UNITED STATES
ENVIRONMENTAL PROTECTION AGENCY
REGION III

STATEMENT OF BASIS

SOLVAY USA INC.
(Formerly RHODIA INC.)
2300 SOUTH PENNSYLVANIA AVENUE
MORRISVILLE, PENNSYLVANIA

EPA ID NO. PAD002336410

Prepared by
Office of Pennsylvania Remediation
Land and Chemicals Division
June 2016

Table of Contents

List of Acronyms

AOC	Areas of Concern
AR	Administrative Record
AST	Above Ground Storage Tank
COI	Contaminants of Interest
EPA	Environmental Protection Agency
FDRTC	Final Decision Response to Comments
GPRA	Government Performance and Results Act
MCL	Maximum Contaminant Level
RAO	Remedial Action Objective
RCRA	Resource Conservation and Recovery Act
RSL	Regional Screening Level
SB	Statement of Basis
UST	Underground Storage Tank
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 Solvay USA Inc. (Solvay) Morrisville Plant located in Morrisville, Pennsylvania (hereinafter referred to as the Facility or Site). EPA's proposed remedy for the Facility consists of the following components: 1) Installing a vegetated soil cover over Area 5; 2) Installing a permeable liner and one foot of clean fill over the settling pond; 3) Excavating the arsenic-impacted soil from sample location A6-01; 4) compliance with and maintenance of ground water and land uses restrictions to be implemented through institutional controls; and 5) inspection and maintenance of engineering controls. This SB highlights key information relied upon by EPA in proposing its remedy for the Facility.

The Facility is subject to EPA's Corrective Action program under the Solid Waste Disposal Act, as amended, commonly referred to as the Resource Conservation and Recovery Act (RCRA), 42 U.S.C. §§ 6901 et seq. The Corrective Action program requires that 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. Pennsylvania is not authorized for the Corrective Action Program under Section 3006 of RCRA. Therefore, EPA retains primary authority in the State of Pennsylvania for the Corrective Action Program.

EPA is providing a thirty (30) day public comment period on this SB. EPA may modify its proposed remedy based on comments received during this period. EPA will announce its selection of a final remedy for the Facility in a Final Decision and Response to Comments (Final Decision) after the public comment period has ended.

Information on the Corrective Action program as well as a fact sheet for the Facility can be found by navigating https://www3.epa.gov/reg3wcmd/ca/correctiveaction.htm. The Administrative Record (AR) for the Facility contains all documents, including data and quality assurance information, on which EPA's proposed remedy is based. See Section 8, Public Participation, below, for information on how you may review the AR.

Section 2: Facility Background

The Facility is located at 2300 South Pennsylvania Avenue in Morrisville, Falls Township, Bucks County, Pennsylvania, and occupies approximately 90 acres. Prior to 1948, the Facility was undeveloped. The Facility operated as a production plant of inorganic chemicals from 1948 through 2001.

The Facility can be accessed from the west by 10th Street, which is located along Pennsylvania Avenue, approximately 800 feet south of the intersection of Pennsylvania Avenue and East Post Road. The location of the Facility is shown on Figure 1 (Attachment #1). The

Facility is bordered to the north by commercial properties, to the south by Biles Creek and vacant property, to the east by the Delaware River, and to the west by wooded areas and Pennsylvania Avenue and is fenced to restrict access. The surrounding properties are depicted on Figure 2 (Attachment #2). The Facility Plan is presented on Figure 3 (Attachment #3), and a more detailed presentation of the layout of the operations area is presented on Figure 4 (Attachment #4). The Facility is zoned for mixed commercial/residential use.

On August 5, 1980, the owner of the Facility submitted a Notification of Hazardous Waste to the EPA for its generation and treatment/storage/disposal of hazardous wastes D000, D001, D002, D003, U135, and U189. In November 1980, the Facility submitted a Notification of Hazardous Waste for the outside phosphorous pentasulfide drum storage area, U189, D001, D003, and D007 wastes; the acid waste tanks, D004 waste; and the settling pond, D002 and D004 wastes.

The Facility was operated as an inorganic chemical production facility from 1948 until December 2001 and has had several different owners/operators, beginning with Victor Chemical in 1948. Stauffer Chemical (Stauffer) bought the Facility in the mid-1960s and subsequently sold it to Rhône-Poulenc Basic Chemicals (Rhône- Poulenc) in 1987. In 1997, Rhône-Poulenc transferred its chemical assets, including the Morrisville Facility, to Rhodia Inc. and spun Rhodia Inc. off as a separate company in 1998. Operations were discontinued at the Facility in late 2001 and, in early 2002, Rhodia Inc. began to demolish buildings down to concrete slabs. The Facility remained dormant from late 2002 through 2008. In 2008, demolition was reinitiated and the remaining buildings were razed. The only building currently remaining onsite is the former office building. Rhodia Inc. changed its name to Solvay USA Inc. effective October 1, 2013. Solvay continues to provide personnel for oversight of the Facility.

Throughout its operations history, numerous inorganic chemical products were produced at the Facility for use in a variety of products, including food additives, dental paste, household cleaners, water treatment, dyes, flame retardants, and desiccants.

The primary chemical produced at the Facility was phosphoric acid. The main raw material for the production of phosphoric acid is phosphorus, which contains trace amounts of arsenic. During the phosphoric acid manufacturing process, trace amounts of arsenic were precipitated out of the phosphoric acid in the form of arsenic sulfide. The phosphoric acid was then filtered through diatomaceous earth to separate and collect the arsenic sulfide precipitate. A 165-foot-deep industrial water supply well (PW-1, depicted on Figure 3) was used onsite for various manufacturing processes throughout its operations history.

The waste management areas units and Areas of Concern (AOCs) identified at the Facility include:

A. <u>Waste Management Areas:</u>

1. Area 1/Landfill No.2 (10 by 50 feet): Burial area for phosphorus pentasulfide (P2S5); closed in 1962; approximately 95 tons of P2S5 were buried in Area 1.

2. Area 2/ Landfill No. 3 (50 by 100 feet): Burial area for various sodium phosphates; closed in 1973.

3. Area 3 (75 by 100 feet): Acid waste pond; received decanted liquor from the arsenic sulfide settling ponds (Area 5); not in service since 1971.

4. Area 4: Two arsenic sulfide settling tanks, contained within a 20- by 60-foot diked area; tanks contained arsenic sulfide and diatomaceous earth; concentrated slurry was removed for offsite disposal; replaced Areas 3 and 5 beginning in 1971; closed in 1987 when a new filter process was introduced. This area is located within the Industrial Area discussed below.

5. Area 5 (two 50 by 100 feet and two 100 by 200 feet): Arsenic sulfide settling ponds; solids within these ponds were periodically dredged and moved to Area 6; out of service since 1971; ponds were backfilled upon closure.

6. Area 6/Landfill No. 1(75 by 100 feet): Arsenic sulfide burial area; received dredged solids from the arsenic sulfide settling ponds (Area 5) from 1950 to 1971; capped with clay and seeded in 1979.

7. Area 7/Landfill No. 4 (70,000 square feet): Landfill consisting of clean fill, furnace brick containing residual arsenic, and trash; closed in 1972 and paved with asphalt; approximately 20 tons of arsenic sulfide were buried in Area 7.

8. Area 8 (20 by 100 feet): Storage area for P2S5 waste material in 55-gallon drums prior to offsite disposal. After closure of Area 8, drums stored in Area 8 were moved to the indoor storage location (P2S5 scrap and still residue drum storage area, discussed below) until shipped for offsite disposal. The storage area was closed in 1987.

9. Area 9/Landfill No. 5 (20 by 75 feet): Burial area for P2S5; closed in 1960 and paved with asphalt; approximately 95 tons of P2S5 were buried in Area 9.

10. Area 10 (100 by 250 feet): Settling pond for both stormwater runoff and process waste streams (also known as the Equalization Basin or Surface Impoundment). This pond was once regulated under RCRA Part A, due to the corrosive nature of the influent. Beginning in January 1983, discharge from the pond was controlled manually to maintain an effluent pH between 6.0 and 9.0. In 1990, the pond was closed under RCRA. By December 1990, the pond only received non-process wastewater. By late December 2001, the pond received stormwater only.

11. P2S5 scrap and still residue drum storage area: Waste materials (phosphorus pentasulfide and sodium bicarbonate) were stored in 55-gallon drums, until shipped for offsite disposal. The area was certified closed in 1987.

12. Acid Filter Cake Storage Area: Beginning in the early 1980s, the arsenic sulfide waste was removed by filtration. Waste materials from the filtering process were stored in 55-gallon drums in the Acid Filter Storage Area until shipped for offsite disposal. The Acid Filter Cake Storage Area was certified closed in 1987.

B. Areas of Concern (AOCs)

1. Oil and gasoline storage areas: During the removal of one 1,000-gallon Number 2 heating oil tank, small holes were observed in the tank. The soil around the tank had a slight odor. The contaminated soil was sampled, excavated, stockpiled, and removed offsite (Donnelly Contracting, Inc., 1995).

2. Waste Pipeline: An "underground waste pipeline" that appears to facilitate the transfer of decanted liquor from Area 3 to Area 5. During the remedial investigation, only portions of the pipeline were located.

3. Industrial Area – A general area that includes contiguous locations of the various operations completed in the industrial portion of the Facility. The industrial area includes the Area 7/Landfill No. 4, Area 4, AOC Acid Filter cake Storage, AOC Former 1,000 gallon #2 Fuel Oil UST, and AOC Scrap and Still Residue Storage Area . The boundaries of this area are shown on Figure 5 (Attachment #5)

Section 3: Summary of Environmental Investigations

3.1 Environmental Investigations

For all environmental investigations conducted at the Facility, groundwater concentrations were screened against federal 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 CFR Part 141, or if there was no MCL, EPA Region III Screening Levels (RSL) for tap water for chemicals. Soil concentrations were screened against EPA RSLs for residential soil and industrial soil. EPA also has RSLs to protect groundwater and soil concentrations were also screened against these RSLs.

The main focused of the remedial investigation was the identified waste management areas and AOCs.

3.1.1 Groundwater Investigation

Groundwater investigation was conducted at the Facility from 1979 to 2012. Groundwater flows east and south toward Biles Creek and Delaware River. Groundwater in shallow aquifer underneath the Facility is contaminated with arsenic. Arsenic was not detected in the deep aquifer, due to a confining layer between the shallow and deep aquifers. Dissolved

arsenic was detected in onsite wells at concentrations as high as 29,400 micrograms per liter (ug/l), above the MCL and PADEP MSC of 10 ug/l.

The shallow aquifer is encountered from approximately 14 to 60 feet below ground surface and exhibits a limited saturated thickness (20 to 40 feet). Shallow aquifers like this one are vulnerable to many types of contaminant sources, such as road runoff, leaking sewers and pipelines, industrial spills and agricultural chemical infiltration. In addition, its limited thickness makes it unreliable as a potable source during droughts. The aquifer is characterized by naturally occurring concentrations of iron and manganese that exceed EPA's Secondary Maximum Contaminant Levels for these constituents, which affect taste and color and may cause staining and corrosion. Combined, these factors make the shallow, unconfined aquifer beneath the Facility unsuitable as a municipal supply.

A deep aquifer is present at the Facility from approximately 130 to 170 feet below ground surface. Sampling results from the deep aquifer indicate that it is not contaminated within the Facility boundaries. The two aquifers are separated by continuous confining clay layers, approximately 30 feet thick, which act as a barrier between the contaminated groundwater in the shallow aquifer and the deep aquifer.

In 2001, PADEP approved a *non-use aquifer* designation for the shallow aquifer beneath the Facility, as well as three adjacent properties owned by USX Corporation (former steel mill under redevelopment) and WMI Properties (solid waste landfill). The approval for the Facility means that there are no private domestic wells on the Facility property or within 1,000 feet downgradient of the Facility property boundaries. The local water authority, Falls Township Water Authority, has stated that they have no plans for future use.

In 1998, surface water samples were taken from the Delaware River and Biles Creek by the Facility owner. Arsenic was not detected in the upgradient and downgradient surface water samples taken from both the Delaware River and Biles Creek. The effect of arsenic infiltrating into the Delaware River and Biles Creek from the Facility groundwater was evaluated in accordance with PADEP protocols. The evaluation demonstrated that concentrations of arsenic in shallow groundwater discharging to the Delaware River and Biles Creek are below the PADEP Surface Water Quality Criteria of 10 ug/l and therefore the discharge of groundwater contamination from the Facility into the surface water is not anticipated to impact surface water.

The April 2, 2002 Act 2 Final Report for the Facility was approved by PADEP in a letter dated May 22, 2002.

Groundwater sampling of Site wells was recently conducted in 2012. The groundwater sampling results indicated that the levels of arsenic in the groundwater are decreasing overtime. Concentrations of arsenic in the groundwater at the source area decreased from 29,400 ug/l (December 1979) to 8,700 ug/l (April 2012). Concentrations of arsenic at the Facility boundary wells are also decreasing. Given that the source of arsenic groundwater contamination, the

former arsenic trisulfide burial site, was out of service since 1971 and closed in 1979 (clay capped and clay walled). EPA expects groundwater concentrations of arsenic will continue to decline due to natural attenuation.

3.1.2 Soil Investigations

Soil investigations at the Facility was conducted from February 2012 through April 2015. Areas of soil investigations include Area 1/Landfill No. 2, Area 2/Landfill No. 3, Area 3/ Acid Waste Pond, Area 5/Arsenic sulfide settling ponds, Area 6/Arsenic sulfide burial area, Area 9/Landfill No. 5, Area 10/Settling pond for storm water runoff and process waste streams, Former Manufacturing Area, and non-residential area. Sediment samples were collected from the former settling pond (Area 10). Surface and sub-surface soil samples were collected from the remaining areas. The analytical results of the samples collected revealed that arsenic is the only constituent of concern (COC). EPA and PADEP determined that the Site required remediation to the PADEP non-residential direct contact MSC of 53 mg/kg, within the EPA's allowable range of 3.6 mg/kg-360 mg/kg, for non-residential use and to residential direct contact MSC of 12 mg/kg, within the EPA's allowable range of 0.77 mg/kg- 77 mg/kg, for residential use for arsenic in soils.

The following summarizes the soil investigations:

1. Areas 1, 2, and 9 - Analytical results of the April 2012 sampling event indicated that the arsenic was detected in Area 1, 2, and 9 at concentrations below the residential direct contact MSC of 12 mg/kg. Areas 1, 2, and 9 met the residential use standard.

2. Areas 5 and 6 - Analytical results of the sampling events indicate that arsenic was detected in areas 5 and 6 at concentrations as high as 920 mg/kg, above the residential direct contact MSC of 12 mg/kg and non-residential direct contact MSC of 53 mg/kg.

3. Areas 3 – Analytical results of the sampling events indicate that arsenic was detected at concentrations as high as 29 mg/kg, above the residential direct contact MSC of 12 mg/kg, but below the non-residential direct contact MSC of 53 mg/kg.

4. Area 10 - Analytical results of the sampling events indicate that arsenic was detected at concentrations as high as 740 mg/kg, above the residential direct contact MSC of 12 mg/kg and non-residential direct contact MSC of 53 mg/kg. Ecological Risk Assessments (ERA) was conducted at the Site in 2013 and 2015. The ERA determined that constituents were not present at unacceptable levels to ecological receptors.

5. Former Manufacturing Area – Includes Area 4, Area 7/Landfill No. 4, Area 8/Storage area for P2S5 waste material, AOC Acid Filter Cake Storage, AOC Fomer 1,000 gallon #2 fuel oil UST, and AOC P2S5 scrap and still residue storage area.

Analytical results from the Former Manufacturing Area demonstrated that soil concentrations are below residential direct contact MSC of 12 mg/kg.

6. Non-Residential Area – Non-Residential Area is shown on Figure 10 (Attachment #6). Analytical results of the sampling events indicated that arsenic was detected at concentrations as high as 690 mg/kg (sample A6-01). Analytical results from the Non-Residential Area, however, demonstrated that soil concentrations are below the non-residential direct contact MSC of 53 mg/kg if contaminated soil from A6-01 was removed from the site.

Sample locations and sample results are presented on Figure 8 (Attachment # 7), Figure 9 (Attachment #8), Table 1 (Attachment # 9), and Table 2 (Attachment # 10).

3.2 Cleanup Plan

On December 7, 2015, EPA approved the Facility's Remedial Investigation Report Addendum and Cleanup Plan (Cleanup Plan) dated July 16, 2015. The Cleanup Plan calls for remediation to residential use for Areas 5, 6, and Area 10 and to Non-Residential use for Non-Residential Area. No further remedial action required for Areas 1, 2, 9 and the Former Manufacturing Area as they met the residential use standard. Figure 2 of the July 16, 2015 Cleanup Plan (Attachment #11) shows the areas considered for residential and non-residential use.

3.3 Environmental Indicators

Under the Government Performance and Results Act ("GPRA"), EPA has set national goals to address RCRA corrective action facilities. Under GPRA, EPA evaluates two key environmental clean-up indicators for each facility: (1) Current Human Exposures Under Control, and (2) Migration of Contaminated Groundwater Under Control. The Facility met both of these indicators on March 16, 2015.

Section 4: Corrective Action Objectives

EPA's Corrective Action Objectives (CAOs) for the specific environmental media at the Facility are the following:

1. Soils

a. Non-Residential Area (see Attachment #11) – EPA's corrective action objective for soils is to attain the PADEP arsenic non-residential direct contact MSC of 53 mg/kg for the Non-residential Area.

b. Area 5 - EPA's corrective action objective for soil in Area 5 is to eliminate human exposure to arsenic contaminated soils at concentrations above the PADEP residential direct contact MSC of 12 mg/kg.

c. Area 6 - EPA's corrective action objective for soil in Area 6 is to eliminate human exposure to arsenic contaminated soils at concentrations above the PADEP residential direct contact MSC of 12 mg/kg.

d. Area 10 - EPA's corrective action objective for contaminated sediment in Area 10 is to eliminate human exposure to arsenic contaminated media at concentrations above the PADEP residential direct contact MSC of 12 mg/kg.

e. Areas 1, 2, and 9 – EPA's corrective action objective for soils is to attain the PADEP residential direct contact MSC of 12 mg/kg. Sampling results demonstrate this residential standard has been met.

f. Former Manufacturing Area - EPA's corrective action objective for soils is to attain the PADEP residential direct contact MSC of 12 mg/kg. Sampling results demonstrate this residential standard has been met.

2. Groundwater

EPA expects final remedies to return groundwater to its maximum beneficial use within a timeframe that is reasonable given the particular circumstances of the project. 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.

Because the aquifer under the Facility is unable to be used for drinking water purposes, EPA has determined that maximum beneficial use of the shallow aquifer is recharge flow to the Delaware River and to Biles Creek. Therefore, EPA's corrective action objective for Facility-related groundwater is to prevent recharge flow to the Delaware River and to Biles Creek with hazardous constituents at levels above PADEP's Surface Water Quality Criteria and to control human exposure to the hazardous constituents remaining in the groundwater by requiring compliance with and maintenance of groundwater use restrictions at the Facility.

Section 5: Proposed Remedy

1. Introduction

Under this proposed remedy, some contaminants remain in the soil and groundwater at the Facility above levels appropriate for residential uses. Because some contaminants remain in the soil and groundwater at the Facility at levels which exceed residential use, EPA's proposed remedy requires the compliance with and maintenance of soil and groundwater use restrictions. EPA proposes to implement the land and groundwater restrictions necessary to prevent human exposure to contaminants at the Facility through an enforceable mechanism such as a permit, order, or environmental covenant.

2. Soils

EPA's proposed remedy for the Facility soils consists of:

A. Area 5

a. Capping Area 5 by installing a vegetated soil cover over the extent of the area.
b. Maintenance and inspections of the vegetated soil cover in order to assure continued protection of human health and the environment at the Facility.
c. Solvay will develop a Post-Remediation Care Plan (Plan) to verify that the vegetated soil cover remains effective in preventing exposure to soil contaminants beneath the cover. The Plan will include an annual inspection of the vegetated cover to ensure that the integrity and protectiveness of the vegetated cover is maintained. The property owner will report the findings of the inspection to EPA and PADEP.

B. Area 6

a. Maintenance and inspections of the existing engineered clay cap in order to assure continued protection of human health and the environment at the Facility.
b. Solvay will develop a Post-Remediation Care Plan (Plan) to verify that the engineered clay cap remains effective in preventing exposure to soil contaminants beneath the cap. The Plan will include an annual inspection of the clay cap to ensure that the integrity and protectiveness of the cap is maintained. The property owner will report the findings of the inspection to EPA and PADEP.

C. Area 10

Capping Area 10 by installing a cover consisting of a permeable liner and one foot layer of clean fill over the pond.

D. Non-Residential Area

a. Remove the arsenic-impacted soil around sample A6-01
b. Compliance with and maintenance of land use restrictions to prohibit residential uses of the area.

E. Land Use Restrictions

EPA is proposing that the following activities and land use restrictions be implemented at the Facility:

a. Non-Residential Areas shall be restricted to commercial and/or industrial purposes and shall not be used for residential purpose unless it is demonstrated to EPA 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 Facility provides prior written approval from EPA for such use;
b. All earth moving activities, including excavation, drilling, and construction activities, in the areas at the Facility where any contaminant remains in soil above EPA's screening levels for residential use shall be prohibited unless it is demonstrated to PADEP and EPA that such activity will not pose a threat to human health or the environment or adversely affect or interfere with the selected remedy and EPA/PADEP provides prior written approval for such use;

3. Groundwater

Monitoring at the Facility has shown that arsenic concentrations in groundwater discharge to the Delaware River and Biles Creek are below the PADEP Surface Water Quality Criteria of 10 ug/l and therefore the discharge of groundwater contamination from the Facility into the surface water is not anticipated to have unacceptable impacts to surface water. Moreover, arsenic concentrations are declining or stable over time. Given that the sources that degraded groundwater have been controlled, EPA anticipates that the remaining contamination in groundwater will not impact surface water quality of the Delaware River and the Biles Creek without further treatment. Therefore, the proposed remedy for groundwater consists of compliance with and maintenance of groundwater use restrictions.

EPA is proposing that the following activities and groundwater use restrictions be implemented at the Facility:

a. Groundwater at the Facility shall not be used for potable purposes.
b. No new wells shall be installed on Facility property in areas where caps or building foundations acting as caps are required by this remedy decision. A survey of those areas will be prepared and attached to the institutional control.

4. Additional Requirements

Because arsenic concentrations remain above MCLs, EPA is proposing that the following activities be implemented at the Facility:

A. On an annual basis and whenever requested by EPA, the then current owner shall submit to EPA a written certification stating whether or not the groundwater and land use restrictions are in place and being complied with;

B. EPA, PADEP and/or their authorized agents and representatives, shall have access to the Facility property to inspect and evaluate the continued effectiveness of the final remedy and if necessary, to conduct additional remediation to ensure the protection of the public health and safety and the environment upon the final remedy selection in the FDRTC.

In addition, the Facility owner shall provide EPA with a coordinate survey as well as a metes and bounds survey, of the Facility boundary. Mapping the extent of the land use restrictions will allow for presentation in a publicly accessible mapping program such as Google Earth or Google Maps.

Section 6: Evaluation of Proposed Remedy

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

Threshold Criteria	Evaluation
1) Protect human health and the environment	With respect to soil, the non-residential area meets PADEP's non-residential direct contact MSC. EPA's proposed remedy for the Facility protects human health and the environment by eliminating, reducing, or controlling potential unacceptable risk through the implementation and maintenance of use restrictions. EPA is proposing to restrict land use to commercial or industrial purposes in the Non-Residential Area at the Facility. With respect to groundwater, while arsenic remains in the groundwater beneath the Facility, the concentrations of arsenic in in the groundwater are decreasing and it was determined that the concentrations of arsenic discharging from the Facility to the Delaware River and the Biles Creek are below the

	PADEP Surface Water Quality Criteria and therefore the discharge of groundwater contaminant from the facility into the surface water is not anticipated to have unacceptable impacts to the receiving surface water. Groundwater at the site cannot be used as a source of drinking water. On August 14, 2001, Solvay (formerly Rhodia) received PADEP's approval of the non-use aquifer designation request. Consequently, the Facility is already being provided with potable water from the public water supply system. With respect to future uses, the proposed remedy requires groundwater use restrictions to minimize the potential for human exposure to contamination and protect the integrity of the remedy.
2) Achieve media cleanup objectives	EPA's proposed remedy meet the media cleanup objectives based on assumptions regarding current and reasonably anticipated land and water resource use(s). The remedy proposed in this SB is based on the current and future anticipated land use at the Facility as mixed use, residential and commercial or industrial. Arsenic contaminated soils were either removed or are capped to prevent exposure to soil contaminant. EPA's proposed remedy requires compliance with the inspection and maintenance of the existing caps and compliance with and maintenance of land use restrictions. The groundwater plume appears to be stable (not migrating); although arsenic is above MCL, it is declining over time. In addition, groundwater at the site is not used as a source of drinking water. The Facility meets EPA risk guidelines for human health and the environment. EPA's proposed remedy requires the implementation and maintenance of use restrictions to ensure that groundwater beneath Facility property is not used for any purpose except to conduct the operation, maintenance, and monitoring activities required by EPA.
3) Remediating the Source of Releases	In all proposed remedies, 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 and the Facility met this objective.

	The source of contaminants have been removed from the soil at the Facility and/or have been/will be capped, thereby eliminating, to the extent practicable, further releases of hazardous constituents from on-site soils as well as the source of the groundwater contamination. Arsenic in groundwater is declining. Groundwater at the site is not used as a source of drinking water. Groundwater is not used for potable purposes at the Facility or at neighboring facilities. The Facility and surrounding area are already being provided with potable water from the public water supply system. Therefore, EPA has determined that this criterion has been met.

Section 6: Evaluation of Proposed Remedy (continued)

Balancing Criteria	Evaluation
1) Long-term effectiveness	Groundwater is not used on the Facility for drinking water, and no down gradient users of off-site groundwater exist. In addition, the shallow aquifer contamination does not impact surface waters of either the Delaware River or Biles Creek. Therefore, the long term effectiveness of the groundwater remedy for the Facility will be maintained by the implementation of use restrictions. The proposed remedial actions will eliminate any potential long-term exposure associated with impacted soils. The clean fill will eliminate the potential for direct contact with soils and sediments. Additionally, the long term effectiveness of the proposed remedy will be maintained through the implementation of the institutional controls.
2) Reduction of toxicity, mobility, or volume of the Hazardous Constituents	The reduction of toxicity, mobility and volume of hazardous constituents will continue by attenuation at the Facility. Reduction has already been achieved, as demonstrated by the data from the groundwater monitoring. The reduction of toxicity, mobility, and volume of hazardous constituents has already achieved as the source of contaminants have been removed from the soil at the facility and/or capped.

3) Short-term effectiveness	During implementation of the remedy, potential exposure to impacted soils may occur for construction workers. Construction workers will follow appropriate health and safety procedures and utilize proper personal protective equipment. Therefore, these activities would not pose short-term risks to workers.
4) Implementability	EPA's proposed remedy is readily implementable. Solvay (formerly Rhodia) already has a schedule in place for implementing the proposed remedial action.
5) Cost	EPA's proposed remedy is cost effective. The costs associated with this proposed remedy are mainly for one time remedy construction. The cost associated with implementation of ICs is minimal.
6) Community Acceptance	EPA will evaluate community acceptance of the proposed remedy during the public comment period, and it will be described in the Final Decision and Response to Comments.
7) State/Support Agency Acceptance	PADEP has reviewed and concurred with the proposed remedy for the Facility.

Section 7: Financial Assurance

EPA has evaluated whether financial assurance for corrective action is necessary to implement EPA's proposed remedy at the Facility. Given that EPA's proposed remedy does not require any further engineering actions to remediate soil and groundwater after construction of the proposed remedy completed and given that the costs of implementing institutional controls (estimated cost of less than $1000.00 per year) at the Facility will be minimal, EPA is proposing that no financial assurance be required.

Section 8: Public Participation

Interested persons are invited to comment on EPA's proposed remedy. The public comment period will last thirty (30) calendar days from the date that notice is published in a local newspaper. Comments may be submitted by mail, fax, or electronic mail to Ms. Tran Tran at the contact information listed below.

A public meeting will be held upon request. Requests for a public meeting should be submitted to Ms. Tran Tran in writing at the contact information listed below. A meeting will not be scheduled unless one is requested.

The Administrative Record contains all the information considered by EPA for the proposed remedy at this Facility. The Administrative Record is available at the following location:

U.S. EPA Region III
1650 Arch Street
Philadelphia, PA 19103
Contact: Ms. Tran Tran (3LC30)
Phone: (215) 814-2079
Fax: (215) 814 - 3113
Email: tran.tran@epa.gov

Attachments:

1. Attachment 1 – Figure 1
2. Attachment 2 – Figure 2
3. Attachment 3 – Figure 3
4. Attachment 4 – Figure 4
5. Attachment 5 – Figure 5
6. Attachment 6 – Figure 10
7. Attachment 7 – Figure 8
8. Attachment 8 – Figure 9
9. Attachment 9 – Table 1
10. Attachment 10 – Table 2
11. Attachment 11 - Figure 2
12. Attachment 12 – Table F-4

Date: 6.23.16

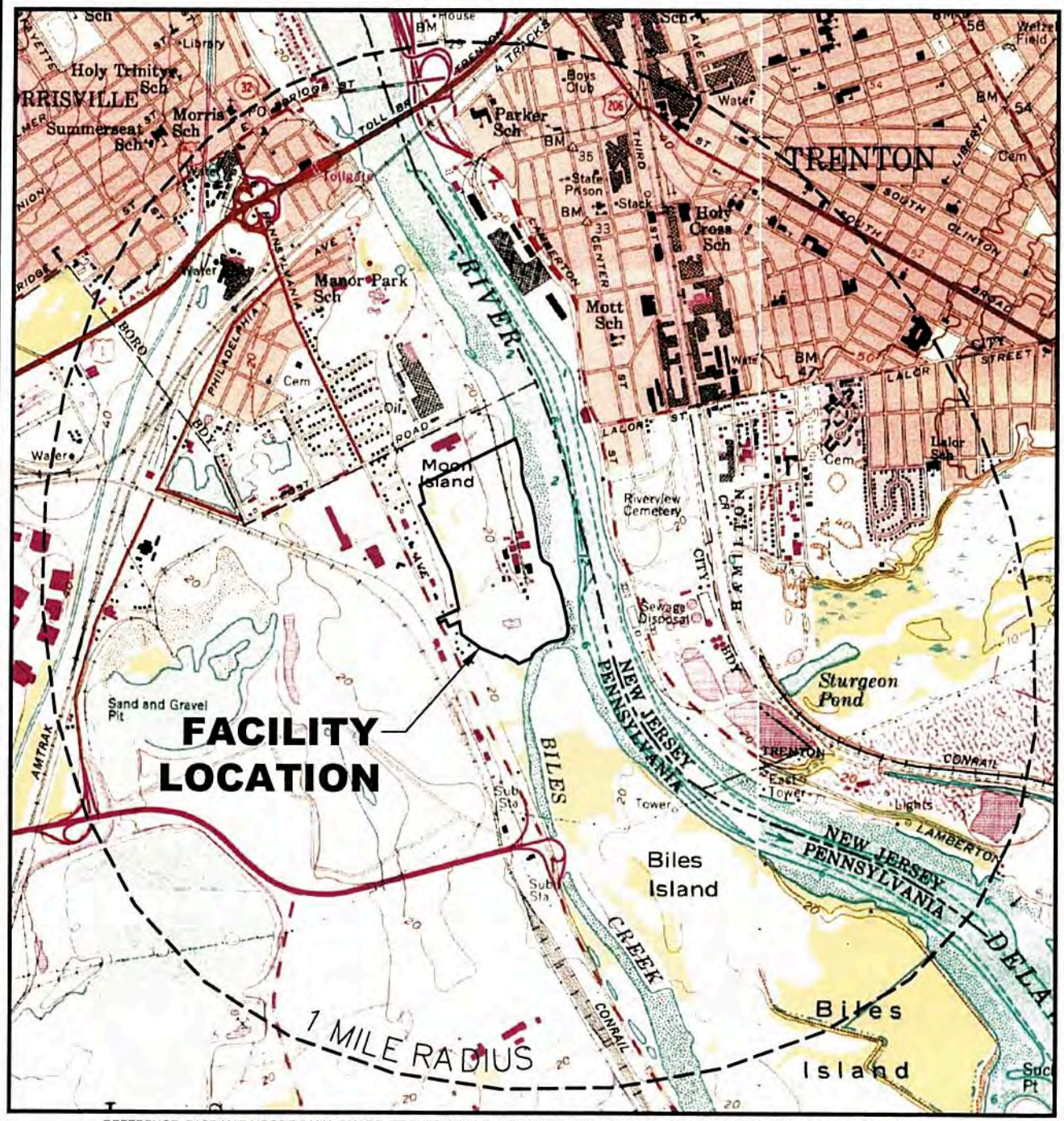
John A. Armstead, Director
Land and Chemicals Division
US EPA, Region III

Section 9: Index to Administrative Record

1. Remedial Investigation Report Addendum and Cleanup Plan, July 15, 2015
2. Remedial Investigation Report, August 2012
3. Description of Current Condition Report, March 2011
4. PADEP's October 6, 2015 Letter- Approval of Remedial Investigation Report Addendum and Cleanup Plan, July 2015
5. Non-Use Aquifer Determination

Attachments

Attachment 1



REFERENCE: BASE MAP USGS 7.5 MIN. QUADS., TRENTON EAST(1957) AND TRENTON WEST(1955), NEW JERSEY, PHOTOREVISED 1981

2000' 0 2000'

Approximate Scale: 1" = 2000'

RHODIA, INC.
MORRISVILLE, PENNSYLVANIA
DESCRIPTION OF CURRENT CONDITIONS REPORT

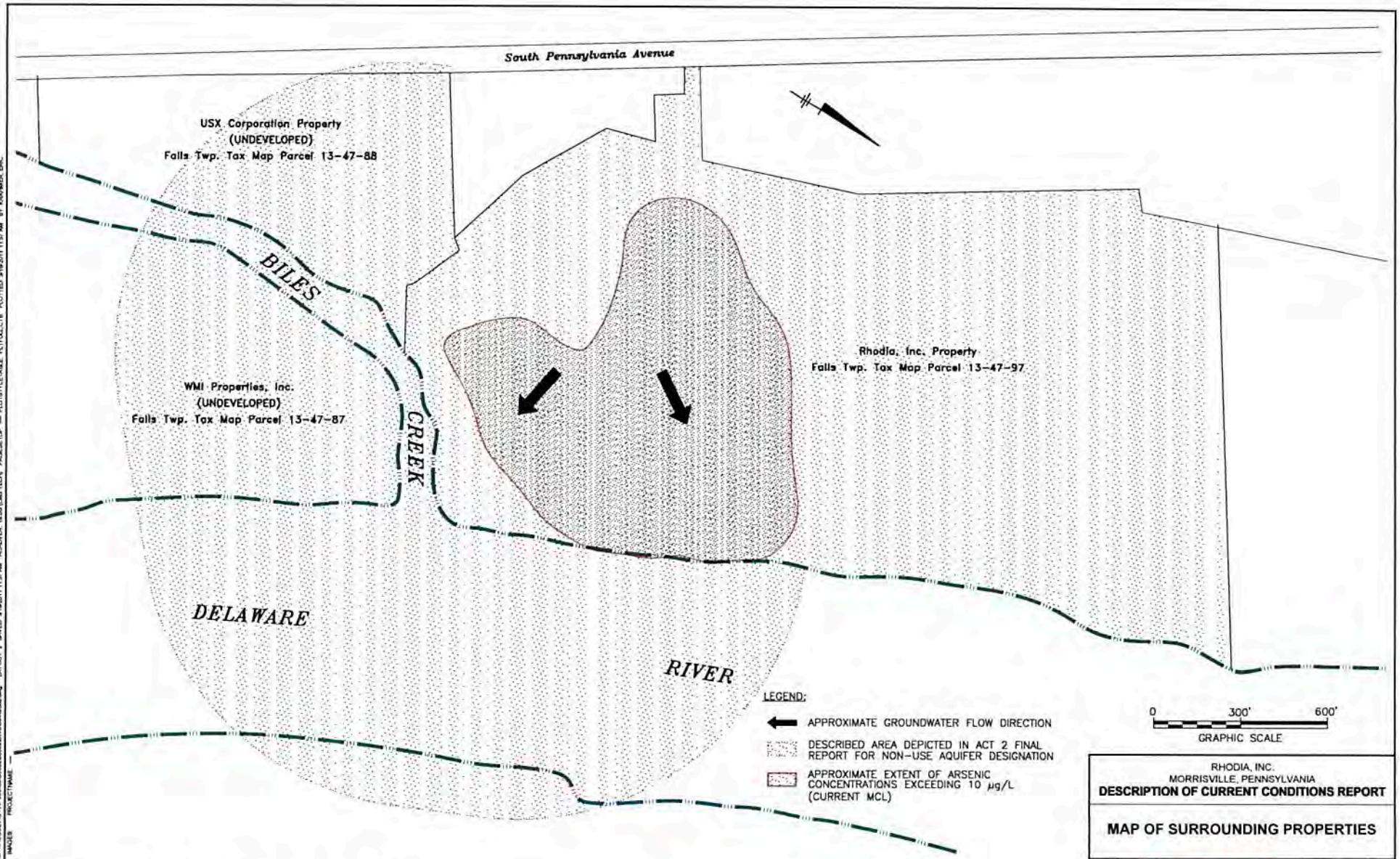
FACILITY LOCATION MAP

ARCADIS

FIGURE 1

CITY: SYRACUSE,NY DIV/GROUP: ENVCAD DB: E.KRAHMER LD:(Opt) PIC:A.HEBERT PM: R.FITZPATRICK TR:C.FOSTER LYR:(Opt)ON=*;OFF=*REF*
G:\ENVCAD\SYRACUSE\ACTIVE\P0004881\0002\0000\2\DWG\00448N01.dwg LAYOUT: 1 SAVED: 3/16/2011 10:21 AM ACADVER: 18.0S (LMS TECH) PAGESETUP: --- PLOTSTYLETABLE: PLTFULL.CTB PLOTTED: 3/16/2011 12:05 PM BY: KRAHMER, ERIC
XREFS: IMAGES: PROJECTNAME: --- TRENTONE.jpg TRENTONW.jpg

Attachment 2



NOTE: MAP CREATED FROM FALLS TOWNSHIP TAX MAP SHEET 13-47.

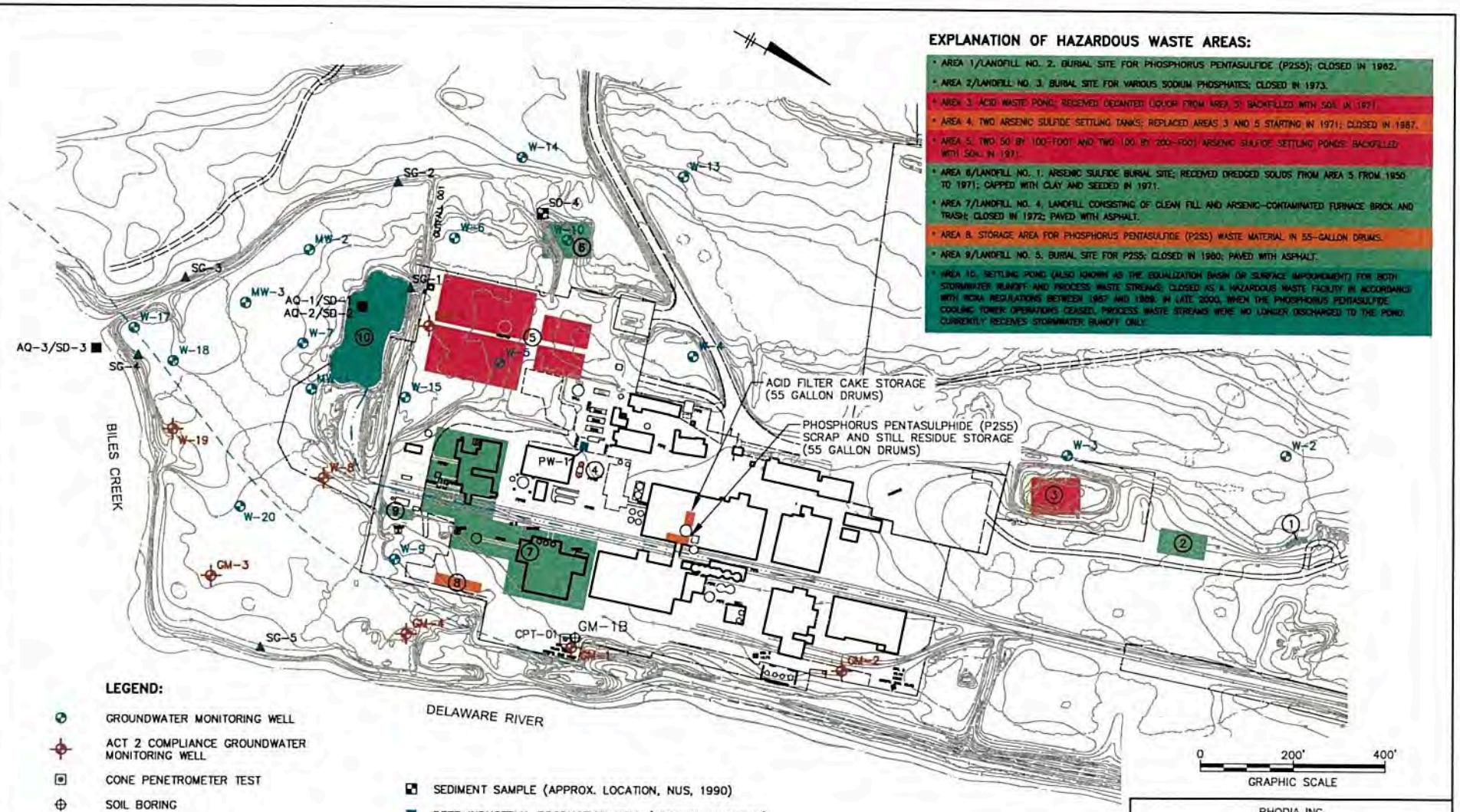
RHODIA, INC.
MORRISVILLE, PENNSYLVANIA
DESCRIPTION OF CURRENT CONDITIONS REPORT

MAP OF SURROUNDING PROPERTIES

ARCADIS

FIGURE
2

Attachment 3



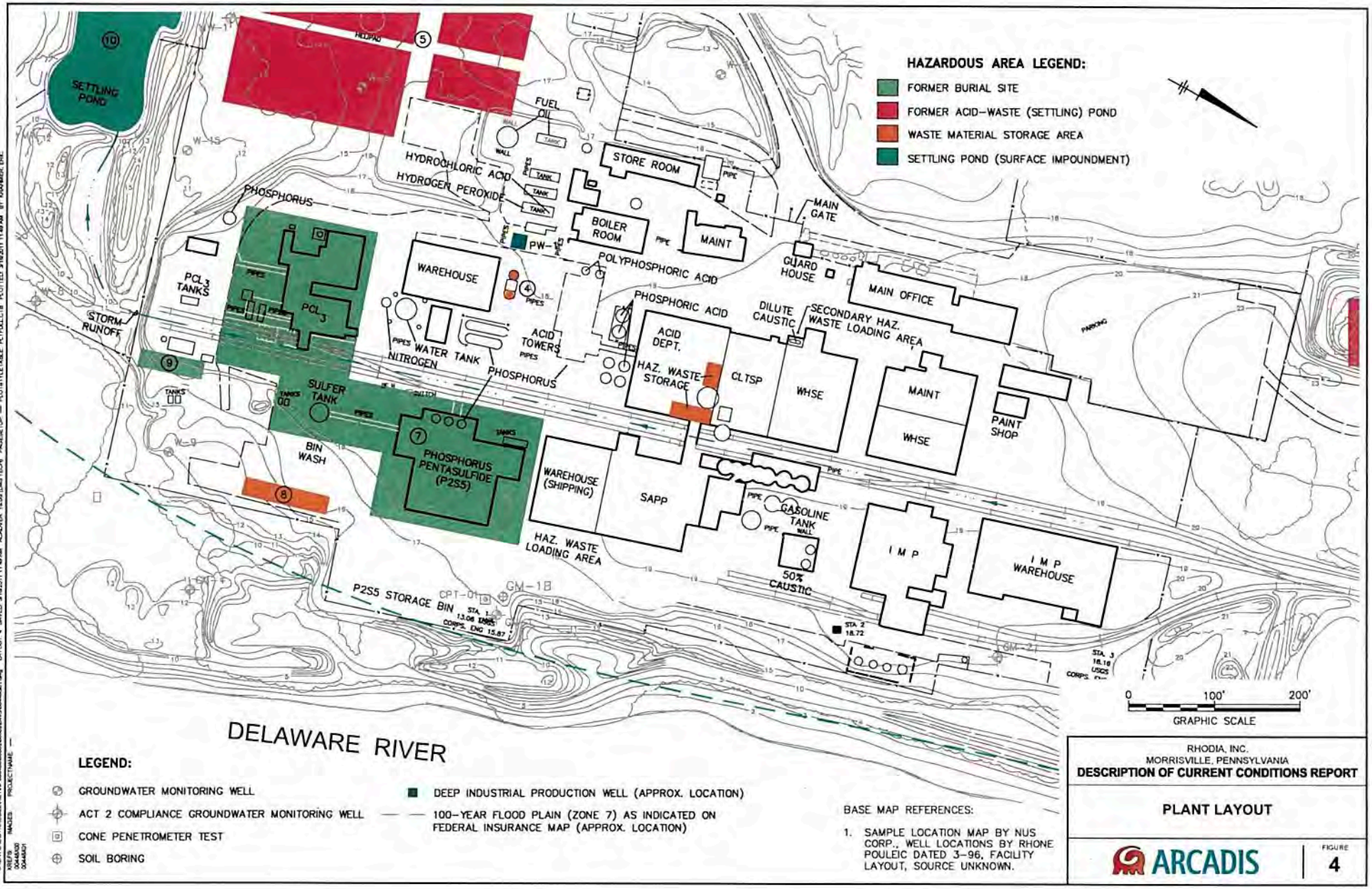
RHODIA, INC.
MORRISVILLE, PENNSYLVANIA
DESCRIPTION OF CURRENT CONDITIONS REPORT

FACILITY PLAN

ARCADIS

FIGURE 3

Attachment 4



LEGEND:

- GROUNDWATER MONITORING WELL
- ACT 2 COMPLIANCE GROUNDWATER MONITORING WELL
- CONE PENETROMETER TEST
- SOIL BORING
- DEEP INDUSTRIAL PRODUCTION WELL (APPROX. LOCATION)
- 100-YEAR FLOOD PLAIN (ZONE 7) AS INDICATED ON FEDERAL INSURANCE MAP (APPROX. LOCATION)

BASE MAP REFERENCES:

1. SAMPLE LOCATION MAP BY NUS CORP., WELL LOCATIONS BY RHONE POULEIC DATED 3-96, FACILITY LAYOUT, SOURCE UNKNOWN.

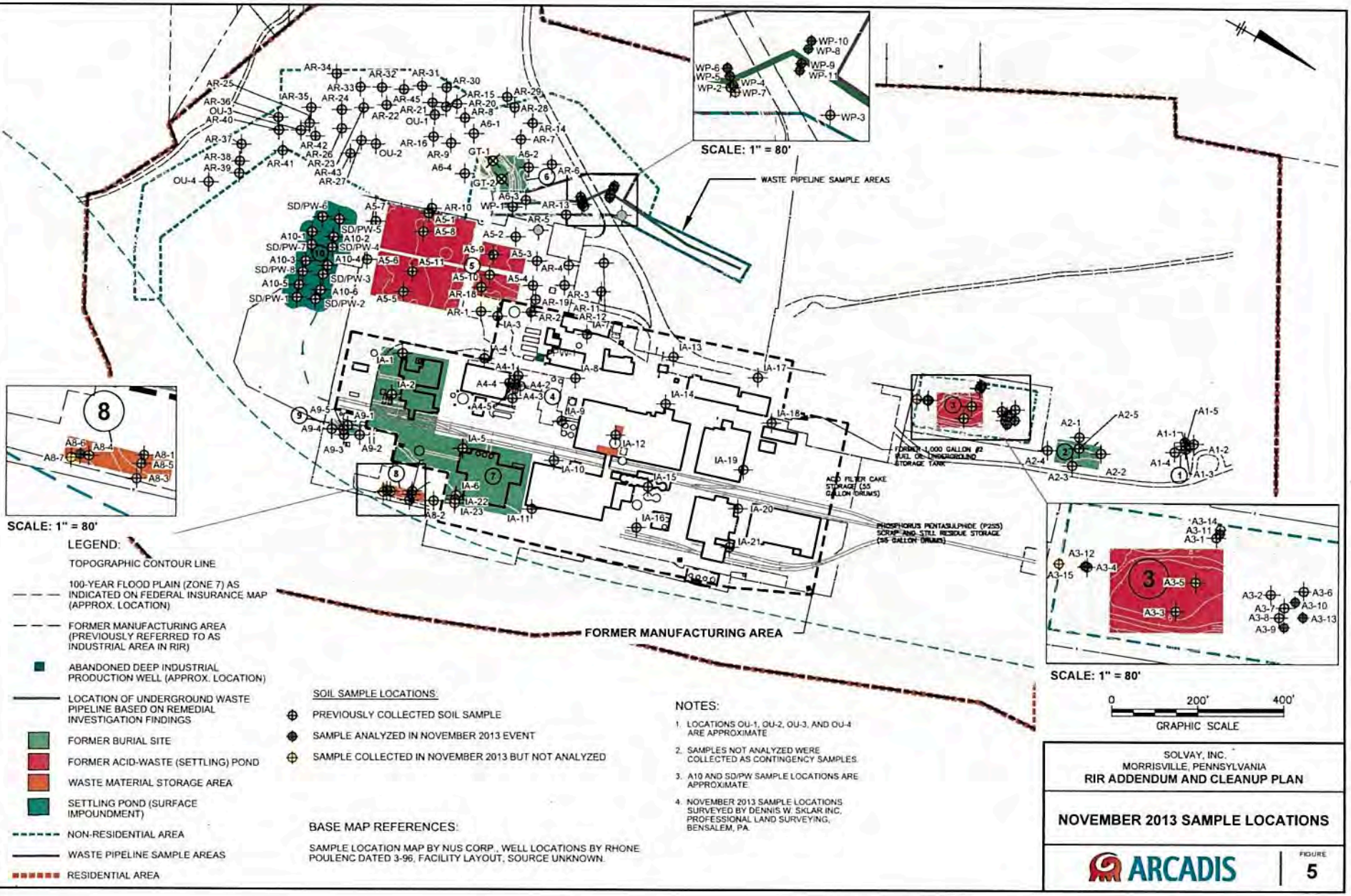
RHODIA, INC.
MORRISVILLE, PENNSYLVANIA
DESCRIPTION OF CURRENT CONDITIONS REPORT

PLANT LAYOUT

ARCADIS

FIGURE 4

Attachment 5



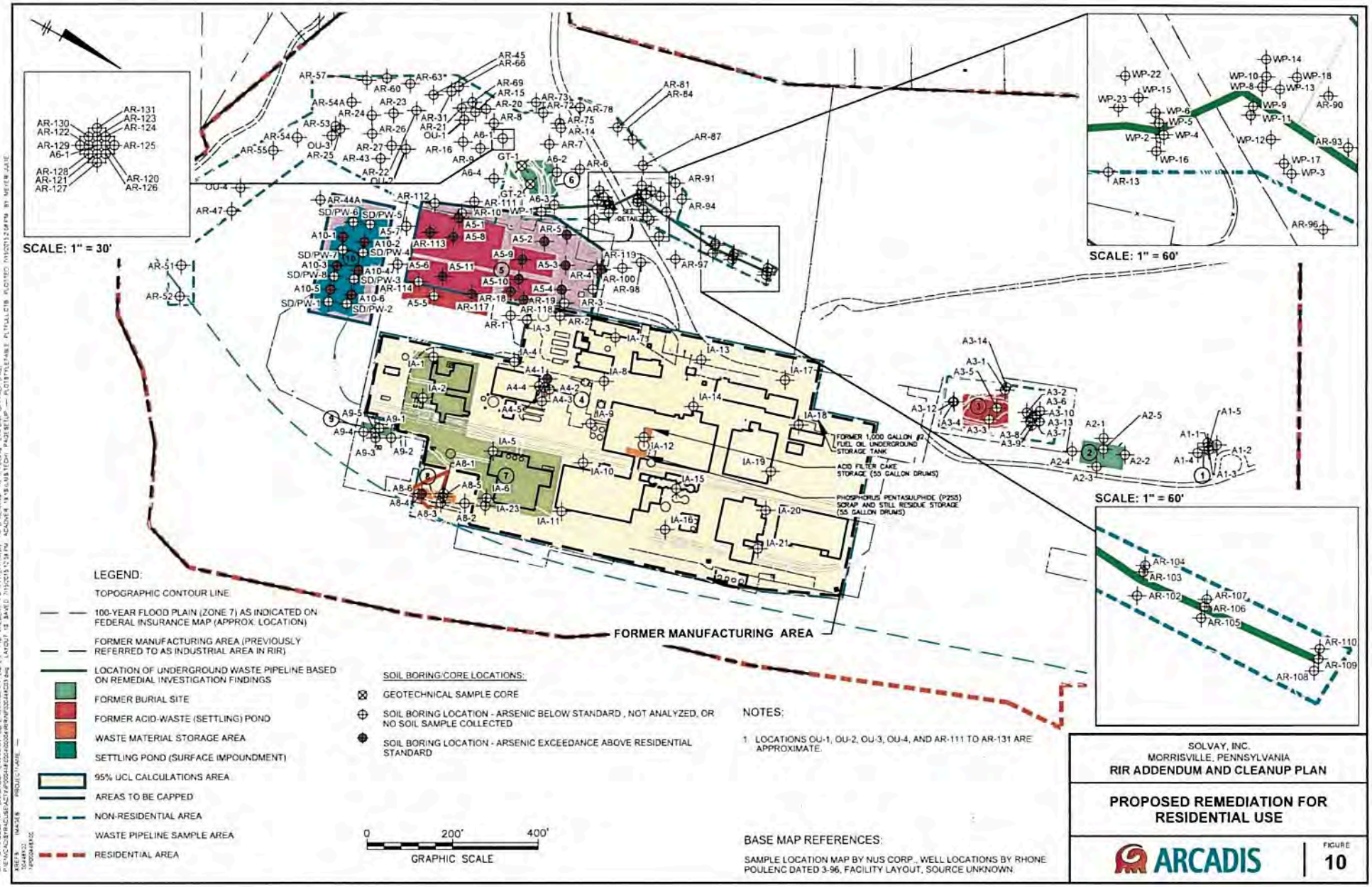
SOLVAY, INC.
MORRISVILLE, PENNSYLVANIA
RIR ADDENDUM AND CLEANUP PLAN

NOVEMBER 2013 SAMPLE LOCATIONS

ARCADIS

FIGURE 5

Attachment 6



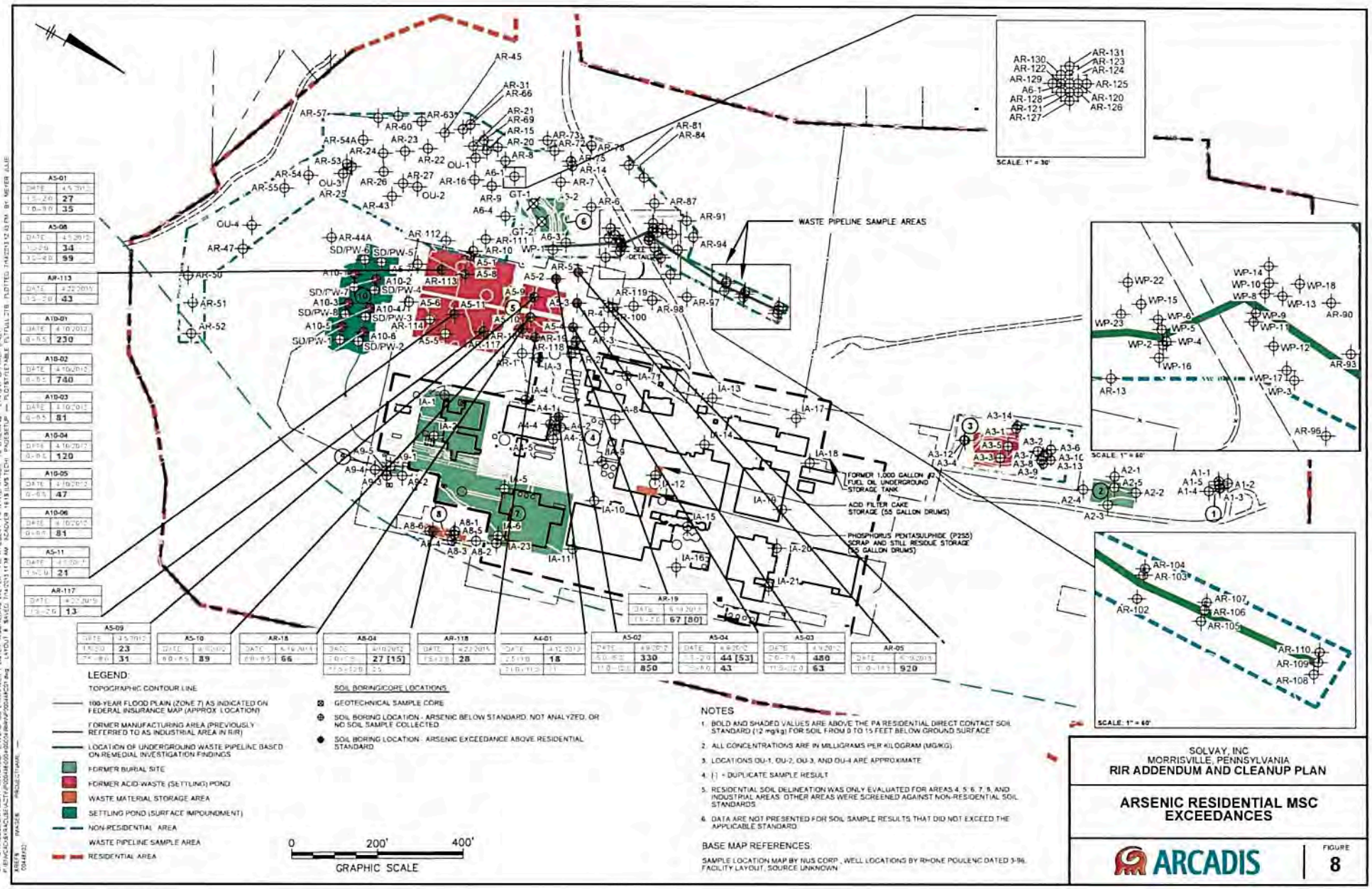
SOLVAY, INC.
MORRISVILLE, PENNSYLVANIA
RIR ADDENDUM AND CLEANUP PLAN

PROPOSED REMEDIATION FOR RESIDENTIAL USE

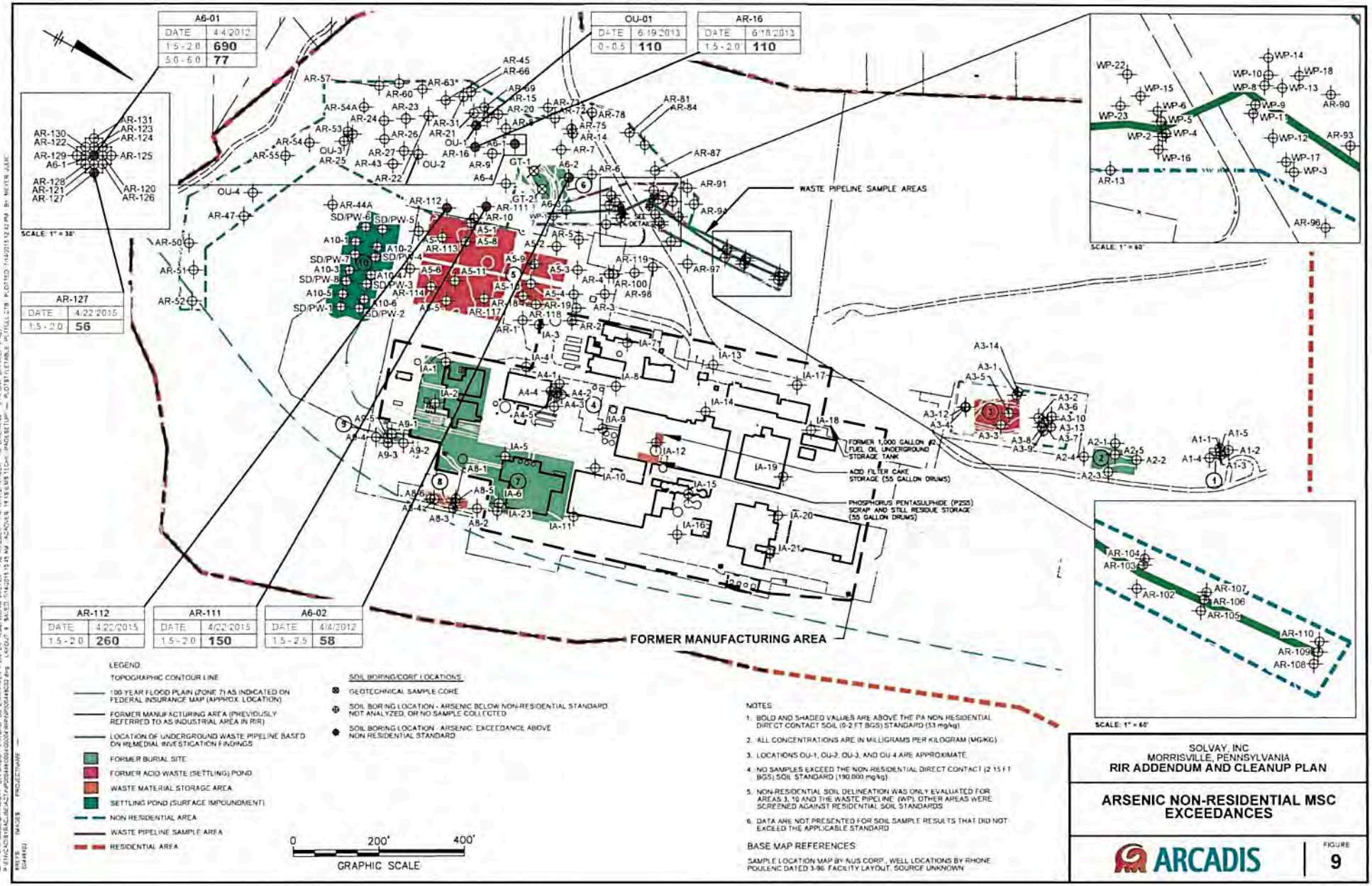
ARCADIS

FIGURE 10

Attachment 7


WASTE PIPELINE SAMPLE AREAS
SCALE: 1" = 30'
SCALE: 1" = 60'
SCALE: 1" = 60'
FORMER 1,000 GALLON #2 FUEL OIL UNDERGROUND STORAGE TANK
ACID FILTER CAKE STORAGE (55 GALLON DRUMS)
PHOSPHORUS PENTASULPHIDE (P2S5) SCRAP AND STILL RESIDUE STORAGE (55 GALLON DRUMS)
A5-01 | DATE 4/5/2013 | 15-20 27 | 70-80 35
A5-08 | DATE 4/5/2013 | 10-20 34 | 30-40 99
AR-113 | DATE 4/22/2015 | 10-20 43
A10-01 | DATE 4/10/2013 | 0-0.5 230
A10-02 | DATE 4/10/2013 | 0-0.5 740
A10-03 | DATE 4/10/2013 | 0-0.5 81
A10-04 | DATE 4/10/2013 | 0-0.5 120
A10-05 | DATE 4/10/2013 | 0-0.5 47
A10-06 | DATE 4/10/2013 | 0-0.5 81
A5-11 | DATE 4/10/2013 | 15-20 21
AR-117 | DATE 4/22/2015 | 15-20 13
A5-09 | DATE 4/5/2013 | 15-20 23 | 25-30 31
A5-10 | DATE 4/10/2013 | 80-85 89
AR-18 | DATE 4/16/2013 | 80-85 66
A8-04 | DATE 4/10/2013 | 10-15 27 [15] | 45-50 [25]
AR-118 | DATE 4/22/2015 | 15-20 28
A4-01 | DATE 4/12/2013 | 25-30 18 | 110-115 11
A5-02 | DATE 4/9/2013 | 50-55 330 | 110-120 850
AR-19 | DATE 4/9/2013 | 15-20 67 [80]
A5-04 | DATE 4/9/2013 | 15-20 44 [53] | 55-60 43
A5-03 | DATE 4/9/2013 | 20-25 480 | 115-120 63
AR-05 | DATE 4/9/2013 | 110-115 920
LEGEND:
TOPOGRAPHIC CONTOUR LINE
100-YEAR FLOOD PLAIN (ZONE 7) AS INDICATED ON FEDERAL INSURANCE MAP (APPROX. LOCATION)
FORMER MANUFACTURING AREA (PREVIOUSLY REFERRED TO AS INDUSTRIAL AREA IN RIR)
LOCATION OF UNDERGROUND WASTE PIPELINE BASED ON REMEDIAL INVESTIGATION FINDINGS
FORMER BURIAL SITE
FORMER ACID-WASTE (SETTLING) POND
WASTE MATERIAL STORAGE AREA
SETTLING POND (SURFACE IMPOUNDMENT)
NON-RESIDENTIAL AREA
WASTE PIPELINE SAMPLE AREA
RESIDENTIAL AREA
SOIL BORING/CORE LOCATIONS
GEOTECHNICAL SAMPLE CORE
SOIL BORING LOCATION - ARSENIC BELOW STANDARD, NOT ANALYZED, OR NO SOIL SAMPLE COLLECTED
SOIL BORING LOCATION - ARSENIC EXCEEDANCE ABOVE RESIDENTIAL STANDARD
0 200' 400'
GRAPHIC SCALE
NOTES
1. BOLD AND SHADED VALUES ARE ABOVE THE PA RESIDENTIAL DIRECT CONTACT SOIL STANDARD (12 mg/kg) FOR SOIL FROM 0 TO 15 FEET BELOW GROUND SURFACE.
2. ALL CONCENTRATIONS ARE IN MILLIGRAMS PER KILOGRAM (MG/KG).
3. LOCATIONS OU-1, OU-2, OU-3, AND OU-4 ARE APPROXIMATE.
4. [ ] = DUPLICATE SAMPLE RESULT.
5. RESIDENTIAL SOIL DELINEATION WAS ONLY EVALUATED FOR AREAS 4, 5, 6, 7, 8, AND INDUSTRIAL AREAS. OTHER AREAS WERE SCREENED AGAINST NON-RESIDENTIAL SOIL STANDARDS.
6. DATA ARE NOT PRESENTED FOR SOIL SAMPLE RESULTS THAT DID NOT EXCEED THE APPLICABLE STANDARD.
BASE MAP REFERENCES:
SAMPLE LOCATION MAP BY NUS CORP., WELL LOCATIONS BY RHONE POULENC DATED 3-96, FACILITY LAYOUT, SOURCE UNKNOWN
SOLVAY, INC
MORRISVILLE, PENNSYLVANIA
RIR ADDENDUM AND CLEANUP PLAN
ARSENIC RESIDENTIAL MSC EXCEEDANCES
ARCADIS
FIGURE 8

Attachment 8


A6-01
DATE 4/4/2012
1.5 - 2.0 690
5.0 - 6.0 77
OU-01
DATE 6/19/2013
0 - 0.5 110
AR-16
DATE 6/18/2013
1.5 - 2.0 110
AR-127
DATE 4/22/2015
1.5 - 2.0 56
AR-112
DATE 4/22/2015
1.5 - 2.0 260
AR-111
DATE 4/22/2015
1.5 - 2.0 150
A6-02
DATE 4/4/2012
1.5 - 2.5 58
WASTE PIPELINE SAMPLE AREAS
FORMER MANUFACTURING AREA
FORMER 1,000 GALLON #2 FUEL OIL UNDERGROUND STORAGE TANK
ACID FILTER CAKE STORAGE (55 GALLON DRUMS)
PHOSPHORUS PENTASULPHIDE (P2S5) SCRAP AND STILL RESIDUE STORAGE (55 GALLON DRUMS)
SCALE: 1" = 60'
SCALE: 1" = 60'
SCALE: 1" = 30'
LEGEND:
TOPOGRAPHIC CONTOUR LINE
100-YEAR FLOOD PLAIN (ZONE 7) AS INDICATED ON FEDERAL INSURANCE MAP (APPROX. LOCATION)
FORMER MANUFACTURING AREA (PREVIOUSLY REFERRED TO AS INDUSTRIAL AREA IN RIR)
LOCATION OF UNDERGROUND WASTE PIPELINE BASED ON REMEDIAL INVESTIGATION FINDINGS
FORMER BURIAL SITE
FORMER ACID WASTE (SETTLING) POND
WASTE MATERIAL STORAGE AREA
SETTLING POND (SURFACE IMPOUNDMENT)
NON RESIDENTIAL AREA
WASTE PIPELINE SAMPLE AREA
RESIDENTIAL AREA
SOIL BORING/CORE LOCATIONS:
GEOTECHNICAL SAMPLE CORE
SOIL BORING LOCATION - ARSENIC BELOW NON-RESIDENTIAL STANDARD NOT ANALYZED, OR NO SAMPLE COLLECTED
SOIL BORING LOCATION - ARSENIC EXCEEDANCE ABOVE NON RESIDENTIAL STANDARD
0 200' 400'
GRAPHIC SCALE
NOTES:
1. BOLD AND SHADED VALUES ARE ABOVE THE PA NON-RESIDENTIAL DIRECT CONTACT SOIL (0-2 FT BGS) STANDARD (53 mg/kg).
2. ALL CONCENTRATIONS ARE IN MILLIGRAMS PER KILOGRAM (MG/KG).
3. LOCATIONS OU-1, OU-2, OU-3, AND OU-4 ARE APPROXIMATE.
4. NO SAMPLES EXCEED THE NON-RESIDENTIAL DIRECT CONTACT (2-15 FT BGS) SOIL STANDARD (190,000 mg/kg).
5. NON-RESIDENTIAL SOIL DELINEATION WAS ONLY EVALUATED FOR AREAS 3, 10 AND THE WASTE PIPELINE (WP). OTHER AREAS WERE SCREENED AGAINST RESIDENTIAL SOIL STANDARDS.
6. DATA ARE NOT PRESENTED FOR SOIL SAMPLE RESULTS THAT DID NOT EXCEED THE APPLICABLE STANDARD.
BASE MAP REFERENCES:
SAMPLE LOCATION MAP BY NUS CORP., WELL LOCATIONS BY RHONE POULENC DATED 3-96. FACILITY LAYOUT, SOURCE UNKNOWN.
SOLVAY, INC
MORRISVILLE, PENNSYLVANIA
RIR ADDENDUM AND CLEANUP PLAN
ARSENIC NON-RESIDENTIAL MSC EXCEEDANCES
ARCADIS
FIGURE 9

Attachment 9

Table 1. Soil Analytical Results for Areas 4, 5, 6, 8, 10 and Former Manufacturing Area - Compared to Residential MSC

Area 4

Analyte	Residential Direct Contact MSC (0-15')	Unit	Location ID	A4-01		A4-02	A4-03	A4-04
			Sample Date	4/12/2012		4/13/2012	4/12/2012	4/12/2012
			Sample Depth	2.5-3.0	11.0-11.5	7.5-8.0	12.0-12.5	7.0-8.0
Arsenic	12	mg/kg		**18**	11	12	**41**	11

Areas 5 and 6

Analyte	Residential Direct Contact MSC (0-15')	Unit	Location ID	A5-01		A5-02		A5-03		A5-04		A5-05		A5-06		A5-07		A5-08		A5-09		A5-10		A5-11	
			Sample Date	4/5/2012		4/9/2012		4/9/2012		4/9/2012		4/5/2012		4/4/2012		4/4/2012		4/5/2012		4/5/2012		4/5/2012		4/5/2012	
			Sample Depth	1.5-2.0	7.0-8.0	6.0-6.5	11.0-12.0	7.0-7.5	11.5-12.0	1.5-2.0	7.5-8.0	1.5-2.0	4.5-5.0	0.5-1.5	12.0-12.5	1.0-2.0	5.8-6.3	1.5-2.0	3.5-4.0	1.5-2.0	7.5-8.0	1.5-2.0	8.0-8.5	1.5-2.0	3.5-4.0
Arsenic	12	mg/kg		**27**	**35**	**330**	**850**	**480**	**63**	**44 [53]**	**43**	4.8	6.2	9.1	5.2	6.2 [5.7]	4.1	**34**	**99**	**23**	**31**	5.6	**89**	**21**	11

Analyte	Residential Direct Contact MSC (0-15')	Unit	Location ID	A6-01		A6-03		AR-01	AR-02	AR-03		AR-04	AR-05	AR-13	AR-18	AR-19		AR-44A	AR-97	AR-98	AR-100	AR-113	AR-114	AR-117
			Sample Date	4/4/2012		4/5/2012		6/19/2013	6/19/2013	6/19/2013		6/19/2013	6/19/2013	6/18/2013	6/19/2013	6/19/2013		5/19/2014	5/20/2014	5/20/2014	5/20/2014	4/22/2015	4/22/2015	4/22/2015
			Sample Depth	1.5-2.0	5.0-6.0	1.5-2.0	3.75-4.75	8-8.5	1.5-2	1.5-2	7.5-8	7-7.5	11-11.5	11-11.5	8-8.5	1.5-2	7.5-8	1.5-2	1.5-2.0	1.5-2.0	1.5-2.0	1.5-2	1.5-2	1.5-2
Arsenic	12	mg/kg		**690**	**77**	5.3	8.3	6	4.6	6.9	2.9	5.3	**920**	3.9	**66**	**67 [80]**	7.2	10 [11]	4.9	9.3	10	**43**	12	**13**

Analyte	Residential Direct Contact MSC (0-15')	Unit	Location ID	AR-118	AR-119
			Sample Date	4/22/2015	4/22/2015
			Start Depth	1.5-2	1.5-2
Arsenic	12	mg/kg		**28**	9.5

Area 8

Analyte	Residential Direct Contact MSC (0-15')	Unit	Location ID	A8-01		A8-02		A8-03		A8-04		A8-05		A8-06
			Sample Date	4/10/2012		4/10/2012		4/10/2012		4/10/2012		4/10/2012		11/26/2013
			Sample Depth	4.5	11.5-12.0	4.5-5.0	11.0-12.0	6.0-6.5	11.0-12.0	7.0-7.5	11.5-12.0	4.5-5.0	10.0-11.0	7.0-7.5
Arsenic	12	mg/kg		5.4	2.6	4.1	1.7 J	4.7	2.1 J	**27 [15]**	2.5	6.1	1.8 J	5.7

Area 10

Analyte	Residential Direct Contact MSC (0-15')	Unit	Location ID	A10-01	A10-02	A10-03	A10-04	A10-05	A10-06
			Sample Date	4/10/2012	4/10/2012	4/10/2012	4/10/2012	4/10/2012	4/10/2012
			Depth (ft bgs)	0-0.5	0-0.5	0-0.5	0-0.5	0-0.5	0-0.5
Arsenic	12	mg/kg		**230**	**740**	**81**	**120**	**47**	**81**

Former Manufacturing Area

Analyte	Residential Direct Contact MSC (0-15')	Unit	Location ID	IA-01	IA-01	IA-03	IA-04		IA-05		IA-06		IA-07	IA-08	IA-09	IA-10		IA-11		IA-12		IA-13	IA-14	IA-15	
			Sample Date	4/9/2012	4/9/2012	4/3/2012	4/9/2012		4/11/2012		4/11/2012		4/3/2012	4/3/2012	4/3/2012	4/3/2012		4/3/2012		4/4/2012		4/3/2012	4/4/2012	4/2/2012	
			Depth (ft bgs)	3.5	11.5-12.0	11.5-12.0	5.0-5.5	9.5-10.0	2.5-3.0	4.0-5.0	2.5-3.5	6.5-7.0	12.0-12.5	13.5-14.5	10.5-11.5	3.0-3.5	13.0-14.0	4.5-5.0	9.0-9.5	6.5-7.0	17.0-18.0	12.0-13.0	12.0-13.0	3.5-4.0	14.5-15.0
Arsenic	12	mg/kg		5.6	7.6	4.6	12	5.5	3.2	4.7	5.4	4.5	5.1	3.9	7.6	3.8	6.2	3.6	5.5	12	7.5	4.9	4.9	3.6	5.6
BAP	0.57	mg/kg		0.040 U	0.039 U	0.041 U	0.07	0.038 U	0.037 U	0.038 U	**0.63**	0.0079 J	0.037 J	0.036 U	0.039 U	0.041 U	0.040 U	0.0078 J	0.040 U	0.0045 J	0.040 U	0.037 U	0.036 U	0.021 J	0.040 U

Analyte	Residential Direct Contact MSC (0-15')	Unit	Location ID	IA-16		IA-17		IA-18	IA-18	IA-19	IA-20		IA-21
			Sample Date	4/2/2012		4/3/2012		4/2/2012	4/13/2012	4/2/2012	4/2/2012		4/2/2012
			Depth (ft bgs)	3.5-4.0	4.5-5.0	2.0-3.0	11.0-12.0	5.5-6.0	12.5-13.0	4.5-5.0	2.0-2.5	13.0-13.5	14.5-15.0
Arsenic	12	mg/kg		2.7	4.9	4.7	3.8	5	4.3	5.1	5.1	6.7	4.4
BAP	0.57	mg/kg		0.021 J	0.039 U	0.0097 J	0.035 U	0.0046 J	0.035 U	0.038 U	0.037 U	0.039 U	0.036 U

Notes:
ft bgs - feet below ground surface
[ ] - indicates concentration detected in duplicate samples
BAP - benzo(a)pyrene
J - indicates estimated concentration above the laboratory method detection limit but below the reporting limit
U - Analyte not detected above the specified limit
mg/kg - milligram per kilogram
Residential Direct Contact MSC (0-15') - Pennsylvania Residential Direct Contact Medium Specific Concentration Standard for soil from 0 -15 ft bgs.
Samples that exceed the Residential Direct Contact MSC for soil from 0-15 ft bgs are bold and shaded gray.
A4-01 exceeded the residental MSC, but is located in the middle of the Former Manufacturing Area and will not require delineation

Attachment 10

Table 2: Soil Analytical Results for Area 3, Non-Residential Area, and Waste Pipeline - Compared to Non-Residential MSC

Area 3

Analyte	Non-Residential Direct Contact MSC (0-2')	Non-Residential Direct Contact MSC (2-15')	Unit	Location ID	A3-01	A3-01	A3-02	A3-04	A3-09	A3-10	A3-11	A3-12	A3-13
				Sample Date	4/11/2012	4/11/2012	4/12/2012	4/11/2012	11/26/2013	11/26/2013	11/26/2013	11/26/2013	11/26/2013
				Depth (ft bgs)	1.0 - 1.5	1.5 - 2.0	1.5 - 2.0	1.5 - 2.0	1.5 - 2.0	1.5 - 2.0	1.5 - 2.0	1.5 - 2.0	1.5 - 2.0
Arsenic	53	190,000	mg/kg		20	15	15 [15]	29	3.6 J [4.4 J]	5.3	5.9	11	4.3 J

Non-Residential Area

Analyte	Non-Residential Direct Contact MSC (0-2')	Non-Residential Direct Contact MSC (2-15')	Unit	A6-02		A6-04		AR-06	AR-07		AR-08		AR-09		AR-10		AR-14	AR-15	
				4/4/2012		4/13/2012		6/18/2013	6/18/2013		6/18/2013		6/18/2013		6/19/2013		6/18/2013	6/18/2013	
				1.5 - 2.5	4.0 - 4.5	1.5 - 2.0	4.0 - 4.5	1.5 - 2	1.5 - 2	5 - 5.5	1.5 - 2	5	1.5 - 2	5 - 5.5	1.5 - 2	3.5 - 4	1.5 - 2	1.5 - 2	4.5 - 5
Arsenic	53	190,000	mg/kg	**58**	29	10 [12]	15	18	51	27	48	30	36	39	26	25	4.1	31	17

Analyte	Non-Residential Direct Contact MSC (0-2')	Non-Residential Direct Contact MSC (2-15')	Unit	AR-16		AR-20	AR-21	AR-22	AR-23	AR-24	AR-25	AR-26	AR-27	AR-31	AR-43	AR-45	AR-47	AR-50	AR-51
				6/18/2013		9/24/2013	9/24/2013	9/24/2013	9/23/2013	9/23/2013	9/23/2013	9/23/2013	9/24/2013	9/24/2013	9/23/2013	9/24/2013	5/19/2014	5/19/2014	5/19/2014
				1.5 - 2	5 - 5.5	0.5 - 1	1 - 1.5	1.5 - 2	1.5 - 2	1.5 - 2	1 - 1.5	1 - 1.5	1.5 - 2	1.5 - 2	1.5 - 2	1.5 - 2	1.5 - 2	1.5 - 2	1.5 - 2
Arsenic	53	190,000	mg/kg	**110**	9.2	19 [21]	51	27	18	17	20	25	29	< 5.0 U	6.3	7	5.8	12	13

Analyte	Non-Residential Direct Contact MSC (0-2')	Non-Residential Direct Contact MSC (2-15')	Unit	AR-52	AR-53	AR-54	AR-54A	AR-55	AR-57	AR-60	AR-63	AR-66	AR-69	AR-72	AR-75	AR-78	AR-81
				5/20/2014	5/21/2014	5/20/2014	5/20/2014	5/20/2014	5/20/2014	5/20/2014	5/20/2014	5/20/2014	5/20/2014	5/20/2014	5/20/2014	5/21/2014	5/20/2014
				1.5 - 2	1.5 - 2	1.5 - 2	1.5 - 2	1.5 - 2	1.5 - 2	1.5 - 2	1.5 - 2	1.5 - 2	1.5 - 2	1.5 - 2	1.5 - 2	1.5 - 2	1.5 - 2
Arsenic	53	190,000	mg/kg	11	15	26	3	22	3.6	6.6	9 [8.8]	11	7.8	7.2	8.7	8.7	10

Analyte	Non-Residential Direct Contact MSC (0-2')	Non-Residential Direct Contact MSC (2-15')	Unit	AR-84	AR-87	AR-90	AR-91	AR-93	AR-94	AR-111	AR-112	AR-120	AR-121	AR-122	AR-123	AR-124	AR-125
				5/20/2014	5/20/2014	5/20/2014	5/20/2014	5/20/2014	5/21/2014	4/22/2015	4/22/2015	4/22/2015	4/22/2015	4/22/2015	4/22/2015	4/22/2015	4/22/2015
				1.5 - 2	1.5 - 2	1.5 - 2	1.5 - 2	1.5 - 2.0	1.5 - 2.0	1.5 - 2	1.5 - 2	1.5 - 2	1.5 - 2	1.5 - 2	1.5 - 2	1.5 - 2	1.5 - 2
Arsenic	53	190,000	mg/kg	7.9 [7.2]	8.3	19	4	19	7.8	**150**	**260**	25	41	17	31	48	36

Analyte	Non-Residential Direct Contact MSC (0-2')	Non-Residential Direct Contact MSC (2-15')	Unit	AR-126	AR-127	AR-128	AR-129	AR-130	AR-131	OU-01	OU-02	OU-03	OU-04
				4/22/2015	4/22/2015	4/22/2015	4/22/2015	4/22/2015	4/22/2015	8/19/2013	8/19/2013	8/19/2013	8/19/2013
				1.5 - 2	1.5 - 2	1.5 - 2	1.5 - 2	1.5 - 2	1.5 - 2	0 - 0.5	0 - 0.5	0 - 0.5	0 - 0.5
Arsenic	53	190,000	mg/kg	40	**56**	24	18	22	25	**110**	31	40	10

Waste Pipeline

Analyte	Non-Residential Direct Contact MSC (0-2')	Non-Residential Direct Contact MSC (2-15')	Unit	Location ID	WP-01	WP-02		WP-03		WP-04	WP-05	WP-06	WP-08		WP-09	WP-10		WP-11		WP-12	
				Sample Date	4/5/2012	4/5/2012		4/5/2012		11/26/2013	11/26/2013	11/26/2013	11/26/2013		11/26/2013	11/26/2013		11/26/2013		5/21/2014	
				Depth (ft bgs)	1.5 - 2.0	1.0 - 2.0	6.5 - 7.0	1.0 - 2.0	3.0 - 4.0	1.5 - 2.0	1.5 - 2.0	1.5 - 2.0	1.5 - 2.0	3.5 - 4.0	1.5 - 2.0	1.5 - 2.0	3.5 - 4.0	1.5 - 2.0	3.5 - 4.0	1.5 - 2.0	3.5 - 4.0
Arsenic	53	190,000	mg/kg		9.9	15	5	19	23	5.4	16	44	25	18	16	13	5.8	13	12	13	8.6

Analyte	Non-Residential Direct Contact MSC (0-2')	Non-Residential Direct Contact MSC (2-15')	Unit	Location ID	WP-13			WP-14		WP-15				WP-16			WP-17	WP-18	WP-22		
				Sample Date	5/21/2014			5/21/2014		5/21/2014				5/21/2014			5/21/2014	5/21/2014	5/21/2014		
				Depth (ft bgs)	1.5 - 2.0	3.5 - 4.0	5.5 - 6.0	1.5 - 2.0	3.5 - 4.0	1.5 - 2.0	3.5 - 4.0	5.5 - 6.0	7.5 - 8.0	1.5 - 2.0	3.5 - 4.0	5.5 - 6.0	1.5 - 2.0	1.5 - 2.0	1.5 - 2.0	3.5 - 4.0	5.5 - 6.0
Arsenic	53	190,000	mg/kg		28	15	10	3.4 [5.6]	4.6	16	22	14	6.9	5.8	12	6.9	10	8.2	17	16	10

Analyte	Non-Residential Direct Contact MSC (0-2')	Non-Residential Direct Contact MSC (2-15')	Unit	Location ID	WP-23		AR-96	AR-102			AR-103			AR-104			AR-105	AR-106		
				Sample Date	5/21/2014		5/20/2014	5/22/2014			5/22/2014			5/22/2014			5/22/2014	5/22/2014		
				Depth (ft bgs)	1.5 - 2.0	7.5 - 8.0	1.5 - 2.0	1.5 - 2.0	2.5 - 3.0	3.5 - 4.0	1.5 - 2.0	2.5 - 3.0	3.5 - 4.0	1.5 - 2.0	2.5 - 3.0	3.5 - 4.0	1.5 - 2.0	1.5 - 2.0	2.5 - 3.0	3.5 - 4.0
Arsenic	53	190,000	mg/kg		10	5.3	14	18	18	8.4	23 [26]	14	8.7	16	18	17	10	34	24	25

Analyte	Non-Residential Direct Contact MSC (0-2')	Non-Residential Direct Contact MSC (2-15')	Unit	Location ID	AR-107			AR-108		AR-109			AR-110		
				Sample Date	5/22/2014			5/22/2014		5/22/2014			5/22/2014		
				Depth (ft bgs)	1.5 - 2.0	2.5 - 3.0	3.5 - 4.0	1.5 - 2.0	1.5 - 2.0	1.5 - 2.0	2.5 - 3.0	3.5 - 4.0	1.5 - 2.0	2.5 - 3.0	3.5 - 4.0
Arsenic	53	190,000	mg/kg		25	20	29	2.9	2.9	17 [16]	27	30	18	14	22

Notes:

ft bgs - feet below ground surface.

[ ] - indicates concentration detected in duplicate sample.

mg/kg - milligram per kilogram.

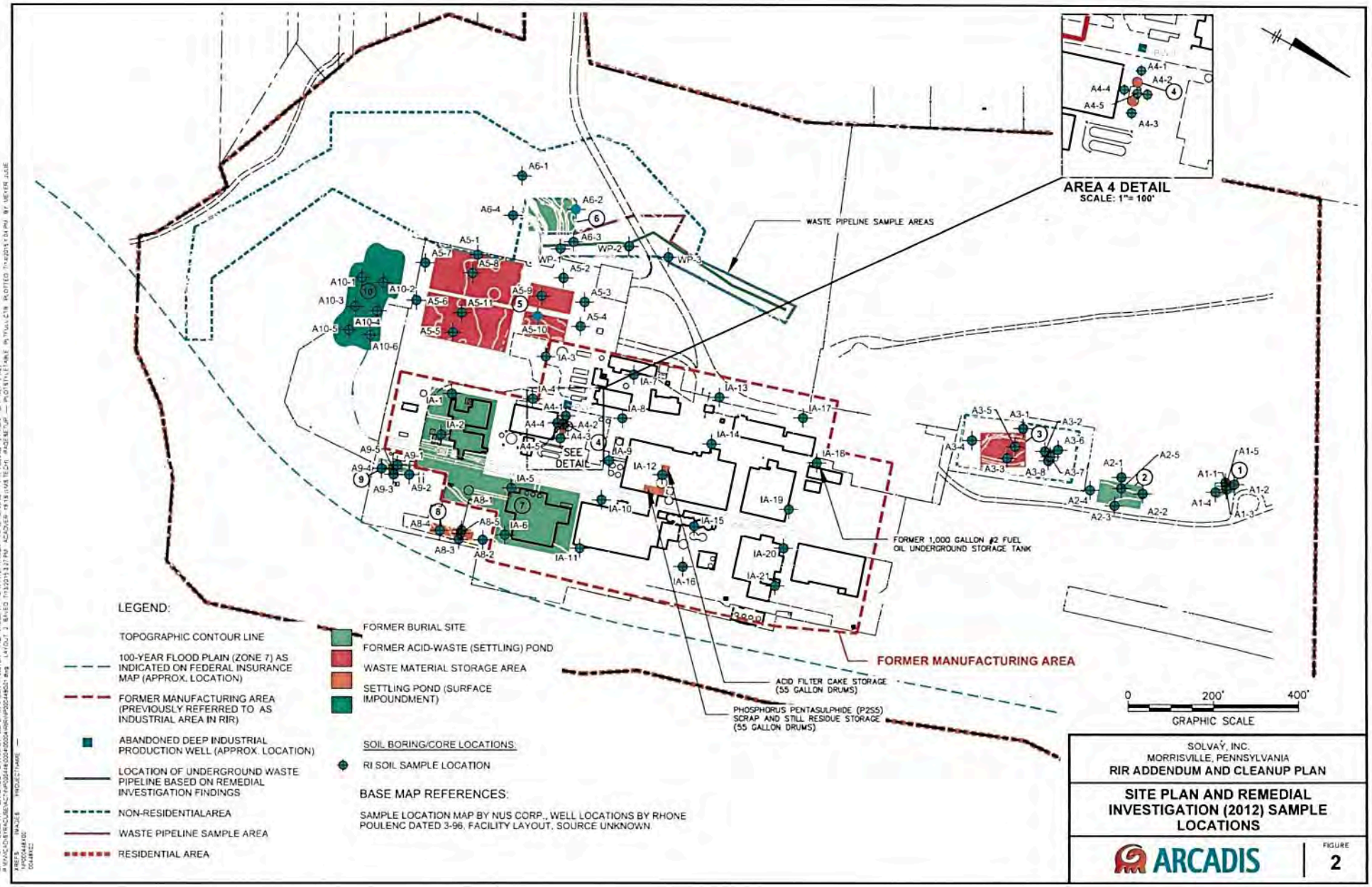
Non-Residential Direct Contact MSC (0-2') - Pennsylvania Non-Residential Direct Contact Medium Specific Concentration Standard for soil from 0 -2 ft bgs.

Non-Residential Direct Contact MSC (2-15') - Pennsylvania Non-Residential Direct Contact Medium Specific Concentration Standard for soil from 2 -15 ft bgs.

Samples that exceed the Non-Residential Direct Contact MSC for soil from 0-2 ft bgs are bold and shaded gray.

No samples exceeded the Non-Residential Direct Contact MSC for soil from 2-15 ft bgs.

Attachment 11


AREA 4 DETAIL
SCALE: 1"= 100'
WASTE PIPELINE SAMPLE AREAS
SEE DETAIL
FORMER MANUFACTURING AREA
FORMER 1,000 GALLON #2 FUEL OIL UNDERGROUND STORAGE TANK
ACID FILTER CAKE STORAGE (55 GALLON DRUMS)
PHOSPHORUS PENTASULPHIDE (P2S5) SCRAP AND STILL RESIDUE STORAGE (55 GALLON DRUMS)
0
200'
400'
GRAPHIC SCALE
LEGEND:
TOPOGRAPHIC CONTOUR LINE
100-YEAR FLOOD PLAIN (ZONE 7) AS INDICATED ON FEDERAL INSURANCE MAP (APPROX. LOCATION)
FORMER MANUFACTURING AREA (PREVIOUSLY REFERRED TO AS INDUSTRIAL AREA IN RIR)
ABANDONED DEEP INDUSTRIAL PRODUCTION WELL (APPROX. LOCATION)
LOCATION OF UNDERGROUND WASTE PIPELINE BASED ON REMEDIAL INVESTIGATION FINDINGS
NON-RESIDENTIALAREA
WASTE PIPELINE SAMPLE AREA
RESIDENTIAL AREA
FORMER BURIAL SITE
FORMER ACID-WASTE (SETTLING) POND
WASTE MATERIAL STORAGE AREA
SETTLING POND (SURFACE IMPOUNDMENT)
SOIL BORING/CORE LOCATIONS:
RI SOIL SAMPLE LOCATION
BASE MAP REFERENCES:
SAMPLE LOCATION MAP BY NUS CORP., WELL LOCATIONS BY RHONE POULENC DATED 3-96, FACILITY LAYOUT, SOURCE UNKNOWN.
SOLVAY, INC.
MORRISVILLE, PENNSYLVANIA
RIR ADDENDUM AND CLEANUP PLAN
SITE PLAN AND REMEDIAL INVESTIGATION (2012) SAMPLE LOCATIONS
ARCADIS
FIGURE
2

Attachment 12

Table F-4
Complete Analytical Summary of Groundwater Samples - April 2012
Remedial Investigation Report
Rhodia Morrisville Facility

Constituent (ug/L)	Fraction	EPA MCL (or RSL)	PADEP Non-Res Used Aquifer MSC	Location ID	GM-01	GM-02 (DUP)	GM-02	GM-03	GM-04	MW-01	MW-02	MW-03	MW-04
				Sample Date	4/12/2012	4/12/2012	4/12/2012	4/11/2012	4/11/2012	4/13/2012	4/11/2012	4/11/2012	4/11/2012
Metals													
Aluminum	D	16000	200		< 180 U	< 180 U	< 180 U	< 180 U	< 180 U	< 180 U	< 180 U	< 180 U	< 180 U
Aluminum	T	16000	200		1300	1100	1100	210	490	410 B	430	1200	2900
Antimony	D	6	6		< 12 U	< 12 U	< 12 U	< 12 U	< 12 U	< 12 U	< 12 U	< 12 U	< 12 U
Antimony	T	6	6		< 12 U	< 12 U	< 12 U	< 12 U	< 12 U	< 12 U	< 12 U	< 12 U	< 12 U
Arsenic	D	10	10		230	8.7	7.1 J	< 7.5 U	17	32 B	< 7.5 U	< 7.5 U	25
Arsenic	T	10	10		220	12	8.9	3.7 J	15	33 B	< 7.5 U	3.2 J	29
Barium	D	2000	2000		0.47 J	70	66	20 J	26 J	2.3 JB	26 J	20 J	< 50 U
Barium	T	2000	2000		12 JB	85 B	84	28 J	40 J	8.3 JB	38 J	33 J	42 J
Beryllium	D	4	4		< 4.0 U	< 4.0 U	< 4.0 U	0.31 JB	0.34 JB	1.7 JB	0.29 JB	0.32 JB	0.31 JB
Beryllium	T	4	4		< 4.0 U	< 4.0 U	0.48 JB	0.36 JB	0.44 JB	1.7 JB	0.37 JB	0.39 JB	0.53 JB
Cadmium	D	5	5		7.9 B	< 3.5 U	< 3.5 U	< 3.5 U	< 3.5 U	2.6 JB	< 3.5 U	< 3.5 U	1.1 J
Cadmium	T	5	5		7.8 B	1.2 JB	< 3.5 U	< 3.5 U	< 3.5 U	2.5 JB	< 3.5 U	< 3.5 U	1.5 J
Calcium	D	–	–		31000 B	27000 B	26000 B	9600 B	8400 B	17000 B	30000 B	31000 B	37000 B
Calcium	T	–	–		30000 B	27000 B	26000 B	9800 B	8000 B	16000 B	30000 B	30000 B	40000 B
Chromium	D	100	100		0.58 J	< 50 U	< 50 U	< 50 U	0.97 J	1.7 JB	< 50 U	< 50 U	< 50 U
Chromium	T	100	100		2.1 J	1.7 J	1.7 J	< 50 U	2.1 J	4.4 JB	1.5 J	1.6 J	11 J
Cobalt	D	4.7	31		< 20 U	< 20 U	< 20 U	< 20 U	51	4.7 JB	< 20 U	< 20 U	< 20 U
Cobalt	T	4.7	31		0.50 J	1.0 J	0.60 J	< 20 U	48	5.1 JB	1.7 J	1.2 J	1.4 J
Copper	D	1300	1000		2.6 J	1.6 J	1.1 J	1.6 J	1.6 J	4.3 JB	1.1 J	1.7 J	1.5 J
Copper	T	1300	1000		6.0 J	5.2 J	5.2 J	240	5.7 J	5.4 JB	2.3 J	4.1 J	9.0 J
Cr (Hexavalent)	T	0.031	–		< 25 U	< 25 U	< 25 U	< 25 U	< 25 U	< 25 U	< 25 U	< 25 U	< 25 U
Iron	D	11000	300		< 280 U	< 280 U	< 280 U	3200	21000	3300	< 280 U	< 280 U	< 280 U
Iron	T	11000	300		1500	2600	2600	3600	22000	7500	1100	1700	7500
Lead	D	15	5		< 4.0 U	< 4.0 U	< 4.0 U	< 4.0 U	< 4.0 U	2.7 J	< 4.0 U	< 4.0 U	< 4.0 U
Lead	T	15	5		2.7 J	< 4.0 U	2.9 J	16	< 4.0 U	4.1	< 4.0 U	4.5	6.1
Magnesium	D	–	–		27000	12000	12000	5300 B	4600 B	12000 B	14000 B	15000 B	20000 B
Magnesium	T	–	–		26000	12000	12000 B	5500 B	4400 B	11000 B	14000 B	15000 B	22000 B
Manganese	D	320	300		92	53	49	350	1100	1000 B	4.2 J	3.5 J	240
Manganese	T	320	300		430	330	340	350	1100	1100 B	120	120	480
Mercury	D	2	2		< 0.70 U	< 0.70 U	< 0.70 U	< 0.70 U	< 0.70 U	< 0.70 U	< 0.70 U	< 0.70 U	< 0.70 U
Mercury	T	2	2		< 0.70 U	< 0.70 U	< 0.70 U	< 0.70 U	< 0.70 U	< 0.70 U	< 0.70 U	< 0.70 U	< 0.70 U
Nickel	D	300	100		2.3 J	0.90 J	< 50 U	1.1 J	60	1.9 J	< 50 U	< 50 U	< 50 U
Nickel	T	300	100		6.8 J	3.3 J	2.8 J	1.9 J	57	3.4 J	< 50 U	2.8 J	9.1 J
Potassium	D	–	–		3700 J	4700 J	4500 J	970 J	1200 J	980 J	2000 J	2100 J	1300 J
Potassium	T	–	–		3600 J	4300 J	4600 J	1100 J	1200 J	1000 J	2000 J	2300 J	1900 J
Selenium	D	50	50		< 40 U	< 40 U	< 40 U	< 40 U	< 40 U	< 40 U	< 40 U	< 40 U	< 40 U
Selenium	T	50	50		9.7 J	9.4 J	< 40 U	< 40 U	< 40 U	< 40 U	< 40 U	< 40 U	< 40 U
Silver	D	71	100		2.0 J	1.5 J	1.8 J	0.76 J	< 20 U	1.4 JB	1.6 J	1.7 J	2.0 J
Silver	T	71	100		2.1 J	1.6 J	1.6 J	< 20 U	< 20 U	1.7 JB	1.6 J	1.8 J	2.1 J
Sodium	D	–	–		60000	32000	31000	13000	12000	24000	21000	22000	21000
Sodium	T	–	–		54000	28000	30000	17000	12000	22000	21000	22000	22000
Thallium	D	2	2		< 10 U	< 10 U	< 10 U	< 10 U	4.8 J	< 10 U	< 10 U	< 10 U	< 10 U

Table F-4
Complete Analytical Summary of Groundwater Samples - April 2012
Remedial Investigation Report
Rhodia Morrisville Facility

Constituent (ug/L)	Fraction	EPA MCL (or RSL)	PADEP Non-Res Used Aquifer MSC	Location ID	GM-01	GM-02 (DUP)	GM-02	GM-03	GM-04	MW-01	MW-02	MW-03	MW-04
				Sample Date	4/12/2012	4/12/2012	4/12/2012	4/11/2012	4/11/2012	4/13/2012	4/11/2012	4/11/2012	4/11/2012
Metals Continued													
Thallium	T	2	2		< 10 U	< 10 U	< 10 U	< 10 U	< 10 U	< 10 U	< 10 U	< 10 U	< 10 U
Vanadium	D	--	720		**11 J**	**4.2 J**	**2.3 J**	**3.5 J**	< 50 U	**5.2 J**	**4.6 J**	**8.4 J**	**5.7 J**
Vanadium	T	--	720		**11 J**	**6.9 J**	**6.1 J**	**3.2 J**	**2.3 J**	**6.0 J**	**7.8 J**	**12 J**	**10 J**
Zinc	D	4700	2000		**57**	< 50 U	< 50 U	**54 B**	**200 B**	**4.9 J**	**8.6 JB**	**13 JB**	**9.7 JB**
Zinc	T	4700	2000		**110 B**	**13 JB**	**13 JB**	**170 B**	**250 B**	**16 J**	**15 JB**	**23 JB**	**60 B**
SVOCs													
1,1'-Biphenyl	NA	0.83	5100		< 2.0 U	< 2.0 U	< 2.0 U	< 2.0 U	< 2.1 U	< 2.0 U	< 2.1 U	< 2.1 U	< 2.0 U
1,2,4,5-Tetrachlorobenzene	NA	1.2	31		< 2.0 U	< 2.0 U	< 2.0 U	< 2.0 U	< 2.1 U	< 2.0 U	< 2.1 U	< 2.1 U	< 2.0 U
1,2-Diphenylhydrazine	NA	0.067	--		< 0.051 U	< 0.050 U	< 0.050 U	< 0.051 U	< 0.052 U	< 0.051 U	< 0.052 U	< 0.052 U	< 0.050 U
2,3,4,6-Tetrachlorophenol	NA	170	--		< 2.0 U	< 2.0 U	< 2.0 U	< 2.0 U	< 2.1 U	< 2.0 U	< 2.1 U	< 2.1 U	< 2.0 U
2,4,5-Trichlorophenol	NA	890	10000		< 2.0 U	< 2.0 U	< 2.0 U	< 2.0 U	< 2.1 U	< 2.0 U	< 2.1 U	< 2.1 U	< 2.0 U
2,4,6-Trichlorophenol	NA	3.5	100		< 2.0 U	< 2.0 U	< 2.0 U	< 2.0 U	< 2.1 U	< 2.0 U	< 2.1 U	< 2.1 U	< 2.0 U
2,4-Dichlorophenol	NA	35	20		< 2.0 U	< 2.0 U	< 2.0 U	< 2.0 U	< 2.1 U	< 2.0 U	< 2.1 U	< 2.1 U	< 2.0 U
2,4-Dimethylphenol	NA	270	2000		< 2.0 U	< 2.0 U	< 2.0 U	< 2.0 U	< 2.1 U	< 2.0 U	< 2.1 U	< 2.1 U	< 2.0 U
2,4-Dinitrophenol	NA	30	200		< 10 U	< 10 U	< 10 U	< 10 U	< 10 U	< 10 U	< 10 U	< 10 U	< 10 U
2,4-Dinitrotoluene	NA	0.2	8.4		< 2.0 U	< 2.0 U	< 2.0 U	< 2.0 U	< 2.1 U	< 2.0 U	< 2.1 U	< 2.1 U	< 2.0 U
2,6-Dinitrotoluene	NA	15	100		< 2.0 U	< 2.0 U	< 2.0 U	< 2.0 U	< 2.1 U	< 2.0 U	< 2.1 U	< 2.1 U	< 2.0 U
2-Chloronaphthalene	NA	550	8200		< 2.0 U	< 2.0 U	< 2.0 U	< 2.0 U	< 2.1 U	< 2.0 U	< 2.1 U	< 2.1 U	< 2.0 U
2-Chlorophenol	NA	71	40		< 2.0 U	< 2.0 U	< 2.0 U	< 2.0 U	< 2.1 U	< 2.0 U	< 2.1 U	< 2.1 U	< 2.0 U
2-Methylnaphthalene	NA	27	410		< 2.0 U	< 2.0 U	< 2.0 U	< 2.0 U	< 2.1 U	< 2.0 U	< 2.1 U	< 2.1 U	< 2.0 U
2-Methylphenol	NA	720	5100		< 0.51 U	< 0.50 U	< 0.50 U	< 0.51 U	< 0.52 U	< 0.51 U	< 0.52 U	< 0.52 U	< 0.50 U
2-Nitroaniline	NA	150	310		< 2.0 U	< 2.0 U	< 2.0 U	< 2.0 U	< 2.1 U	< 2.0 U	< 2.1 U	< 2.1 U	< 2.0 U
2-Nitrophenol	NA	--	820		< 2.0 U	< 2.0 U	< 2.0 U	< 2.0 U	< 2.1 U	< 2.0 U	< 2.1 U	< 2.1 U	< 2.0 U
3&4-Methylphenol	NA	140	--		< 0.51 U	< 0.50 U	< 0.50 U	< 0.51 U	< 0.52 U	< 0.51 U	< 0.52 U	< 0.52 U	< 0.50 U
3,3'-Dichlorobenzidine	NA	0.11	5.8		< 2.0 U	< 2.0 U	< 2.0 U	< 2.0 U	< 2.1 U	< 2.0 U	< 2.1 U	< 2.1 U	< 2.0 U
3-Nitroaniline	NA	--	31		< 2.0 U	< 2.0 U	< 2.0 U	< 2.0 U	< 2.1 U	< 2.0 U	< 2.1 U	< 2.1 U	< 2.0 U
4,6-Dinitro-2-methylphenol	NA	1.2	10		< 10 U	< 10 U	< 10 U	< 2.0 U	< 2.1 U	< 2.0 U	< 10 U	< 10 U	< 10 U
4-Chloro-3-methylphenol	NA	1100	510		< 2.0 U	< 2.0 U	< 2.0 U	< 2.0 U	< 2.1 U	< 2.0 U	< 2.1 U	< 2.1 U	< 2.0 U
4-Chloroaniline	NA	0.32	13		< 0.51 U	< 0.50 U	< 0.50 U	< 0.51 U	< 0.52 U	< 0.51 U	< 0.52 U	< 0.52 U	< 0.50 U
4-Chlorophenyl-phenylether	NA	--	--		< 2.0 U	< 2.0 U	< 2.0 U	< 2.0 U	< 2.1 U	< 2.0 U	< 2.1 U	< 2.1 U	< 2.0 U
4-Nitroaniline	NA	3.3	130		< 2.0 U	< 2.0 U	< 2.0 U	< 2.0 U	< 2.1 U	< 2.0 U	< 2.1 U	< 2.1 U	< 2.0 U
4-Nitrophenol	NA	--	60		< 2.0 U	< 2.0 U	< 2.0 U	< 2.0 U	< 2.1 U	< 2.0 U	< 2.1 U	< 2.1 U	< 2.0 U
Acenaphthene	NA	400	3800		< 2.0 U	< 2.0 U	< 2.0 U	< 2.0 U	< 2.1 U	< 2.0 U	< 2.1 U	< 2.1 U	< 2.0 U
Acenaphthylene	NA	--	6100		< 2.0 U	< 2.0 U	< 2.0 U	< 2.0 U	< 2.1 U	< 2.0 U	< 2.1 U	< 2.1 U	< 2.0 U
Acetophenone	NA	1500	10000		< 2.0 U	< 2.0 U	< 2.0 U	< 2.0 U	< 2.1 U	< 2.0 U	< 2.1 U	< 2.1 U	< 2.0 U
Anthracene	NA	1300	66		< 2.0 U	< 2.0 U	< 2.0 U	< 2.0 U	< 2.1 U	< 2.0 U	< 2.1 U	< 2.1 U	< 2.0 U
Atrazine	NA	3	3		< 2.0 U	< 2.0 U	< 2.0 U	< 2.0 U	< 2.1 U	< 2.0 U	< 2.1 U	< 2.1 U	< 2.0 U
Benzaldehyde	NA	1500	--		< 2.0 U	< 2.0 U	< 2.0 U	< 2.0 U	< 2.1 U	< 2.0 U	< 2.1 U	< 2.1 U	< 2.0 U
Benzo[a]anthracene	NA	0.029	3.6		< 2.0 U	< 2.0 U	< 2.0 U	< 2.0 U	< 2.1 U	< 2.0 U	< 2.1 U	< 2.1 U	< 2.0 U
Benzo[a]pyrene	NA	0.2	0.2		< 0.020 U	< 0.020 U	< 0.020 U	< 0.020 U	< 0.021 U	< 0.020 U	< 0.021 U	< 0.021 U	< 0.020 U
Benzo[b]fluoranthene	NA	0.029	1.2		< 2.0 U	< 2.0 U	< 2.0 U	< 2.0 U	< 2.1 U	< 2.0 U	< 2.1 U	< 2.1 U	< 2.0 U
Benzo[g,h,i]perylene	NA	--	0.26		< 2.0 U	< 2.0 U	< 2.0 U	< 2.0 U	< 2.1 U	< 2.0 U	< 2.1 U	< 2.1 U	< 2.0 U

Table F-4
Complete Analytical Summary of Groundwater Samples - April 2012
Remedial Investigation Report
Rhodia Morrisville Facility

			Location ID	GM-01	GM-02 (DUP)	GM-02	GM-03	GM-04	MW-01	MW-02	MW-03	MW-04
			Sample Date	4/12/2012	4/12/2012	4/12/2012	4/11/2012	4/11/2012	4/13/2012	4/11/2012	4/11/2012	4/11/2012
Constituent (ug/L)	Fraction	EPA MCL (or RSL)	PADEP Non-Res Used Aquifer MSC									
SVOCs Continued												
Benzo[k]fluoranthene	NA	0.29	0.55	< 2.0 U	< 2.0 U	< 2.0 U	< 2.0 U	< 2.1 U	< 2.0 U	< 2.1 U	< 2.1 U	< 2.0 U
bis(2-Chloroethoxy)methane	NA	47	310	< 2.0 U	< 2.0 U	< 2.0 U	< 2.0 U	< 2.1 U	< 2.0 U	< 2.1 U	< 2.1 U	< 2.0 U
bis(2-Chloroethyl)ether	NA	0.012	0.76	< 0.51 U	< 0.50 U	< 0.50 U	< 0.51 U	< 0.52 U	< 0.51 U	< 0.52 U	< 0.52 U	< 0.50 U
bis(2-Chloroisopropyl)ether	NA	0.31	300	< 2.0 U	< 2.0 U	< 2.0 U	< 2.0 U	< 2.1 U	< 2.0 U	< 2.1 U	< 2.1 U	< 2.0 U
bis(2-Ethylhexyl)phthalate	NA	6	6	< 2.0 U	< 2.0 U	< 2.0 U	< 2.0 U	< 2.1 U	< 2.0 U	< 2.1 U	< 2.1 U	< 2.0 U
Butylbenzylphthalate	NA	14	1400	< 2.0 U	< 2.0 U	< 2.0 U	< 2.0 U	< 2.1 U	< 2.0 U	< 2.1 U	< 2.1 U	< 2.0 U
Caprolactam	NA	7700	--	< 2.0 U	< 2.0 U	< 2.0 U	< 2.0 U	< 2.1 U	< 2.0 U	< 2.1 U	< 2.1 U	< 2.0 U
Carbazole	NA	--	130	< 2.0 U	< 2.0 U	< 2.0 U	< 2.0 U	< 2.1 U	< 2.0 U	< 2.1 U	< 2.1 U	< 2.0 U
Chrysene	NA	2.9	1.9	< 2.0 U	< 2.0 U	< 2.0 U	< 2.0 U	< 2.1 U	< 2.0 U	< 2.1 U	< 2.1 U	< 2.0 U
Dibenzo[a,h]anthracene	NA	0.0029	0.36	< 2.0 U	< 2.0 U	< 2.0 U	< 2.0 U	< 2.1 U	< 2.0 U	< 2.1 U	< 2.1 U	< 2.0 U
Dibenzofuran	NA	5.8	100	< 0.51 U	< 0.50 U	< 0.50 U	< 0.51 U	< 0.52 U	< 0.51 U	< 0.52 U	< 0.52 U	< 0.50 U
Diethylphthalate	NA	11000	82000	< 2.0 U	< 2.0 U	< 2.0 U	< 2.0 U	< 2.1 U	< 2.0 U	< 2.1 U	< 2.1 U	< 2.0 U
Dimethylphthalate	NA	--	--	< 2.0 U	< 2.0 U	< 2.0 U	< 2.0 U	< 2.1 U	< 2.0 U	< 2.1 U	< 2.1 U	< 2.0 U
Di-n-butylphthalate	NA	670	10000	< 0.51 U	< 0.50 U	< 0.50 U	< 0.51 U	< 0.52 U	< 0.51 U	< 0.52 U	< 0.52 U	< 0.50 U
Di-n-octylphthalate	NA	--	3000	< 2.0 U	< 2.0 U	< 2.0 U	< 2.0 U	< 2.1 U	< 2.0 U	< 2.1 U	< 2.1 U	< 2.0 U
Fluoranthene	NA	630	260	< 2.0 U	< 2.0 U	< 2.0 U	< 2.0 U	< 2.1 U	< 2.0 U	< 2.1 U	< 2.1 U	< 2.0 U
Fluorene	NA	220	1900	< 2.0 U	< 2.0 U	< 2.0 U	< 2.0 U	< 2.1 U	< 2.0 U	< 2.1 U	< 2.1 U	< 2.0 U
Hexachlorobenzene	NA	1	1	< 0.020 U	< 0.020 U	< 0.020 U	< 0.020 U	< 0.021 U	< 0.020 U	< 0.021 U	< 0.021 U	< 0.020 U
Hexachlorobutadiene	NA	0.26	33	< 0.020 U	< 0.020 U	< 0.020 U	< 0.020 U	< 0.021 U	< 0.020 U	< 0.021 U	< 0.021 U	< 0.020 U
Hexachlorocyclopentadiene	NA	50	50	< 2.0 U	< 2.0 U	< 2.0 U	< 2.0 U	< 2.1 U	< 2.0 U	< 2.1 U	< 2.1 U	< 2.0 U
Hexachloroethane	NA	0.79	1	< 0.020 U	< 0.020 U	< 0.020 U	< 0.020 U	< 0.021 U	< 0.020 U	< 0.021 U	< 0.021 U	< 0.020 U
Indeno[1,2,3-cd]pyrene	NA	0.029	3.6	< 2.0 U	< 2.0 U	< 2.0 U	< 2.0 U	< 2.1 U	< 2.0 U	< 2.1 U	< 2.1 U	< 2.0 U
Isophorone	NA	67	100	< 2.0 U	< 2.0 U	< 2.0 U	< 2.0 U	< 2.1 U	< 2.0 U	< 2.1 U	< 2.1 U	< 2.0 U
Naphthalene	NA	0.14	100	< 0.51 U	< 0.50 U	< 0.50 U	< 0.51 U	< 0.52 U	< 0.51 U	< 0.52 U	< 0.52 U	< 0.50 U
Nitrobenzene	NA	0.12	200	< 2.0 U	< 2.0 U	< 2.0 U	< 2.0 U	< 2.1 U	< 2.0 U	< 2.1 U	< 2.1 U	< 2.0 U
N-Nitroso-di-n-propylamine	NA	0.0093	0.37	< 0.51 U	< 0.50 U	< 0.50 U	< 0.51 U	< 0.52 U	< 0.51 U	< 0.52 U	< 0.52 U	< 0.50 U
N-Nitrosodiphenylamine	NA	10	530	< 2.0 U	< 2.0 U	< 2.0 U	< 2.0 U	< 2.1 U	< 2.0 U	< 2.1 U	< 2.1 U	< 2.0 U
Pentachlorophenol	NA	1	1	< 0.20 U	< 0.20 U	< 0.20 U	< 0.20 U	< 0.21 U	< 0.20 U	< 0.21 U	< 0.21 U	< 0.20 U
Phenanthrene	NA	--	1100	< 2.0 U	< 2.0 U	< 2.0 U	< 2.0 U	< 2.1 U	< 2.0 U	< 2.1 U	< 2.1 U	< 2.0 U
Phenol	NA	4500	2000	< 2.0 U	< 2.0 U	< 2.0 U	< 2.0 U	< 2.1 U	< 2.0 U	< 2.1 U	< 2.1 U	< 2.0 U
Pyrene	NA	87	130	< 2.0 U	< 2.0 U	< 2.0 U	< 2.0 U	< 2.1 U	< 2.0 U	< 2.1 U	< 2.1 U	< 2.0 U
4-Bromophenyl Phenyl Ether	NA	--	--	< 2.0 U	< 2.0 U	< 2.0 U	< 2.0 U	< 2.1 U	< 2.0 U	< 2.1 U	< 2.1 U	< 2.0 U
VOCs												
1,1,1-Trichloroethane	NA	200	200	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U
1,1,2,2-Tetrachloroethane	NA	0.066	4.3	< 0.75 U	< 0.75 U	< 0.75 U	< 1.0 U	< 1.0 U	< 0.75 U	< 0.75 U	< 1.0 U	< 1.0 U
1,1,2-Trichloro-1,2,2-trifluoroethane	NA	53000	170000	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U
1,1,2-Trichloroethane	NA	5	5	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U
1,1-Dichloroethane	NA	2.4	160	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 0.57 U	< 1.0 U	< 1.0 U	< 1.0 U
1,1-Dichloroethene	NA	7	7	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U
1,2,3-Trichlorobenzene	NA	5.2	--	< 1.0 U	**2.6**	**2.3**	**1**	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	**0.85 J**
1,2,4-Trichlorobenzene	NA	70	70	< 1.0 U	**1.2**	**1.2**	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U
1,2-Dibromo-3-chloropropane	NA	0.2	0.2	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U
1,2-Dibromoethane	NA	0.05	0.05	< 0.020 U	< 0.020 U	< 0.020 U	< 0.020 U	< 0.020 U	< 0.020 U	< 0.020 U	< 0.020 U	< 0.020 U

Table F-4
Complete Analytical Summary of Groundwater Samples - April 2012
Remedial Investigation Report
Rhodia Morrisville Facility

Constituent (ug/L)	Fraction	EPA MCL (or RSL)	PADEP Non-Res Used Aquifer MSC	Location ID	GM-01	GM-02 (DUP)	GM-02	GM-03	GM-04	MW-01	MW-02	MW-03	MW-04
				Sample Date	4/12/2012	4/12/2012	4/12/2012	4/11/2012	4/11/2012	4/13/2012	4/11/2012	4/11/2012	4/11/2012
VOCs Continued													
1,2-Dichlorobenzene	NA	600	600		< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U
1,2-Dichloroethane	NA	5	5		< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U
1,2-Dichloropropane	NA	5	5		< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U
1,3-Dichlorobenzene	NA	--	600		< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U
1,4-Dichlorobenzene	NA	75	75		< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U
1,4-Dioxane	NA	0.67	32		< 5.0 U	< 5.0 U	< 5.0 U	< 5.0 U	< 5.0 U	< 5.0 U	< 5.0 U	< 5.0 U	< 5.0 U
2-Butanone	NA	4900	4000		< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U
2-Hexanone	NA	34	44		< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U
4-Methyl-2-pentanone	NA	1000	8200		< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U
Acetone	NA	12000	92000		< 10 U	< 10 U	< 10 U	< 10 U	< 10 U	< 10 U	< 10 U	< 10 U	< 10 U
Benzene	NA	5	5		< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U
Bromochloromethane	NA	83	90		< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U
Bromodichloromethane	NA	80	80		< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U
Bromoform	NA	80	80		< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U
Bromomethane	NA	7	10		< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U
Carbon disulfide	NA	720	6200		< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U
Carbon tetrachloride	NA	5	5		< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U
Chlorobenzene	NA	100	100		< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U
Chloroethane	NA	21000	900		< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U
Chloroform	NA	80	80		< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U
Chloromethane	NA	190	30		< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U
cis-1,2-Dichloroethene	NA	70	70		< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U
cis-1,3-Dichloropropene	NA	--	--		< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U
Cyclohexane	NA	13000	53000		< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U
Dibromochloromethane	NA	80	80		< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U
Dichlorodifluoromethane	NA	190	1000		< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U
Ethylbenzene	NA	700	700		< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U
Isopropylbenzene	NA	390	3500		< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U
m&p-Xylenes	NA	--	--		< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U
Methyl Acetate	NA	16000	100000		< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U
Methylcyclohexane	NA	--	--		< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U
Methylene chloride	NA	5	5		< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U
Methyl-t-butyl ether	NA	12	20		< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U
o-Xylene	NA	190	--		< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U
Styrene	NA	100	100		< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U
Tetrachloroethene	NA	5	5		< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U
Toluene	NA	1000	1000		< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U
trans-1,2-Dichloroethene	NA	100	100		< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U
trans-1,3-Dichloropropene	NA	--	--		< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U
Trichloroethene	NA	5	5		< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U
Trichlorofluoromethane	NA	1100	2000		< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U
Vinyl chloride	NA	2	2		< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U
Xylenes (Total)	NA	10000	10000		< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U

Table F-4
Complete Analytical Summary of Groundwater Samples - April 2012
Remedial Investigation Report
Rhodia Morrisville Facility

Constituent (ug/L)	Fraction	EPA MCL (or RSL)	PADEP Non-Res Used Aquifer MSC	Location ID / Sample Date	W-02 4/12/2012	W-03 4/12/2012	W-04 4/10/2012	W-05 4/13/2012	W-06 4/13/2012	W-07 4/11/2012	W-08 4/10/2012	W-09 (DUP) 4/12/2012	W-09 4/12/2012
Metals													
Aluminum	D	16000	200		< 180 U	< 180 U	72 J	< 180 U	49 JB	< 180 U	53 J	< 180 U	< 180 U
Aluminum	T	16000	200		240	57 J	670	130 JB	270 B	1100	260	130 J	210
Antimony	D	6	6		< 12 U	< 12 U	< 12 U	< 12 U	< 12 U	< 12 U	< 12 U	< 12 U	< 12 U
Antimony	T	6	6		< 12 U	< 12 U	< 12 U	< 12 U	< 12 U	< 12 U	< 12 U	< 12 U	< 12 U
Arsenic	D	10	10		5.5 J	10	2.8 J	220 B	88 B	40	45	110	110
Arsenic	T	10	10		< 7.5 U	8.4	< 7.5 U	200 B	77 B	35	45	99	110
Barium	D	2000	2000		64	78	9.0 JB	6.2 JB	7.9 JB	3.3 J	10 JB	< 50 U	0.82 J
Barium	T	2000	2000		60 B	72 B	13 JB	7.1 JB	10 JB	18 J	32 JB	2.6 JB	3.6 JB
Beryllium	D	4	4		< 4.0 U	< 4.0 U	0.87 JB	1.7 JB	1.7 JB	0.30 JB	0.82 JB	< 4.0 U	< 4.0 U
Beryllium	T	4	4		< 4.0 U	< 4.0 U	0.89 JB	1.7 JB	1.7 JB	0.37 JB	0.85 JB	< 4.0 U	< 4.0 U
Cadmium	D	5	5		< 3.5 U	0.92 JB	1.9 JB	7.1 B	3.5 JB	0.74 J	3.7 B	3.8 B	4.0 B
Cadmium	T	5	5		1.2 JB	1.2 JB	1.9 JB	6.9 B	3.4 JB	< 3.5 U	3.7 B	3.6 B	3.9 B
Calcium	D	--	--		34000 B	40000 B	2600 B	26000 B	36000 B	49000 B	41000 B	18000 B	18000 B
Calcium	T	--	--		32000 B	37000 B	2600 B	24000 B	34000 B	46000 B	42000 B	18000 B	18000 B
Chromium	D	100	100		< 50 U	< 50 U	1.3 JB	1.7 JB	1.4 JB	< 50 U	< 50 U	< 50 U	0.56 J
Chromium	T	100	100		< 50 U	< 50 U	3.1 JB	1.8 JB	2.6 JB	1.6 J	2.2 JB	0.90 J	0.96 J
Cobalt	D	4.7	31		< 20 U	< 20 U	< 20 U	0.46 JB	5.3 JB	< 20 U	1.1 J	2.2 J	2.4 J
Cobalt	T	4.7	31		< 20 U	< 20 U	0.83 J	0.47 JB	5.0 JB	< 20 U	10 J	2.1 J	2.3 J
Copper	D	1300	1000		1.7 J	2.3 J	1.9 JB	6.1 JB	4.1 JB	2.6 J	2.9 JB	1.3 J	2.4 J
Copper	T	1300	1000		2.3 J	2.7 J	2.5 JB	7.2 JB	4.1 JB	3.9 J	4.1 JB	8.0 J	9.3 J
Cr (Hexavalent)	T	0.031	--		< 25 U	< 25 U	< 25 U	< 25 U	< 25 U	< 25 U	< 25 U	< 25 U	< 25 U
Iron	D	11000	300		< 280 U	< 280 U	< 280 U	< 280 U	3200	< 280 U	< 280 U	1800	1800
Iron	T	11000	300		240 J	< 280 U	810	160 J	3300	1600	670	2300	2500
Lead	D	15	5		2.8 J	< 4.0 U	< 4.0 U	3.2 J	4.0 J	4.8	3.1 J	< 4.0 U	< 4.0 U
Lead	T	15	5		< 4.0 U	< 4.0 U	< 4.0 U	< 4.0 U	2.8 J	3.8 J	3.5 J	< 4.0 U	3.3 J
Magnesium	D	--	--		14000	17000	1000 JB	15000 B	19000 B	49000 B	17000 B	60000	61000
Magnesium	T	--	--		13000	16000	1100 JB	14000 B	18000 B	41000 B	17000 B	55000	57000
Manganese	D	320	300		43	39 J	6.6 JB	5.8 JB	3500 B	0.73 J	180 B	1200	1200
Manganese	T	320	300		58	40	30 JB	7.1 JB	3300 B	37 J	1100 B	1100	1200
Mercury	D	2	2		< 0.70 U	< 0.70 U	< 0.70 U	< 0.70 U	< 0.70 U	< 0.70 U	< 0.70 U	< 0.70 U	< 0.70 U
Mercury	T	2	2		< 0.70 U	< 0.70 U	< 0.70 U	< 0.70 U	< 0.70 U	< 0.70 U	< 0.70 U	< 0.70 U	< 0.70 U
Nickel	D	300	100		< 50 U	< 50 U	1.2 J	8.9 J	9.9 J	< 50 U	1.9 J	2.9 J	3.2 J
Nickel	T	300	100		< 50 U	< 50 U	1.9 J	8.0 J	9.5 J	1.4 J	6.0 J	3.2 J	3.3 J
Potassium	D	--	--		2100 J	9600	240 J	1500 J	1500 J	860 J	2100 J	850 J	980 J
Potassium	T	--	--		1800 J	8600	370 J	1400 J	1400 J	940 J	2200 J	840 J	910 J
Selenium	D	50	50		8.5 J	8.0 J	< 40 U	9.3 J	< 40 U	< 40 U	11 J	< 40 U	10 J
Selenium	T	50	50		9.5 J	8.7 J	< 40 U	14 J	< 40 U	< 40 U	12 J	< 40 U	< 40 U
Silver	D	71	100		2.1 J	2.4 J	0.71 J	1.8 JB	2.3 JB	2.3 J	2.8 J	1.3 J	1.2 J
Silver	T	71	100		2.0 J	2.5 J	0.96 J	2.0 JB	2.3 JB	2.4 J	2.7 J	1.5 J	1.4 J
Sodium	D	--	--		23000	31000	11000	7200	8000	6600	48000	81000	83000
Sodium	T	--	--		20000	28000	10000	6600	7400	5800	48000	69000	74000
Thallium	D	2	2		< 10 U	< 10 U	< 10 U	< 10 U	< 10 U	< 10 U	< 10 U	< 10 U	< 10 U

Table F-4
Complete Analytical Summary of Groundwater Samples - April 2012
Remedial Investigation Report
Rhodia Morrisville Facility

Constituent (ug/L)	Fraction	EPA MCL (or RSL)	PADEP Non-Res Used Aquifer MSC	Location ID / Sample Date	W-02 4/12/2012	W-03 4/12/2012	W-04 4/10/2012	W-05 4/13/2012	W-06 4/13/2012	W-07 4/11/2012	W-08 4/10/2012	W-09 (DUP) 4/12/2012	W-09 4/12/2012
Metals Continued													
Thallium	T	2	2		< 10 U	< 10 U	< 10 U	< 10 U	< 10 U	< 10 U	< 10 U	< 10 U	< 10 U
Vanadium	D	--	720		**3.8 J**	**6.1 J**	**2.2 J**	**7.9 J**	**6.9 J**	**11 J**	**11 J**	**9.6 J**	**8.9 J**
Vanadium	T	--	720		**4.6 J**	**5.6 J**	**2.6 J**	**7.8 J**	**6.9 J**	**11 J**	**13 J**	**9.0 J**	**9.2 J**
Zinc	D	4700	2000		**2.6 J**	**5.0 J**	**12 JB**	**19 J**	**6.2 J**	**8.1 JB**	**8.4 JB**	< 50 U	**3.2 J**
Zinc	T	4700	2000		**5.8 JB**	**8.1 JB**	**13 JB**	**26 J**	**17 J**	**12 JB**	**10 JB**	**19 JB**	**12 JB**
SVOCs													
1,1'-Biphenyl	NA	0.83	5100		< 2.0 U	< 2.0 U	< 2.0 U	< 2.0 U	< 2.0 U	< 2.1 U	< 2.0 U	< 2.0 U	< 2.0 U
1,2,4,5-Tetrachlorobenzene	NA	1.2	31		< 2.0 U	< 2.0 U	< 2.0 U	< 2.0 U	< 2.0 U	< 2.1 U	< 2.0 U	< 2.0 U	< 2.0 U
1,2-Diphenylhydrazine	NA	0.067	--		< 0.050 U	< 0.050 U	< 0.050 U	< 0.050 U	< 0.051 U	< 0.052 U	< 0.050 U	< 0.050 U	< 0.051 U
2,3,4,6-Tetrachlorophenol	NA	170	--		< 2.0 U	< 2.0 U	< 2.0 U	< 2.0 U	< 2.0 U	< 2.1 U	< 2.0 U	< 2.0 U	< 2.0 U
2,4,5-Trichlorophenol	NA	890	10000		< 2.0 U	< 2.0 U	< 2.0 U	< 2.0 U	< 2.0 U	< 2.1 U	< 2.0 U	< 2.0 U	< 2.0 U
2,4,6-Trichlorophenol	NA	3.5	100		< 2.0 U	< 2.0 U	< 2.0 U	< 2.0 U	< 2.0 U	< 2.1 U	< 2.0 U	< 2.0 U	< 2.0 U
2,4-Dichlorophenol	NA	35	20		< 2.0 U	< 2.0 U	< 2.0 U	< 2.0 U	< 2.0 U	< 2.1 U	< 2.0 U	< 2.0 U	< 2.0 U
2,4-Dimethylphenol	NA	270	2000		< 2.0 U	< 2.0 U	< 2.0 U	< 2.0 U	< 2.0 U	< 2.1 U	< 2.0 U	< 2.0 U	< 2.0 U
2,4-Dinitrophenol	NA	30	200		< 10 U	< 10 U	< 10 U	< 10 U	< 10 U	< 10 U	< 10 U	< 10 U	< 10 U
2,4-Dinitrotoluene	NA	0.2	8.4		< 2.0 U	< 2.0 U	< 2.0 U	< 2.0 U	< 2.0 U	< 2.1 U	< 2.0 U	< 2.0 U	< 2.0 U
2,6-Dinitrotoluene	NA	15	100		< 2.0 U	< 2.0 U	< 2.0 U	< 2.0 U	< 2.0 U	< 2.1 U	< 2.0 U	< 2.0 U	< 2.0 U
2-Chloronaphthalene	NA	550	8200		< 2.0 U	< 2.0 U	< 2.0 U	< 2.0 U	< 2.0 U	< 2.1 U	< 2.0 U	< 2.0 U	< 2.0 U
2-Chlorophenol	NA	71	40		< 2.0 U	< 2.0 U	< 2.0 U	< 2.0 U	< 2.0 U	< 2.1 U	< 2.0 U	< 2.0 U	< 2.0 U
2-Methylnaphthalene	NA	27	410		< 2.0 U	< 2.0 U	< 2.0 U	< 2.0 U	< 2.0 U	< 2.1 U	< 2.0 U	< 2.0 U	< 2.0 U
2-Methylphenol	NA	720	5100		< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U	< 0.51 U	< 0.52 U	< 0.50 U	< 0.50 U	< 0.51 U
2-Nitroaniline	NA	150	310		< 2.0 U	< 2.0 U	< 2.0 U	< 2.0 U	< 2.0 U	< 2.1 U	< 2.0 U	< 2.0 U	< 2.0 U
2-Nitrophenol	NA	--	820		< 2.0 U	< 2.0 U	< 2.0 U	< 2.0 U	< 2.0 U	< 2.1 U	< 2.0 U	< 2.0 U	< 2.0 U
3&4-Methylphenol	NA	140	--		< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U	< 0.51 U	< 0.52 U	< 0.50 U	< 0.50 U	< 0.51 U
3,3'-Dichlorobenzidine	NA	0.11	5.8		< 2.0 U	< 2.0 U	< 2.0 U	< 2.0 U	< 2.0 U	< 2.1 U	< 2.0 U	< 2.0 U	< 2.0 U
3-Nitroaniline	NA	--	31		< 2.0 U	< 2.0 U	< 2.0 U	< 2.0 U	< 2.0 U	< 2.1 U	< 2.0 U	< 2.0 U	< 2.0 U
4,6-Dinitro-2-methylphenol	NA	1.2	10		< 10 U	< 10 U	< 10 U	< 2.0 U	< 2.0 U	< 10 U	< 10 U	< 10 U	< 10 U
4-Chloro-3-methylphenol	NA	1100	510		< 2.0 U	< 2.0 U	< 2.0 U	< 2.0 U	< 2.0 U	< 2.1 U	< 2.0 U	< 2.0 U	< 2.0 U
4-Chloroaniline	NA	0.32	13		< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U	< 0.51 U	< 0.52 U	< 0.50 U	< 0.50 U	< 0.51 U
4-Chlorophenyl-phenylether	NA	--	--		< 2.0 U	< 2.0 U	< 2.0 U	< 2.0 U	< 2.0 U	< 2.1 U	< 2.0 U	< 2.0 U	< 2.0 U
4-Nitroaniline	NA	3.3	130		< 2.0 U	< 2.0 U	< 2.0 U	< 2.0 U	< 2.0 U	< 2.1 U	< 2.0 U	< 2.0 U	< 2.0 U
4-Nitrophenol	NA	--	60		< 2.0 U	< 2.0 U	< 2.0 U	< 2.0 U	< 2.0 U	< 2.1 U	< 2.0 U	< 2.0 U	< 2.0 U
Acenaphthene	NA	400	3800		< 2.0 U	< 2.0 U	< 2.0 U	< 2.0 U	< 2.0 U	< 2.1 U	< 2.0 U	< 2.0 U	< 2.0 U
Acenaphthylene	NA	--	6100		< 2.0 U	< 2.0 U	< 2.0 U	< 2.0 U	< 2.0 U	< 2.1 U	< 2.0 U	< 2.0 U	< 2.0 U
Acetophenone	NA	1500	10000		< 2.0 U	< 2.0 U	< 2.0 U	< 2.0 U	< 2.0 U	< 2.1 U	< 2.0 U	< 2.0 U	< 2.0 U
Anthracene	NA	1300	66		< 2.0 U	< 2.0 U	< 2.0 U	< 2.0 U	< 2.0 U	< 2.1 U	< 2.0 U	< 2.0 U	< 2.0 U
Atrazine	NA	3	3		< 2.0 U	< 2.0 U	< 2.0 U	< 2.0 U	< 2.0 U	< 2.1 U	< 2.0 U	< 2.0 U	< 2.0 U
Benzaldehyde	NA	1500	--		< 2.0 U	< 2.0 U	< 2.0 U	< 2.0 U	< 2.0 U	< 2.1 U	< 2.0 U	< 2.0 U	< 2.0 U
Benzo[a]anthracene	NA	0.029	3.6		< 2.0 U	< 2.0 U	< 2.0 U	< 2.0 U	< 2.0 U	< 2.1 U	< 2.0 U	< 2.0 U	< 2.0 U
Benzo[a]pyrene	NA	0.2	0.2		< 0.020 U	< 0.020 U	< 0.020 U	< 0.020 U	< 0.020 U	< 0.021 U	< 0.020 U	< 0.020 U	< 0.020 U
Benzo[b]fluoranthene	NA	0.029	1.2		< 2.0 U	< 2.0 U	< 2.0 U	< 2.0 U	< 2.0 U	< 2.1 U	< 2.0 U	< 2.0 U	< 2.0 U
Benzo[g,h,i]perylene	NA	--	0.26		< 2.0 U	< 2.0 U	< 2.0 U	< 2.0 U	< 2.0 U	< 2.1 U	< 2.0 U	< 2.0 U	< 2.0 U

Table F-4
Complete Analytical Summary of Groundwater Samples - April 2012
Remedial Investigation Report
Rhodia Morrisville Facility

Constituent (ug/L)	Fraction	EPA MCL (or RSL)	PADEP Non-Res Used Aquifer MSC	Location ID	W-02	W-03	W-04	W-05	W-06	W-07	W-08	W-09 (DUP)	W-09
				Sample Date	4/12/2012	4/12/2012	4/10/2012	4/13/2012	4/13/2012	4/11/2012	4/10/2012	4/12/2012	4/12/2012
SVOCs Continued													
Benzo[k]fluoranthene	NA	0.29	0.55		< 2.0 U	< 2.0 U	< 2.0 U	< 2.0 U	< 2.0 U	< 2.1 U	< 2.0 U	< 2.0 U	< 2.0 U
bis(2-Chloroethoxy)methane	NA	47	310		< 2.0 U	< 2.0 U	< 2.0 U	< 2.0 U	< 2.0 U	< 2.1 U	< 2.0 U	< 2.0 U	< 2.0 U
bis(2-Chloroethyl)ether	NA	0.012	0.76		< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U	< 0.51 U	< 0.52 U	< 0.50 U	< 0.50 U	< 0.51 U
bis(2-Chloroisopropyl)ether	NA	0.31	300		< 2.0 U	< 2.0 U	< 2.0 U	< 2.0 U	< 2.0 U	< 2.1 U	< 2.0 U	< 2.0 U	< 2.0 U
bis(2-Ethylhexyl)phthalate	NA	6	6		< 2.0 U	< 2.0 U	< 2.0 U	< 2.0 U	< 2.0 U	< 2.1 U	< 2.0 U	< 2.0 U	< 2.0 U
Butylbenzylphthalate	NA	14	1400		< 2.0 U	< 2.0 U	< 2.0 U	< 2.0 U	< 2.0 U	< 2.1 U	< 2.0 U	< 2.0 U	< 2.0 U
Caprolactam	NA	7700	--		< 2.0 U	< 2.0 U	< 2.0 U	< 2.0 U	< 2.0 U	< 2.1 U	< 2.0 U	< 2.0 U	< 2.0 U
Carbazole	NA	--	130		< 2.0 U	< 2.0 U	< 2.0 U	< 2.0 U	< 2.0 U	< 2.1 U	< 2.0 U	< 2.0 U	< 2.0 U
Chrysene	NA	2.9	1.9		< 2.0 U	< 2.0 U	< 2.0 U	< 2.0 U	< 2.0 U	< 2.1 U	< 2.0 U	< 2.0 U	< 2.0 U
Dibenzo[a,h]anthracene	NA	0.0029	0.36		< 2.0 U	< 2.0 U	< 2.0 U	< 2.0 U	< 2.0 U	< 2.1 U	< 2.0 U	< 2.0 U	< 2.0 U
Dibenzofuran	NA	5.8	100		< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U	< 0.51 U	< 0.52 U	< 0.50 U	< 0.50 U	< 0.51 U
Diethylphthalate	NA	11000	82000		< 2.0 U	< 2.0 U	< 2.0 U	< 2.0 U	< 2.0 U	< 2.1 U	< 2.0 U	< 2.0 U	< 2.0 U
Dimethylphthalate	NA	--	--		< 2.0 U	< 2.0 U	< 2.0 U	< 2.0 U	< 2.0 U	< 2.1 U	< 2.0 U	< 2.0 U	< 2.0 U
Di-n-butylphthalate	NA	670	10000		< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U	< 0.51 U	< 0.52 U	< 0.50 U	< 0.50 U	< 0.51 U
Di-n-octylphthalate	NA	--	3000		< 2.0 U	< 2.0 U	< 2.0 U	< 2.0 U	< 2.0 U	< 2.1 U	< 2.0 U	< 2.0 U	< 2.0 U
Fluoranthene	NA	630	260		< 2.0 U	< 2.0 U	< 2.0 U	< 2.0 U	< 2.0 U	< 2.1 U	< 2.0 U	< 2.0 U	< 2.0 U
Fluorene	NA	220	1900		< 2.0 U	< 2.0 U	< 2.0 U	< 2.0 U	< 2.0 U	< 2.1 U	< 2.0 U	< 2.0 U	< 2.0 U
Hexachlorobenzene	NA	1	1		< 0.020 U	< 0.020 U	< 0.020 U	< 0.020 U	< 0.020 U	< 0.021 U	< 0.020 U	< 0.020 U	< 0.020 U
Hexachlorobutadiene	NA	0.26	33		< 0.020 U	< 0.020 U	< 0.020 U	< 0.020 U	< 0.020 U	< 0.021 U	< 0.020 U	< 0.020 U	< 0.020 U
Hexachlorocyclopentadiene	NA	50	50		< 2.0 U	< 2.0 U	< 2.0 U	< 2.0 U	< 2.0 U	< 2.1 U	< 2.0 U	< 2.0 U	< 2.0 U
Hexachloroethane	NA	0.79	1		< 0.020 U	< 0.020 U	< 0.020 U	< 0.020 U	< 0.020 U	< 0.021 U	< 0.020 U	< 0.020 U	< 0.020 U
Indeno[1,2,3-cd]pyrene	NA	0.029	3.6		< 2.0 U	< 2.0 U	< 2.0 U	< 2.0 U	< 2.0 U	< 2.1 U	< 2.0 U	< 2.0 U	< 2.0 U
Isophorone	NA	67	100		< 2.0 U	< 2.0 U	< 2.0 U	< 2.0 U	< 2.0 U	< 2.1 U	< 2.0 U	< 2.0 U	< 2.0 U
Naphthalene	NA	0.14	100		< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U	< 0.51 U	< 0.52 U	< 0.50 U	< 0.50 U	< 0.51 U
Nitrobenzene	NA	0.12	200		< 2.0 U	< 2.0 U	< 2.0 U	< 2.0 U	< 2.0 U	< 2.1 U	< 2.0 U	< 2.0 U	< 2.0 U
N-Nitroso-di-n-propylamine	NA	0.0093	0.37		< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U	< 0.51 U	< 0.52 U	< 0.50 U	< 0.50 U	< 0.51 U
N-Nitrosodiphenylamine	NA	10	530		< 2.0 U	< 2.0 U	< 2.0 U	< 2.0 U	< 2.0 U	< 2.1 U	< 2.0 U	< 2.0 U	< 2.0 U
Pentachlorophenol	NA	1	1		< 0.20 U	< 0.20 U	< 0.20 U	< 0.20 U	< 0.20 U	< 0.21 U	< 0.20 U	< 0.20 U	< 0.20 U
Phenanthrene	NA	--	1100		< 2.0 U	< 2.0 U	< 2.0 U	< 2.0 U	< 2.0 U	< 2.1 U	< 2.0 U	< 2.0 U	< 2.0 U
Phenol	NA	4500	2000		< 2.0 U	< 2.0 U	< 2.0 U	< 2.0 U	< 2.0 U	< 2.1 U	< 2.0 U	< 2.0 U	< 2.0 U
Pyrene	NA	87	130		< 2.0 U	< 2.0 U	< 2.0 U	< 2.0 U	< 2.0 U	< 2.1 U	< 2.0 U	< 2.0 U	< 2.0 U
4-Bromophenyl Phenyl Ether	NA	--	--		< 2.0 U	< 2.0 U	< 2.0 U	< 2.0 U	< 2.0 U	< 2.1 U	< 2.0 U	< 2.0 U	< 2.0 U
VOCs													
1,1,1-Trichloroethane	NA	200	200		< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U
1,1,2,2-Tetrachloroethane	NA	0.066	4.3		< 1.0 U	< 1.0 U	< 1.0 U	< 0.75 U	< 0.75 U	< 1.0 U	< 1.0 U	< 0.75 U	< 0.75 U
1,1,2-Trichloro-1,2,2-trifluoroethane	NA	53000	170000		< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U
1,1,2-Trichloroethane	NA	5	5		< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U
1,1-Dichloroethane	NA	2.4	160		< 1.0 U	< 1.0 U	< 1.0 U	< 0.57 U	< 0.57 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U
1,1-Dichloroethene	NA	7	7		< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U
1,2,3-Trichlorobenzene	NA	5.2	--		< 1.0 U	**0.95 J**	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U
1,2,4-Trichlorobenzene	NA	70	70		< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U
1,2-Dibromo-3-chloropropane	NA	0.2	0.2		< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U
1,2-Dibromoethane	NA	0.05	0.05		< 0.020 U	< 0.020 U	< 0.020 U	< 0.020 U	< 0.020 U	< 0.020 U	< 0.020 U	< 0.020 U	< 0.020 U

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Complete Analytical Summary of Groundwater Samples - April 2012
Remedial Investigation Report
Rhodia Morrisville Facility

Constituent (ug/L)	Fraction	EPA MCL (or RSL)	PADEP Non-Res Used Aquifer MSC	Location ID / Sample Date	W-02 4/12/2012	W-03 4/12/2012	W-04 4/10/2012	W-05 4/13/2012	W-06 4/13/2012	W-07 4/11/2012	W-08 4/10/2012	W-09 (DUP) 4/12/2012	W-09 4/12/2012
VOCs Continued													
1,2-Dichlorobenzene	NA	600	600		< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U
1,2-Dichloroethane	NA	5	5		< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U
1,2-Dichloropropane	NA	5	5		< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U
1,3-Dichlorobenzene	NA	--	600		< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U
1,4-Dichlorobenzene	NA	75	75		< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U
1,4-Dioxane	NA	0.67	32		< 5.0 U	< 5.0 U	< 5.0 U	< 5.0 U	< 5.0 U	< 5.0 U	< 5.0 U	< 5.0 U	< 5.0 U
2-Butanone	NA	4900	4000		< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U
2-Hexanone	NA	34	44		< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U
4-Methyl-2-pentanone	NA	1000	8200		< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U
Acetone	NA	12000	92000		< 10 U	< 10 U	< 10 U	< 10 U	< 10 U	< 10 U	< 10 U	< 10 U	< 10 U
Benzene	NA	5	5		< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U
Bromochloromethane	NA	83	90		< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U
Bromodichloromethane	NA	80	80		< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U
Bromoform	NA	80	80		< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U
Bromomethane	NA	7	10		< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U
Carbon disulfide	NA	720	6200		< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U
Carbon tetrachloride	NA	5	5		< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U
Chlorobenzene	NA	100	100		< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U
Chloroethane	NA	21000	900		< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U
Chloroform	NA	80	80		< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U
Chloromethane	NA	190	30		< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U
cis-1,2-Dichloroethene	NA	70	70		< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U
cis-1,3-Dichloropropene	NA	--	--		< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U
Cyclohexane	NA	13000	53000		< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U
Dibromochloromethane	NA	80	80		< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U
Dichlorodifluoromethane	NA	190	1000		< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U
Ethylbenzene	NA	700	700		< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U
Isopropylbenzene	NA	390	3500		< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U
m&p-Xylenes	NA	--	--		< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U
Methyl Acetate	NA	16000	100000		< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U
Methylcyclohexane	NA	--	--		< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U
Methylene chloride	NA	5	5		< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U
Methyl-t-butyl ether	NA	12	20		< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U
o-Xylene	NA	190	--		< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U
Styrene	NA	100	100		< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U
Tetrachloroethene	NA	5	5		< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U
Toluene	NA	1000	1000		< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U
trans-1,2-Dichloroethene	NA	100	100		< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U
trans-1,3-Dichloropropene	NA	--	--		< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U
Trichloroethene	NA	5	5		1.5	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U
Trichlorofluoromethane	NA	1100	2000		< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U
Vinyl chloride	NA	2	2		< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U
Xylenes (Total)	NA	10000	10000		< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U

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Remedial Investigation Report
Rhodia Morrisville Facility

Constituent (ug/L)	Fraction	EPA MCL (or RSL)	PADEP Non-Res Used Aquifer MSC	Location ID / Sample Date	W-10 4/13/2012	W-11 4/13/2012	W-13 4/10/2012	W-14 4/10/2012 & 4/11/2012	W-15 4/12/2012	W-17 4/10/2012 & 4/11/2012	W-18 4/10/2012	W-19 4/10/2012 & 4/11/2012	W-20 4/10/2012
Metals													
Aluminum	D	16000	200		50 JB	47 JB	< 180 U	55 J	< 180 U	47 J	73 J	65 J	56 J
Aluminum	T	16000	200		400 B	290 B	650	1600	590	3200	220	430	530
Antimony	D	6	6		< 12 U	< 12 U	< 12 U	< 12 U	< 12 U	< 12 U	< 12 U	< 12 U	< 12 U
Antimony	T	6	6		< 12 U	< 12 U	< 12 U	< 12 U	< 12 U	< 12 U	< 12 U	< 12 U	< 12 U
Arsenic	D	10	10		8700 B	29 B	8.2	74	11	2.6 J	6.2 J	10	28
Arsenic	T	10	10		8700 B	28 B	13	77	9.9	7.5	5.7 J	9.1	33
Barium	D	2000	2000		7.6 JB	61 B	44 JB	1.4 JB	2.1 J	9.6 JB	2.9 JB	1.4 JB	3.3 JB
Barium	T	2000	2000		20 JB	70 B	67 B	19 JB	7.9 JB	98 B	27 JB	7.7 JB	28 JB
Beryllium	D	4	4		1.7 JB	1.7 JB	0.87 JB	0.87 JB	< 4.0 U	0.82 JB	0.81 JB	0.82 JB	0.82 JB
Beryllium	T	4	4		1.8 JB	1.7 JB	0.93 JB	0.95 JB	< 4.0 U	1.1 JB	0.84 JB	0.86 JB	0.88 JB
Cadmium	D	5	5		240 B	2.5 JB	1.8 JB	4.6 B	0.97 JB	1.9 JB	2.4 JB	2.7 JB	3.1 JB
Cadmium	T	5	5		240 B	2.2 JB	2.2 JB	4.7 B	1.3 JB	2.2 JB	2.6 JB	2.6 JB	3.5 JB
Calcium	D	–	–		28000 B	35000 B	10000 B	12000 B	29000 B	32000 B	48000 B	19000 B	27000 B
Calcium	T	–	–		28000 B	32000 B	11000 B	12000 B	28000 B	33000 B	51000 B	19000 B	29000 B
Chromium	D	100	100		2.0 JB	2.0 JB	0.90 JB	1.4 JB	< 50 U	< 50 U	< 50 U	0.78 JB	< 50 U
Chromium	T	100	100		2.7 JB	3.9 JB	2.2 JB	3.8 JB	2.3 J	5.7 JB	12 JB	2.4 JB	1.7 JB
Cobalt	D	4.7	31		17 JB	< 20 U	4.0 J	22	< 20 U	< 20 U	0.46 J	0.50 J	< 20 U
Cobalt	T	4.7	31		20 JB	1.2 JB	4.5 J	24	< 20 U	2.3 J	0.55 J	0.86 J	0.80 J
Copper	D	1300	1000		5.3 JB	4.5 JB	1.8 JB	2.6 JB	2.1 J	2.5 JB	1.6 JB	2.1 JB	1.8 JB
Copper	T	1300	1000		5.6 JB	5.6 JB	3.0 JB	5.0 JB	4.5 J	6.3 JB	2.9 JB	3.6 JB	4.0 JB
Cr (Hexavalent)	T	0.031	–		< 25 U	< 25 U	< 25 U	< 25 U	< 25 U	< 25 U	< 25 U	< 25 U	< 25 U
Iron	D	11000	300		3400	< 280 U	13000	11000	< 280 U	< 280 U	< 280 U	< 280 U	180 J
Iron	T	11000	300		5700	750	19000	15000	630	8000	2500	1600	3000
Lead	D	15	5		3.6 J	2.8 J	< 4.0 U	< 4.0 U	< 4.0 U	< 4.0 U	2.7 J	< 4.0 U	< 4.0 U
Lead	T	15	5		4.3	3.6 J	< 4.0 U	5.4	< 4.0 U	5.6	4.1	< 4.0 U	3.3 J
Magnesium	D	–	–		23000 B	14000 B	7100 B	7400 B	14000	15000 B	35000 B	11000 B	28000 B
Magnesium	T	–	–		23000 B	13000 B	7700 B	7600 B	13000	16000 B	36000 B	10000 B	29000 B
Manganese	D	320	300		8200 B	24 JB	1100 B	5600 B	140	350 B	910 B	140 B	240 B
Manganese	T	320	300		8600 B	180 B	1200 B	5700 B	100	790 B	1100 B	170 B	320 B
Mercury	D	2	2		< 0.70 U	< 0.70 U	< 0.70 U	< 0.70 U	< 0.70 U	< 0.70 U	< 0.70 U	< 0.70 U	< 0.70 U
Mercury	T	2	2		< 0.70 U	< 0.70 U	< 0.70 U	< 0.70 U	< 0.70 U	< 0.70 U	< 0.70 U	0.067 J	< 0.70 U
Nickel	D	300	100		10 J	4.4 J	2.8 J	2.2 J	< 50 U	< 50 U	< 50 U	< 50 U	< 50 U
Nickel	T	300	100		10 J	7.8 J	4.1 J	4.1 J	1.6 J	5.1 J	5.7 J	1.2 J	1.4 J
Potassium	D	–	–		610 J	11000	320 J	460 J	1700 J	1900 J	2400 J	1700 J	1500 J
Potassium	T	–	–		780 J	9600	450 J	650 J	1600 J	2400 J	2400 J	1600 J	1600 J
Selenium	D	50	50		< 40 U	9.6 J	< 40 U	< 40 U	< 40 U	< 40 U	< 40 U	< 40 U	< 40 U
Selenium	T	50	50		8.1 J	< 40 U	< 40 U	< 40 U	8.7 J	< 40 U	< 40 U	< 40 U	10 J
Silver	D	71	100		1.7 JB	2.6 JB	1.3 J	1.2 J	1.7 J	2.1 J	3.1 J	1.6 J	2.2 J
Silver	T	71	100		2.0 JB	2.2 JB	1.2 J	1.4 J	1.6 J	2.2 J	3.0 J	1.8 J	2.4 J
Sodium	D	–	–		22000	28000	6500	37000	38000	27000	130000	110000	81000
Sodium	T	–	–		23000	26000	6800	36000	34000	27000	130000	110000	84000
Thallium	D	2	2		< 10 U	< 10 U	< 10 U	< 10 U	< 10 U	< 10 U	< 10 U	< 10 U	< 10 U

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Remedial Investigation Report
Rhodia Morrisville Facility

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Metals Continued													
Thallium	T	2	2		**6.2 JB**	< 10 U	< 10 U	< 10 U	< 10 U	< 10 U	< 10 U	< 10 U	< 10 U
Vanadium	D	–	720		**8.6 J**	**8.1 J**	**3.9 J**	**4.8 J**	**5.5 J**	**7.1 J**	**15 J**	**9.1 J**	**10 J**
Vanadium	T	–	720		**9.7 J**	**8.3 J**	**5.9 J**	**8.0 J**	**6.5 J**	**17 J**	**16 J**	**8.8 J**	**13 J**
Zinc	D	4700	2000		**13 J**	**36 J**	**8.8 JB**	**15 JB**	**4.1 J**	**7.2 JB**	**17 JB**	**17 JB**	**17 JB**
Zinc	T	4700	2000		**14 J**	**54**	**13 JB**	**17 JB**	**12 JB**	**23 JB**	**34 JB**	**23 JB**	**37 JB**
SVOCs													
1,1'-Biphenyl	NA	0.83	5100		< 2.0 U	< 2.1 U	< 2.0 U	< 2.0 U	< 2.0 U	< 2.0 U	< 2.0 U	< 2.0 U	< 2.0 U
1,2,4,5-Tetrachlorobenzene	NA	1.2	31		< 2.0 U	< 2.1 U	< 2.0 U	< 2.0 U	< 2.0 U	< 2.0 U	< 2.0 U	< 2.0 U	< 2.0 U
1,2-Diphenylhydrazine	NA	0.067	–		< 0.051 U	< 0.052 U	< 0.050 U	< 0.051 U	< 0.050 U	< 0.050 U	< 0.050 U	< 0.050 U	< 0.050 U
2,3,4,6-Tetrachlorophenol	NA	170	–		< 2.0 U	< 2.1 U	< 2.0 U	< 2.0 U	< 2.0 U	< 2.0 U	< 2.0 U	< 2.0 U	< 2.0 U
2,4,5-Trichlorophenol	NA	890	10000		< 2.0 U	< 2.1 U	< 2.0 U	< 2.0 U	< 2.0 U	< 2.0 U	< 2.0 U	< 2.0 U	< 2.0 U
2,4,6-Trichlorophenol	NA	3.5	100		< 2.0 U	< 2.1 U	< 2.0 U	< 2.0 U	< 2.0 U	< 2.0 U	< 2.0 U	< 2.0 U	< 2.0 U
2,4-Dichlorophenol	NA	35	20		< 2.0 U	< 2.1 U	< 2.0 U	< 2.0 U	< 2.0 U	< 2.0 U	< 2.0 U	< 2.0 U	< 2.0 U
2,4-Dimethylphenol	NA	270	2000		< 2.0 U	< 2.1 U	< 2.0 U	< 2.0 U	< 2.0 U	< 2.0 U	< 2.0 U	< 2.0 U	< 2.0 U
2,4-Dinitrophenol	NA	30	200		< 10 U	< 10 U	< 10 U	< 10 U	< 10 U	< 10 U	< 10 U	< 10 U	< 10 U
2,4-Dinitrotoluene	NA	0.2	8.4		< 2.0 U	< 2.1 U	< 2.0 U	< 2.0 U	< 2.0 U	< 2.0 U	< 2.0 U	< 2.0 U	< 2.0 U
2,6-Dinitrotoluene	NA	15	100		< 2.0 U	< 2.1 U	< 2.0 U	< 2.0 U	< 2.0 U	< 2.0 U	< 2.0 U	< 2.0 U	< 2.0 U
2-Chloronaphthalene	NA	550	8200		< 2.0 U	< 2.1 U	< 2.0 U	< 2.0 U	< 2.0 U	< 2.0 U	< 2.0 U	< 2.0 U	< 2.0 U
2-Chlorophenol	NA	71	40		< 2.0 U	< 2.1 U	< 2.0 U	< 2.0 U	< 2.0 U	< 2.0 U	< 2.0 U	< 2.0 U	< 2.0 U
2-Methylnaphthalene	NA	27	410		< 2.0 U	< 2.1 U	< 2.0 U	< 2.0 U	< 2.0 U	< 2.0 U	< 2.0 U	< 2.0 U	< 2.0 U
2-Methylphenol	NA	720	5100		< 0.51 U	< 0.52 U	< 0.50 U	< 0.51 U	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U
2-Nitroaniline	NA	150	310		< 2.0 U	< 2.1 U	< 2.0 U	< 2.0 U	< 2.0 U	< 2.0 U	< 2.0 U	< 2.0 U	< 2.0 U
2-Nitrophenol	NA	–	820		< 2.0 U	< 2.1 U	< 2.0 U	< 2.0 U	< 2.0 U	< 2.0 U	< 2.0 U	< 2.0 U	< 2.0 U
3&4-Methylphenol	NA	140	–		< 0.51 U	< 0.52 U	< 0.50 U	< 0.51 U	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U
3,3'-Dichlorobenzidine	NA	0.11	5.8		< 2.0 U	< 2.1 U	< 2.0 U	< 2.0 U	< 2.0 U	< 2.0 U	< 2.0 U	< 2.0 U	< 2.0 U
3-Nitroaniline	NA	–	31		< 2.0 U	< 2.1 U	< 2.0 U	< 2.0 U	< 2.0 U	< 2.0 U	< 2.0 U	< 2.0 U	< 2.0 U
4,6-Dinitro-2-methylphenol	NA	1.2	10		< 2.0 U	< 2.1 U	< 10 U	< 10 U	< 10 U	< 10 U	< 10 U	< 10 U	< 10 U
4-Chloro-3-methylphenol	NA	1100	510		< 2.0 U	< 2.1 U	< 2.0 U	< 2.0 U	< 2.0 U	< 2.0 U	< 2.0 U	< 2.0 U	< 2.0 U
4-Chloroaniline	NA	0.32	13		< 0.51 U	< 0.52 U	< 0.50 U	< 0.51 U	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U
4-Chlorophenyl-phenylether	NA	–	–		< 2.0 U	< 2.1 U	< 2.0 U	< 2.0 U	< 2.0 U	< 2.0 U	< 2.0 U	< 2.0 U	< 2.0 U
4-Nitroaniline	NA	3.3	130		< 2.0 U	< 2.1 U	< 2.0 U	< 2.0 U	< 2.0 U	< 2.0 U	< 2.0 U	< 2.0 U	< 2.0 U
4-Nitrophenol	NA	–	60		< 2.0 U	< 2.1 U	< 2.0 U	< 2.0 U	< 2.0 U	< 2.0 U	< 2.0 U	< 2.0 U	< 2.0 U
Acenaphthene	NA	400	3800		< 2.0 U	< 2.1 U	< 2.0 U	< 2.0 U	< 2.0 U	< 2.0 U	< 2.0 U	< 2.0 U	< 2.0 U
Acenaphthylene	NA	–	6100		< 2.0 U	< 2.1 U	< 2.0 U	< 2.0 U	< 2.0 U	< 2.0 U	< 2.0 U	< 2.0 U	< 2.0 U
Acetophenone	NA	1500	10000		< 2.0 U	< 2.1 U	< 2.0 U	< 2.0 U	< 2.0 U	< 2.0 U	< 2.0 U	< 2.0 U	< 2.0 U
Anthracene	NA	1300	66		< 2.0 U	< 2.1 U	< 2.0 U	< 2.0 U	< 2.0 U	< 2.0 U	< 2.0 U	< 2.0 U	< 2.0 U
Atrazine	NA	3	3		< 2.0 U	< 2.1 U	< 2.0 U	< 2.0 U	< 2.0 U	< 2.0 U	< 2.0 U	< 2.0 U	< 2.0 U
Benzaldehyde	NA	1500	–		< 2.0 U	< 2.1 U	< 2.0 U	< 2.0 U	< 2.0 U	< 2.0 U	< 2.0 U	< 2.0 U	< 2.0 U
Benzo[a]anthracene	NA	0.029	3.6		< 2.0 U	< 2.1 U	< 2.0 U	< 2.0 U	< 2.0 U	< 2.0 U	< 2.0 U	< 2.0 U	< 2.0 U
Benzo[a]pyrene	NA	0.2	0.2		< 0.020 U	< 0.021 U	< 0.020 U	< 0.020 U	< 0.020 U	< 0.020 U	< 0.020 U	< 0.020 U	< 0.020 U
Benzo[b]fluoranthene	NA	0.029	1.2		< 2.0 U	< 2.1 U	< 2.0 U	< 2.0 U	< 2.0 U	< 2.0 U	< 2.0 U	< 2.0 U	< 2.0 U
Benzo[g,h,i]perylene	NA	–	0.26		< 2.0 U	< 2.1 U	< 2.0 U	< 2.0 U	< 2.0 U	< 2.0 U	< 2.0 U	< 2.0 U	< 2.0 U

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SVOCs Continued													
Benzo[k]fluoranthene	NA	0.29	0.55		< 2.0 U	< 2.1 U	< 2.0 U	< 2.0 U	< 2.0 U	< 2.0 U	< 2.0 U	< 2.0 U	< 2.0 U
bis(2-Chloroethoxy)methane	NA	47	310		< 2.0 U	< 2.1 U	< 2.0 U	< 2.0 U	< 2.0 U	< 2.0 U	< 2.0 U	< 2.0 U	< 2.0 U
bis(2-Chloroethyl)ether	NA	0.012	0.76		< 0.51 U	< 0.52 U	< 0.50 U	< 0.51 U	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U
bis(2-Chloroisopropyl)ether	NA	0.31	300		< 2.0 U	< 2.1 U	< 2.0 U	< 2.0 U	< 2.0 U	< 2.0 U	< 2.0 U	< 2.0 U	< 2.0 U
bis(2-Ethylhexyl)phthalate	NA	6	6		< 2.0 U	< 2.1 U	< 2.0 U	< 2.0 U	< 2.0 U	< 2.0 U	< 2.0 U	< 2.0 U	< 2.0 U
Butylbenzylphthalate	NA	14	1400		< 2.0 U	< 2.1 U	< 2.0 U	< 2.0 U	< 2.0 U	< 2.0 U	< 2.0 U	< 2.0 U	< 2.0 U
Caprolactam	NA	7700	--		< 2.0 U	< 2.1 U	< 2.0 U	< 2.0 U	< 2.0 U	< 2.0 U	< 2.0 U	< 2.0 U	< 2.0 U
Carbazole	NA	--	130		< 2.0 U	< 2.1 U	< 2.0 U	< 2.0 U	< 2.0 U	< 2.0 U	< 2.0 U	< 2.0 U	< 2.0 U
Chrysene	NA	2.9	1.9		< 2.0 U	< 2.1 U	< 2.0 U	< 2.0 U	< 2.0 U	< 2.0 U	< 2.0 U	< 2.0 U	< 2.0 U
Dibenzo[a,h]anthracene	NA	0.0029	0.36		< 2.0 U	< 2.1 U	< 2.0 U	< 2.0 U	< 2.0 U	< 2.0 U	< 2.0 U	< 2.0 U	< 2.0 U
Dibenzofuran	NA	5.8	100		< 0.51 U	< 0.52 U	< 0.50 U	< 0.51 U	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U
Diethylphthalate	NA	11000	82000		< 2.0 U	< 2.1 U	< 2.0 U	< 2.0 U	< 2.0 U	< 2.0 U	< 2.0 U	< 2.0 U	< 2.0 U
Dimethylphthalate	NA	--	--		< 2.0 U	< 2.1 U	< 2.0 U	< 2.0 U	< 2.0 U	< 2.0 U	< 2.0 U	< 2.0 U	< 2.0 U
Di-n-butylphthalate	NA	670	10000		< 0.51 U	< 0.52 U	< 0.50 U	< 0.51 U	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U
Di-n-octylphthalate	NA	--	3000		< 2.0 U	< 2.1 U	< 2.0 U	< 2.0 U	< 2.0 U	< 2.0 U	< 2.0 U	< 2.0 U	< 2.0 U
Fluoranthene	NA	630	260		< 2.0 U	< 2.1 U	< 2.0 U	< 2.0 U	< 2.0 U	< 2.0 U	< 2.0 U	< 2.0 U	< 2.0 U
Fluorene	NA	220	1900		< 2.0 U	< 2.1 U	< 2.0 U	< 2.0 U	< 2.0 U	< 2.0 U	< 2.0 U	< 2.0 U	< 2.0 U
Hexachlorobenzene	NA	1	1		< 0.020 U	< 0.021 U	< 0.020 U	< 0.020 U	< 0.020 U	< 0.020 U	< 0.020 U	< 0.020 U	< 0.020 U
Hexachlorobutadiene	NA	0.26	33		< 0.020 U	< 0.021 U	< 0.020 U	< 0.020 U	< 0.020 U	< 0.020 U	< 0.020 U	< 0.020 U	< 0.020 U
Hexachlorocyclopentadiene	NA	50	50		< 2.0 U	< 2.1 U	< 2.0 U	< 2.0 U	< 2.0 U	< 2.0 U	< 2.0 U	< 2.0 U	< 2.0 U
Hexachloroethane	NA	0.79	1		< 0.020 U	< 0.021 U	< 0.020 U	< 0.020 U	< 0.020 U	< 0.020 U	< 0.020 U	< 0.020 U	< 0.020 U
Indeno[1,2,3-cd]pyrene	NA	0.029	3.6		< 2.0 U	< 2.1 U	< 2.0 U	< 2.0 U	< 2.0 U	< 2.0 U	< 2.0 U	< 2.0 U	< 2.0 U
Isophorone	NA	67	100		< 2.0 U	< 2.1 U	< 2.0 U	< 2.0 U	< 2.0 U	< 2.0 U	< 2.0 U	< 2.0 U	< 2.0 U
Naphthalene	NA	0.14	100		< 0.51 U	< 0.52 U	< 0.50 U	< 0.51 U	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U
Nitrobenzene	NA	0.12	200		< 2.0 U	< 2.1 U	< 2.0 U	< 2.0 U	< 2.0 U	< 2.0 U	< 2.0 U	< 2.0 U	< 2.0 U
N-Nitroso-di-n-propylamine	NA	0.0093	0.37		< 0.51 U	< 0.52 U	< 0.50 U	< 0.51 U	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U
N-Nitrosodiphenylamine	NA	10	530		< 2.0 U	< 2.1 U	< 2.0 U	< 2.0 U	< 2.0 U	< 2.0 U	< 2.0 U	< 2.0 U	< 2.0 U
Pentachlorophenol	NA	1	1		< 0.20 U	< 0.21 U	< 0.20 U	< 0.20 U	< 0.20 U	< 0.20 U	< 0.20 U	< 0.20 U	< 0.20 U
Phenanthrene	NA	--	1100		< 2.0 U	< 2.1 U	< 2.0 U	< 2.0 U	< 2.0 U	< 2.0 U	< 2.0 U	< 2.0 U	< 2.0 U
Phenol	NA	4500	2000		< 2.0 U	< 2.1 U	< 2.0 U	< 2.0 U	< 2.0 U	< 2.0 U	< 2.0 U	< 2.0 U	< 2.0 U
Pyrene	NA	87	130		< 2.0 U	< 2.1 U	< 2.0 U	< 2.0 U	< 2.0 U	< 2.0 U	< 2.0 U	< 2.0 U	< 2.0 U
4-Bromophenyl Phenyl Ether	NA	--	--		< 2.0 U	< 2.1 U	< 2.0 U	< 2.0 U	< 2.0 U	< 2.0 U	< 2.0 U	< 2.0 U	< 2.0 U
VOCs													
1,1,1-Trichloroethane	NA	200	200		< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U
1,1,2,2-Tetrachloroethane	NA	0.066	4.3		< 0.75 U	< 0.75 U	< 1.0 U	< 1.0 U	< 0.75 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U
1,1,2-Trichloro-1,2,2-trifluoroethane	NA	53000	170000		< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U
1,1,2-Trichloroethane	NA	5	5		< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U
1,1-Dichloroethane	NA	2.4	160		< 0.57 U	< 0.57 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U
1,1-Dichloroethene	NA	7	7		< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U
1,2,3-Trichlorobenzene	NA	5.2	--		< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U
1,2,4-Trichlorobenzene	NA	70	70		< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U
1,2-Dibromo-3-chloropropane	NA	0.2	0.2		< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U
1,2-Dibromoethane	NA	0.05	0.05		< 0.020 U	< 0.020 U	< 0.020 U	< 0.020 U	< 0.020 U	< 0.020 U	< 0.020 U	< 0.020 U	< 0.020 U

Table F-4
Complete Analytical Summary of Groundwater Samples - April 2012
Remedial Investigation Report
Rhodia Morrisville Facility

Constituent (ug/L)	Fraction	EPA MCL (or RSL)	PADEP Non-Res Used Aquifer MSC	Location ID / Sample Date	W-10 4/13/2012	W-11 4/13/2012	W-13 4/10/2012	W-14 4/10/2012 & 4/11/2012	W-15 4/12/2012	W-17 4/10/2012 & 4/11/2012	W-18 4/10/2012	W-19 4/10/2012 & 4/11/2012	W-20 4/10/2012
VOCs Continued													
1,2-Dichlorobenzene	NA	600	600		< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U
1,2-Dichloroethane	NA	5	5		< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U
1,2-Dichloropropane	NA	5	5		< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U
1,3-Dichlorobenzene	NA	--	600		< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U
1,4-Dichlorobenzene	NA	75	75		< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U
1,4-Dioxane	NA	0.67	32		< 5.0 U	< 5.0 U	< 5.0 U	< 5.0 U	< 5.0 U	< 5.0 U	< 5.0 U	< 5.0 U	< 5.0 U
2-Butanone	NA	4900	4000		< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U
2-Hexanone	NA	34	44		< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U
4-Methyl-2-pentanone	NA	1000	8200		< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U
Acetone	NA	12000	92000		< 10 U	< 10 U	< 10 U	< 10 U	< 10 U	< 10 U	< 10 U	< 10 U	< 10 U
Benzene	NA	5	5		< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U
Bromochloromethane	NA	83	90		< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U
Bromodichloromethane	NA	80	80		< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U
Bromoform	NA	80	80		< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U
Bromomethane	NA	7	10		< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U
Carbon disulfide	NA	720	6200		< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U
Carbon tetrachloride	NA	5	5		< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U
Chlorobenzene	NA	100	100		< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U
Chloroethane	NA	21000	900		< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U
Chloroform	NA	80	80		< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U
Chloromethane	NA	190	30		< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U
cis-1,2-Dichloroethene	NA	70	70		< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U
cis-1,3-Dichloropropene	NA	--	--		< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U
Cyclohexane	NA	13000	53000		< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U
Dibromochloromethane	NA	80	80		< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U
Dichlorodifluoromethane	NA	190	1000		< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U
Ethylbenzene	NA	700	700		< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U
Isopropylbenzene	NA	390	3500		< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U
m&p-Xylenes	NA	--	--		< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U
Methyl Acetate	NA	16000	100000		< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U
Methylcyclohexane	NA	--	--		< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U
Methylene chloride	NA	5	5		< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U
Methyl-t-butyl ether	NA	12	20		< 0.50 U	< 0.50 U	< 0.50 U	**0.89**	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U
o-Xylene	NA	190	--		< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U
Styrene	NA	100	100		< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U
Tetrachloroethene	NA	5	5		< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U
Toluene	NA	1000	1000		< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U
trans-1,2-Dichloroethene	NA	100	100		< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U
trans-1,3-Dichloropropene	NA	--	--		< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U
Trichloroethene	NA	5	5		< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U
Trichlorofluoromethane	NA	1100	2000		< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U
Vinyl chloride	NA	2	2		< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U
Xylenes (Total)	NA	10000	10000		< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U

Table F-4
Complete Analytical Summary of Groundwater Samples - April 2012
Remedial Investigation Report
Rhodia Morrisville Facility

Notes:

All units are in ug/L.

Bold font indicates a detected result.

= concentration above EPA MCL (or RSL)

= concentration above PADEP MSC

If a concentration was above both the EPA MCL/RSL and the PADEP MSC, it is highlighted yellow.

Only dissolved metals (not total metals) concentrations are considered representative of groundwater conditions.

T = Total.

D = Dissolved.

< U = Analyte not detected above the specified laboratory detection limit.

J = Estimated concentration above the laboratory method detection limit but below the reporting limit.

B = Analyte was detected in the laboratory method blank.