UNITED STATES

ENVIRONMENTAL PROTECTION AGENCY

REGION III

FINAL DECISION AND RESPONSE TO COMMENTS

SJS Linde LP (Formerly Scott Paper Company Research Annex)
Essington, PA

EPA ID NO. PAD000798504

Prepared by

RCRA Corrective Action Section West
Land, Chemicals and Redevelopment Division

May 2024

Table of Contents

List of Acronyms

AUL	Activity and Use Limitations
EC	Environmental Covenant
EPA	Environmental Protection Agency
FDRTC	Final Decision and Response to Comments
RCRA	Resource Conservation and Recovery Act
SB	Statement of Basis
UECA	Uniform Environmental Covenants Act

Section 1: Purpose

The United States Environmental Protection Agency (EPA) is issuing this Final Decision and Response to Comments (FDRTC) selecting the Final Remedy for soil and groundwater at the SJS Linde LP Facility located at 50 West Powhattan Avenue, Essington, Delaware County, Pennsylvania (hereinafter referred to as the "Facility"). The EPA is issuing this FDRTC under the authority of the Solid Waste Disposal Act, as amended by the Resource Conservation and Recovery Act of 1976, and the Hazardous and Solid Waste Amendments of 1984, 42 U.S.C. Sections 6901, et seq. (RCRA).

Section 2: Public Comment Period

On April 16, 2024, the EPA proposed a remedy consisting of natural attenuation for groundwater and implementation of both land and groundwater use restrictions through an enforceable mechanism, such as an Environmental Covenant (EC), to control exposure to contaminated soil and groundwater. Consistent with public participation provisions under the RCRA, the EPA requested comments from the public on the proposed remedy as described in the Statement of Basis (SB). The commencement of a thirty (30)-day public comment period was announced in the Delaware County Daily Times newspaper and on the EPA Region III website. The public comment period ended on May 16, 2024.

The EPA did not receive any comments on the proposed remedy during the public comment period. Therefore, the Final Remedy is unchanged from the proposed remedy. The SB is incorporated by reference into this FDRTC as Attachment A.

Section 3: Final Remedy

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

1. Natural Attenuation to achieve MCLs for arsenic in groundwater within a reasonable timeframe.
2. Activity and Use Limitation (AULs): The EPA is proposing the following land and groundwater use restrictions be implemented:
    a. The Facility shall not be used for residential purposes unless it is demonstrated to the EPA that such use will not pose a threat to human health or the environment or adversely affect or interfere with the selected remedy and the EPA provides prior written approval for such use.
    b. All earth moving activities at the Facility, including excavation, drilling and construction activities, shall be conducted in a manner such that the activity will not pose a threat to human health and the environment or adversely affect or interfere with the Final Remedy.

c. Groundwater at the Facility shall not be used for any purpose other than the operation, maintenance, and monitoring activities required by the EPA, unless it is demonstrated to the EPA that such use will not pose a threat to human health or the environment or adversely affect or interfere with the final remedy and the EPA provides prior-written approval for such use.
d. No new wells shall be installed on Facility property unless it is demonstrated to the EPA that such wells are necessary to implement the Final Remedy and the EPA provides prior written approval to install such wells.

The land and groundwater use restrictions necessary to prevent human exposure to contaminants at the Facility will be implemented through enforceable Institutional Controls such as an order and/or an Environmental Covenant pursuant to the Pennsylvania Uniform Environmental Covenants Act, 27 Pa. C.S. Sections 6501-6517 (UECA) to be recorded with the deed for the Facility property.

Section 4: Declaration

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

Driscoll, Stacie

Digitally signed by Driscoll, Stacie
Date: 2024.06.17 12:55:43 -04'00'

_____ Date: _____

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

ATTACHMENT A

UNITED STATES

ENVIRONMENTAL PROTECTION AGENCY

REGION III

STATEMENT OF BASIS

SJS Linde LP (Formerly Scott Paper Company Research Annex)
Essington, PA

EPA ID NO. PAD000798504

Prepared by

RCRA Corrective Action Section West
Land, Chemicals and Redevelopment Division

March 2024

Table of Contents

List of Acronyms

AOC	Areas of Concern
AR	Administrative Record
CAO	Corrective Action Objective
EC	Environmental Covenant
EPA	Environmental Protection Agency
HSWA	Hazardous and Solid Waste Amendments
IC	Institutional Control
MCL	Maximum Contaminant Level
MSC	Medium Specific Concentrations
NPDES	National Pollutant Discharge Elimination System
PADEP	Pennsylvania Department of Environmental Protection
PADER	Pennsylvania Department of Environmental Resources
RCRA	Resource Conservation and Recovery Act
RSL	Regional Screening Level
SB	Statement of Basis
SHS	Statewide Health Standards
SVOC	Semi-Volatile Organic Compound
TAL	Target Analyte List
TCE	Trichloroethylene
TCL	Target Compound List
UECA	Uniform Environmental Covenants Act

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 SJS Linde LP Facility located at 50 West Powhattan Avenue, Essington, Delaware County, Pennsylvania (hereinafter referred to as the "Facility") (**Figure 1**). The EPA's proposed remedy for the Facility consists of natural attenuation for groundwater and implementation of both land and groundwater use restrictions through an enforceable mechanism, such as an Environmental Covenant (EC), to control exposure to contaminated soil and groundwater. This SB highlights key information relied upon by the EPA in proposing its remedy.

The Facility is subject to the EPA's Corrective Action Program under the Solid Waste Disposal Act, as amended by the Resource Conservation and Recovery Act (RCRA) of 1976, and the Hazardous and Solid Waste Amendments (HSWA) of 1984, 42 U.S.C. §§ 6901 et seq. The Corrective Action Program requires that owners and/or operators of facilities subject to certain provisions of RCRA investigate and address releases of hazardous waste and hazardous constituents, usually in the form of soil or groundwater contamination, that have occurred at or from their property. The Commonwealth of Pennsylvania is not authorized to administer the Corrective Action Program under Section 3006 of RCRA. Therefore, the EPA retains primary authority in the Commonwealth of Pennsylvania for the Corrective Action Program.

The EPA is providing a thirty (30) day public comment period on EPA's proposed remedy for the Facility. The EPA may modify its proposed remedy based on comments received during this period. The EPA will evaluate comments received and select a final remedy in a Final Decision and Response to Comments (Final Decision) after the public comment period has ended. Information on the Corrective Action program and the Government Performance and Results Act Environmental Indicator Determinations for the Facility can be found by navigating to https://www.epa.gov/hwcorrectiveactioncleanups/hazardous-waste-cleanup-esstech-inc-formerly-scott-paper-company.

The EPA has compiled an Administrative Record (AR) containing all documents, including data and quality assurance information, upon which EPA's proposed remedy is based. See Section 8, Public Participation, below, for information on how the AR may be reviewed.

Section 2: Facility Background

The Facility is situated on approximately 5.5 acres of land located in Essington, Delaware County, Pennsylvania. Land use in the surrounding area is mainly commercial and residential. At the Facility, there is a one-story building with a basement.

The Facility was originally owned by Linde Air Products from 1937 to 1967 for manufacturing bottle gasses and air products. From 1967 until 1972, Scott Paper Company (Scott) operated the Facility for research and development of paper and paper pulp technology. From 1972 until 1980, Scott operated the Facility for development of disposable diaper covers and disposable paper cups. From 1980 until 1984, the Facility was occupied by Scott's environmental and industrial hygiene laboratories. From 1984 until 1997, Scott (which was renamed Kimberly Clark Tissue Company in 1996), operated the Facility for the development of "wet wipes". In October 1997, the Facility was sold to Linde Associated LP, who owned the Facility from 1997 until 2000. During this time, Linde Associates LP made improvements to the on-site building and remediation work was completed (see Section 3). SJS Linde SP bought the Facility in July 2000. Currently the Facility is occupied by several office-type tenants.

In August 1980, Scott filed a Notification of Hazardous Waste Activity Form with the EPA and re-filed in October 1980. In November 1980, Scott submitted a Part A Hazardous Waste Permit Application (Part A) to the EPA. Based on the information provided by Scott, the EPA determined that Scott met the RCRA requirements for interim status and assigned EPA ID No. PAD000798504 to the Facility on December 22, 1980.

In a letter from the Pennsylvania Department of Environmental Resources (PADER, now Pennsylvania Department of Environmental Protection [PADEP]) to Scott, dated March 4, 1983, Scott was required by PADER to file a Part B Hazardous Waste Permit Application (Part B). A letter from PADER dated March 29, 1984 indicated that Scott was not a Treatment, Storage, and Disposal facility and therefore, not required to submit a Part B application.

The Facility maintained a National Pollutant Discharge Elimination System (NPDES) Stormwater General Permit for Discharges of Stormwater from Industrial Activities to Darby Creek. The NPDES Permit (permit ID: PAR140014) was issued on September 30, 1996 and expired on September 30, 2001.

Section 3: Summary of Environmental Investigations

The investigations referenced in this Section that were completed prior to 2023 were conducted under the PADEP Act 2 voluntary cleanup program. Soil investigation results were compared to PADEP non-residential state-wide health standards (or Media Specific Standards [MSCs]) and groundwater results were compared to the PADEP Non-Residential Used Aquifer Groundwater MSCs. The reports generated by the investigations typically used the MSC nomenclature. The MSC nomenclature is used in the SB to aid the reader in using the references found in the Administrative Record.

Under PADEP oversight, Adirondack Environmental Services, Inc. and RT Environmental, Inc. conducted several characterization investigations at the Facility between 1996 and 1999. These investigations included soil and groundwater sampling, preparation of a Non-Use Aquifer Determination and contaminant transport modeling, and soil remediation at two areas located west of the main building. These activities resulted in submittal and subsequent approval of an Act 2 Final Report and release of liability of contaminants identified and addressed in soil and groundwater. The following is a summary of the investigations and remedial work conducted at the Facility.

In February 1996, Adirondack Environmental Services, Inc. performed a Phase I Investigation. The Phase 1 Investigation recognized several outstanding environmental issues associated with the Facility. As a result, additional investigation activities related to soil and potentially groundwater were recommended in various areas. Prior to the Phase 1 Investigation, in July 1991, NUS Corporation had performed an Environmental Priorities Initiative Preliminary Assessment.

In December 1996, Adirondack Environmental Services, Inc. performed a Phase II Investigation. The Phase II Investigation involved the inspection of 13 Areas of Concern (AOCs) and building interior areas, installation of 15 soil borings and collection of 13 groundwater samples, and completion of two hand auger borings. All samples were analyzed for volatile organic compounds (VOCs), semi-volatile organic compounds (SVOCs), and metals. VOCs were detected in both soil and groundwater and three areas were identified for additional investigation. Those three areas were: the area between the former storage shed and former chemical storage room, the area near the 1,000-gallon UST located next to the former garage, and the eastern and western property boundaries.

During the Phase III Investigation in September 1997, six monitoring wells (MW-1 through MW-6) were installed and samples were collected and analyzed for VOCs. Benzene was detected above its Maximum Contaminant Level (MCL) (5 µg/L) in MW-2 (61 µg/L); trichloroethylene (TCE) was detected above its MCL (5 µg/L) at MW-4 (250 µg/L), MW-5 (11 µg/L), and MW-6 (190 µg/L); vinyl chloride was detected above its MCL (2 µg/L) in MW-5 (3.2 µg/L) and MW-6 (82 µg/L); 1,1-dichloroethene was detected above its MCL (7 µg/L) in MW-6 (13 µg/L); and cis-1,2,-dichloroethene was detected above its MCL (70 µg/L) in MW-6 (190 µg/L). In October 1997, approximately 753 tons of impacted soil were excavated from two areas: a closed-in-place 1,000-gallon Underground Storage Tank (UST) located next to the former garage and a former storage shed area. The UST was also removed during the excavation. Soil and grab groundwater samples were collected in both areas and analyzed for PADEP no. 2 fuel oil parameters. Napthalene in the grab groundwater samples from both excavation areas was the only parameter detected above its EPA Regional Screening Level (RSL) of 0.12 µg/L at concentrations of 39,000 µg/L and 83,000 µg/L.

RT Environmental, Inc. performed an aquifer use determination in March 1998. PADEP received the request and submitted comments. RT Environmental, Inc. submitted an

updated Aquifer Use Determination Report in June 1999. The determination concluded that the Facility met the Act 2 criteria for a non-used aquifer under the PADEP Land Recycling Program regulations. In June 1999, PADEP approved the Non-Use Aquifer Determination for the Site.

Additional groundwater samples were collected in January 1998, April 1998, August 1998, November 1998, June 1999, and September 1999. The results indicated that benzene was detected above its MCL (5 µg/L) with concentrations ranging from 1.1 to 120 µg/L, dichloromethane was detected above its MCL (2 µg/L) with concentrations ranging from 1.5 to 17B[1] µg/L, 1,2-dichloroethane was detected above its MCL (5 µg/L) in one sampling event only with a concentration of 5.9 µg/L, TCE was detected above its MCL (5 µg/L) with concentrations ranging from 1.2 to 69 µg/L, and vinyl chloride was detected above its MCL (2 µg/L) with concentrations ranging from 13B to 14B µg/L.

As a result of a letter received from PADEP in May 1998 regarding the October 1997 excavation, 14 additional soil borings were installed in three areas for further investigation: near the former storage shed area, near the former 1,000-gallon UST located next to the former garage, and outside the chemical storage area near the closed-in-place 1,000-gallon UST. Soil samples were collected and analyzed for benzene, toluene, ethylbenzene, xylenes, naphthalene, and no. 2 fuel oil parameters. All results were below their respective Non-Residential MSCs.

In March 2000, an Act 2 Final Report requesting a Release of Liability was submitted to PADEP. PADEP approved the Final Report on May 26, 2000.

Additional site characterization was conducted by EPA and PADEP between July and September 2023. During an initial site visit by EPA and PADEP, it was discovered that original monitoring wells MW-1 through MW-4, and MW-6 had been abandoned. A network of seven monitoring wells were then installed to replace and supplement the original monitoring wells. Monitoring wells MW-2R, MW-3R, MW-4R, and MW-6R were reinstalled at the original locations. A new deep monitoring well (MW-7) was installed co-located with MW-6R to evaluate deeper groundwater impacts, and MW-8 was installed to evaluate impacts at the property boundary. Monitoring wells were installed as 2-inch diameter PVC wells with a 0.020-inch slot screen and screen intervals between approximately 2 and 29 feet bgs.

Following monitoring well installation, one round of groundwater samples was collected and submitted for the following laboratory analyses:

- Target Compound List (TCL) VOCs via EPA Method 8260D;
- TCL SVOCs via EPA Method 8270E;
- Target Analyte List (TAL) Metals via EPA Method 6010D; and

[1] B is a laboratory qualifier indicating the analyte was found in the sample and the associated blank.

- 1,4-dioxane via EPA Method 8260 SIM.

Only one VOC, 1,4-dioxane, exceeded EPA's Regional Screening Level (RSL) of 0.46 µg/L and the PADEP Residential Statewide Health Standards (SHS) of 6.5 µg/L in one monitoring well (MW-2R) at a concentration of 20J[2] µg/L. EPA's RSLs are based on a 10^{-6} risk level which corresponds to the upper-end of EPA's acceptable risk range of 10^{-4} to 10^{-6} (40 CFR 300.430), therefore these RSLs are conservative in regards to human health exposure risk. The highest 1,4-dioxane concentration results in a $4x10^{-5}$ lifetime risk to resident and a hazard quotient of 0.35; both are acceptable and are within the EPA's risk range. No other VOCs exceeded the MCLs or PADEP Residential SHS. Two SVOCs also exceeded the PADEP Residential SHS but were below the EPA RSLs. A duplicate sample from MW-7R exceeded for benzo(b)fluoranthene and benzo(k)fluoranthene; however, the parent sample from MW-7R was non-detect for these parameters. Two additional SVOCs exceeded the EPA RSLs. A duplicate sample from MW-7R exceeded for benzo(a)pyrene and benzo(a)anthracene; however, the parent sample from MW-7R was non-detect for these parameters. Arsenic exceeded the Maximum Contaminant Level (MCL) of 10 µg/L in monitoring well MW-3R at a concentration of 19 µg/L. Additionally, iron and manganese exceeded the PADEP SHS in monitoring wells MW-2R, MW-3R, MW-4R, and MW-7R with results ranging from 1,100 to 20,000 µg/L for iron and 520 to 4,400 µg/L for manganese.

Groundwater at the Facility is not currently being used as a water supply source. The EPA proposes to restrict future groundwater use and exposure through an environmental covenant. Elevated arsenic, iron, and manganese concentrations are likely due to background conditions and are not associated with former manufacturing processes.

Based on the latest groundwater monitoring results, natural attenuation is occuring at the site. Historically, benzene, 1,2-dichloroethane, dichloromethane, TCE, and vinyl chloride exceeded their respective MCLs in Facility monitoring wells. During the September 2023 sampling event, benzene, 1,2-dichloroethane, dichloromethane, and vinyl chloride were non-detect in all monitoring wells. TCE was below the MCL in all monitoring wells.

Soil boring results are provided in **Appendix A**. Various site features are shown on **Figure 2**. Monitoring well locations are shown on **Figure 3** and results are provided in **Appendix B**.

Section 4: Corrective Action Objectives

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

1. Soil

[2] J is a laboratory qualifier indicating the analyte concentration is estimated.

EPA's corrective action objective for soils is to prevent exposures to contaminants that remain in Facility soils in concentrations above PADEP MSCs for residential use. Facility soils meet Pennsylvania's Act 2 Statewide Health Standard MSCs for non-residential soils. The EPA has determined that the non-residential MSCs for soils are protective of human health and the environment for the contaminants at the Facility as long as it is restricted to commercial and industrial use.

2. Groundwater

The EPA expects final remedies to return usable 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, the EPA will use MCLs as the corrective action objective for groundwater and control exposure to the hazardous constituents remaining in the groundwater until applicable MCLs are achieved throughout the area of contaminated groundwater and demonstrated by groundwater monitoring results. Therefore, the CAO for groundwater is to achieve MCLs and prevent onsite use and exposure to contaminated groundwater until applicable MCLs are attained.

Section 5: Proposed Remedy

The EPA's proposed remedy is as follows:

1. **Soil**
   The EPA's proposed remedy for Facility soil consists of the following land use restrictions:

   a. The Facility shall not be used for residential purposes unless it is demonstrated to the EPA that such use will not pose a threat to human health or the environment or adversely affect or interfere with the selected remedy and the EPA provides prewritten approval for such use and
   b. All earth moving activities at the Facility, including excavation, drilling and construction activities, shall be conducted in a manner such that the activity will not pose a threat to human health and the environment or adversely affect or interfere with the Final Remedy.

2. **Groundwater**
   The EPA's proposed remedy for Facility groundwater consists of the following:

a. Natural Attenuation to achieve MCL for arsenic in groundwater within a reasonable timeframe. The EPA is not proposing to require any additional groundwater monitoring for the following reasons:
    i. A statistical analysis of the historic groundwater sampling results (i.e., between October 1997 and September 1999) did not identify any increasing trends. In the historically most impacted monitoring well (MW-6), cis-1,2,-dichloroethene and TCE concentrations decreased during this timeframe. Since the constituents that were historically present (benzene, TCE, 1,2-dichloroethane, cis-1,2,-dichloroethene, dichloromethane, and vinyl chloride) during the 1997 through 1999 sampling events were not detected in September 2023 and the concentrations were shown to be decreasing historically, the EPA has determined that these constituents have sufficiently attenuated.
    ii. During the additional site characterization in 2023, a deep monitoring well was installed co-located with the historically most impacted monitoring well (MW-6). Concentrations for the historic constituents of concern in this monitoring well were non-detect, confirming that chlorinated VOCs did not sink deeper into the aquifer.
    iii. A review of the soil boring logs from the additional site characterization in 2023 indicate there was no staining or odor or photoionization detector readings above 10 parts per million in site soils.
b. The following groundwater use restrictions shall remain in place until the MCL for arsenic is achieved:
    i. Groundwater at the Facility shall not be used for any purpose other than the operation, maintenance, and monitoring activities required by the EPA, unless it is demonstrated to the EPA that such use will not pose a threat to human health or the environment or adversely affect or interfere with the final remedy and the EPA provides prior written approval for such use and
    ii. No new wells shall be installed on Facility property unless it is demonstrated to the EPA that such wells are necessary to implement the final remedy and the EPA provides prior written approval to install such wells.

Because contaminants remain in the soil and groundwater at the Facility at levels which exceed residential use, EPA's proposed decision requires the compliance with and maintenance of land and groundwater use restrictions. The land and groundwater use restrictions necessary to prevent human exposure to contaminants at the Facility will be implemented through enforceable Institutional Controls (ICs) such as an order and/or an Environmental Covenant (EC) pursuant to the Pennsylvania Uniform Environmental Covenants Act, 27 Pa. C.S. Sections 6501-6517 (UECA) to be recorded with the deed for the Facility property. If the EPA determines that additional monitoring activities, institutional

controls, or other corrective actions are necessary to protect human health or the environment, the EPA has the authority to require and enforce such additional corrective actions through an enforceable mechanism which may include an order or Environmental Covenant, provided any necessary public participation requirements are met. If any individual with an interest in the Facility property believes that information shows that any use restrictions proposed and later selected by the EPA are no longer necessary to protect public health and the environment, the individual may submit such information to the EPA for consideration. The EPA can change any such restriction if it determines it is no longer necessary, after any required public comment period.

Section 6: Evaluation of Proposed Remedy

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

Threshold Criteria	**Evaluation**
1) Protect human health and the environment	Human health and environmental exposure for soil and groundwater will be protected through restrictions on residential use of the Facility and restrictions on potable groundwater use. The EPA's proposed remedy will protect human health and the environment by controlling potential unacceptable risks. The EPA has determined that groundwater contaminants above the MCLs are effectively being addressed by natural attenuation.
2) Achieve media cleanup objectives	The proposed remedies meet the media cleanup objectives based on assumptions regarding current and reasonably anticipated land and water resource use(s). The proposed use restrictions at the Facility will eliminate future unacceptable exposures to soil, and groundwater until applicable MCLs are attained.
3) Remediating the Source of Releases	In all proposed remedies, the EPA seeks to eliminate or reduce further releases of hazardous wastes and hazardous constituents that may pose a threat to human health and the environment. Based on the historical information known about the Facility, the sources of contamination to groundwater and soil have been removed from the Facility.
Balancing Criteria	**Evaluation**

1) Long-term effectiveness	The long-term effectiveness of the remedy will be maintained by the implementation of land and groundwater use restrictions. The groundwater use restrictions will be maintained until MCLs are attained.
2) Reduction of toxicity, mobility, or volume of the Hazardous Constituents	Soil contaminant levels were determined to not be a greater than acceptable risk to human health and environment and exposure will be controlled through use restrictions. Groundwater contaminant levels are anticipated to achieve MCLs through Natural Attenuation; groundwater use will be restricted to prevent exposure until applicable MCLs are attained.
6) Short-term effectiveness	The EPA's proposed remedy does not involve any activities, such as construction or excavation, that would pose short-term risks to human health or the environment.
7) Implementability	The remedy is readily implementable at the Facility. The proposed remedy includes implementation of use restrictions through the enforceable mechanism such as an EC or order.
8) Cost	The costs associated with implementing land and groundwater use restrictions will not exceed the threshold for which financial assurance is required.
9) Community Acceptance	The EPA will evaluate community acceptance based on comments received during the public comment period and will address any comments in the Final Decision.
10) State/Support Agency Acceptance	The EPA will determine PADEP's acceptance of the proposed remedy during the public comment period, and any comments will be addressed in the Final Decision and Response to Comments.

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

Section 7: Financial Assurance

The EPA has evaluated whether financial assurance for corrective action is necessary to implement the EPA's proposed remedy at the Facility. Given that the EPA's proposed remedy does not require any further construction of engineering actions to remediate soil or groundwater contamination, and given that the costs of implementing ICs at the Facility will be minimal, the EPA is proposing that no financial assurance be required.

Section 8: Public Participation

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

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

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

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

Section 9: Signature

_____ Date: _____

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

Section 10: Index to Administrative Record

EMG. 2009. Phase I Environmental Site Assessment. January.

RT Environmental Services, Inc. 2000. Act 2 Final Report. March.

URS. 2007. Environmental Indicator Inspection Report. December.

Section 11: Attachments

Figure 1 – Site Vicinity Map
Figure 2 – Site Map
Figure 3 – Groundwater Contour Map

Appendix A – Soil Investigation Results
Appendix B – Groundwater Investigation Results

Figures

PENNSYLVANIA

QUADRANGLE LOCATION

SCALE: 1 INCH=2000 FEET

0 2000 4000

MAP SOURCE

BRIDGEPORT, PA., QUADRANGLE, U.S. GEOLOGICAL SURVEY, 1967 REVISED 1994

Job: 20497789.02070	
Prepared by: TFP	
Checked by: NB	
Date: 11/15/2007	

SITE VICINITY MAP

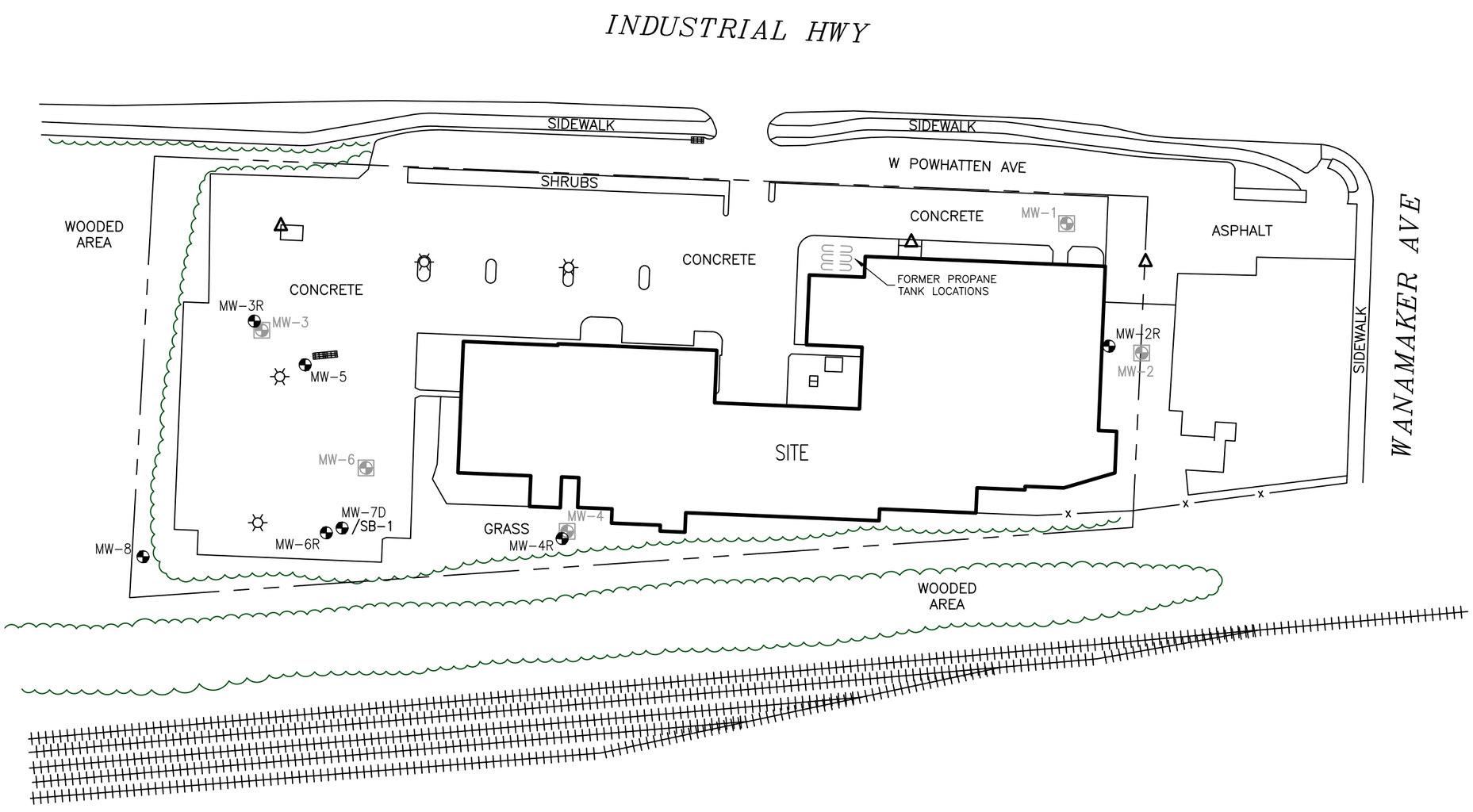
SJS LINDE LP
50 W. POWHATTEN AVE.
TINICUM TOWNSHIP, PENNSYLVANIA

FIGURE 1

Drawing Location & Name: K:\20497789.02070\site_vic.dwg
Drawn By & Date/Time: thomas_powers Nov 30, 2007 - 12:27pm

LEGEND

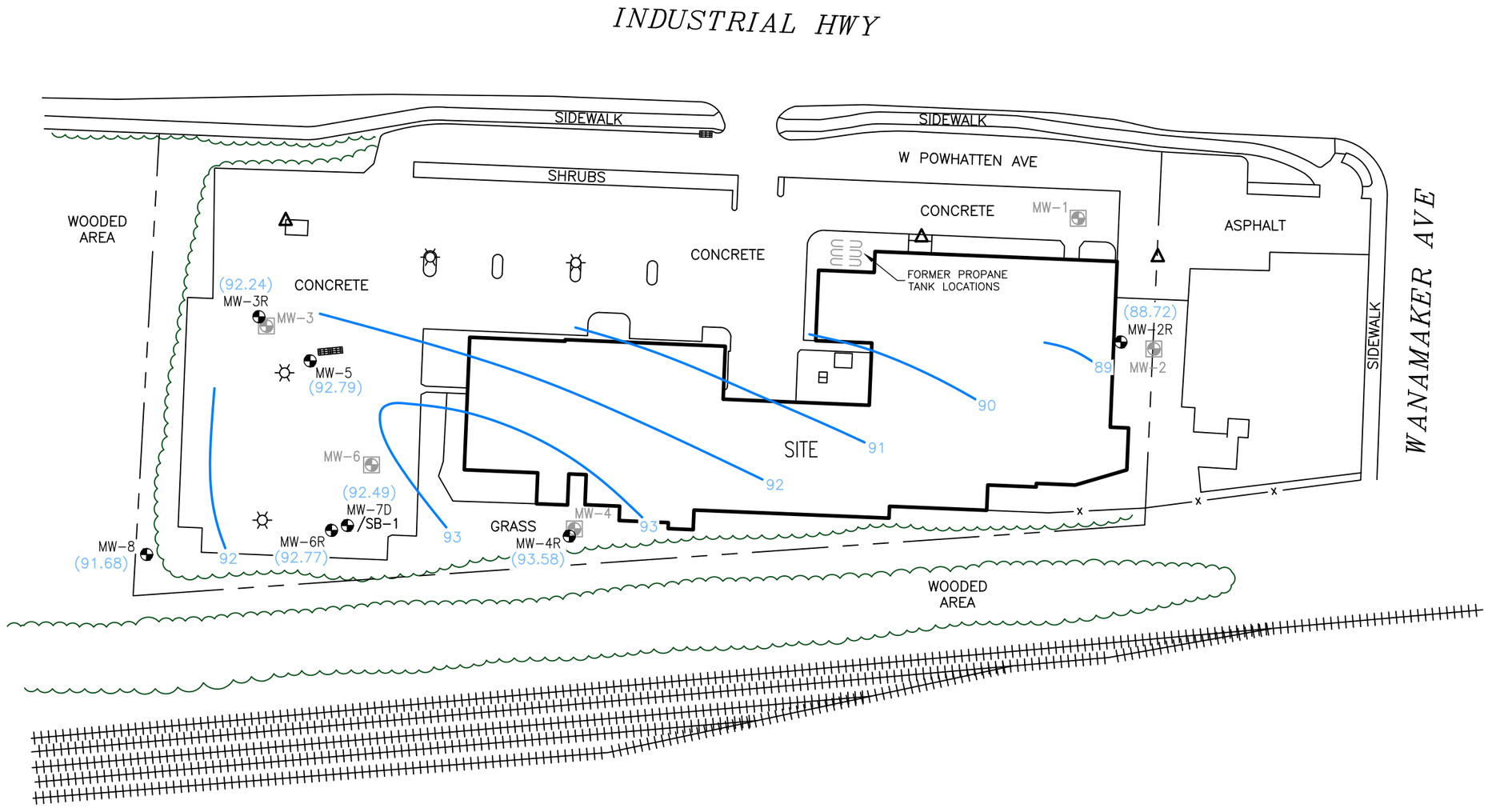
- APPROXIMATE PROPERTY BOUNDARY
- LIGHT POLE
- STORM SEWER GRATE
- ELEVATION SURVEY REFERENCE POINTS
- MONITORING WELL
- ABANDONED MONITORING WELL



Pennsylvania Dept of Environmental Protection
GTAC RCRA/SJS Property Site
50 West Powhatten Avenue
Tinicum Township, Delaware County, Pennsylvania

Figure 2

Groundwater & Environmental Services, Inc.



LEGEND

- APPROXIMATE PROPERTY BOUNDARY
- LIGHT POLE
- STORM SEWER GRATE
- ELEVATION SURVEY REFERENCE POINTS
- MONITORING WELL
- ABANDONED MONITORING WELL
- (91.68) GROUNDWATER ELEVATION (feet)
- 92 GROUNDWATER CONTOUR (feet)
- CONTOUR INTERVAL 1.00 (feet)

Pennsylvania Dept of Environmental Protection
GTAC RCRA/SJS Property Site
50 West Powhatten Avenue
Tinicum Township, Delaware County, Pennsylvania

Figure 3

Groundwater & Environmental Services, Inc.

N:_Corporate\Graphics-Exton\Exton\PADEP-GTAC-IRRSC\GTAC\GTAC RCRA-SJS Linde Property\GTAC Linde Property SM.dwg, B(SM 100), TPeters

Appendix A

TABLE 1a
Historical Soil Sample Results - VOCs
Phase II December 1996
SJS Linde LP

		Standards		Sampling Locations and Depths				
Volatile Organic Compounds by USEPA 8240	**CASRN**	**MSC Direct Contact Non-Residential Subsurface Soil 2'-15'**	**MSC Soil-to-Groundwater Non-Use Aquifer Non-Residential**	**B-5 (4'-5')**	**B-6 (3.5'-4')***	**B-7 (4'-5')***	**B-8 (2.5'-3')**	**B-14 (3'-4')**
Chloromethane (Methyl Chloride)	74-87-3	1,000	30	<0.01	<2	<2	<0.01	<0.01
Bromomethane	74-83-9	300	100	<0.01	<2	<2	<0.01	<0.01
Vinyl Chloride	75-01-4	220	2	<0.01	<2	1.3 J	<0.01	<0.01
Chloroethane	75-00-3	10,000	9,000	<0.01	<2	<2	<0.01	<0.01
Methylene Chloride (Dichloromethane)	75-09-2	4,000	5,000	<0.005	<1	<1	<0.005	<0.005
Trichlorofluoromethane (Fluorothrichloromethane)	75-69-4	10,000	10,000	<0.005	<1	<1	<0.005	<0.005
1,1-Dichloroethene	75-35-4	38	7	<0.005	0.280 J	<1	<0.005	<0.005
1,1-Dichloroethane	75-34-3	1,200	110	<0.005	<1	0.29 J	<0.013	<0.005
1,2-Dichloroethene Total	156-59-2 (cis) 156-60-5 (trans)	2,100 (cis) 4,300 (trans)	70 (cis) 100 (trans)	<0.005	0.230 J	15	0.1	<0.005
Chloroform	67-66-3	19	100	<0.005	<1	<1	<0.005	<0.005
1,2-Dichloroethane	107-06-2	73	5	<0.005	<1	<1	<0.005	<0.005
1,1,1-Trichloroethane	71-55-6	10,000	200	<0.005	19	0.03 J	<0.005	<0.005
Carbon Tetrachloride	56-23-5	120	5	<0.005	<1	<1	<0.005	<0.005
Bromodichloromethane	75-27-4	51	10	<0.005	<1	<1	<0.005	<0.005
1,2-Dichloropropane	78-87-5	180	5	<0.005	<1	<1	<0.005	<0.005
trans-1,3-Dichloropropene	542-75-6	470	260	<0.005	<1	<1	<0.005	<0.005
Trichloroethene	79-01-6	1,100	5	<0.005	<1	0.02 J	0.005	<0.005
Benzene	71-43-2	240	50	<0.005	<1	<1	<0.005	<0.005
Dibromochloromethane (Chlorodibromomethane)	124-48-1	70	1,000	<0.005	<1	<1	<0.005	<0.005
1,1,2-Trichloroethane	79-00-5	120	5	<0.005	<1	<1	<0.005	<0.005
cis-1,3-Dichloropropene	542-75-6	470	260	<0.005	<1	<1	<0.005	<0.005
2-Chloroethylvinylether	N/A	NS	NS	<0.01	<1	<1	<0.01	<0.01
Bromoform (Tribromomethane)	75-25-2	1,700	1,000	<0.005	<1	<1	<0.005	<0.005
1,1,2,2-Tetrachloroethane	79-34-5	33	3	<0.005	<1	<1	<0.005	<0.005
Tetrachloroethene	127-18-4	3,300	5	<0.005	<1	0.014 J	<0.005	<0.005
Toluene	108-88-3	10,000	10,000	<0.005	<1	<1	<0.005	<0.005
Chlorobenzene	108-90-7	10,000	1,000	<0.005	<1	<1	<0.005	<0.005
Ethylbenzene	100-41-4	10,000	7,000	<0.005	<1	0.09 J	<0.005	<0.005
Xylenes, Total	1330-20-7	10,000	10,000	<0.005	0.080 J	0.620 J	<0.005	0.0033

Notes:

All concentrations are in ppm (mg/kg)

J = Estimated concentrations

NS = No Standard

* = Soils have been excavated (October 1997)

N/A = Not Available

< Value = Parameter not detected above listed detection limit.

Results compared to PADEP Non-Residential Direct Contact Medium-Specific Concentrations (MSCs) for Organic Regulated Substances in soil (2'-15' below grade), Table 3, as listed in Chapter 250, Appendix A of the Pennsylvania Code, dated November 24, 2001 ('Act 2').

Results compared to PADEP Non-Residential Soil-to-Groundwater Pathway MSCs for Organic Regulated Substances in a Non-Use Aquifer area, Table 3, as listed in Chapter 250, Appendix A of the Pennsylvania Code, dated November 24, 2001 ('Act 2').

TABLE 1a
Historical Soil Sample Results - VOCs
Phase II December 1996
SJS Linde LP

		Standard		Sampling Locations									
Volatile Organic Compounds by USEP 8260	**CASRN**	**MSC Non-Use Aquifer Non-Residential**	**MSC Non-Use Aquifer Residential**	**B-3 (8')**	**B-5 (7.5'-9')**	**B-7 (9')**	**B-8 (8')**	**B-10 (depth unknown)**	**B-11 (7.5'-9')**	**B-12 (9')**	**B-13 (9')**	**B-14 (9')**	**B-15 (9')**
Chloromethane (Methyl Chloride)	74-87-3	3,000	3,000	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Bromomethane	74-83-9	1,000	1,000	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Vinyl Chloride	75-01-4	20	20	<1	<1	1.9	10	<1	5	<1	<1	<1	<1
Chloroethane	75-00-3	90,000	23,000	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Methylene Chloride (Dichloromethane)	75-09-2	500	500	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Trichlorofluoromethane (Fluorothrichloromethane)	75-69-4	200,000	200,000	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,1-Dichloroethene	75-35-4	70	70	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,1-Dichloroethane	75-34-3	1,100	270	<1	<1	1.9	3.9	<1	<1	<1	<1	<1	<1
1,2-Dichloroethene Total	156-59-2 (cis) 156-60-5 (trans)	700 (cis) 1,000 (trans)	700 (cis) 1,000 (trans)	<1	3.9	<1	37	<1	3	<1	<1	<1	<1
Chloroform	67-66-3	800	800	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,2-Dichloroethane	107-06-2	50	50	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,1,1-Trichloroethane	71-55-6	2,000	2,000	<1	<1	<1	1.6	<1	<1	<1	<1	<1	<1
Carbon Tetrachloride	56-23-5	50	50	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Bromo Dichloromethane	75-27-4	100	100	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,2-Dichloropropane	78-87-5	50	50	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Trans-1,3-Dichloropropene	542-75-6	2,600	660	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Trichloroethene	79-01-6	50	50	2.4	***130***	13	***59***	<1	<1	<1	<1	<1	<1
Benzene	71-43-2	500	500	<1	<1	<1	<1	<1	<1	<1	<1	<1	390
Dibromochloromethane (Chlorodibromomethane)	124-48-1	8,000	8,000	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,1,2-Trichloroethane	79-00-5	50	50	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Cis-1,3-Dichloropropene	542-75-6	2,600	660	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
2-Chloroethylvinylether	N/A	NS	NS	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Bromoform (Tribromomethane)	75-25-2	8,000	8,000	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,1,2,2-Tetrachloroethane	79-34-5	30	30	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Tetrachloroethene	127-18-4	50	50	<1	<1	<1	3.6	<1	<1	<1	<1	<1	<1
Toluene	108-88-3	100,000	100,000	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Chlorobenzene	108-90-7	10,000	10,000	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Ethylbenzene	100-41-4	70,000	70,000	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Xylenes, Total	1330-20-7	180,000	180,000	<1	<1	<1	<1	<1	<1	<1	<1	3.3	<1

Notes:

Groundwater samples were collected from soil borings

All concentrations are in ppb (ug/L)

NS = no standard

Bold and *Italics* = Exceeds standard

N/A = Not Available

< Value = Parameter not detected above listed detection limit.

Results compared to PADEP Non-Residential and Residential Medium Specific Concentrations (MSCs) for Organic Regulated

Substances in Groundwater in a Non-Use Aquifer area, Table 1, as listed in Chapter 250, Appendix A of the Pennsylvania

TABLE 1b
Historical Soil Sample Results - Fuel Oil Parameters
Phase II December 1996
SJS Linde LP

		Standards		Samping Locations and Depths				
Volatile Organic Compounds by USEPA 8021/8270 "Fuel Oil Parameters"	**CASRN**	**MSC Direct Contact Non-Residential Subsurface Soil 2'-15'**	**MSC Soil-to-Groundwater Non-Use Aquifer Non-Residential**	**B-1 (6.5'-7')**	**B-2 (4'-5')**	**B-9 (4'-5')***	**B-6 (3.5'-4')***	**B-7 (4'-5')***
Benzene	71-43-2	240	50	<0.01	<0.01	<0.1	NA	NA
Ethylbenzene	100-41-4	10,000	7,000	<0.02	<0.02	2	NA	NA
Toluene	108-88-3	10,000	10,000	<0.02	<0.02	<0.2	NA	NA
o-Xylenes	1330-20-7 (total)	10,000 (total)	10,000 (total)	<0.02	<0.02	0.15 J	NA	NA
m-Xylenes	1330-20-7 (total)	10,000 (total)	10,000 (total)	<0.02	<0.02	0.67	NA	NA
p-Xylene	1330-20-7 (total)	10,000 (total)	10,000 (total)	0.007 J	<0.02	<0.2	NA	NA
Isopropyl Benzene (Cumene)	98-82-8	10,000	10,000	<0.02	<0.02	<0.2	NA	NA
n-Propylbenzene	103-65-1	10,000	780	<0.02	<0.02	2.5	NA	NA
p-Cymene	N/A	NS	NS	<0.02	<0.02	<0.2	NA	NA
1,2,4-Trimethylbenzene	95-63-6	360	2,000	0.011 J	<0.02	0.44	NA	NA
1,3,5-TMB & SEC BB Total	N/A	NS	NS	<0.02	<0.02	0.85	NA	NA
n-Butylbenzene	104-51-8	10,000	2,600	0.007 J	<0.02	4.9	NA	NA
Naphthalene	91-20-3	190,000	7,500	<0.1	<0.1	30	0.11 J	0.31 J
Methyl Tert Butyl Ether	1634-04-4	3,700	20	<0.04	<0.04	<0.04	NA	NA
t-Butylbenzene	98-06-6	10,000	740	<0.02	<0.02	<0.02	NA	NA
Acenaphthene	83-32-9	190,000	4,700	<0.16	<0.16	0.23 J	0.13 J	0.11 J
Anthracene	120-12-7	190,000	350	<0.16	<0.16	<1.6	<0.33	<0.49
Benzo(a)anthracene	56-55-3	190,000	960	<0.16	0.056 J	0.92 J	0.56	<0.49
Benzo(a)pyrene	50-32-8	190,000	860	<0.16	<0.16	0.73 J	0.27 J	<0.49
Benzo(b)fluoranthene	205-99-2	190,000	170	<0.16	<0.16	1.1 J	0.31 J	0.74
Benzo(k)fluoranthene	207-08-9	190,000	610	<0.16	0.076 J	1.5 J	0.18 J	0.25 J
Chrysene	218-01-9	190,000	230	<0.16	0.048 J	2	0.46	<0.49
Dibenzo(a,h)anthracene	53-70-3	190,000	270	<0.16	<0.16	<1.6	<0.33	<0.49
Fluoranthene	206-44-0	190,000	3,200	<0.16	0.091 J	2.6	0.36	0.8
Fluorene	86-73-7	190,000	3,800	<0.16	<0.16	2.8	0.17 J	0.19 J
Phenanthrene	85-01-8	190,000	10,000	<0.16	0.038 J	6.4	2.8	2.1
Pyrene	129-00-0	190,000	2,200	<0.16	0.074 J	3.4	0.76	1.3
Benzo(g,h,i)perylene	191-24-2	190,000	180	<0.16	<0.16	<1.6	<0.33	<0.49
Indeno(1,2,3-cd)pyrene	193-39-5	190,000	190,000	<0.16	<0.16	<1.6	<0.33	<0.49

Notes:

All results are in ppm (mg/kg)

J = Estimated concentrations

NS = No Standard

* = soils have been excavated (October 1997)

N/A = Not Available

< Value = Parameter not detected above listed detection limit.

Results compared to PADEP Non-Residential Direct Contact Medium-Specific Concentrations (MSCs) for Organic Regulated Substances in soil (2'-15' below grade), Table 3, as listed in Chapter 250, Appendix A of the Pennsylvania Code, dated November 24, 2001 ('Act 2').

Results compared to PADEP Non-Residential Soil-to-Groundwater Pathway MSCs for Organic Regulated Substances in a Non-Use Aquifer area, Table 3, as listed in Chapter 250, Appendix A of the Pennsylvania Code, dated November 24, 2001 ('Act 2').

TABLE 1b
Historical Soil Sample Results - Fuel Oil Parameters
Phase II December 1996
SJS Linde LP

		Standard		Sample Locations					
Volatile Organic Compounds by USEPA 8021/8270 "Fuel Oil Parameters"	**CASRN**	**MSC Non-Use Aquifer Non-Residential**	**MSC Non-Use Aquifer Residential**	**B-2 (7.5'-9')**	**B-4 (8')**	**B-9 (6.5')**	**B-5 (7.5'-9')**	**B-7 (9')**	**B-8 (8')**
Benzene	71-43-2	500	500	<0.5	<0.5	<0.5	NA	NA	NA
Ethylbenzene	100-41-4	70,000	70,000	<1	<1	<1	NA	NA	NA
Toluene	108-88-3	100,000	100,000	<1	<1	<1	NA	NA	NA
0-Xylenes	1330-20-7 (total)	180,000 (total)	180,000 (total)	<1	<1	<1	NA	NA	NA
m-Xylenes	1330-20-7 (total)	180,000 (total)	180,000 (total)	<1	<1	<1	NA	NA	NA
p-Xylene	1330-20-7 (total)	180,000 (total)	180,000 (total)	<1	<1	<1	NA	NA	NA
Isopropyl Benzene (Cumene)	98-82-8	50,000	50,000	<1	<1	<1	NA	NA	NA
n-Propylbenzene	103-65-1	4,100	1,500	<1	<1	<1	NA	NA	NA
p-Cymene	N/A	NS	NS	<1	<1	<1	NA	NA	NA
1,2,4-Trimethylbenzene	95-63-6	3,500	1,600	<1	<1	<1	NA	NA	NA
1,3,5-TMB & SEC BB Total	N/A	NS	NS	<1	<1	<1	NA	NA	NA
n-Butylbenzene	104-51-8	4,100	1,500	<1	<1	0.4 J	NA	NA	NA
Naphthalene	91-20-3	10,000	10,000	<5	<5	<5	NA	NA	NA
Methyl Tert Butyl Ether	1634-04-4	200	200	<2	<2	<2	NA	NA	NA
t-Butylbenzene	98-06-6	4,100	1,500	<1	<1	<1	NA	NA	NA
Acenaphthene	83-32-9	3,800	3,800	<5	<5	<5	<5	<5	<5
Anthracene	120-12-7	66	66	<5	<5	<5	<5	<5	<5
Benzo (a) Anthracene	56-55-3	11	11	<5	<5	<5	<5	<5	<5
Benzo (a) Pyrene	50-32-8	3.8	3.8	**<5**	**<5**	**<5**	**<5**	**<5**	**<5**
Benzo (b) Fluoranthene	205-99-2	1.2	1.2	**<5**	**<5**	**<5**	**<5**	**<5**	**<5**
Benzo (k) Fluoranthene	207-08-9	0.55	0.55	**<5**	**<5**	**<5**	**<5**	**<5**	**<5**
Chrysene	218-01-9	1.9	1.9	**<5**	**<5**	**<5**	**<5**	**<5**	**<5**
Dibenzo (a,h) Anthracene	53-70-3	0.6	0.6	**<5**	**<5**	**<5**	**<5**	**<5**	**<5**
Fluoranthene	206-44-0	260	260	<5	<5	<5	<5	<5	<5
Fluorene	86-73-7	1,900	1,900	<5	<5	<5	<5	<5	<5
Phenanthrene	85-01-8	1,100	1,100	<5	<5	<5	<5	<5	<5
Pyrene	129-00-0	130	130	<5	<5	<5	<5	<5	<5
Benzo (g,h,i) Perylene	191-24-2	0.26	0.26	**<5**	**<5**	**<5**	**<5**	**<5**	**<5**
Indeno (1,2,3-cd) Pyrene	193-39-5	62	62	<5	<5	<5	<5	<5	<5

Notes:

Groundwater samples were collected from soil borings

All concentrations are in ppb (ug/L)

NS = No Standard

N/A = Not Available

Bold = detection limit above standard

< Value = Parameter not detected above listed detection limit.

Results compared to PADEP Non-Residential and Residential Medium Specific Concentrations (MSCs) for Organic Regulated Substances in Groundwater in a Non-Use Aquifer area, Table 1, as listed in Chapter 250, Appendix A of the Pennsylvania Code, dated November 24, 2001 ('Act 2').

TABLE 1c
Historical Soil Sample Results - Metals
Phase II December 1996
SJS Linde LP

		Standards			Sampling Location		
Analyte	**CASRN**	**MSC Direct Contact Non-Residential Surface Soil 0-2'**	**MSC Direct Contact Non-Residential Subsurface Soil 2'-15'**	**MSC Soil-to-Groundwater Non-Use Aquifer Non-Residential**	**B-8 (2.5'-3')**	**S-1* (surface soil)**	**S-2* (surface soil)**
Arsenic	7440-38-2	53	190,000	150,000,000	0.00162	0.0146	0.0039
Barium	7440-39-3	190,000	190,000	190,000,000	0.113	0.0685	0.261
Cadmium	7440-43-9	190,000	190,000	38,000,000	0.00035	0.0378	<0.00025
Chromium III	1606-58-31	190,000	190,000	190,000,000	0.667	3.99	0.114
Lead	7439-99-21	1,000	190,000	190,000,000	0.388	24.8	0.178
Mercury	7439-97-6	840	190,000	10,000,000	0.00035	0.000115	0.000073
Selenium	7782-49-2	14,000	190,000	26,000,000	0.000068	0.0017	<0.000025
Silver	7440-22-4	190,000	190,000	84,000,000	<0.001	0.0145	<0.001

Notes:
All concentrations are in ppm (mg/kg)
* = Soils have been excavated (October 1997)
< Value = Parameter not detected above listed detection limit.
Results compared to PADEP Non-Residential Direct Contact Medium-Specific Concentrations (MSCs) for Organic Regulated Substances in soil (0-2' and 2'-15' below grade), Table 3, as listed in Chapter 250, Appendix A of the Pennsylvania Code, dated November 24, 2001 ('Act 2').
Results compared to PADEP Non-Residential Soil-to-Groundwater Pathway MSCs for Organic Regulated Substances in a Non-Use Aquifer area, Table 3, as listed in Chapter 250, Appendix A of the Pennsylvania Code, dated November 24, 2001 ('Act 2').

TABLE 2
October 1997 UST Excavation Soil and Groundwater Sample Results - Phase III
SJS Linde LP

PADEP # 2 Fuel Oil Parameters	CASRN	Standard		Soil - Sampling Locations		
		MSC Direct Contact Non-Residential Subsurface Soil 2'-15'	MSC Soil-to-Groundwater Non-Use Aquifer Non-Residential	UST (north) soil/water interface (depth unknown)	UST (south) soil/water interface (depth unknown)	Vent/Supply (depth unknown)
Benzo(a)anthracene	56-55-3	190,000	960	-	-	0.44
Benzo(a)pyrene	50-32-8	190,000	860	-	-	0.44
Fluorene	86-73-7	190,000	3,800	-	-	0.26
Naphthalene	91-20-3	190,000	7,500	-	-	0.17
Phenanthrene	85-01-8	190,000	10,000	-	-	1.30

PADEP # 2 Fuel Oil Parameters	CASRN	Standard		Groundwater - Sampling Location	
		MSC Non-Use Aquifer Non-Residential	MSC Non-Use Aquifer Residential	UST North (grab sample)	UST South (grab sample)
Benzene	71-43-2	500	500	-	-
Toluene	108-88-3	100,000	100,000	-	-
Ethylbenzene	100-41-4	70,000	70,000	1,800	5,700
Total xylenes	1330-20-7	180,000	180,000	7,100	3,100
Naphthalene	91-20-3	10,000	10,000	***39,000***	***83,000***

Notes:
All soils concentrations are in ppm (mg/kg) and all groundwater concentrations are in ppb (ug/L).
- = Not detected above method detection limits
Bold and *Italics* = Exceeds standard
Results compared to PADEP Non-Residential Direct Contact Medium-Specific Concentrations (MSCs) for Organic Regulated Substances in soil (2'-15' below grade), Table 3, as listed in Chapter 250, Appendix A of the Pennsylvania Code, dated November 24, 2001 ('Act 2').
Results compared to PADEP Non-Residential Soil-to-Groundwater Pathway MSCs for Organic Regulated Substances in a Non-Use Aquifer area, Table 3, as listed in Chapter 250, Appendix A of the Pennsylvania Code, dated November 24, 2001 ('Act 2').
Results compared to PADEP Non-Residential and Residential Medium Specific Concentrations for Organic Regulated Substances in Groundwater in a Non-Use Aquifer area, Table 1, as listed in Chapter 250, Appendix A of the Pennsylvania Code, dated November 24, 2001 ('Act 2').

TABLE 3
October 1997 Storage Shed Soil Excavation Sample Results - Phase III
SJS Linde LP

		Standard		Sampling Locations							
Volatile Organic Compounds	**CASRN**	**MSC Direct Contact Non-Residential Subsurface Soil 2'-15'**	**MSC Soil-to-Groundwater Non-Use Aquifer Non-Residential**	**NE - 4'**	**NW - 4'**	**SE - 4'**	**SW - 3'**	**CS - 4'**	**CN (depth unknown)**	**N-End (depth unknown)**	**SW-5'**
Benzene	71-43-2	240	50	-	-	-	0.01	0.03	-	-	-
1,1-Dichloroethane	75-34-3	1,200	110	-	-	-	-	0.033	-	-	-
cis-1,2-Dichloroethene	156-59-2	2,100	70	-	-	-	0.045	0.15	-	-	-
Ethylbenzene	100-41-4	10,000	7,000	-	-	-	0.005	0.028	-	-	-
Tetrachloroethene	127-18-4	3,300	5	-	-	-	0.86	0.055	-	-	-
Toluene	108-88-3	10,000	10,000	0.023	0.007	-	0.023	0.089	-	0.011	-
1,1,1-Trichloroethane	71-55-6	10,000	200	-	0.058	-	-	2.3	-	-	-
Trichloroethene	79-01-6	1,100	5	-	-	-	0.44	-	-	-	-
Total xylenes	1330-20-7	10,000	10,000	0.012	0.022	0.009	0.023	0.11	-	0.054	-
Naphthalene	91-20-3	190,000	7,500	-	-	-	-	-	-	-	4.8
RCRA Metals											
Arsenic	7440-38-2	190,000	150,000	4.1	NA	NA	3.1	4	NA	-	2.8
Chromium III	7440-43-9	190,000	190,000	62	NA	NA	1.3	18	NA	32	9.4
Lead	7439-99-21	190,000	190,000	7.1	NA	NA	-	-	NA	-	6.7

Notes:
All concentrations are in ppm (mg/kg)
NA - Not analyzed
- = Not detected above method detection limits
Results compared to PADEP Non-Residential Direct Contact Medium-Specific Concentrations (MSCs) for Organic Regulated Substances in soil (2'-15' below grade), Table 3, as listed in Chapter 250, Appendix A of the Pennsylvania Code, dated November 24, 2001 ('Act 2').
Results compared to PADEP Non-Residential Soil-to-Groundwater Pathway MSCs for Organic Regulated Substances in a Non-Use Aquifer area, Table 3, as listed in Chapter 250, Appendix A of the Pennsylvania Code, dated November 24, 2001 ('Act 2').

TABLE 4
Soil Sample Results
July 1998
SJS Linde LP

		Standard		Sampling Locations and Depths													
				Chemical Storage Room/1,000-gal AST				Former Storage Shed/Former Drum Storage Area					1,000-gal Fuel Oil UST				
VOCs	**CASRN**	**MSC Direct Contact Non-Residential Subsurface Soil 2-15'**	**MSC Soil to Groundwater Non-Use Aquifer Non-Residential**	**SB-1 (7')**	**SB-2 (7')**	**SB-3 (6')**	**SB-4 (5')**	**SB-5 (5')**	**SB-6 (4')**	**SB-7 (3')**	**SB-8 (3')**	**SB-9 (3')**	**SB-10 (2')**	**SB-11 (3')**	**SB-12 (2')**	**SB-13 (3')**	**SB-14 (2.5')**
Benzene	71-43-2	240	50	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Toluene	108-88-3	10,000	10,000	-	-	-	-	-	-	-	0.15	-	-	-	-	-	-
Ethylbenzene	100-41-4	10,000	7,000	-	-	-	-	-	-	-	0.06	-	-	-	-	0.63	-
Total xylenes	1330-20-7	10,000	10,000	-	-	-	-	-	-	-	0.36	-	-	-	-	-	-
Trichloroethene	79-01-6	1,100	5	0.0961	0.008	0.007	0.12	0.009	-	0.009	-	-	-	-	-	-	-
1,1-Dichloroethane	75-34-3	1,200	110	-	-	-	-	-	-	0.009	0.015	-	-	-	-	-	-
1,1,1-Trichloroethane	71-55-6	10,000	200	-	-	-	-	-	-	-	6.8	-	-	-	-	-	-
Cumene	98-82-8	10,000	10,000	-	-	-	-	-	-	-	0.13	-	-	-	-	-	-
Naphthalene	91-20-3	190,000	7,500	-	-	-	-	-	-	-	0.19	-	-	0.82	0.23	0.17	0.12
Phenanthrene	85-01-8	190,000	10,000	0.36	-	-	-	-	-	-	-	-	-	0.54	-	0.92	-
1,2,4-Trimethylbenzene	95-63-6	360	2,000	-	-	-	-	-	-	-	0.82	-	-	-	-	-	-
1,3,5-Trimethylbenzene	108-70-3	360	6.2	-	-	-	-	-	-	-	0.12	-	-	-	-	-	-
sec-Butylbenzene	135-98-8	10,000	960	-	-	-	-	-	-	-	0.4	-	-	-	-	-	-
tert-Butylbenzene	98-06-6	10,000	740	-	-	-	-	-	-	-	0.22	-	-	-	-	-	-
p-Isopropyltoluene	N/A	NS	NS	-	-	-	-	-	-	-	0.22	-	-	-	-	-	-
n-Propylbenzene	103-65-1	10,000	780	-	-	-	-	-	-	-	0.31	-	-	-	-	-	-

Notes:
All concentrations are in ppm (mg/kg)
- = Not detected above method detection limits
MSC = Medium Specific Concentrations
NS = No standard
N/A = Not Available

Appendix B

TABLE 5
Historical Groundwater Sample Results - Metals
Phase II December 1996
SJS Linde LP

		Standard		Sample Locations			
Analyte	**CASRN**	**MSC Non-Use Aquifer Non-Residential**	**MSC Non-Use Aquifer Residential**	**B-5 (7.5'-9')**	**B-7 (9')**	**B-8 (8')**	**B-11 (7.5'-9')**
Arsenic	7440-38-2	50,000	50,000	31	26	17	NA
Barium	7440-39-3	2,000,000	2,000,000	280	250	300	NA
Cadmium	7440-43-9	5,000	5,000	<5	<5	<5	NA
Chromium (total)	1606-58-31	100,000	100,000	324	91	497	NA
Lead	7439-99-21	5,000	5,000	40	40	20	NA
Mercury	7439-97-6	2,000	2,000	<0.2	<0.2	<0.2	NA
Selenium	7782-49-2	50,000	50,000	<5	<5	<5	NA
Silver	7440-22-4	100,000	100,000	<10	<10	<10	NA
Arsenic - filtered	7440-38-2	50,000	50,000	<5	<5	<5	<5
Barium - filtered	7440-39-3	2,000,000	2,000,000	<10	10	30	70
Cadmium - filtered	7440-43-9	5,000	5,000	<5	<5	<5	<5
Chromium III- filtered	1606-58-31	100,000	100,000	<5	<5	<5	<5
Lead - filtered	7439-99-21	5,000	5,000	<5	<5	<5	<5
Mercury - filtered	7439-97-6	2,000	2,000	<0.2	<0.2	<0.2	<0.4
Selenium - filtered	7782-49-2	50,000	50,000	<5	<5	<5	<5
Silver - filtered	7440-22-4	100,000	100,000	<10	<10	<10	<10

Notes:
Groundwater samples were collected from soil borings
All concentrations are in ppb (ug/l)
< Value = Parameter not detected above listed detection limit.
Results compared to PADEP Non-Residential and Residential Medium Specific Concentrations (MSCs) for Organic Regulated Substances in Groundwater in a Non-Use Aquifer area, Table 2, as listed in Chapter 250, Appendix A of the Pennsylvania Code, dated November 24, 2001 ('Act 2').

TABLE 6
Groundwater Analytical Data Summary
1997 through 1999 Results
SJS Linde LP

Parameter	CASRN	USEPA MCLs	Medium Specific Concentrations Non-Residential Non-Use Aquifer	Medium Specific Concentrations Residential Non-Use Aquifer	MW-1							
					10/8/1997	1/29/1998	4/28/1998	8/10/1998	11/17/1998	2/19/1999	6/2/1999	9/7/1999
Benzene	71-43-2	5	500	500	-	-	-	-	-	-	-	-
Ethylbenzene	100-41-4	700	70,000	70,000	-	-	-	-	-	-	-	-
Naphthalene	91-20-3		10,000	10,000	NT	-	-	-	3.1	-	-	-
Toluene	108-88-3	1000	100,000	100,000	-	-	-	-	2	-	-	-
Chloroethane	75-00-3		90,000	23,000	-	-	-	-	-	-	-	-
Methyl Tert Butyl Ether	1634-04-4		200	200	-	-	-	-	-	47	NT	NT
1,1-Dichloroethane	75-34-3		1,100	270	-	-	-	-	-	-	-	-
1,2-Dichloroethane	107-06-2	5	50	50	-	-	-	-	-	-	-	-
1,1-Dichloroethene	75-35-4	7	70	70	-	-	-	-	-	-	-	-
Cis 1,2-Dichloroethene	156-59-2	70	700	700	-	-	-	-	-	-	-	-
Trans 1,2-Dichloroethene	156-60-5	100	1,000	1,000	-	-	-	-	-	-	-	-
Tetrachloroethene	127-18-4	5	50	50	-	-	-	-	-	-	-	-
1,1,1-Trichloroethane	71-55-6	200	2,000	2,000	-	-	-	-	-	-	-	-
Trichloroethene	79-01-6	5	50	50	-	-	-	-	-	-	-	-
Chloromethane (Methyl Chloride)	74-87-3		3,000	3,000	-	-	-	-	-	-	-	-
Methylene Chloride (Dichloromethane)	75-09-2	5	500	500	-	-	-	-	-	-	-	***13B***
Vinyl Cloride	75-01-4	2	20	20	-	-	-	-	-	-	-	-
All RCRA metals	N/A		NA	NA	-	-	-	NT	NT	NT	NT	NT
Chloride	16887-00-6		250,000 SMCL		NT	NT	150	NT	NT	NT	NT	NT

Parameter	CASRN	USEPA MCLs	Medium Specific Concentrations Non-Residential Non-Use Aquifer	Medium Specific Concentrations Residential Non-Use Aquifer	MW-2							
					10/8/1997	1/29/1998	4/28/1998	8/10/1998	11/17/1998	2/19/1999	6/2/1999	9/7/1999
Benzene	71-43-2	5	500	500	***61***	-	***120***	***16***	***51***	-	-	-
Ethylbenzene	100-41-4	700	70,000	70,000	-	-	-	2.5	-	-	-	-
Naphthalene	91-20-3		10,000	10,000	NT	-	-	-	2.8	-	-	-
Toluene	108-88-3	1000	100,000	100,000	-	-	-	-	2.1	-	-	-
Chloroethane	75-00-3		90,000	23,000	-	-	-	-	-	-	-	-
Methyl Tert Butyl Ether	1634-04-4		200	200	-	-	-	-	-	-	NT	NT
1,1-Dichloroethane	75-34-3		1,100	270	-	-	-	-	-	-	-	-
1,2-Dichloroethane	107-06-2	5	50	50	-	-	-	-	***5.9***	-	-	-
1,1-Dichloroethene	75-35-4	7	70	70	-	-	-	-	-	-	-	-
Cis 1,2-Dichloroethene	156-59-2	70	700	700	-	-	-	-	-	3.6	2.6	3.5
Trans 1,2-Dichloroethene	156-60-5	100	1,000	1,000	-	-	-	-	-	-	-	-
Tetrachloroethene	127-18-4	5	50	50	-	-	-	-	-	-	-	-
1,1,1-Trichloroethane	71-55-6	200	2,000	2,000	-	-	-	-	-	-	-	-
Trichloroethene	79-01-6	5	50	50	2.2	-	-	-	-	-	-	-
Chloromethane (Methyl Chloride)	74-87-3		3,000	3,000	-	-	-	-	-	-	-	-
Methylene Chloride (Dichloromethane)	75-09-2	5	500	500	-	-	-	-	1.4	-	-	***14B***
Vinyl Cloride	75-01-4	2	20	20	-	-	-	-	-	-	-	-
All RCRA metals	N/A		NA	NA	NT	NT	NT	NT	NT	NT	NT	NT
Chloride	16887-00-6		250,000 SMCL		NT	NT	67	NT	NT	NT	NT	NT

Parameter	CASRN	USEPA MCLs	Medium Specific Concentrations Non-Residential Non-Use Aquifer	Medium Specific Concentrations Residential Non-Use Aquifer	MW-3							
					10/8/1997	1/29/1998	4/28/1998	8/10/1998	11/17/1998	2/19/1999	6/2/1999	9/7/1999
Benzene	71-43-2	5	500	500	-	1.9	1.1	-	-	-	-	-
Ethylbenzene	100-41-4	700	70,000	70,000	-	-	-	-	-	-	-	-
Naphthalene	91-20-3		10,000	10,000	NT	1.2	-	-	-	-	-	-
Toluene	108-88-3	1000	100,000	100,000	-	-	-	-	3.6	-	-	-
Chloroethane	75-00-3		90,000	23,000	-	-	-	-	-	-	-	-
Methyl Tert Butyl Ether	1634-04-4		200	200	-	-	-	-	-	-	NT	NT
1,1-Dichloroethane	75-34-3		1,100	270	-	-	-	-	-	-	-	-
1,2-Dichloroethane	107-06-2	5	50	50	-	-	-	-	-	-	-	-
1,1-Dichloroethene	75-35-4	7	70	70	-	-	-	-	-	-	-	-
Cis 1,2-Dichloroethene	156-59-2	70	700	700	13	11	8	2.5	13	-	-	-
Trans 1,2-Dichloroethene	156-60-5	100	1,000	1,000	-	-	-	-	-	-	-	-
Tetrachloroethene	127-18-4	5	50	50	-	-	-	-	-	-	-	-
1,1,1-Trichloroethane	71-55-6	200	2,000	2,000	-	-	-	-	-	-	-	-
Trichloroethene	79-01-6	5	50	50	-	-	-	-	-	-	-	-
Chloromethane (Methyl Chloride)	74-87-3		3,000	3,000	-	-	-	-	-	-	-	-
Methylene Chloride (Dichloromethane)	75-09-2	5	500	500	-	-	-	-	-	-	-	-
Vinyl Cloride	75-01-4	2	20	20	-	-	-	-	-	-	-	***14B***
All RCRA metals	N/A		NA	NA	NT	NT	NT	NT	NT	NT	NT	NT
Chloride	16887-00-6		250,000 SMCL		NT	NT	210	NT	NT	NT	NT	NT

All concentrations are in ppb (ug/L)
- = Not detected above method detection limits
NT = Not tested
B = The analyte was found in the method blank as well as the sample
Bold and *Italics* = Exceeds standard
SMCL = Secondary Maximum Contaminant Level
NA = Not Available
Results compared to PADEP Non-Residential and Residential Medium Specific Concentrations for Organic Regulated Substances in Groundwater in a Non-Use Aquifer area, Tables 1 and 2, as listed in Chapter 250, Appendix A of the Pennsylvania Code, dated November 24, 2001 ('Act 2').

TABLE 6
Groundwater Analytical Data Summary
1997 through 1999 Results
SJS Linde LP

Volatile Organic Compounds	CASRN	USEPA MCLs	Medium Specific Concentrations Non-Residential Non-Use Aquifer	Medium Specific Concentrations Residential Non-Use Aquifer	MW-4 10/8/1997	1/29/1998	4/28/1998	8/10/1998	10/29/1998	11/17/1998	2/19/1999	6/2/1999	9/7/1999
Benzene	71-43-2	5	500	500	-	-	-	NT	-	-	-	-	-
Ethylbenzene	100-41-4	700	70,000	70,000	-	-	-	NT	-	-	-	-	-
Naphthalene	91-20-3		10,000	10,000	NT	-	-	NT	-	-	-	-	-
Toluene	108-88-3	1000	100,000	100,000	-	-	-	NT	-	-	-	-	-
Chloroethane	75-00-3		90,000	23,000	-	-	-	NT	-	-	-	-	-
Methyl Tert Butyl Ether	1634-04-4		200	200	-	-	-	NT	-	-	-	NT	NT
1,1-Dichloroethane	75-34-3		1,100	270	-	-	-	NT	-	-	-	-	-
1,2-Dichloroethane	107-06-2	5	50	50	-	-	-	NT	-	-	-	-	-
1,1-Dichloroethene	75-35-4	7	70	70	-	-	-	NT	-	-	-	-	-
Cis 1,2-Dichloroethene	156-59-2	70	700	700	19	1.8	1.2	NT	3	2.5	3.6	2.6	3.5
Trans 1,2-Dichloroethene	156-60-5	100	1,000	1,000	-	-	-	NT	-	-	-	-	-
Tetrachloroethene	127-18-4	5	50	50	-	-	-	NT	-	-	-	-	-
1,1,1-Trichloroethane	71-55-6	200	2,000	2,000	-	-	-	NT	-	-	-	-	-
Trichloroethene	79-01-6	5	50	50	***250***	***28***	1.2	NT	***38***	***45***	***20***	***7***	***28***
Chloromethane (Methyl Chloride)	74-87-3		3,000	3,000	-	-	-	NT	120	-	-	-	-
Methylene Chloride (Dichloromethane)	75-09-2	5	500	500	-	-	-	NT	***17B***	-	-	-	-
Vinyl Cloride	75-01-4	2	20	20	-	-	-	NT	-	-	-	-	***14B***
All RCRA metals	N/A		NA	NA	NT	NT	NT	NT	NT	NT	NT	NT	NT
Chloride	16887-00-6		250,000 SMCL		NT	NT	53	NT	NT	NT	NT	NT	NT

Parameter	CASRN	USEPA MCLs	Medium Specific Concentrations Non-Residential Non-Use Aquifer	Medium Specific Concentrations Residential Non-Use Aquifer	MW-5 10/8/1997	1/29/1998	4/28/1998	8/10/1998	11/17/1998	2/19/1999	6/2/1999	9/7/1999
Benzene	71-43-2	5	500	500	-	1.4	-	-	-	-	-	-
Ethylbenzene	100-41-4	700	70,000	70,000	-	-	-	-	-	-	-	-
Naphthalene	91-20-3		10,000	10,000	NT	1.9	-	-	-	-	-	-
Toluene	108-88-3	1000	100,000	100,000	-	-	-	-	-	-	-	-
Chloroethane	75-00-3		90,000	23,000	-	-	-	-	-	-	-	-
Methyl Tert Butyl Ether	1634-04-4		200	200	-	-	-	-	-	-	NT	NT
1,1-Dichloroethane	75-34-3		1,100	270	-	-	1.5	-	-	1.1	-	-
1,2-Dichloroethane	107-06-2	5	50	50	-	-	-	-	-	-	-	-
1,1-Dichloroethene	75-35-4	7	70	70	-	-	-	-	-	-	-	-
Cis 1,2-Dichloroethene	156-59-2	70	700	700	13	7.4	22	-	-	5.4	7.1	3.4
Trans 1,2-Dichloroethene	156-60-5	100	1,000	1,000	-	-	-	-	-	-	-	-
Tetrachloroethene	127-18-4	5	50	50	-	-	-	-	-	-	-	-
1,1,1-Trichloroethane	71-55-6	200	2,000	2,000	-	-	-	-	-	-	-	-
Trichloroethene	79-01-6	5	50	50	***11***	1.3	***26***	3.9	-	-	-	-
Chloromethane (Methyl Chloride)	74-87-3		3,000	3,000	-	-	-	-	-	-	-	-
Methylene Chloride (Dichloromethane)	75-09-2	5	500	500	-	-	-	-	-	-	-	-
Vinyl Cloride	75-01-4	2	20	20	***3.2***	-	-	-	6	-	-	***14B***
All RCRA metals	N/A		NA	NA	-	-	NT	NT	NT	NT	NT	NT
Chloride	16887-00-6		250,000 SMCL		NT	NT	82	NT	NT	NT	NT	NT

Parameter	CASRN	USEPA MCLs	Medium Specific Concentrations Non-Residential Non-Use Aquifer	Medium Specific Concentrations Residential Non-Use Aquifer	MW-6 10/8/1997	1/29/1998	4/28/1998	8/10/1998	11/17/1998	2/19/1999	6/2/1999	9/7/1999
Benzene	71-43-2	5	500	500	-	-	-	-	-	-	1.5	-
Ethylbenzene	100-41-4	700	70,000	70,000	-	2.5	-	-	-	-	3.7	-
Naphthalene	91-20-3		10,000	10,000	NT	-	-	-	-	-	11	-
Toluene	108-88-3	1000	100,000	100,000	-	-	-	-	-	1.9	1.6	-
Chloroethane	75-00-3		90,000	23,000	2.6	-	-	-	-	-	-	-
Methyl Tert Butyl Ether	1634-04-4		200	200	-	-	-	-	-	-	NT	NT
1,1-Dichloroethane	75-34-3		1,100	270	230	130	89	65	7.5	8.9	39	24
1,2-Dichloroethane	107-06-2	5	50	50	-	-	-	-	-	-	-	-
1,1-Dichloroethene	75-35-4	7	70	70	***13***	3.1	-	-	-	-	-	2.8
Cis 1,2-Dichloroethene	156-59-2	70	700	700	***190***	63	31	12	-	6.8	17	9.9
Trans 1,2-Dichloroethene	156-60-5	100	1,000	1,000	2.4	1.5	-		-	-	-	-
Tetrachloroethene	127-18-4	5	50	50	2.2	1.8	1.8	-	-	-	2.6	2.6
1,1,1-Trichloroethane	71-55-6	200	2,000	2,000	140	110	160	79	7.4	9.2	38	50
Trichloroethene	79-01-6	5	50	50	***190***	***69***	***66***	***32***	***40***	***24***	***20***	***38***
Chloromethane (Methyl Chloride)	74-87-3		3,000	3,000	-	-	-	-	-	-	-	-
Methylene Chloride (Dichloromethane)	75-09-2	5	500	500	-	-	-	-	-	-	-	-
Vinyl Cloride	75-01-4	2	20	20	***82***	-	-	-	-	-	-	***13B***
All RCRA metals	N/A		NA	NA	-	-	NT	NT	NT	NT	NT	NT
Chloride	16887-00-6		250,000 SMCL		NT	NT	96	NT	NT	NT	NT	NT

All concentrations are in ppb (ug/L)
- = Not detected above method detection limits
NT = Not tested
B = The analyte was found in the method blank as well as the sample
Bold and *Italics* = Exceeds standard
SMCL = Secondary Maximum Contaminant Level
NA = Not Available
Results compared to PADEP Non-Residential and Residential Medium Specific Concentrations for Organic Regulated Substances in Groundwater in a Non-Use Aquifer area, Tables 1 and 2, as listed in Chapter 250, Appendix A of the Pennsylvania Code, dated November 24, 2001 ('Act 2').

TABLE 7

2023 Groundwater Gauging Results

Monitoring Well	Date	Top of Casing (ft)	Depth to Water (ft)	Depth to bottom (ft)	Depth to Product (ft)	Groundwater Elevation (ft)
MW-2R	8/2/2023	94.68	5.24	13.25	-	89.44
	9/14/2023	94.68	5.96	13.20	-	88.72
MW-3R	8/2/2023	95.52	2.72	9.55	-	92.80
	9/14/2023	95.52	3.23	9.80	-	92.29
MW-4R	8/2/2023	100.48	6.02	13.50	-	94.46
	9/14/2023	100.48	6.90	14.00	-	93.58
MW-5	8/2/2023	96.60	3.25	19.30	-	93.35
	9/14/2023	96.60	3.81	19.50	-	92.79
MW-6R	8/2/2023	97.22	3.86	12.20	-	93.36
	9/14/2023	97.22	4.45	12.40	-	92.77
MW-7D	8/2/2023	96.78	3.59	28.80	-	93.19
	9/14/2023	96.78	4.29	28.80	-	92.49
MW-8	8/2/2023	97.24	4.57	11.60	-	92.67
	9/14/2023	97.24	5.56	12.60	-	91.68

Notes:
NM: Not Measured
ft: feet

Table 8A

Groundwater Analytical Data Summary
Volatile Organic Compounds

Sample ID	Sample Date	1,1,1-Trichloroethane	1,1,2-Trichloroethane	1,1,2,2-Tetrachloroethane	1,1-Dichloroethane	1,1-Dichloroethene (1,1-Dichloroethylene)	1,2,4-Trichlorobenzene	1,2-Dibromoethane (Ethylene Dibromide)	1,2-Dibromo-3-Chloropropane	1,2-Dichlorobenzene	1,2-Dichloroethane	1,2-Dichloropropane	1,3-Dichlorobenzene	1,4-Dichlorobenzene (p-Dichlorobenzene)	1,4-Dioxane	2-Butanone (Methyl ethyl ketone)
		(µg/L)	(µg/L)	(µg/L)	(µg/L)	(µg/L)	(µg/L)	(µg/L)	(µg/L)	(µg/L)	(µg/L)	(µg/L)	(µg/L)	(µg/L)	(µg/L)	(µg/L)
DEP Groundwater SHS for a Used, Residential Aquifer		200	5	0.84	31	7	70	0.05	0.2	600	5	5	600	75	6.5	4,000
DEP Groundwater SHS for a Used, Non-Residential Aquifer		200	5	4.3	160	7	70	0.05	0.2	600	5	5	600	75	27	4,000
EPA RSL for Tapwater		8,000	0.28	0.076	2.8	280	1.2	0.0075	0.00033	300	0.17	0.85	NS	0.48	0.46	5,600
EPA MCL for Drinking Water		200	5	NS	NS	7	70	0.05	0.2	600	5	5	NS	75	NS	NS
MW-2R	09/14/23	ND<0.30	ND<0.30	ND<0.30	ND<0.30	ND<0.30	ND<0.30	ND<0.20	ND<0.30	ND<0.20	ND<0.30	ND<0.30	ND<0.68	ND<0.30	20 J	ND<0.50
MW-3R	09/14/23	ND<0.30	ND<0.30	ND<0.30	ND<0.30	ND<0.30	ND<0.30	ND<0.20	ND<0.30	ND<0.20	ND<0.30	ND<0.30	ND<0.68	ND<0.30	2.6	ND<0.50
MW-4R	09/14/23	ND<0.30	ND<0.30	ND<0.30	ND<0.30	ND<0.30	ND<0.30	ND<0.20	ND<0.30	ND<0.20	ND<0.30	ND<0.30	ND<0.68	ND<0.30	ND<0.17	2.5 J
MW-5	09/14/23	ND<0.30	ND<0.30	ND<0.30	ND<0.30	ND<0.30	ND<0.30	ND<0.20	ND<0.30	ND<0.20	ND<0.30	ND<0.30	ND<0.68	ND<0.30	ND<0.17	ND<0.50
MW-6R	09/14/23	ND<0.30	ND<0.30	ND<0.30	ND<0.30	ND<0.30	ND<0.30	ND<0.20	ND<0.30	ND<0.20	ND<0.30	ND<0.30	ND<0.68	ND<0.30	ND<0.17	ND<0.50
MW-7D	09/14/23	ND<0.30	ND<0.30	ND<0.30	ND<0.30	ND<0.30	ND<0.30	ND<0.20	ND<0.30	ND<0.20	ND<0.30	ND<0.30	ND<0.68	ND<0.30	0.32 J	ND<0.50
MW-7D Duplicate	09/14/23	ND<0.30	ND<0.30	ND<0.30	ND<0.30	ND<0.30	ND<0.30	ND<0.20	ND<0.30	ND<0.20	ND<0.30	ND<0.30	ND<0.68	ND<0.30	0.37 J	ND<0.50
MW-8	09/14/23	ND<0.30	ND<0.30	ND<0.30	ND<0.30	ND<0.30	ND<0.30	ND<0.20	ND<0.30	ND<0.20	ND<0.30	ND<0.30	ND<0.68	ND<0.30	ND<0.17	ND<0.50
Field Blank	09/14/23	ND<0.30	ND<0.30	ND<0.30	ND<0.30	ND<0.30	ND<0.30	ND<0.20	ND<0.30	ND<0.20	ND<0.30	ND<0.30	ND<0.68	ND<0.30	ND<0.17	ND<0.50
Trip Blank	07/27/23	ND<0.30	ND<0.30	ND<0.30	ND<0.30	ND<0.30	ND<0.30	ND<0.20	ND<0.30 ^c	ND<0.20	ND<0.30	ND<0.30	ND<0.68	ND<0.30	ND<0.17	ND<0.50

Sample ID	Sample Date	2-Hexanone (Methyl n-butyl ketone)	4-Methyl-2-Pentanone (Methyl isobutyl ketone)	Acetone	Benzene	Bromodichloromethane	Bromoform (Tribromomethane)	Bromomethane	Carbon Disulfide	Carbon Tetrachloride	Chlorobenzene	Chloroethane	Chloroform	Chloromethane (Methyl Chloride)	cis-1,2-Dichloroethene (cis-1,2-Dichloroethylene)	cis-1,3-Dichloropropene (cis-1,3-Dichloropropene)	Cyclohexane
		(µg/L)	(µg/L)	(µg/L)	(µg/L)	(µg/L)	(µg/L)	(µg/L)	(µg/L)	(µg/L)	(µg/L)	(µg/L)	(µg/L)	(µg/L)	(µg/L)	(µg/L)	(µg/L)
DEP Groundwater SHS for a Used, Residential Aquifer		63	2,800	31,000	5	80	80	10	1,500	5	100	21,000	80	30	70	6.5	13,000
DEP Groundwater SHS for a Used, Non-Residential Aquifer		260	7,800	88,000	5	80	80	10	6,200	5	100	88,000	80	30	70	27	53,000
EPA RSL for Tapwater		38	6,300	18,000	0.46	0.13	3.3	7.5	810	0.46	78	8,300	0.22	190	25	NS	13,000
EPA MCL for Drinking Water		NS	NS	NS	5	80 (G)	80 (G)	NS	NS	5	100	NS	80 (G)	30	70	NS	NS
MW-2R	09/14/23	ND<0.85	ND<0.50	ND<0.70	ND<0.30	ND<0.20	ND<1.0	ND<0.30	ND<0.30	ND<0.30	ND<0.30	ND<0.30	ND<0.30	ND<0.55	0.85 J	ND<0.20	10
MW-3R	09/14/23	ND<0.85	ND<0.50	ND<0.70	ND<0.30	ND<0.20	ND<1.0	ND<0.30	ND<0.30	ND<0.30	ND<0.30	ND<0.30	ND<0.30	ND<0.55	1.0	ND<0.20	ND<1.0
MW-4R	09/14/23	ND<0.85	ND<0.50	1.7 J	ND<0.30	ND<0.20	ND<1.0	ND<0.30	ND<0.30	ND<0.30	ND<0.30	ND<0.30	ND<0.30	ND<0.55	ND<0.30	ND<0.20	ND<1.0
MW-5	09/14/23	ND<0.85	ND<0.50	1.6 J	ND<0.30	ND<0.20	ND<1.0	ND<0.30	ND<0.30	ND<0.30	ND<0.30	ND<0.30	ND<0.30	ND<0.55	ND<0.30	ND<0.20	ND<1.0
MW-6R	09/14/23	ND<0.85	ND<0.50	1.5 J	ND<0.30	ND<0.20	ND<1.0	ND<0.30	ND<0.30	ND<0.30	ND<0.30	ND<0.30	ND<0.30	ND<0.55	0.50 J	ND<0.20	ND<1.0
MW-7D	09/14/23	ND<0.85	ND<0.50	3.4 J	ND<0.30	ND<0.20	ND<1.0	ND<0.30	ND<0.30	ND<0.30	ND<0.30	ND<0.30	ND<0.30	ND<0.55	ND<0.30	ND<0.20	ND<1.0
MW-7D Duplicate	09/14/23	ND<0.85	ND<0.50	2.7 J	ND<0.30	ND<0.20	ND<1.0	ND<0.30	ND<0.30	ND<0.30	ND<0.30	ND<0.30	ND<0.30	ND<0.55	ND<0.30	ND<0.20	ND<1.0
MW-8	09/14/23	ND<0.85	ND<0.50	ND<0.70	ND<0.30	ND<0.20	ND<1.0	ND<0.30	ND<0.30	ND<0.30	ND<0.30	ND<0.30	ND<0.30	ND<0.55	ND<0.30	ND<0.20	ND<1.0
Field Blank	09/14/23	ND<0.85	ND<0.50	ND<0.70	ND<0.30	ND<0.20	ND<1.0	ND<0.30	ND<0.30	ND<0.30	ND<0.30	ND<0.30	2.4	ND<0.55	ND<0.30	ND<0.20	ND<1.0
Trip Blank	07/27/23	ND<0.85	ND<0.50	ND<0.70	ND<0.30	ND<0.20	ND<1.0	ND<0.30	ND<0.30	ND<0.30	ND<0.30	ND<0.30	ND<0.30	ND<0.55 ^c	ND<0.30	ND<0.20	ND<1.0

Sample ID	Sample Date	Dibromochloromethane (Chlorodibromomethane)	Dichlorodifluoromethane (Freon 12)	Ethylbenzene	Freon 113 (1,1,2-Trichloro-1,2,2-Trifluoroethane)	Isopropylbenzene (Cumene)	Methyl Acetate	Methylcyclohexane	Methylene Chloride (Dichloromethane)	Methyl tert-Butyl Ether (MTBE)	Styrene	Tetrachloroethene (Tetrachloroethylene, PCE)	Toluene	trans-1,2-Dichloroethene (trans-1,2-Dichloroethylene)	trans-1,3-Dichloropropene	Trichloroethene (Trichloroethylene, TCE)	Trichlorofluoromethane (Fluorotrichloromethane, Freon 11)	Vinyl Chloride	Total Xylenes
		(µg/L)	(µg/L)	(µg/L)	(µg/L)	(µg/L)	(µg/L)	(µg/L)	(µg/L)	(µg/L)	(µg/L)	(µg/L)	(µg/L)	(µg/L)	(µg/L)	(µg/L)	(µg/L)	(µg/L)	(µg/L)
DEP Groundwater SHS for a Used, Residential Aquifer		80	1,000	700	11,000	840	35,000	NS	5	20	100	5	1,000	100	6.5	5	2,000	2	10,000
DEP Groundwater SHS for a Used, Non-Residential Aquifer		80	1,000	700	44,000	3,500	97,000	NS	5	20	100	5	1,000	100	27	5	2,000	2	10,000
EPA RSL for Tapwater		0.87	200	1.5	10,000	450	20,000	200	11	14	1,200	11	1,100	68	NS	0.49	5,200	0.019	190
EPA MCL for Drinking Water		80 (G)	NS	700	NS	NS	NS	NS	5	NS	100	5	1,000	100	NS	5	NS	2	10,000
MW-2R	09/14/23	ND<0.20	ND<0.30	ND<0.40	ND<0.30	ND<0.30	ND<0.30	220	ND<0.30	ND<0.20	ND<0.30	ND<0.30	ND<0.30	ND<0.70	ND<0.20	ND<0.30	ND<0.30	ND<0.30	ND<0.40
MW-3R	09/14/23	ND<0.20	ND<0.30	ND<0.40	ND<0.30	ND<0.30	ND<0.30	ND<0.50	ND<0.30	ND<0.20	ND<0.30	ND<0.30	ND<0.30	ND<0.70	ND<0.20	0.52 J	ND<0.30	ND<0.30	ND<0.40
MW-4R	09/14/23	ND<0.20	ND<0.30	ND<0.40	ND<0.30	ND<0.30	ND<0.30	ND<0.50	ND<0.30	ND<0.20	ND<0.30	ND<0.30	ND<0.30	ND<0.70	ND<0.20	0.43 J	ND<0.30	ND<0.30	ND<0.40
MW-5	09/14/23	ND<0.20	ND<0.30	ND<0.40	ND<0.30	ND<0.30	ND<0.30	ND<0.50	ND<0.30	ND<0.20	ND<0.30	ND<0.30	ND<0.30	ND<0.70	ND<0.20	0.62 J	ND<0.30	ND<0.30	ND<0.40
MW-6R	09/14/23	ND<0.20	ND<0.30	ND<0.40	ND<0.30	ND<0.30	ND<0.30	ND<0.50	ND<0.30	ND<0.20	ND<0.30	0.37 J	ND<0.30	ND<0.70	ND<0.20	2.1	ND<0.30	ND<0.30	ND<0.40
MW-7D	09/14/23	ND<0.20	ND<0.30	ND<0.40	ND<0.30	ND<0.30	ND<0.30	ND<0.50	ND<0.30	ND<0.20	ND<0.30	ND<0.30	ND<0.30	ND<0.70	ND<0.20	ND<0.30	ND<0.30	ND<0.30	ND<0.40
MW-7D Duplicate	09/14/23	ND<0.20	ND<0.30	ND<0.40	ND<0.30	ND<0.30	ND<0.30	ND<0.50	ND<0.30	ND<0.20	ND<0.30	ND<0.30	ND<0.30	ND<0.70	ND<0.20	ND<0.30	ND<0.30	ND<0.30	ND<0.40
MW-8	09/14/23	ND<0.20	ND<0.30	ND<0.40	ND<0.30	ND<0.30	ND<0.30	ND<0.50	ND<0.30	ND<0.20	ND<0.30	ND<0.30	ND<0.30	ND<0.70	ND<0.20	ND<0.30	ND<0.30	ND<0.30	ND<0.40
Field Blank	09/14/23	ND<0.20	ND<0.30	ND<0.40	ND<0.30	ND<0.30	ND<0.30	ND<0.50	ND<0.30	ND<0.20	ND<0.30	ND<0.30	ND<0.30	ND<0.70	ND<0.20	ND<0.30	ND<0.30	ND<0.30	ND<0.40
Trip Blank	07/27/23	ND<0.20	ND<0.30 ^c	ND<0.40	ND<0.30	ND<0.30	ND<0.30	ND<0.50	ND<0.30	ND<0.20	ND<0.30	ND<0.30	ND<0.30	ND<0.70	ND<0.20	ND<0.30	ND<0.30	ND<0.30	ND<0.40

Notes:
DEP: Pennsylvania Department of Environmental Protection
EPA: United States Environmnetal Protection Agency
SHS: Statewide Health Standard
RSL: Regional Screening Level
MCL: Maximum Contaminant Level
MTBE: Methyl *tert*-butyl ether
µg/L: micrograms per liter
^c : Continuing Calibrabtion Verification (CCV) Recovery is outside the acceptance limits
J: Result is less than the reporting limit but greater than or equal to the method detection limit and the concentration is an approximate value
ND<#: Indicates analysis was performed for the compound but it was not detected (# is the method detection limit)
NS: No Standard
N/S: Not Sampled
Green Shaded: Indicates the concentration was detected above the laboratory method detection limit.
Yellow Shaded: Indicates the laboratory method detection limit exceeds the DEP Residential SHS.
Red Shaded: Indicates the concentration exceeds the DEP Residential SHS.
Note: EPA RSLs for Tapwater are based on target cancer risk (TR) of 1E-06 and target hazard quotient (THQ) of 1.0 (EPA, November 2023).

Table 8B

Groundwater Analytical Data Summary
Semi Volatile Organic Compounds

Sample ID	Sample Date	1,1'-Biphenyl	2,4-Dichlorophenol	2,4-Dimethylphenol	2,4-Dinitrophenol	2,4-Dinitrotoluene	2,4,5-Trichlorophenol	2,4,6-Trichlorophenol	2,2'-Oxybis[1-Chloropropane] (bis[2-Chloroisopropyl]Ether)	Di-n-butyl Phthalate (DBP)	Di-n-Octyl Phthalate (DNOP)	Benzo[a]anthracene	Benzo[a]pyrene	Benzo[b]fluoranthene	Benzo[g,h,i]perylene	Benzo[k]fluoranthene	Acenaphthene
		(µg/L)	(µg/L)	(µg/L)	(µg/L)	(µg/L)	(µg/L)	(µg/L)	(µg/L)	(µg/L)	(µg/L)	(µg/L)	(µg/L)	(µg/L)	(µg/L)	(µg/L)	(µg/L)
DEP Groundwater SHS for a Used, Residential Aquifer		0.84	20	690	69	2.1	3,500	35	300	3,500	350	0.3	0.2	0.18	0.26	0.18	2,100
DEP Groundwater SHS for a Used, Non-Residential Aquifer		3.5	20	1,900	190	8.8	9,700	97	300	9,700	970	3.9	0.2	1.2	0.26	0.55	3,800
EPA RSL for Tapwater		0.83	46	360	39	0.24	1,200	4.1	710	900	200	0.03	0.025	0.25	NS	2.5	530
EPA MCL for Drinking Water		NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	0.2	NS	NS	NS	NS
MW-2R	09/14/23	ND<0.54	ND<0.54	ND<3.2 * -	ND<15 ^c	ND<1.1	ND<0.54	ND<0.54	ND<0.54	ND<2.1	ND<5.4	ND<0.11	ND<0.12	ND<0.11	ND<0.11	ND<0.11	ND<0.11
MW-3R	09/14/23	ND<0.51	ND<0.51	ND<3.1 *-	ND<14 ^c	ND<1.0	ND<0.51	ND<0.51	ND<0.51	ND<2.1	ND<5.1	ND<0.10	ND<0.11	ND<0.10	ND<0.10	ND<0.10	ND<0.10
MW-4R	09/14/23	ND<0.52	ND<0.52	ND<3.1 *-	ND<15 ^c	ND<1.0	ND<0.52	ND<0.52	ND<0.52	ND<2.1	ND<5.2	ND<0.10	ND<0.11	ND<0.10	ND<0.10	ND<0.10	ND<0.10
MW-5	09/14/23	ND<0.52	ND<0.52	ND<3.1 *-	ND<14 ^c	ND<1.0	ND<0.52	ND<0.52	ND<0.52	ND<2.1	ND<5.2	ND<0.10	ND<0.11	ND<0.10	ND<0.10	ND<0.10	ND<0.10
MW-6R	09/14/23	ND<0.54	ND<0.54	ND<3.2 * -	ND<15 ^c	ND<1.1	ND<0.54	ND<0.54	ND<0.54	ND<2.1	ND<5.4	ND<0.11	ND<0.12	ND<0.11	ND<0.11	ND<0.11	ND<0.11
MW-7D	09/14/23	ND<0.53	ND<0.53	ND<3.2 * -	ND<15 ^c	ND<1.1	ND<0.53	ND<0.53	ND<0.53	ND<2.1	ND<5.3	ND<0.11	ND<0.12	ND<0.11	ND<0.11	ND<0.11	ND<0.11
MW-7D Duplicate	09/14/23	ND<0.53	ND<0.53	ND<3.2 * -	ND<15 ^c	ND<1.1	ND<0.53	ND<0.53	ND<0.53	ND<2.1	ND<5.3	0.18 J	0.12 J	0.23 J	0.16 J	0.22 J	ND<0.11
MW-8	09/14/23	ND<0.53	ND<0.53	ND<3.2 * -	ND<15 ^c	ND<1.1	ND<0.53	ND<0.53	ND<0.53	ND<2.1	ND<5.3	ND<0.11	ND<0.12	ND<0.11	ND<0.11	ND<0.11	ND<0.11
Field Blank	09/14/23	ND<0.55	ND<0.55	ND<3.3 *-	ND<16 ^c	ND<1.1	ND<0.55	ND<0.55	ND<0.55	ND<2.2	ND<5.5	ND<0.11	ND<0.12	ND<0.11	ND<0.11	ND<0.11	ND<0.11

Sample ID	Sample Date	Acenaphthylene	Acetophenone	Anthracene	Atrazine	Benzaldehyde	Butyl Benzyl Phthalate	Caprolactam	Carbazole	Chrysene	Dibenz[a,h]anthracene	Dibenzofuran	Diethyl Phthalate	Dimethyl Phthalate	Hexachlorobenzene	Hexachlorobutadiene	Hexachlorocyclopentadiene	Hexachloroethane
		(µg/L)	(µg/L)	(µg/L)	(µg/L)	(µg/L)	(µg/L)	(µg/L)	(µg/L)	(µg/L)	(µg/L)	(µg/L)	(µg/L)	(µg/L)	(µg/L)	(µg/L)	(µg/L)	(µg/L)
DEP Groundwater SHS for a Used, Residential Aquifer		2,100	3,500	66	3	NS	340	NS	33	1.8	0.052	35	28,000	5**	1	8.4	50	1
DEP Groundwater SHS for a Used, Non-Residential Aquifer		5,800	9,700	66	3	NS	1,400	NS	140	1.9	0.6	97	78,000	5**	1	35	50	1
EPA RSL for Tapwater		NS	1,900	1,800	0.3	19	16	9,900	NS	25	0.025	7.9	15,000	NS	0.0098	0.14	0.41	0.33
EPA MCL for Drinking Water		NS	NS	NS	3	NS	NS	NS	NS	NS	NS	NS	NS	NS	1	NS	50	NS
MW-2R	09/14/23	ND<0.11	ND<1.1	ND<0.11	ND<1.1	ND<1.1	ND<2.1	ND<3.2	ND<0.54	ND<0.11	ND<0.11	ND<0.54	ND<2.1	ND<2.1	ND<0.12	ND<0.54	ND<5.4	ND<0.54
MW-3R	09/14/23	ND<0.10	ND<1.0	ND<0.10	ND<1.0	ND<1.0	ND<2.1	ND<3.1	ND<0.51	ND<0.10	ND<0.10	ND<0.51	ND<2.1	ND<2.1	ND<0.11	ND<0.51	ND<5.1	ND<0.51
MW-4R	09/14/23	ND<0.10	ND<1.0	ND<0.10	ND<1.0	ND<1.0	ND<2.1	ND<3.1	ND<0.52	ND<0.10	ND<0.10	ND<0.52	ND<2.1	ND<2.1	ND<0.11	ND<0.52	ND<5.2	ND<0.52
MW-5	09/14/23	ND<0.10	ND<1.0	ND<0.10	ND<1.0	ND<1.0	ND<2.1	ND<3.1	ND<0.52	ND<0.10	ND<0.10	ND<0.52	ND<2.1	ND<2.1	ND<0.11	ND<0.52	ND<5.2	ND<0.52
MW-6R	09/14/23	ND<0.11	ND<1.1	ND<0.11	ND<1.1	ND<1.1	ND<2.1	ND<3.2	ND<0.54	ND<0.11	ND<0.11	ND<0.54	ND<2.1	ND<2.1	ND<0.12	ND<0.54	ND<5.4	ND<0.54
MW-7D	09/14/23	ND<0.11	ND<1.1	ND<0.11	ND<1.1	ND<1.1	ND<2.1	ND<3.2	ND<0.53	ND<0.11	ND<0.11	ND<0.53	ND<2.1	ND<2.1	ND<0.12	ND<0.53	ND<5.3	ND<0.53
MW-7D Duplicate	09/14/23	ND<0.11	ND<1.1	ND<0.11	ND<1.1	ND<1.1	ND<2.1	ND<3.2	ND<0.53	0.26 J	0.15 J	ND<0.53	ND<2.1	ND<2.1	ND<0.12	ND<0.53	ND<5.3	ND<0.53
MW-8	09/14/23	ND<0.11	ND<1.1	ND<0.11	ND<1.1	ND<1.1	ND<2.1	ND<3.2	ND<0.53	ND<0.11	ND<0.11	ND<0.53	ND<2.1	ND<2.1	ND<0.12	ND<0.53	ND<5.3	ND<0.53
Field Blank	09/14/23	ND<0.11	ND<1.1	ND<0.11	ND<1.1	ND<1.1	ND<2.2	ND<3.3	ND<0.55	ND<0.11	ND<0.11	ND<0.55	ND<2.2	ND<2.2	ND<0.12	ND<0.55	ND<5.5	ND<0.55

Sample ID	Sample Date	Fluoranthene	Fluorene	Indeno[1,2,3-cd]pyrene	Isophorone	N-Nitroso-di-n-Propylamine	N-Nitrosodiphenylamine	Naphthalene	Nitrobenzene	Pentachlorophenol	Phenanthrene	Phenol	Pyrene	2-Chloronaphthalene (Beta-Chloronaphthalene)	2-Chlorophenol	2-Methylnaphthalene	2-Methylphenol (o-Cresol)
		(µg/L)	(µg/L)	(µg/L)	(µg/L)	(µg/L)	(µg/L)	(µg/L)	(µg/L)	(µg/L)	(µg/L)	(µg/L)	(µg/L)	(µg/L)	(µg/L)	(µg/L)	(µg/L)
DEP Groundwater SHS for a Used, Residential Aquifer		260	1,400	0.18	100	0.025	19	100	1.2	1	1,100	2,000	130	2,800	40	6.3	1,700
DEP Groundwater SHS for a Used, Non-Residential Aquifer		260	1,900	2.3	100	0.13	96	100	6.3	1	1,100	2,000	130	7,800	40	26	4,900
EPA RSL for Tapwater		800	290	0.25	78	0.011	12	0.12	0.14	0.041	NS	5,800	120	750	91	36	930
EPA MCL for Drinking Water		NS	NS	NS	NS	NS	NS	NS	NS	1	NS	NS	NS	NS	NS	NS	NS
MW-2R	09/14/23	ND<0.11	ND<0.13	ND<0.12	ND<0.54 * -	ND<0.54	ND<0.54	ND<0.11	ND<0.54	ND<1.1	ND<0.12	ND<0.54	ND<0.11	ND<0.43	ND<0.54 *-	ND<0.11	ND<0.54 *-
MW-3R	09/14/23	ND<0.10	ND<0.12	ND<0.11	ND<0.51 *-	ND<0.51	ND<0.51	ND<0.10	ND<0.51	ND<1.0	ND<0.11	ND<0.51	ND<0.10	ND<0.41	ND<0.51 *-	ND<0.10	ND<0.51 *-
MW-4R	09/14/23	ND<0.10	ND<0.12	ND<0.11	ND<0.52 *-	ND<0.52	ND<0.52	ND<0.10	ND<0.52	ND<1.0	ND<0.11	ND<0.52	ND<0.10	ND<0.42	ND<0.52 *-	ND<0.10	ND<0.52 *-
MW-5	09/14/23	ND<0.10	ND<0.12	ND<0.11	ND<0.52 *-	ND<0.52	ND<0.52	ND<0.10	ND<0.52	ND<1.0	ND<0.11	ND<0.52	ND<0.10	ND<0.41	ND<0.52 *-	ND<0.10	ND<0.52 *-
MW-6R	09/14/23	ND<0.11	ND<0.13	ND<0.12	ND<0.54 *-	ND<0.54	ND<0.54	ND<0.11	ND<0.54	ND<1.1	ND<0.12	ND<0.54	ND<0.11	ND<0.43	ND<0.54 *-	ND<0.11	ND<0.54 *-
MW-7D	09/14/23	ND<0.11	ND<0.13	ND<0.12	ND<0.53 *-	ND<0.53	ND<0.53	ND<0.11	ND<0.53	ND<1.1	ND<0.12	ND<0.53	ND<0.11	ND<0.42	ND<0.53 *-	ND<0.11	ND<0.53 *-
MW-7D Duplicate	09/14/23	ND<0.11	ND<0.13	0.15 J	ND<0.53 *-	ND<0.53	ND<0.53	ND<0.11	ND<0.53	ND<1.1	ND<0.12	ND<0.53	ND<0.11	ND<0.43	ND<0.53 *-	ND<0.11	ND<0.53 *-
MW-8	09/14/23	ND<0.11	ND<0.13	ND<0.12	ND<0.53 *-	ND<0.53	ND<0.53	ND<0.11	ND<0.53	ND<1.1	ND<0.12	ND<0.53	ND<0.11	ND<0.42	ND<0.53 *-	ND<0.11	ND<0.53 *-
Field Blank	09/14/23	ND<0.11	ND<0.13	ND<0.12	ND<0.55 *-	ND<0.55	ND<0.55	ND<0.11	ND<0.55	ND<1.1	ND<0.12	ND<0.55	ND<0.11	ND<0.44	ND<0.55 *-	ND<0.11	ND<0.55 *-

Sample ID	Sample Date	2-Nitroaniline (o-Nitroaniline)	2-Nitrophenol	3,3'-Dichlorobenzidine	3-Nitroaniline	4,6-Dinitro-2-Methylphenol (4,6-Dinitro-o-Cresol, DNOC)	4-Bromophenyl-Phenylether	4-Methylphenol (p-Cresol)	4-Nitroaniline (p-Nitroaniline)	4-Nitrophenol	Bis(2-Chloroethoxy)Methane	Bis(2-Chloroethyl)Ether	Bis(2-Ethylhexyl) Phthalate (DEHP)	2,6-Dinitrotoluene	4-Chloro-3-Methylphenol (p-chloro-m-Cresol)	4-Chloroaniline (p-Chloroaniline)	4-Chlorophenyl-Phenyl Ether
		(µg/L)	(µg/L)	(µg/L)	(µg/L)	(µg/L)	(µg/L)	(µg/L)	(µg/L)	(µg/L)	(µg/L)	(µg/L)	(µg/L)	(µg/L)	(µg/L)	(µg/L)	(µg/L)
DEP Groundwater SHS for a Used, Residential Aquifer		0.11	280	1.4	NS	2.8	5**	170	33	60	100	0.15	6	0.43	3,500	3.3	5**
DEP Groundwater SHS for a Used, Non-Residential Aquifer		0.44	780	6	NS	7.8	5**	490	140	60	290	0.76	6	1.8	9,700	14	5**
EPA RSL for Tapwater		190	NS	0.13	NS	1.5	NS	370	3.8	NS	59	0.014	5.6	0.049	1,400	0.37	NS
EPA MCL for Drinking Water		NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	6	NS	NS	NS	NS
MW-2R	09/14/23	ND<1.1	ND<1.1	ND<4.3	ND<2.1	ND<8.6	ND<0.54 *-	ND<0.54	ND<0.96	ND<11	ND<0.54	ND<0.54 *-	ND<2.1	ND<0.54	ND<1.1	ND<4.3	ND<0.54
MW-3R	09/14/23	ND<1.0	ND<1.0	ND<4.1	ND<2.1	ND<8.2	ND<0.51 *-	ND<0.51	ND<0.92	ND<10	ND<0.51	ND<0.51 *-	ND<2.1	ND<0.51	ND<1.0	ND<4.1	ND<0.51
MW-4R	09/14/23	ND<1.0	ND<1.0	ND<4.2	ND<2.1	ND<8.3	ND<0.52 *-	ND<0.52	ND<0.94	ND<10	ND<0.52	ND<0.52 *-	ND<2.1	ND<0.52	ND<1.0	ND<4.2	ND<0.52
MW-5	09/14/23	ND<1.0	ND<1.0	ND<4.1	ND<2.1	ND<8.3	ND<0.52*-	ND<0.52	ND<0.93	ND<10	ND<0.52	ND<0.52 *-	ND<2.1	ND<0.52	ND<1.0	ND<4.1	ND<0.52
MW-6R	09/14/23	ND<1.1	ND<1.1	ND<4.3	ND<2.1	ND<8.6	ND<0.54 *-	ND<0.54	ND<0.97	ND<11	ND<0.54	ND<0.54 *-	ND<2.1	ND<0.54	ND<1.1	ND<4.3	ND<0.54
MW-7D	09/14/23	ND<1.1	ND<1.1	ND<4.2	ND<2.1	ND<8.4	ND<0.53 *-	ND<0.53	ND<0.95	ND<11	ND<0.53	ND<0.53 *-	ND<2.1	ND<0.53	ND<1.1	ND<4.2	ND<0.53
MW-7D Duplicate	09/14/23	ND<1.1	ND<1.1	ND<4.3	ND<2.1	ND<8.5	ND<0.53 *-	ND<0.53	ND<0.96	ND<11	ND<0.53	ND<0.53 *-	ND<2.1	ND<0.53	ND<1.1	ND<4.3	ND<0.53
MW-8	09/14/23	ND<1.1	ND<1.1	ND<4.2	ND<2.1	ND<8.5	ND<0.53 *-	ND<0.53	ND<0.96	ND<11	ND<0.53	ND<0.53 *-	ND<2.1	ND<0.53	ND<1.1	ND<4.2	ND<0.53
Field Blank	09/14/23	ND<1.1	ND<1.1	ND<4.4	ND<2.2	ND<8.9	ND<0.55 *-	ND<0.55	ND<1.0	ND<11	ND<0.55	ND<0.55 *-	ND<2.2	ND<0.55	ND<1.1	ND<4.4	ND<0.55

Notes:
DEP: Pennsylvania Department of Environmental Protection
SHS: Statewide Health Standard
EPA: United States Environmnetal Protection Agency
RSL: Regional Screening Level
MCL: Maximum Contaminant Level
µg/L: micrograms per liter
**: Threshold of Regulation Compounds All Aquifer Groundwater MSC
*-: Laboratory Control Sample (LCS) and/or Laboratory Control Sample Duplicate (LCSD) is outside acceptance limits, low biased.
^c : Continuing Calibrabtion Verification (CCV) Recovery is outside the acceptance limits
FL: Matrix spike and/or matrix spike duplicate recovery below control limits
FH: Matrix spike and/or matrix spike duplicate recovery above control limits
J: Result is less than the reporting limit but greater than or equal to the method detection limit and the concentration is an approximate value
NA: Not analyzed
ND<#: Indicates analysis was performed for the compound but it was not detected (# is the method detection limit)
NS: No Standard
Green Shaded: Indicates the concentration was detected above the laboratory method detection limit.
Yellow Shaded: Indicates the laboratory method detection limit exceeds the DEP Residential SHS.
Red Shaded: Indicates the concentration exceeds the DEP Residential SHS.
Note: EPA RSLs for Tapwater are based on target cancer risk (TR) of 1E-06 and target hazard quotient (THQ) of 1.0 (EPA, November 2023).

Table 8C

Groundwater Analytical Data Summary
Metals

Sample ID	Sample Date	Aluminum, Dissolved	Antimony, Dissolved	Arsenic, Dissolved	Barium, Dissolved	Beryllium, Dissolved	Cadmium, Dissolved	Calcium, Dissolved	Chromium, Total Dissolved	Cobalt, Dissolved	Copper, Dissolved	Iron, Dissolved	Lead, Dissolved	Magnesium, Dissolved	Manganese, Dissolved	Mercury, Dissolved	Nickel, Dissolved	Potassium, Dissolved	Selenium, Dissolved	Silver, Dissolved	Sodium, Dissolved	Thallium, Dissolved	Vanadium, Dissolved	Zinc, Dissolved
		(µg/L)	(µg/L)	(µg/L)	(µg/L)	(µg/L)	(µg/L)	(µg/L)	(µg/L)	(µg/L)	(µg/L)	(µg/L)	(µg/L)	(µg/L)	(µg/L)	(µg/L)	(µg/L)	(µg/L)	(µg/L)	(µg/L)	(µg/L)	(µg/L)	(µg/L)	(µg/L)
DEP Groundwater SHS for a Used, Residential Aquifer		**200***	**6**	**10**	**2,000**	**4**	**5**	**NS**	**100**	**10**	**1,000**	**300***	**5**	**NS**	**300**	**2**	**100**	**NS**	**50**	**100**	**NS**	**2**	**170**	**2,000**
DEP Groundwater SHS for a Used, Non-Residential Aquifer		**200***	**6**	**10**	**2,000**	**4**	**5**	**NS**	**100**	**29**	**1,000**	**300***	**5**	**NS**	**300**	**2**	**100**	**NS**	**50**	**100**	**NS**	**2**	**490**	**2,000**
EPA RSL for Tapwater		**20,000**	**7.8**	**0.052**	**3,800**	**25**	**1.8**	**NS**	**NS**	**6**	**800**	**14,000**	**15**	**NS**	**430**	**0.63**	**390**	**NS**	**100**	**94**	**NS**	**0.2**	**86**	**6,000**
EPA MCL for Drinking Water		**NS**	**6**	**10**	**2,000**	**4**	**5**	**NS**	**100**	**NS**	**1,300**	**NS**	**15**	**NS**	**NS**	**2**	**NS**	**NS**	**50**	**NS**	**NS**	**2**	**NS**	**NS**
MW-2R	09/14/23	ND<12	ND<0.21	0.95 J	36	ND<0.12	ND<0.16	22,000	ND<0.57	2.0	ND<0.37	2,200	ND<0.12	8,700	1,300	ND<0.079	0.64 J	7,200	0.56 J	ND<0.10	110,000	ND<0.13	ND<0.82	ND<4.1
MW-3R	09/14/23	ND<12 ^3+	ND<0.21	19	74	ND<0.12	ND<0.16	27,000 ^2	ND<0.57	1.8	0.45 J	1,100	ND<0.12	7,700	4,400 ^2	ND<0.079	ND<0.41	45,000	ND<0.29	ND<0.10	110,000 ^2	ND<0.13	ND<0.82	ND<4.1
MW-4R	09/14/23	ND<12	ND<0.21	1.0 J	40	ND<0.12	ND<0.16	10,000	ND<0.57	5.2	ND<0.37	1,200	ND<0.12	4,300	880	ND<0.079	0.77 J	3,000	ND<0.29	ND<0.10	41,000	ND<0.13	ND<0.82	ND<4.1
MW-5	09/14/23	ND<12	0.55 J	ND<0.70	2.4	ND<0.12	ND<0.16	18,000	ND<0.57	ND<0.16	2.8	21 J	ND<0.12	6,700	5.7	ND<0.079	0.71 J	2,000	0.40 J	ND<0.10	3,200	ND<0.13	ND<0.82	ND<4.1
MW-6R	09/14/23	ND<12	ND<0.21	ND<0.70	19	ND<0.12	ND<0.16	14,000	ND<0.57	2.1	ND<0.37	290	ND<0.12	5,600	200	ND<0.079	1.3	2,500	0.78 J	ND<0.10	25,000	ND<0.13	ND<0.82	ND<4.1
MW-7D	09/14/23	ND<12 ^3+	ND<0.21	ND<0.70	73	ND<0.12	ND<0.16	13,000 ^2	ND<0.57	0.56	ND<0.37	19,000	ND<0.12	5,400	510 ^2	ND<0.079	ND<0.41	2,600	ND<0.29	ND<0.10	6,900	ND<0.13	ND<0.82	ND<4.1
MW-7D Duplicate	09/14/23	ND<12	ND<0.21	ND<0.70	76	0.14 J	ND<0.16	13,000	ND<0.57	0.71	ND<0.37	20,000	ND<0.12	5,500	520	ND<0.079	0.43 J	2,600	ND<0.29	ND<0.10	7,000	ND<0.13	ND<0.82	ND<4.1
MW-8	09/14/23	ND<12 ^3+	ND<0.21	ND<0.70	6.8	ND<0.12	ND<0.16	17,000	ND<0.57	ND<0.16	0.66 J	ND<21	ND<0.12	5,500	2.2	ND<0.079	ND<0.41	1,700	4.4	ND<0.10	9,400	ND<0.13	ND<0.82	ND<4.1
Field Blank	09/14/23	140	0.28 J	ND<0.70	5.8	ND<0.12	ND<0.16	1,200	0.62 J	ND<0.16	1.9	120	0.38 J	110	1.7 J	ND<0.079	ND<0.41	100 J	ND<0.29	ND<0.10	2,500	ND<0.13	ND<0.82	ND<4.1

Notes:
DEP: Pennsylvania Department of Environmental Protection
EPA: United States Environmnetal Protection Agency
SHS: Statewide Health Standard
µg/L: micrograms per liter
*: Secondary Maximum Contaminant Level (SMCL)
^+: Continuing Calibrabtion Verification (CCV) is outside acceptance limits, high biased
^2: Calibration Blank is outside acceptance limits
^3+: Reporting Limit Check Standard is outside acceptance limits, high biased
*+: LCS and/or LCSD is outside acceptance limits, high biased
J: Result is less than the reporting limit but greater than or equal to the method detection limit and the concentration is an approximate value
B: Analyte was found in the blank
4: MS, MSD: The analyte present in the original sample is greater than 4 times the matrix spike concentration, therefore, control limits are not applicable
ND<#: Indicates analysis was performed for the compound but it was not detected (*<#* is the method detection limit)
NS: Not Standard
N/S: Not Sampled
Green Shaded: Indicates the concentration was detected above the laboratory method detection limit.
Yellow Shaded: Indicates the laboratory method detection limit exceeds the DEP Residential SHS.
Red Shaded: Indicates the concentration exceeds the the DEP Residential SHS.
Note: EPA RSLs for Tapwater are based on target cancer risk (TR) of 1E-06 and target hazard quotient (THQ) of 1.0 (EPA, November 2023).