	ug/l														110	U							
Nitrogen, Nitrite	ug/l														140	U							
Phosphorus, Total Orthophosphate (As P)	ug/l														770	U							
Sulfate	ug/l														2400000								
Sulfide	ug/l														280								

Notes:
Exceeds the U.S. Environmental Protection Agency (EPA) Regional Screening Level (RSL), Maximum Contaminant Level (MCL) (May 2023)
Exceeds the EPA Tapwater RSL
Blanks indicate RSL not established or sample not analyzed for that consituent
RSLs assume target cancer risk (TR) of 1E-06 and target hazard quotient (THQ) of 1.0
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J = estimated value
J+ = estimated biased high
J- = estimated biased low
R = rejected
ug/L = micrograms per liter
Exceedances shown may exceed one or more criteria if available

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Table 9. 2016 Pore Water Analytical Results
SWMU 9 and South Plant South Parcel
Corrective Measures Study
Honeywell Delaware Valley Works
Claymont, Delaware
WSP Project No. 3482230886

				Location ID	6-06		DVW-16-07		DVW-16-07		DVW-16-07		DVW-16-07		DVW-16-07		DVW-16-07		DVW-16-07		DVW-16-08		DVW-16-08	
				Sample ID	PW-161118		DVW-16-07-PW-00-10-161114		DVW-16-07-PW-00-10-16111		DVW-16-07-PW-081-091-16111		DVW-16-07-PW-161118		DVW-16-07-PW-81-91-16111		DVW-16-07-SW-161114		DVW-16-07-SW-161114		DVW-16-08-PW-00-10-16111		DVW-16-08-PW-00-10-16111	
				Sample Date	016		11/14/2016		11/14/2016		11/14/2016		11/18/2016		11/14/2016		11/14/2016		11/14/2016		11/17/2016		11/17/2016	
Parameter	Units	MAY 2023 RSL MCL	MAY 2023 RSL TAPW		Lab Qual.	Result	Lab Qual.	Result	Lab Qual.	Result	Lab Qual.	Result	Lab Qual.	Result	Lab Qual.	Result	Lab Qual.	Result	Lab Qual.	Result	Lab Qual.	Result	Lab Qual.
Metals																							
Calcium	ug/l							100000						390000								93000	
Iron	ug/l		**14000**					85	U					2500								**30000**	
Magnesium	ug/l							56000						51000								33000	
Manganese	ug/l		**430**					**8100**						**4100**								**10000**	
Potassium	ug/l							17000						12000								7000	
Silicon	ug/l							12000	J					28000								20000	
Sodium	ug/l							260000						97000								210000	
General Chemistry																							
Alkalinity	ug/l							410000						1000000								250000	
Alkalinity, Phenolphthalein Endpoint	ug/l							5000	U					5000	U							5000	U
Arsenic	ug/l	**10**	**0.052**			**1260**				**70.1**						**1.95**	**J+**	**3.45**		**658**			
Arsenic Ion (As+3)	ug/l					991				35.3		1070				0.195	J			574			
Arsenic Ion (As+5)	ug/l					134				10.1		81.2				1.1				54.3			
Bicarbonate Alkalinity	ug/l							410000						1000000								250000	
Bromide	ug/l							1300						290	U							2600	
Carbonate Alkalinity	ug/l							5000	U					5000	U							5000	U
Chloride	ug/l							550000						140000								520000	
Dimethylarsinic acid	ug/l		400		U	0.6	U			0.15	U	3	U			0.15	U			3	U		
Fluoride	ug/l	**4000**	**800**					640						**9100**								710	
Methyl Arsonic Acid	ug/l		200		U	0.6	U			0.15	U	3	U			0.15	U			3	U		
Nitrogen, Nitrate (As N)	ug/l							54	U					110	U							22	U
Nitrogen, Nitrite	ug/l							70	U					140	U							28	U
Phosphorus, Total Orthophosphate (As P)	ug/l							390	U					770	U							150	U
Sulfate	ug/l							7600						32000								14000	
Sulfide	ug/l							79	J					110								190	

Notes:
Exceeds the U.S. Environmental Protection Agency (EPA) Regional Screening Level (RSL), Maximum Contaminant Level (MCL) (May 2023)
Exceeds the EPA Tapwater RSL
Blanks indicate RSL not established or sample not analyzed for that consituent
RSLs assume target cancer risk (TR) of 1E-06 and target hazard quotient (THQ) of 1.0
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J = estimated value
J+ = estimated biased high
J- = estimated biased low
R = rejected
ug/L = micrograms per liter
Exceedances shown may exceed one or more criteria if available

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Table 9. 2016 Pore Water Analytical Results
SWMU 9 and South Plant South Parcel
Corrective Measures Study
Honeywell Delaware Valley Works
Claymont, Delaware
WSP Project No. 3482230886

				Location ID	DVW-16-08		DVW-16-08		DVW-16-08		DVW-16-08		DVW-16-08		DVW-16-08		DVW-16-09		DVW-16-10		DVW-16-10		DVW-16-10	
				Sample ID	DVW-16-08-PW-161118		DVW-16-08-PW-81-91-16111		DVW-16-08-PW-81-91-16111		DVW-16-08-SW-161117		DVW-16-08-SW-161117		DVW-16-08-SW-161117		DVW-16-09-PW-161118		DVW-16-10-PW-05-10-16111		DVW-16-10-PW-05-10-161118		DVW-16-10-PW-161118	
				Sample Date	11/18/2016		11/17/2016		11/17/2016		11/17/2016		11/17/2016		11/17/2016		11/18/2016		11/18/2016		11/18/2016		11/18/2016	
Parameter	Units	MAY 2023 RSL MCL	MAY 2023 RSL TAPW		Result	Lab Qual.	Result	Lab Qual.	Result	Lab Qual.	Result	Lab Qual.	Result	Lab Qual.	Result	Lab Qual.	Result	Lab Qual	Result	Lab Qual.	Result	Lab Qual.	Result	Lab Qual.
Metals																								
Calcium	ug/l								660000												490000			
Iron	ug/l		**14000**						2200												**43000**			
Magnesium	ug/l								17000												54000			
Manganese	ug/l		**430**						**1700**												**3700**			
Potassium	ug/l								5800												13000			
Silicon	ug/l								34000												24000			
Sodium	ug/l								90000												60000			
General Chemistry																								
Alkalinity	ug/l								320000												260000			
Alkalinity, Phenolphthalein Endpoint	ug/l								5000	U											5000	U		
Arsenic	ug/l	**10**	**0.052**				**1910**				**3.85**		**1.86**	**J+**					**40.1**					
Arsenic Ion (As+3)	ug/l				1140		762								0.169	J	421		30.7				360	
Arsenic Ion (As+5)	ug/l				51.9		16.1	J							1.2		29.1		4.42				169	
Bicarbonate Alkalinity	ug/l								320000												260000			
Bromide	ug/l								420	J											490	J		
Carbonate Alkalinity	ug/l								5000	U											5000	U		
Chloride	ug/l								150000												58000			
Dimethylarsinic acid	ug/l		400		3	U	3	U							0.15	U	3	U	0.15	U			3	U
Fluoride	ug/l	**4000**	**800**						**15000**												**6200**			
Methyl Arsonic Acid	ug/l		200		3	U	3	U							0.15	U	3	U	0.15	U			3	U
Nitrogen, Nitrate (As N)	ug/l								54	U											54	U		
Nitrogen, Nitrite	ug/l								70	U											70	U		
Phosphorus, Total Orthophosphate (As P)	ug/l								2400												390	U		
Sulfate	ug/l								1400000												640000			
Sulfide	ug/l								50	J											40	J		

Notes:
Exceeds the U.S. Environmental Protection Agency (EPA) Regional Screening Level (RSL), Maximum Contaminant Level (MCL) (May 2023)
Exceeds the EPA Tapwater RSL
Blanks indicate RSL not established or sample not analyzed for that consituent
RSLs assume target cancer risk (TR) of 1E-06 and target hazard quotient (THQ) of 1.0
U = undetected
J = estimated value
J+ = estimated biased high
J- = estimated biased low
R = rejected
ug/L = micrograms per liter
Exceedances shown may exceed one or more criteria if available

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Table 9. 2016 Pore Water Analytical Results
SWMU 9 and South Plant South Parcel
Corrective Measures Study
Honeywell Delaware Valley Works
Claymont, Delaware
WSP Project No. 3482230886

				Location ID	DVW-16-10		DVW-16-10	
				Sample ID	DVW-16-10-SW-161118		DVW-16-10-SW-161118	
				Sample Date	11/18/2016		11/18/2016	
Parameter	Units	MAY 2023 RSL MCL	MAY 2023 RSL TAPW		Result	Lab Qual.	Result	Lab Qual.
Metals								
Calcium	ug/l							
Iron	ug/l		**14000**					
Magnesium	ug/l							
Manganese	ug/l		**430**					
Potassium	ug/l							
Silicon	ug/l							
Sodium	ug/l							
General Chemistry								
Alkalinity	ug/l							
Alkalinity, Phenolphthalein Endpoint	ug/l							
Arsenic	ug/l	**10**	**0.052**		**3.28**		**11.4**	
Arsenic Ion (As+3)	ug/l						1.06	
Arsenic Ion (As+5)	ug/l						1.7	
Bicarbonate Alkalinity	ug/l							
Bromide	ug/l							
Carbonate Alkalinity	ug/l							
Chloride	ug/l							
Dimethylarsinic acid	ug/l		400				0.15	U
Fluoride	ug/l	**4000**	**800**					
Methyl Arsonic Acid	ug/l		200				0.15	U
Nitrogen, Nitrate (As N)	ug/l							
Nitrogen, Nitrite	ug/l							
Phosphorus, Total Orthophosphate (As P)	ug/l							
Sulfate	ug/l							
Sulfide	ug/l							

Notes:
Exceeds the U.S. Environmental Protection Agency (EPA) Regional Screening Level (RSL), Maximum Contaminant Level (MCL) (May 2023)
Exceeds the EPA Tapwater RSL
Blanks indicate RSL not established or sample not analyzed for that consituent
RSLs assume target cancer risk (TR) of 1E-06 and target hazard quotient (THQ) of 1.0
U = undetected
J = estimated value
J+ = estimated biased high
J- = estimated biased low
R = rejected
ug/L = micrograms per liter
Exceedances shown may exceed one or more criteria if available

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Checked By: KH 3/8/22

Appendix C

Sediment Data Summary
Delaware Valley Works, Claymont, Delaware

Location	Sample Type	TOC Conc mg/kg	Lead Conc mg/kg	Arsenic Conc mg/kg	4,4'-DDD Conc ug/kg	4,4'-DDE Conc ug/kg	4,4'-DDT Conc ug/kg	Total DDx Conc ug/kg	Total DDx Normalized ug/gOC
DVW-SE-01	REG	35000			16,000	1,700	32,000	49700	1,420
DVW-SE-03	REG	21000			1,900	190	7,700	9790	466
DVW-SE-05	REG	22000			6,000	470	19,000	25470	1,158
DVW-SE-07	REG	47000			530	54	1,100	1684	36
DVW-SE-07	FD	35000			240	56	51	347	10
DVW-SE-09	REG	24000			350	34	1,200	1584	66
DVW-SE-11	REG	31000			2,100	180	2,700	4,980	161
DVW-SE-13	REG	27000			700	120	1,800	2,620	97
DVW-SE-15	REG	21000			680	64	990	1,734	83
DVW-SE-17	REG	39000			930	190	2,100	3,220	83
DVW-SE-19	REG	41000			530	130	410	1,070	26
DVW-SE-21	REG	28000			450	48	2,300	2,798	100
DVW-SE-23	REG	45000			440	86	480	1,006	22
DVW-SE-23	FD	32000			5,100	120	1,100	6,320	198
DVW-SE-25	REG	39000			700	93	3,900	4,693	120
DVW-SE-27	REG	39000			120	44	46	210	5
DVW-SE-29	REG	37000			610	62	400	1,072	29
SE-01	REG	24200	242	189	2,700	260	2,900	5,860	242
SE-02	REG	21900	279	224	21,000	2,400	230,000	253,400	11,571
SE-03	REG	18700	436	405	21,000	2,700	3,600	27,300	1,460
SE-04	REG	2920	399	388	34,000	1,100	15,000	50,100	17,158
SE-05	REG	16600	527	1,180	1,100,000	28,000	970,000	2,098,000	126,386
SE-06	REG	29400	77	222	3,500	98	3,300	6,898	235
SE-06	FD	25000	79	213	3,800	100	2,700	6,600	264
SE-07	REG	24400	353	2,190	140,000	9,200	16,000	165,200	6,770
SE-08	REG	16800	313	1,600	220,000	6,900	16,000	242,900	14,458
SE-09	REG	16100	370	2,090	77,000	18,000	5,600	100,600	6,248
SE-11	REG	26800	488	255	1,300	280	620	2,200	82
SE-11A	REG			160					NC
SE-11B	REG			110					NC
SE-12	REG	36400	100	84	310	30	170	510	14
SE-13	REG	30700	69	57	240	17	150	407	13
SE-14	REG	41200	77	86	280	34	270	584	14
SE-15	REG	30000	69	89	740	36	930	1,706	57
SE-16	REG	25900	78	129	850	64	1,200	2,114	82
SE-16A	REG	14000	49	27	61,000	5,100	57,000	123,100	8,793
SE-16B	REG	21000	440	290	170,000	20,000	220,000	410,000	19,524

Sediment Data Summary
Delaware Valley Works, Claymont, Delaware

Location	Sample Type	TOC Conc mg/kg	Lead Conc mg/kg	Arsenic Conc mg/kg	4,4'-DDD Conc ug/kg	4,4'-DDE Conc ug/kg	4,4'-DDT Conc ug/kg	Total DDx Conc ug/kg	Total DDx Normalized ug/gOC
SE-16C	REG	28000	490	270	60,000	5,400	48,000	113,400	4,050
SE-16H	REG	18000	420	200	6,800	1,800	4,900	13,500	750
SE-16K	REG	15000	48	47	36	5	310	351	23
SE-16K	FD	15000	48	47	560	20	2,900	3,480	232
SE-16M	REG	24000	180		2,400	160	16,000	18,560	773
SE-16M	FD	23000	200		880	200	2,300	3,380	147
SE-16O	REG	20000	440		1,400	220	4,000	5,620	281
SE-16P	REG	26000	340		590	500	1,400	2,490	96
SE-16Q	REG	35000	130						
SE-17	REG	22900	481	1,050	4,200	180	2,900	7,280	318
SE-17A	REG	17,000	430	460	2,500	120	4,500	7,120	419
SE-17A	FD	15,000	440	410	2,400	110	5,300	7,810	521
SE-17B	REG	9,600	910	2,000	3,400	450	1,100	4,950	516
SE-17C	REG	31,000	240	1,700	1,500	36	1,300	2,836	91
SE-17D	REG	10,000	1,500	1,800	3,700	440	2,600	6,740	674
SE-17E	REG	20,000	800	1,200	2,000	78	1,900	3,978	199
SE-17E	FD	20,000	750	1,200	1,400	86	5,400	6,886	344
SE-17F	REG	16,000	1,800	2,400	3,700	250	1,500	5,450	341
SE-17G	REG	9,800	610	1,700					
SE-17H	REG	12,000	1,100	3,000	2,600	340	2,100	5,040	420
SE-17I	REG	21,000	800	2,300	740	93	1,200	2,033	97
SE-17I	FD	19,000	740	2,300	670	92	610	1,372	72
SE-17J	REG	8,800	430	1,300	6,300	370	3,900	10,570	1,201
SE-17J-E	REG	12,000	1,300	660	42,000	11,000	50,000	103,000	8,583
SE-17J-E	FD	13,000	1,300	610	38,000	11,000	46,000	95,000	7,308
SE-17J-F11	REG	12000	660	490	61,000	4,300	38,000	103,300	8,608
SE-17J-F15	REG	16000	570	150	3,800	490	2,800	7,090	443
SE-17J-F16	REG	16000	480		16,000	1,600	5,500	23,100	1,444
SE-17J-F18	REG	12000	230		8,100	1,200	19,000	28,300	2,358
SE-17J-F19	REG	23000	310		5,800	2,900	6,500	15,200	661
SE-17J-F19	FD	19000	270		9,900	2,900	12,000	24,800	1,305
SE-17J-F2	REG	10,000	1,500	620	35,000	9,800	4,300	49,100	4,910
SE-17J-F20	REG	26000	180		5,900	310	1,000	7,210	277
SE-17J-F3	REG	3,800	2,700	680	2,500	500	9,500	12,500	3,289
SE-17J-F4	REG	5,100	1,100	400	24,000	2,600	17,000	43,600	8,549
SE-17J-F5	REG	6500	290	140	9,900	5,000	10,000	24,900	3,831
SE-17J-F6	REG	7500	760	1,300	9,400	1,100	7,200	17,700	2,360

Sediment Data Summary
Delaware Valley Works, Claymont, Delaware

Location	Sample Type	TOC Conc mg/kg	Lead Conc mg/kg	Arsenic Conc mg/kg	4,4'-DDD Conc ug/kg	4,4'-DDE Conc ug/kg	4,4'-DDT Conc ug/kg	Total DDx Conc ug/kg	Total DDx Normalized ug/gOC
SE-17J-F7	REG	4000	1,100	410	23,000	700	34,000	57,700	14,425
SE-17J-G	REG	5,100	1,400	670	1,100	240	4,700	6,040	1,184
SE-17J-I	REG	3,600	1,100	290	10,000	1,500	3,500	15,000	4,167
SE-17J-I	FD	3,900	710	260	9,500	1,500	7,600	18,600	4,769
SE-17J-J	REG	9,400	60	12	390	88	960	1,438	153
SE-17J-K1	REG	2700	970	280	1,100	320	3,600	5,020	1,859
SE-17J-K2	REG	4400	79	79	11,000	11,000	5,400	27,400	6,227
SE-17J-K3	REG	4,000	210	180	16,000	5,900	5,200	27,100	6,775
SE-17J-K6	REG	5900	280	45	7,300	520	5,100	12,920	2,190
SE-17J-L1	REG	18,000	68	41	160	34	160	354	20
SE-17J-M1	REG	8,100	260	310	1,400	460	640	2,500	309
SE-17J-M1	FD	8,700	240	160	1,900	320	1,200	3,420	393
SE-17J-M2	REG	14,000	120	48	2,500	780	25,000	28,280	2,020
SE-17J-M2	FD	15,000	130	37	1,900	330	680	2,910	194
SE-17J-M3	REG	15,000	54	17	150	180	44	374	25
SE-17J-M3	FD	20,000	52	17	300	150	360	810	41
SE-17J-N3	REG	10000	190	61	1,300	320	8,500	10,120	1,012
SE-17J-P3	REG	3400	310	99	61,000	2,900	70,000	133,900	39,382
SE-17J-P6	REG	11000	65	21	390	47	2,100	2,537	231
SE-17J-Q	REG	4500	350	93	20,000	1,500	69,000	90,500	20,111
SE-17J-R	REG	800	740	130	25,000	1,300	32,000	58,300	72,875
SE-17J-S2	REG	23,000	520		29,000	6,300	16,000	51,300	2,230
SE-17J-S4	REG	20,000	1,100		4,100	710	9,100	13,910	696
SE-17J-S5	REG	34,000	4,500		2,600	1,200	5,600	9,400	276
SE-17J-S6	REG	30,000	400		1,500	1,000	2,300	4,800	160
SE-17J-S6	FD	33,000	330		24,000	2,800	39,000	65,800	1,994
SE-17J-S7	REG	17,000	400		23,000	3,400	39,000	65,400	3,847
SE-17J-S7	FD	19,000	390		4,000	1,300	7,000	12,300	647
SE-17J-T2	REG	23,000	340		6,500	1,100	9,700	17,300	752
SE-17J-T4	REG	25,000	330		160,000	7,000	10,000	177,000	7,080
SE-17J-T4	FD	31,000	340		180,000	7,700	8,600	196,300	6,332
SE-17J-T6	REG	11,000	320		6,800	2,900	100,000	109,700	NC
SE-17J-T7	REG	15,000	330		2,900	520	4,400	7,820	NC
SE-17J-T7	FD	17,000	310		2,500	330	710	3,540	208
SE-17J-T8	REG	15,000	460		4,500	1,800	8,100	14,400	960
SE-17J-U10	REG	8,300	170		2,800	1,200	5,900	9,900	1,193
SE-17J-U11	REG	13,000	120		1,700	160	6,100	7,960	612

Sediment Data Summary
Delaware Valley Works, Claymont, Delaware

Location	Sample Type	TOC Conc mg/kg	Lead Conc mg/kg	Arsenic Conc mg/kg	4,4'-DDD Conc ug/kg	4,4'-DDE Conc ug/kg	4,4'-DDT Conc ug/kg	Total DDx Conc ug/kg	Total DDx Normalized ug/gOC
SE-17J-U12	REG	9,900			6,700	880	18,000	25,580	2,584
SE-17J-U5	REG	17,000	51		440	37	7,100	7,577	446
SE-17J-U7	REG	14,000	84		6,200	240	6,200	12,640	903
SE-17K	REG	10,000	360	1,100					
SE-17L	REG	21,000	2,900	5,200	1,700	220	720	2,640	126
SE-17L-A	REG		910	1900					NC
SE-17L-B	REG		580	1900					NC
SE-17L-C	REG		490	1200					NC
SE-17L-D	REG		270	280					NC
SE-17L-E	REG	23,000	150	52	280	150	360	790	34
SE-18	REG	24,100	64	26	260	38	500	798	33
SE-18A	REG	29,000	550	270	1,400	2,300	4,600	8,300	286
SE-19	REG	32,400	50	17	140	16	110	266	8
SE-20	REG	22,500	38	20	150	13	190	353	16
SE-20A	REG	21,000	81	49	540	180	3,000	3,720	177
SE-21	REG	26,700	127	61	190	220	230	640	24
SE-21A	REG	26,000	91	110	390	200	770	1,360	52
SE-21B	REG	18,000	87	390	240	61	110	411	23
SE-21D	REG	27,000	190	170	500	370	650	1,520	56
SE-22	REG	26,600	353	860	350	55	440	845	32
SE-23	REG	33,700	165	165	1,900	240	2,600	4,740	141
SE-24	REG	12,400	611	3,500	1,500	340	1,600	3,440	277
SE-25	REG	93,300	260	944	68,000	8,700	140,000	216,700	2,323
SE-25	FD	58,500	190	741	56,000	4,500	89,000	149,500	2,556
SE-26	REG	58,200	738	960	66,000	5,800	32,000	103,800	1,784
SE-27	REG	41,500	408	396	1,800,000	220,000	5,300,000	7,320,000	176,386
SE-28	REG	80,100	282	785	42,000	6,300	74,000	122,300	1,527
SE-29	REG	20,000	2,020	1,010	23,000	2,100	1,200	26,300	1,315
Note:									
NC - not calculated									

Table 3 - Data Summary Table

						Postive Result	
Client Sample ID:		**LOC-001**	**LOC-002**	**LOC-003**	**FD-01***	**LOC-004**	**LOC-005**
Lab Sample ID:			**JC77221-1**	**JC77181-2**	**JC77181-3**	**JC77181-1**	**JC75098-1**
Date Sampled:			**11/1/2018**	**10/31/2018**	**10/31/2018**	**10/31/2018**	**10/1/2018**
Matrix:			**Pore Water**	**Pore Water**	**Pore Water**	**Pore Water**	**Pore Water**
Pesticides		**NA**	**PREP**				
alpha-BHC	ug/l			0.076	0.11	0.045	0.010 U
beta-BHC	ug/l			0.024	0.037	0.0080 U	0.011 U
delta-BHC	ug/l			0.0071 U	0.0071 U	0.0075 U	0.010 U
gamma-BHC (Lindane)	ug/l			0.022	0.043	0.0060 U	0.0080 U
4,4'-DDD	ug/l			0.016	0.016	0.018	0.18
4,4'-DDE	ug/l			0.0050 U	0.0050 U	0.0050 U	0.072 J
4,4'-DDT	ug/l			0.0046 U	0.0046 U	0.0075	0.27
Metals		**NA**					
Arsenic (Total)	ug/l		9630	6230	6120	3100	NA
Arsenic (Dissolved)	ug/l		9410	6650	5890	3850	FILT

Client Sample ID:		**LOC-006**	**LOC-007**	**LOC-008**	**LOC-009**	**RINSATE**
Lab Sample ID:		**JC75098-2**	**JC75098-3**	**JC75196-2**	**JC75196-1**	**JC75098-4**
Date Sampled:		**10/1/2018**	**10/1/2018**	**10/2/2018**	**10/2/2018**	**10/1/2018**
Matrix:		**Pore Water**	**Pore Water**	**Pore Water**	**Pore Water**	**DI Water**
Pesticides						
alpha-BHC	ug/l	0.015	0.010 U	0.014 U	0.014	0.0047 U
beta-BHC	ug/l	0.013 J	0.011 U	0.015 U	0.0069 J	0.0050 U
delta-BHC	ug/l	0.0088 U	0.010 U	0.014 U	0.012	0.0047 U
gamma-BHC (Lindane)	ug/l	0.0080 J	0.0080 U	0.011 U	0.0040 U	0.0037 U
4,4'-DDD	ug/l	8.5 J	3.2 J	5.1 J	0.32	0.0036 U
4,4'-DDE	ug/l	2.4 J	0.17 J	0.22 J	0.032	0.0047 U
4,4'-DDT	ug/l	20.4 J	0.41	1.1	0.025	0.0043 U
Metals						
Arsenic (Total)	ug/l	NA	1700	504	656	1.0 J
Arsenic (Dissolved)	ug/l	FILT	FILT	115	382	3.0 U

Footnotes:

* - This sample is a field duplicate collected at LOC-003.

U - This analyte was not detected at or above the reported detection limit.

J - This result is an estimated value.

NA – Sample could not be collected at this location.

PREP - Sample preparation problem, pesticide results are not available.

FILT - Sample could not be filtered for dissolved arsenic analysis.

Appendix D

2016 Groundwater Sampling Locations (Monitoring Wells)			
Sampling ID	**Northing (ft)**	**Easting (ft)**	**Screened Interval (ft)**
MW-108R	657,459	651,974	15–6
MW-110R	657,159	651,624	15–5
MW-111R	657,244	651,513	14–4
MW-118	657,045	651,629	41–31
MW-119	657,292	651,956	24–16
MW-120	657,293	651,960	16–6
MW-121	657,529	651,634	16–6
MW-122	657,199	652,438	23–15
MW-123	657,532	651,639	27–17
MW-124	657,049	651,626	22–12
2016 Groundwater Sampling Locations (Existing Monitoring Wells)			
Sampling ID	**Northing (ft)**	**Easting (ft)**	**Screened Interval (ft)**
MW-109	657,285	651,774	Unknown
MW-18	657,436	652,143	30–0
MW-17	657,167	652,393	16–6
MW-16	657,335	652,770	14–4
2016 Core Locations			
Sampling ID	**Northing (ft)**	**Easting (ft)**	
DVW-16-G01	657,013	652,173	
DVW-16-G02	656,873	652,332	
DVW-16-G03	656,836	652,605	
DVW-16-G04	657,073	652,760	
DVW-16-G05	657,052	653,089	
2016 River Sampling Locations			
Sampling ID	**Northing (ft)**	**Easting (ft)**	
DVW-16-01	651,890	657,182	
DVW-16-02	651,981	657,225	
DVW-16-03	652,068	657,256	
DVW-16-04	652,352	657,022	
DVW-16-05	652,445	657,064	
DVW-16-06	652,771	657,248	
DVW-16-07	652,953	657,340	
DVW-16-08	652,208	657,173	
DVW-16-09	652,553	657,121	
DVW-16-10	652,669	657,181	

ANCHOR QEA

NOTE(S):
1. Aerial photograph is provided by DEMAC web service and is from 2012.

LEGEND:

Sample Location
- In-water
- Groundwater
- Sediment Geotechnical Core
- Current Projected Sediment Cap Area
- Shoreline Cap Area

Figure 1
Pathway Investigation As-Drilled Sample Locations
Supplemental Pathway Investigation
Delaware Valley Works Facility, Claymont, DE

Table 1
Groundwater Parameter Quality Data
Arsenic Study Groundwater Report November 2016
Honeywell-Delaware Valley Works Facility South Plant, Claymont, DE

Location		MW-16	MW-17	MW-18	MW-108R	MW-109	MW-110R	MW-111R	MW-118	MW-119
Sample Date		11/16/2016	11/16/2016	11/16/2016	11/15/2016	11/15/2016	11/17/2016	11/17/2016	11/17/2016	11/15/2016
Method	**Parameter Name**									
E300.0	Bromide	3.6	2.5 U	2.5 U	1.3 U	1.3 U	1.3 U	2.5 U	2.5 U	2.5 U
E300.0	Chloride	760	19	9.9	16	25	32	110	5 U	42
E300.0	Fluoride	2.4	9.5	11	19	10	3.4	8.7	0.15 J	7.7
E300.0	Nitrate as N	2	0.5 U	0.11 J	0.25 U	0.25 U	0.25 U	0.5 U	0.5 U	1
E300.0	Nitrite as N	0.25 U	0.25 U	0.25 U	0.13	0.19	0.13 U	0.25 U	0.25 U	0.44
E300.0	Orthophosphate as P	2.5 U	2.5 U	2.5 U	7.7	7.2	1.3 U	2.5 U	2.5 U	8.8
E300.0	Sulfate	810	2600	2400	1400	860	1500	800	1400	2800
SM2320B	Bicarbonate Alkalinity as CaCO3	84	52	5 U	5 U	5 U	5 U	490	23	5 U
SM2320B	Carbonate Alkalinity as CaCO3	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U
SM2320B	Phenolphthalein Alkalinity	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U
SM2320B	Total Alkalinity as CaCO3 to pH 4.5	84	52	5 U	5 U	5 U	5 U	490	23	5 U
SM4500S2-D	Sulfide	0.05 J	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U
SW6020	Calcium	320000	440000	480000	370000	240000	580000	280000	210000	360000
SW6020	Magnesium	51000	310000	64000	35000	41000	15000	34000	77000	100000
SW6020	Potassium	16000	27000	15000	8900	13000	11000	18000	5700	30000
SW6020	Silicon	5700	17000	26000	48000	49000	33000	27000	16000	52000
SW6020	Sodium	380000	30000	40000	57000	100000	56000	260000	92000	160000

Notes:

U = Undetected

J = Estimated

Dup-11152016 was taken at MW-120

mg/L: milliliters per liter

ug/L: micrograms per liter

Table 1
Groundwater Parameter Quality Data
Arsenic Study Groundwater Report November 2016
Honeywell-Delaware Valley Works Facility South Plant, Claymont, DE

	Location	MW-120	DUP-11152016	MW-121	MW-122	MW-123	MW-124	FB-11152016	FB-11162016	FB-111716
	Sample Date	11/15/2016	11/15/2016	11/16/2016	11/16/2016	11/16/2016	11/17/2016	11/16/2016	11/16/2016	11/17/2016
Method	Parameter Name									
E300.0	Bromide	1.3 U	1.3 U	2.5 U	2.5 U	1.3 J	2.5 U	0.5 U	0.5 U	0.5 U
E300.0	Chloride	28	24	88	14	180	44	1 U	1 U	1 U
E300.0	Fluoride	8.8	8.7	0.2 J	24	0.42 J	0.41 J	0.1 U	0.1 U	0.1 U
E300.0	Nitrate as N	0.25 U	0.25 U	0.5 U	0.5 U	0.5 U	0.5 U	0.1 U	0.1 U	0.1 U
E300.0	Nitrite as N	0.36	0.34	0.25 U	0.25 U	0.25 U	0.25 U	0.05 U	0.05 U	0.05 U
E300.0	Orthophosphate as P	33	31	2.5 U	2.5 U	2.5 U	2.5 U	0.5 U	0.5 U	0.5 U
E300.0	Sulfate	1600	1600	4200	2500	3000	110	1 U	1 U	1 U
SM2320B	Bicarbonate Alkalinity as CaCO3	5 U	5 U	5 U	64	170	1700	5 U	5 U	5 U
SM2320B	Carbonate Alkalinity as CaCO3	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U
SM2320B	Phenolphthalein Alkalinity	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U
SM2320B	Total Alkalinity as CaCO3 to pH 4.5	5 U	5 U	5 U	64	170	1700	5 U	5 U	5 U
SM4500S2-D	Sulfide	0.055 J	0.038 J	0.078 J	0.071 J	0.038 J	0.053 J	0.1 U	0.1 U	0.1 U
SW6020	Calcium	350000	380000	140000	470000	260000	89000	2500 U	2500 U	500 J
SW6020	Magnesium	59000	63000	160000	200000	220000	41000	2500 U	2500 U	5000 U
SW6020	Potassium	22000	24000	6300	39000	9100	12000	2500 U	2500 U	5000 U
SW6020	Silicon	49000	52000	23000	32000	22000	19000	2500 U	2500 U	5000 U
SW6020	Sodium	98000	110000	860000	42000	370000	590000	2500 U	2500 U	5000 U

Notes:

U = Undetected

J = Estimated

Dup-11152016 was taken at MW-120

mg/L: milliliters per liter

ug/L: micrograms per liter

Table 2
Groundwater Arsenic Speciation Data
Arsenic Study Groundwater Report November 2016
Honeywell-Delaware Valley Works Facility South Plant, Claymont, DE

	Location	MW-16	MW-17	MW-18	MW-108R	MW-109	MW-110R	MW-111R
	Sample Date	11/16/2016	11/16/2016	11/16/2016	11/15/2016	11/15/2016	11/17/2016	11/17/2016
Parameter	Fraction							
As	TR	50.8	11.8	14000	56200	7250	2760	2260
As	D	27	1.15	13300	54900	6950	2690	1630
As(III)	D	30.4	0.532 B	3980	33600	4470	2080	1120
As(V)	D	6.97	0.502 B	7240	7550	1190	284	1040
DMAs	D	≤ 0.150 U	≤ 0.150 U	≤ 3.00 U	≤ 150 U	≤ 3.00 U	≤ 3.00 U	≤ 3.00 U
Fe	TR	5810	80000	486000	167000	33100	48100	92500
Fe	D	3040	74900	442000	139000	31000	50000	85900
MMAs	D	≤ 0.150 U	≤ 0.150 U	≤ 3.00 U	≤ 150 U	≤ 3.00 U	≤ 3.00 U	≤ 3.00 U
Mn	TR	66.3	1350	981	931	1170	580	847
Mn	D	51	1310	992	1010	1150	563	830

Notes:

D: Dissolved fraction

TR: Total recoverable fraction

U: Result is ≤ the MDL or client requested reporting limit (CRRL). Result reported as the MDL or CRRL.

B: Detected by the instrument, the result is > the MDL but ≤ the MRL. Result is reported and considered an estimate.

Table 2
Groundwater Arsenic Speciation Data
Arsenic Study Groundwater Report November 2016
Honeywell-Delaware Valley Works Facility South Plant, Claymont, DE

	Location	MW-118	MW-119	MW-120	Dup-1115 2016	MW-121	MW-122	MW-123	MW-124
	Sample Date	11/17/2016	11/15/2016	11/15/2016	11/15/2016	11/16/2016	11/16/2016	11/16/2016	11/17/2016
Parameter	Fraction								
As	TR	30.8	153000	24000	24400	815	17.1	62.8	245
As	D	33.6	154000	23800	24000	998	12.2	60.7	203
As(III)	D	≤ 0.100 U	93800	12600	13200	82.1	5.56	4.28	110
As(V)	D	25.4	23100	6490	6260	271	7.43	22	94.1
DMAs	D	≤ 0.150 U	≤ 300 U	≤ 3.00 U	≤ 3.00 U	≤ 3.00 U	≤ 0.150 U	≤ 0.150 U	≤ 3.00 U
Fe	TR	361000	629000	203000	197000	880000	193000	649000	41300
Fe	D	364000	630000	188000	189000	673000	186000	574000	40600
MMAs	D	≤ 0.150 U	≤ 300 U	≤ 3.00 U	≤ 3.00 U	≤ 3.00 U	≤ 0.150 U	≤ 0.150 U	5.33 B
Mn	TR	5970	10900	2380	2150	27100	1530	40800	718
Mn	D	6100	10700	2060	2150	21600	1390	40100	755

Notes:

D: Dissolved fraction

TR: Total recoverable fraction

U: Result is ≤ the MDL or client requested reporting limit (CRRL). Result reported as the MDL or CRRL.

B: Detected by the instrument, the result is > the MDL but ≤ the MRL. Result is reported and considered an estimate.

Table 1
Analytical Results Summary - Sediment

	Location ID	DVW-16-01	DVW-16-01	DVW-16-02	DVW-16-02	DVW-16-03	DVW-16-03	DVW-16-04	DVW-16-04
	Sample ID	DVW-16-01-SED-161103	DVW-16-01-SED-161114	DVW-16-02-SED-161103	DVW-16-02-SED-161114	DVW-16-03-SED-161103	DVW-16-03-SED-161114	DVW-16-04-SED-161104	DVW-16-04-SED-161114
	Sample Date	11/3/2016	11/14/2016	11/3/2016	11/14/2016	11/3/2016	11/14/2016	11/4/2016	11/14/2016
	Depth	0 - 15 cm	0 - 6 in	0 - 15 cm	0 - 6.8 in	0 - 15 cm	0 - 8.5 in	0 - 15 cm	0 - 7 in
	Sample Type	N	N	N	N	N	N	N	N
	Matrix	SE	SE	SE	SE	SE	SE	SE	SE
	X	651890.01	651890.01	651981.03	651981.03	652067.95	652067.95	652352.23	652352.23
	Y	657182.06	657182.06	657225.28	657225.28	657256.32	657256.32	657022.48	657022.48
	Method								
Conventional Parameters									
Sulfide (mg/kg)	SW9034	--	**1400**	--	**690**	--	**480**	--	70 U
Total organic carbon (pct)	LloydKahn	**5.1**	--	**4.8**	--	**3.2**	--	**3.9**	--
Total solids (pct)	SM2540G	**50.51**	--	**49.46**	--	**51.82**	--	**47.93**	--
Metals (mg/kg)									
Arsenic	SW6020BM	**250**	--	**461**	--	**1830***	--	**331***	--

Notes:
* = Laboratory reported values for Arsenic for Sample DVW-16-03 and DVW-16-04 reassigned in accordance with Section 3.5 of Supplemental Pathway Investigation Results Report (Anchor QEA 2017)
Bold = Detected result
-- = results not reported or not applicable
cm = centimeter
FD = field duplicate sample
in = inches
J = estimated value
lb/ft^3 = pounds per cubic feet
mg/kg = milligrams per kilogram
N = normal environmental sample
pct = percent
SE = sediment matrix
U = compound analyzed, but not detected above detection limit

Horizontal coordinate datum is NAD 1983 State Plane Delaware FIPS 0700 (US Survey Feet).
All undetect results are reported at the reporting limit.
USEPA Stage 2B data validation was completed by Validata, LLC.

Table 1
Analytical Results Summary - Sediment

	Location ID	DVW-16-05	DVW-16-05	DVW-16-05	DVW-16-06	DVW-16-06	DVW-16-06	DVW-16-07	DVW-16-07
	Sample ID	DVW-16-05-SED-161104	DVW-16-105-SED-161104	DVW-16-05-SED-161114	DVW-16-06-SED-161103	DVW-16-06-SED-161114	DVW-16-106-SED-161114	DVW-16-07-SED-161103	DVW-16-07-SED-161114
	Sample Date	11/4/2016	11/4/2016	11/14/2016	11/3/2016	11/14/2016	11/14/2016	11/3/2016	11/14/2016
	Depth	0 - 15 cm	0 - 15 cm	0 - 9 in	0 - 15 cm	0 - 9 in	0 - 9 in	0 - 15 cm	0 - 7 in
	Sample Type	N	FD	N	N	N	FD	N	N
	Matrix	SE	SE	SE	SE	SE	SE	SE	SE
	X	652444.61	652444.61	652444.61	652770.89	652770.89	652770.89	652953.44	652953.44
	Y	657064.32	657064.32	657064.32	657247.95	657247.95	657247.95	657339.86	657339.86
	Method								
Conventional Parameters									
Sulfide (mg/kg)	SW9034	--	--	**2200**	--	**1700**	**1800**	--	**910**
Total organic carbon (pct)	LloydKahn	**3.4**	**3.7**	--	**2.9**	--	--	**3.2**	--
Total solids (pct)	SM2540G	**49.36**	**52.02**	--	**59.27**	--	--	**48.03**	--
Metals (mg/kg)									
Arsenic	SW6020BM	**342**	**373**	--	**270**	--	--	**144**	--

Notes:
* = Laboratory reported values for Arsenic for Sample DVW-16-03 and DVW-16-04 reassigned in accordance with Section 3.5 of Supplemental Pathway Investigation Results Report (Anchor QEA 2017)
Bold = Detected result
-- = results not reported or not applicable
cm = centimeter
FD = field duplicate sample
in = inches
J = estimated value
lb/ft^3 = pounds per cubic feet
mg/kg = milligrams per kilogram
N = normal environmental sample
pct = percent
SE = sediment matrix
U = compound analyzed, but not detected above detection limit

Horizontal coordinate datum is NAD 1983 State Plane Delaware FIPS 0700 (US Survey Feet).
All undetect results are reported at the reporting limit.
USEPA Stage 2B data validation was completed by Validata, LLC.

Table 1
Analytical Results Summary - Sediment

		Location ID	DVW-16-08	DVW-16-08	DVW-16-09	DVW-16-09	DVW-16-10	DVW-16-10
		Sample ID	DVW-16-08-SED-161103	DVW-16-08-SED-161114	DVW-16-09-SED-161104	DVW-16-09-SED-161114	DVW-16-10-SED-161103	DVW-16-10-SED-161114
		Sample Date	11/3/2016	11/14/2016	11/4/2016	11/14/2016	11/3/2016	11/14/2016
		Depth	0 - 15 cm	0 - 8.5 in	0 - 15 cm	0 - 8 in	0 - 15 cm	0 - 7.5 in
		Sample Type	N	N	N	N	N	N
		Matrix	SE	SE	SE	SE	SE	SE
		X	652207.70	652207.70	652553.22	652553.22	652669.31	652669.31
		Y	657173.37	657173.37	657120.66	657120.66	657181.17	657181.17
	Method							
Conventional Parameters								
Sulfide (mg/kg)	SW9034	--	**770**	--	**930**	--	**93**	
Total organic carbon (pct)	LloydKahn	**3**	--	**3.1**	--	**2.8**	--	
Total solids (pct)	SM2540G	**49.67**	--	**47.05**	--	**45.78**	--	
Metals (mg/kg)								
Arsenic	SW6020BM	**48.7**	--	**104**	--	**250 J**	--	

Notes:
* = Laboratory reported values for Arsenic for Sample DVW-16-03 and DVW-16-04 reassigned in accordance with Section 3.5 of Supplemental Pathway Investigation Results Report (Anchor QEA 2017)
Bold = Detected result
-- = results not reported or not applicable
cm = centimeter
FD = field duplicate sample
in = inches
J = estimated value
lb/ft^3 = pounds per cubic feet
mg/kg = milligrams per kilogram
N = normal environmental sample
pct = percent
SE = sediment matrix
U = compound analyzed, but not detected above detection limit

Horizontal coordinate datum is NAD 1983 State Plane Delaware FIPS 0700 (US Survey Feet).
All undetect results are reported at the reporting limit.
USEPA Stage 2B data validation was completed by Validata, LLC.

Table 1
Analytical Results Summary - Surface Water

	Location ID	DVW-16-01	DVW-16-02	DVW-16-03	DVW-16-03	DVW-16-04	DVW-16-07	DVW-16-08	DVW-16-10
	Sample ID	DVW-16-01-SW-161117	DVW-16-02-SW-161115	DVW-16-03-SW-161116	DVW-16-103-SW-161116	DVW-16-04-SW-161118	DVW-16-07-SW-161114	DVW-16-08-SW-161117	DVW-16-10-SW-161118
	Sample Date	11/17/2016	11/15/2016	11/16/2016	11/16/2016	11/18/2016	11/14/2016	11/17/2016	11/18/2016
	Sample Type	N	N	N	FD	N	N	N	N
	Matrix	WS	WS	WS	WS	WS	WS	WS	WS
	X	651890.01	651981.03	652067.95	652067.95	652352.23	652953.44	652207.70	652669.31
	Y	657182.06	657225.28	657256.32	657256.32	657022.48	657339.86	657173.37	657181.17
	Method								
Metals (µg/L)									
Arsenic	E1638M	**3.94**	**19.5**	**5.83**	**4.34**	**6.55**	**3.45**	**3.85**	**11.4***
Metals, Dissolved (µg/L)									
Arsenic	E1638M	**1.67 J**	**5.98**	**3.07 J**	**3.42 J**	**2.73 J**	**1.95 J**	**1.86 J**	**3.28***
Arsenic III	BAL4100-002	**0.247 J**	**3.99**	**3.16**	**2.19**	**1.16**	**0.195 J**	**0.169 J**	**1.06**
Arsenic V	BAL4100-002	**1.19**	**1.43**	**1.53**	**1.43**	**1.56**	**1.1**	**1.2**	**1.7**
Organometallic Compounds, Dissolved (µg/L)									
Cacodylic acid (DMA)	BAL4100-002	1.05 U	1.05 U	1.05 U	1.05 U	1.05 U	1.05 U	1.05 U	1.05 U
Methylarsonic acid (MMA)	BAL4100-002	1.15 U	1.15 U	1.15 U	1.15 U	1.15 U	1.15 U	1.15 U	1.15 U

Notes:

* = Total and Dissolved Arsenic values for DVW-16-10 reassigned in accordance with Section 3.5 of the Supplemental Pathway Investigation Results Report (Anchor QEA 2017)

Bold = Detected result

-- = results not reported or not applicable

µg/L = micrograms per liter

FD = field duplicate sample

J = estimated value

mg/kg = milligrams per kilogram

N = normal environmental sample

U = compound analyzed, but not detected above detection limit

WS = surface water matrix

Horizontal coordinate datum is NAD 1983 State Plane Delaware FIPS 0700 (US Survey Feet).

All undetect results are reported at the reporting limit.

USEPA Stage 2B data validation was completed by Validata, LLC.

Table 1
Analytical Results Summary - Porewater

	Location ID	DVW-16-01	DVW-16-01	DVW-16-01	DVW-16-01	DVW-16-02
	Sample ID	DVW-16-01-PW-161101	DVW-16-01-PW-00-10-161117	DVW-16-1001-PW-00-10-161117	DVW-16-01-PW-161118	DVW-16-02-PW-00-10-161115
	Sample Date	11/1/2016	11/17/2016	11/17/2016	11/18/2016	11/15/2016
	Sample Type	N	N	FD	N	N
	Matrix	WX	WX	WX	WX	WX
	X	651890.01	651890.01	651890.01	651890.01	651981.03
	Y	657182.06	657182.06	657182.06	657182.06	657225.28
	Method					
Conventional Parameters (porewater) (mg/L)						
Alkalinity, bicarbonate as calcium carbonate (CaCO3)	SM2320B	--	**300**	**340**	--	5 U
Alkalinity, carbonate as calcium carbonate (CaCO3)	SM2320B	--	5 U	5 U	--	5 U
Alkalinity, phenolphthalein as calcium carbonate (CaCO3)	SM2320B	--	5 U	5 U	--	5 U
Alkalinity, total as calcium carbonate (CaCO3)	SM2320B	--	**300**	**340**	--	5 U
Bromide	E300.0	--	**0.41 J**	**0.46 J**	--	2.5 U
Chloride	E300.0	--	**94**	**95**	--	**69**
Fluoride	E300.0	--	**3.6**	**3.6**	--	**2.4**
Nitrate as nitrogen	E300.0	--	0.25 U	0.25 U	--	0.5 U
Nitrite as nitrogen	E300.0	--	0.13 U	0.13 U	--	0.25 U
Orthophosphate	E300.0	--	**12**	**12**	--	2.5 U
Sulfate	E300.0	--	**630**	**600**	--	**1500**
Sulfide	E376.2	**66 J**	0.1 U	0.1 U	--	**0.071 J**
Metals (porewater) (µg/L)						
Calcium	SW6020A	--	**310000**	**310000**	--	**430000**
Iron	SW6020A	--	**8100**	**8600**	--	**200000**
Magnesium	SW6020A	--	**18000**	**17000**	--	**42000**
Manganese	SW6020A	--	**1600**	**1500**	--	**1900**
Potassium	SW6020A	--	**12000**	**11000**	--	**14000**
Silicon	SW6020A	--	**37000**	**36000**	--	**37000**
Sodium	SW6020A	--	**89000**	**88000**	--	**99000**
Metals, Dissolved (porewater) (µg/L)						
Arsenic	E1638M	**32700**	**259**	**254**	--	**4770**
Arsenic III	BAL4100-002	**93000 J**	**222**	**228**	**1710**	**3210**
Arsenic V	BAL4100-002	**15500 J**	**10.1**	**10.3**	**96.2**	**2540**
Organometallic Compounds, Dissolved (porewater) (µg/L)						
Cacodylic acid (DMA)	BAL4100-002	2100 UJ	4.2 U	4.2 U	21 U	21 U
Methylarsonic acid (MMA)	BAL4100-002	2300 UJ	4.6 U	4.6 U	23 U	23 U

Notes:
Bold = Detected result
-- = results not reported or not applicable
µg/L = micrograms per liter
FD = field duplicate sample
J = estimated value
N = normal environmental sample
U = compound analyzed, but not detected above detection limit
UJ = Compound analyzed, but not detected above estimated detection limit
WX = porewater matrix

Horizontal coordinate datum is NAD 1983 State Plane Delaware FIPS 0700 (US Survey Feet).
All undetect results are reported at the reporting limit.
USEPA Stage 2B data validation was completed by Validata, LLC.

Table 1
Analytical Results Summary - Porewater

	Location ID	DVW-16-02	DVW-16-03	DVW-16-03	DVW-16-04	DVW-16-04	DVW-16-05	DVW-16-06
	Sample ID	DVW-16-02-PW-161118	DVW-16-03-PW-81-91-161116	DVW-16-03-PW-161118	DVW-16-04-PW-161118	DVW-16-04-PW-81-91-161118	DVW-16-05-PW-161118	DVW-16-06-PW-161118
	Sample Date	11/18/2016	11/16/2016	11/18/2016	11/18/2016	11/18/2016	11/18/2016	11/18/2016
	Sample Type	N	N	N	N	N	N	N
	Matrix	WX	WX	WX	WX	WX	WX	WX
	X	651981.03	652067.95	652067.95	652352.23	652352.23	652444.61	652770.89
	Y	657225.28	657256.32	657256.32	657022.48	657022.48	657064.32	657247.95
	Method							
Conventional Parameters (porewater) (mg/L)								
Alkalinity, bicarbonate as calcium carbonate (CaCO3)	SM2320B	--	**22**	--	--	**1000**	--	--
Alkalinity, carbonate as calcium carbonate (CaCO3)	SM2320B	--	5 U	--	--	5 U	--	--
Alkalinity, phenolphthalein as calcium carbonate (CaCO3)	SM2320B	--	5 U	--	--	5 U	--	--
Alkalinity, total as calcium carbonate (CaCO3)	SM2320B	--	**22**	--	--	**1000**	--	--
Bromide	E300.0	--	2.5 U	--	--	2.5 U	--	--
Chloride	E300.0	--	**71**	--	--	**130**	--	--
Fluoride	E300.0	--	**14**	--	--	**35**	--	--
Nitrate as nitrogen	E300.0	--	0.5 U	--	--	0.5 U	--	--
Nitrite as nitrogen	E300.0	--	0.25 U	--	--	0.25 U	--	--
Orthophosphate	E300.0	--	2.5 U	--	--	2.5 U	--	--
Sulfate	E300.0	--	**2100**	--	--	**2400**	--	--
Sulfide	E376.2	--	--	--	--	**0.28**	--	--
Metals (porewater) (µg/L)								
Calcium	SW6020A	--	**480000**	--	--	**790000**	--	--
Iron	SW6020A	--	**290000**	--	--	**32000**	--	--
Magnesium	SW6020A	--	**41000**	--	--	**47000**	--	--
Manganese	SW6020A	--	**6800**	--	--	**5100**	--	--
Potassium	SW6020A	--	**9500 J**	--	--	**14000**	--	--
Silicon	SW6020A	--	**27000**	--	--	**32000**	--	--
Sodium	SW6020A	--	**110000**	--	--	**140000**	--	--
Metals, Dissolved (porewater) (µg/L)								
Arsenic	E1638M	--	**417000**	--	--	**1480**	--	--
Arsenic III	BAL4100-002	**3460**	**329000**	**3770**	**845**	**1330**	**1820**	**475**
Arsenic V	BAL4100-002	**52.4**	**63900**	**177**	**84.4**	**300**	**111**	**34.8**
Organometallic Compounds, Dissolved (porewater) (µg/L)								
Cacodylic acid (DMA)	BAL4100-002	21 U	2100 U	21 U	21 U	21 U	21 U	21 U
Methylarsonic acid (MMA)	BAL4100-002	23 U	2300 U	23 U	23 U	23 U	23 U	23 U

Notes:
Bold = Detected result
-- = results not reported or not applicable
µg/L = micrograms per liter
FD = field duplicate sample
J = estimated value
N = normal environmental sample
U = compound analyzed, but not detected above detection limit
UJ = Compound analyzed, but not detected above estimated detection limit
WX = porewater matrix

Horizontal coordinate datum is NAD 1983 State Plane Delaware FIPS 0700 (US Survey Feet).
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Table 1
Analytical Results Summary - Porewater

	Location ID	DVW-16-06	DVW-16-07	DVW-16-07	DVW-16-07	DVW-16-08	DVW-16-08
	Sample ID	DVW-16-106-PW-161118	DVW-16-07-PW-00-10-161114	DVW-16-07-PW-081-091-161114	DVW-16-07-PW-161118	DVW-16-08-PW-00-10-161117	DVW-16-08-PW-81-91-161117
	Sample Date	11/18/2016	11/14/2016	11/14/2016	11/18/2016	11/17/2016	11/17/2016
	Sample Type	FD	N	N	N	N	N
	Matrix	WX	WX	WX	WX	WX	WX
	X	652770.89	652953.44	652953.44	652953.44	652207.70	652207.70
	Y	657247.95	657339.86	657339.86	657339.86	657173.37	657173.37
	Method						
Conventional Parameters (porewater) (mg/L)							
Alkalinity, bicarbonate as calcium carbonate (CaCO3)	SM2320B	--	**410**	**1000**	--	**250**	**320**
Alkalinity, carbonate as calcium carbonate (CaCO3)	SM2320B	--	5 U	5 U	--	5 U	5 U
Alkalinity, phenolphthalein as calcium carbonate (CaCO3)	SM2320B	--	5 U	5 U	--	5 U	5 U
Alkalinity, total as calcium carbonate (CaCO3)	SM2320B	--	**410**	**1000**	--	**250**	**320**
Bromide	E300.0	--	**1.3**	2.5 U	--	**2.6**	**0.42 J**
Chloride	E300.0	--	**550**	**140**	--	**520**	**150**
Fluoride	E300.0	--	**0.64**	**9.1**	--	**0.71**	**15**
Nitrate as nitrogen	E300.0	--	0.25 U	0.5 U	--	0.1 U	0.25 U
Nitrite as nitrogen	E300.0	--	0.13 U	0.25 U	--	0.05 U	0.13 U
Orthophosphate	E300.0	--	1.3 U	2.5 U	--	0.5 U	**2.4**
Sulfate	E300.0	--	**7.6**	**32**	--	**14**	**1400**
Sulfide	E376.2	--	**0.079 J**	**0.11**	--	**0.19**	**0.05 J**
Metals (porewater) (µg/L)							
Calcium	SW6020A	--	**100000**	**390000**	--	**93000**	**660000**
Iron	SW6020A	--	85 U	**2500**	--	**30000**	**2200**
Magnesium	SW6020A	--	**56000**	**51000**	--	**33000**	**17000**
Manganese	SW6020A	--	**8100**	**4100**	--	**10000**	**1700**
Potassium	SW6020A	--	**17000**	**12000**	--	**7000**	**5800**
Silicon	SW6020A	--	**12000 J**	**28000**	--	**20000**	**34000**
Sodium	SW6020A	--	**260000**	**97000**	--	**210000**	**90000**
Metals, Dissolved (porewater) (µg/L)							
Arsenic	E1638M	--	**1260**	**70.1**	--	**658**	**1910**
Arsenic III	BAL4100-002	**427**	**991**	**35.3**	**1070**	**574**	**762**
Arsenic V	BAL4100-002	**65.1**	**134**	**10.1**	**81.2**	**54.3**	**16.1 J**
Organometallic Compounds, Dissolved (porewater) (µg/L)							
Cacodylic acid (DMA)	BAL4100-002	21 U	4.2 U	1.05 U	21 U	21 U	21 U
Methylarsonic acid (MMA)	BAL4100-002	23 U	4.6 U	1.15 U	23 U	23 U	23 U

Notes:
Bold = Detected result
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µg/L = micrograms per liter
FD = field duplicate sample
J = estimated value
N = normal environmental sample
U = compound analyzed, but not detected above detection limit
UJ = Compound analyzed, but not detected above estimated detection limit
WX = porewater matrix

Horizontal coordinate datum is NAD 1983 State Plane Delaware FIPS 0700 (US Survey Feet).
All undetect results are reported at the reporting limit.
USEPA Stage 2B data validation was completed by Validata, LLC.

Table 1
Analytical Results Summary - Porewater

	Location ID	DVW-16-08	DVW-16-09	DVW-16-10	DVW-16-10
	Sample ID	DVW-16-08-PW-161118	DVW-16-09-PW-161118	DVW-16-10-PW-05-10-161118	DVW-16-10-PW-161118
	Sample Date	11/18/2016	11/18/2016	11/18/2016	11/18/2016
	Sample Type	N	N	N	N
	Matrix	WX	WX	WX	WX
	X	652207.70	652553.22	652669.31	652669.31
	Y	657173.37	657120.66	657181.17	657181.17
	Method				
Conventional Parameters (porewater) (mg/L)					
Alkalinity, bicarbonate as calcium carbonate (CaCO3)	SM2320B	--	--	**260**	--
Alkalinity, carbonate as calcium carbonate (CaCO3)	SM2320B	--	--	5 U	--
Alkalinity, phenolphthalein as calcium carbonate (CaCO3)	SM2320B	--	--	5 U	--
Alkalinity, total as calcium carbonate (CaCO3)	SM2320B	--	--	**260**	--
Bromide	E300.0	--	--	**0.49 J**	--
Chloride	E300.0	--	--	**58**	--
Fluoride	E300.0	--	--	**6.2**	--
Nitrate as nitrogen	E300.0	--	--	0.25 U	--
Nitrite as nitrogen	E300.0	--	--	0.13 U	--
Orthophosphate	E300.0	--	--	1.3 U	--
Sulfate	E300.0	--	--	**640**	--
Sulfide	E376.2	--	--	**0.04 J**	--
Metals (porewater) (µg/L)					
Calcium	SW6020A	--	--	**490000**	--
Iron	SW6020A	--	--	**43000**	--
Magnesium	SW6020A	--	--	**54000**	--
Manganese	SW6020A	--	--	**3700**	--
Potassium	SW6020A	--	--	**13000**	--
Silicon	SW6020A	--	--	**24000**	--
Sodium	SW6020A	--	--	**60000**	--
Metals, Dissolved (porewater) (µg/L)					
Arsenic	E1638M	--	--	**40.1**	--
Arsenic III	BAL4100-002	**1140**	**421**	**30.7**	**360**
Arsenic V	BAL4100-002	**51.9**	**29.1**	**4.42**	**169**
Organometallic Compounds, Dissolved (porewater) (µg/L)					
Cacodylic acid (DMA)	BAL4100-002	21 U	21 U	1.05 U	21 U
Methylarsonic acid (MMA)	BAL4100-002	23 U	23 U	1.15 U	23 U

Notes:
Bold = Detected result
-- = results not reported or not applicable
µg/L = micrograms per liter
FD = field duplicate sample
J = estimated value
N = normal environmental sample
U = compound analyzed, but not detected above detection limit
UJ = Compound analyzed, but not detected above estimated detection limit
WX = porewater matrix

Horizontal coordinate datum is NAD 1983 State Plane Delaware FIPS 0700 (US Survey Feet).
All undetect results are reported at the reporting limit.
USEPA Stage 2B data validation was completed by Validata, LLC.