
**PHASE I ENVIRONMENTAL
SITE ASSESSMENT REPORT**

FOR:

**E00187 WO12 EISENHOWER DRIVE EXT.
CONEWAGO TOWNSHIP,
ADAMS COUNTY, PENNSYLVANIA**

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1.0 SUMMARY

Dawood Engineering, Inc. (Dawood) was retained by Johnson, Mirmiran & Thompson, Inc. (JMT) on behalf of the Pennsylvania Department of Transportation (PennDOT) Engineering District 8-0 to complete a Phase I Environmental Site Assessment (Phase I ESA) for the proposed project, located in Conewago Township, Adams County, Pennsylvania. The proposed project area is depicted in the Site Location Map, Figure 1 of Appendix A.

The Eisenhower Drive Extension Project is located in York and Adams Counties. The project involves extending Eisenhower Drive through Conewago Township, from where it currently ends at High Street to Hanover Road (SR 0116) west of McSherrystown. Potential improvement alternatives include new alignment alternatives, partial new alignment alternatives, as well as options to improve the existing roadway network aimed to address the failing level of service, as well as improve safety within the study area.

This Phase I ESA was conducted to establish the presence of potential waste sites that could have an impact on the project, environment, and/or human health and safety. This report addresses the results of the investigation and provides conclusions and recommendations.

Seventeen sites with the potential for environmental concern were identified within the vicinity of the project. Additionally, proposed project construction will result in demolition of residential and commercial structures along the route.

A Phase II/III Investigation is recommended to evaluate subsurface conditions as a result of present and historic use in the project area immediately adjacent to the following sites: Site 1 – Nick’s Garage (Earle Black’s), Site 2 – Dennis Stem (formerly Mummert’s Auto), Site 9 – Bare Development LP (WYCR-FM), Site 11 – Metropolitan Edison Co, and Site 12 – CSX Hanover Subdivision Line. The following five potential waste sites, Site 9, 11, 12, 13, and 14 were investigated under a Voluntary Clean Up (VCP) Program associated with the June 2015 chemical fire that occurred at the Miller Chemical & Fertilizer Corporation (Site 10).

Independent of the potential waste site investigations, all properties that are acquired for this project will be investigated for drums, home heating oil tanks, and miscellaneous waste items prior to demolition. Additionally, a lead based paint (LBP) and asbestos containing materials (ACM) survey should be conducted for all buildings being demolished. Approximately nine buildings located on five tax parcels will require interior building, lead, and ACM surveys outside of the specific waste sites detailed in this Phase I ESA.

2.0 INTRODUCTION

This Phase I ESA was prepared by Dawood in accordance with the PennDOT Bureau of Environmental Quality Publication 281 titled: *The Transportation Project Development Process: Waste Site Evaluation Procedures Handbook, August 2018*.

To identify the potential presence of residual or other environmentally sensitive materials, the following work was performed:

1. Review of an environmental records search, conducted by Environmental Data Resources, Inc. (EDR), for sites included in Federal and State Environmental Databases which are located within a one-mile radius of the proposed project area;
2. A file review of pertinent documents held at the Pennsylvania Department of Environmental Protection (PADEP) Southcentral Regional Office;

3. Review of secondary source information available over the website of PADEP;
4. Review of historical aerial photographs, topographic maps, and Sanborn mapping provided by InfoMap and EDR;
5. Interviews with persons knowledgeable of the area;
6. Site reconnaissance of the project area.

The findings are used to determine one of the four recommendations for a Phase I ESA as defined in Publication No. 281. These recommendations include:

- (i) No Further Action required (NFA):
In the case of NFA, there is no significant impact to the project study area.
- (ii) No Further Action required at this Time (NFT):
A finding of NFT indicates minor, easily handled amounts of contamination.
- (iii) Initiate Phase II or Phase III ESA activities (PH II/III):
Phase II and Phase III activities identify specific concerns and steps needed to adequately address those concerns. Under these circumstances, data indicates an obvious or strong likelihood of significant materials contamination (hazardous or non-hazardous).
- (iv) Initiate Immediate Action (IA):
IA indicates a serious contamination concern on Commonwealth-owned or leased property which will likely result in substantive detriment to life, the environment or property if immediate action is not taken.

The limit of disturbance (LOD) for the project was determined based on the horizontal extent of proposed earth disturbance and construction activities associated with the proposed project. Dawood established an area of investigation (AOI) for the project which is defined as a 100' buffer from the proposed LOD boundary project in which environmental activities are reviewed. The following sections present a description of the proposed project and the results of the background review and field reconnaissance event.

3.0 PROJECT DESCRIPTION

The project involves extending Eisenhower Drive through Conewago Township, from where it currently ends at High Street to Hanover Road (SR 0116) west of McSherrystown. The primary purpose of the project is to facilitate safe and efficient multi-modal travel within the project study area to meet both current and future transportation needs of the area. Anticipated transportation improvements will reduce congestion and accommodate planned growth throughout this region, including a reduction in impacts of truck and commuter traffic within the study area. The secondary purpose of this project is to provide a functional and modern roadway that maximizes current design criteria and promotes and enhances multi-modal connections and transportation alternatives within and surrounding the study area.

4.0 SITE CHARACTERISTICS

4.1 Location

The Eisenhower Drive Extension Project is located in York and Adams Counties. Eisenhower Drive (local road), SR 0094 (Carlisle Street), and SR 0116 (Hanover Road, West Elm Street, Main Street, 3rd Street) are main traffic corridors through McSherrystown, Hanover, Conewago, and Penn Townships. A Site Location Map, Figure 1, in Appendix A and site sketches and photographs in Appendix B are provided for reference.

4.2 Land Use

The project area is comprised of agricultural, commercial, and residential properties. Zoning districts represented in the project area include: R-1 – Suburban Residential, A – Agricultural, I – Industrial, and HC – Highway Commercial.

4.3 Aerial Photograph Review

The objective of reviewing historical use information is to develop a history of the previous uses of the area within and adjacent to the study area in order to identify the likelihood of past uses having led to the presence of environmentally sensitive material in connection with the project area. Historic aerial photographs were obtained from EDR. Aerials dating from 1937 to 2017 were reviewed to characterize the historic development of the project and surrounding areas. The following aerial photograph descriptions are for the overall proposed project corridor, whereas site-specific aerial photograph descriptions can be found in Section 5.1 for each respective site. Aerial photographs are included in Appendix C.

1937 Aerial Photograph

This photo shows a portion of the project area with Oxford Avenue transecting the image from northwest to southeast. Land use in this photo is predominantly agricultural and undeveloped. A few residential properties are present throughout the image, and structures shown on this image match current residential property locations.

1938 Aerial Photographs

Two aerial photographs are provided for 1938. The first image is centered on Centennial Road near the western limit of the project area. Land use is predominantly undeveloped agricultural fields with a few forested parcels scattered throughout. Structures in this image appear to be residential. No largely developed parcels for apparent commercial or industrial use are present. The second 1938 aerial photograph shows Oxford Avenue intersecting with Main Street/Hanover Road. Numerous residential structures are present along Main Street in the photograph. The photo is consistent with the 1937 aerial photograph for this area.

1943 Aerial Photographs

Two partial aerial photographs for the project area are provided for 1943. The first image shows the corner of an aerial photograph dated 12-19-43. The image shows the intersection of Centennial Road and Hanover Road. Frontage along Centennial Road is undeveloped and appears to be used for agricultural practices. Several structures are shown near the intersection of Sunday Drive and Hanover Road, and appear to be residential. The second image shows the intersection of Oxford Avenue and Main Street/Hanover Road. No discernable changes are noted on this aerial photograph compared to the 1938 photograph of the same aerial coverage.

1952 Aerial Photographs

Two aerial photographs are provided for 1952 for the project area. The first aerial photograph shows the intersection of Centennial Road and Sunday Drive with Hanover Road. It also shows land use in the project area between Centennial Road and Church Street. Properties along Hanover Road are predominantly residential. The bulk of the project area appears undeveloped with agriculture evident as the primary land use. Forested parcels and streams are present in areas consistent with current aerial imagery. No discernable changes are present on the 1952 aerial photograph for the area showing the intersection of Oxford Avenue and Main Street/Hanover Road compared to the 1943 aerial photograph.

1959 Aerial Photographs

No discernable changes are evident on the 1959 aerial photograph showing Centennial Road compared to the 1952 aerial photograph. There are no discernable changes to the agricultural area shown to the north of the intersection of Oxford Avenue and Main Street/Hanover Street in the second aerial photograph. Apparent commercial development is present along West Elm Avenue.

1971 Aerial Photographs

Several apparent residential structures have been constructed along Centennial Drive and Chapel Road as shown in the first aerial photograph. No other discernable changes are evident in the first aerial photo (centered over Centennial Road) compared to the 1959 aerial photo for the same area. Additional apparent commercial development is present along West Elm Avenue in the second aerial photograph. Major land disturbance is present in the northern portion of the second aerial image (centered over Oxford Avenue) at the location of the current Vulcan Materials Company (quarry).

1977 Aerial Photographs

There are no discernable changes in the project area when comparing the 1977 aerials with the 1971 aerials. The resolution of the 1977 aerial photographs is poor.

1981 Aerial Photographs

On the first aerial photograph (centered over Centennial Drive), new residential housing has been constructed at present-day Michael Street, Sandy Court, and Stevens Street. Apparent agricultural buildings have been constructed on a parcel located in the upper left-hand corner of the aerial photograph. No other discernable changes are evident compared to the 1971 aerial photograph. The infrared capture of the second aerial image (centered over Oxford Avenue) shows the contrasting changes in land use in the northern portion of the aerial image compared to the residential area along Main Street in the bottom of the photograph and the agricultural zone in the center of the photograph. Manmade lagoons, access roads, and other indications of earth disturbance can be seen on this aerial image within the present-day Vulcan Materials Company property. Additional commercial development is present near Kindig Lane in the bottom-right hand corner of the aerial image.

1992-1993 Aerial Photographs

The first aerial photograph that is centered over Centennial Drive shows several separate locations with residential subdivision development. No commercial or industrial development is apparent in this aerial photograph. Additional residential development is evident in the second aerial image that is centered over Oxford Avenue. The footprint for the Vulcan Materials Company property has remained the same since the 1981 aerial photograph but alterations to the actual quarry footprints are evident. New roadways and structures with mixed uses are present at the current location of High Street.

2004 Aerial Photographs

The aerial photograph depicting the area surrounding Centennial Drive shows additional subdivision development compared to the 1992-1993 aerial photograph. No industrial development is apparent. The second aerial photograph showing the area surrounding Oxford Drive is mostly consistent with the 1992-1993 aerial photograph. Additional subdivision development is apparent. Portions of the quarry are apparently filled in as evidenced by growth of vegetation and lack of water at locations noted as inundated in earlier photos.

2010 Aerial Photographs

There are no discernable changes to land use type in the aerial photograph centered over Centennial Drive compared to the 2004 aerial photograph. Several additional residential areas have developed near existing subdivisions. No changes are discernable regarding Vulcan Materials Company active quarrying locations when compared to the 2004 image. Athletic fields have been constructed on the eastern portion of the aerial photograph. No changes to land use type are apparent in this aerial photo.

2013 Aerial Photographs

There are no discernable changes observed on the 2013 aerial photograph centered over Centennial Drive compared to the 2010 aerial photograph. A new structure is apparent to the north of Kindig Lane on the 2013 aerial photograph centered over Oxford Drive. This property is consistent with the present-day Clark Shoes Distribution Center. No other development or changes in land use are apparent.

2017 Aerial Photographs

There are no discernable changes observed in the 2017 aerial photographs compared to the 2013 aerial photographs. The photographs are consistent with readily available online aerial imagery accessible in 2019.

4.4 Sanborn Mapping Review

EDR conducted a search of The Sanborn Library for the entire project area; however, no fire insurance maps were found. The certified Sanborn Map Report confirming the absence of mapping is included as Appendix D.

4.5 Physical Characteristics

Geologic and topographic characteristics of the project area were identified through background data research. Detailed information concerning surface water, soils, geology, and hydrology of the project area are provided.

Soils

According to the USDA Natural Resources Conservation Service, Soil Survey of Adams County, the project area is underlain by Clarksburg silt loam (CkA and CkB), Conestoga silt loam (CnA and CnB), Dunning silty clay loam (Dy), Penlaw silt loam (Pa), and Urban land (Uc). Table 1 includes specific pertinent information related to those soil units. Please refer to the Soil Map, Figure 2 in Appendix A.

Table 1. Soils

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI	Depth to Water Table (cm)	Drainage Class	Pesticide leaching potential rating
CkA	Clarksburg silt loam, 0 to 3 percent slopes	30.6	22.8%	69	Moderately Well Drained	Somewhat Limited
CkB	Clarksburg silt loam, 3 to 8 percent slopes	2	1.5%	69	Moderately Well Drained	Somewhat Limited

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI	Depth to Water Table (cm)	Drainage Class	Pesticide leaching potential rating
CnA	Conestoga silt loam, 0 to 3 percent slopes	27.9	20.8%	>200	Well Drained	Not Limited
CnB	Conestoga silt loam, 3 to 8 percent slopes	28.4	21.2%	>200	Well Drained	Not Limited
Dy	Dunning silty clay loam	10.9	8.2%	8	Very poorly drained	Very Limited
Pa	Penlaw silt loam	33.6	25.0%	31	Somewhat poorly drained	Very Limited
Uc	Urban land	0.7	0.5%	>200	N/A	Not Rated

Geology

The project site is primarily underlain by the **Conestoga Formation** of the late Cambrian and early Ordovician Periods, with a small portion of the project near Bender Road underlain by the Shale Member of the **Kinzers Formation** of the Cambrian Period. A Geologic Map, Figure 3 of Appendix A, is provided for reference. The following descriptions are from *The Geology of Pennsylvania*.

The **Kinzers Formation, shale (included in Ck and Cul)** consists of dark brown shale. It contains the trilobite *Olenellus*. Thickness of the member is 150 feet. The rock is moderately well bedded and fissile. Joint and cleavage planes display a seamy pattern. They are moderately developed, highly abundant, irregularly distributed, very closely spaced, open, and steeply to moderately dipping. The member is moderately resistant to weathering. It is highly and deeply weathered. Complete breakup of rock occurs in many places, resulting in medium to small sized fragments. The overlying mantle is thin. The member forms undulating hills of low relief. Natural slopes are moderately steep and stable. Excavation is moderately easy, but unweathered rock is difficult. Quartz boulders are a special problem. The drilling rate is moderate. Cut-slope stability is fair. Rapid disintegration occurs when the rock is exposed to moisture for a relatively short time. Foundation stability is good. Rock should be excavated to sound material. The formation is a good source of road material and fill.

The **Conestoga Formation (OCs)** consists of medium gray, impure limestone having black, graphitic shale partings. It is conglomeratic at the base. Its total thickness is unknown, but it is at least 300 feet thick. The rock is crudely bedded to poorly bedded, thin and highly crumpled. Joints have an irregular pattern. They are poorly formed, moderately abundant, and widely spaced having uneven regularity. Many are open, but some are filled with quartz and calcite. The formation is moderately resistant to weathering. It is slightly weathered to a shallow depth. Impure layers weather to a higher relief. Large, irregularly shaped fragments result from weathering. Mantle thickness is highly variable and may be extremely thick. The bedrock-mantle interface is pinnacled in most areas. The formation forms rolling valleys and hills of low relief.

Natural slopes are gentle and stable. Excavation is difficult. Bedrock pinnacles and numerous quartz veins are special problems. The drilling rate is fast, but quartz veins slow the drilling rate. Cut-slope stability is good. Foundation stability is good. A thorough investigation for possible collapse areas should be undertaken. The formation is a good source of road material, riprap, building stone, and fill.

Additionally, a multitude of karst features were identified via eMapPA within and adjacent to the project area.

Hydrology

The **Kinzers Formation** has good surface drainage. Joint and cleavage plane openings provide a secondary porosity of moderate magnitude. Permeability is moderate. Median groundwater yield is 30 gallons per minute (gpm). Well yields range from less than 1 to 400 gpm.

The **Conestoga Formation** has good surface drainage and minor subsurface drainage. A few sinkholes can occur. Joint and some solution channel openings provide a secondary porosity of low magnitude. Permeability is moderate to low. Median groundwater yield is 25 gallons per minute. Some wells encounter solution openings for very large yields. The water may be very hard.

Surface water in the project area is conveyed to the South Branch Conewago Creek (WWF, MF), Plum Creek (WWF, MF) and headwaters of both named streams with the same designated use.

5.0 INVESTIGATION

The following sections represent the information collected through The EDR Radius Map Report dated January 14, 2019, review of PADEP files, personal interviews, and a field investigation.

5.1 Review of Potential Waste Sites

Dawood referenced the Publication 281 Recommended Phase I Checklist to perform an online review of environmental databases, conduct interviews, and perform site reconnaissance. The completed Recommended Phase I Checklist is provided as Appendix E. In January 2019, an environmental records search for the proposed project area was conducted by EDR. The results of the database searches are presented within The EDR Area / Corridor Report located in Appendix F. A file review of records held at the PADEP Southcentral Regional Office was conducted April 2, 2019. Dawood personnel asked to review files for the project area and the sites identified in the EDR Report. File review documentation is provided in Appendix H.

The project area was visually assessed on January 28, 2019, February 05, 2019, and April 20, 2019 to determine current use and conditions and to identify the presence of and/or potential for environmental impact to the project area from past and or/ current uses. Dawood personnel observed the project area and exterior conditions of properties located adjacent to and within the anticipated limit of disturbance associated with the proposed project. The Publication 281 Recommended Phase I Checklist for Site Reconnaissance was referenced to aid in identifying any potential environmental concerns in connection with properties located within or adjacent to the proposed project area. Items in the Site Reconnaissance Checklist include, but are not limited to: storage tanks, odors, drums/containers, asbestos, poly-chlorinated biphenyls (PCBs) or lead, stains or corrosion on soils or pavement, and wells or septic systems. The Site Reconnaissance Checklist

is included in Appendix E. Selected photographs of properties referenced throughout this report are included in Appendix B – Site Sketches and Photographs.

Interviews were conducted with individuals knowledgeable of historical and present uses of the project area. The information obtained from these interviews is documented within the following paragraphs and in Appendix H – Documentation of Interviews.

The scope of this project did not include investigation of on-site subsurface conditions. Any information concerning subsurface soil, groundwater and surface water is based on publicly available maps or related sources referenced in this report.

Based on the EDR Report, review of PADEP files, personal interviews, and field investigations; seventeen potential waste sites were identified within or adjacent to the general footprint of the proposed project. Potential waste site locations are shown in Figure 4 of Appendix A. Information pertaining to these sites is presented below. Refer to Table 2 for a summary of potential waste sites and recommendations.

Site 1. Nick's Garage (Earle Black's) - 5490 Hanover Road

The property is improved with a two-story residence fronting Hanover Road and a piecemealed automotive repair shop. The garage is advertised as a car, truck, trailer, camper, and RV service & repair center.

Environmental Database Review

The site is identified in the EDR Corridor Report as a small quantity generator with a waste code of D001 (ignitable hazardous waste). No non-compliance events are noted within the report.

No records for Nick's Garage, Earle Black's Garage, or the 5490 Hanover Road address were observed in the following PADEP online environmental databases: Environment, Facility, Application, Compliance Tracking System (eFacts), Activity and Use Limitations (AUL) Registry, Tank Cleanup Incidents List, Active Storage Tank List, or Inactive Storage Tank List.

The Environmental Protection Agency's (EPA's) Envirofacts Detailed Facility Report has record of a Clean Air Act (CAA) inspection on 10/01/2003, with a compliance status of "no violations identified".

Aerial Photograph Review

In the 1938 photo, the site is developed with multiple structures in the eastern portion of the site and agricultural field in the western portion. In the 1981 photograph, additional site development is observable. Between the 1981 and 1992-93 photographs, additional site development occurred, and the 1992-93 site imagery shows a general footprint that resembles that of present-day.

PADEP File Review

A file review request was submitted to the PADEP Southcentral Regional Office for the 5490 Hanover Road, Hanover, PA 17331 address; however, no files were available to review.

Site Reconnaissance

A site reconnaissance of the property was conducted on January 28, 2019. Dawood personnel observed exterior and interior conditions of the property including the asphalt lot surrounding the garage and the dirt/gravel lot located behind the garage. Potential minor staining, noticeable on high resolution aerials viewable on Adams County's Tax Parcel Viewer and from Google's Street View imagery, was observed sporadically across the parking areas. No stressed vegetation, odors, or landfilling areas were observed on the property. The presence of one underground storage tank

(UST) and one aboveground storage tank (AST), disclosed during the interview, were observed on the exterior of the building. Two ASTs and multiple 55-gallon drums were observed along the back of the garage. One tank was labeled for used antifreeze and the other was unlabeled. A few drums were labeled for used waste oil; however, some were unlabeled. Both the tanks and drums appeared to be empty, but this was not verified. The locations of these features are shown on the attached site sketch. Drains were identified within the service area. Motor oil and other vehicle service fluids were stored outside of secondary containment within the service area. Two in-ground hydraulic lifts were observed in use. The hydraulic fluid tanks associated with each lift were observed aboveground. Other lifts observed in use are more modern pneumatic style lifts.

Interviews

Nick McDaniel – Owner, Nick’s Garage

Nick McDaniel operates an automotive service business located at 5490 Hanover Rd. He has owned the business since 2014, when he arranged a lease agreement for the building with the owner. Mr. McDaniel confirmed that Earle Black’s garage formerly operated at this location and he believed that business opened in 1984. McDaniel also stated that he worked for Earle Black at this location when he was around the age of 18. Mr. McDaniel stated that there was one UST and one AST on-site. He estimated that the UST was approximately 500 gallons, based on his observed tank depth of 4 feet, and that the AST was approximately 250-gallons. Both tanks contain waste oil that is burned in the building’s furnace, according to Mr. McDaniel. Mr. McDaniel stated that the furnace heated the whole building and no backup electric/fuel generator was present on site. He also noted that there were drums located in the back of the building for additional waste oil storage, when needed. Mr. McDaniel stated that two in-ground lifts were present, and both had separate aboveground tanks (containing hydraulic oil). Based on Mr. McDaniel’s recollection, the in-ground lifts were retrofitted with above ground tanks sometime in the previous 10-15 years when the site was operated as Earle Black’s Garage. The underground hydraulic fluid reservoirs were allegedly removed without complication. Mr. McDaniel stated that two drains were present on-site. He stated both drained to public sanitary sewer but was unsure if an oil/water separator was present. Mr. McDaniel stated the property was connected to public sewer and utilizes a well for water.

Site 2. Dennis Stem (Formerly Mummert’s Auto) - 3380 Centennial Road

According to Adams County’s Tax Parcel Viewer, the property is deeded at 0.84 acre. It is improved with a block structure and a large dilapidated asphalt lot. An automotive service operation was based at this location previously, but the property appears to be idle currently.

Environmental Database Review

The site is identified in the EDR Corridor Report as Mummerts Auto Center. This site is documented as a Resource Conservation and Recovery Act (RCRA) non-generator (waste handler) and a historic RCRA small quantity generator. Applicable waste site codes include D001 (ignitable hazardous waste) and F003 (spent non-halogenated solvents). Non-compliance events of any type were not reported by the EDR report.

No records for Dennis Stem, Mummert’s Auto, or the 3380 Centennial Road address were observed in the following PADEP online environmental databases: eFacts, AUL Registry, Tank Cleanup Incidents List, Active Storage Tank List, or Inactive Storage Tank List.

The EPA’s Envirofacts Detailed Facility Report has record of a RCRA inspection on 07/13/2015, with a compliance status of “no violations identified”.

Aerial Photograph Review

The 1952 aerial photograph is the first photograph where the site is observed to be developed with a single structure, whereas on previous aerials it can be observed as agricultural field. In the 1981 photo, the site is observed to have been further developed and additional units, presumed to be parked vehicles, can be seen throughout the site. A square structure, presumed to be a gas pump, can be seen on the 1981 aerial imagery. The lot is vacant in the 2004 photograph and no changes are seen in subsequent years.

PADEP File Review

A file review request was submitted to the PADEP Southcentral Regional Office for the 3380 Centennial Road, Hanover, PA 17331 address; however, no files were available to review.

Site Reconnaissance

Dawood personnel performed a visual inspection on the exterior of the former car service area. The interior of the building was inaccessible at the time of inspection. A rectangular patch of asphalt is present in front of the building along Centennial Road. Surrounding asphalt has been degraded to gravel suggesting this patch may have been installed later and could indicate the location of a former pump island. No fill ports or vent pipes were observed, and no ASTs were observed on-site. One water well is located along the western corner of the building. No stains, drum storage, stressed/absent vegetation, odors, or evidence of landfilling were observed on the property. No environmental concerns were observed on the exterior of the building with respect to the proposed project.

Interviews

Mr. Frederick C. Hickman Sr

Mr. Frederick C. Hickman Sr owned the 3380 Centennial Road Auto Service Center in the late 80s to early 90s.

Mr. Hickman stated that the property was used as a car service center when he bought it and utilized it for the same purpose. Mr. Hickman stated that there were no lifts in the service area when he owned the property. He did add an addition to the body shop. There were "multiple" USTs that they filled and are believed to have been left in place on the property. Mr. Hickman was not sure when the tanks were closed and does not have any knowledge of environmental releases, nor does he have any concerns with excavation on the site.

Site 3. Lamco Safety Products - 360 Church Street

According to Adams County's Tax Parcel Viewer, the property is deeded at 5.0 acres. Three structures are present in the eastern portion of the property with a parking area located in between. The central and western portions of the property are undeveloped with apparent landscaping features in the southwestern extent of the property. A power line transects the property in a north-northwest to south-southeast trajectory near the center of the property.

Environmental Database Review

This property is not identified in the EDR Area/ Corridor Report or in the following PADEP online environmental databases: eMapPA, eFacts, AUL Registry, Tank Cleanup Incidents List, Active Storage Tank List, or Inactive Storage Tank List.

Aerial Photograph Review

The 1992-93 photograph is the first where development on the parcel is observed, whereas it can be observed on preceding photographs as an agricultural field. Site development appears to be

completed and resembles the present-day footprint in the 2004 photograph. No changes are observed in subsequent years.

PADEP File Review

A file review request was submitted to the PADEP Southcentral Regional Office for the 360 Church Street, Hanover, PA 17331 address; however, no files were available to review.

Site Reconnaissance

Dawood personnel performed a visual inspection on the exterior of the three buildings on site, one commercial center/warehouse, one storage shed, and the other presumably an office building. The interiors of buildings were inaccessible at the time of inspection. Based on the signage in front of the building, it appears the building is currently vacant and available for leasing. No evidence of USTs or ASTs associated with the main industrial building were observed; however, a potential fill port was observed along the northwest corner of the presumed office building on site. The fill port is presumed to be associated with a basement or underground home heating oil tank. No stains, stressed/absent vegetation, odors, drum storage or evidence of landfilling were observed on the property. No environmental concerns were observed on the exterior of the building with respect to the proposed project.

Interviews

A voicemail was left with Jaguar Real Estate on 4/19/2019. An attempt to reach an individual knowledgeable of on-site conditions was unsuccessful.

Site 4. Ring Container Technologies (Formerly Mideastern Machinery) - 351 Church Street

According to Ring Container Technologies' website, the company focuses on finding sustainable solutions for the consumer packaging industry. The corporation is one of the largest PET and HDPE plastic container manufacturers in North America. The Hanover, PA location is one of twenty company locations. According to the Adams County Tax Parcel Viewer, Ring Container Technologies' property is deeded at 10.00 acres. The property contains one industrial facility with paved areas for distribution and parking.

Environmental Database Review

The site is identified in the EDR Corridor Report as Mideastern Inc. and Mideastern Machinery. Ring Container Technologies is not listed in the EDR Report. Mideastern Inc is documented as a RCRA non-generator (waste handler). Applicable waste site codes include D001 (ignitable hazardous waste), D002 (Corrosive Hazardous Waste), D007 (Chromium), D009 (Mercury), and F001 (Halogenated Solvents). Non-compliance events of any type were not reported by the EDR report.

Mideastern Mach Rebuilding is identified at 351 Church Street in the PADEP eFacts online database. According to the information provided on eFacts, no violations were noted during routine inspections conducted in 1998 and 2009. The facility is listed as permanently shut down on the 09/23/2009 inspection date.

No records for Ring Container Technologies, Mideastern Machinery, Say Plastics, or the 351 Church Street address were observed in the following PADEP online environmental databases: AUL Registry, Tank Cleanup Incidents List, Active Storage Tank List, or Inactive Storage Tank List.

Aerial Photograph Review

The site is observed as agricultural field on the 1938 aerial photograph. The first sign of development on the site can be seen in the 1981 photograph. Additional site development is observable on the 1992-93 photograph, where a manufacturing plant and associated parking lot can be observed. Site development and an addition to the manufacturing plant can be observed in the 2010 photograph. The 2017 photograph shows another addition to the manufacturing plant was constructed between 2013 and 2017.

PADEP File Review

A file review request was submitted to the PADEP Southcentral Regional Office for the 351 Church Street, Hanover, PA 17331 address. Files were available for Mideastern Machinery; however, no files for Ring Container Technologies were available to review.

Mideastern Machinery

In a Notification of Regulated Waste Activity form, dated August 6, 1998, and received on November 24, 1998 by PADEP. Mideastern Machinery identified themselves as a conditionally exempt small quantity generator (CESQG) for the following EPA Waste Codes: D001 (Ignitable waste), D002 (Corrosive waste), D007 (Chromium), D009 (Mercury), and F001 (spent halogenated degreasing solvents). The form denoted ASTs on-site are included on the PADEP's listing of PA Regulated Aboveground Storage Tanks and that wastewater was analyzed twice annually for suspended solids, pH, color, and fluoride to determine compliance with maximum concentrations allowed by the Borough's Pretreatment Ordinance, as well as with Federal Categorical requirements. The letter states no significant exceedances were identified.

A Hazardous Waste Inspection Report documents an inspection conducted by the Pennsylvania Department of Environmental Protection on December 9, 1998. No violations were observed by the DEP at the time of inspection.

A routine inspection was attempted by the PADEP on October 1, 2009. The comment section of the General Inspection Report denotes that Mideastern Machinery was no longer at this location and that Ring Plastics Inc/Say Plastics was operating on the site. Based on the comment and the inspection form, it does not appear that an inspection was performed.

Site Reconnaissance

Dawood personnel performed a visual site inspection on the exterior of the building. An inspection of the interior of the industrial building was not permitted. No evidence of issues with the three silos containing PT Resin were observed. No evidence of other USTs or ASTs was observed. A single 1250-liter tote of hydraulic oil was observed outside. The container appeared to be empty. An unknown utility structure was observed at the front of the property along Church Street. Multiple stormwater facilities were observed on-site. No stains, stressed/absent vegetation, odors, or evidence of landfilling were observed on the property. No environmental concerns were observed on the exterior of the building with respect to the proposed project.

Interviews

Joseph Bican, Plant Manager – Ring Container Technologies

Joseph Bican is the Plant Manager of Ring Container Technologies at 351 Church Street, Hanover, PA 17331. Mr. Bican stated that the property is owned by Holland Properties and is leased to Ring Container Technologies.

Mr. Bican stated that he's been the Plant Manager at the 351 Church Street facility since 2008 after Ring Container Technologies acquired the building from the previous operator, Say Plastics.

Mr. Bican stated that to his knowledge, no underground storage tanks were located on site, but that three (3) silos containing PT Resin were on-site. The PT Resin is utilized in the manufacturing of plastic containers. According to Mr. Bican, no gasoline or diesel fuel is stored on the property; however, a 5-gallon tote of hydraulic fluid is contained on site. Mr. Bican stated that the property was connected to public sewer and water and utilized natural gas to heat the building. No backup generator is located on site. He confirmed that the site had two (2) drains within the building. Both drains, to the best of his knowledge, went to grinders and then connected to the sanitary sewer. There is a hazardous waste storage location on-site, according to Mr. Bican. Additionally, Mr. Bican indicated that during earthmoving activities for construction of the parking lot, a fuel truck leaked diesel onto soil. Contaminated soils were removed from the property by a third-party company according to Mr. Bican.

Site 5. Smith Real Estate Holdings LLC, Farm - 509 Church Street

According to the Adams County Tax Parcel Viewer, the property located at 509 Church Street is deeded at 154.44 acres and is located on both the western and eastern sides of Church Street. Online aerial imagery of the property identifies predominantly agricultural fields and one cluster of several structures with a driveway tie-in to Church Street.

Environmental Database Review

This property is not identified in the EDR Area/ Corridor Report or in the following PADEP online environmental databases: eMapPA, eFacts, AUL Registry, Active Storage Tank List, Inactive Storage Tank List, or Tank Cleanup Incidents List.

Aerial Photograph Review

In the 1938 aerial photograph, the site is observed to be primarily agricultural field with structures developed in the location of the current farmhouse and farm buildings. No discernable changes were observed at the site in subsequent aerial photographs.

PADEP File Review

A file review request was submitted to the PADEP Southcentral Regional Office for the 509 Church Street, Hanover, PA 17331 address; however, no files were available to review.

Site Reconnaissance

Dawood personnel performed a visual site inspection of the proposed project area, which is approximately 0.2 mile south of the existing farmstead. No stains, stressed/absent vegetation, odors, or evidence of landfilling, ASTs, or USTs were observed in the project area.

Interviews

Steve Smith, Owner

Mr. Smith is the owner of the Smith Real Estate Farm parcel at 509 Oxford Avenue. His family has owned the property for 90+ years and he stated his knowledge of the site dates back to the 1960s. Mr. Smith stated that there is a farmhouse, a garage, a barn, and four sheds located on the parcel. The house is serviced by public water and has a septic drain field used to manage sewage. The house is heated by propane. To the best of his knowledge, the site has always been agricultural field. Mr. Smith is not aware of any USTs on the property. He stated there are two ASTs near the garage, both of which contain diesel at a maximum volume of 150 gallons per tank. He is not aware of any releases associated with the tanks. Pesticide and herbicide are stored on the property in volumes of less than or equal to 2 gallons and 15 gallons, respectively. Mr. Smith stated that quantities greater than this are rare for storage on site. No known spills or releases could be recalled. Mr. Smith was not aware of landfilling on site, nor does he believe there are environmental concerns with respect to the proposed construction.

Site 6. Bare Development LP, Farm - 444 Oxford Avenue

According to the Adams County Tax Parcel Viewer, the property located at 444 Oxford Avenue is deeded at 125.91 acres and is located on both the western and eastern sides of Oxford Avenue. Online aerial imagery of the property identifies predominantly agricultural fields and one cluster of several structures with driveway tie-ins to Oxford Avenue.

Environmental Database Review

The EDR report identified a site at 477 Oxford Avenue as Hanover Plant. This address plots in the Bare Development LP parcel just north of the residence. The Hanover Plant is listed in the PADS: PCB Activity Database System, which identifies generators, transporters, commercial storers and/or brokers and disposers of PCB's who are required to notify the EPA of such activities. References to PCB usage are believed to be associated with the Hanover Lime Plant, identified at 877 Oxford Avenue on PADEP's Facility Search Details, (currently Vulcan quarry site) and attributed inaccurately to the 477 Oxford Avenue address.

The site is not identified in the following PADEP online environmental databases: eMapPA, eFacts, AUL Registry, Active Storage Tank List, or Inactive Storage Tank List.

Aerial Photograph Review

In the 1938 aerial photograph the site is observed to be primarily agricultural field with structures developed in the location of the current farmhouse and farm buildings. No discernable changes were observed at the site in the subsequent aerial photographs.

PADEP File Review

A file review request was submitted to the PADEP Southcentral Regional Office for the 444 Oxford Avenue, Hanover, PA 17331 address; however, no files were available to review.

Site Reconnaissance

Dawood personnel performed a visual site inspection of the proposed project area and the area surrounding the house and farm buildings on the property. No environmental concerns were observed in the proposed project LOD on the property. Numerous unmarked and improperly stored tanks, totes, and drums were observed around the farm buildings. One tote, approximated at 250 gallons, was labeled as "Termix 5819", an agrochemical used as a tank mix adjuvant for pesticides and herbicides. It is presumed that all other chemicals stored in the unmarked containers were agrochemicals with similar intended uses. It was observed that one 55-gallon drum was lying sideways and bulging slightly. No evidence of USTs was observed on the property. No stains, stressed/absent vegetation, odors, or evidence of landfilling were noted. There was no indication, based on the site reconnaissance, that this property was ever used as anything other than a working farm.

Interviews

Joan McAnall – Bare Development Representative

Ms. McAnall stated Bare Development likely purchased this property in the 1960s. To her knowledge the parcel has always been operated as a farm with agricultural practices still prevalent at this location. She indicated they have a renter in the house currently but it's not the farmer. Ms. McAnall was not aware of the pesticide/herbicide usage and storage history at this location and did not know if ASTs or USTs were ever associated with the property. She confirmed the residence is on a private septic and likely uses a well for water but was not certain. Ms. McAnall is not aware how the residence is heated. Additionally, she was not aware of any entity,

location, or business in the area known as Hanover Plant. No other information was disseminated by Ms. McAnnall and the tenant farmer was unavailable for comment.

Site 7. Clarks America - 355 Kindig Lane

An online search of the property identified one former real estate listing for the industrial property. The real estate listing from LoopNet provided the following description: Site was formerly approved as a Foreign-Trade Zone Subzone (FTZ) and contains a 357,372 square foot (SF) high bay warehouse facility with office areas and an additional 75,993 SF of mezzanine. Building is served by 2 separate electric meters (750 Kilovolt-amp (KVA) and 1,000 KVA). Excess land is included on west end of the property, which is currently utilized as a baseball field with no written obligations or commitments and could be utilized for expansion of building, parking and/or trailer parking. According to the Adams County Tax Parcel Viewer, the property is deeded at 24.39 acres.

Environmental Database Review

The site is not identified in the EDR Corridor Report.

No records for the 355 Kindig Lane address were observed in the following PADEP online environmental databases: eFacts, AUL Registry, Tank Cleanup Incidents List, Active Storage Tank List, or Inactive Storage Tank List.

The site is identified on PADEP's online environmental database, eMapPA, under the Facility Name, C & J Clark America Inc. Additional information provided by EPA's Facility Search identifies C & J Clark America, Inc as a Hazardous Waste Generator: Small Quantity Generator. Applicable site waste codes include: D001 (Ignitable Waste) and D002 (Corrosive Waste). A search of PADEP's eFacts database identifies the property located at 240 Kindig Lane as Adams Cnty Clarks Co Pond (Site ID: 768974). The site is identified in PADEP's Clean Water Program for a Joint Chapter 91.38 Pesticides Permit issued on 02/27/2013.

Aerial Photograph Review

No development on the site is observed until the 2013 aerial photograph. In aerial photographs in years preceding this one, the site is observed to be agricultural field. The 2013 aerial photograph matches present-day aerial imagery. The small grouping of trees described in more detail in the site reconnaissance section below is present in the earliest aerial photograph that was reviewed. No evidence of land filling was discernable across the property based on provided photos.

PADEP File Review

A file review request was submitted to the PADEP Southcentral Regional Office for the 355 Kindig Lane, Hanover, PA 17331 address; however, no files were available to review.

Site Reconnaissance

Dawood personnel performed a visual site inspection on the exterior of the building. No evidence of ASTs or USTs was observed. Construction debris, such as wood, brick, and concrete were observed in a copse of trees, in the northwest quadrant of the property. A closed depression is also present in this area along with humped up anomalous areas that may indicate land filling activity. No staining, drum storage, stressed/absent vegetation, or odors were observed. A backup generator was observed along the northeastern corner of the building. No evidence of issues with the generator was observed. No environmental concerns were observed on the exterior of the building with respect to the proposed project.

Interviews

Roy Miller, Director of Hanover Center Facilities – Clarks America

Chris Walter, Facilities Maintenance – Clarks America

Roy Miller is the Director of Hanover Center Facilities at Clarks America and has been with the company in multiple roles since March 2015. Chris Walter is with Facilities Maintenance and has been with the company for 21 years.

Mr. Miller and Mr. Walter stated that the building was constructed in 2013-2014. The site was formerly fallow/agricultural field. Neither individual had knowledge of any USTs or ASTs on site. One waste oil drum, approximated at a maximum 35-gallon volume, is located on site. Waste oil is disposed of by Safety Kleen according to Mr. Walter. Mr. Miller and Mr. Walter stated that there are floor drains located within the building, which drain into the public sanitary sewer. The building is also connected to public water and utilized natural gas for heating. Small volumes of hazardous materials are stored on the property and Safety Data Sheets (SDS) are located in the center of the production area in a binder according to Roy and Chris.

Site 8. Patrick & Elizabeth Sheaffer, Farm - 301 Oxford Avenue

According to Adams County Parcel Viewer, the 301 Oxford Avenue site is deeded at 93.00 acres. The site is primarily agricultural fields with a wooded area that runs north-south in the center of the parcel. Multiple structures, including a house and sheds, and associated driveway are located in the southwestern quadrant of the property.

Environmental Database Review

The site is not identified in the EDR Corridor Report. The site is not identified in the following PADEP online environmental databases: eMapPA, eFacts, AUL Registry, Active Storage Tank List, Inactive Storage Tank List, Tank Cleanup Incidents List.

Aerial Photograph Review

In the 1937 aerial photograph the site is observed to be primarily agricultural field with structures developed in the location of the current farmhouse. No discernable changes were observed at the site in the subsequent aerial photographs.

PADEP File Review

A file review request was submitted to the PADEP Southcentral Regional Office for the 301 Oxford Avenue, Hanover, PA 17331 address; however, no files were available to review.

Site Reconnaissance

Dawood personnel performed a visual site inspection of the proposed project area and house on the subject property. No environmental concerns were observed in the proposed project LOD on the property. Multiple drums and two home heating oil tanks were observed in a debris pile located adjacent to the house on-site. No evidence of a release of materials was observed. An aboveground propane tank and feed line were noted and assumed to be the current fuel source for heat at this location. No evidence of USTs was observed. No stains, stressed/absent vegetation, odors, or evidence of landfilling were observed on the property.

Interviews

Patrick Sheaffer - Owner

Mr. Sheaffer is the owner of the property at 301 Oxford Avenue. He has been affiliated with the property since 1995.

To the best of his knowledge, the site has always been in agricultural use. Mr. Sheaffer is not aware of any USTs on the property. The only AST in use on the property is a propane bullet tank used to fuel the heating system. Pesticide and herbicide are not stored on the property in volumes greater than what would be expected for household use. There is a renter in the house, and he leases the farming rights to a family that has worked the land for three generations. No known spills or releases could be recalled. Mr. Sheaffer was not aware of landfilling on site, nor does he believe there are environmental concerns with respect to the proposed construction.

Site 9. Bare Development LP (WYCR-FM) - 275 Radio Road

The property located at 275 Radio Road is currently occupied by WYCR-FM Radio Station. According to the Adams County Tax Parcel Viewer, the property is deeded at 16.87 acres. One commercial building, several radio towers, and one parking lot were observed on the property. A power line transects the northeastern corner of the parcel.

Environmental Database Review

The site is identified in the EDR Corridor Report as Bare Dev – Miller Chem Co Fire. The site is listed on the PA VCP: Voluntary Cleanup Program Listing. Information provided in the EDR Report identifies cleanup records for inorganics and lead contamination to soil. Remediation was completed to a Site-Specific Standard and Statewide Health Standard (SHS) for the inorganics, and a Site-Specific Standard for the lead. The approval date is listed as 01/11/2017.

Bare Development LP & Radio Hanover is identified on PADEP's online environmental database, eMapPA, as a Land Recycling Cleanup Location – Soil Media. The Sub Facility Name for this location is Miller Chemical Fire and is listed as Inactive. The Site Status is listed as: Reclamation Completed and in compliance.

No records for the site were observed in the following PADEP online environmental databases: AUL Registry, Tank Cleanup Incidents List, Active Storage Tank List, or Inactive Storage Tank List.

Aerial Photograph Review

In the 1938 aerial photograph the site is observed to be primarily agricultural field with structures developed, which are presumed to be a farmhouse and associated farm buildings. In the 1952 aerial photograph, an additional structure and two radio towers are observed in the present-day location of the radio station and associated radio towers. In the 1972 photograph, additional structures can be observed in vicinity of the presumed farmhouse. The 1981 photograph is the first where a third radio tower can be accurately observed. Additional parking lot area is observed in the 2004 photograph and an additional radio tower can be seen in the 2010 photo. As of the 2010 photo, the general footprint of the site remains the same. In the 2017 photo, a relatively small gravel drive can be observed in the eastern half of the site.

PADEP File Review

Off-Site Act 2 Soil Sampling and Analysis Plan, November 2015 – Ramboll Environ US Corporation
In the files for Miller Chemical & Fertilizer, the Off-Site Act 2 Soil Sampling and Analysis Plan, dated November 2015, contained information pertaining to the Bare Development site. Runoff, carried onto the site from the culvert under the CSX railroad and Metropolitan Edison Company (Met-Ed) substation, infiltrated a small wetland area and traveled overland through the agricultural field. Additionally, the runoff entered "Dry Creek" and travelled parallel to the waterway, where it remained in the agricultural field to the east of the creek. Several trenches and pits were excavated within the adjacent agricultural fields and a 1-million-gallon water holding tank ("pool") was constructed on the Bare Development parcel to increase stormwater runoff holding capacity. Water from the trenches

and pits was pumped to the pool. Based on stormwater monitoring and improved storm water quality, the pool was demobilized and regraded and the trenches and pits were partially filled.

In total, approximately 3 acres was cited as being visibly affected, primarily to the east of the waterway. The sampling plan states that 12 locations in visibly unaffected areas are planned to establish background conditions and that samples will be obtained from within and along the perimeter of the visibly affected area. The plan also states that samples are planned in the area of the emergency one-million gallon "pool" and haul road located on the Bare Development parcel, although they are located outside of the visibly affected area. The plan states that background samples will be collected from 0-3 inches below ground surface (bgs), 6-12 inches bgs, 1-2 feet bgs, and 4-5 feet bgs at three randomly selected background sampling locations. Soils samples within the visibly affected area will consist of one five-point composite from a depth between 0-3 inches bgs. In approximately one-third of the affected area samples, discrete grab samples will be collected from 1-2 feet bgs and 4-5 feet bgs. Samples collected along the perimeter of the affected area will be collected as five-point composite samples from a depth of 0-3 inches bgs. Samples are also proposed within the "Dry Creek" where five-point composite samples will be collected between 0-3 inches bgs. The plan states that the backfilled pits/trenches are proposed to be sampled at the base of the pit/trench and additional samples will be collected every 5 feet bgs.

Notice of Intent to Remediate, April 2016

In April 2016, Miller Chemical & Fertilizer filed a Notice of Intent to Remediate (NIR) the Bare Development agricultural parcel. The NIR stated that as a conservative measure, concentrations of constituents of concern (COCs) would be evaluated with respect to future unrestricted site use; however, no remediation efforts were proposed as site soil were stated to be in attainment of PADEP SHSs, below background concentrations, or are not of concern due to site-specific analysis.

Remedial Investigation and Final Report, January 2017

Approximately 3.1 acres of the Bare Development agricultural parcel was visibly impacted as a result of fire water runoff during the Miller Chemical June 8, 2015 fire emergency response. The visibly impacted area originates from the culvert under the CSX rail tracks from the Met-Ed property and generally runs south to north along the "Dry Creek". As part of the emergency response, two stormwater inceptor trenches, named "Trench A" and "Trench B", were installed on the southeastern agricultural field and along the northern boundary of the Bare Development parcel. Trench A was approximately 70 feet in length and was dug to a depth of approximately 4 feet bgs. Trench B was approximately 80 feet in length and had a depth ranging from 1 to 4 feet bgs. Both were backfilled and regraded in 2015. Additionally, a million-gallon aboveground pool was installed, in which water from the surrounding pits and trenches was pumped into the pool to increase stormwater runoff holding capacity. As part of emergency response, a gravel haul road was constructed along the western side of "Dry Creek". Soils in the vicinity, but not directly underneath the gravel were sampled to evaluate potential impacts. Field observations indicated that depth to shallow groundwater on the property was anticipated to be approximately 5 to 10 feet bgs. Groundwater was encountered at a depth of approximately 5.5 feet bgs at boring BA-DA-02, which is located in the central part of the site. Surface soils and the fire water from the emergency activities on June 8, 2015 were collected and analyzed to determine analytes of potential concern. It was determined that only the following analytes were COCs as a result of the Miller Chemical fire and release: TAL metals (aluminum, antimony, arsenic, barium, beryllium, cadmium, calcium, total chromium, cobalt, copper, iron, lead, magnesium, manganese, mercury, nickel, potassium, selenium, silver, sodium, thallium, vanadium, and zinc) plus molybdenum and boron, Total Kjeldahl nitrogen (TKN), nitrate, nitrite, sulfate, and total phosphorous. Ramboll Environ's review of Miller Chemical & Fertilizer's inventory determined that none of the chemicals and raw materials used or stored contained hexavalent chromium. Therefore,

with approval from PADEP, they tested for total chromium and used the applicable trivalent chromium medium-specific concentrations (MSCs) for analysis.

Analytical results from the soil samples were compared to the following PADEP Statewide Health values: Residential direct contact (0-15 feet), migration from soil-to-groundwater pathways (using the residential used aquifer with total dissolved solids (TDS) less than or equal to 2500 mg/L), and calculated soil-to-groundwater values for nitrate and nitrite (1,000 mg/kg and 100 mg/kg, respectively). Based on analytical testing, only three compounds exceeded applicable MSCs: arsenic, manganese, and cobalt. The highest concentration of arsenic was detected in a background sample (SB3-AGR) collected from the 6 to 12-inch bgs interval, with a measured concentration of 22 mg/kg. The highest concentration observed in a visibly affected area was 20 mg/kg. Ultimately, the 95% Upper Confidence Limit (UCL) on the mean concentration of arsenic in the visibly affected area was less than the residential direct contact value of 12 milligrams/kilogram (mg/kg), indicating the site was in attainment of the PADEP SHSs. Manganese was detected at a maximum concentration of 4,900 mg/kg in background sample SB3-AGR from the 2 to 6 inch bgs interval, which is greater than the residential soil-to-groundwater MSC of 2,000 mg/kg, but less than the residential direct contact value of 10,000 mg/kg. The highest detected concentration in a visibly affected sample was 2,500 mg/kg in sample BA-VA-06 at the 4 to 5 feet bgs interval. Utilizing the 95% UCL on the mean for manganese in the visibly affected area, Ramboll Environ demonstrated that Manganese concentrations were less than the residential soil-to-groundwater value of 2,000 mg/kg; and therefore, met PADEP SHSs. Cobalt was detected at 80 mg/kg in background sample BA-BACK-01 from the 0 to 3 inch bgs interval, which is greater than the residential MSC of 50 mg/kg [sic]. The highest detected cobalt concentration in the visibly affected area was detected at 39 mg/kg from sample BA-VA-19 in the 0 to 3 inch bgs interval. A statistical outlier test was performed by Ramboll Environ to determine that sample BA-BACK-01 was an outlier and since no sampling location within the visibly affected area had a detected exceedance, no further analysis of cobalt was performed by Ramboll Environ. Seven COCs that lack PADEP MSCs were detected at the following maximum concentrations: calcium (62,000 mg/kg), magnesium (23,000 mg/kg), phosphorous (7,170 mg/kg), potassium (4,600 mg/kg), sodium (250 mg/kg), sulfate (350 mg/kg), and TKN (15,400 mg/kg). To evaluate potential risk to human health associated with these COCs, an examination of the Dietary Reference Intake (DRI) value was examined for each respective constituent and examined using the typical residential soil ingestion rate established by PADEP of 100 mg/kg. Based on the analysis, Ramboll Environ concluded that these constituents (calcium, magnesium, phosphorous, potassium, sodium, and sulfate), in the concentrations detected in on-site soils, do not present a human health concern. Due to the lack of established MSCs for these compounds, a Site-Specific Standard was sought for calcium, magnesium, phosphorous, potassium, sodium, and sulfate. COCs associated with the Miller Chemical fire do not include volatile compounds, therefore vapor intrusion is not a pathway of concern on the site.

PADEP approved the remediation efforts on-site for identified COCs and issued Act 2 relief of liability for the visibly affected area soils in a letter dated January 11, 2017. COCs aluminum, antimony, arsenic, barium, beryllium, boron, cadmium, total chromium, cobalt, copper, iron, lead, manganese, mercury, molybdenum, nickel, selenium, silver, thallium, vanadium, zinc, nitrate, and nitrite were approved for attainment of the Act 2 Residential Statewide Health Standard. COCs potassium, phosphorous, sulfate, magnesium, sodium, and calcium were approved by PADEP for attainment of the Act 2 Site-Specific Standard.

Site Reconnaissance

Dawood personnel performed a visual site inspection of the proposed LOD and exterior of the building on the property. No evidence of USTs or ASTs was observed on the property. Monitoring wells are evident as bright yellow standpipes with red reflector posts in various locations, but none

are within the anticipated limit of disturbance associated with the proposed project. No stains, odors, drum storage, evidence of landfilling, or stressed/absent vegetation were observed. No environmental concerns were observed in the proposed project LOD on the property.

Interviews

Tammy Signor, Business Manager – Forever Media

Tammy Signor, a Business Manager for Forever Media, has worked at the site in question since August 1, 2016 and has been with Forever Media since December 1, 2015.

Mrs. Signor stated that the 275 Radio Rd location was previously operated as Radio Hanover and that the property is owned by Bare Development, LP. She indicated that the site may have been a residence prior to operating as a radio station. Mrs. Signor stated that Joan McAnall and Barbara Carbaugh are contacts for Bare Development, LP. Mrs. Signor has no knowledge of any USTs or ASTs on the property and is aware of the Miller Chemical fire but does not have any knowledge of the impacts of the event on the soils and/or groundwater on the property.

Joan McAnall – Bare Development Representative

Ms. McAnall believes her father purchased the property at 275 Radio Road sometime prior to 1950. The original radio station was built on the property around 1956. Ms. McAnall, who grew up in Hanover, returned to the Hanover area as a full-time resident in 1986. No USTs are maintained on the property currently, but one containing fuel oil was removed in 2004. According to Ms. McAnall, confirmatory soil samples were collected, and no evidence of a release was detected. An AST containing fuel oil is still present within the radio station building and is used as the fuel source for a furnace that partially heats the building. A large portion of the building is heated by electric. Public water is utilized at the radio station, but public sewer is not available. Ms. McAnall stated that Bare Development owns the property and that Radio Hanover leases the building and towers from them.

Ms. McAnall was aware of the Miller Chemical fire in 2015 and associated contamination on her property. According to Ms. McAnall, Act 2 clearance was attained for soils in accordance with residential statewide health standards. The clearance covers the following analytes: aluminum, antimony, arsenic, barium, beryllium, boron, cadmium, chromium, cobalt, copper, iron, lead, manganese, mercury, molybdenum, nickel, selenium, silver, thallium, vanadium, zinc, nitrates, nitrites. To her knowledge the soil impacts were limited to the approximately 17-acre parcel that adjoins the railroad with no encroachment onto the parcel that contains the radio station facilities.

Groundwater was also impacted because of the incident according to Ms. McAnall. She stated that nothing hazardous was in the groundwater and it is improving slowly. She was not aware of any Act 2 release of liability associated with onsite groundwater.

Ms. McAnall stated that PCBs may have been formerly associated with the radio station in small quantities, but none were present in 2016 at the time the radio station was sold. She is not aware of any issues on the property with PCBs.

Site 10. Miller Chemical & Fertilizer Corp – 120, 150, and 170 Radio Road

According to the Miller Chemical and Fertilizer, LLC website, the company provides specialty agricultural chemical products to improve crop yields and quality. The website lists the company's headquarters and manufacturing facilities locations in Hanover, PA. According to the Adams County Tax Parcel Viewer, the property located at 120 Radio Road is deeded at 13.23 acres and includes one commercial building with parking areas.

Environmental Database Review

The site is identified in the EDR Corridor Report as Miller Chemical, Miller Chemical & Fe, and Miller Chem and Fertilizer. The site is listed in the following databases per the EDR Corridor Report: Superfund Enterprise Management System (SEMS), Potentially Responsible Parties (PRP), PA AST Registry, Section Seven Tracking System (SSTS), Facility Index System (FINDS), PA Archive AST, PA VCP, Integrated Compliance Information System (ICIS), Enforcement and Compliance History Online (ECHO), PA VCP, RCRA NonGen, and PA National Pollutant Discharge Elimination System (NPDES).

According to the PA AST Database, eight aboveground storage tanks are currently in use on the property. The eight ASTs include: one 6,700 gallon containing nonpetroleum oil (NPOIL), one 5,600-gallon AST containing an unspecified substance (other), one 6,700-gallon AST containing an unspecified substance (other), one 13,000-gallon AST containing a hazardous substance mixed with petroleum, and four 13,000-gallon ASTs containing NPOIL. This information is consistent with PADEP's online Active Storage Tank Database. The facility is also identified on the ARCHIVE AST database for several exempt and closed AST registrations.

The site is identified in the SSTS, which tracks the registration of all pesticide-producing establishments and tracks annually the types and amounts of pesticides, active ingredients, and related devices that are produced, sold, or distributed each year. Miller Chemical and Fertilizer is listed for several products pertaining to insect sprays and end-use blend, formulation, or concentrate.

Miller Chemical is identified on the SEMS database in the EDR Corridor Report. SEMS tracks hazardous waste sites, potentially hazardous waste sites, and remedial activities performed in support of EPA's Superfund Program. The site is identified as a Superfund Non-National Priorities List (Non-NPL) site according to the EDR Report. This information is supported by the EPA's Envirofacts online database.

The EDR Corridor Report identifies the Miller Chemical & Fertilizer LLC Fire (120, 150, and 170 Radio Road) in the Voluntary Cleanup Program. The EDR Corridor Report identifies an inorganics and lead release to soil. Inorganics were remediated to the Statewide Health Standard, Background Standard, and Site-Specific Standard. Lead was remediated to the Statewide Health Standard. The approval date is listed as 10/25/2017 for each release.

The site is identified in the EDR Corridor Report as a hazardous waste handler. Applicable waste codes pertaining to the hazardous waste handler classification include: D001 (Ignitable Hazardous Waste), D004 (Arsenic), D007 (Chromium), D010 (Selenium), D012 (Endrin), D013 (Lindane), D014 (Methoxychlor), and D015 (Toxaphene). The site is identified as a small quantity generator for the following substances: D001 (Ignitable Hazardous Waste), D004 (Arsenic), D007 (Chromium), D010 (Selenium), D012 (Endrin), D013 (Lindane), D014 (Methoxychlor), D015 (Toxaphene), and P044 (Dimethoate). No non-compliance events are noted within the report.

Aerial Photograph Review

The 1938 photograph shows the site in use as an agricultural field. Development on the site can first be observed in the 1952 aerial photograph. Additional development can be observed in the 1959 photographs. An additional structure, in the location of the present-day office building, can be observed on the 1971 photograph. Between the 1981 and 1992-93 photos, a structure is removed from the site, and then the general footprint of the site resembles that observed on present-day aerial imagery.

PADEP File Review

Off-Site Act 2 Soil Sampling and Analysis Plan, November 2015

The Off-Site Soil Sampling and Analysis Plan was prepared by Ramboll Environ to document the approach to characterizing soil quality on the off-site properties affected by the fire water flow on June 8 from the emergency efforts related to the Miller Chemical fire and subsequent stormwater flow; to establish background soil conditions at each affected parcel; and to document soil and sediment sampling procedures. The Miller Chemical & Fertilizer fire occurred at approximately 3:30 am on June 8, 2015. Firefighters applied a large volume of water to extinguish the fire and a heavy rainfall occurred during the fire. Surface runoff during and after these efforts was discharged across multiple parcels and ultimately into Slagle's Run, a creek that conveys surface water to South Branch Conewago Creek. Following the fire, fire water and stormwater runoff generated at the Miller Chemical site was pumped into aboveground storage containers located on-site. Additionally, several trenches and pits were excavated within the adjacent agricultural fields and a 1-million-gallon water holding tank (the "pool") was constructed on the Bare Development parcel to increase stormwater runoff holding capacity. Water from the trenches and pits was pumped to the pool. Based on stormwater monitoring and improved storm water quality, the pool was demobilized and regraded and the trenches and pits were partially filled. Scraping of visibly-affected soil on the Miller Chemical property, the cleanout of subsurface vaults at the Met-Ed substation, and the cleanout of the culvert beneath the CSX rail tracks was conducted. Based on soil and sediment evaluations, the affected properties include: the Met-Ed substation, the Bare Development agricultural parcel, the Lois Whisler agricultural parcel, the Family First Health Corporation commercial property, and the Vulcan Lands wooded parcel.

Act 2 Groundwater Sampling and Analysis Plan, May 2016

Groundwater monitoring wells were proposed on and downgradient of the Miller Chemical site to determine the shallow groundwater flow and groundwater quality. Monitoring wells were proposed based on estimated shallow groundwater flow direction, locations observed with the highest concentrations of fertilizer constituents in soils, locations of pits/trenches excavated as part of the fire response, utility locations, and access constraints. Monitoring wells were also proposed to determine background conditions due to surrounding agricultural land use. On June 15, 2015, Ramboll Environ collected a soil surface sample from a heavily impacted drainage ditch along the northern boundary of Miller Chemical and submitted for analytical testing. Results for the soil sample included a measured concentration of 1.2 mg/kg for methoxychlor (an organochlorine pesticide). This observed concentration is below the Statewide Health Standards of 630 mg/kg for protection of groundwater and 1100 mg/kg for direct contact at residential properties. Methoxychlor was not observed in subsequent, additional soil characterization at the Miller Chemical site. Based on the results for analyses of on-site soil and fire water, the following analytes were retained as potential constituents of concern: TAL metals (aluminum, antimony, arsenic, barium, beryllium, cadmium, calcium, total chromium, cobalt, copper, iron, lead, manganese, mercury, nickel, potassium, selenium, silver, sodium, thallium, vanadium, and zinc) plus molybdenum and boron, nitrogen compounds, sulfate, and total phosphorous.

Receipt of Notice of Intent to Remediate, June 2017

PADEP acknowledges receipt of Miller Chemical & Fertilizer's Notice of Intent to Remediate (NIR) on June 16, 2017. No remediation efforts were proposed at the Miller Chemical property because concentrations of COCs in site soil were observed to be below the Pennsylvania Statewide Health Standard for non-residential site use, the Background Standard, or the Site-Specific Standard. Manganese met the Background Standard for the Miller Chemical site. The following COCs met the Statewide Health Standard for non-residential site use: aluminum, antimony, arsenic, barium, beryllium, boron, cadmium, chromium, cobalt, copper, iron, lead, mercury, molybdenum, nickel, nitrate, nitrite, selenium, silver, thallium, vanadium, and zinc. The following COCs were determined to

be below an established Site-Specific Standard: calcium, magnesium, phosphorous, potassium, sodium, sulfate.

Remedial Investigation and Final Report, July 2017/ revised October 2017

Miller Chemical & Fertilizer originally submitted the Remedial Investigation and Final Report in July 2017 and revised and submitted the report to PADEP in October 2017. The report states that during emergency response, an on-site pit (approximately 18 to 20 feet in depth) was excavated in the northwestern portion of the site. Soil from the pit was stockpiled on-site and later used as backfill. In July through October 2015, visibly-affected surface soils were excavated from the Miller Chemical site and disposed of off-site. Based on observed impacts, approximately three to twelve inches of soil was excavated from most of the affected portion of the site. In total, approximately 13,000 cubic yards of soil were excavated and disposed of off-site at Modern Landfill. An additional 450 tons of soil were excavated in May 2016 for construction of a new on-site stormwater retention pond and disposed of at Modern Landfill. On-site soil characterization was conducted in December 2016 to determine the nature and extent of on-site soils impacted by fire response activities. Direct push drilling was utilized to advance borings up to 18' bgs except at five sampling locations (DA-06, DA-13, DA-18, DA-19, and DA-20). Direct push sampling was not possible at these locations due to utility line restrictions; therefore, hand auger samples were collected from the 0-2' bgs and 4-6' bgs intervals. In total, soil samples were collected from twelve background sample locations and twenty-two disturbed area locations. At all locations, soil samples were collected from between 0-2' bgs, 4-6' bgs, and from the interval 2-feet above groundwater or refusal, whichever was encountered first. Saturated soils were encountered at the time of drilling at depths between 10.5 feet bgs to 18 feet bgs at several background and disturbed area sampling locations.

Detected concentration of COCs were compared with the following values to characterize the nature and extent of potential soil contamination: the value for non-residential direct contact (0-15 feet) and the soil-to-groundwater value for a non-residential used aquifer with TDS \leq 2,500 mg/L.

Nitrate and nitrite were not detected at concentrations that exceed the non-residential MSC; TKN, which does not have established SHS values, was detected at a maximum concentration of 3,340 mg/kg. Arsenic and manganese were the only COCs detected above applicable MSCs. In two samples, arsenic was detected at concentrations exceeding the Non-Residential Direct Contact value (0-2 feet) of 61 mg/kg and in three samples was detected at concentrations greater than the Soil-to-Groundwater value of 29 mg/kg. No detected arsenic concentrations exceeded the Non-Residential Direct Contact value (2-15 feet) of 190,000 mg/kg. Arsenic was determined to meet the Non-Residential Direct Contact Statewide Health Standard (SHS) for the site between 0-2 feet bgs since the 95% UCL value for the samples was 30.1 mg/kg. The 95% UCL value for all soil samples is 16 mg/kg of arsenic, which is below the Soil-to-Groundwater value of 29 mg/kg; therefore, arsenic concentrations in the soil at Miller Chemical are in attainment of Act 2 standards. Manganese was detected in concentrations greater than the Soil-to-Groundwater value of 2,000 mg/kg but was detected in concentrations lower than the Non-Residential Direct Contact value (0-2 feet) of 150,000 mg/kg and the Non-Residential Direct Contact value (2-15 feet) of 190,000 mg/kg. The highest concentration of manganese was observed in a background sample; therefore, since all samples in which manganese was detected in disturbed area soils is less than the maximum detected in the background sample, soils are in attainment of the Act 2 Background Standard for the site. Six COCs that lack PADEP MSCs were detected at the following maximum concentrations: calcium (120,000 mg/kg), magnesium (31,000 mg/kg), phosphorous (9,250 mg/kg), potassium (2,900 mg/kg), sodium (920 mg/kg), and sulfate (1,200 mg/kg). To evaluate potential risk to human health associated with these COCs, an examination of the Dietary Reference Intake (DRI) value was examined for each respective constituent and examined using the typical non-residential soil ingestion rate established by PADEP of 50 mg/kg. Based on the analysis, Ramboll Environ concluded that these constituents,

in the concentrations detected in on-site soils, do not present a human health concern. Due to the lack of established MSCs for these compounds, a Site-Specific Standard was sought for calcium, magnesium, phosphorous, potassium, sodium, and sulfate. Monitoring of stormwater runoff and surface water after the emergency response has identified no concern for the site or downgradient sites as of October 2015. COCs associated with the Miller Chemical fire do not include volatile compounds, therefore vapor intrusion was not considered a pathway of concern on the site. Mercury concentrations up to 0.37 mg/kg were observed; however, the low levels observed were not considered significant for the vapor intrusion pathway.

PADEP approved the remediation efforts on-site for identified COCs and issued Act 2 relief of liability for the visibly affected area soils in a letter dated October 25, 2017. According to the PADEP approval letter, the project attained the nonresidential statewide health standard for aluminum, antimony, arsenic, barium, beryllium, boron, cadmium, chromium, cobalt, copper, iron, lead, mercury, molybdenum, nickel, selenium, silver, thallium, vanadium, zinc, nitrate, and nitrite. COCs potassium, phosphorous, sulfate, magnesium, sodium, and calcium were approved by PADEP for attainment of the Act 2 Site-Specific Standard. Manganese was approved by PADEP for attainment of the Act 2 Background Standard. Ramboll Environ's review of Miller Chemical & Fertilizer's inventory determined that none of the chemicals and raw materials used or stored contained hexavalent chromium. Therefore, with approval from PADEP, they tested for total chromium and used the applicable trivalent chromium MSCs for analysis.

Site Reconnaissance

Dawood personnel performed a visual site inspection of the 120 Radio Road property from Radio Road. Access to the site and associated buildings was not permitted. The building and associated development was observed to be new and no evidence of the 2015 fire was observed. No staining, odors, drum storage, stressed/absent vegetation, or evidence of landfilling were observed. One stormwater facility was observed at the front of the property, which was observed carrying surface water to an unnamed tributary of South Branch Conewago Creek.

Interviews

Tony Hartlaub, VP of Finance (20 years with company) – Miller Chemical

Andy Smith, VP of Marketing (31 years with company) – Miller Chemical

Mr. Smith and Mr. Hartlaub discussed that Miller Chemical blends materials to produce fertilizers for the agricultural industry. No USTs are maintained on site; however, 9 ASTs, each holding 13,000 gallons, and 3 chambered ASTs holding 21,000 gallons each (7,000 gallons per chamber) are located on the property. Mr. Hartlaub and Mr. Smith stated that the tanks hold petroleum derivatives and mineral oil in addition to other compounds. Specific compounds were not stated. The June 8, 2015 fire was discussed. It was stated that millions of gallons of water were released to fight the fire by the fire department. Ground conditions were saturated due to a rain event and water released by the fire department was carried across Radio Road, through the substation parcel and into Slagles Run, Conewago Creek, and ultimately the Susquehanna River. The ground was stained black and vegetation burnt out through the flood path. It was stated that a fish kill was also observed. Mr. Hartlaub stated that the following properties were impacted as a result of the fire: Bare Development, LP, CSX Railroad, Met-Ed, Vulcan, Whisler, Family First, and Trone Rental. According to Mr. Hartlaub, the soils on these sites were remediated and received a Release of Liability (ROL) through the ACT 2 program. Soils were remediated to one of three standards: Statewide Health Standard, Site Specific Standard, or Background standard. According to Mr. Hartlaub, lead values on the Whisler and Vulcan properties were already "high" prior to the fire and subsequent flooding related to fire suppression activities. Remedial actions included installation of 15 monitoring wells across the Miller, Bare Development, LP, and Whisler properties. Fertilizer constituents were recorded in the shallow groundwater table (approximately

5' to 18', according to Mr. Hartlaub) across these properties. Mr. Hartlaub shared the following information pertaining to the monitoring wells on the Bare Development, LP property: MW-6 and MW-9 have elevated cobalt and manganese levels and MW-8 has elevated cobalt levels. Mr. Hartlaub indicated that restrictive use covenants are likely for the Miller Chemical, Bare Development, LP, and Whisler properties. The Miller Chemical property will likely be restricted to non-residential use and water wells will not be permitted. The Bare Development, LP and Whisler properties will also likely be restricted from using groundwater. Mr. Hartlaub stated that 9th quarter sampling of the groundwater was done in Fall 2018 and results are expected soon.

Mr. James Rea, PG (Case Officer) – PADEP

Mr. James Rea is a Professional Geologist (PG) with the Pennsylvania Department of Environmental Protection (PADEP). He is the listed case officer for the site characterization and remediation efforts associated with the Miller Chemical fire on June 8, 2015. These efforts included the Miller Chemical, Met-Ed, Bare Development LP, Whisler, Vulcan Technologies, and Family First & 2 Trone Rental Properties sites.

Mr. Rea stated that groundwater sampling is still on-going, and that Ramboll Environ US Corporation is examining the entirety of groundwater impacts from the release associated with the June 8, 2015 fire and emergency response as opposed to breaking down the characterization and remediation efforts per impacted site. No final report has been submitted to PADEP; however, informal table and figures have been submitted to Mr. Rea via email. He noted that this information would not yet be available for informal review. Mr. Rea stated that monitoring currently shows groundwater flow from the southeast to the northwest, which remains consistent through the impacted area and that depths to groundwater were observed between 3.5' and 17.5' below ground surface during the February 2018 monitoring event. He noted that most contaminants that are being observed are metals/fertilizer constituents, as would be expected per the release. Mr. Rea stated that based on the soil characterization reports, the impacted sites had attained Act 2 relief of liability and that he would not expect any potential concerns in regard to the on-site soils, other than those discussed with the soil characterization "final reports." Mr. Rea suggested contacting Ramboll Environ for additional groundwater information due to the confidential nature of submitted materials.

Site 11. Metropolitan Edison CO - 135 Radio Road

The site is currently occupied by Metropolitan Edison Co. An electric substation with multiple powerlines and supporting power infrastructure are present on the site. According to the Adams County Tax Parcel Viewer, the property located at 135 Radio Road is deeded at 12.93 acres. Based on review of aerial photos, development at this location dates prior to 1938.

Environmental Database Review

The site is identified in the EDR Corridor Report as Metro Edison Co North Hanover Substation – Soil Cont, with a listed address of Radio Rd West of High Street. The site is listed on the PA VCP: Voluntary Cleanup Program Listing. Information provided in the EDR Report identifies the category for the VCP as Inorganics. Remediation was completed to a Statewide Health Standard for the inorganics. The approval date is listed as 12/01/2016.

A review of PADEP's online environmental database, eMapPA, identified one Land Recycling Cleanup Location for Soil Media at the site under the name "First Energy Corp." The Sub Facility Name is listed as Metro Edison Co North Hanover Substation – Soil. The current site status is listed as "reclamation completed." Additional information provided on eMapPA indicates that the site is in compliance.

No records for the site were observed in the following PADEP online environmental databases: AUL Registry, Tank Cleanup Incidents List, Active Storage Tank List, or Inactive Storage Tank List.

Aerial Photograph Review

Development in the location of the present-day substation can be observed in the 1938 aerial photograph. Additional development, consistent with the present-day substation footprint can be observed in the subsequent available photographs. Additional development can be observed until the 2010 aerial photograph, which is consistent with the general site footprint observed on modern-day aerial imagery.

PADEP File Review

A file review request was submitted to the PADEP Southcentral Regional Office for the 135 Radio Road, Hanover, PA 17331 address; however, no files were available to review.

Off-Site Act 2 Soil Sampling and Analysis Plan, November 2015 (Miller Chemical PADEP files)

In the files for Miller Chemical & Fertilizer, the Off-Site Act 2 Soil Sampling and Analysis Plan, dated November 2015, contained information pertaining to the Met-Ed site. During firefighting activities on June 8, 2015, fire water flowed from the drain ditch on the south side of Radio Road and onto the Met-Ed property. Approximately, 56,000 square feet of area on the Met-Ed site were visibly affected by runoff of fertilizer chemicals and firefighting water. Due to site restrictions (grounding grid) the soil sampling plan indicates samples will only be taken from the upper 2 inches of soils throughout the property. The sampling plan states that 21 soil samples are planned from within and around the visibly affected area and an additional 12 background samples are to be collected from locations throughout the remainder of the property. The Plan states samples consist of one five-point composite sample between 0-2 inches bgs.

Notice of Intent to Remediate, April 2016

Ramboll Environ, on behalf of Miller Chemical, filed a Notice of Intent to Remediate for the Met-Ed site in April 2016. The filed form states that remediation of the site will be to levels consistent with future non-residential use.

Final Report, December 2016

Emergency firefighting efforts in response to the Miller Chemical & Fertilizer warehouse fire on June 8, 2015 resulted in the mobilization of fertilizer constituents onto and across the Met-Ed site via surface runoff. Approximately 1.4 acres in the southwest corner of the Met-Ed site were observed to be visibly affected. Boron, calcium, magnesium, and vanadium were not included on the analyte list at the time of the September 2015 sampling; therefore, they were not analyzed for the samples collected on the Met-Ed site. After a preliminary analysis of affected soil and the "fire water" and a chemical inventory review, the following analytes were considered potential COCs: TAL metals (aluminum, antimony, arsenic, barium, beryllium, cadmium, total chromium, cobalt, copper, iron, lead, manganese, mercury, nickel, potassium, selenium, silver, sodium, thallium, and zinc) plus molybdenum, TKN, nitrate, nitrite, sulfate, and total phosphorous. Analysis of the soil samples collected detected manganese at a concentration equal to the soil-to-groundwater value of 2,000 mg/kg (for residential used aquifer with TDS \leq 2,500 mg/L). As part of the response to the June 8, 2015 fire, certain restoration activities were performed which included clean-out of electrical conduit vaults and placement of gravel and sod in impacted areas. The rinse water from the conduit vault clean-out was captured, transferred to 275-gallon totes, and disposed of off-site after characterization. In a small area north of the power distribution bus, a geotextile fabric was placed on top of the impacted area and covered with clean #2B stone. Areas north of the distribution bus, which were covered in grass prior to the fire, received additional topsoil and were subsequently covered in

sod. Detected concentration of COCs were compared with the following values to characterize the nature and extent of potential soil contamination: the value for non-residential direct contact (0-2 feet) and the soil-to-groundwater value for a residential used aquifer with TDS \leq 2,500 mg/L. Nitrate and nitrite were not detected in soil at concentrations that exceed non-residential MSC; however, TKN, which does not have established SHS values, was detected at a maximum concentration of 6580 mg/kg. Arsenic was detected at a concentration of 100 mg/kg in sample MET-BASE-08, which exceeds both the non-residential direct contact value (0-2 feet) of 53 mg/kg and the soil-to-groundwater value of 29 mg/kg. Ramboll Environ calculated the 95% UCL on the mean arsenic concentration for the impacted area and determined that the site attained the Act 2 Statewide Health Standard, with the assumption that the parcel will remain in use for non-residential purposes; therefore, Ramboll Environ concluded no further remediation was necessary. As volatile organic compounds (VOCs) were not considered COCs of the June 8, 2015 release, vapor intrusion was not considered a pathway of concern for the Met-Ed site.

PADEP reviewed and concurred with the Final Report and provided Relief of Liability associated with the COCs analyzed for the Met-Ed site in a memo dated November 20, 2016 and letter dated December 1, 2016. PADEP concluded that the site attained the non-residential Statewide Health Standard for inorganics in soils. Ramboll Environ's review of Miller Chemical & Fertilizer's inventory determined that none of the chemicals and raw materials used or stored contained hexavalent chromium. Therefore, with approval from PADEP, they tested for total chromium and used the applicable trivalent chromium MSCs for analysis.

Site Reconnaissance

Dawood personnel performed a visual inspection of the project area within the parcel. No evidence of USTs or ASTs was observed within the current project area. No staining, odors, drum storage, stressed/absent vegetation, or evidence of landfilling were observed. Access to the interior of the facility (inside the perimeter fencing) was not afforded.

Interviews

Mallory C. Shilling, Project Manager, Environmental Remediation – FirstEnergy

Ms. Shillington responded to Dawood's inquiry regarding environmental issues and site history via email. Ms. Shillington offered the following commentary:

I was notified that you requested information regarding environmental clean-up/releases on the North Hanover Substation property.

As you pointed out in your request the Substation has undergone soil characterization and sampling as result of the Miller Chemical property south of the substation.

Pertinent Details are as follows:

- Miller Chemical facility caught fire in 2015. Water use to mitigate the fire impacted surrounding properties.
- The area affected by the Miller Chemical incident was limited to the south and southwest portions of the North Hanover Substation.
- Approximately 16 soil samples were collected in the visibly affected area and were analyzed for inorganic metal compounds.
- A final report was submitted to PADEP in May 2016 which requested relief of liability for soil contamination under the PADEP Act 2 Statewide Health Standard.
- Act 2 relief of liability for soil contamination was granted for the property on December 1, 2016

Efforts for obtaining Act 2 Relief Liability for groundwater are currently being conducted by Miller Chemical.

A follow-up email was sent to Ms. Shillington inquiring about PCB usage at the site, but additional commentary was never provided after multiple attempts to establish contact.

Site 12. CSX Hanover Subdivision Line

The CSX railway has a comment of “Western Maryland Railway” on Adams County Parcel Viewer and lacks any additional detail. The Western Maryland Railway was an American Class I railroad that primarily was a coal hauling and freight railroad with a small passenger train operation. The railway was ultimately acquired in 1983 by Baltimore & Ohio Railroad, which later became CSX Transportation after a merger with Chesapeake and Ohio Railroad.

Environmental Database Review

The site is not identified in the EDR Corridor Report.

The site was not identified in the following PADEP online environmental databases: eMapPA, eFacts, AUL Registry, Active Storage Tank List, or Inactive Storage Tank List.

Aerial Photograph Review

The 1952 aerial photograph is the first available year where the site can be accurately defined as a railway, with no discernable changes in subsequent available photographs. A train can be seen utilizing the tracks in the 2017 aerial imagery.

PADEP File Review

A file review request was submitted to the PADEP Southcentral Regional Office for CSX Railroad Hanover Subdivision Line; however, no files were available to review. The CSX railway was discussed in several reports

Off-Site Act 2 Soil Sampling and Analysis Plan, November 2015 (Miller Chemical PADEP files)

A corrugated drainage pipe carries water from the Miller Chemical site, underneath Radio Road and across the southwest corner of the Met-Ed property, where it is then carried underneath the CSX tracks by a culvert. The culvert underneath the CSX tracks was reported to be cleaned out prior to submittal of the Act 2 Sampling Plan in November 2015.

Response to Comments, October 2016 (Bare Development PADEP Files)

In the Remedial Investigation and Final Report Response to Comments submitted to PADEP in October 2016 by Ramboll Environ, the response to “Comment No. 3” in section “Email Comments (August 22, 2016)” states that CSX indicated to Miller Chemical that the railway company was not seeking Relief of Liability in relation to the fertilizer release at the time of the report.

Final Report, December 2016 (Met-Ed PADEP files)

In the Final Report, dated December 2016, submitted to and approved by PADEP, it is stated that soils observed to be visually impacted along the discharge end of the culvert were scraped and removed (approximately 2.82 tons of soil) and then disposed of as non-hazardous waste after lab analysis of the soils.

Site Reconnaissance

Dawood personnel performed a visual inspection of the rail line in the area to be crossed by the current preferred route. No staining, odors, drum storage, or evidence of landfilling were observed. The tracks and ballast appeared to be well maintained and clear of vegetation.

Interviews

Attempts to reach individuals knowledgeable of the on-site conditions were unsuccessful.

Site 13. Lois E. Whisler Property - 539 Oxford Avenue

According to the Adams County Tax Parcel Viewer, the property located at 539 Oxford Avenue is deeded at 101.56 acres. The parcel appears to be primarily used for agricultural production. One residence is observed near the western portion of the property.

Environmental Database Review

The site is identified in the EDR Corridor Report as “Lois E Whisler Prop – Miller Chem Co Fire” under the Voluntary Cleanup Program. Additional information provided in the report identifies lead and inorganics contamination which impacted soil. The site was remediated to a Statewide Health Standard, Background Standard, and Site-Specific Standard with an approval date of 05/23/2017. The site is also identified on PADEP’s eMapPA database and supports the information identified in the EDR Corridor Report.

No records for Lois E. Whisler or the 539 Oxford Avenue address were observed in the following PADEP online environmental databases: AUL Registry, Tank Cleanup Incidents List, Active Storage Tank List, or Inactive Storage Tank List; or the EPA Envirofacts database.

Aerial Photograph Review

In the 1938 aerial photograph, the site is observed as an agricultural field with a farmhouse in the location of the present-day structure. No discernable changes can be observed on the subsequent available photographs.

PADEP File Review

Off-Site Act 2 Soil Sampling and Analysis Plan, November 2015

In the files for Miller Chemical & Fertilizer, the Off-Site Act 2 Soil Sampling and Analysis Plan, dated November 2015, contained information pertaining to the Lois E. Whisler site. The plan states that approximately 4 acres of the site was affected by runoff of the firefighting water, mainly in and around the “Dry Creek” that enters from the Bare Development parcel. Additionally, a small area parallel to the northern property boundary, where ground surface begins to level off near the convergence with Slagle’s Run was deemed visibly affected. Twelve background samples, samples within and along the perimeter of the visibly affected areas, and samples along “Dry Creek” are proposed in the plan. The plan states that background samples will be collected from 0-3 inches below ground surface (bgs), 6-12 inches bgs, 1-2 feet bgs, and 4-5 feet bgs at three randomly selected background sampling locations. Soils samples within the visibly affected area will consist of one five-point composite from a depth between 0-3 inches bgs. In approximately one-third of the affected area samples, discrete grab samples will be collected from 1-2 feet bgs and 4-5 feet bgs. Samples collected along the perimeter of the affected area will be collected as five-point composite samples from a depth of 0-3 inches bgs. Samples are also proposed within the “Dry Creek” where five-point composite samples will be collected between 0-3 inches bgs.

Notice of Intent to Remediate/Receipt of Notice of Intent to Remediate, April 2016

Ramboll Environ, on behalf of Miller Chemical & Fertilizer, filed a Notice of Intent to Remediate for the Lois E. Whisler property in April 2016. The NIR states that concentrations of COCs from the Miller Chemical fire were evaluated with respect to unrestricted site use and that no remediation measures are proposed at the site since measured concentrations of COCs in site soil were either below Statewide Health Standards for unrestricted site use or are not of concern based on site-specific analysis for those COCs without Statewide Health Standards.

Remedial Investigation and Final Report, February 2017/revised May 2017

Runoff of firefighting water from the Miller Chemical site emergency response on June 8, 2015 was approximated to have visibly affected 4.7 acres of the Whisler property. As part of the emergency response, several stormwater trenches were installed. This work included excavation of a trench across the southern boundary of the Whisler property (named "Trench B") to facility flow within the "Dry Creek". Trench B was approximately 80 feet in length and excavated to a depth of one to four feet bgs. Additionally, another trench, "Trench C", was excavated along the western central area of the Whisler property and was approximately 490 feet in length with a depth between one to four feet bgs. A third trench, named "Horseshoe Trench", was excavated along both sides of and cutting across the "Dry Creek" to collect storm water flowing across the visibly affected areas and to contain overflow from the off-site pit. The Horseshoe Trench was approximately 750 feet in length and had a depth of approximately 4 feet bgs. These excavations were backfilled in 2015. Several pits were also excavated during the emergency response. One pit was dug along the flow path of the "Dry Creek," named the "Offsite Pit", and was approximately 220 feet in length with a variable width up to approximately 60 feet at the widest and depths up to 16 feet bgs. A second pit was excavated on the eastern side of the "Dry Creek", named the "Former Overflow Pit," and was approximately 100 feet in length, approximately 50 feet in width, and no greater than 5 feet bgs. Both pits were backfilled in 2015. Background samples were collected as outlined above in the November 2015 Sampling and Analysis Plan (SAP), except that only two locations (WH-BACK-02 and WH-BACK-10) had soil samples collected between 4 to 5 feet bgs, while one location (WH-BACK-07) had one soil sample collected between a depth of 3.2 to 4.2 feet bgs. Samples within and along the boundary of the visibly affected area and within "Dry Creek" were collected as described above in the November 2015 SAP section. Additionally, samples were obtained from the three trenches and pits dug as part of the emergency response. Five-point composite samples were collected at a depth of 0-3 inches bgs at each disturbed area. Soil samples were also collected from the base of these features and every 5 feet below the base of these features to the water table or to refusal, whichever was encountered first. To further evaluate nutrients for which no SHSs have been established, composite samples were collected for analysis by the Penn State Agricultural Analytical Services Laboratory (PSAASL). As part of an analysis of firefighting water and soils immediately following the Miller Chemical fire, the following analytes were retained as potential COCs: TAL metals (aluminum, antimony, arsenic, barium, beryllium, cadmium, calcium, total chromium, cobalt, copper, iron, lead, manganese, mercury, nickel, potassium, selenium, silver, sodium, thallium, vanadium, and zinc) plus molybdenum and boron, TKN, nitrate, nitrite, sulfate, and total phosphorous. Saturated soils were encountered at the time of drilling at depths between 4.2 feet and 6.5 feet bgs at several disturbed area sample locations and one background sample location. The report also indicated a field observation of potential seepage of shallow perched groundwater into the off-site pit at a depth of approximately 5 to 6 feet bgs.

Analytical results from the soil samples were compared to the following PADEP Statewide Health values: Residential direct contact (0-15 feet), migration from soil-to-groundwater pathways (using the residential used aquifer with TDS less than or equal to 2500 mg/L), and calculated soil-to-groundwater values for nitrate and nitrite (1,000 mg/kg and 100 mg/kg, respectively). The maximum detected concentration in soil were observed below applicable MSCs with the exception of arsenic, manganese, and vanadium. Arsenic was detected at concentrations exceeding the residential direct contact value of 12 mg/kg but less than the soil-to-groundwater value of 29 mg/kg, with the highest detected concentration of 22 mg/kg in sample WH-VA-12, collected from the one to two feet bgs interval. The 95% UCL on the mean was calculated for the concentration of all samples within and on the perimeter of the visibly affected area. The 95% UCL on the mean for arsenic using visibly affected samples was 9.2 mg/kg and for all visibly affected samples, boundary samples, and disturbed area samples was 8.6 mg/kg, both of which are less than the residential MSC of 12 mg/kg for direct contact, inhalation, and ingestion of soil. As an additional sensitivity analysis, the 95% UCL

on the mean for arsenic was calculated using grab samples from the visibly affected area and using only composite soil samples from the visibly affected area. The calculated UCLs on the mean for the grab samples was 11.0 mg/kg and for the composite samples was 8.4 mg/kg, both of which are less than the residential direct contact value of 12.0 mg/kg. Therefore, arsenic was considered to meet the PADEP Statewide Health Standard. Manganese was detected at a maximum concentration of 3,100 mg/kg in boundary sample WH-BS-03 in the zero to three inches bgs interval and at a concentration of 2,700 mg/kg in visibly affected sample WH-VA-32 in the 4 to 5 feet bgs interval, both of which are less than the direct contact value, but greater than the residential MSC for soil-to-groundwater (2,000 mg/kg). Manganese was identified in background soil samples at concentrations up to 2,500 mg/kg. The 95% UCL was calculated for the mean concentration of all samples within and on the perimeter of the visibly affected area. The 95% UCL on the mean for manganese using visibly affected samples was 1,186 mg/kg and for all visibly affected samples, boundary samples, and disturbed area samples is 1,128 mg/kg, both of which are less than the residential MSC of 2,000 mg/kg for soil-to-groundwater migration. As an additional sensitivity analysis, the 95% UCL on the mean for manganese was calculated using grab samples from the visibly affected area and using only composite soil samples from the visibly affected area. The calculated UCLs on the mean for the grab samples was 1,019 mg/kg and for the composite samples was 1,089 mg/kg, both of which are less than the residential MSC soil-to-groundwater migration value of 2,000 mg/kg. Therefore, manganese was considered to meet the PADEP Statewide Health Standard. Vanadium was detected at concentrations greater than the residential direct contact value of 15 mg/kg in 177 of 184 samples, with a maximum detected concentration of 68 mg/kg in sample WH-VA-12 from the 1 to 2 feet bgs interval. The greatest detected concentration of vanadium in background samples was 55 mg/kg in sample WH-BACK-04 at the 1 to 2 feet bgs interval. The soil samples analyzed by PSAASL did not detect adverse concentrations of analytes, meaning agricultural production should not be inhibited. Sample concentrations from visibly affected and background locations were compared utilizing the Wilcoxon Rank Sum test and Quantile test, ultimately showing that vanadium concentrations in the visibly affected area are not greater than background concentrations. Therefore, vanadium concentrations in soil within the visibly affected area at the Whisler property were concluded to be in attainment of the Act 2 Background Standard. Analysis of soil samples also identified analytes without established MSCs at the following maximum concentrations: calcium (310,000 mg/kg), magnesium (20,000 mg/kg), phosphorous (2,340 mg/kg), potassium (8,500 mg/kg), sodium (250 mg/kg), sulfate (63.3 mg/kg), and TKN (6,710 mg/kg). To evaluate potential risk associated with ingestion of soil in the absence of established MSCs, Ramboll Environ compared ingestion of these COCs from soil in the visibly affected area to the respective DRI value for each constituent, assuming PADEP's standard residential soil ingestion rate of 100 mg/day. Ramboll Environ concluded that soil concentrations of calcium, magnesium, phosphorous, potassium, sodium, and sulfate at the Whisler property do not present a human health concern based on DRI values for each constituent. Due to the lack of established MSCs for these compounds, a Site-Specific Standard was sought for calcium, magnesium, phosphorous, potassium, sodium, and sulfate. As volatile compounds were not considered COCs as a result of the fire and fire response, vapor intrusion was not considered a pathway of concern on the Whisler property. Mercury concentrations up to 0.13 mg/kg were observed; however, the low levels observed were not considered significant for the vapor intrusion pathway.

PADEP approved the remediation efforts on-site for identified COCs and issued Act 2 relief of liability for the visibly affected area in a letter dated May 23, 2017. COCs aluminum, antimony, arsenic, barium, beryllium, boron, cadmium, chromium, cobalt, copper, iron, lead, manganese, mercury, molybdenum, nickel, selenium, silver, thallium, zinc, nitrate, and nitrate were approved for attainment of the Act 2 Residential Statewide Health Standard. COCs potassium, phosphorous, sulfate, magnesium, sodium, and calcium were approved by PADEP for attainment of the Act 2 Site-Specific Standard. Vanadium was approved by PADEP for attainment of the Act 2 Background Standard.

Ramboll Environ's review of Miller Chemical & Fertilizer's inventory determined that none of the chemicals and raw materials used or stored contained hexavalent chromium. Therefore, with approval from PADEP, they tested for total chromium and used the applicable trivalent chromium MSCs for analysis.

Site Reconnaissance

Dawood personnel performed a visual inspection of the site from the project area. It was observed that land use on the property is agricultural.

Interviews

Mr. Glendon Whisler – Owner

Mr. Whisler is the owner of the Lois E. Whisler property. His family has owned the property for 250+ years and he has a working knowledge of the site's history over the previous 50 years.

Mr. Whisler stated that there is currently a farmhouse on the property. A former farmhouse was located to the south of the currently existing structure. Additionally, a barn was previously located on the property. The current farmhouse also has a summer house in the vicinity. The summerhouse is two-stories, with the bottom story containing a spring. The house is served by both the spring and a groundwater well on the property. To the best of his knowledge, the property has always been an agricultural farm and is currently farmed by a tenant farmer. The tenant farmer stores fertilizers, pesticides, and other agricultural chemicals at another property. Mr. Whisler is not aware of any chemical storage on the property currently but believes they may have been in the past. The farmhouse has a fuel oil tank, which Mr. Whisler believes is aboveground. An AST (approximately 3'x6', according to Mr. Whisler) containing gasoline was previously utilized on the property for fueling farming equipment. The barn had a concrete UST (cistern) that was used to collect barn runoff and used for watering livestock on the property. Mr. Whisler is not aware of any environmental releases on the property.

Mr. Whisler stated that following the Miller Chemical June 8, 2015 fire, soils attained the Act 2 Standard, but that groundwater is still being remediated. He noted that currently, "a half-dozen" constituents aren't attaining ("mostly metals") and that detected concentrations have been observed increasing in more recent sampling events. He expects a covenant restricting groundwater use on the property to result from the groundwater characterization efforts.

Site 14. Family First and 2 Trone Rental Properties – 1230 and 1250 High St

The following information was obtained from Adams County Tax Parcel Viewer. The property located at 1230 High Street is currently owned by York Health Corporation and deeded as 2.45 acres. The property has one commercial building and an associated parking lot on site. The property located at 1250 High Street is currently owned by Trone Rental Properties, LLC and deeded as 2.35 acres. The lot is currently undeveloped.

Environmental Database Review

The site is identified in the EDR Corridor Report as Family First Health Corp & 2 Trone Rental Props. The site is listed on the PA VCP: Voluntary Cleanup Program Listing. Information provided in the EDR Report identifies cleanup records for inorganics and lead contamination to soil. Remediation was completed to a Background Standard and Statewide Health Standard for the inorganics, and a Statewide Health Standard for the lead. The approval date is listed as 04/03/2017.

No records for the site were observed in the following PADEP online environmental databases: AUL Registry, Tank Cleanup Incidents List, Active Storage Tank List, or Inactive Storage Tank List.

Aerial Photograph Review

In the 1938 aerial photograph, the site is observed as an agricultural field. Development of the Family First site can be first seen in the 1992-93 aerial photograph, where it matches the present-day footprint. Agricultural practices appear to have ceased on the Trone site as of the 1992-93 photograph and subsequent photographs show no changes to the site. Development of a structure north of the site and the present-day High Street can be observed on the 1992-93 photograph.

PADEP File Review

Off-Site Act 2 Soil Sampling and Analysis Plan, November 2015

In the files for Miller Chemical & Fertilizer, the Off-Site Act 2 Soil Sampling and Analysis Plan, dated November 2015, contained information pertaining to the Family First site. Runoff of water from the firefighting activities at the Miller Chemical site travelled to the north along the railroad track drainage ditch and flowed overland through a small portion of the Family First Health Corporation property. The plan states that 12 samples will be collected from visibly unaffected areas and samples would be collected from ten locations within and along the perimeter of the visibly affected area. Additionally, one sediment sample is proposed to be collected from the wooded wetland area north of the Family First site (Trone Rental property site). Based on results from testing soil and fire water analyses and results for characterization samples collected at the time of the plan, it was determined that soil and sediment samples would be analyzed for Target Analyte List (TAL) Metals, TKN, nitrate, nitrite, sulfate, and total phosphorous. The plan states that background samples will be collected from 0-3 inches below ground surface (bgs), 6-12 inches bgs, 1-2 feet bgs, and 4-5 feet bgs at three randomly selected background sampling locations. The plan states that 4 soil samples will be collected from the visibly affected area. At each sample location, one five-point composite sample will be obtained between 0-3 inches bgs. At one of the four locations, deeper samples will be collected as discrete grab samples between 1-2 feet bgs and 4-5 feet bgs. Additionally, six soil samples will be collected as one five-point composite sample from a depth of 0-3 inches bgs along the boundary of the affected area. One soil/sediment sample will be collected as a discrete grab sample between 0-3 inches bgs and is proposed in the wetland area located north of the First Family site.

Notice of Intent to Remediate, July 2016

A Notice of Intent to Remediate was filed on July 6, 2016 for identified impacts resulting from the migration of firefighting water during emergency response activities related to the June 8, 2015 Miller Chemical & Fertilizer fire. The Notice of Intent to Remediate identified constituents of potential concern of metals and nutrients, and as such soil samples from background and visibly affected areas were collected and analyzed for the presence of metals, nitrate, nitrite, total kjeldahl nitrogen, sulfate, and phosphorus. No remediation efforts were proposed at the property as measured concentrations of constituents of potential concern in site soil were below Statewide Health Standards for unrestricted site use. PADEP acknowledged receipt of the Notice of Intent to Remediate on July 7, 2016.

Final Report, February 2017/revised April 2017

The Final Report noted that approximately 3,150 square feet of grass-covered area in the northwest corner of the site was visibly affected. Soil samples were taken from background and visibly affected areas, in addition to delineation samples on the Family First site on November 16 and 18, 2015. Two samples were taken along the fire water flow path, which included one sample on the undeveloped Trone Rental property. Based on analytical data obtained from soil samples in June 2015 following the Miller Chemical fire, the soil samples taken from the Family First and Trone Rental properties were examined for analytes of concern. These analytes included TAL metals (aluminum, antimony, arsenic, barium, beryllium, cadmium, calcium, total chromium, cobalt, copper, iron, lead, manganese, mercury, nickel, potassium, selenium, silver, sodium, thallium, vanadium, and zinc), plus molybdenum and boron; TKN, nitrate, and nitrite; sulfate; and total phosphorous. Analysis of the soil

samples from November 2015 showed that vanadium exceeded the applicable Medium Specific Concentration for direct contact with a recorded maximum concentration of 46 mg/kg (Sample FF-VA-02) in the visibly affected area but are in attainment of the Act 2 Background Standard, where a maximum concentration of 51 mg/kg (Sample FF-BACK-07) was recorded in the visibly unaffected area. Analysis also showed that six analytes of potential concern, with no established MSCs, were present in the soil samples. These analytes are listed with their highest observed concentration: calcium (66,000 mg/kg), magnesium (30,000 mg/kg), phosphorus (1590 mg/kg), potassium (3600 mg/kg), sodium (250 mg/kg), sulfate (127 mg/kg), and TKN (7,340 mg/kg). Observed calcium and magnesium concentrations within the visibly affected area are in attainment of the Act 2 Background Standard. An analysis comparing the PADEP Standard Residential Ingestion Rate of 100 mg/day with the dietary reference intake values for each constituent indicated that surface soil concentrations of calcium, magnesium, phosphorous, potassium, sodium, and sulfate at the sites do not present a human health concern.

In April 2017, PADEP approved the Final Report and issues relief of liability for soils for aluminum, antimony, arsenic, barium, beryllium, boron, cadmium, chromium, cobalt, copper, iron, lead, manganese, mercury, molybdenum, nickel, selenium, silver, thallium, zinc, nitrate, and nitrite under the Act 2 Statewide Health Standard and for vanadium, calcium, and magnesium under the Act 2 Background Standard. Ramboll Environ's review of Miller Chemical & Fertilizer's inventory determined that none of the chemicals and raw materials used or stored contained hexavalent chromium. Therefore, with approval from PADEP, they tested for total chromium and used the applicable trivalent chromium MSCs for analysis.

It was concluded that since no COCs relating to the Miller Chemical release were volatile compounds, vapor intrusion is not a pathway of concern on the Family First or Trone properties. Mercury concentrations up to 0.22 mg/kg were observed; however, the low levels observed were not considered significant for the vapor intrusion pathway. The Final Report was approved by PADEP on April 3, 2017.

Site Reconnaissance

These parcels were investigated from High Street since they are sufficiently removed from the planned project related disturbance and farther away from the Miller Chemical incident than other parcels that were evaluated in more detail. No staining, odors, drum storage, or evidence of landfilling were apparent at these parcels as investigated from the High Street public right-of-way.

Interviews

Attempts to reach individuals directly affiliated with ownership or operation of these properties were unsuccessful. Mr. James Rea, PG with the PADEP provided comment on the Miller Chemical incident, which is the source of concern at these properties. His detailed statement is available for review under the Miller Chemical section of the report. In summary, Mr. Rea does not believe there are issues on the sites associated with the Miller Chemical Incident beyond what is listed in applicable reports.

Site 15. Hanover Nissan (Formerly Liberty Nissan) - 75 W Eisenhower Drive

Environmental Database Review

The site is identified in the EDR Corridor Report as "Liberty Nissan" under the US AIRS, FINDS, and ECHO Databases. No non-compliance issues are noted within the EDR Report.

No records for the site were observed in the following PADEP online environmental databases: AUL Registry, Tank Cleanup Incidents List, Active Storage Tank List, or Inactive Storage Tank List.

The EPA's Envirofacts Detailed Facility Report has record of a CAA inspection on 01/14/2004, with a compliance status of "no violations identified".

PADEP File Review

A file review request was submitted to the PADEP Southcentral Regional Office for the 75 West Eisenhower Drive, Hanover, PA 17331 address; however, no files were available to review.

Aerial Photograph Review

Development on the site is first noticeable on the 2004 aerial photograph, where construction of the building and associated parking lot is observed. No discernable changes to the site can be seen on subsequent photographs.

Site Reconnaissance

Dawood personnel performed a visual inspection of both the interior service area and exterior of the building. Two ASTs and a multitude of 55-gallon drums containing motor oil were observed in the service area. One tank and a few 55-gallon drums for motor oil were observed along the exterior of the northwest corner of the building. No evidence of a release was observed in association with any of the tanks or drums. All lifts observed in the service area were pneumatic lifts. No evidence of current or past hydraulic lift use was observed. One drain was observed in the service area. No evidence of contaminants entering the drain were observed. A public sewer manhole was observed on site. Stormwater facilities were observed along the western and northern portions of the site. No stains, stressed/absent vegetation, odors, or evidence of landfilling were observed on the exterior of the property. No environmental concerns were observed on the site with respect to the proposed project.

Interviews

Dan Feeser, General Manager – Hanover Nissan

Dan Feeser is the General Manager of Hanover Nissan and has been at the 75 W. Eisenhower Drive facility for 1.5 years.

Mr. Feeser indicated that the property was formerly operated as Liberty Nissan and rebranded as Hanover Nissan in 2012. Mr. Feeser stated that Liberty Nissan was also formerly located and operated at the current Aki Restaurant at 1150 Carlisle Street, Hanover, PA 17331. The former location was used for sales and service, the same as the current location. Mr. Feeser was unsure if any USTs or ASTs were located on the former property. One AST containing waste oil is located on-site and the waste oil is used to heat the service area. Waste oil is also stored in drums on-site. Total maximum volume stored on the property at any one time was estimated at 1000 gallons by Mr. Feeser. Mr. Feeser stated that car lifts in service area were pneumatic style lifts. Mr. Feeser confirmed with an individual from the service department that the service area has a floor drain where liquids are directed to a UST to be pumped out and disposed when full. To his recollection the tank has not been pumped to-date. Solids are trapped in the drains prior to entering the underground holding tank and are shoveled out regularly and disposed with trash. The property is connected to public sewer and water and utilized natural gas to heat the showroom according to Mr. Feeser. Mr. Feeser also noted that a stormwater facility is located on the back of the property.

Site 16. Tractor Supply - 1150 Carlisle Street

Environmental Database Review

The site is identified in the EDR Corridor Report as “Tractor Supply #577” and is included within the FINDS, ECHO, PA Archive UST, PA Manifest, and RCRA-CESQG databases. No non-compliance issues are noted within the EDR Report. According to the ECHO database, no violations have been identified at the site. The PA Archive UST database shows three tanks (1 gasoline, 1 used oil, 1 new motor oil) at the 1500 Carlisle St Address. Tractor Supply is listed as a Conditionally Exempt Small

Quantity Generator (handler) in the RCRA system for waste codes: D001 (ignitable wastes), D002 (corrosive waste), F005 (spent nonhalogenated solvents).

No records for the site were observed in the following PADEP online environmental databases: AUL Registry, Tank Cleanup Incidents List, Active Storage Tank List, or Inactive Storage Tank List.

Aerial Photograph Review

Development of this site is first observable on the 1971 photograph. Additional development can be seen on the 1977, 1981, 1992-93, and 2004 photographs. No discernable changes to the site can be seen in photographs in years subsequent to 2004.

PADEP File Review

Tractor Supply filed a "RCRA Subtitle C Site Identification Form" with the United States Environmental Protection Agency (received June 16, 2014). This form identifies Tractor Supply as a conditionally exempt small quantity generator for Federally Regulated Hazardous Wastes D001, D002, and F005 per the *EPA Hazardous Waste Codes*. The comment section of the form states that the intent of identifying as a CESQG is for a "Used Oil DIY Program."

Site Reconnaissance

Dawood personnel performed a visual inspection of both the interior service area and exterior of the building. One used oil aboveground tank was observed on the exterior of the building. A backup generator was observed on the exterior of the building; however, no issues were observed with the unit. The exterior of the building contained numerous abnormal asphalt cutouts indicative of past/current USTs. No stains, stressed/absent vegetation, odors, or evidence of landfilling were observed on-site.

Interviews

Tom Fuller, Store Manager – Tractor Supply

Tom Fuller is the Store Manager at Tractor Supply and has been with the company at the facility in question since May 2017. Mr. Fuller noted that he was not from the area originally and was unaware of prior site history.

Mr. Fuller was not aware of any USTs located on the property and stated that one AST containing waste oil was present on-site. Mr. Fuller stated that a single 5-gallon gas can of gasoline is kept on site. He also stated that vehicles/equipment are assembled and fueled on-site, but no vehicle service occurs on site. Mr. Fuller stated that the building is connected to public sewer and water and uses electric for heat.

Site 17. North Point Plaza (Formerly Liberty Nissan) - 1150 Carlisle Street

Environmental Database Review

This site is not identified on the EDR Corridor Report.

On PADEP eFacts database, eMapPA, and Inactive Storage Tank List, the site was identified as "Liberty Nissan" and listed as having three inactive storage tanks. All three tanks are listed as "removed" in the inactive storage tank list with a date of 04/19/1995. The site is not identified in the following PADEP online environmental databases: AUL Registry, Active Storage Tank List, or Storage Tank Cleanup Incidents.

Aerial Photograph Review

Photographs from Penn Pilot were utilized to review changes to the site since coverage of this area was not provided by EDR. The 1957 Penn Pilot aerial imagery shows that the site was an agricultural field. The site is developed in the 1971 Penn Pilot photograph, with multiple structures and associated parking lot. Overall, present-day aerial imagery does not show major changes to the site's general footprint. The general footprint of the structure fronting Carlisle Street (currently identified as Aki on google maps) has not changed since 1971.

PADEP File Review

A file review request was submitted to the PADEP Southcentral Regional Office for the 1150 Carlisle Street, Hanover, PA 17331 address; however, no files were available to review.

Site Reconnaissance

Dawood personnel performed a visual inspection of the exterior of the building located on-site. No evidence of USTs or ASTs was observed. Major staining was observed in the rear of the building, presumably due to grease disposal. No odors, drum storage, stressed/absent vegetation, or evidence of landfilling were observed.

Interviews

The interview with Mr. Dan Feeser of Hanover Nissan (Site 15) covered the former Liberty Nissan site at 1150 Carlisle Street. Please see the interview notes under Site 15 for information regarding this site.

6.0 CONCLUSIONS AND RECOMMENDATIONS

The purpose of a Phase I ESA is to identify potentially hazardous waste and/or potential waste sites in connection with the project area. Review of secondary source data, interviews and a site reconnaissance are used in concert to identify sites/incidences of environmental concern and the associated potential risk of these sites/incidences on the proposed project.

Seventeen properties were identified with the potential for environmental concern. Additionally, the potential exists for the presence of asbestos containing material and lead-based paint in connection with the existing structures which are proposed for demolition. Interiors of structures slated for demolition should be investigated for drums, home heating oil tanks, and miscellaneous waste items prior to demolition. Additionally, a LBP and ACM survey should be conducted for all structures proposed to be demolished. Detailed conclusions and recommendations concerning each identified suspect waste site are presented in this section. A summary of these sites is provided in Table 2 below.

Site 1. Nick's Garage (Earle Black's) – 5490 Hanover Road

- **Phase II/III Recommended:** Environmental concerns associated with the site include one approximated 500-gallon UST containing used motor oil, multiple ASTs, and multiple 55-gallon drums both labeled and unlabeled located on the site. The waste oil UST is located parallel to the project corridor and its location is known. Construction activities associated with the installation of the roadway are proposed in the western portion of the site and along the northern site boundary (off-site). A Phase II/III Assessment is recommended, which includes the testing of soil and groundwater, if encountered, for the PA Shortlist of Petroleum Products: Used Motor Oil.

Site 2. Dennis Stem (Formerly Mummert's Auto) – 3380 Centennial Road

- **Phase II/III Recommended:** Environmental concerns associated with this facility include multiple gasoline tanks that were potentially filled and closed in place without supporting documentation. Additionally, the property historically functioned as an automotive service operation. Construction activities associated with the installation of the roadway, including a traffic circle, are proposed through the site. A Phase II/III Assessment is recommended, which includes the testing of soil and groundwater, if encountered, for the PA Shortlist of Petroleum Products: unleaded and leaded gasoline. Geophysical techniques should be used to evaluate the presence of USTs and inform sampling locations.

Site 3. Lamco Safety Products – 360 Church Street

- **No Further Action recommended:** The site is currently occupied by a vacant office building, commercial center/warehouse, and one storage shed. Environmental concerns associated with this site are limited to a potential fill port observed along the northwest corner of the presumed office building. No construction activities are proposed on this site. Based on the research conducted and observations made in performing this Phase I ESA, past and current activities at this site are not likely to have any impact on the proposed project construction.

Site 4. Ring Container Technologies (Former Mideastern Machinery) – 351 Church Street

- **No Further Action recommended:** Environmental concerns associated with the site are limited to three silos containing PT resin, one 1,250-liter hydraulic fluid tote, and one diesel fuel release incident in which impacted soils were removed from the property. No construction activities are proposed on the site. Based on the research conducted and observations made in performing this Phase I ESA, past and current activities at this site are not likely to have any impact on the proposed project construction.

Site 5. Smith Real Estate Holdings LLC, Farm – 509 Church Street

- **No Further Action recommended:** The property is predominantly agricultural fields with one farmhouse, a garage, barn, and four sheds. Environmental concerns associated with the property are limited to the application of pesticides and herbicides for agricultural purposes. Pesticide and herbicide are stored on the property in volumes of less than or equal to 2 gallons and 15 gallons, respectively. Pesticides and herbicides applied as part of agricultural operations on the property are assumed to be applied at a quantity and rate specified on the material's packaging label and are not anticipated to migrate into or accumulate within the project boundary. No excavation associated with the project construction activities is planned within the footprint of the potential waste site; therefore, impacts are not anticipated.

Site 6. Bare Development LP, Farm – 444 Oxford Avenue

- **No Further Action recommended:** The site is primarily agricultural fields with a farmhouse and several farm buildings located north of the project area. The site is observed to be agricultural field in the earliest available aerial photograph (1938). Pesticides and herbicides likely applied as part of agricultural operations on the property are assumed to be applied at a quantity and rate specified on the material's packaging label and are not anticipated to migrate into or accumulate within the project boundary. Numerous unmarked and improperly stored tanks, totes, and drums were observed around the farm buildings which are located downgradient from the project. The unmarked and improperly stored tanks, totes, and drums are located approximately 1,400 feet northwest of the edge of the LOD. Construction activities associated with the installation of the roadway are proposed along the southern site boundary. Based on the research conducted and observations made in performing this

Phase I ESA, past and current activities at this site are not likely to have any impact on the proposed project construction.

Site 7. Clarks America – 355 Kindig Lane

- **No Further Action recommended:** One industrial facility, including offices, a mezzanine and an associated paved parking lot are onsite. Waste oil is kept on site and is disposed of by Safety Kleen. Construction debris was observed in the northwest quadrant of the property. A closed depression is also present in this area along with humped up anomalous areas that may indicate land filling activity. Proposed project activities are located in the northwestern corner and along the northern site boundary. Features identified during the site reconnaissance for this property are located outside of the LOD. Based on the research conducted and observations made in performing this Phase I ESA, past and current activities at this site are not likely to have any impact on the proposed project construction.

Site 8. Patrick & Elizabeth Shaeffer, Farm – 301 Oxford Avenue

- **No Further Action recommended:** The site is primarily agricultural field with one farmhouse located to the north of the proposed project area. Multiple drums and two home heating oil tanks were observed in a debris pile located adjacent to the house on-site; however, these items are located approximately 400 feet to the north of the LOD and no evidence of a release of materials was observed. Environmental concerns for this site with respect to the LOD are limited to pesticide and herbicide application as part of agricultural operations. Pesticides and herbicides are assumed to be applied at a quantity and rate specified on the material's packaging label and are not anticipated to migrate into or accumulate within the project boundary. Construction activities associated with installation of the roadway and stormwater BMPs are proposed along the southern and eastern site boundary. Based on the research conducted and observations made in performing this Phase I ESA, past and current activities at this site are not likely to have any impact on the proposed project construction.

Site 9. Bare Development LP (WYCR-FM) – 275 Radio Road

- **Phase II/III Recommended:** The site was impacted during the Miller chemical fire release on June 8, 2015. Construction activities associated with installation of the roadway and associated stormwater BMPs are proposed on the property. A Phase II/III Assessment is recommended, which includes the testing of soil and groundwater, if encountered, for a broad list of parameters such as pesticides, herbicides, PCBs, TAL Metals, VOCs, and semi-volatile organic compounds (SVOCs).

Site 10. Miller Chemical & Fertilizer Corp – 120, 150, 170 Radio Road

- **No Further Action recommended:** Emergency firefighting efforts during a June 8, 2015 fire in the warehouse resulted in runoff, carrying inorganics and lead, impacting the Miller Chemical & Fertilizer Corp site and other downgradient sites. No construction activities are proposed on the Miller Chemical & Fertilizer site. Impacts to the project resulting from historic incidents at this site are accounted for via sampling on sites within the proposed project area.

Site 11. Metropolitan Edison CO – 135 Radio Road

- **Phase II/III Recommended:** Approximately 1.4 acres in the southwest corner of the site were visibly affected by runoff from the emergency efforts during the June 8, 2015 Miller Chemical Fire. Construction activities associated with installation of the roadway and multiple stormwater BMPs are proposed in the northern half of the site. A Phase II/III assessment is

recommended, which includes testing of soil and groundwater, if encountered, for a broad list of parameters such as pesticides, herbicides, PCBs, TAL Metals, VOCs, and SVOCs.

Site 12. CSX Hanover Subdivision Line

- **Phase II/III Recommended:** The site is currently occupied by a railway and was impacted during the June 8, 2015 Miller Chemical Fire. Only construction activities associated with installation of the roadway are proposed at the site. Excavation depths are not anticipated to be greater than 5 feet. Saturated soils were observed between 10.5 to 18 feet below ground surface, therefore groundwater will not likely be encountered. Based on the current and historic use of the site as railway and reported releases within the immediate vicinity of the railway, a Phase II/III assessment is recommended, which includes testing of soil and groundwater, if encountered, for a broad list of parameters such as pesticides, herbicides, PCBs, TAL Metals, VOCs, and SVOCs.

Site 13. Lois E. Whisler Property – 539 Oxford Avenue

- **No Further Action recommended:** Based on the research conducted and observations made in performing this Phase I ESA, in addition to the distance between the proposed project corridor and the site, past and current activities at this site are not likely to have any impact on the proposed project. Additionally, no excavation activities are proposed on the site.

Site 14. Family First and 2 Trone Rental Properties – 1230 & 1250 High Street

- **No Further Action recommended:** Based on the research conducted and observations made in performing this Phase I ESA, in addition to the distance between the proposed project corridor and the site, past and current activities at this site are not likely to have any impact on the proposed project construction. Additionally, no excavation activities are proposed on the site.

Site 15. Hanover Nissan (formerly Liberty Nissan) – 75 West Eisenhower Drive

- **No Further Action recommended:** Construction activities associated with road widening are proposed in the southwest corner of the site. Environmental concerns with the site are limited to the two ASTs and a few 55-gallon drums containing motor oil observed inside the service area. Since environmental concerns associated with the site are located in the interior of the property and not within the project LOD, no impacts are anticipated. Based on the research conducted and observations made in performing this Phase I ESA, past and current activities at this site are not likely to have any impact on the proposed project construction.

Site 16. Tractor Supply – 1150 Carlisle Street

- **No Further Action recommended:** Environmental concerns associated with the site are limited to abnormal asphalt cutouts which are potentially indicative of past/current USTs; however, nothing else during the investigation or background review indicated USTs were ever present on the site. Construction activities are not proposed on the site. Based on the research conducted and observations made in performing this Phase I ESA, past and current activities at this site are not likely to have any impact on the proposed project construction.

Site 17. North Point Plaza (formerly Liberty Nissan) – 1150 Carlisle Street

- **No Further Action recommended:** Environmental concerns associated with the site are limited to three tanks listed on the Inactive Storage Tank List with a removal date of 04/19/1995. No construction activities are proposed on the site. Based on the research

conducted and observations made in performing this Phase I ESA, past and current activities at this site are not likely to have any impact on the proposed project construction.

Table 2. Phase I ESA Findings Summary						
Site #	Site (Formerly) and Address	Potential Constituents of Concern	Background	Proposed Work	Recommendation	Rationale
1	Nick's Garage (Earle Black's) 5490 Hanover Road	PA Shortlist for Used Motor Oil	One UST, approximated at 500 gallons, containing used motor oil is located on site.	Construction activities associated with the installation of the roadway are proposed in the western portion of the site and along the northern property boundary of the site.	Phase II/III ESA (Soil and Groundwater Sampling)	Environmental concerns associated with the site include one approximated 500-gallon UST containing used motor oil, multiple ASTs, and multiple 55-gallon drums both labeled and unlabeled located on the site. The waste oil UST is located parallel to the project corridor and its location is known. Construction activities associated with the installation of the roadway are proposed in the western portion of the site and along the northern site boundary (off-site). A Phase II/III Assessment is recommended, which includes the testing of soil and groundwater, if encountered, for the PA Shortlist of Petroleum Products: Used Motor Oil.
2	Dennis Stem (Mummert's Auto) 3380 Centennial Road	PA Shortlist for Leaded and Unleaded Gasoline	Multiple gasoline tanks were potentially filled and closed in place on site per an interview documented on 04/19/2019. A rectangular patch of asphalt is present in front of the building along Centennial Road. The surrounding asphalt has been degraded to gravel suggesting this patch may have been installed later and could indicate the location of a former pump island.	Construction activities associated with the installation of the roadway, including a traffic circle, are proposed through the site.	Phase II/III ESA (Geophysical Survey and Soil and Groundwater Sampling)	Environmental concerns associated with this facility include multiple gasoline tanks that were potentially filled and closed in place without supporting documentation. Additionally, the property historically functioned as an automotive service operation. Construction activities associated with the installation of the roadway, including a traffic circle, are proposed through the site. A Phase II/III Assessment is recommended, which includes the testing of soil and groundwater, if encountered, for the PA Shortlist of Petroleum Products: unleaded and leaded gasoline. A geophysical survey (likely ground penetrating radar) is necessary to determine the presence or absence of USTs with respect to the project area.
3	Lamco Safety Products 360 Church Street	None	A fill port observed during the site reconnaissance is not considered a potential concern due to its location within the Lamco Safety Products property boundary and since the LOD doesn't not cross into the property boundary for this site.	No construction activities are proposed on this site.	No Further Action (NFA)	No excavation associated with the project construction activities is planned within the potential waste site boundary; therefore, impacts are not anticipated.
4	Ring Container (Mideastern Machinery) 351 Church Street	Petroleum analytes	This site is documented as a RCRA non-generator (waste handler). Applicable waste site codes include D001 (ignitable hazardous waste), D002 (Corrosive Hazardous Waste), D007 (Chromium), D009 (Mercury), and F001 (Halogenated Solvents). Non-compliance events of any type were not reported by the EDR report. No absent/stressed vegetation, odors, landfilling or stains were observed on site. No non-compliance events were documented for this site.	No construction activities are proposed on site.	No Further Action (NFA)	No excavation associated with project construction activities is planned within the potential waste site; therefore, impacts are not anticipated.
5	Smith Real Estate Holdings LLC - Farm 509 Church Street	Pesticides/Herbicides associated with farming practices	The site is not identified in the EDR Report or online environmental databases. No stains, stressed/absent vegetation, odors, evidence of landfilling, or USTs/ASTs were observed on site. Based on aerial mapping, the site has operated as an agricultural field since at least 1938.	Proposed construction activities are located along the southern boundary of the site.	No Further Action (NFA)	Pesticides and herbicides applied as part of agricultural operations on the property are assumed to be applied at a quantity and rate specified on the material's packaging label and are not anticipated to migrate into or accumulate within the project LOD.

Table 2. Phase I ESA Findings Summary						
Site #	Site (Formerly) and Address	Potential Constituents of Concern	Background	Proposed Work	Recommendation	Rationale
6	Bare Development LP - Farm 477 Oxford Avenue	Pesticides/Herbicides associated with farming practices	The site is primarily agricultural fields with a farmhouse and several farm buildings located north of the project area. The site is observed to be agricultural field in the earliest available aerial photograph (1938). Numerous unmarked and improperly stored tanks, totes, and drums were observed around the farm buildings which are located downgradient from the project.	Proposed construction activities are located along the southern boundary of the site.	No Further Action (NFA)	Pesticides and herbicides likely applied as part of agricultural operations on the property are assumed to be applied at a quantity and rate specified on the material's packaging label and are not anticipated to migrate into or accumulate within the LOD. The unmarked and improperly stored tanks, totes, and drums are located approximately 1,400 feet northwest of the edge of the LOD. Construction activities associated with the installation of the roadway are proposed along the southern site boundary. Based on the research conducted and observations made in performing this Phase I ESA, past and current activities at this site are not likely to have any impact on the proposed project construction.
7	Clarks America 240 Kindig Lane	Perceived industrial use, historic agricultural use	Based on available aerial mapping, the site was utilized as an agricultural field prior to development in 2013. The site is not identified in the EDR Corridor Report or online environmental databases. The apparent location of landfilling is not considered a potential concern with the respect to the project since the landfilling area is located outside of the limit of disturbance for the proposed project. No staining, absent/stressed vegetation, drum storage, or odors were observed on site, including the area of the landfilling activity.	Proposed construction activities are located in the northwestern corner of the site and off-site along the northern property boundary.	No Further Action (NFA)	Waste oil is kept on site and is disposed of by Safety Kleen. Construction debris was observed in the northwest quadrant of the property. A closed depression is also present in this area along with humped up anomalous areas that may indicate land filling activity. Proposed project activities are located in the northwestern corner and along the northern site boundary. The aforementioned features identified during the site reconnaissance for this property are located outside of the LOD. Based on the research conducted and observations made in performing this Phase I ESA, past and current activities at this site are not likely to have any impact on the proposed project construction.
8	Patrick & Elizabeth Sheaffer - Farm 301 Oxford Avenue	Pesticides/Herbicides associated with farming practices	Not identified in the EDR Report or online environmental databases. No stains, stressed/absent vegetation, odors, or evidence of landfilling were observed on site. Based on aerial mapping, the site has operated as an agricultural field since at least 1937.	Proposed construction activities are located along the southern and eastern boundaries on the site.	No Further Action (NFA)	Pesticides and herbicides likely applied as part of agricultural operations on the property are assumed to be applied at a quantity and rate specified on the material's packaging label and are not anticipated to migrate into or accumulate within the project LOD. Multiple drums and two home heating oil tanks were observed in a debris pile located adjacent to the house on-site; however, these items are located approximately 400 feet to the north of the LOD and no evidence of a release of materials was observed.
9	Bare Development LP (WYCR-FM) 275 Radio Road	pesticides, herbicides, PCBs, TAL Metals, VOCs, and SVOCs	The June 8, 2015 Miller Chemical fire resulted in impacts to soil and groundwater on-site. Arsenic, manganese, and cobalt were detected in soil samples above applicable MSCs within the corridor. The construction LOD includes the area where the Miller Chemical fire visibly affected the site. Saturated soils were observed between 10.5 and 18 feet below ground surface.	Construction activities associated with installation of the roadway and associated stormwater BMPs are proposed on the property; excavation depths are not anticipated to exceed 5 feet in depth.	Phase II/III ESA (Soil and Groundwater Sampling)	Arsenic, manganese, and cobalt were detected in soil samples above applicable MSCs within the corridor. The LOD includes the area where the Miller Chemical fire visibly affected the site. Due to known exceedances of MSCs and proposed construction activities within the project corridor, soil and groundwater sampling, if encountered, is recommended and development of a HASP will be required by a representative of the contractor prior to construction that includes preventative measures for arsenic, manganese, and cobalt. Saturated soils were observed between 10.5 and 18 feet below ground surface; therefore, groundwater will not likely be encountered.

Table 2. Phase I ESA Findings Summary						
Site #	Site (Formerly) and Address	Potential Constituents of Concern	Background	Proposed Work	Recommendation	Rationale
10	Miller Chemical & Fertilizer Corp 120 Radio Road	Inorganics	The June 8, 2015 Miller Chemical fire resulted in impacts to soil and groundwater in the southwest corner of the property. Arsenic was detected in soil samples above applicable PADEP MSCs on-site.	No construction activities are proposed on the site.	No Further Action (NFA)	No excavation associated with the project construction activities is planned within or adjacent to the potential waste site; therefore, impacts are not anticipated.
11	Metropolitan Edison CO 135 Radio Road	pesticides, herbicides, PCBs, TAL Metals, VOCs, and SVOCs	Approximately 1.4 acres in the southwest corner of the site were visibly affected by runoff from the emergency efforts during the June 8, 2015 Miller Chemical Fire.	Construction activities associated with installation of the roadway and multiple stormwater BMPs are proposed in the northern half of the site.	Phase II/III ESA (Soil and Groundwater Sampling)	A Phase II/III assessment is recommended, which includes testing of soil and groundwater, if encountered, within the LOD on the property.
12	CSX Hanover Subdivision Line	pesticides, herbicides, PCBs, TAL Metals, VOCs, and SVOCs	The present and historic use of the site as a rail line leads to the potential for the site to have used hazardous substances and petroleum products.	Construction activities associated with the installation of the roadway are proposed at the site. Excavation depths are not anticipated to be greater than 5 feet.	Phase II/III ESA (Soil and Groundwater Sampling)	Based on the current and historic use of the site as a railway, further soil and groundwater, if encountered, investigations within the LOD adjoining this property is recommended to determine the possible presence and extent of contamination. Saturated soils were observed between 10.5 to 18 feet below ground surface, therefore groundwater will not likely be encountered.
13	Lois E. Whisler Property 539 Oxford Avenue	Inorganics	The June 8, 2015 Miller Chemical fire resulted in impacts to soil and groundwater on-site. Arsenic, manganese, and vanadium were detected in soil samples above applicable PADEP MSCs on-site.	No construction activities are proposed on the site.	No Further Action (NFA)	No excavation associated with the project construction activities is planned within or adjacent to the potential waste site; therefore, impacts are not anticipated.
14	Family First and 2 Trone Rental Properties – 1230 & 1250 High St	Inorganics	The June 8, 2015 Miller Chemical fire resulted in impacts to soil and groundwater on-site. Vanadium was detected in soil samples above applicable PADEP MSCs on-site.	No construction activities are proposed on the site.	No Further Action (NFA)	No excavation associated with the project construction activities is planned within or adjacent to the potential waste site; therefore, impacts are not anticipated.
15	Hanover Nissan (Liberty Nissan) 75 W Eisenhower Drive	Petroleum Analytes	Environmental concerns with the site are limited to the two ASTs and a few 55-gallon drums containing motor oil observed inside the service area.	Construction activities associated with road widening are proposed in the southwest corner of the site.	No Further Action (NFA)	Environmental concerns associated with the site are located in the interior of the property and not within the project LOD; therefore, no impacts are anticipated.
16	Tractor Supply 1150 Carlisle Street	Petroleum Analytes	Environmental concerns associated with the site are limited to abnormal asphalt cutouts which are potentially indicative of past/current USTs; however, nothing else during the investigation or background review indicated USTs were ever present on the site.	No construction activities are proposed on the site.	No Further Action (NFA)	No excavation associated with the project construction activities is planned within or adjacent to the potential waste site; therefore, impacts are not anticipated.
17	North Point Plaza (Liberty Nissan) 1150 Carlisle Street	Petroleum Analytes	Environmental concerns associated with the site are limited to three tanks listed on the Inactive Storage Tank List with a removal date of 04/19/1995.	No construction activities are proposed on the site.	No Further Action (NFA)	No excavation associated with the project construction activities is planned within or adjacent the potential waste site; therefore, impacts are not anticipated.

Legend:

ACM: Asbestos Containing Materials
 LBP: Lead Based Paint
 NFA: No Further Action
 PCBs: Polychlorinated biphenyls
 PH II: Phase II Environmental Site Assessment
 PH II/III: Phase II/III Environmental Site Assessment

TAL Metals: Target Analyte List Metals
 VOCs: Volatile Organic Chemicals
 SVOCs: Semi-Volatile Organic Chemicals

7.0 LIMITATIONS AND EXCEPTIONS OF THE ASSESSMENT

No Phase I ESA can eliminate the uncertainty about the potential properties for environmental problems. The scope of this investigation was limited to the review of background information, interviews with the knowledgeable individuals and visual observations made during the field investigation. No statement of certainty can be made regarding subsurface conditions that may result from onsite or offsite sources of contamination. Dawood has relied on secondary information, interviews, file review, aerial mapping review, and site reconnaissance in assessing the property. This report is a prudent, reasonable evaluation of the observed environmental condition of the property. Dawood assumes no responsibility for conditions or information not practically reviewable or information that was not accurately disseminated by any party. The scope of this project did not include investigation of subsurface conditions. Dawood did not sample soil, groundwater, surface water, vapor, radon, Lead Based Paint (LBP), Asbestos Containing Material(s) (ACM) or electromagnetic radiation as part of the Phase I ESA.

If you have any questions or need additional information, please do not hesitate to contact us at (717) 732-8576.

DAWOOD ENGINEERING, INC.



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Manager Environmental Permitting

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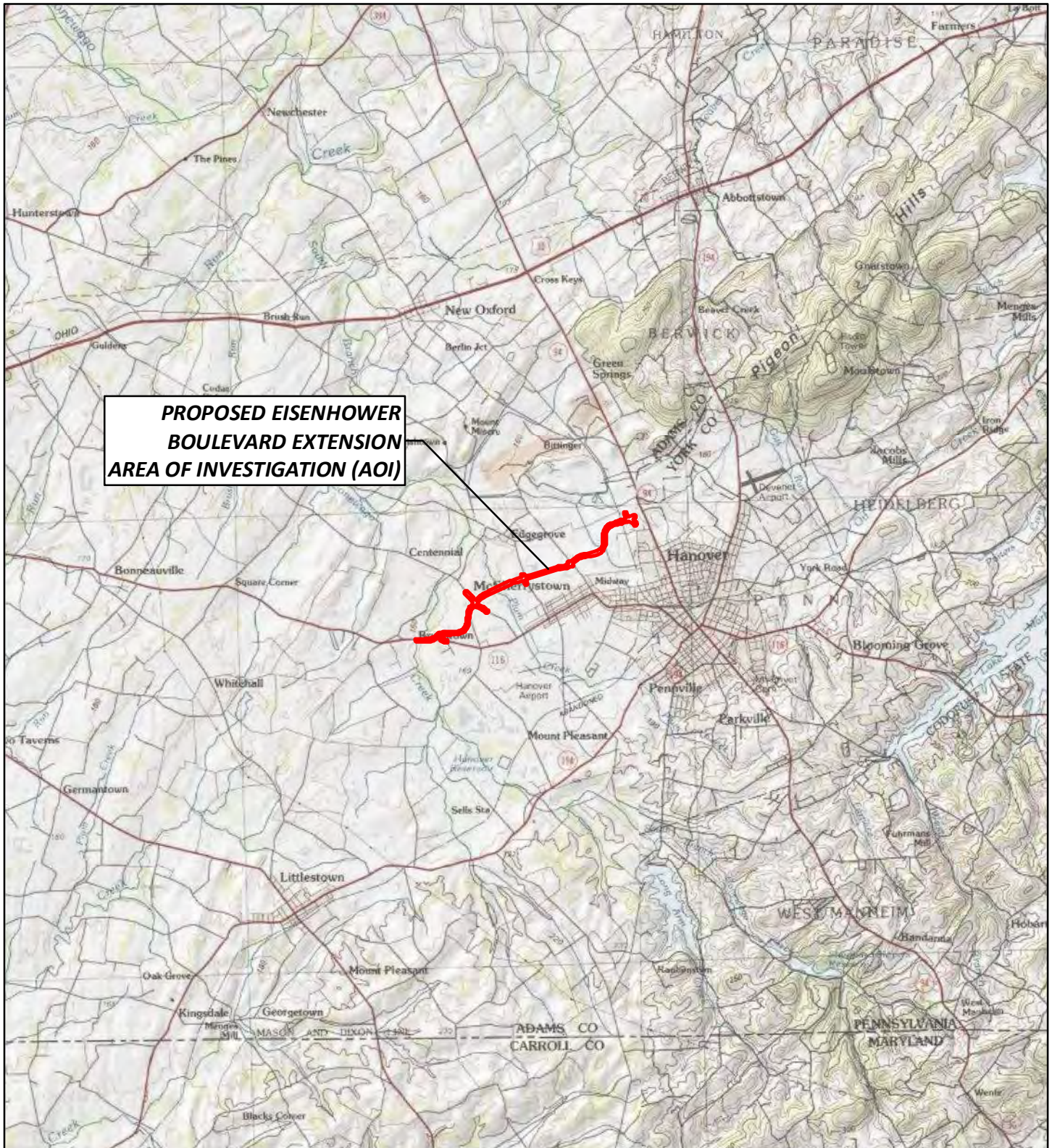
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10.0 Glossary






ACM	Asbestos Containing Materials
AOI	Area of Investigation
AST	Aboveground Storage Tank
AUL	Activity and Use Limitations
BGS	Below Ground Surface
CAA	Clean Air Act
CESQG	Conditionally Except Small Quantity Generator
COC	Constituent of Concern
DRI	Dietary Reference Intake
ECHO	Enforcement and Compliance History Online
EDR	Environmental Data Resources, Inc.
EFACTS	Environment, Facility, Application, Compliance Tracking System
EPA	Environmental Protection Agency
FINDS	Facility Index System
FTZ	Foreign-Trade Zone Subzone
GPM	Gallons Per Minute
IA	Initiate Immediate Action
ICIS	Integrated Compliance Information System
JMT	Johnson, Mirmiran & Thompson, Inc.
Kg	Kilogram
KVA	Kilovolt-amp
LBP	Lead Based Paint
LOD	Limit of Disturbance
Met-Ed	Metropolitan Edison Company
Mg	Milligrams
MSC	Medium-Specific Concentrations
NFA	No Further Action
NFT	No Further Action required at this Time
NIR	Notice of Intent to Remediate
Non-NPL	Non-National Priorities List
NPDES	National Pollutant Discharge Elimination System
NPOIL	Nonpetroleum Oil
PADEP	Pennsylvania Department of Environmental Protection
PCBs	Polychlorinated biphenyls
PG	Professional Geologist
PRP	Potentially Responsible Parties
PennDOT	Pennsylvania Department of Transportation
Ph II/III	Initiate Phase II or Phase III ESA Activities
Phase I ESA	Phase I Environmental Site Assessment
PSAASL	Penn State Agricultural Analytical Services Laboratory
RCRA	Resource Conservation and Recovery Act
ROL	Release of Liability
SDS	Safety Data Sheets
SEMS	Superfund Enterprise Management System
SF	Square Foot
SHS	Statewide Health Standard
SSTS	Section Seven Tracking System
SVOCs	Semi-Volatile Organic Chemicals
TAL	Target Analyte List
TDS	Total Dissolved Solids
TKN	Total Kjeldahl Nitrogen
UCL	Upper Concentration Limit
UST	Under Ground Storage Tank
VCP	Voluntary Cleanup Program
VOCs	Volatile Organic Compounds

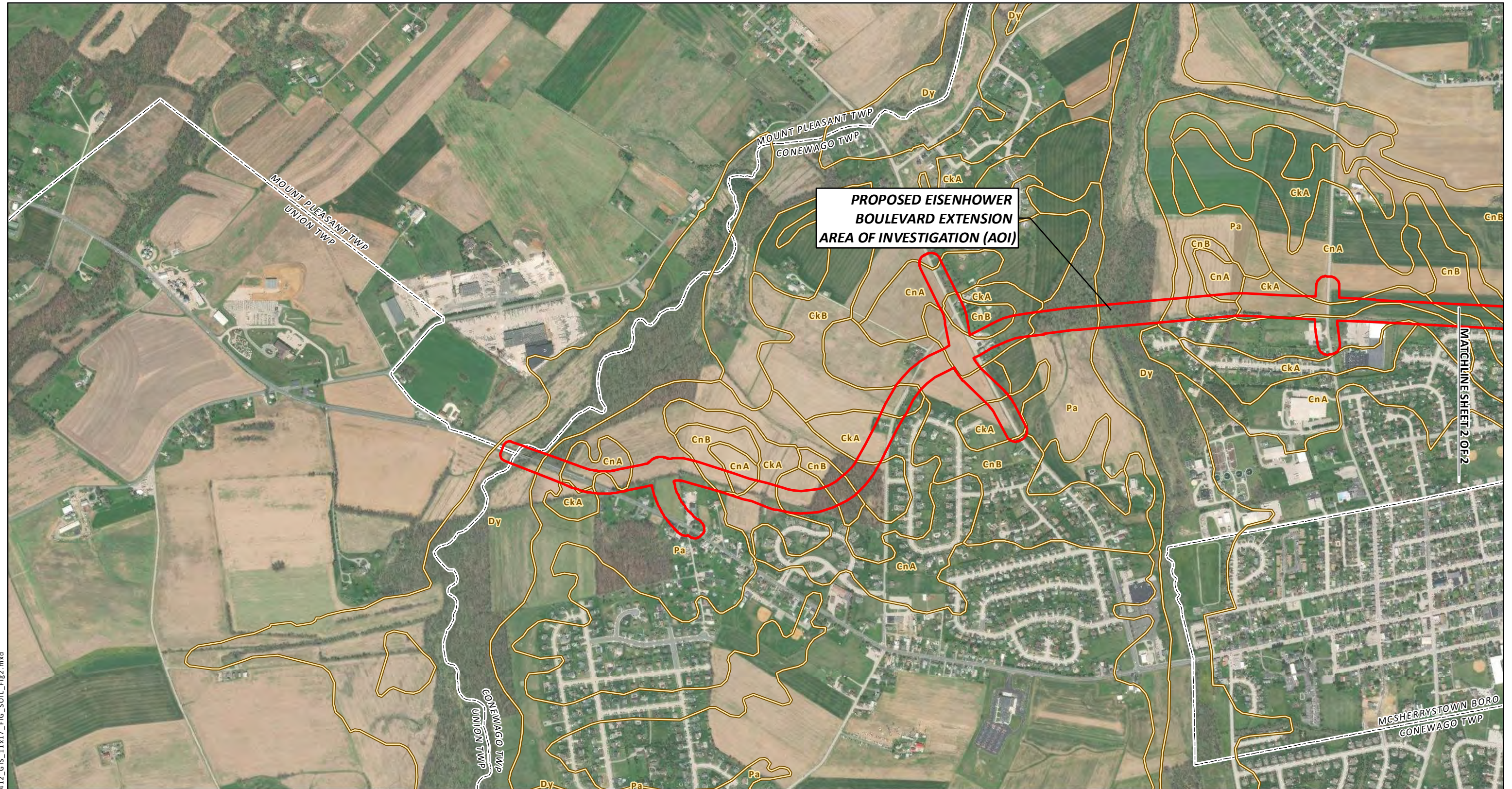
APPENDIX A: FIGURES



**PROPOSED EISENHOWER
BOULEVARD EXTENSION
AREA OF INVESTIGATION (AOI)**

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DOCUMENT PREPARED BY:  54 Main Street, Unit 2 Sturbridge, MA 01566 t: 855.432.9663		DOCUMENT PREPARED FOR: 		LEGEND:  AREA OF INVESTIGATION (AOI)	
TITLE: FIGURE 1: SITE LOCATION MAP					
PROJECT NAME: EISENHOWER BOULEVARD EXTENSION PROJECT					
LOCATION: ADAMS & YORK COUNTIES, PENNSYLVANIA					
DRAWN BY: LGS					
REVIEWED BY: TRW					
APPROVED BY: KRR					
PROJECT NUMBER: 205094.12					
DATE: 10/23/2019					
		SCALE: 1" = 10,000'			
					
Copyright:© 2013 National Geographic Society, i-cubed					



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 Sturbridge, MA 01566
 t: 855.432.9663

DOCUMENT PREPARED FOR:
pennsylvania
 DEPARTMENT OF TRANSPORTATION

LEGEND:
 AREA OF INVESTIGATION (AOI)
 MUNICIPALITY BOUNDARY
 SOIL TYPE

SOIL TYPE

CkA - Clarksburg silt loam, 0 to 3 percent slopes	Dy - Dunning silty clay loam
CkB - Clarksburg silt loam, 3 to 8 percent slopes	Pa - Penlaw silt loam
CnA - Conestoga silt loam, 0 to 3 percent slopes	Uc - Urban land
CnB - Conestoga silt loam, 3 to 8 percent slopes	

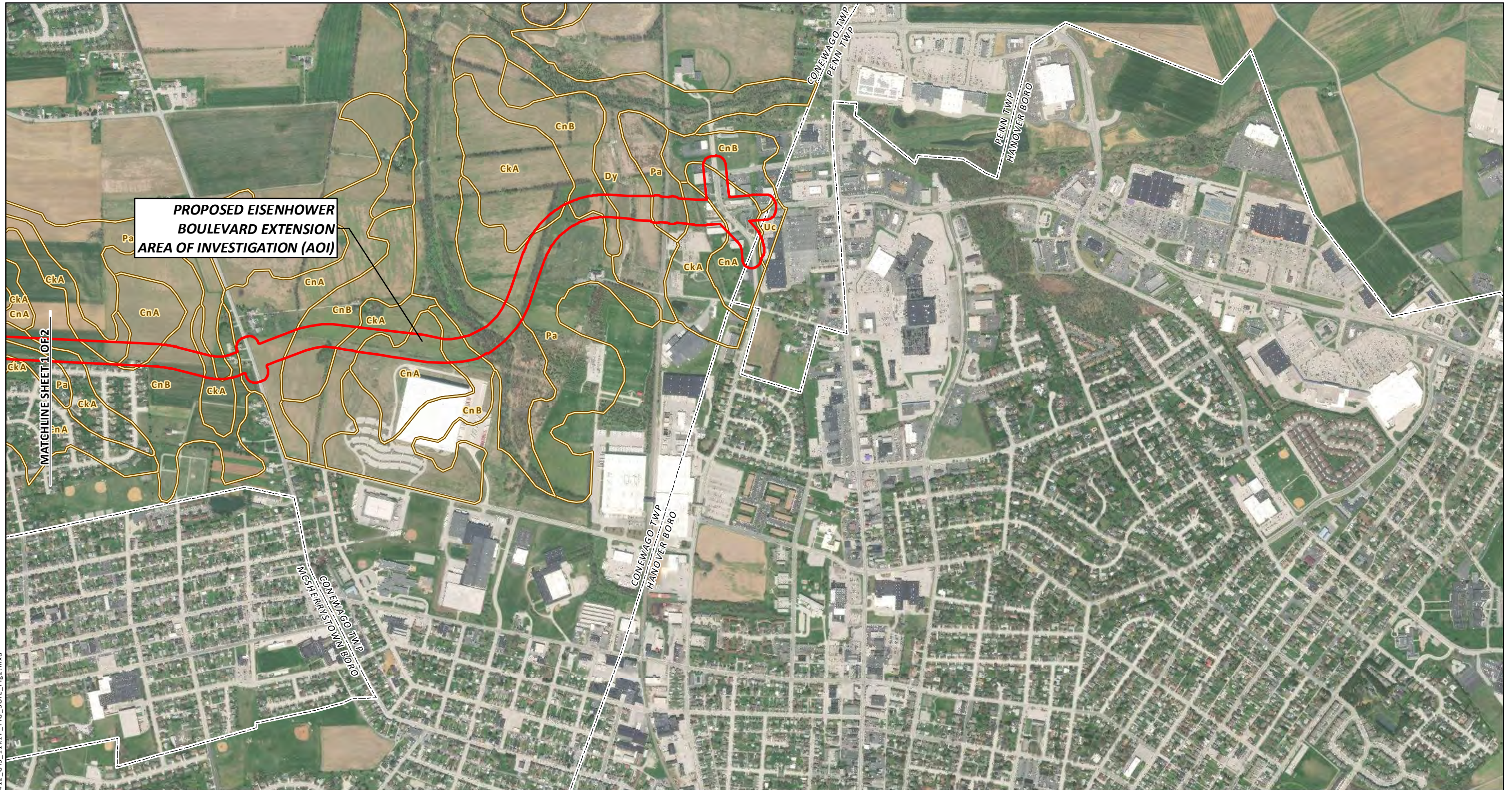
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 Basemap Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community

**EISENHOWER DRIVE
 EXTENSION PROJECT**
**FIGURE 2
 SOIL MAP**
 ADAMS & YORK COUNTIES, PENNSYLVANIA

SCALE: 1" = 1,000'

DATE:	10/22/2019
PROJECT NUMBER:	205094.12
DRAWN BY:	LGS
REVIEWED BY:	TRW
APPROVED BY:	KRR
SHEET:	1 OF 2

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DOCUMENT PREPARED FOR:


LEGEND:

- AREA OF INVESTIGATION (AOI)
- MUNICIPALITY BOUNDARY
- SOIL TYPE

SOIL TYPE	
CkA - Clarksburg silt loam, 0 to 3 percent slopes	Dy - Dunning silty clay loam
CkB - Clarksburg silt loam, 3 to 8 percent slopes	Pa - Penlaw silt loam
CnA - Conestoga silt loam, 0 to 3 percent slopes	Uc - Urban land
CnB - Conestoga silt loam, 3 to 8 percent slopes	

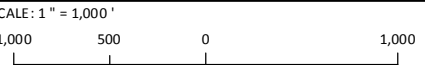
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 Basemap Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community


**EISENHOWER DRIVE
 EXTENSION PROJECT**

**FIGURE 2
 SOIL MAP**

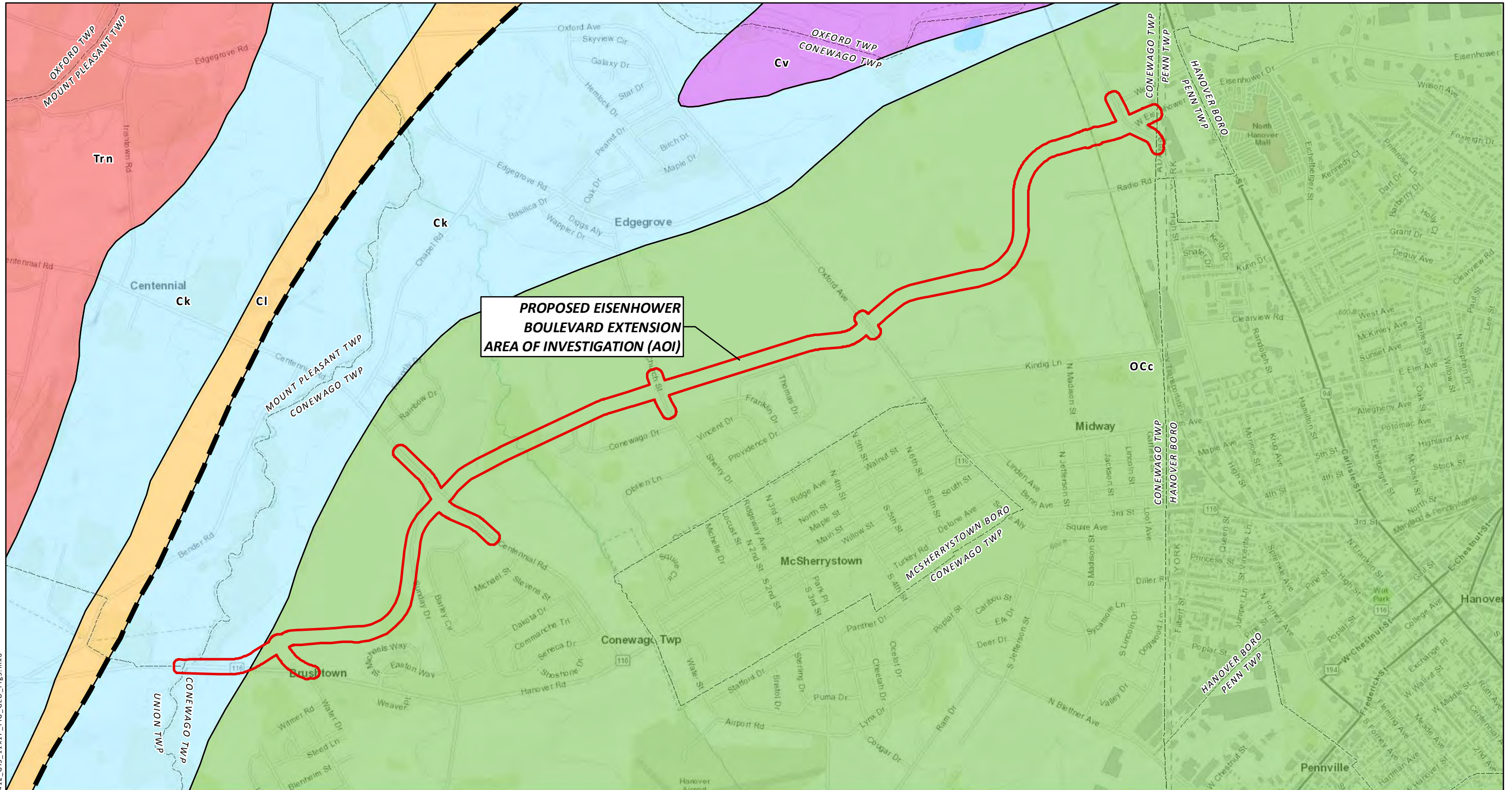
ADAMS & YORK COUNTIES, PENNSYLVANIA

SCALE: 1" = 1,000'





DATE:	10/22/2019
PROJECT NUMBER:	205094.12
DRAWN BY:	LGS
REVIEWED BY:	TRW
APPROVED BY:	KRR
SHEET:	2 OF 2



**PROPOSED EISENHOWER
BOULEVARD EXTENSION
AREA OF INVESTIGATION (AOI)**

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LEGEND:

- AREA OF INVESTIGATION (AOI)
- MUNICIPALITY BOUNDARY

BEDROCK GEOLOGY

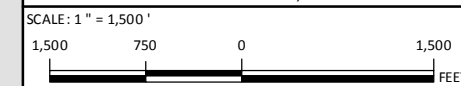
- FAULT LINE
- Ck - KINZERS FORMATION
- CI - LEDGER FORMATION
- Cv - VINTAGE FORMATION
- OCC - CONESTOGA FORMATION
- Trn - NEW OXFORD FORMATION

Data Source: Pennsylvania Geological Survey & Others, 1980
 Basemap Sources: Esri, HERE, Garmin, Intermap, increment P Corp., GEBCO, USGS, FAO, NPS, NRCAN, GeoBase, IGN, Kadaster NL, Ordnance Survey, Esri Japan, METI, Esri China (Hong Kong), (c) OpenStreetMap contributors, and the GIS User Community

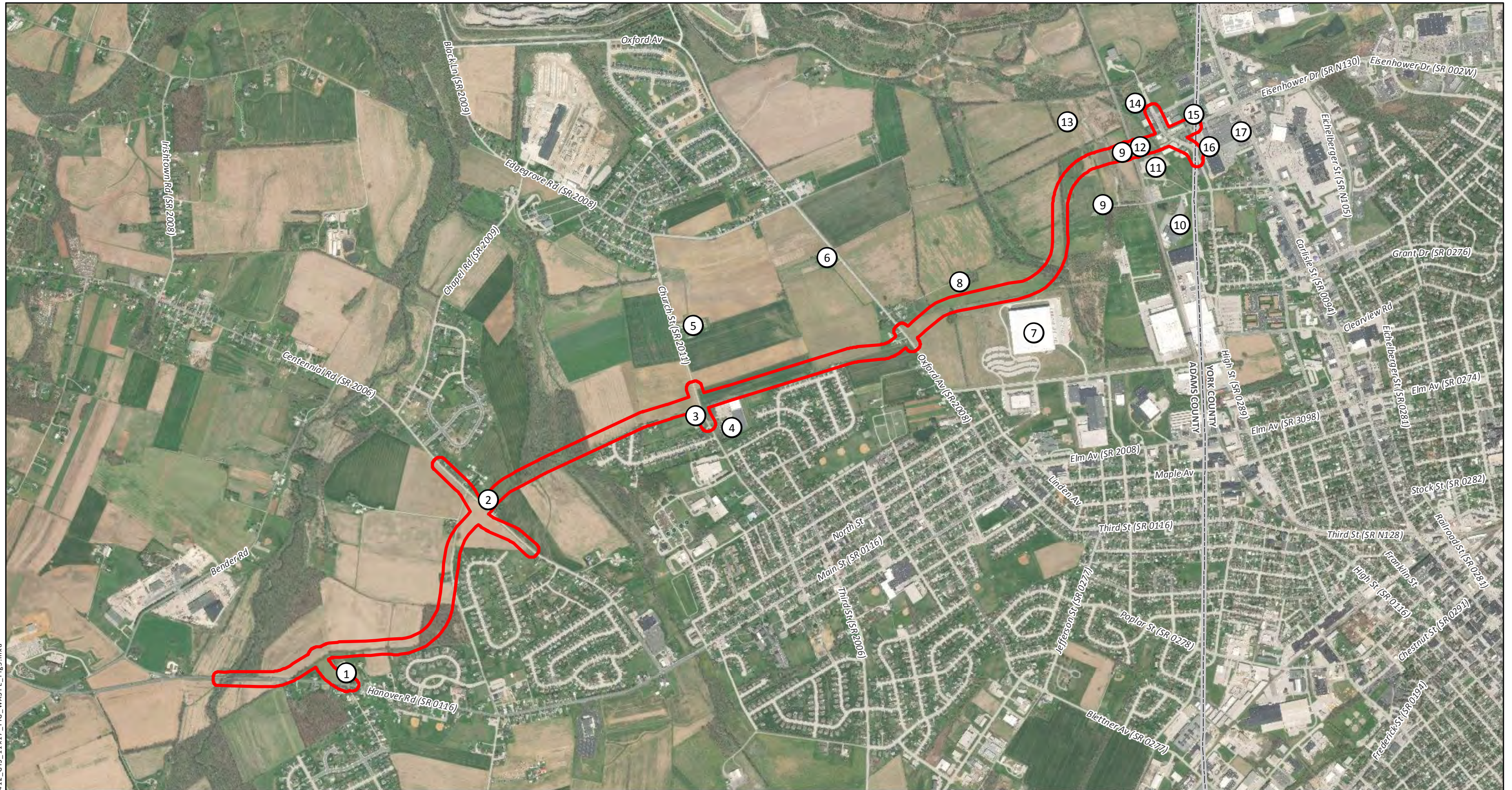
**EISENHOWER DRIVE
EXTENSION PROJECT**

**FIGURE 3
GEOLOGIC MAP**

ADAMS & YORK COUNTIES, PENNSYLVANIA



DATE:	10/22/2019
PROJECT NUMBER:	205094.12
DRAWN BY:	IGS
REVIEWED BY:	TRW
APPROVED BY:	KRR
SHEET:	1 OF 1



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DOCUMENT PREPARED FOR:
pennsylvania
 DEPARTMENT OF TRANSPORTATION

LEGEND:
 ① POTENTIAL WASTE SITE
 [Red Outline] AREA OF INVESTIGATION (AOI)
 [Dashed Line] COUNTY BOUNDARY

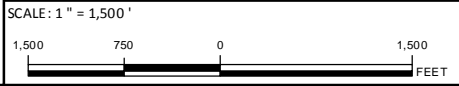
SITES:

Site 1 - Nick's Garage	Site 9 - Bare Property LP (WYCR-FM)
Site 2 - Dennis Stem (Formerly Mummert's Auto)	Site 10 - Miller Chemical & Fertilizer Corp.
Site 3 - Lamco Safety Products	Site 11 - Metropolitan Edison Co.
Site 4 - Ring Container Technologies	Site 12 - CSX Hanover Subdivision Line
Site 5 - Smith Real Estate Holdings LLC - Farm	Site 13 - Lois Whisler Property
Site 6 - Bare Development LP - Farm	Site 14 - Family First and 2 Trone Rental Properties
Site 7 - Clarks America	Site 15 - Hanover Nissan (Formerly Liberty Nissan)
Site 8 - Patrick & Elizabeth Sheaffer - Farm	Site 16 - Tractor Supply
	Site 17 - North Point Plaza (Formerly Liberty Nissan)

Basemap Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community

**EISENHOWER BOULEVARD
 EXTENSION PROJECT**

**FIGURE 4
 POTENTIAL WASTE SITES**
 ADAMS & YORK COUNTIES, PENNSYLVANIA



DATE:	10/22/2019
PROJECT NUMBER:	205094.12
DRAWN BY:	LGS
REVIEWED BY:	TRW
APPROVED BY:	KRR
SHEET:	1 OF 1

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APPENDIX B: SITE SKETCHES AND PHOTOGRAPHS

















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DOCUMENT PREPARED BY:
 54 Main Street, Unit 2
 Sturbridge, MA 01566
 t: 855.432.9663

DOCUMENT PREPARED FOR:


LEGEND:

 BACKGROUND SOIL SAMPLE LOCATION	 PHOTO LOCATION	 LIMIT OF DISTURBANCE (LOD)
 DISTURBED AREA SOIL SAMPLE LOCATION	 RECON NOTE	 AREA OF INVESTIGATION (AOI)
 BACKGROUND MONITORING WELL	 FORMER INTERCEPTOR TRENCH	 PROPERTY BOUNDARY
 DOWNGRADIENT MONITORING WELL	 DRY CREEK	 COUNTY BOUNDARY
	 RECON NOTE	
	 INFORMATION FROM PADEP FILE REVIEW DOCUMENTATION	

Basemap Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community





**EISENHOWER BOULEVARD
 EXTENSION PROJECT**

**APPENDIX B
 SITE SKETCHES**

ADAMS & YORK COUNTIES, PENNSYLVANIA

SCALE: 1" = 100'



	
DATE:	10/22/2019
PROJECT NUMBER:	205094.12
DRAWN BY:	TRW
REVIEWED BY:	JMG
APPROVED BY:	KRR
SHEET:	1 OF 17



DOCUMENT PREPARED BY:



54 Main Street, Unit 2
Sturbridge, MA 01566
t: 855.432.9663

DOCUMENT PREPARED FOR:



LEGEND:	
● BACKGROUND SOIL SAMPLE LOCATION	● RECON NOTE
● DISTURBED AREA SOIL SAMPLE LOCATION	— FORMER INTERCEPTOR TRENCH
⊕ BACKGROUND MONITORING WELL	— DRY CREEK
⊕ DOWNGRADIENT MONITORING WELL	 RECON NOTE
	 INFORMATION FROM PADEP FILE REVIEW DOCUMENTATION
	 LIMIT OF DISTURBANCE (LOD)
	 AREA OF INVESTIGATION (AOI)
	 PROPERTY BOUNDARY
	 COUNTY BOUNDARY

Basemap Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community

**EISENHOWER BOULEVARD
EXTENSION PROJECT**

**APPENDIX B
SITE SKETCHES**

ADAMS & YORK COUNTIES, PENNSYLVANIA

SCALE: 1" = 100'

DATE:	10/22/2019
PROJECT NUMBER:	205094.12
DRAWN BY:	TRW
REVIEWED BY:	JMG
APPROVED BY:	KRR
SHEET:	2 OF 17















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DOCUMENT PREPARED BY:
 54 Main Street, Unit 2
 Sturbridge, MA 01566
 t: 855.432.9663

DOCUMENT PREPARED FOR:

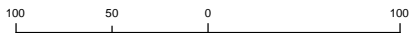

LEGEND:			
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	DISTURBED AREA SOIL SAMPLE LOCATION		RECON NOTE
	BACKGROUND MONITORING WELL		FORMER INTERCEPTOR TRENCH
	DOWNGRADIENT MONITORING WELL		DRY CREEK
			RECON NOTE
			INFORMATION FROM PADEP FILE REVIEW DOCUMENTATION
			LIMIT OF DISTURBANCE (LOD)
			AREA OF INVESTIGATION (AOI)
			PROPERTY BOUNDARY
			COUNTY BOUNDARY


Basemap Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community

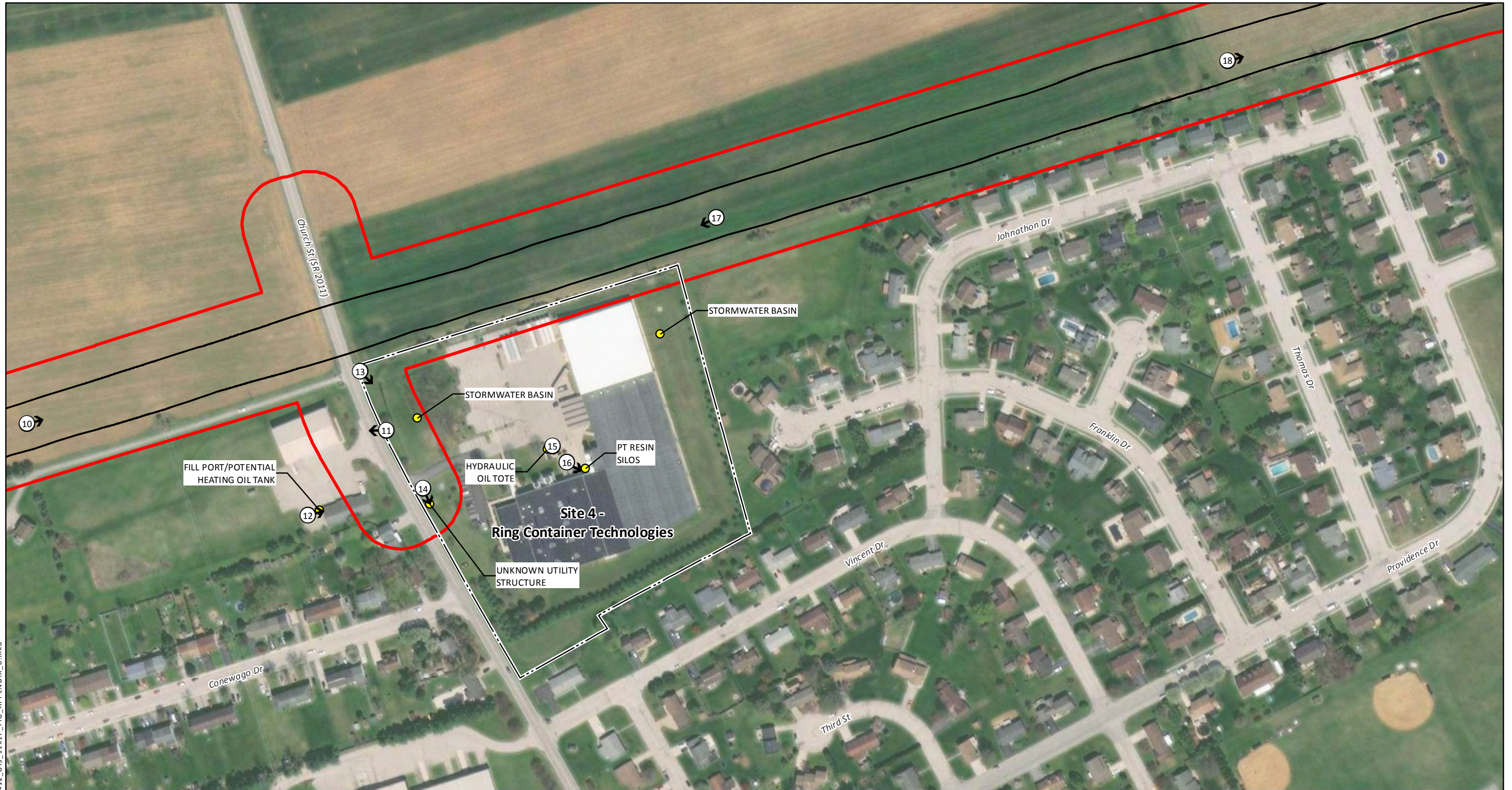


**EISENHOWER BOULEVARD
 EXTENSION PROJECT**
**APPENDIX B
 SITE SKETCHES**
 ADAMS & YORK COUNTIES, PENNSYLVANIA

SCALE: 1" = 100'

















	
DATE:	10/22/2019
PROJECT NUMBER:	205094.12
DRAWN BY:	TRW
REVIEWED BY:	JMG
APPROVED BY:	KRR
SHEET:	3 OF 17



L:\2005\005\12\05094_12\IMXD\20509412_GIS_11x17_FIG_APPENDIX_B.mxd

DOCUMENT PREPARED BY:
 54 Main Street, Unit 2
 Sturbridge, MA 01566
 t: 855.432.9663

DOCUMENT PREPARED FOR:



LEGEND:	
	BACKGROUND SOIL SAMPLE LOCATION
	DISTURBED AREA SOIL SAMPLE LOCATION
	BACKGROUND MONITORING WELL
	DOWNGRADIENT MONITORING WELL
	PHOTO LOCATION
	RECON NOTE
	FORMER INTERCEPTOR TRENCH
	DRY CREEK
	RECON NOTE
	INFORMATION FROM PADEP FILE REVIEW DOCUMENTATION
	LIMIT OF DISTURBANCE (LOD)
	AREA OF INVESTIGATION (AOI)
	PROPERTY BOUNDARY
	COUNTY BOUNDARY


Basemap Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community



**EISENHOWER BOULEVARD
 EXTENSION PROJECT**
**APPENDIX B
 SITE SKETCHES**
 ADAMS & YORK COUNTIES, PENNSYLVANIA

SCALE: 1" = 200'



	
DATE:	10/22/2019
PROJECT NUMBER:	205094.12
DRAWN BY:	TRW
REVIEWED BY:	JMG
APPROVED BY:	KRR
SHEET:	4 OF 17



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DOCUMENT PREPARED BY:
 54 Main Street, Unit 2
 Sturbridge, MA 01566
 t: 855.432.9663

DOCUMENT PREPARED FOR:


LEGEND:

BACKGROUND SOIL SAMPLE LOCATION	RECON NOTE	PHOTO LOCATION	LIMIT OF DISTURBANCE (LOD)
DISTURBED AREA SOIL SAMPLE LOCATION	FORMER INTERCEPTOR TRENCH	DRY CREEK	AREA OF INVESTIGATION (AOI)
BACKGROUND MONITORING WELL	RECON NOTE	PROPERTY BOUNDARY	COUNTY BOUNDARY
DOWNGRADIENT MONITORING WELL	INFORMATION FROM PADEP FILE REVIEW DOCUMENTATION		

Basemap Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community





**EISENHOWER BOULEVARD
 EXTENSION PROJECT**

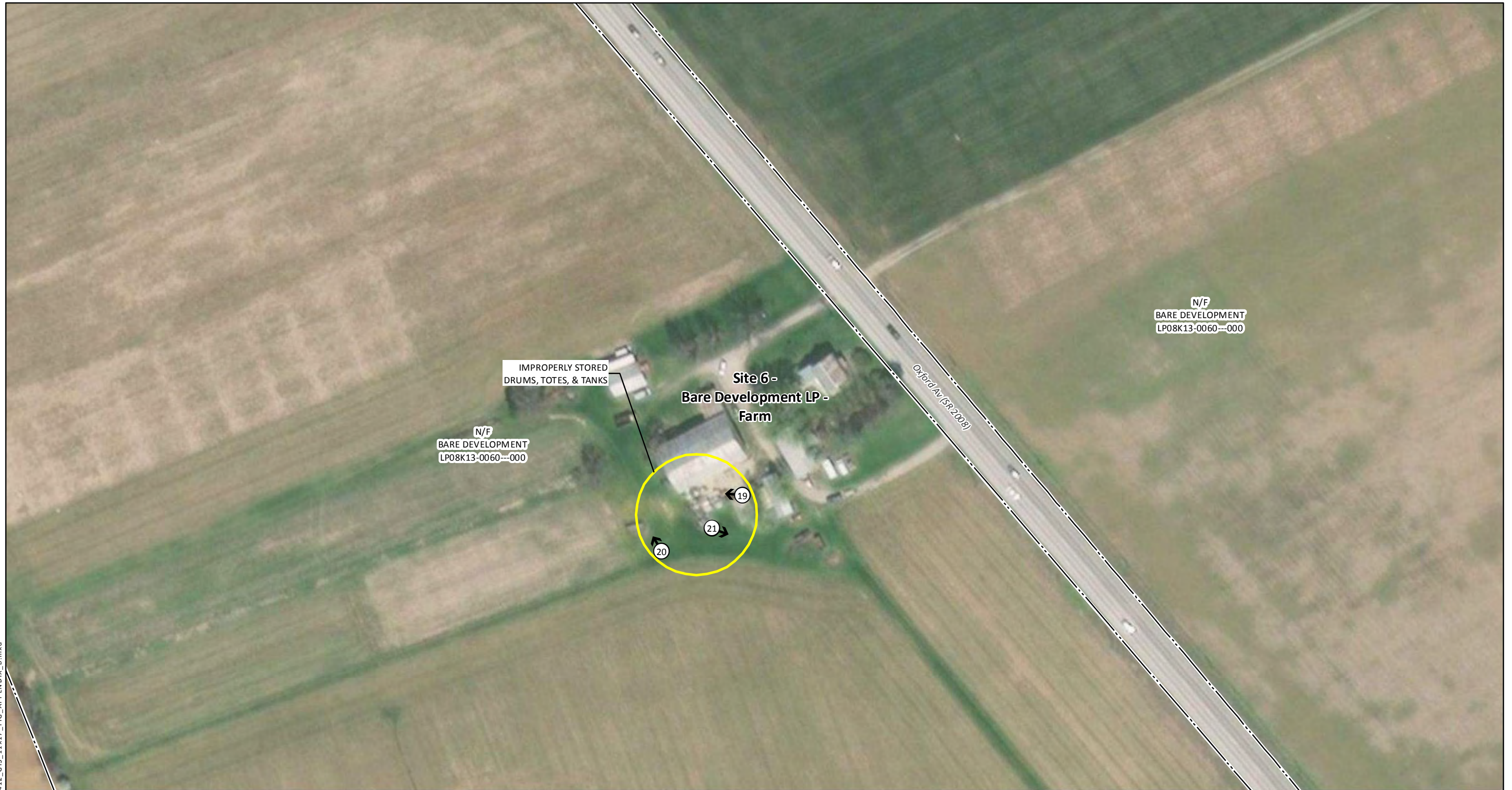
**APPENDIX B
 SITE SKETCHES**

ADAMS & YORK COUNTIES, PENNSYLVANIA

SCALE: 1" = 100'



	
DATE:	10/22/2019
PROJECT NUMBER:	205094.12
DRAWN BY:	TRW
REVIEWED BY:	JMG
APPROVED BY:	KRR
SHEET:	5 OF 17
















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 t: 855.432.9663

DOCUMENT PREPARED FOR:


LEGEND:


 BACKGROUND SOIL SAMPLE LOCATION	 RECON NOTE	 LIMIT OF DISTURBANCE (LOD)
 DISTURBED AREA SOIL SAMPLE LOCATION	 FORMER INTERCEPTOR TRENCH	 AREA OF INVESTIGATION (AOI)
 BACKGROUND MONITORING WELL	 DRY CREEK	 PROPERTY BOUNDARY
 DOWNGRADIENT MONITORING WELL	 RECON NOTE	 COUNTY BOUNDARY
	 INFORMATION FROM PADEP FILE REVIEW DOCUMENTATION	


Basemap Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community



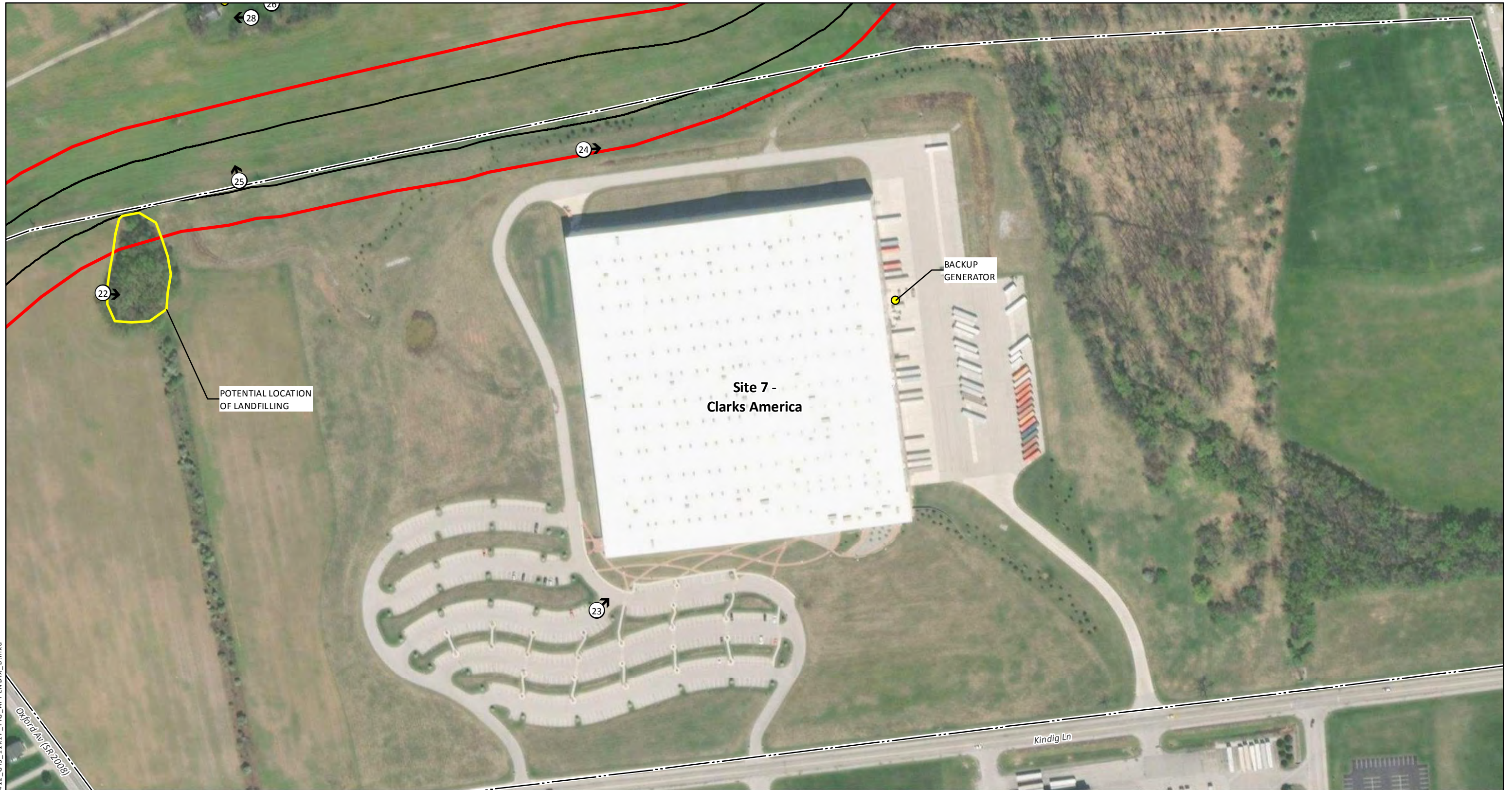
EISENHOWER BOULEVARD EXTENSION PROJECT
APPENDIX B
SITE SKETCHES
 ADAMS & YORK COUNTIES, PENNSYLVANIA

SCALE: 1" = 100'





DATE:	10/22/2019
PROJECT NUMBER:	205094.12
DRAWN BY:	TRW
REVIEWED BY:	JMG
APPROVED BY:	KRR
SHEET:	6 OF 17



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DOCUMENT PREPARED BY:



54 Main Street, Unit 2
Sturbridge, MA 01566
t: 855.432.9663

DOCUMENT PREPARED FOR:



LEGEND:

SAMPLE LOCATIONS

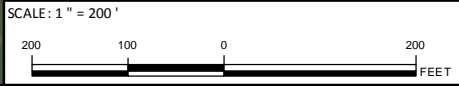
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- DISTURBED AREA SOIL SAMPLE LOCATION
- ⊕ BACKGROUND MONITORING WELL
- ⊕ DOWNGRADIENT MONITORING WELL
- ➔ PHOTO LOCATION
- RECON NOTE
- FORMER INTERCEPTOR TRENCH
- DRY CREEK
- RECON NOTE
- INFORMATION FROM PADEP FILE REVIEW DOCUMENTATION
- LIMIT OF DISTURBANCE (LOD)
- AREA OF INVESTIGATION (AOI)
- PROPERTY BOUNDARY
- COUNTY BOUNDARY

Basemap Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community



**EISENHOWER BOULEVARD
EXTENSION PROJECT**
**APPENDIX B
SITE SKETCHES**

ADAMS & YORK COUNTIES, PENNSYLVANIA



DATE:	10/22/2019
PROJECT NUMBER:	205094.12
DRAWN BY:	TRW
REVIEWED BY:	JMG
APPROVED BY:	KRR
SHEET:	7 OF 17

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DOCUMENT PREPARED BY:
DAWOOD 54 Main Street, Unit 2
 Sturbridge, MA 01566
 t: 855.432.9663



LEGEND:	
BACKGROUND SOIL SAMPLE LOCATION	RECON NOTE
DISTURBED AREA SOIL SAMPLE LOCATION	FORMER INTERCEPTOR TRENCH
BACKGROUND MONITORING WELL	DRY CREEK
DOWNGRADIENT MONITORING WELL	RECON NOTE
PHOTO LOCATION	INFORMATION FROM PADEP FILE REVIEW DOCUMENTATION
RECON NOTE	LIMIT OF DISTURBANCE (LOD)
FORMER INTERCEPTOR TRENCH	AREA OF INVESTIGATION (AOI)
DRY CREEK	PROPERTY BOUNDARY
RECON NOTE	COUNTY BOUNDARY
INFORMATION FROM PADEP FILE REVIEW DOCUMENTATION	

Basemap Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community



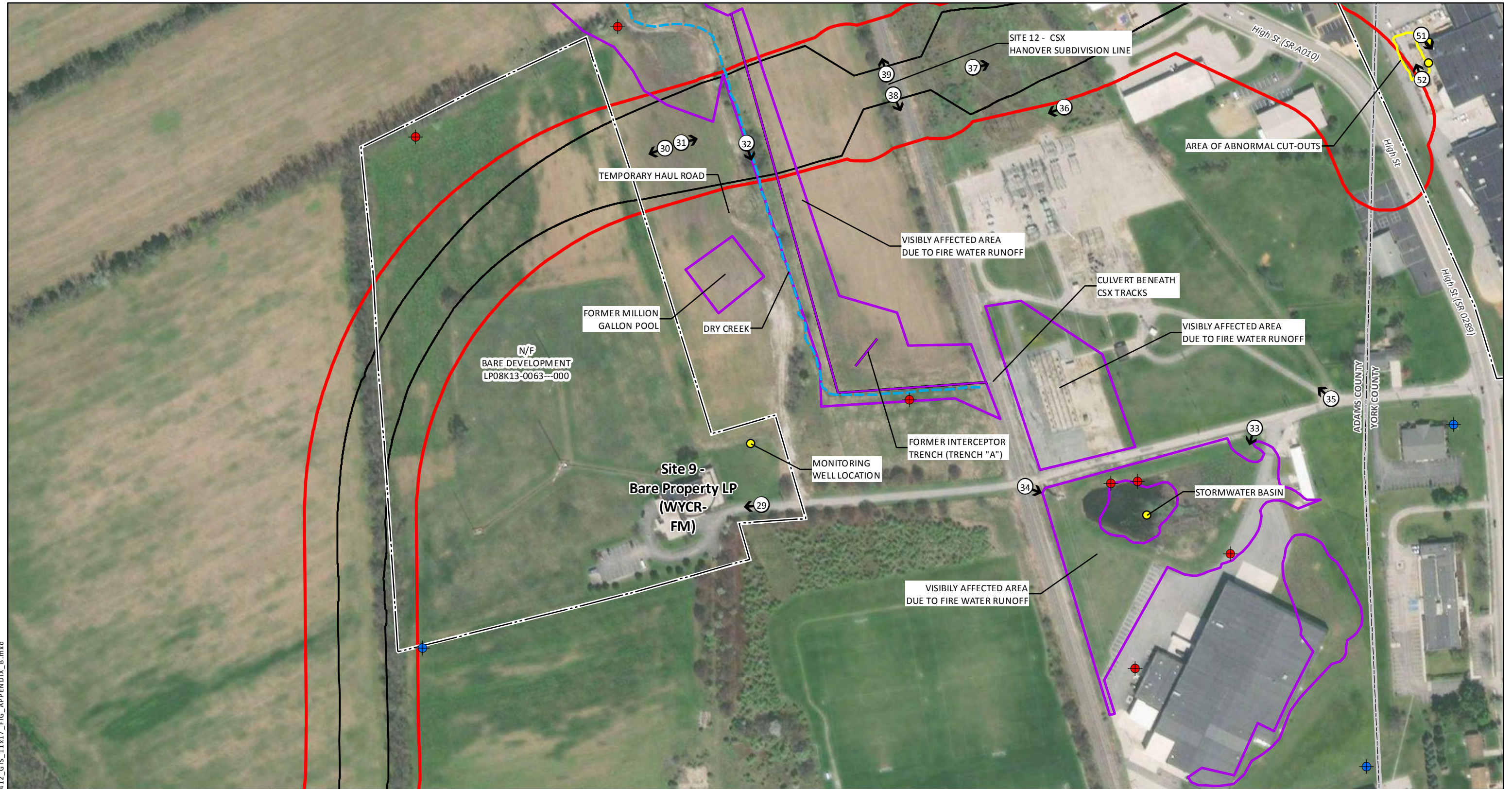
**EISENHOWER BOULEVARD
 EXTENSION PROJECT**

**APPENDIX B
 SITE SKETCHES**

ADAMS & YORK COUNTIES, PENNSYLVANIA

SCALE: 1" = 100'















DATE:	10/22/2019
PROJECT NUMBER:	205094.12
DRAWN BY:	TRW
REVIEWED BY:	JMG
APPROVED BY:	KRR
SHEET:	8 OF 17



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DOCUMENT PREPARED BY:
 54 Main Street, Unit 2
 Sturbridge, MA 01566
 t: 855.432.9663

DOCUMENT PREPARED FOR:



LEGEND:	
	BACKGROUND SOIL SAMPLE LOCATION
	DISTURBED AREA SOIL SAMPLE LOCATION
	BACKGROUND MONITORING WELL
	DOWNGRADE MONITORING WELL
	PHOTO LOCATION
	RECON NOTE
	FORMER INTERCEPTOR TRENCH
	DRY CREEK
	RECON NOTE
	INFORMATION FROM PADEP FILE REVIEW DOCUMENTATION
	LIMIT OF DISTURBANCE (LOD)
	AREA OF INVESTIGATION (AOI)
	PROPERTY BOUNDARY
	COUNTY BOUNDARY


Basemap Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community



**EISENHOWER BOULEVARD
 EXTENSION PROJECT**
**APPENDIX B
 SITE SKETCHES**
 ADAMS & YORK COUNTIES, PENNSYLVANIA

SCALE: 1" = 200'



	
DATE:	10/22/2019
PROJECT NUMBER:	205094.12
DRAWN BY:	TRW
REVIEWED BY:	JMG
APPROVED BY:	KRR
SHEET:	9 OF 17



L:\2005\05\12\05094_12\IMXD\20509412_GIS_11x17_FIG_APPENDIX_B.mxd

DOCUMENT PREPARED BY:



54 Main Street, Unit 2
Sturbridge, MA 01566
t: 855.432.9663

DOCUMENT PREPARED FOR:



LEGEND:

SAMPLE LOCATIONS

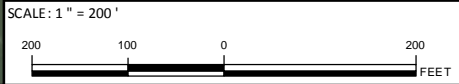
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- DISTURBED AREA SOIL SAMPLE LOCATION
- ⊕ BACKGROUND MONITORING WELL
- ⊕ DOWNGRADIENT MONITORING WELL
- RECON NOTE
- FORMER INTERCEPTOR TRENCH
- DRY CREEK
- RECON NOTE
- INFORMATION FROM PADEP FILE REVIEW DOCUMENTATION
- LIMIT OF DISTURBANCE (LOD)
- AREA OF INVESTIGATION (AOI)
- PROPERTY BOUNDARY
- COUNTY BOUNDARY
- ➔ PHOTO LOCATION

Basemap Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community

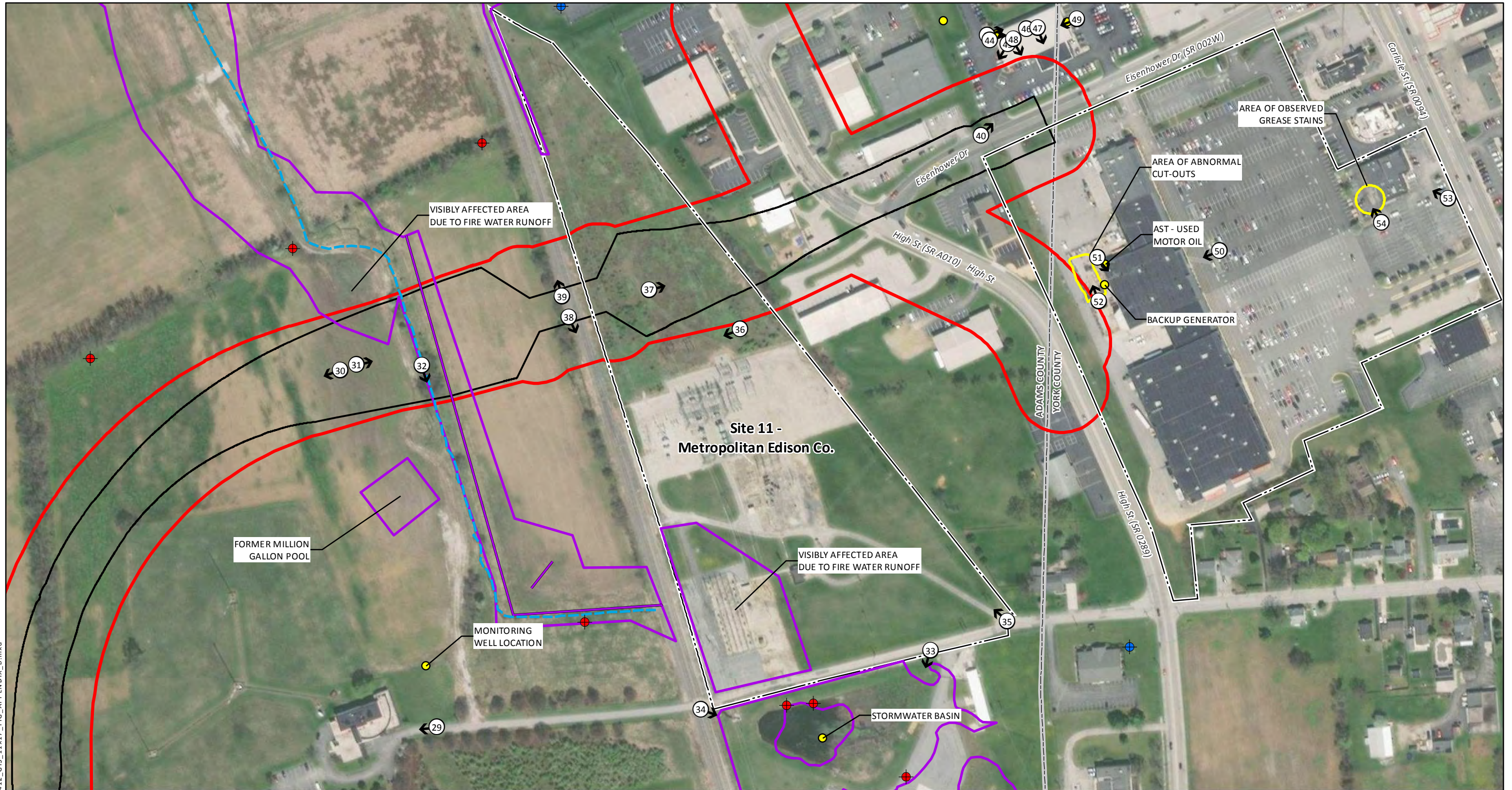


**EISENHOWER BOULEVARD
EXTENSION PROJECT**
**APPENDIX B
SITE SKETCHES**

ADAMS & YORK COUNTIES, PENNSYLVANIA



DATE: 10/22/2019
PROJECT NUMBER: 205094.12
DRAWN BY: TRW
REVIEWED BY: JMG
APPROVED BY: KRR
SHEET: 10 OF 17



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DOCUMENT PREPARED BY:



54 Main Street, Unit 2
Sturbridge, MA 01566
t: 855.432.9663

DOCUMENT PREPARED FOR:



LEGEND:

BACKGROUND SOIL SAMPLE LOCATION	RECON NOTE	LIMIT OF DISTURBANCE (LOD)
DISTURBED AREA SOIL SAMPLE LOCATION	FORMER INTERCEPTOR TRENCH	AREA OF INVESTIGATION (AOI)
BACKGROUND MONITORING WELL	DRY CREEK	PROPERTY BOUNDARY
DOWNGRADIENT MONITORING WELL	RECON NOTE	COUNTY BOUNDARY
	INFORMATION FROM PADEP FILE REVIEW DOCUMENTATION	

Basemap Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community




EISENHOWER BOULEVARD EXTENSION PROJECT

APPENDIX B


SITE SKETCHES

ADAMS & YORK COUNTIES, PENNSYLVANIA

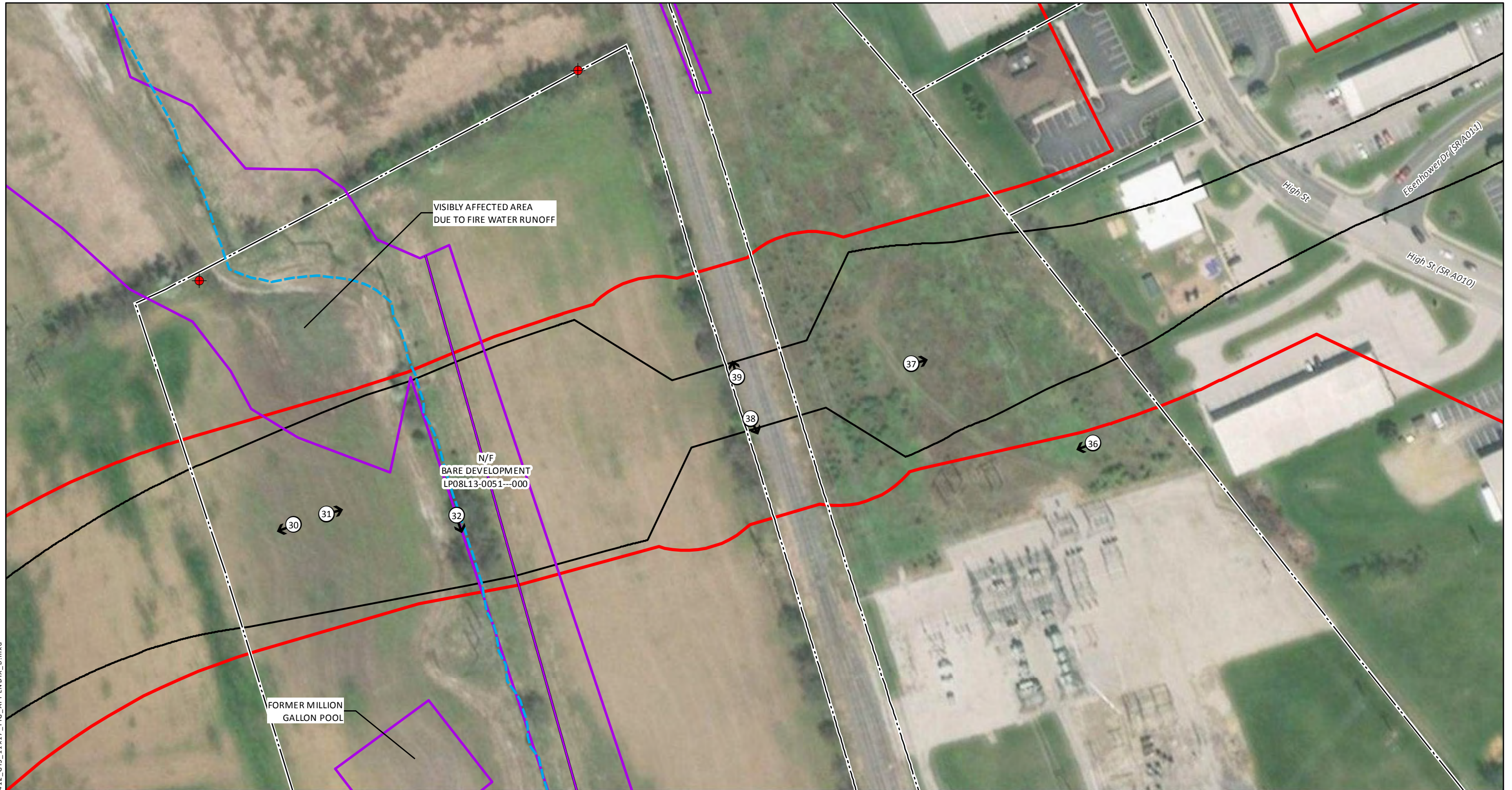
SCALE: 1" = 200'



N



DATE:	10/22/2019
PROJECT NUMBER:	205094.12
DRAWN BY:	TRW
REVIEWED BY:	JMG
APPROVED BY:	KRR
SHEET:	11 OF 17



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DOCUMENT PREPARED BY:



54 Main Street, Unit 2
Sturbridge, MA 01566
t: 855.432.9663

DOCUMENT PREPARED FOR:



LEGEND:

SAMPLE LOCATIONS

- BACKGROUND SOIL SAMPLE LOCATION
- DISTURBED AREA SOIL SAMPLE LOCATION
- ⊕ BACKGROUND MONITORING WELL
- ⊕ DOWNGRAIDENT MONITORING WELL
- RECON NOTE
- FORMER INTERCEPTOR TRENCH
- - - DRY CREEK
- RECON NOTE
- INFORMATION FROM PADEP FILE REVIEW DOCUMENTATION

- LIMIT OF DISTURBANCE (LOD)
- AREA OF INVESTIGATION (AOI)
- PROPERTY BOUNDARY
- COUNTY BOUNDARY

i PHOTO LOCATION

● RECON NOTE

— FORMER INTERCEPTOR TRENCH

- - - DRY CREEK

RECON NOTE

INFORMATION FROM PADEP FILE REVIEW DOCUMENTATION

Basemap Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community

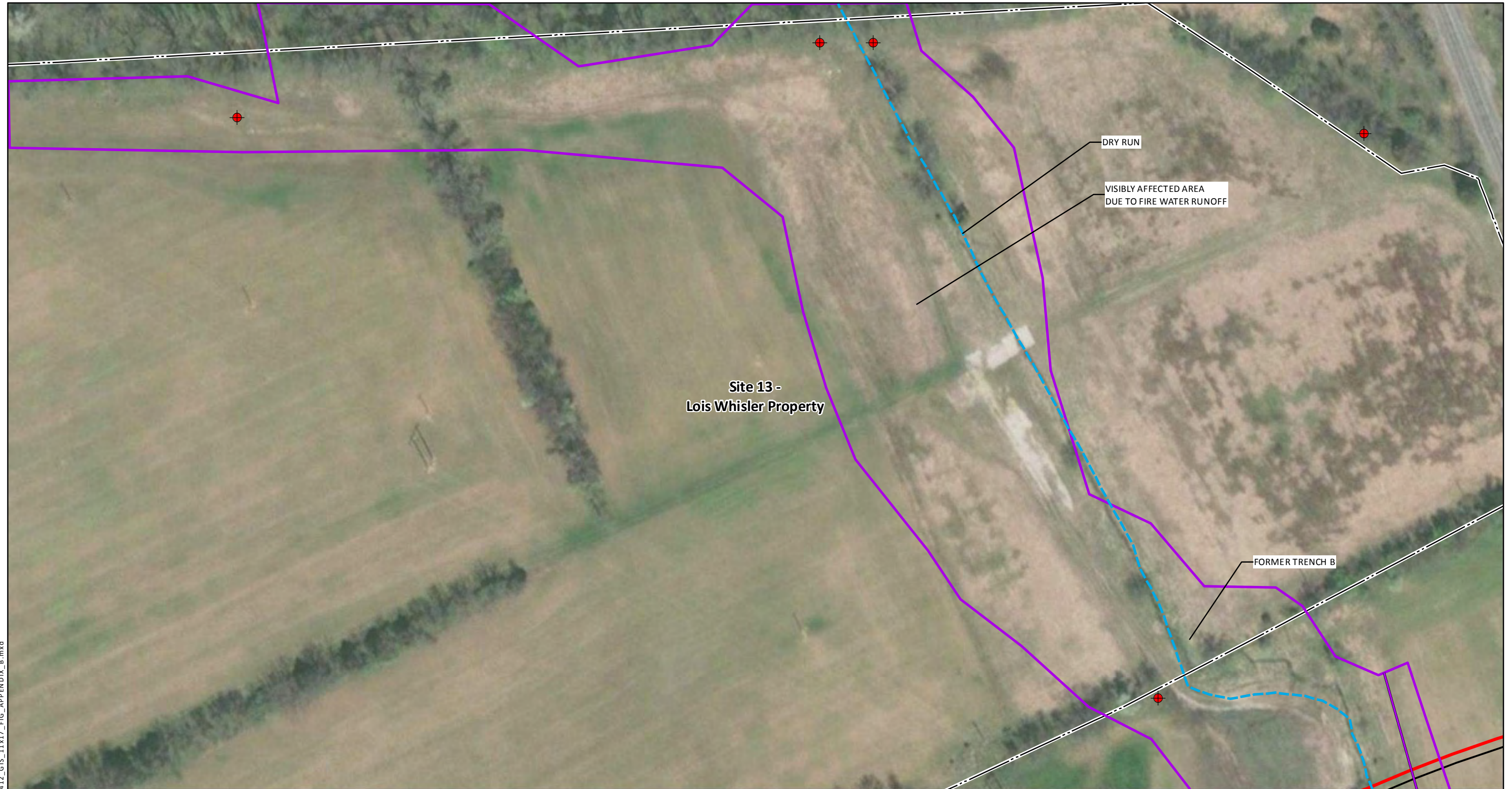


**EISENHOWER BOULEVARD
EXTENSION PROJECT**
**APPENDIX B
SITE SKETCHES**

ADAMS & YORK COUNTIES, PENNSYLVANIA



N 	
DATE:	10/22/2019
PROJECT NUMBER:	205094.12
DRAWN BY:	TRW
REVIEWED BY:	JMG
APPROVED BY:	KRR
SHEET:	12 OF 17



Site 13 -
Lois Whisler Property

DRY RUN















VISIBLY AFFECTED AREA
DUE TO FIRE WATER RUNOFF

FORMER TRENCH B

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DOCUMENT PREPARED BY:
 54 Main Street, Unit 2
 Sturbridge, MA 01566
 t: 855.432.9663


DOCUMENT PREPARED FOR:

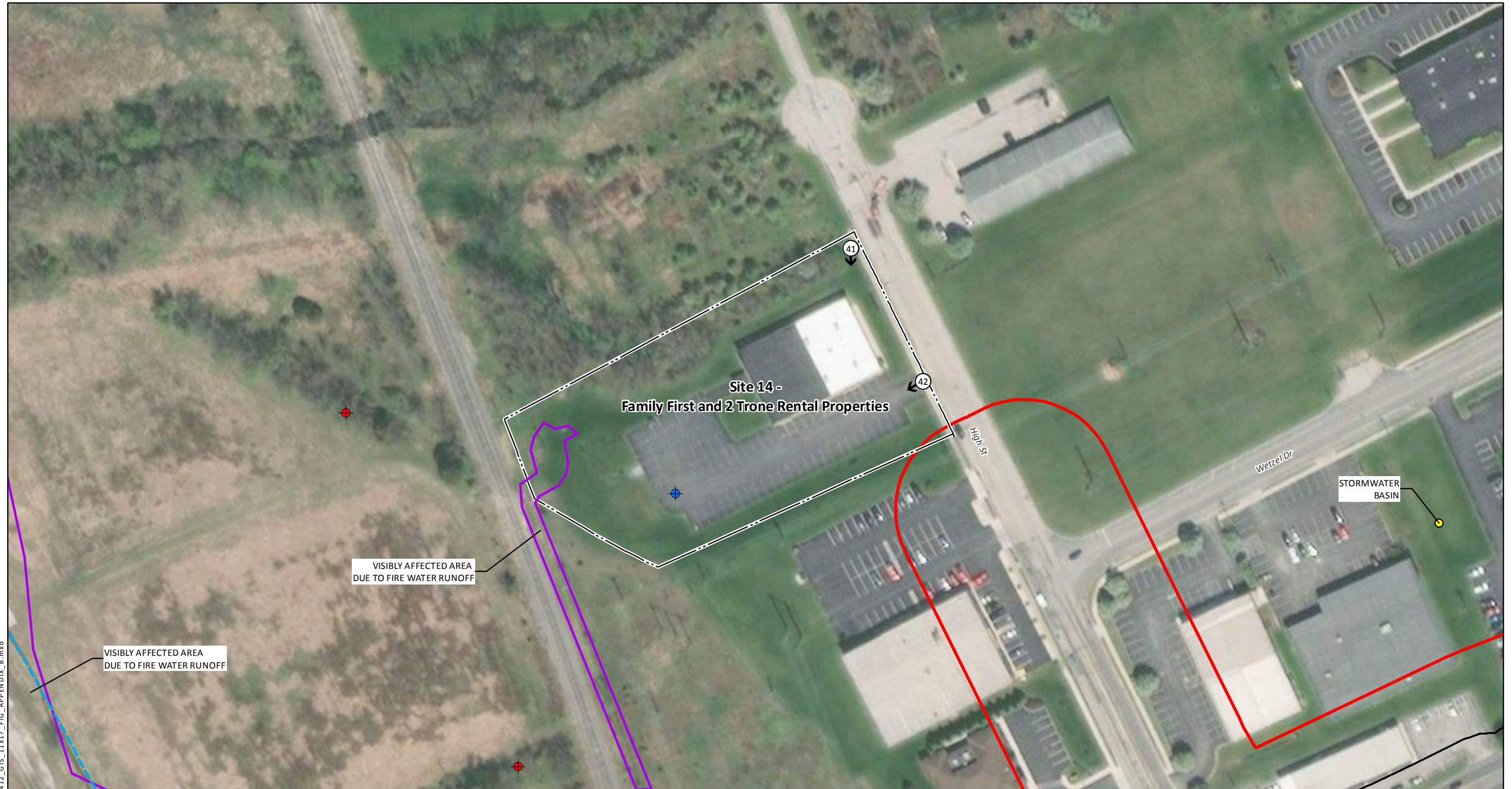

LEGEND:			
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	DISTURBED AREA SOIL SAMPLE LOCATION		RECON NOTE
	BACKGROUND MONITORING WELL		FORMER INTERCEPTOR TRENCH
	DOWNGRADIENT MONITORING WELL		DRY CREEK
			RECON NOTE
			INFORMATION FROM PADEP FILE REVIEW DOCUMENTATION
			LIMIT OF DISTURBANCE (LOD)
			AREA OF INVESTIGATION (AOI)
			PROPERTY BOUNDARY
			COUNTY BOUNDARY

Basemap Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community



EISENHOWER BOULEVARD
EXTENSION PROJECT
APPENDIX B
SITE SKETCHES
 ADAMS & YORK COUNTIES, PENNSYLVANIA
 SCALE: 1" = 100'


	
DATE:	10/22/2019
PROJECT NUMBER:	205094.12
DRAWN BY:	TRW
REVIEWED BY:	JMG
APPROVED BY:	KRR
SHEET:	13 OF 17



L:\2005\jobs\205094_12\IMXD\20509412_GIS_11x17_FIG_APPENDIX_B.mxd

DOCUMENT PREPARED BY:
 54 Main Street, Unit 2
 Sturbridge, MA 01566
 t: 855.432.9663

DOCUMENT PREPARED FOR:



LEGEND:	
BACKGROUND SOIL SAMPLE LOCATION	RECON NOTE
DISTURBED AREA SOIL SAMPLE LOCATION	FORMER INTERCEPTOR TRENCH
BACKGROUND MONITORING WELL	DRY CREEK
DOWNGRAIDENT MONITORING WELL	RECON NOTE
	INFORMATION FROM PADEP FILE REVIEW DOCUMENTATION
LIMIT OF DISTURBANCE (LOD)	PROPERTY BOUNDARY
AREA OF INVESTIGATION (AOI)	COUNTY BOUNDARY


Basemap Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community



**EISENHOWER BOULEVARD
 EXTENSION PROJECT**
**APPENDIX B
 SITE SKETCHES**
 ADAMS & YORK COUNTIES, PENNSYLVANIA

SCALE: 1" = 100'

















	
DATE:	10/22/2019
PROJECT NUMBER:	205094.12
DRAWN BY:	TRW
REVIEWED BY:	JMG
APPROVED BY:	KRR
SHEET:	14 OF 17



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DOCUMENT PREPARED BY:
 54 Main Street, Unit 2
 Sturbridge, MA 01566
 t: 855.432.9663

DOCUMENT PREPARED FOR:


LEGEND:			
	BACKGROUND SOIL SAMPLE LOCATION		PHOTO LOCATION
	DISTURBED AREA SOIL SAMPLE LOCATION		RECON NOTE
	BACKGROUND MONITORING WELL		FORMER INTERCEPTOR TRENCH
	DOWNGRADIENT MONITORING WELL		DRY CREEK
			RECON NOTE
			INFORMATION FROM PADEP FILE REVIEW DOCUMENTATION
			LIMIT OF DISTURBANCE (LOD)
			AREA OF INVESTIGATION (AOI)
			PROPERTY BOUNDARY
			COUNTY BOUNDARY


Basemap Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community




EISENHOWER BOULEVARD EXTENSION PROJECT
APPENDIX B
SITE SKETCHES

ADAMS & YORK COUNTIES, PENNSYLVANIA

SCALE: 1" = 100'

















	
DATE:	10/22/2019
PROJECT NUMBER:	205094.12
DRAWN BY:	TRW
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SHEET:	15 OF 17



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DOCUMENT PREPARED BY:
 54 Main Street, Unit 2
 Sturbridge, MA 01566
 t: 855.432.9663

DOCUMENT PREPARED FOR:



LEGEND:	
	BACKGROUND SOIL SAMPLE LOCATION
	DISTURBED AREA SOIL SAMPLE LOCATION
	BACKGROUND MONITORING WELL
	DOWNGRADIENT MONITORING WELL
	PHOTO LOCATION
	RECON NOTE
	FORMER INTERCEPTOR TRENCH
	DRY CREEK
	RECON NOTE
	INFORMATION FROM PADEP FILE REVIEW DOCUMENTATION
	LIMIT OF DISTURBANCE (LOD)
	AREA OF INVESTIGATION (AOI)
	PROPERTY BOUNDARY
	COUNTY BOUNDARY


Basemap Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community



**EISENHOWER BOULEVARD
 EXTENSION PROJECT**
**APPENDIX B
 SITE SKETCHES**
 ADAMS & YORK COUNTIES, PENNSYLVANIA

SCALE: 1" = 100'



	
DATE:	10/22/2019
PROJECT NUMBER:	205094.12
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











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DOCUMENT PREPARED BY:
 54 Main Street, Unit 2
 Sturbridge, MA 01566
 t: 855.432.9663

DOCUMENT PREPARED FOR:


LEGEND:

 BACKGROUND SOIL SAMPLE LOCATION	 PHOTO LOCATION	 LIMIT OF DISTURBANCE (LOD)
 DISTURBED AREA SOIL SAMPLE LOCATION	 RECON NOTE	 AREA OF INVESTIGATION (AOI)
 BACKGROUND MONITORING WELL	 FORMER INTERCEPTOR TRENCH	 PROPERTY BOUNDARY
 DOWNGRADIENT MONITORING WELL	 DRY CREEK	 COUNTY BOUNDARY
	 RECON NOTE	
	 INFORMATION FROM PADEP FILE REVIEW DOCUMENTATION	

Basemap Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community




**EISENHOWER BOULEVARD
 EXTENSION PROJECT**


**APPENDIX B
 SITE SKETCHES**

ADAMS & YORK COUNTIES, PENNSYLVANIA

SCALE: 1" = 100'



N



DATE:	10/22/2019
PROJECT NUMBER:	205094.12
DRAWN BY:	TRW
REVIEWED BY:	JMG
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SHEET:	17 OF 17



1. VIEW OF PROPOSED PROJECT AREA LOOKING NORTHEAST



2. VIEW OF PROPOSED PROJECT AREA LOOKING SOUTHWEST



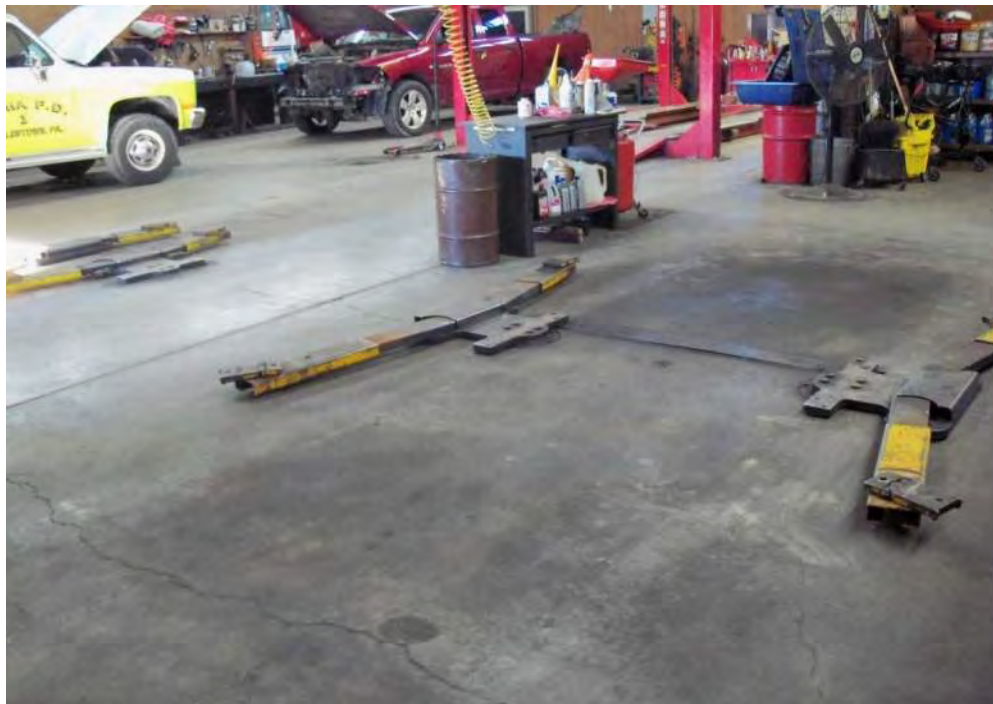
3. VIEW OF NICK'S GARAGE EXTERIOR, LOOKING NORTH



4. VIEW OF UST CONTAINING WASTE OIL



5. VIEW OF DRUM STORAGE ON EXTERIOR OF BUILDING



6. VIEW OF IN-GROUND LIFT IN NICK'S GARAGE SERVICE AREA



7. VIEW OF HYDRAULIC OIL TANK ASSOCIATED WITH IN-GROUND LIFT



8. VIEW OF FORMER MUMMERT'S AUTO BUILDING, LOOKING NORTHEAST



9. VIEW OF PROJECT AREA FROM FORMER MUMMERT'S AUTO PARKING LOT



10. VIEW OF PROPOSED PROJECT AREA LOOKING EAST-NORTHEAST



11. VIEW OF VACANT LAMCO BUILDING, LOOKING WEST



12. VIEW OF POTENTIAL FILL PORT



13. VIEW OF PROPERTY OPERATED BY RING TECHNOLOGIES



14. VIEW OF UNKNOWN UTILITY STRUCTURE



15. VIEW OF 1250-LITER HYDRAULIC TOTE



16. VIEW OF RING TECHNOLOGIES' PT-RESIN SILOS



17. VIEW OF PROJECT AREA LOOKING WEST-SOUTHWEST



18. VIEW OF PROJECT AREA LOOKING EAST-NORTHEAST



19. VIEW OF TOTES, DRUMS, AND OTHER IMPROPERLY STORED STORED CONTAINERS



20. VIEW OF TOTES OF AGRICHEMICALS STORED ON SITE (TOTE ON LEFT LABELED "TERMIX 5819")



21. VIEW OF 55-GALLON DRUM WITH OBSERVED BULGING



22. VIEW OF AOC WHERE SUSPECTED PRIOR LANDFILLING



23. VIEW OF CLARKS AMERICA BUILDING LOOKING NORTHEAST



24. VIEW OF PROPOSED PROJECT AREA BEHIND CLARKS AMERICA



25. VIEW FROM PROJECT AREA LOOKING TOWARD SCHEAFFER FARM HOUSE



26. VIEW OF DEBRIS PILE ON SCHEAFFER PROPERTY, 55-GALLON DRUMS VISIBLE



27. VIEW OF HOME HEATING OIL TANKS ON SCHEAFFER PROPERTY



28. VIEW OF BACK OF FARM HOUSE, PROPANE TANK VISIBLE



29. VIEW OF WYCR-FM BUILDING ON BARE DEVELOPMENT LP PROPERTY, LOOKING WEST



30. VIEW OF PROPOSED PROJECT AREA LOOKING WEST



31. VIEW OF PROPOSED PROJECT AREA LOOKING EAST



32. VIEW OF UNT THAT CARRIED RELEASED MATERIALS FROM MILL CHEMICAL FIRE



33. VIEW OF MILLER CHEMICAL BUILDING LOOKING SOUTHWEST



34. VIEW OF STORMWATER BASIN AND SURFACE WATER DISCHARGE ON MILLER CHEMICAL PROPERTY



35. VIEW OF MET-ED SUBSTATION LOOKING NORTHWEST



36. VIEW OF AREA BETWEEN PROPOSED PROJECT AREA AND SUBSTATION LOOKING SOUTHWEST



37. VIEW OF PROPOSED PROJECT AREA LOOKING EAST



38. VIEW OF CSX RAIL LINE LOOKING SOUTH-SOUTHEAST



39. VIEW OF CSX RAIL LINE LOOKING NORTH FROM PROJECT AREA



40. VIEW OF HANOVER NISSAN BUILDING LOOKING NORTHWEST



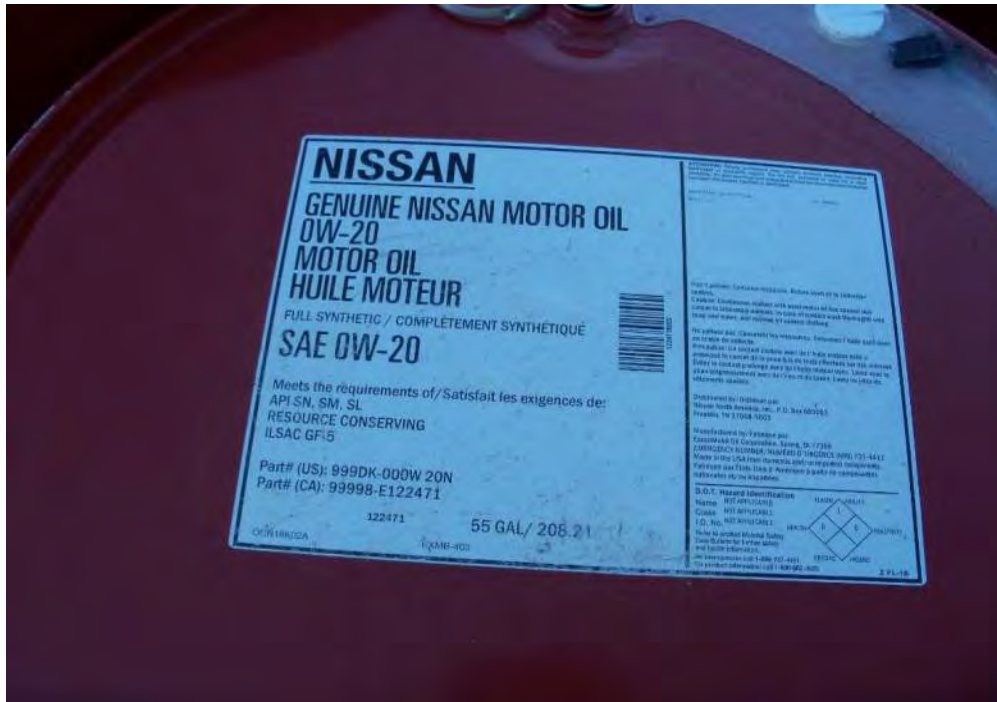
41. FAMILY FIRST BUILDING REAR FROM 2 TRONE RENTAL ROAD FRONTAGE



42. VIEW OF FAMILY FIRST PARKING LOT LOOKING TOWARDS PROJECT AREA



43. VIEW OF DRUMS AND TANK FOR MOTOR OIL LOCATED ON EXTERIOR OF BUILDING



44. VIEW OF LABEL ON 55-GALLON DRUM ON EXTERIOR OF HANOVER NISSAN



45. VIEW OF USED MOTOR OIL AST AT HANOVER NISSAN



46. VIEW OF SERVICE BAY IN HANOVER NISSAN



47. VIEW OF CLEANING BAY WITH DRAIN IN HANOVER NISSAN



48. EXAMPLE OF 55-GALLON MOTOR OIL DRUMS STORED AT HANOVER NISSAN



49. VIEW OF WASH WATER HOLDING TANK ACCESS POINT AT HANOVER NISSAN



50. VIEW OF TRACTOR SUPPLY BUILDING LOOKING SOUTHWEST



51. VIEW OF USED MOTOR OIL TANK AT TRACTOR SUPPLY



52. VIEW OF ABNORMAL CUT-OUTS IN TRACTOR SUPPLY STORAGE AREA



53. VIEW OF AKI BUILDING (FORMERLY LIBERTY NISSAN) LOOKING NORTHWEST



54. VIEW OF AKI BUILDING (FORMERLY LIBERTY NISSAN) LOOKING NORTH

APPENDIX C: EDR AERIAL PHOTO DECADE PACKAGE



Eisenhower Drive Extension

Eisenhower Drive Extension

Hanover, PA 17331

Inquiry Number: 5531303.7

January 14, 2019

The EDR Aerial Photo Decade Package



6 Armstrong Road, 4th floor
Shelton, CT 06484
Toll Free: 800.352.0050
www.edrnet.com

Date EDR Searched Historical Sources:

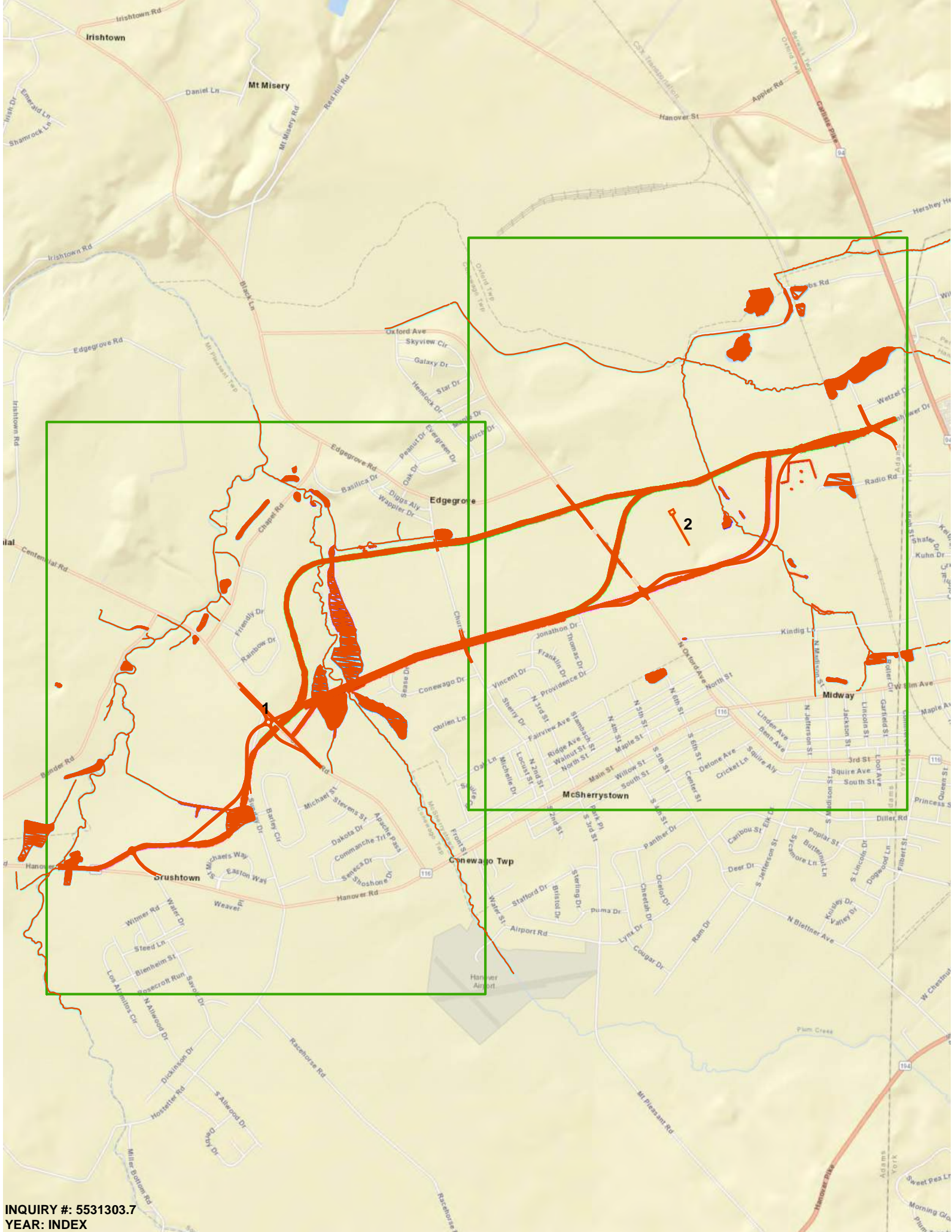
Aerial Photography January 14, 2019

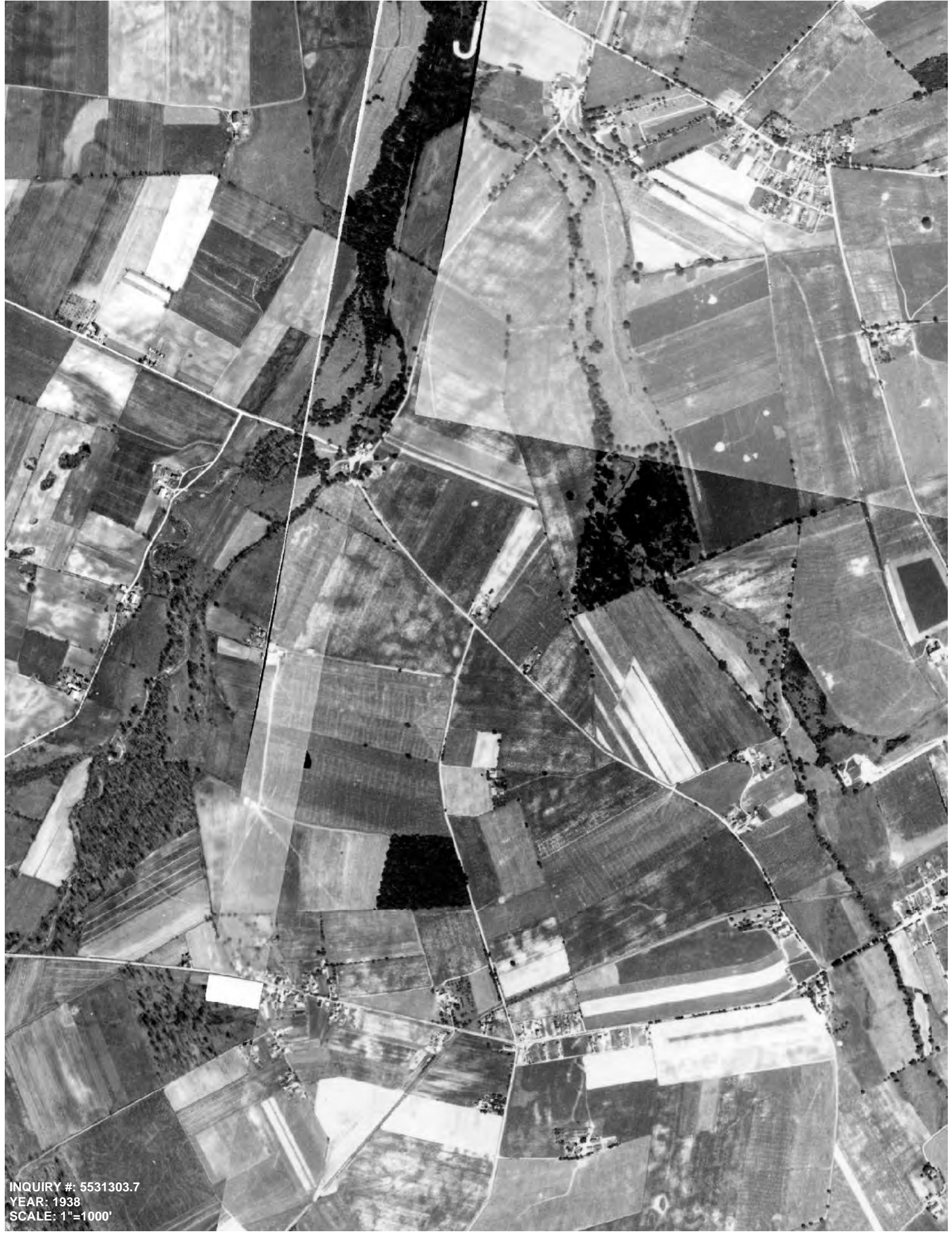
Target Property:

Eisenhower Drive Extension

Hanover, PA 17331

<u><i>Year</i></u>	<u><i>Scale</i></u>	<u><i>Details</i></u>	<u><i>Source</i></u>
1938	Aerial Photograph. Scale: 1"=1000'	Flight Year: 1938	USDA
1943	Aerial Photograph. Scale: 1"=1000'	Flight Year: 1943	USDA
1952	Aerial Photograph. Scale: 1"=1000'	Flight Year: 1952	USGS
1959	Aerial Photograph. Scale: 1"=1000'	Flight Year: 1959	USGS
1971	Aerial Photograph. Scale: 1"=1000'	Flight Year: 1971	USGS
1977	Aerial Photograph. Scale: 1"=1000'	Flight Year: 1977	USGS
1981	Aerial Photograph. Scale: 1"=1000'	Flight Year: 1981	USDA
1992-1993	Aerial Photograph. Scale: 1"=1000'	Flight Year: 1992-1993	DOQQ_USGS
2004	Aerial Photograph. Scale: 1"=1000'	Flight Year: 2004	NAIP_USGS
2010	Aerial Photograph. Scale: 1"=1000'	Flight Year: 2010	NAIP_USGS
2013	Aerial Photograph. Scale: 1"=1000'	Flight Year: 2013	NAIP_USGS
2017	Aerial Photograph. Scale: 1"=1000'	Flight Year: 2017	NAIP_USGS





INQUIRY #: 5531303.7
YEAR: 1938
SCALE: 1"=1000'



INQUIRY #: 5531303.7
YEAR: 1938
SCALE: 1"=1000'

12-19-43



145 PM

SCS 1:20,000

145 PM

SCS 1:20,000



INQUIRY #: 5531303.7
YEAR: 1943
SCALE: 1"=1000'



INQUIRY #: 5531303.7
YEAR: 1952
SCALE: 1"=1000'



INQUIRY #: 5531303.7
YEAR: 1952
SCALE: 1"=1000'



INQUIRY #: 5531303.7
YEAR: 1959
SCALE: 1"=1000'



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YEAR: 1959
SCALE: 1" = 1000'



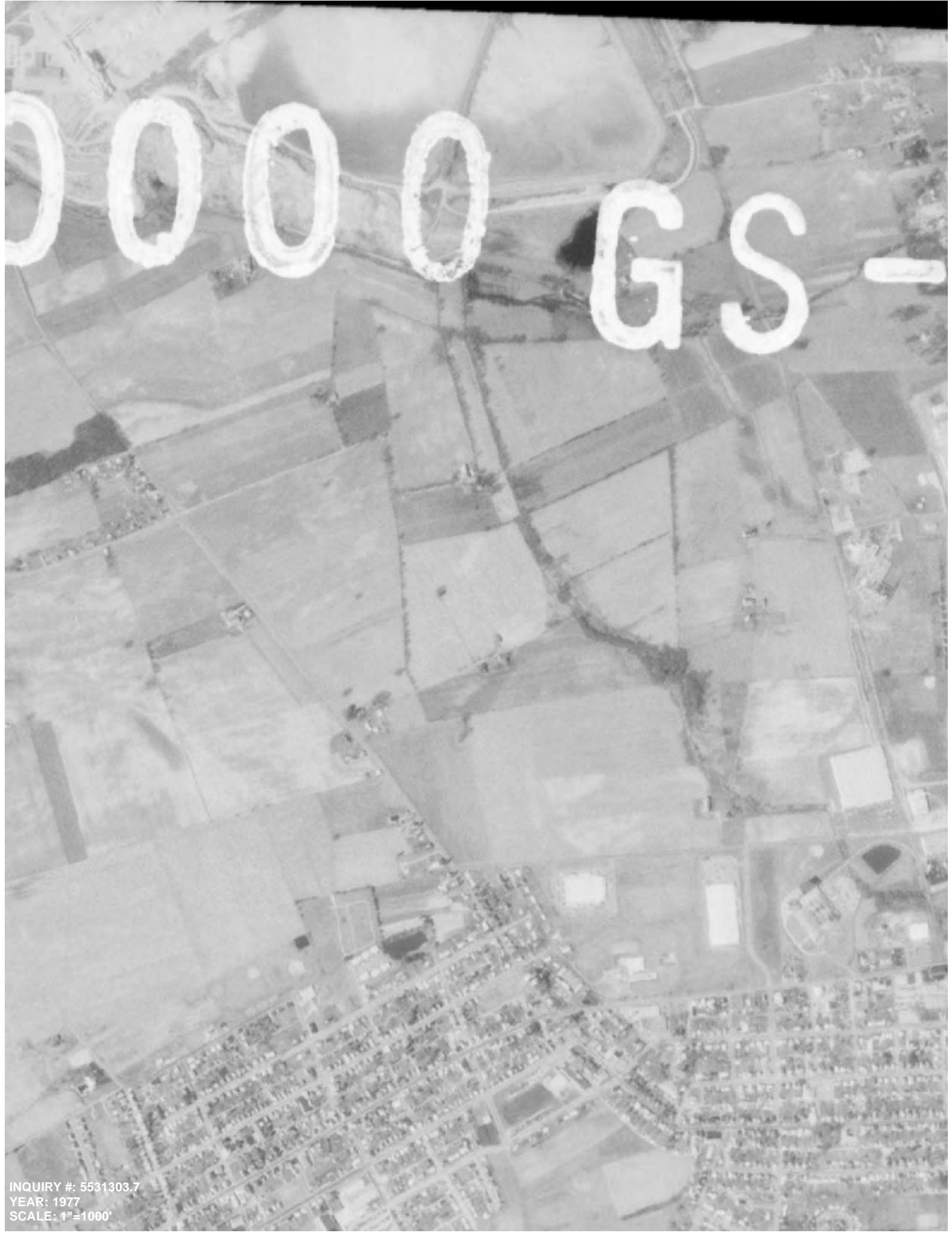
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YEAR: 1971
SCALE: 1"=1000'



INQUIRY #: 5531303.7
YEAR: 1971
SCALE: 1" = 1000'



INQUIRY #: 5531303.7
YEAR: 1977
SCALE: 1"=1000'



INQUIRY #: 5531303.7
YEAR: 1977
SCALE: 1"=1000'



INQUIRY #: 5531303.7
YEAR: 1981
SCALE: 1"=1000'



INQUIRY #: 551303.7
YEAR: 1984
SCALE: 1" = 1000'



INQUIRY #: 5531303.7
YEAR: 1992-1993
SCALE: 1"=1000'



INQUIRY #: 55-1303.7
YEAR: 1992-1993
SCALE: 1" = 1000'



INQUIRY #: 5531303.7
YEAR: 2004
SCALE: 1"=1000'



INQUIRY #: 5531303.7
YEAR: 2004
SCALE: 1" = 1000'



INQUIRY #: 5531303.7
YEAR: 2010
SCALE: 1"=1000'



INQUIRY #: 5531303.7
YEAR: 2010
SCALE: 1" = 1000'



INQUIRY #: 5531303.7
YEAR: 2013
SCALE: 1"=1000'



INQUIRY #: 55-1303
YEAR: 2013
SCALE: 1" = 1000'



INQUIRY #: 5531303.7
YEAR: 2017
SCALE: 1"=1000'



INQUIRY #: 5531303.7
YEAR: 2017
SCALE: 1" = 1000'

APPENDIX D: CERTIFIED SANDBORN MAP REPORT

Eisenhower Drive Extension

Eisenhower Drive Extension

Hanover, PA 17331

Inquiry Number: 5531303.5

January 10, 2019

Certified Sanborn® Map Report



6 Armstrong Road, 4th floor
Shelton, CT 06484
Toll Free: 800.352.0050
www.edrnet.com

Certified Sanborn® Map Report

01/10/19

Site Name:

Eisenhower Drive Extension
Eisenhower Drive Extension
Hanover, PA 17331
EDR Inquiry # 5531303.5

Client Name:

Dawood Engineering Inc.
4250 Crums Mill Rd
Harrisburg, PA 17112
Contact: Kevin Rucker



The Sanborn Library has been searched by EDR and maps covering the target property location as provided by Dawood Engineering Inc. were identified for the years listed below. The Sanborn Library is the largest, most complete collection of fire insurance maps. The collection includes maps from Sanborn, Bromley, Perris & Browne, Hopkins, Barlow, and others. Only Environmental Data Resources Inc. (EDR) is authorized to grant rights for commercial reproduction of maps by the Sanborn Library LLC, the copyright holder for the collection. Results can be authenticated by visiting www.edrnet.com/sanborn.

The Sanborn Library is continually enhanced with newly identified map archives. This report accesses all maps in the collection as of the day this report was generated.

Certified Sanborn Results:

Certification # 3389-4979-97E9

PO # NA

Project 205094.12

UNMAPPED PROPERTY

This report certifies that the complete holdings of the Sanborn Library, LLC collection have been searched based on client supplied target property information, and fire insurance maps covering the target property were not found.



Sanborn® Library search results

Certification #: 3389-4979-97E9

The Sanborn Library includes more than 1.2 million fire insurance maps from Sanborn, Bromley, Perris & Browne, Hopkins, Barlow and others which track historical property usage in approximately 12,000 American cities and towns. Collections searched:

- Library of Congress
- University Publications of America
- EDR Private Collection

The Sanborn Library LLC Since 1866™

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APPENDIX E: PUBLICATION 281: PHASE I CHECKLIST

**PUBLICATION 281
RECOMMENDED PHASE I CHECKLIST**

RECORDS REVIEW

Item	Date Completed/ Reviewed	Initials
Federal NPL site list	1/14/2019	LMD
Facilities Index System (FINDS)	1/14/2019	LMD
Federal CERCLIS list	1/14/2019	LMD
Federal RCRA TSD facilities list <i>(optional)</i>	1/14/2019	LMD
Federal RCRA generators list <i>(optional)</i>	1/14/2019	LMD
Federal ERNS list <i>(optional)</i>	1/14/2019	LMD
PA Priority list	1/14/2019	LMD
PA Operating Municipal Waste Landfills list	1/14/2019	LMD
PA Solid Waste Inventory	1/14/2019	LMD
PA Hazardous Waste Inventory	1/14/2019	LMD
DEP registered UST list <i>(optional)</i>	1/14/2019	LMD
DEP leaking UST list	1/14/2019	LMD
Regional DEP site records		
• Contaminated sites	4/2/19 & 4/13/19	KRR/JWY
• Remediation projects (former, ongoing and planned)	4/2/19 & 4/13/19	KRR/JWY
• Emergency release reports (SARA § 304)	4/2/19 & 4/13/19	KRR/JWY
• Well and groundwater contamination records	4/2/19 & 4/13/19	KRR/JWY
Physical setting sources		
• USGS 7.5 minute topographical maps	4/19/2019	JWY
• Soil survey	1/15/2019	LMS
• Groundwater maps (optional)		
• Bedrock geology maps (optional)	1/14/2019	LMS
• Surficial geology maps (optional)		

Item	Date Completed/ Reviewed	Initials
RECORDS REVIEW (continued)		
Historical use information		
• Aerial/historic photographs	1/14/2019	LMS
• Fire insurance maps (e.g. Sanborn Maps)	1/14/2019	LMS
• Property tax files	not reviewed	
• Recorded land titles	not reviewed	
• Environmental Covenants	4/19/2019	JWY
• Local street directories	not reviewed	
• Local building department records	not reviewed	
• Zoning/land use records	1/14/2019	LMS
Site Reconnaissance		
General site setting		
• Present site usage	1/28, 2/05, 4/20	KRR/JWY
• Past site usage	1/28, 2/05, 4/20	KRR/JWY
• Adjoining properties	1/28, 2/05, 4/20	KRR/JWY
• Surrounding area utilization	1/28, 2/05, 4/20	KRR/JWY
Geologic, hydrogeologic, hydrologic and topographical conditions	1/28, 2/05, 4/20	KRR/JWY
Structures and installations	1/28, 2/05, 4/20	KRR/JWY
Roadways and rights-of-way	1/28, 2/05, 4/20	KRR/JWY
Observations		
• Hazardous substances or petroleum products	1/28, 2/05, 4/20	KRR/JWY
• Storage tanks (both USTs and ASTs)	1/28, 2/05, 4/20	KRR/JWY
• Odors	1/28, 2/05, 4/20	KRR/JWY
• Pools of liquid	1/28, 2/05, 4/20	KRR/JWY

Item	Date Completed/ Reviewed	Initials
Site Reconnaissance (continued)		
• Drums/containers (check labels, if any)	1/28, 2/05, 4/20	KRR/JWY
• Asbestos, PCBs or Lead	1/28, 2/05, 4/20	KRR/JWY
• Stains or corrosion on soils or pavement	1/28, 2/05, 4/20	KRR/JWY
• Stressed vegetation	1/28, 2/05, 4/20	KRR/JWY
• Solid waste	1/28, 2/05, 4/20	KRR/JWY
• Drains, sumps, pits, ponds or lagoons	1/28, 2/05, 4/20	KRR/JWY
• Wastewater or other discharge	1/28, 2/05, 4/20	KRR/JWY
• Wells or septic systems	1/28, 2/05, 4/20	KRR/JWY
• Airborne emissions	1/28, 2/05, 4/20	KRR/JWY
Interviews		
Owners, occupants, neighbors	various	KRR/JWY
Regional officials		
• US EPA Region III	4/19/2019	JWY
• DEP Waste Management Program	4/09/2019	JWY
• DEP Water Quality - Storage Tank Program	4/09/2019	JWY
• Emergency response/HAZMAT	4/19/2019	JWY
• Local Sewer Authority (<i>optional</i>)		
• Fire Department (<i>optional</i>)	4/19/2019	JWY
• Zoning officer (<i>optional</i>)		
• Police Department (<i>optional</i>)	4/19/2019	JWY
• Building inspector (<i>optional</i>)		
• Historical Society (<i>optional</i>)		
• Municipal officials (<i>optional</i>)		
• PennDOT employees (<i>optional</i>)		

Item	Date Completed/ Reviewed	Initials
Site Sketch		
R.O.W. (proposed or actual)	05/08/2019	TRW
Structures and installations	05/08/2019	TRW
Utilities		
Storage tanks and associated facilities (pumps, pipes, etc.)	05/08/2019	TRW
Drains, sumps, pits, ponds and lagoons	05/08/2019	TRW
Geologic, hydrogeologic, hydrologic and topographical conditions (<i>optional</i>)		
Roads (<i>optional</i>)		
Stained areas (<i>optional</i>)		
Stressed vegetation (<i>optional</i>)		
Solid waste (<i>optional</i>)		
Wastewater or other discharge (<i>optional</i>)		
Wells and septic systems (<i>optional</i>)		

APPENDIX F: EDR AREA / CORRIDOR REPORT



Eisenhower Drive Extension

Eisenhower Drive Extension

Hanover, PA 17331

Inquiry Number: 5531303.8s

January 14, 2019

EDR Area / Corridor Report



6 Armstrong Road, 4th floor
Shelton, CT 06484
Toll Free: 800.352.0050
www.edrnet.com

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Thank you for your business.
 Please contact EDR at 1-800-352-0050
 with any questions or comments.

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EXECUTIVE SUMMARY

A search of available environmental records was conducted by Environmental Data Resources, Inc (EDR). The report was designed to assist parties seeking to meet the search requirements of EPA's Standards and Practices for All Appropriate Inquiries (40 CFR Part 312), the ASTM Standard Practice for Environmental Site Assessments (E 1527-13), the ASTM Standard Practice for Environmental Site Assessments for Forestland or Rural Property (E 2247-16), the ASTM Standard Practice for Limited Environmental Due Diligence: Transaction Screen Process (E 1528-14) or custom requirements developed for the evaluation of environmental risk associated with a parcel of real estate.

SUBJECT PROPERTY INFORMATION

ADDRESS

EISENHOWER DRIVE EXTENSION
HANOVER, PA 17331

TARGET PROPERTY SEARCH RESULTS

The Target Property was identified in the following databases.

Page Numbers and Map Identifications refer to the EDR Area/Corridor Report where detailed data on individual sites can be reviewed.

Sites listed in ***bold italics*** are in multiple databases.

ADDITIONAL ENVIRONMENTAL RECORDS

Other Ascertainable Records

RCRA NonGen / NLR: RCRA - Non Generators / No Longer Regulated

A review of the RCRA NonGen / NLR list, as provided by EDR, and dated 03/01/2018 has revealed that there are 2 RCRA NonGen / NLR sites within the requested target property.

<u>Site</u>	<u>Address</u>	<u>Map ID / Focus Map(s)</u>	<u>Page</u>
<i>SIR SPEEDY PRINTING</i> EPA ID:: PAR000029991	<i>1206 HIGH ST</i>	<i>A 1 / 3</i>	<i>30</i>
<i>MUMMERTS AUTO CENTER</i> EPA ID:: PAD982363186	<i>3380 CENTENNIAL RD</i>	<i>3 / 6</i>	<i>32</i>

PADS: PCB Activity Database System

A review of the PADS list, as provided by EDR, and dated 09/14/2018 has revealed that there is 1 PADS site within the requested target property.

<u>Site</u>	<u>Address</u>	<u>Map ID / Focus Map(s)</u>	<u>Page</u>
HANOVER PLANT EPAID:: PAW000000049	477 OXFORD AVENUE	2 / 7	31

EXECUTIVE SUMMARY

FINDS: Facility Index System/Facility Registry System

A review of the FINDS list, as provided by EDR, and dated 11/15/2018 has revealed that there are 2 FINDS sites within the requested target property.

<u>Site</u>	<u>Address</u>	<u>Map ID / Focus Map(s)</u>	<u>Page</u>
SIR SPEEDY PRINTING Registry ID: 110000995497	1206 HIGH ST	A1 / 3	30
MUMMERTS AUTO CENTER Registry ID: 110001028557	3380 CENTENNIAL RD	3 / 6	32

ECHO: Enforcement & Compliance History Information

A review of the ECHO list, as provided by EDR, and dated 09/02/2018 has revealed that there are 2 ECHO sites within the requested target property.

<u>Site</u>	<u>Address</u>	<u>Map ID / Focus Map(s)</u>	<u>Page</u>
SIR SPEEDY PRINTING Registry ID: 110000995497	1206 HIGH ST	A1 / 3	30
MUMMERTS AUTO CENTER Registry ID: 110001028557	3380 CENTENNIAL RD	3 / 6	32

SURROUNDING SITES: SEARCH RESULTS

Surrounding sites were identified in the following databases.

Page Numbers and Map Identifications refer to the EDR Area/Corridor Report where detailed data on individual sites can be reviewed.

Sites listed in **bold italics** are in multiple databases.

Unmappable (orphan) sites are not considered in the foregoing analysis.

STANDARD ENVIRONMENTAL RECORDS

Federal CERCLIS list

SEMS: Superfund Enterprise Management System

A review of the SEMS list, as provided by EDR, and dated 12/12/2018 has revealed that there is 1 SEMS site within approximately 0.5 miles of the requested target property.

<u>Site</u>	<u>Address</u>	<u>Direction / Distance</u>	<u>Map ID / Focus Map(s)</u>	<u>Page</u>
MILLER CHEMICAL	120 RADIO ROAD	SSW 1/8 - 1/4 (0.148 mi.)	G26 / 7	76

EXECUTIVE SUMMARY

Federal RCRA generators list

RCRA-SQG: RCRA - Small Quantity Generators

A review of the RCRA-SQG list, as provided by EDR, and dated 03/01/2018 has revealed that there are 2 RCRA-SQG sites within approximately 0.25 miles of the requested target property.

<u>Site</u>	<u>Address</u>	<u>Direction / Distance</u>	<u>Map ID / Focus Map(s)</u>	<u>Page</u>
BLACKS EARLE GARAGE EPA ID:: PAR000025312	5490 HANOVER RD	NE 0 - 1/8 (0.046 mi.)	C9 / 10	40
FAULKNER CADILLAC PO EPA ID:: PAD981108806	100 EISENHOWER DR	NE 1/8 - 1/4 (0.206 mi.)	P64 / 4	145

RCRA-CESQG: RCRA - Conditionally Exempt Small Quantity Generator

A review of the RCRA-CESQG list, as provided by EDR, and dated 03/01/2018 has revealed that there are 3 RCRA-CESQG sites within approximately 0.25 miles of the requested target property.

<u>Site</u>	<u>Address</u>	<u>Direction / Distance</u>	<u>Map ID / Focus Map(s)</u>	<u>Page</u>
ACME COMPOSITES/HANO EPA ID:: PAD121720502	262 CHURCH ST	SSE 1/8 - 1/4 (0.128 mi.)	F24 / 7	59
TRACTOR SUPPLY NO 57 EPA ID:: PAR000544924	1150 CARLISLE ST	ENE 1/8 - 1/4 (0.167 mi.)	I37 / 4	111
SHEETZ STORE NO 199 EPA ID:: PAR000526590	1191 CARLISLE ST	ENE 1/8 - 1/4 (0.177 mi.)	K47 / 4	119

Federal ERNS list

ERNS: Emergency Response Notification System

A review of the ERNS list, as provided by EDR, and dated 09/24/2018 has revealed that there are 2 ERNS sites within approximately 0.25 miles of the requested target property.

<u>Site</u>	<u>Address</u>	<u>Direction / Distance</u>	<u>Map ID / Focus Map(s)</u>	<u>Page</u>
Not reported NRC Report #: 988911	5 SEASE STREET	SSE 0 - 1/8 (0.065 mi.)	12 / 6	43
Not reported NRC Report #: 594994	262 CHURCH ST	SSE 1/8 - 1/4 (0.128 mi.)	F20 / 7	48

State and tribal leaking storage tank lists

PA LUST: Storage Tank Release Sites

A review of the PA LUST list, as provided by EDR, and dated 09/10/2018 has revealed that there are 9 PA LUST sites within approximately 0.5 miles of the requested target property.

EXECUTIVE SUMMARY

<u>Site</u>	<u>Address</u>	<u>Direction / Distance</u>	<u>Map ID / Focus Map(s)</u>	<u>Page</u>
SHEETZ 199 Facility Id: 616898	1191 CARLISLE ST	ENE 1/8 - 1/4 (0.177 mi.)	K43 / 4	115
HANOVER COLD STORAGE Facility Id: 615933	1301 CARLISLE PIKE	NNE 1/4 - 1/2 (0.254 mi.)	Q74 / 4	161
HANOVER AREA REG WWT Facility Id: 575370	END OBRIEN LN OFF SE	SSW 1/4 - 1/2 (0.335 mi.)	76 / 6	166
CONEWAGO ENTERPRISES Facility Id: 575145	660 EDGE GROVE RD	N 1/4 - 1/2 (0.359 mi.)	77 / 6	168
CC 1606 Facility Id: 616462	1049 CARLISLE ST	SE 1/4 - 1/2 (0.410 mi.)	S79 / 8	172
CVS NO 1653 Facility Id: 616553	1000 CARLISLE ST	SE 1/4 - 1/2 (0.417 mi.)	S80 / 8	173
TOMS CLEARVIEW MOBIL Facility Id: 616137	1001 CARLISLE ST	SE 1/4 - 1/2 (0.471 mi.)	81 / 8	188
KINDIG LANE BULK PLT Facility Id: 575219	100 KINDIG LN	SE 1/4 - 1/2 (0.475 mi.)	82 / 7	191
HANOVER 76 Facility Id: 615976	998 CARLISLE ST	SE 1/4 - 1/2 (0.493 mi.)	83 / 8	192

PA UNREG LTANKS: Unregulated Tank Cases

A review of the PA UNREG LTANKS list, as provided by EDR, and dated 04/12/2002 has revealed that there are 2 PA UNREG LTANKS sites within approximately 0.5 miles of the requested target property.

<u>Site</u>	<u>Address</u>	<u>Direction / Distance</u>	<u>Map ID / Focus Map(s)</u>	<u>Page</u>
SHULTZ ENTERPRISES P	1177 CARLISLE ST	E 1/8 - 1/4 (0.201 mi.)	O60 / 4	140
SHULTZ ENTERPRISES P	INTERSECTOIN OF CARL	E 1/4 - 1/2 (0.325 mi.)	75 / 8	164

State and tribal registered storage tank lists

PA UST: Listing of Pennsylvania Regulated Underground Storage Tanks

A review of the PA UST list, as provided by EDR, and dated 09/04/2018 has revealed that there is 1 PA UST site within approximately 0.25 miles of the requested target property.

<u>Site</u>	<u>Address</u>	<u>Direction / Distance</u>	<u>Map ID / Focus Map(s)</u>	<u>Page</u>
SHEETZ 199 Site ID: 593417 Tank Status: Currently In Use	1191 CARLISLE ST	ENE 1/8 - 1/4 (0.177 mi.)	K43 / 4	115

EXECUTIVE SUMMARY

PA AST: Listing of Pennsylvania Regulated Aboveground Storage Tanks

A review of the PA AST list, as provided by EDR, and dated 09/04/2018 has revealed that there are 2 PA AST sites within approximately 0.25 miles of the requested target property.

<u>Site</u>	<u>Address</u>	<u>Direction / Distance</u>	<u>Map ID / Focus Map(s)</u>	<u>Page</u>
CONEWAGO TWP MAINT B Site ID: 561009 Tank Status: C	541 OXFORD AVE	NNW 0 - 1/8 (0.105 mi.)	D13 / 7	44
MILLER CHEMICAL & FE Site ID: 452666 Tank Status: C	120 RADIO RD	SSW 1/8 - 1/4 (0.148 mi.)	G27 / 7	77

State and tribal institutional control / engineering control registries

PA AUL: Environmental Covenants Listing

A review of the PA AUL list, as provided by EDR, and dated 10/16/2018 has revealed that there are 2 PA AUL sites within approximately 0.5 miles of the requested target property.

<u>Site</u>	<u>Address</u>	<u>Direction / Distance</u>	<u>Map ID / Focus Map(s)</u>	<u>Page</u>
HANOVER AREA REG WWT Facility Id: 575370	END OBRIEN LN OFF SE	SSW 1/4 - 1/2 (0.335 mi.)	76 / 6	166
LATTA, GENE FORD/BUI Facility Id: 697220	140 DART DR	SE 1/4 - 1/2 (0.499 mi.)	84 / 8	194

State and tribal voluntary cleanup sites

PA VCP: Voluntary Cleanup Program Listing

A review of the PA VCP list, as provided by EDR, and dated 10/09/2018 has revealed that there are 10 PA VCP sites within approximately 0.5 miles of the requested target property.

<u>Site</u>	<u>Address</u>	<u>Direction / Distance</u>	<u>Map ID / Focus Map(s)</u>	<u>Page</u>
FAMILY FIRST HEALTH Activity ID: 809454	1230 & 1250 HIGH ST	NW 0 - 1/8 (0.030 mi.)	A7 / 3	38
LOIS E WHILSER PROP Activity ID: 809798	539 OXFORD AVE	NNW 0 - 1/8 (0.040 mi.)	8 / 7	39
METRO EDISON CO NORT Activity ID: 809371	RADIO RD WEST OF HIG	SSE 0 - 1/8 (0.118 mi.)	17 / 7	46
BARE DEV - MILLER CH Activity ID: 809791	275 RADIO RD	SE 1/8 - 1/4 (0.136 mi.)	25 / 7	75
FORMER ALCO INDUS Activity ID: 826338	120 RADIO RD	SSW 1/8 - 1/4 (0.148 mi.)	G30 / 7	84
MILLER CHEMICAL & FE Activity ID: 819375	120, 150 & 170 RADIO	SSW 1/8 - 1/4 (0.148 mi.)	G32 / 7	100
SHULTZ ENTERPRISES P	1177 CARLISLE ST	E 1/8 - 1/4 (0.201 mi.)	O60 / 4	140

EXECUTIVE SUMMARY

Activity ID: 623269				
SHULTZ ENTERPRISES P	INTERSECTOIN OF CARL	E 1/4 - 1/2 (0.325 mi.)	75 / 8	164
Activity ID: 623268				
CLEARVIEW SHOPPING C	1000 CARLISLE ST NW	SE 1/4 - 1/2 (0.384 mi.)	78 / 8	171
Activity ID: 623275				
LATTA, GENE FORD/BUI	140 DART DR	SE 1/4 - 1/2 (0.499 mi.)	84 / 8	194
Activity ID: 697220				

ADDITIONAL ENVIRONMENTAL RECORDS

Local Lists of Registered Storage Tanks

PA ARCHIVE UST: Archived Underground Storage Tank Sites

A review of the PA ARCHIVE UST list, as provided by EDR, and dated 09/04/2018 has revealed that there are 7 PA ARCHIVE UST sites within approximately 0.25 miles of the requested target property.

<u>Site</u>	<u>Address</u>	<u>Direction / Distance</u>	<u>Map ID / Focus Map(s)</u>	<u>Page</u>
CONEWAGO TWP MAINT B Status: Exempt Facility Id: 01-07866	541 OXFORD AVE	NNW 0 - 1/8 (0.105 mi.)	D15 / 7	45
THE HANOVER KLONDIKE Facility Id: 01-32069	1275 HIGH ST	NNW 0 - 1/8 (0.125 mi.)	E18 / 3	46
GOOD HUMOR BREYERS I Status: Closed Without a Permit Facility Id: 67-32069	1275 HIGH ST	NNW 0 - 1/8 (0.125 mi.)	E19 / 3	47
TRACTOR SUPPLY # 577 Facility Id: 67-01448	1150 CARLISLE ST	ENE 1/8 - 1/4 (0.167 mi.)	I36 / 4	105
GOODYEAR Status: Closed Without a Permit Facility Id: 67-35056	1110 CARLISLE ST	E 1/8 - 1/4 (0.193 mi.)	N55 / 8	130
CHAMPION CHEVROLET Status: Closed Without a Permit Facility Id: 67-64256	1177 CARLISLE ST	E 1/8 - 1/4 (0.201 mi.)	O59 / 4	137
ALL STAR OF HANOVER Status: CURRENTLY IN USE Facility Id: 67-62781	100 EISENHOWER DR	NE 1/8 - 1/4 (0.206 mi.)	P63 / 4	144

PA ARCHIVE AST: Archived Aboveground Storage Tank Sites

A review of the PA ARCHIVE AST list, as provided by EDR, and dated 09/04/2018 has revealed that there are 3 PA ARCHIVE AST sites within approximately 0.25 miles of the requested target property.

<u>Site</u>	<u>Address</u>	<u>Direction / Distance</u>	<u>Map ID / Focus Map(s)</u>	<u>Page</u>
MILLER CHEM & FERTIL Status: Exempt	120 RADIO RD	SSW 1/8 - 1/4 (0.148 mi.)	G29 / 7	81

EXECUTIVE SUMMARY

Status: Closed Without a Permit
Facility Id: 01-30795

JOSEPH F SMITH TRUCK Facility Id: 01-61226	29 CHAPEL RD	NNW 1/8 - 1/4 (0.228 mi.)	70 / 6	159
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ALL STAR OF HANOVER Status: Exempt Facility Id: 67-62781	100 EISENHOWER DR	ENE 1/8 - 1/4 (0.240 mi.)	R72 / 4	160
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Local Land Records

PA ACT 2-DEED: Act 2-Deed Acknowledgment Sites

A review of the PA ACT 2-DEED list, as provided by EDR, and dated 04/23/2010 has revealed that there is 1 PA ACT 2-DEED site within approximately 0.5 miles of the requested target property.

<u>Site</u>	<u>Address</u>	<u>Direction / Distance</u>	<u>Map ID / Focus Map(s)</u>	<u>Page</u>
SHULTZ ENTERPRISES P	INTERSECTOIN OF CARL	E 1/4 - 1/2 (0.325 mi.)	75 / 8	164

Other Ascertainable Records

RCRA NonGen / NLR: RCRA - Non Generators / No Longer Regulated

A review of the RCRA NonGen / NLR list, as provided by EDR, and dated 03/01/2018 has revealed that there are 5 RCRA NonGen / NLR sites within approximately 0.25 miles of the requested target property.

<u>Site</u>	<u>Address</u>	<u>Direction / Distance</u>	<u>Map ID / Focus Map(s)</u>	<u>Page</u>
MIDEASTERN INC EPA ID:: PAR000035790	351 CHURCH ST	E 0 - 1/8 (0.013 mi.)	B5 / 6	34
MILLER CHEMICAL & FE EPA ID:: PAD003007499	120 RADIO RD	SSW 1/8 - 1/4 (0.148 mi.)	G33 / 7	101
CALLEN TIRE EPA ID:: PAD987337144	1110 CARLISLE ST	E 1/8 - 1/4 (0.193 mi.)	N54 / 8	128
CHAMPION CHEVROLET-G EPA ID:: PAD014172431	1177 CARLISLE ST	E 1/8 - 1/4 (0.201 mi.)	O57 / 4	133
EDDIES CLEANERS HANO EPA ID:: PAD981734601	1225 CARLISLE ST	NNE 1/8 - 1/4 (0.210 mi.)	L68 / 4	157

SSTS: Section 7 Tracking Systems

A review of the SSTS list, as provided by EDR, and dated 12/31/2009 has revealed that there is 1 SSTS site within approximately 0.25 miles of the requested target property.

<u>Site</u>	<u>Address</u>	<u>Direction / Distance</u>	<u>Map ID / Focus Map(s)</u>	<u>Page</u>
MILLER CHEMICAL & FE Registration Number:: 000072PA 001	120 RADIO RD	SSW 1/8 - 1/4 (0.148 mi.)	G27 / 7	77

EXECUTIVE SUMMARY

Registration Number:: 000072-PA-001

PRP: Potentially Responsible Parties

A review of the PRP list, as provided by EDR, and dated 08/13/2018 has revealed that there is 1 PRP site within approximately 0.25 miles of the requested target property.

<u>Site</u>	<u>Address</u>	<u>Direction / Distance</u>	<u>Map ID / Focus Map(s)</u>	<u>Page</u>
MILLER CHEMICAL	120 RADIO ROAD	SSW 1/8 - 1/4 (0.148 mi.)	G26 / 7	76

ICIS: Integrated Compliance Information System

A review of the ICIS list, as provided by EDR, and dated 11/18/2016 has revealed that there are 5 ICIS sites within approximately 0.25 miles of the requested target property.

<u>Site</u>	<u>Address</u>	<u>Direction / Distance</u>	<u>Map ID / Focus Map(s)</u>	<u>Page</u>
ACME COMPOSITES/HANO FRS ID:: 110060000118	262 CHURCH ST	SSE 1/8 - 1/4 (0.128 mi.)	F24 / 7	59
MILLER CHEMICAL & FE FRS ID:: 110038221215	120 RADIO RD	SSW 1/8 - 1/4 (0.148 mi.)	G31 / 7	85
MILLER CHEMICAL & FE FRS ID:: 110038221215	170 RADIO RD	SW 1/8 - 1/4 (0.171 mi.)	J39 / 7	113
HANOVER BORO STP FRS ID:: 110006368126	300 O'BRIEN LANE	S 1/8 - 1/4 (0.190 mi.)	M51 / 6	124
EDDIES CLNR HANOVER/ FRS ID:: 110001019497	1225 CARLISLE PIKE	NNE 1/8 - 1/4 (0.210 mi.)	L67 / 4	155

US AIRS: Aerometric Information Retrieval System Facility Subsystem

A review of the US AIRS list, as provided by EDR, has revealed that there are 8 US AIRS sites within approximately 0.25 miles of the requested target property.

<u>Site</u>	<u>Address</u>	<u>Direction / Distance</u>	<u>Map ID / Focus Map(s)</u>	<u>Page</u>
MIDEASTERN INC Database: US AIRS MINOR, Date of Government Version: 10/12/2016 EPA plant ID:: 110000924849	351 CHURCH ST	E 0 - 1/8 (0.013 mi.)	B5 / 6	34
LIBERTY NISSAN Database: US AIRS MINOR, Date of Government Version: 10/12/2016 EPA plant ID:: 110018863559	75 W. EISENHOWER DRI	NNE 0 - 1/8 (0.025 mi.)	6 / 4	37
EARLE BLACK'S GARAGE Database: US AIRS MINOR, Date of Government Version: 10/12/2016 EPA plant ID:: 110004878981	5490 HANOVER ROAD	NE 0 - 1/8 (0.046 mi.)	C11 / 10	42
ACME COMPOSITES/HANO Database: US AIRS (AFS), Date of Government Version: 10/12/2016 EPA plant ID:: 110000333130	262 CHURCH ST	SSE 1/8 - 1/4 (0.128 mi.)	F24 / 7	59
HANOVER HONDA Database: US AIRS MINOR, Date of Government Version: 10/12/2016	1226 CARLISLE STREET	NNE 1/8 - 1/4 (0.187 mi.)	L49 / 4	122

EXECUTIVE SUMMARY

EPA plant ID:: 110037616078				
CalLEN TIRE	1110 CARLISLE STREET	E 1/8 - 1/4 (0.193 mi.)	N53 / 8	127
Database: US AIRS MINOR, Date of Government Version: 10/12/2016				
EPA plant ID:: 110037615872				
FAULKNER HANOVER GMC	100 EISENHOWER DRIVE	NE 1/8 - 1/4 (0.206 mi.)	P62 / 4	143
Database: US AIRS MINOR, Date of Government Version: 10/12/2016				
EPA plant ID:: 110018851973				
EDDIES CLNR HANOVER/	1225 CARLISLE PIKE	NNE 1/8 - 1/4 (0.210 mi.)	L67 / 4	155
Database: US AIRS MINOR, Date of Government Version: 10/12/2016				
EPA plant ID:: 110001019497				

FINDS: Facility Index System/Facility Registry System

A review of the FINDS list, as provided by EDR, and dated 11/15/2018 has revealed that there are 17 FINDS sites within approximately 0.25 miles of the requested target property.

<u>Site</u>	<u>Address</u>	<u>Direction / Distance</u>	<u>Map ID / Focus Map(s)</u>	<u>Page</u>
MIDEASTERN INC Registry ID:: 110000924849 Registry ID:: 110060044768	351 CHURCH ST	E 0 - 1/8 (0.013 mi.)	B5 / 6	34
LIBERTY NISSAN Registry ID:: 110018863559	75 W. EISENHOWER DRI	NNE 0 - 1/8 (0.025 mi.)	6 / 4	37
EARLE BLACK'S GARAGE Registry ID:: 110004878981	5490 HANOVER ROAD	NE 0 - 1/8 (0.046 mi.)	C11 / 10	42
CONEWAGO TWP ADAMS C Registry ID:: 110070236696	541 OXFORD AVE	NNW 0 - 1/8 (0.105 mi.)	D16 / 7	45
COLONIAL FIBERGLASS Registry ID:: 110000333130	262 CHURCH ST	SSE 1/8 - 1/4 (0.128 mi.)	F21 / 7	48
ACME COMPOSITES/HANO Registry ID:: 110060000118	262 CHURCH ST	SSE 1/8 - 1/4 (0.128 mi.)	F24 / 7	59
MILLER CHEMICAL Registry ID:: 110067037833	120 RADIO ROAD	SSW 1/8 - 1/4 (0.148 mi.)	G28 / 7	80
MILLER CHEMICAL & FE Registry ID:: 110038221215	120 RADIO RD	SSW 1/8 - 1/4 (0.148 mi.)	G31 / 7	85
TRACTOR SUPPLY NO 57 Registry ID:: 110060111310	1150 CARLISLE ST	ENE 1/8 - 1/4 (0.167 mi.)	I35 / 4	104
EDDIES CLNR HANOVER/ Registry ID:: 110001019497	1225 CARLISLE ST	NE 1/8 - 1/4 (0.175 mi.)	H40 / 4	114
SHEETZ STORE NO 199 Registry ID:: 110044299327	1191 CARLISLE ST	ENE 1/8 - 1/4 (0.177 mi.)	K44 / 4	117
HANOVER HONDA Registry ID:: 110037616078	1226 CARLISLE STREET	NNE 1/8 - 1/4 (0.187 mi.)	L49 / 4	122
HANOVER BORO STP Registry ID:: 110006368126	300 O'BRIEN LANE	S 1/8 - 1/4 (0.190 mi.)	M51 / 6	124
CalLEN TIRE Registry ID:: 110001031874	1110 CARLISLE ST	E 1/8 - 1/4 (0.193 mi.)	N54 / 8	128
CHAMPION CHEVROLET-G	1177 CARLISLE ST	E 1/8 - 1/4 (0.201 mi.)	O57 / 4	133

EXECUTIVE SUMMARY

Registry ID:: 110004837810				
FAULKNER HANOVER GMC	100 EISENHOWER DRIVE	NE 1/8 - 1/4 (0.206 mi.)	P62 / 4	143
Registry ID:: 110018851973				
100 EISENHOWER DRIVE	100 EISENHOWER DRIVE	ENE 1/8 - 1/4 (0.240 mi.)	R73 / 4	161
Registry ID:: 110070009276				

ECHO: Enforcement & Compliance History Information

A review of the ECHO list, as provided by EDR, and dated 09/02/2018 has revealed that there are 16 ECHO sites within approximately 0.25 miles of the requested target property.

<u>Site</u>	<u>Address</u>	<u>Direction / Distance</u>	<u>Map ID / Focus Map(s)</u>	<u>Page</u>
MIDEASTERN INC Registry ID: 110000924849 Registry ID: 110060044768	351 CHURCH ST	E 0 - 1/8 (0.013 mi.)	B5 / 6	34
LIBERTY NISSAN Registry ID: 110018863559	75 W. EISENHOWER DRI	NNE 0 - 1/8 (0.025 mi.)	6 / 4	37
EARLE BLACK'S GARAGE Registry ID: 110004878981	5490 HANOVER ROAD	NE 0 - 1/8 (0.046 mi.)	C11 / 10	42
CONEWAGO TWP ADAMS C Registry ID: 110070236696	541 OXFORD AVE	NNW 0 - 1/8 (0.105 mi.)	D14 / 7	44
COLONIAL FIBERGLASS Registry ID: 110000333130	262 CHURCH ST	SSE 1/8 - 1/4 (0.128 mi.)	F21 / 7	48
ACME COMPOSITES/HANO Registry ID: 110060000118	262 CHURCH ST	SSE 1/8 - 1/4 (0.128 mi.)	F24 / 7	59
MILLER CHEMICAL & FE Registry ID: 110038221215	120 RADIO RD	SSW 1/8 - 1/4 (0.148 mi.)	G31 / 7	85
TRACTOR SUPPLY NO 57 Registry ID: 110060111310	1150 CARLISLE ST	ENE 1/8 - 1/4 (0.167 mi.)	I35 / 4	104
EDDIES CLNR HANOVER/ Registry ID: 110001019497	1225 CARLISLE ST	NE 1/8 - 1/4 (0.175 mi.)	H40 / 4	114
SHEETZ STORE NO 199 Registry ID: 110044299327	1191 CARLISLE ST	ENE 1/8 - 1/4 (0.177 mi.)	K44 / 4	117
HANOVER HONDA Registry ID: 110037616078	1226 CARLISLE STREET	NNE 1/8 - 1/4 (0.187 mi.)	L49 / 4	122
HANOVER BORO STP Registry ID: 110006368126	300 O'BRIEN LANE	S 1/8 - 1/4 (0.190 mi.)	M51 / 6	124
CALLEN TIRE Registry ID: 110001031874	1110 CARLISLE ST	E 1/8 - 1/4 (0.193 mi.)	N54 / 8	128
CHAMPION CHEVROLET-G Registry ID: 110004837810	1177 CARLISLE ST	E 1/8 - 1/4 (0.201 mi.)	O57 / 4	133
FAULKNER HANOVER GMC Registry ID: 110018851973	100 EISENHOWER DRIVE	NE 1/8 - 1/4 (0.206 mi.)	P62 / 4	143
100 EISENHOWER DRIVE Registry ID: 110070009276	100 EISENHOWER DRIVE	ENE 1/8 - 1/4 (0.240 mi.)	R73 / 4	161

EXECUTIVE SUMMARY

PA AIRS: Permit and Emissions Inventory Data

A review of the PA AIRS list, as provided by EDR, and dated 09/18/2018 has revealed that there are 3 PA AIRS sites within approximately 0.25 miles of the requested target property.

<u>Site</u>	<u>Address</u>	<u>Direction / Distance</u>	<u>Map ID / Focus Map(s)</u>	<u>Page</u>
MIDEASTERN MACHINERY Primary Facility Id: 524730	351 CHURCH ST	E 0 - 1/8 (0.013 mi.)	B4 / 6	34
ACME COMPOSITES/HANO Primary Facility Id: 512902	262 CHURCH ST	SSE 1/8 - 1/4 (0.128 mi.)	F23 / 7	51
EDDIES CLNR/HANOVER Primary Facility Id: 495523	1225 CARLISLE PIKE	NNE 1/8 - 1/4 (0.210 mi.)	L66 / 4	154

PA DRYCLEANERS: Drycleaner Facility Locations

A review of the PA DRYCLEANERS list, as provided by EDR, and dated 09/18/2018 has revealed that there is 1 PA DRYCLEANERS site within approximately 0.25 miles of the requested target property.

<u>Site</u>	<u>Address</u>	<u>Direction / Distance</u>	<u>Map ID / Focus Map(s)</u>	<u>Page</u>
EDDIES CLNR/HANOVER PF ID: 495523	1225 CARLISLE PIKE	NNE 1/8 - 1/4 (0.210 mi.)	L66 / 4	154

PA MANIFEST: Manifest Information

A review of the PA MANIFEST list, as provided by EDR, and dated 12/31/2017 has revealed that there are 8 PA MANIFEST sites within approximately 0.25 miles of the requested target property.

<u>Site</u>	<u>Address</u>	<u>Direction / Distance</u>	<u>Map ID / Focus Map(s)</u>	<u>Page</u>
EARLE BLACKS GARAGE Generator EPA Id: PAR000025312	5490 HANOVER ROAD	NE 0 - 1/8 (0.046 mi.)	C10 / 10	42
COLONIAL FIBERGLASS Generator EPA Id: PAD121720502	262 CHURCH ST	SSE 1/8 - 1/4 (0.128 mi.)	F22 / 7	49
ACME COMPOSITES/HANO Generator EPA Id: PAD121720502	262 CHURCH ST	SSE 1/8 - 1/4 (0.128 mi.)	F23 / 7	51
TRACTOR SUPPLY # 577 Generator EPA Id: PAR000544924	1150 CARLISLE ST	ENE 1/8 - 1/4 (0.167 mi.)	I36 / 4	105
SHEETZ STORE NO 199 Generator EPA Id: PAR000526590	1191 CARLISLE STREET	ENE 1/8 - 1/4 (0.177 mi.)	K46 / 4	118
SEARS 2244 7014 Generator EPA Id: PAR000027722	1155 CARLISLE ST STE	ENE 1/8 - 1/4 (0.180 mi.)	I48 / 4	121
SEARS ROEBUCK & CO 2 Generator EPA Id: PAR000027722	1155 CARLISLE STREET	E 1/8 - 1/4 (0.196 mi.)	N56 / 8	131
FAULKNER OF HANOVER Generator EPA Id: PAD981108806	100 EISENHOWER DR	NE 1/8 - 1/4 (0.206 mi.)	P65 / 4	149

EXECUTIVE SUMMARY

NY MANIFEST: Facility and Manifest Data

A review of the NY MANIFEST list, as provided by EDR, and dated 10/01/2018 has revealed that there are 2 NY MANIFEST sites within approximately 0.25 miles of the requested target property.

<u>Site</u>	<u>Address</u>	<u>Direction / Distance</u>	<u>Map ID / Focus Map(s)</u>	<u>Page</u>
CHAMPION CHEVROLET-G EPA ID: PAD014172431	1177 CARLISLE ST	E 1/8 - 1/4 (0.201 mi.)	O57 / 4	133
FAULKNER CADILLAC PO EPA ID: PAD981108806	100 EISENHOWER DR	NE 1/8 - 1/4 (0.206 mi.)	P64 / 4	145

PA NPDES: NPDES Permit Listing

A review of the PA NPDES list, as provided by EDR, and dated 09/19/2017 has revealed that there are 2 PA NPDES sites within approximately 0.25 miles of the requested target property.

<u>Site</u>	<u>Address</u>	<u>Direction / Distance</u>	<u>Map ID / Focus Map(s)</u>	<u>Page</u>
MILLER CHEMICAL & FE Permit Number: PAR233501	170 RADIO RD	SW 1/8 - 1/4 (0.171 mi.)	J38 / 7	113
HANOVER BORO STP Permit Number: PA0026875	300 O'BRIEN LANE	S 1/8 - 1/4 (0.190 mi.)	M50 / 6	124

EDR HIGH RISK HISTORICAL RECORDS

EDR Exclusive Records

EDR Hist Auto: EDR Exclusive Historical Auto Stations

A review of the EDR Hist Auto list, as provided by EDR, has revealed that there are 2 EDR Hist Auto sites within approximately 0.25 miles of the requested target property.

<u>Site</u>	<u>Address</u>	<u>Direction / Distance</u>	<u>Map ID / Focus Map(s)</u>	<u>Page</u>
CALLEN TIRES INC	1110 CARLISLE ST	E 1/8 - 1/4 (0.193 mi.)	N52 / 8	126
RABER DONALD	1125 CARLISLE AVE	ESE 1/8 - 1/4 (0.227 mi.)	69 / 8	159

EDR Hist Cleaner: EDR Exclusive Historical Cleaners

A review of the EDR Hist Cleaner list, as provided by EDR, has revealed that there are 3 EDR Hist Cleaner sites within approximately 0.25 miles of the requested target property.

<u>Site</u>	<u>Address</u>	<u>Direction / Distance</u>	<u>Map ID / Focus Map(s)</u>	<u>Page</u>
EDDIES CLEANERS OF H	1225 CARLISLE PIKE	NE 1/8 - 1/4 (0.175 mi.)	H41 / 4	114
EDDIES CLEANERS INC	1225 CARLISLE ST	NE 1/8 - 1/4 (0.175 mi.)	H42 / 4	115
EDDIES CLEANERS INC	1231 CARLISLE ST	NNE 1/8 - 1/4 (0.239 mi.)	Q71 / 4	160

EXECUTIVE SUMMARY

EDR RECOVERED GOVERNMENT ARCHIVES

Exclusive Recovered Govt. Archives

PA RGA LUST: Recovered Government Archive Leaking Underground Storage Tank

A review of the PA RGA LUST list, as provided by EDR, has revealed that there are 4 PA RGA LUST sites within approximately 0.25 miles of the requested target property.

<u>Site</u>	<u>Address</u>	<u>Direction / Distance</u>	<u>Map ID / Focus Map(s)</u>	<u>Page</u>
SEARS AUTO NORTH HAN	1200 CARLISLE PLZ	NE 1/8 - 1/4 (0.152 mi.)	H34 / 4	104
SHEETZ 199 Facility ID: 67-64394	1191 CARLISLE ST	ENE 1/8 - 1/4 (0.177 mi.)	K45 / 4	118
CHAMPION CHEV	1177 CARLISLE ST	E 1/8 - 1/4 (0.201 mi.)	O58 / 4	137
SHULTZ ENTERPRISES P	1177 CARLISLE ST	E 1/8 - 1/4 (0.201 mi.)	O61 / 4	143

MAPPED SITES SUMMARY

Target Property:
EISENHOWER DRIVE EXTENSION
HANOVER, PA 17331

MAP ID / FOCUS MAP	SITE NAME	ADDRESS	DATABASE ACRONYMS	DIST (ft. & mi.) DIRECTION		
A1 / 3	SIR SPEEDY PRINTING	1206 HIGH ST	RCRA NonGen / NLR, FINDS, ECHO	TP		
2 / 7	HANOVER PLANT	477 OXFORD AVENUE	PADS	TP		
3 / 6	MUMMERTS AUTO CENTER	3380 CENTENNIAL RD	RCRA NonGen / NLR, FINDS, ECHO	TP		
B4 / 6	MIDEASTERN MACHINERY	351 CHURCH ST	PA AIRS	71	0.013	East
B5 / 6	MIDEASTERN INC	351 CHURCH ST	RCRA NonGen / NLR, US AIRS, FINDS, ECHO	71	0.013	East
6 / 4	LIBERTY NISSAN	75 W. EISENHOWER DRI	US AIRS, FINDS, ECHO	130	0.025	NNE
A7 / 3	FAMILY FIRST HEALTH	1230 & 1250 HIGH ST	PA VCP	157	0.030	NW
8 / 7	LOIS E WHILSER PROP	539 OXFORD AVE	PA VCP	210	0.040	NNW
C9 / 10	BLACKS EARLE GARAGE	5490 HANOVER RD	RCRA-SQG	245	0.046	NE
C10 / 10	EARLE BLACKS GARAGE	5490 HANOVER ROAD	PA MANIFEST	245	0.046	NE
C11 / 10	EARLE BLACK'S GARAGE	5490 HANOVER ROAD	US AIRS, FINDS, ECHO	245	0.046	NE
12 / 6		5 SEASE STREET	ERNS	343	0.065	SSE
D13 / 7	CONEWAGO TWP MAINT B	541 OXFORD AVE	PA AST	553	0.105	NNW
D14 / 7	CONEWAGO TWP ADAMS C	541 OXFORD AVE	ECHO	553	0.105	NNW
D15 / 7	CONEWAGO TWP MAINT B	541 OXFORD AVE	PA ARCHIVE UST	553	0.105	NNW
D16 / 7	CONEWAGO TWP ADAMS C	541 OXFORD AVE	FINDS	553	0.105	NNW
17 / 7	METRO EDISON CO NORT	RADIO RD WEST OF HIG	PA VCP	622	0.118	SSE
E18 / 3	THE HANOVER KLONDIKE	1275 HIGH ST	PA ARCHIVE UST	659	0.125	NNW
E19 / 3	GOOD HUMOR BREYERS I	1275 HIGH ST	PA ARCHIVE UST	659	0.125	NNW
F20 / 7		262 CHURCH ST	ERNS	675	0.128	SSE
F21 / 7	COLONIAL FIBERGLASS	262 CHURCH ST	FINDS, ECHO	675	0.128	SSE
F22 / 7	COLONIAL FIBERGLASS	262 CHURCH ST	PA MANIFEST	675	0.128	SSE
F23 / 7	ACME COMPOSITES/HANO	262 CHURCH ST	PA AIRS, PA MANIFEST	675	0.128	SSE
F24 / 7	ACME COMPOSITES/HANO	262 CHURCH ST	RCRA-CESQG, ICIS, US AIRS, FINDS, ECHO	675	0.128	SSE
25 / 7	BARE DEV - MILLER CH	275 RADIO RD	PA VCP	718	0.136	SE
G26 / 7	MILLER CHEMICAL	120 RADIO ROAD	SEMS, PRP	782	0.148	SSW
G27 / 7	MILLER CHEMICAL & FE	120 RADIO RD	PA AST, SSTS	782	0.148	SSW
G28 / 7	MILLER CHEMICAL	120 RADIO ROAD	FINDS	782	0.148	SSW
G29 / 7	MILLER CHEM & FERTIL	120 RADIO RD	PA ARCHIVE AST	782	0.148	SSW
G30 / 7	FORMER ALCO INDUS	120 RADIO RD	PA VCP	782	0.148	SSW
G31 / 7	MILLER CHEMICAL & FE	120 RADIO RD	ICIS, FINDS, ECHO	782	0.148	SSW
G32 / 7	MILLER CHEMICAL & FE	120, 150 & 170 RADIO	PA VCP	782	0.148	SSW
G33 / 7	MILLER CHEMICAL & FE	120 RADIO RD	RCRA NonGen / NLR	782	0.148	SSW
H34 / 4	SEARS AUTO NORTH HAN	1200 CARLISLE PLZ	PA RGA LUST	801	0.152	NE
I35 / 4	TRACTOR SUPPLY NO 57	1150 CARLISLE ST	FINDS, ECHO	880	0.167	ENE
I36 / 4	TRACTOR SUPPLY # 577	1150 CARLISLE ST	PA ARCHIVE UST, PA MANIFEST	880	0.167	ENE
I37 / 4	TRACTOR SUPPLY NO 57	1150 CARLISLE ST	RCRA-CESQG	880	0.167	ENE
J38 / 7	MILLER CHEMICAL & FE	170 RADIO RD	PA NPDES	901	0.171	SW
J39 / 7	MILLER CHEMICAL & FE	170 RADIO RD	ICIS	901	0.171	SW

MAPPED SITES SUMMARY

Target Property:
EISENHOWER DRIVE EXTENSION
HANOVER, PA 17331

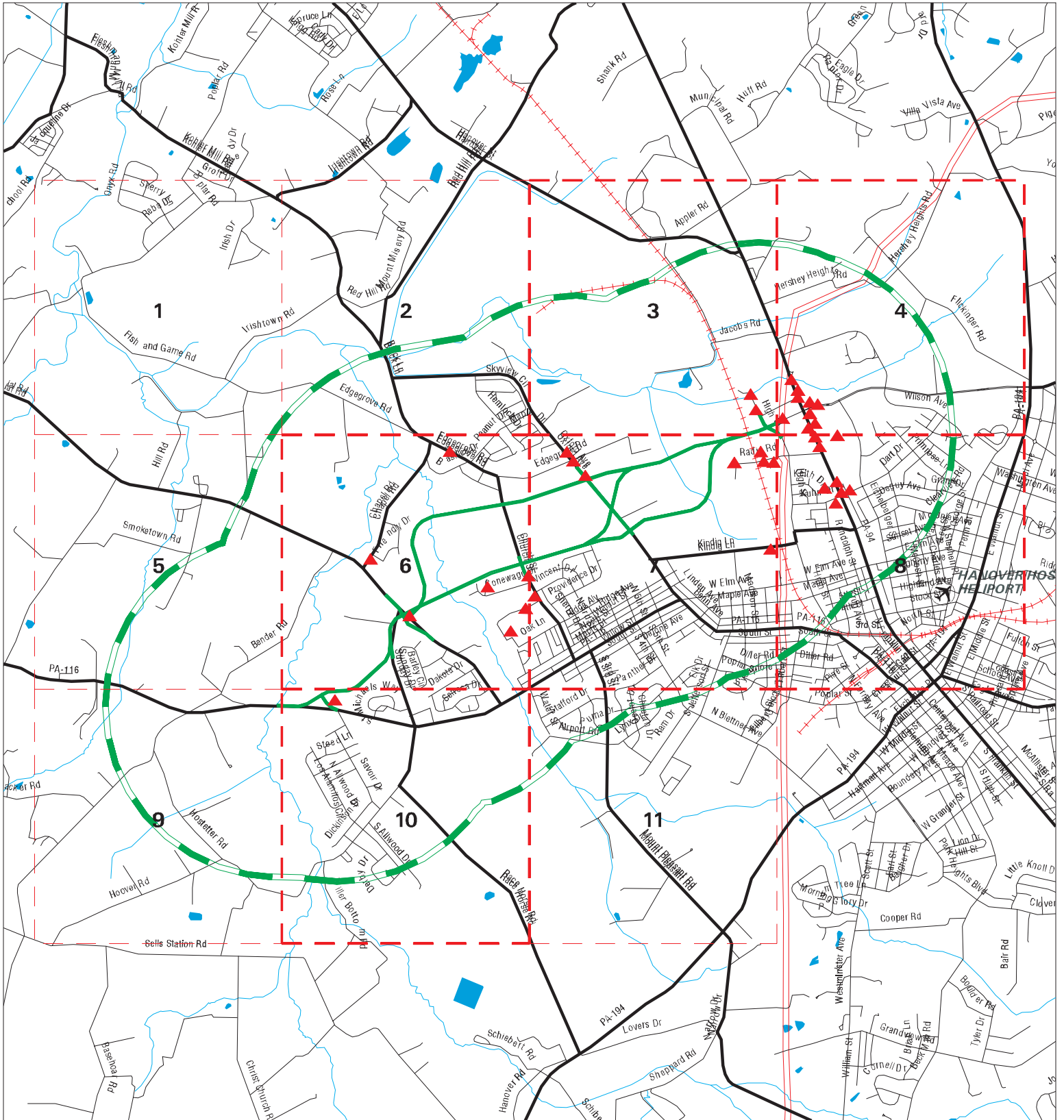
MAP ID / FOCUS MAP	SITE NAME	ADDRESS	DATABASE ACRONYMS	DIST (ft. & mi.) DIRECTION
H40 / 4	EDDIES CLNR HANOVER/	1225 CARLISLE ST	FINDS, ECHO	923 0.175 NE
H41 / 4	EDDIES CLEANERS OF H	1225 CARLISLE PIKE	EDR Hist Cleaner	923 0.175 NE
H42 / 4	EDDIES CLEANERS INC	1225 CARLISLE ST	EDR Hist Cleaner	923 0.175 NE
K43 / 4	SHEETZ 199	1191 CARLISLE ST	PA LUST, PA UST	936 0.177 ENE
K44 / 4	SHEETZ STORE NO 199	1191 CARLISLE ST	FINDS, ECHO	936 0.177 ENE
K45 / 4	SHEETZ 199	1191 CARLISLE ST	PA RGA LUST	936 0.177 ENE
K46 / 4	SHEETZ STORE NO 199	1191 CARLISLE STREET	PA MANIFEST	936 0.177 ENE
K47 / 4	SHEETZ STORE NO 199	1191 CARLISLE ST	RCRA-CESQG	936 0.177 ENE
I48 / 4	SEARS 2244 7014	1155 CARLISLE ST STE	PA MANIFEST	951 0.180 ENE
L49 / 4	HANOVER HONDA	1226 CARLISLE STREET	US AIRS, FINDS, ECHO	989 0.187 NNE
M50 / 6	HANOVER BORO STP	300 O'BRIEN LANE	PA NPDES	1004 0.190 South
M51 / 6	HANOVER BORO STP	300 O'BRIEN LANE	ICIS, FINDS, ECHO	1004 0.190 South
N52 / 8	CALLEN TIRES INC	1110 CARLISLE ST	EDR Hist Auto	1020 0.193 East
N53 / 8	CALLEN TIRE	1110 CARLISLE STREET	US AIRS	1020 0.193 East
N54 / 8	CALLEN TIRE	1110 CARLISLE ST	RCRA NonGen / NLR, FINDS, ECHO	1020 0.193 East
N55 / 8	GOODYEAR	1110 CARLISLE ST	PA ARCHIVE UST	1020 0.193 East
N56 / 8	SEARS ROEBUCK & CO 2	1155 CARLISLE STREET	PA MANIFEST	1036 0.196 East
O57 / 4	CHAMPION CHEVROLET-G	1177 CARLISLE ST	RCRA NonGen / NLR, FINDS, ECHO, NY MANIF...	1060 0.201 East
O58 / 4	CHAMPION CHEV	1177 CARLISLE ST	PA RGA LUST	1060 0.201 East
O59 / 4	CHAMPION CHEVROLET	1177 CARLISLE ST	PA ARCHIVE UST	1060 0.201 East
O60 / 4	SHULTZ ENTERPRISES P	1177 CARLISLE ST	PA UNREG LTANKS, PA VCP	1060 0.201 East
O61 / 4	SHULTZ ENTERPRISES P	1177 CARLISLE ST	PA RGA LUST	1060 0.201 East
P62 / 4	FAULKNER HANOVER GMC	100 EISENHOWER DRIVE	US AIRS, FINDS, ECHO	1086 0.206 NE
P63 / 4	ALL STAR OF HANOVER	100 EISENHOWER DR	PA ARCHIVE UST	1086 0.206 NE
P64 / 4	FAULKNER CADILLAC PO	100 EISENHOWER DR	RCRA-SQG, NY MANIFEST	1086 0.206 NE
P65 / 4	FAULKNER OF HANOVER	100 EISENHOWER DR	PA MANIFEST	1086 0.206 NE
L66 / 4	EDDIES CLNR/HANOVER	1225 CARLISLE PIKE	PA AIRS, PA DRYCLEANERS	1107 0.210 NNE
L67 / 4	EDDIES CLNR HANOVER/	1225 CARLISLE PIKE	ICIS, US AIRS	1107 0.210 NNE
L68 / 4	EDDIES CLEANERS HANO	1225 CARLISLE ST	RCRA NonGen / NLR	1107 0.210 NNE
69 / 8	RABER DONALD	1125 CARLISLE AVE	EDR Hist Auto	1196 0.227 ESE
70 / 6	JOSEPH F SMITH TRUCK	29 CHAPEL RD	PA ARCHIVE AST	1202 0.228 NNW
Q71 / 4	EDDIES CLEANERS INC	1231 CARLISLE ST	EDR Hist Cleaner	1261 0.239 NNE
R72 / 4	ALL STAR OF HANOVER	100 EISENHOWER DR	PA ARCHIVE AST	1266 0.240 ENE
R73 / 4	100 EISENHOWER DRIVE	100 EISENHOWER DRIVE	FINDS, ECHO	1266 0.240 ENE
Q74 / 4	HANOVER COLD STORAGE	1301 CARLISLE PIKE	PA LUST, PA ARCHIVE AST, FINDS, ECHO	1340 0.254 NNE
75 / 8	SHULTZ ENTERPRISES P	INTERSECTOIN OF CARL	PA UNREG LTANKS, PA VCP, PA ACT 2-DEED	1715 0.325 East
76 / 6	HANOVER AREA REG WWT	END OBRIEN LN OFF SE	PA LUST, PA AUL, PA ARCHIVE AST	1770 0.335 SSW
77 / 6	CONEWAGO ENTERPRISES	660 EDGE GROVE RD	PA LUST, PA UST, PA ARCHIVE UST	1895 0.359 North
78 / 8	CLEARVIEW SHOPPING C	1000 CARLISLE ST NW	PA VCP	2029 0.384 SE

MAPPED SITES SUMMARY

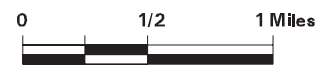
Target Property:
EISENHOWER DRIVE EXTENSION
HANOVER, PA 17331

MAP ID / FOCUS MAP	SITE NAME	ADDRESS	DATABASE ACRONYMS	DIST (ft. & mi.) DIRECTION
S79 / 8	CC 1606	1049 CARLISLE ST	PA LUST	2167 0.410 SE
S80 / 8	CVS NO 1653	1000 CARLISLE ST	RCRA-SQG, PA LUST, FINDS, ECHO, RI MANIF...	2203 0.417 SE
81 / 8	TOMS CLEARVIEW MOBIL	1001 CARLISLE ST	PA LUST, PA ARCHIVE UST	2489 0.471 SE
82 / 7	KINDIG LANE BULK PLT	100 KINDIG LN	PA LUST	2508 0.475 SE
83 / 8	HANOVER 76	998 CARLISLE ST	PA LUST, PA UST, PA MANIFEST	2604 0.493 SE
84 / 8	LATTA, GENE FORD/BUI	140 DART DR	RCRA-SQG, PA AUL, PA VCP, FINDS, ECHO, P...	2637 0.499 SE

Key Map - 5531303.8s



- ▲ Sites
- - - Target Property
- - - Search Buffer
- - - Focus Map - No Sites
- Focus Map - Sites
- National Priority List Sites
- Dept. Defense Sites
- Indian Reservations BIA



SITE NAME: Eisenhower Drive Extension ADDRESS: Eisenhower Drive Extension CITY/STATE: Hanover PA ZIP: 17331	CLIENT: Dawood Engineering Inc. CONTACT: Kevin Rucker INQUIRY #: 5531303.8s DATE: 01/14/19 9:17 AM
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MAP FINDINGS SUMMARY

Database	Search Distance (Miles)	Target Property	< 1/8	1/8 - 1/4	1/4 - 1/2	1/2 - 1	> 1	Total Plotted
<u>STANDARD ENVIRONMENTAL RECORDS</u>								
<i>Federal NPL site list</i>								
NPL	1.000		0	0	0	0	NR	0
Proposed NPL	1.000		0	0	0	0	NR	0
NPL LIENS	1.000		0	0	0	0	NR	0
<i>Federal Delisted NPL site list</i>								
Delisted NPL	1.000		0	0	0	0	NR	0
<i>Federal CERCLIS list</i>								
FEDERAL FACILITY	0.500		0	0	0	NR	NR	0
SEMS	0.500		0	1	0	NR	NR	1
<i>Federal CERCLIS NFRAP site list</i>								
SEMS-ARCHIVE	0.500		0	0	0	NR	NR	0
<i>Federal RCRA CORRACTS facilities list</i>								
CORRACTS	1.000		0	0	0	0	NR	0
<i>Federal RCRA non-CORRACTS TSD facilities list</i>								
RCRA-TSDF	0.500		0	0	0	NR	NR	0
<i>Federal RCRA generators list</i>								
RCRA-LQG	0.250		0	0	NR	NR	NR	0
RCRA-SQG	0.250		1	1	NR	NR	NR	2
RCRA-CESQG	0.250		0	3	NR	NR	NR	3
<i>Federal institutional controls / engineering controls registries</i>								
LUCIS	0.500		0	0	0	NR	NR	0
US ENG CONTROLS	0.500		0	0	0	NR	NR	0
US INST CONTROL	0.500		0	0	0	NR	NR	0
<i>Federal ERNS list</i>								
ERNS	0.250		1	1	NR	NR	NR	2
<i>State- and tribal - equivalent NPL</i>								
PA SHWS	1.000		0	0	0	0	NR	0
PA HSCA	1.000		0	0	0	0	NR	0
<i>State and tribal landfill and/or solid waste disposal site lists</i>								
PA SWF/LF	0.500		0	0	0	NR	NR	0
<i>State and tribal leaking storage tank lists</i>								
PA LUST	0.500		0	1	8	NR	NR	9
PA LAST	0.500		0	0	0	NR	NR	0
INDIAN LUST	0.500		0	0	0	NR	NR	0

MAP FINDINGS SUMMARY

Database	Search Distance (Miles)	Target Property	< 1/8	1/8 - 1/4	1/4 - 1/2	1/2 - 1	> 1	Total Plotted
PA UNREG LTANKS	0.500		0	1	1	NR	NR	2
State and tribal registered storage tank lists								
FEMA UST	0.250		0	0	NR	NR	NR	0
PA UST	0.250		0	1	NR	NR	NR	1
PA AST	0.250		1	1	NR	NR	NR	2
INDIAN UST	0.250		0	0	NR	NR	NR	0
State and tribal institutional control / engineering control registries								
PA ENG CONTROLS	0.500		0	0	0	NR	NR	0
PA INST CONTROL	0.500		0	0	0	NR	NR	0
PA AUL	0.500		0	0	2	NR	NR	2
State and tribal voluntary cleanup sites								
PA VCP	0.500		3	4	3	NR	NR	10
INDIAN VCP	0.500		0	0	0	NR	NR	0
State and tribal Brownfields sites								
PA BROWNFIELDS	0.500		0	0	0	NR	NR	0
<u>ADDITIONAL ENVIRONMENTAL RECORDS</u>								
Local Brownfield lists								
US BROWNFIELDS	0.500		0	0	0	NR	NR	0
Local Lists of Landfill / Solid Waste Disposal Sites								
PA HIST LF	0.500		0	0	0	NR	NR	0
INDIAN ODI	0.500		0	0	0	NR	NR	0
ODI	0.500		0	0	0	NR	NR	0
DEBRIS REGION 9	0.500		0	0	0	NR	NR	0
IHS OPEN DUMPS	0.500		0	0	0	NR	NR	0
Local Lists of Hazardous waste / Contaminated Sites								
US HIST CDL	0.250		0	0	NR	NR	NR	0
US CDL	0.250		0	0	NR	NR	NR	0
Local Lists of Registered Storage Tanks								
PA ARCHIVE UST	0.250		3	4	NR	NR	NR	7
PA ARCHIVE AST	0.250		0	3	NR	NR	NR	3
Local Land Records								
LIENS 2	0.250		0	0	NR	NR	NR	0
PA ACT 2-DEED	0.500		0	0	1	NR	NR	1
Records of Emergency Release Reports								
HMIRS	0.250		0	0	NR	NR	NR	0
PA SPILLS	0.250		0	0	NR	NR	NR	0

MAP FINDINGS SUMMARY

Database	Search Distance (Miles)	Target Property	< 1/8	1/8 - 1/4	1/4 - 1/2	1/2 - 1	> 1	Total Plotted
Other Ascertainable Records								
RCRA NonGen / NLR	0.250	2	1	4	NR	NR	NR	7
FUDS	1.000		0	0	0	0	NR	0
DOD	1.000		0	0	0	0	NR	0
SCRD DRYCLEANERS	0.500		0	0	0	NR	NR	0
US FIN ASSUR	0.250		0	0	NR	NR	NR	0
EPA WATCH LIST	0.250		0	0	NR	NR	NR	0
2020 COR ACTION	0.250		0	0	NR	NR	NR	0
TSCA	0.250		0	0	NR	NR	NR	0
TRIS	0.250		0	0	NR	NR	NR	0
SSTS	0.250		0	1	NR	NR	NR	1
ROD	1.000		0	0	0	0	NR	0
RMP	0.250		0	0	NR	NR	NR	0
RAATS	0.250		0	0	NR	NR	NR	0
PRP	0.250		0	1	NR	NR	NR	1
PADS	0.250	1	0	0	NR	NR	NR	1
ICIS	0.250		0	5	NR	NR	NR	5
FTTS	0.250		0	0	NR	NR	NR	0
MLTS	0.250		0	0	NR	NR	NR	0
COAL ASH DOE	0.250		0	0	NR	NR	NR	0
COAL ASH EPA	0.500		0	0	0	NR	NR	0
PCB TRANSFORMER	0.250		0	0	NR	NR	NR	0
RADINFO	0.250		0	0	NR	NR	NR	0
HIST FTTS	0.250		0	0	NR	NR	NR	0
DOT OPS	0.250		0	0	NR	NR	NR	0
CONSENT	1.000		0	0	0	0	NR	0
INDIAN RESERV	1.000		0	0	0	0	NR	0
FUSRAP	1.000		0	0	0	0	NR	0
UMTRA	0.500		0	0	0	NR	NR	0
LEAD SMELTERS	0.250		0	0	NR	NR	NR	0
US AIRS	0.250		3	5	NR	NR	NR	8
US MINES	0.250		0	0	NR	NR	NR	0
ABANDONED MINES	0.250		0	0	NR	NR	NR	0
FINDS	0.250	2	4	13	NR	NR	NR	19
DOCKET HWC	0.250		0	0	NR	NR	NR	0
UXO	1.000		0	0	0	0	NR	0
ECHO	0.250	2	4	12	NR	NR	NR	18
FUELS PROGRAM	0.250		0	0	NR	NR	NR	0
PA AIRS	0.250		1	2	NR	NR	NR	3
PA ASBESTOS	0.250		0	0	NR	NR	NR	0
PA DRYCLEANERS	0.250		0	1	NR	NR	NR	1
PA MANIFEST	0.250		1	7	NR	NR	NR	8
RI MANIFEST	0.250		0	0	NR	NR	NR	0
NY MANIFEST	0.250		0	2	NR	NR	NR	2
PA MINES	0.250		0	0	NR	NR	NR	0
PA NPDES	0.250		0	2	NR	NR	NR	2
PA UIC	0.250		0	0	NR	NR	NR	0

EDR HIGH RISK HISTORICAL RECORDS

EDR Exclusive Records

EDR MGP	1.000		0	0	0	0	NR	0
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MAP FINDINGS SUMMARY

Database	Search Distance (Miles)	Target Property	< 1/8	1/8 - 1/4	1/4 - 1/2	1/2 - 1	> 1	Total Plotted
EDR Hist Auto	0.250		0	2	NR	NR	NR	2
EDR Hist Cleaner	0.250		0	3	NR	NR	NR	3
<u>EDR RECOVERED GOVERNMENT ARCHIVES</u>								
<i>Exclusive Recovered Govt. Archives</i>								
PA RGA HWS	0.250		0	0	NR	NR	NR	0
PA RGA LF	0.250		0	0	NR	NR	NR	0
PA RGA LUST	0.250		0	4	NR	NR	NR	4
- Totals --		7	23	85	15	0	0	130

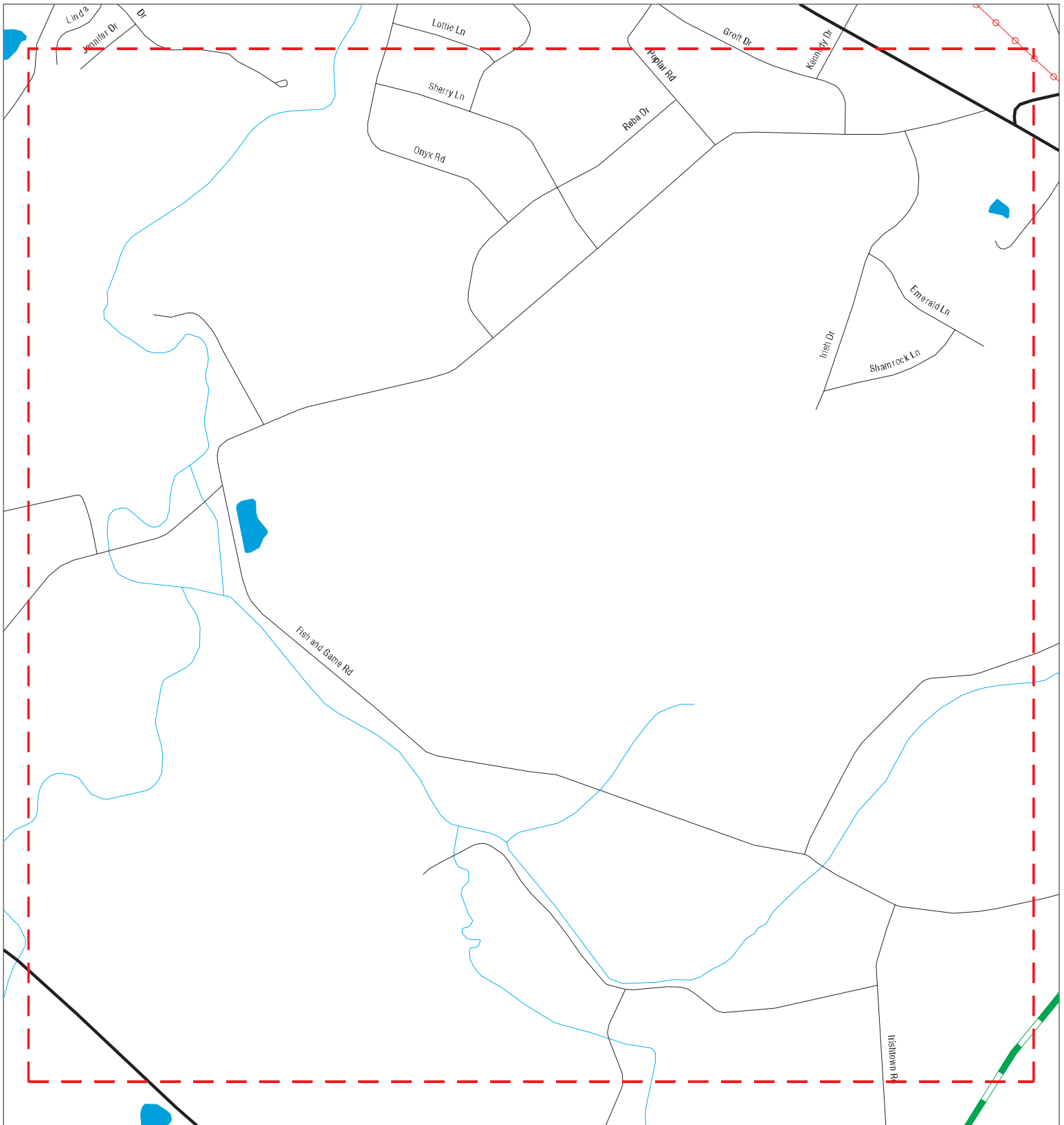
NOTES:











TP = Target Property

NR = Not Requested at this Search Distance

Sites may be listed in more than one database

Focus Map - 1 - 5531303.8s



- | | | | | | |
|--|----------------------|---|-------------------|---|------------------------------|
|  | Sites |  | Focus Map - Sites |  | Dept. Defense Sites |
|  | Target Property |  | Power Line |  | Indian Reservations BIA |
|  | Search Buffer |  | Pipe Line |  | National Priority List Sites |
|  | Focus Map - No Sites | | | | |



SITE NAME: Eisenhower Drive Extension
ADDRESS: Eisenhower Drive Extension
CITY/STATE: Hanover PA
ZIP: 17331

CLIENT: Dawood Engineering Inc.
CONTACT: Kevin Rucker
INQUIRY #: 5531303.8s
DATE: 01/14/19

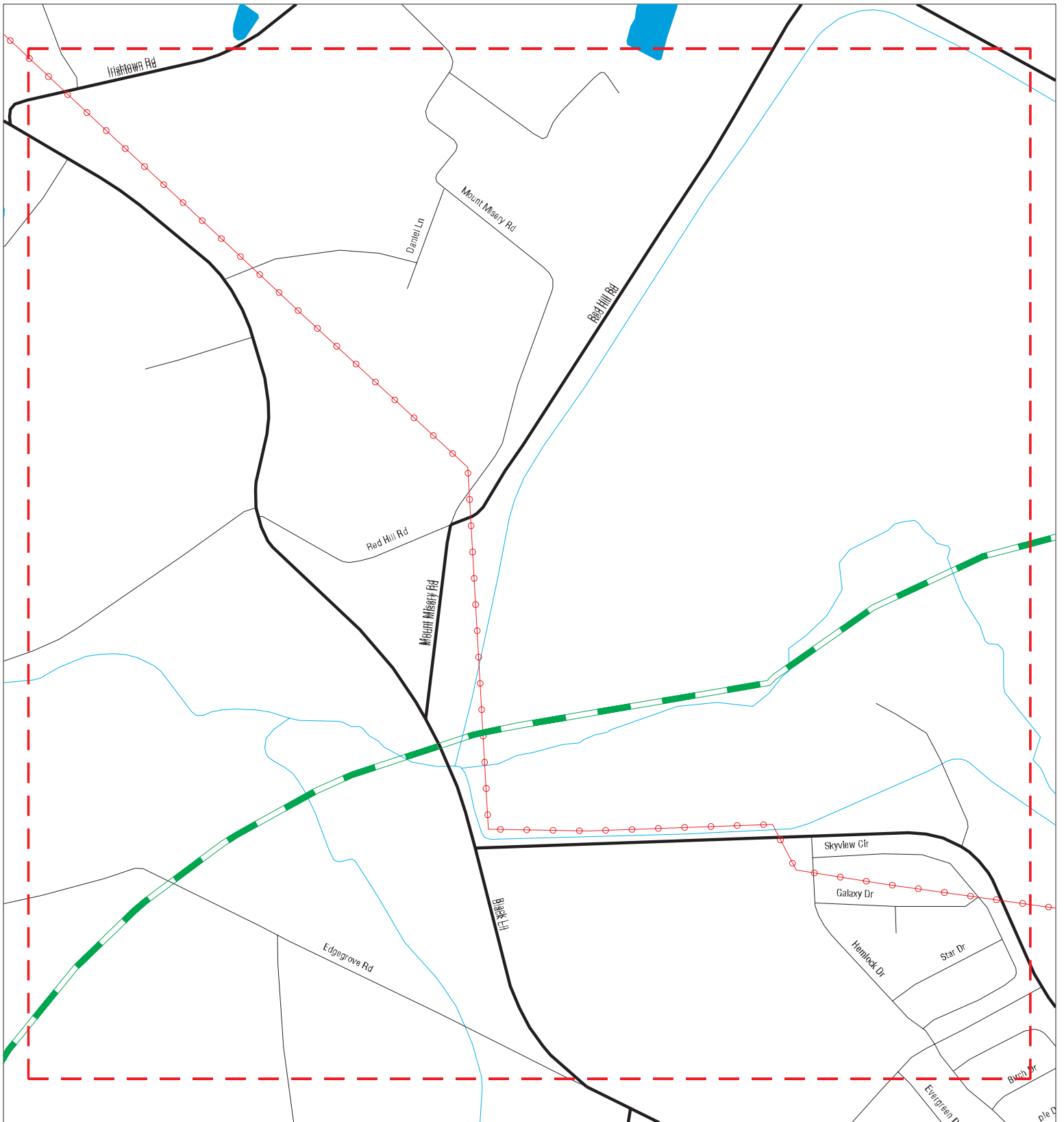
MAPPED SITES SUMMARY - FOCUS MAP 1











Target Property:
EISENHOWER DRIVE EXTENSION
HANOVER, PA 17331

MAP ID / FOCUS MAP	SITE NAME	ADDRESS	DATABASE ACRONYMS	DIST (ft. & mi.) DIRECTION
-----------------------	-----------	---------	-------------------	-------------------------------

NO MAPPED SITES FOUND

Focus Map - 2 - 5531303.8s



- | | | |
|--|--|---|
|  Sites |  Focus Map - Sites |  Dept. Defense Sites |
|  Target Property |  Power Line |  Indian Reservations BIA |
|  Search Buffer |  Pipe Line | |
|  Focus Map - No Sites |  National Priority List Sites | |



SITE NAME: Eisenhower Drive Extension
ADDRESS: Eisenhower Drive Extension
CITY/STATE: Hanover PA
ZIP: 17331

CLIENT: Dawood Engineering Inc.
CONTACT: Kevin Rucker
INQUIRY #: 5531303.8s
DATE: 01/14/19

MAPPED SITES SUMMARY - FOCUS MAP 2

Target Property:
EISENHOWER DRIVE EXTENSION
HANOVER, PA 17331

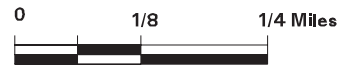
MAP ID / FOCUS MAP	SITE NAME	ADDRESS	DATABASE ACRONYMS	DIST (ft. & mi.) DIRECTION
-----------------------	-----------	---------	-------------------	-------------------------------

NO MAPPED SITES FOUND

Focus Map - 3 - 5531303.8s



- | | | |
|----------------------|-------------------|------------------------------|
| Sites | Focus Map - Sites | Dept. Defense Sites |
| Target Property | Power Line | Indian Reservations BIA |
| Search Buffer | Pipe Line | National Priority List Sites |
| Focus Map - No Sites | | |



SITE NAME: Eisenhower Drive Extension
ADDRESS: Eisenhower Drive Extension
CITY/STATE: Hanover PA
ZIP: 17331

CLIENT: Dawood Engineering Inc.
CONTACT: Kevin Rucker
INQUIRY #: 5531303.8s
DATE: 01/14/19

MAPPED SITES SUMMARY - FOCUS MAP 3

Target Property:
 EISENHOWER DRIVE EXTENSION
 HANOVER, PA 17331

MAP ID / FOCUS MAP	SITE NAME	ADDRESS	DATABASE ACRONYMS	DIST (ft. & mi.) DIRECTION
A1 / 3	SIR SPEEDY PRINTING	1206 HIGH ST	RCRA NonGen / NLR, FINDS, ECHO	TP
A7 / 3	FAMILY FIRST HEALTH	1230 & 1250 HIGH ST	PA VCP	157 0.030 NW
E18 / 3	THE HANOVER KLONDIKE	1275 HIGH ST	PA ARCHIVE UST	659 0.125 NNW
E19 / 3	GOOD HUMOR BREYERS I	1275 HIGH ST	PA ARCHIVE UST	659 0.125 NNW

Focus Map - 4 - 5531303.8s



- ▲ Sites
- Target Property
- - - Search Buffer
- - - Focus Map - No Sites
- - - Focus Map - Sites
- Power Line
- Pipe Line
- Dept. Defense Sites
- Indian Reservations BIA
- National Priority List Sites



SITE NAME: Eisenhower Drive Extension
ADDRESS: Eisenhower Drive Extension
CITY/STATE: Hanover PA
ZIP: 17331

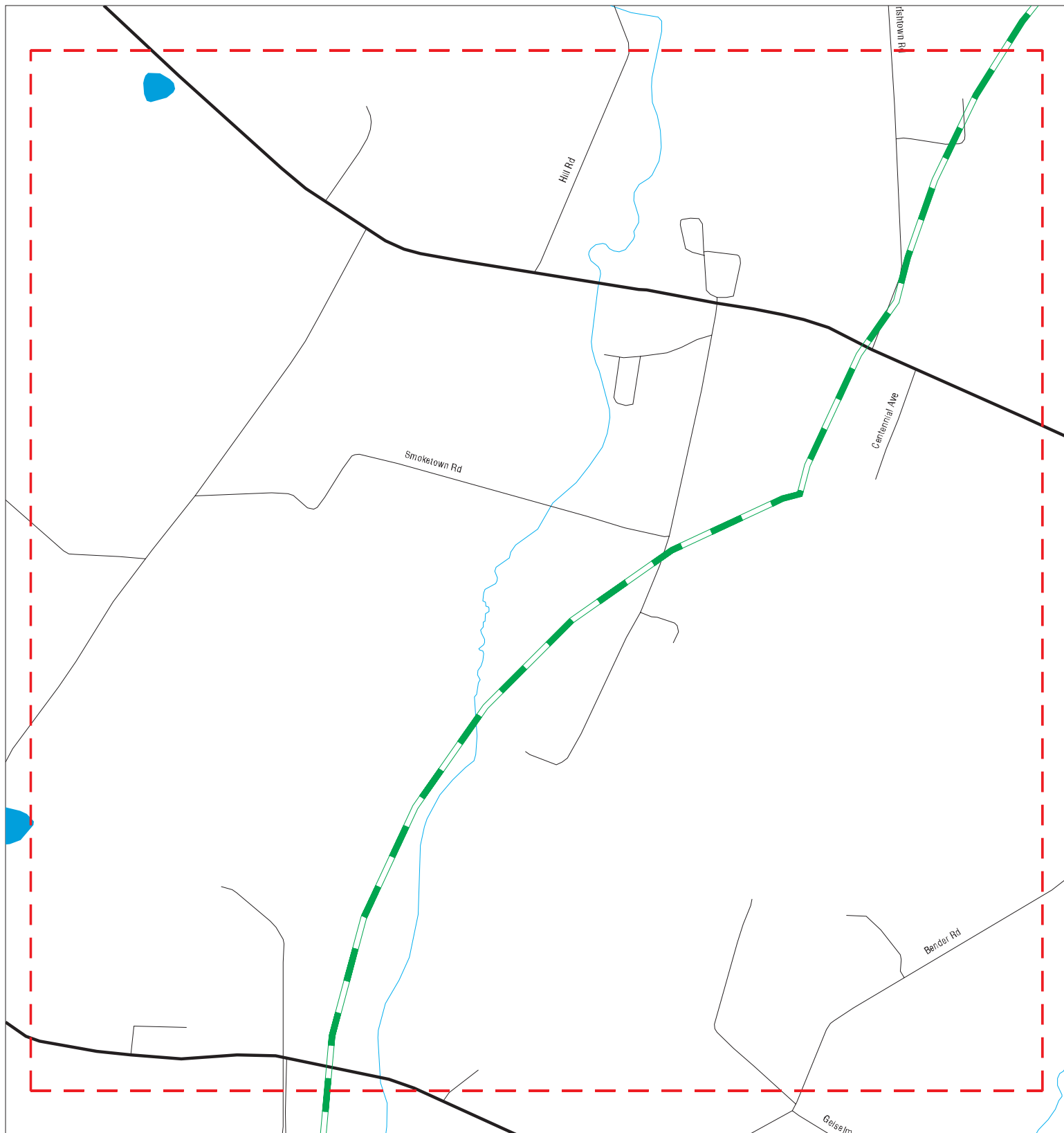
CLIENT: Dawood Engineering Inc.
CONTACT: Kevin Rucker
INQUIRY #: 5531303.8s
DATE: 01/14/19











MAPPED SITES SUMMARY - FOCUS MAP 4

Target Property:
EISENHOWER DRIVE EXTENSION
HANOVER, PA 17331

MAP ID / FOCUS MAP	SITE NAME	ADDRESS	DATABASE ACRONYMS	DIST (ft. & mi.) DIRECTION
6 / 4	LIBERTY NISSAN	75 W. EISENHOWER DRI	US AIRS, FINDS, ECHO	130 0.025 NNE
H34 / 4	SEARS AUTO NORTH HAN	1200 CARLISLE PLZ	PA RGA LUST	801 0.152 NE
I35 / 4	TRACTOR SUPPLY NO 57	1150 CARLISLE ST	FINDS, ECHO	880 0.167 ENE
I36 / 4	TRACTOR SUPPLY # 577	1150 CARLISLE ST	PA ARCHIVE UST, PA MANIFEST	880 0.167 ENE
I37 / 4	TRACTOR SUPPLY NO 57	1150 CARLISLE ST	RCRA-CESQG	880 0.167 ENE
H40 / 4	EDDIES CLNR HANOVER/	1225 CARLISLE ST	FINDS, ECHO	923 0.175 NE
H41 / 4	EDDIES CLEANERS OF H	1225 CARLISLE PIKE	EDR Hist Cleaner	923 0.175 NE
H42 / 4	EDDIES CLEANERS INC	1225 CARLISLE ST	EDR Hist Cleaner	923 0.175 NE
K43 / 4	SHEETZ 199	1191 CARLISLE ST	PA LUST, PA UST	936 0.177 ENE
K44 / 4	SHEETZ STORE NO 199	1191 CARLISLE ST	FINDS, ECHO	936 0.177 ENE
K45 / 4	SHEETZ 199	1191 CARLISLE ST	PA RGA LUST	936 0.177 ENE
K46 / 4	SHEETZ STORE NO 199	1191 CARLISLE STREET	PA MANIFEST	936 0.177 ENE
K47 / 4	SHEETZ STORE NO 199	1191 CARLISLE ST	RCRA-CESQG	936 0.177 ENE
I48 / 4	SEARS 2244 7014	1155 CARLISLE ST STE	PA MANIFEST	951 0.180 ENE
L49 / 4	HANOVER HONDA	1226 CARLISLE STREET	US AIRS, FINDS, ECHO	989 0.187 NNE
O57 / 4	CHAMPION CHEVROLET-G	1177 CARLISLE ST	RCRA NonGen / NLR, FINDS, ECHO, NY MANIF...	1060 0.201 East
O58 / 4	CHAMPION CHEV	1177 CARLISLE ST	PA RGA LUST	1060 0.201 East
O59 / 4	CHAMPION CHEVROLET	1177 CARLISLE ST	PA ARCHIVE UST	1060 0.201 East
O60 / 4	SHULTZ ENTERPRISES P	1177 CARLISLE ST	PA UNREG LTANKS, PA VCP	1060 0.201 East
O61 / 4	SHULTZ ENTERPRISES P	1177 CARLISLE ST	PA RGA LUST	1060 0.201 East
P62 / 4	FAULKNER HANOVER GMC	100 EISENHOWER DRIVE	US AIRS, FINDS, ECHO	1086 0.206 NE
P63 / 4	ALL STAR OF HANOVER	100 EISENHOWER DR	PA ARCHIVE UST	1086 0.206 NE
P64 / 4	FAULKNER CADILLAC PO	100 EISENHOWER DR	RCRA-SQG, NY MANIFEST	1086 0.206 NE
P65 / 4	FAULKNER OF HANOVER	100 EISENHOWER DR	PA MANIFEST	1086 0.206 NE
L66 / 4	EDDIES CLNR/HANOVER	1225 CARLISLE PIKE	PA AIRS, PA DRYCLEANERS	1107 0.210 NNE
L67 / 4	EDDIES CLNR HANOVER/	1225 CARLISLE PIKE	ICIS, US AIRS	1107 0.210 NNE
L68 / 4	EDDIES CLEANERS HANO	1225 CARLISLE ST	RCRA NonGen / NLR	1107 0.210 NNE
Q71 / 4	EDDIES CLEANERS INC	1231 CARLISLE ST	EDR Hist Cleaner	1261 0.239 NNE
R72 / 4	ALL STAR OF HANOVER	100 EISENHOWER DR	PA ARCHIVE AST	1266 0.240 ENE
R73 / 4	100 EISENHOWER DRIVE	100 EISENHOWER DRIVE	FINDS, ECHO	1266 0.240 ENE
Q74 / 4	HANOVER COLD STORAGE	1301 CARLISLE PIKE	PA LUST, PA ARCHIVE AST, FINDS, ECHO	1340 0.254 NNE

Focus Map - 5 - 5531303.8s



- | | | |
|---|---|--|
|  Sites |  Focus Map - Sites |  Dept. Defense Sites |
|  Target Property |  Power Line |  Indian Reservations BIA |
|  Search Buffer |  Pipe Line |  National Priority List Sites |
|  Focus Map - No Sites | | |



SITE NAME: Eisenhower Drive Extension
 ADDRESS: Eisenhower Drive Extension
 CITY/STATE: Hanover PA
 ZIP: 17331

CLIENT: Dawood Engineering Inc.
 CONTACT: Kevin Rucker
 INQUIRY #: 5531303.8s
 DATE: 01/14/19

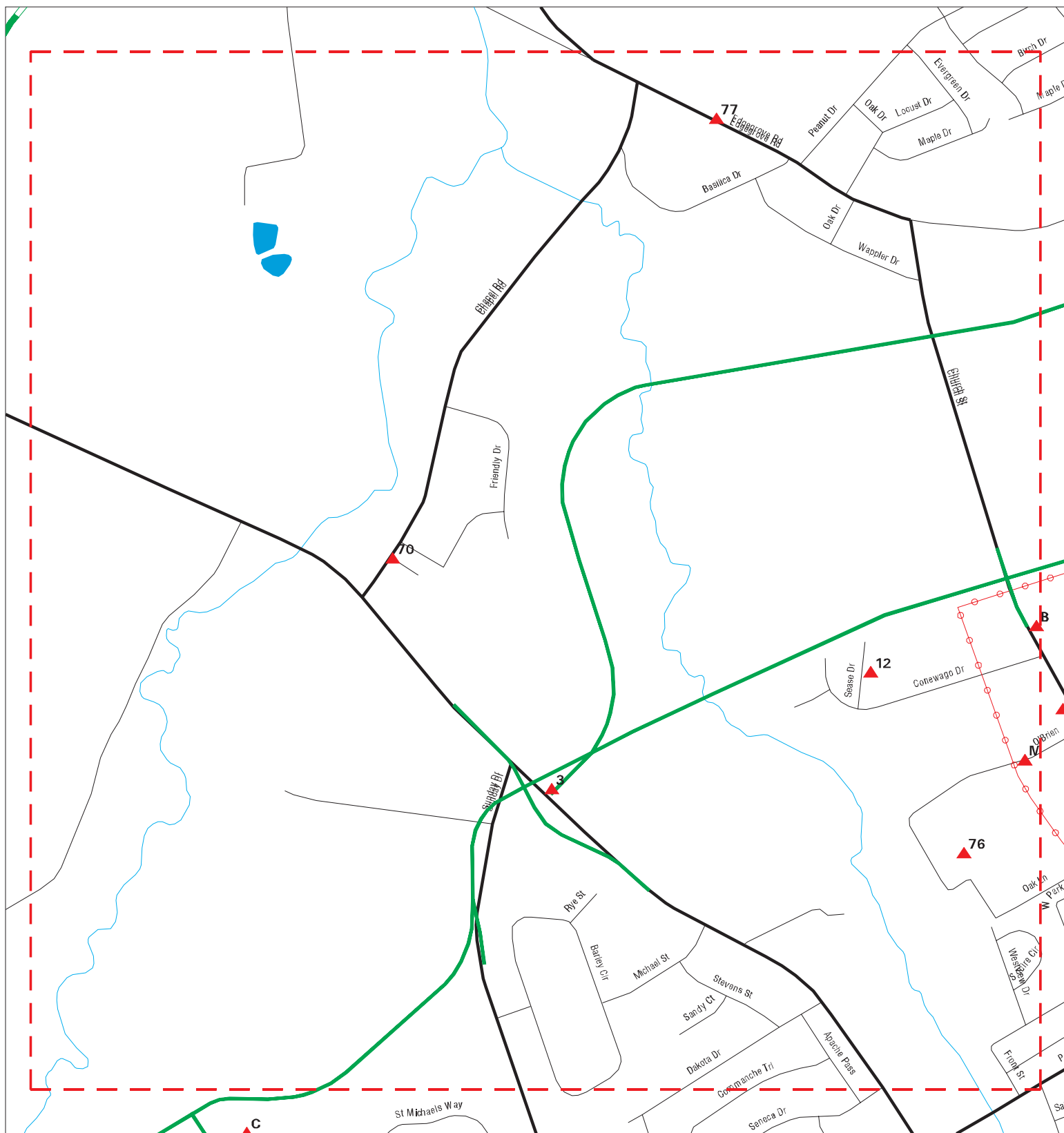
MAPPED SITES SUMMARY - FOCUS MAP 5

Target Property:
EISENHOWER DRIVE EXTENSION
HANOVER, PA 17331

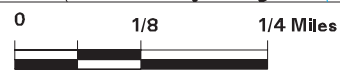
MAP ID / FOCUS MAP	SITE NAME	ADDRESS	DATABASE ACRONYMS	DIST (ft. & mi.) DIRECTION
-----------------------	-----------	---------	-------------------	-------------------------------

NO MAPPED SITES FOUND

Focus Map - 6 - 5531303.8s



- | | | |
|----------------------|-------------------|------------------------------|
| Sites | Focus Map - Sites | Dept. Defense Sites |
| Target Property | Power Line | Indian Reservations BIA |
| Search Buffer | Pipe Line | National Priority List Sites |
| Focus Map - No Sites | | |



SITE NAME: Eisenhower Drive Extension
ADDRESS: Eisenhower Drive Extension
CITY/STATE: Hanover PA
ZIP: 17331

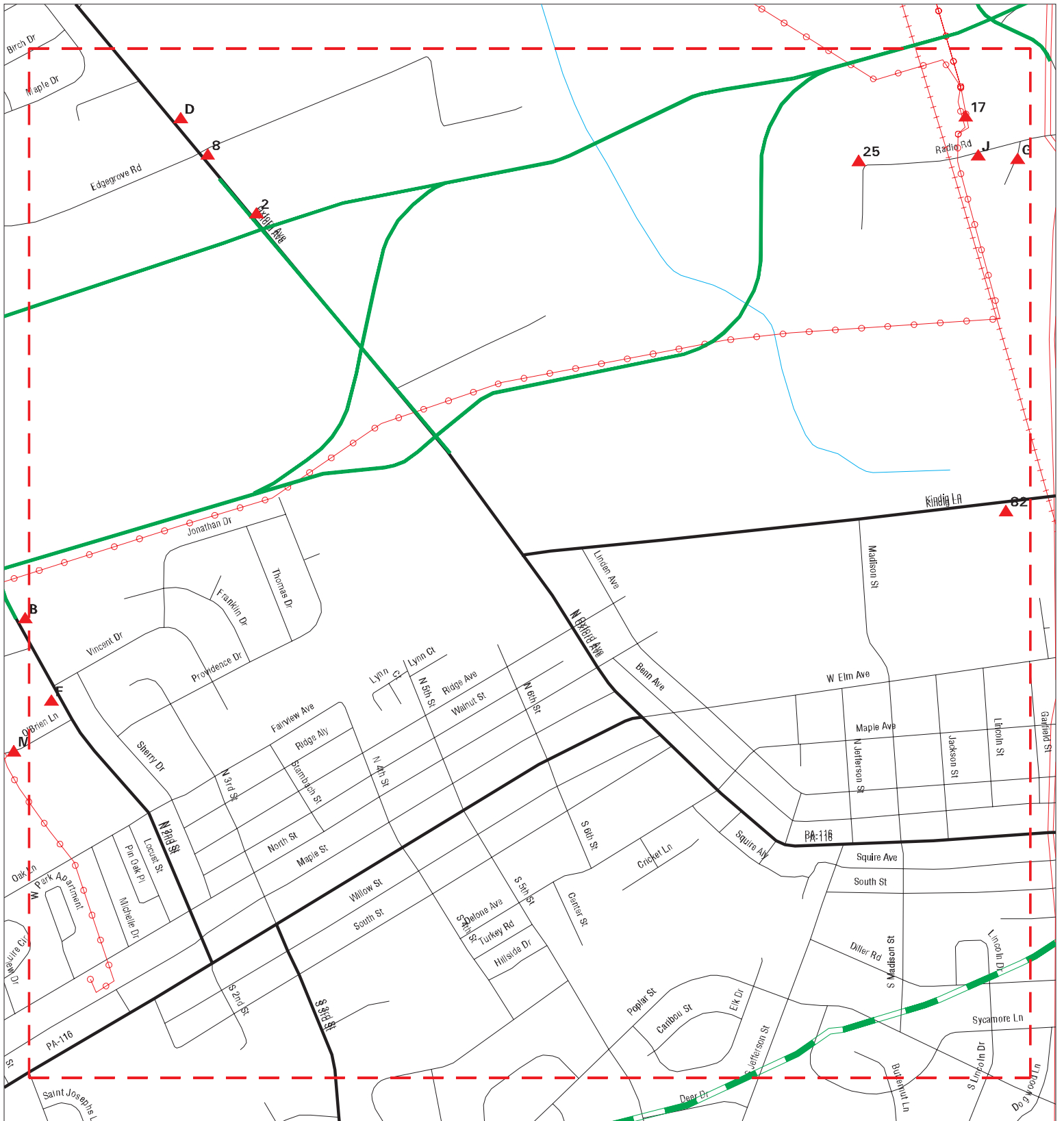
CLIENT: Dawood Engineering Inc.
CONTACT: Kevin Rucker
INQUIRY #: 5531303.8s
DATE: 01/14/19

MAPPED SITES SUMMARY - FOCUS MAP 6

Target Property:
EISENHOWER DRIVE EXTENSION
HANOVER, PA 17331

MAP ID / FOCUS MAP	SITE NAME	ADDRESS	DATABASE ACRONYMS	DIST (ft. & mi.) DIRECTION
3 / 6	MUMMERTS AUTO CENTER	3380 CENTENNIAL RD	RCRA NonGen / NLR, FINDS, ECHO	TP
B4 / 6	MIDEASTERN MACHINERY	351 CHURCH ST	PA AIRS	71 0.013 East
B5 / 6	MIDEASTERN INC	351 CHURCH ST	RCRA NonGen / NLR, US AIRS, FINDS, ECHO	71 0.013 East
12 / 6		5 SEASE STREET	ERNS	343 0.065 SSE
M50 / 6	HANOVER BORO STP	300 O'BRIEN LANE	PA NPDES	1004 0.190 South
M51 / 6	HANOVER BORO STP	300 O'BRIEN LANE	ICIS, FINDS, ECHO	1004 0.190 South
70 / 6	JOSEPH F SMITH TRUCK	29 CHAPEL RD	PA ARCHIVE AST	1202 0.228 NNW
76 / 6	HANOVER AREA REG WWT	END OBRIEN LN OFF SE	PA LUST, PA AUL, PA ARCHIVE AST	1770 0.335 SSW
77 / 6	CONEWAGO ENTERPRISES	660 EDGE GROVE RD	PA LUST, PA UST, PA ARCHIVE UST	1895 0.359 North

Focus Map - 7 - 5531303.8s



- | | | |
|----------------------|------------------------------|-------------------------|
| Sites | Focus Map - Sites | Dept. Defense Sites |
| Target Property | Power Line | Indian Reservations BIA |
| Search Buffer | Pipe Line | |
| Focus Map - No Sites | National Priority List Sites | |



SITE NAME: Eisenhower Drive Extension
ADDRESS: Eisenhower Drive Extension
CITY/STATE: Hanover PA
ZIP: 17331

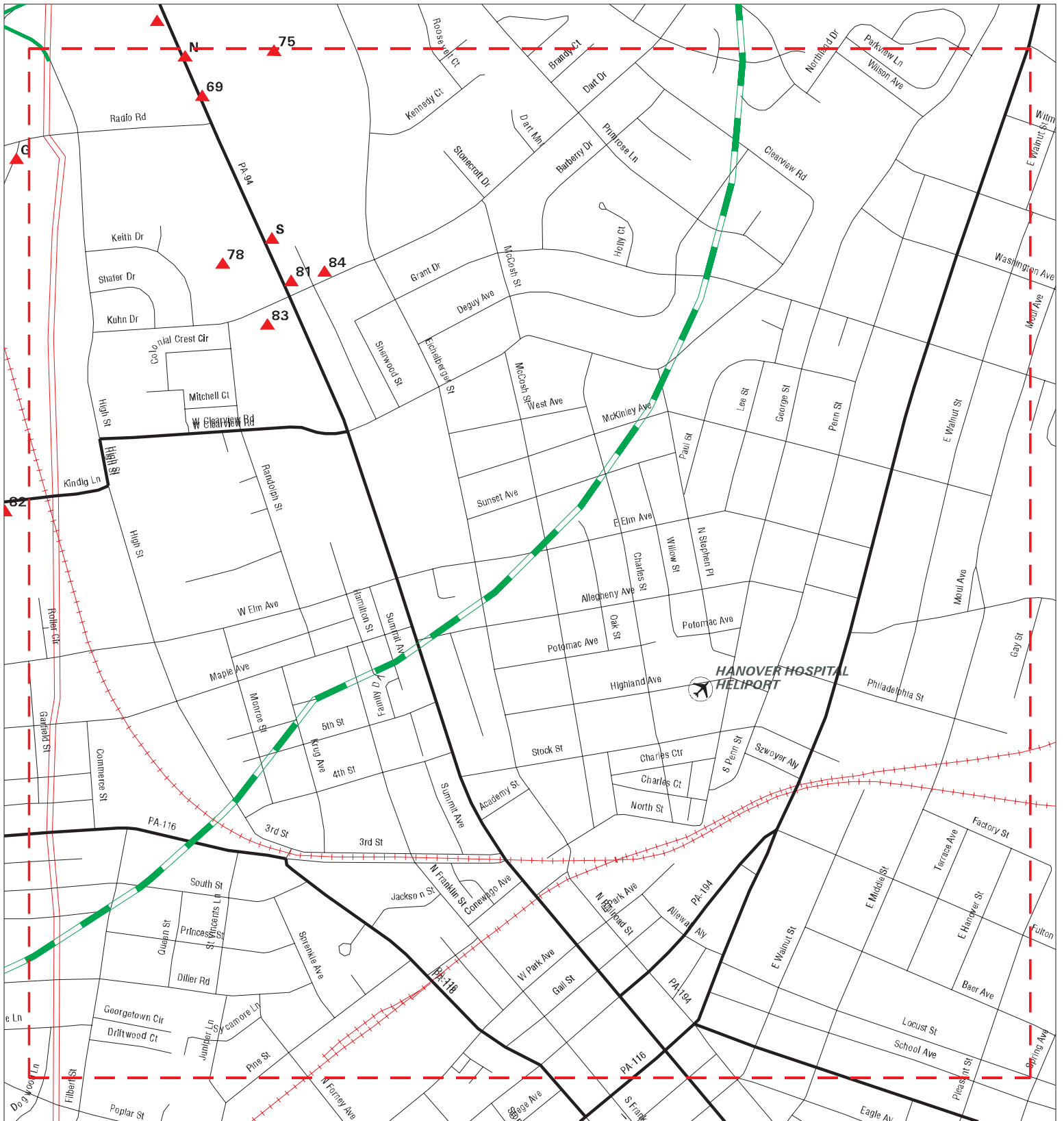
CLIENT: Dawood Engineering Inc.
CONTACT: Kevin Rucker
INQUIRY #: 5531303.8s
DATE: 01/14/19

MAPPED SITES SUMMARY - FOCUS MAP 7

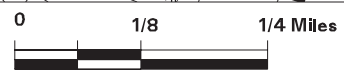
Target Property:
EISENHOWER DRIVE EXTENSION
HANOVER, PA 17331

MAP ID / FOCUS MAP	SITE NAME	ADDRESS	DATABASE ACRONYMS	DIST (ft. & mi.) DIRECTION		
2 / 7	HANOVER PLANT	477 OXFORD AVENUE	PADS	TP		
8 / 7	LOIS E WHILSER PROP	539 OXFORD AVE	PA VCP	210	0.040	NNW
D13 / 7	CONEWAGO TWP MAINT B	541 OXFORD AVE	PA AST	553	0.105	NNW
D14 / 7	CONEWAGO TWP ADAMS C	541 OXFORD AVE	ECHO	553	0.105	NNW
D15 / 7	CONEWAGO TWP MAINT B	541 OXFORD AVE	PA ARCHIVE UST	553	0.105	NNW
D16 / 7	CONEWAGO TWP ADAMS C	541 OXFORD AVE	FINDS	553	0.105	NNW
17 / 7	METRO EDISON CO NORT	RADIO RD WEST OF HIG	PA VCP	622	0.118	SSE
F20 / 7		262 CHURCH ST	ERNS	675	0.128	SSE
F21 / 7	COLONIAL FIBERGLASS	262 CHURCH ST	FINDS, ECHO	675	0.128	SSE
F22 / 7	COLONIAL FIBERGLASS	262 CHURCH ST	PA MANIFEST	675	0.128	SSE
F23 / 7	ACME COMPOSITES/HANO	262 CHURCH ST	PA AIRS, PA MANIFEST	675	0.128	SSE
F24 / 7	ACME COMPOSITES/HANO	262 CHURCH ST	RCRA-CESQG, ICIS, US AIRS, FINDS, ECHO	675	0.128	SSE
25 / 7	BARE DEV - MILLER CH	275 RADIO RD	PA VCP	718	0.136	SE
G26 / 7	MILLER CHEMICAL	120 RADIO ROAD	SEMS, PRP	782	0.148	SSW
G27 / 7	MILLER CHEMICAL & FE	120 RADIO RD	PA AST, SSTS	782	0.148	SSW
G28 / 7	MILLER CHEMICAL	120 RADIO ROAD	FINDS	782	0.148	SSW
G29 / 7	MILLER CHEM & FERTIL	120 RADIO RD	PA ARCHIVE AST	782	0.148	SSW
G30 / 7	FORMER ALCO INDUS	120 RADIO RD	PA VCP	782	0.148	SSW
G31 / 7	MILLER CHEMICAL & FE	120 RADIO RD	ICIS, FINDS, ECHO	782	0.148	SSW
G32 / 7	MILLER CHEMICAL & FE	120, 150 & 170 RADIO	PA VCP	782	0.148	SSW
G33 / 7	MILLER CHEMICAL & FE	120 RADIO RD	RCRA NonGen / NLR	782	0.148	SSW
J38 / 7	MILLER CHEMICAL & FE	170 RADIO RD	PA NPDES	901	0.171	SW
J39 / 7	MILLER CHEMICAL & FE	170 RADIO RD	ICIS	901	0.171	SW
82 / 7	KINDIG LANE BULK PLT	100 KINDIG LN	PA LUST	2508	0.475	SE

Focus Map - 8 - 5531303.8s



Sites	Focus Map - Sites	Dept. Defense Sites
Target Property	Power Line	Indian Reservations BIA
Search Buffer	Pipe Line	
Focus Map - No Sites	National Priority List Sites	



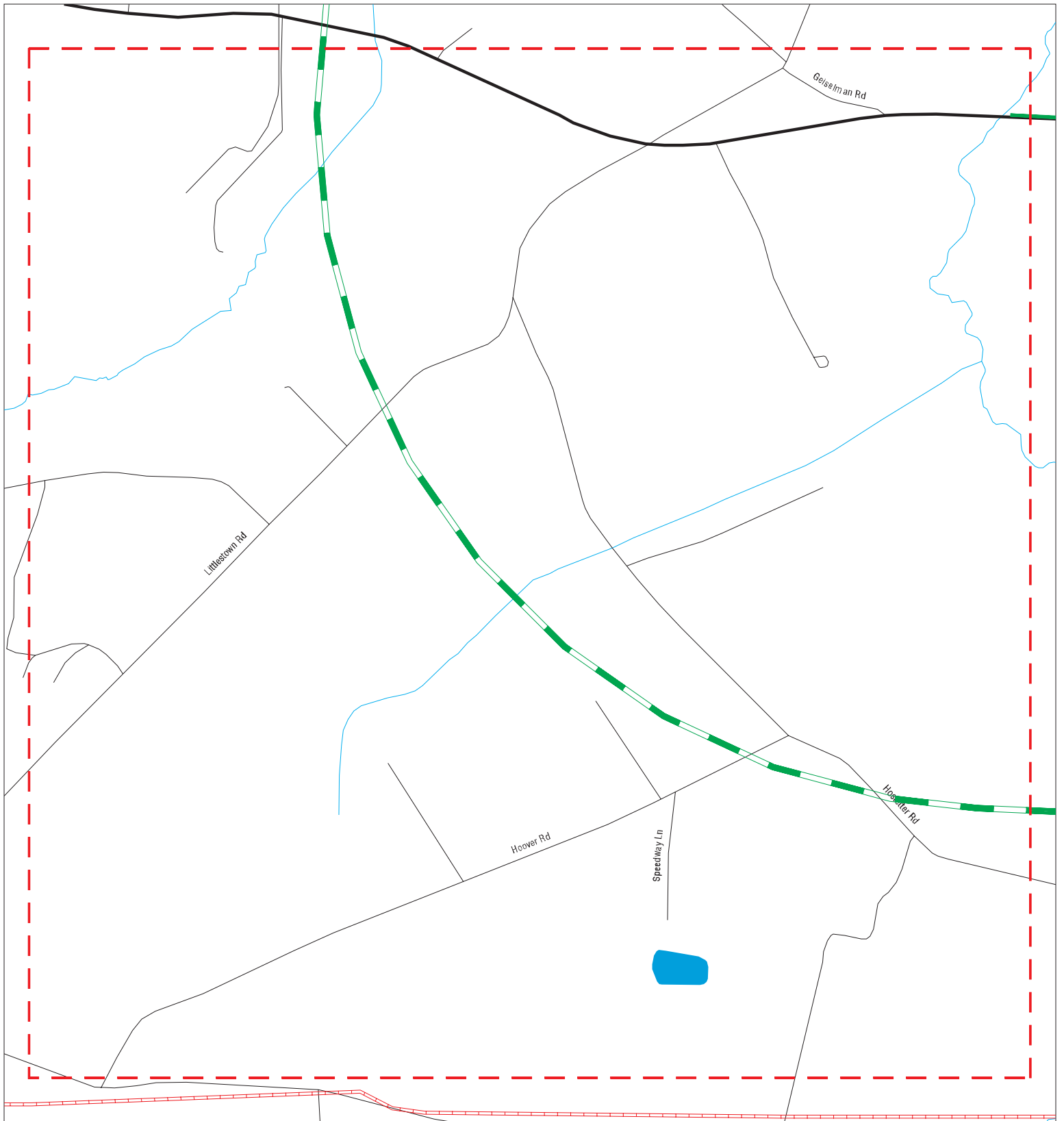
SITE NAME: Eisenhower Drive Extension ADDRESS: Eisenhower Drive Extension CITY/STATE: Hanover PA ZIP: 17331	CLIENT: Dawood Engineering Inc. CONTACT: Kevin Rucker INQUIRY #: 5531303.8s DATE: 01/14/19
--	---











MAPPED SITES SUMMARY - FOCUS MAP 8

Target Property:
EISENHOWER DRIVE EXTENSION
HANOVER, PA 17331

MAP ID / FOCUS MAP	SITE NAME	ADDRESS	DATABASE ACRONYMS	DIST (ft. & mi.) DIRECTION
N52 / 8	CALLEN TIRES INC	1110 CARLISLE ST	EDR Hist Auto	1020 0.193 East
N53 / 8	CALLEN TIRE	1110 CARLISLE STREET	US AIRS	1020 0.193 East
N54 / 8	CALLEN TIRE	1110 CARLISLE ST	RCRA NonGen / NLR, FINDS, ECHO	1020 0.193 East
N55 / 8	GOODYEAR	1110 CARLISLE ST	PA ARCHIVE UST	1020 0.193 East
N56 / 8	SEARS ROEBUCK & CO 2	1155 CARLISLE STREET	PA MANIFEST	1036 0.196 East
69 / 8	RABER DONALD	1125 CARLISLE AVE	EDR Hist Auto	1196 0.227 ESE
75 / 8	SHULTZ ENTERPRISES P	INTERSECTOIN OF CARL	PA UNREG LTANKS, PA VCP, PA ACT 2-DEED	1715 0.325 East
78 / 8	CLEARVIEW SHOPPING C	1000 CARLISLE ST NW	PA VCP	2029 0.384 SE
S79 / 8	CC 1606	1049 CARLISLE ST	PA LUST	2167 0.410 SE
S80 / 8	CVS NO 1653	1000 CARLISLE ST	RCRA-SQG, PA LUST, FINDS, ECHO, RI MANIF...	2203 0.417 SE
81 / 8	TOMS CLEARVIEW MOBIL	1001 CARLISLE ST	PA LUST, PA ARCHIVE UST	2489 0.471 SE
83 / 8	HANOVER 76	998 CARLISLE ST	PA LUST, PA UST, PA MANIFEST	2604 0.493 SE
84 / 8	LATTA, GENE FORD/BUI	140 DART DR	RCRA-SQG, PA AUL, PA VCP, FINDS, ECHO, P...	2637 0.499 SE

Focus Map - 9 - 5531303.8s



- | | | |
|--|--|---|
|  Sites |  Focus Map - Sites |  Dept. Defense Sites |
|  Target Property |  Power Line |  Indian Reservations BIA |
|  Search Buffer |  Pipe Line | |
|  Focus Map - No Sites |  National Priority List Sites | |



SITE NAME: Eisenhower Drive Extension
ADDRESS: Eisenhower Drive Extension
CITY/STATE: Hanover PA
ZIP: 17331

CLIENT: Dawood Engineering Inc.
CONTACT: Kevin Rucker
INQUIRY #: 5531303.8s
DATE: 01/14/19

MAPPED SITES SUMMARY - FOCUS MAP 9

Target Property:
EISENHOWER DRIVE EXTENSION
HANOVER, PA 17331

MAP ID / FOCUS MAP	SITE NAME	ADDRESS	DATABASE ACRONYMS	DIST (ft. & mi.) DIRECTION
-----------------------	-----------	---------	-------------------	-------------------------------

NO MAPPED SITES FOUND

Focus Map - 10 - 5531303.8s



- ▲ Sites
- - - Target Property
- - - Search Buffer
- - - Focus Map - No Sites
- - - Focus Map - Sites
- - - Power Line
- - - Pipe Line
- Dept. Defense Sites
- Indian Reservations BIA
- National Priority List Sites



SITE NAME: Eisenhower Drive Extension
 ADDRESS: Eisenhower Drive Extension
 CITY/STATE: Hanover PA
 ZIP: 17331

CLIENT: Dawood Engineering Inc.
 CONTACT: Kevin Rucker
 INQUIRY #: 5531303.8s
 DATE: 01/14/19











MAPPED SITES SUMMARY - FOCUS MAP 10

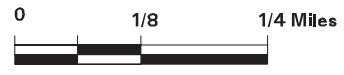
Target Property:
EISENHOWER DRIVE EXTENSION
HANOVER, PA 17331

MAP ID / FOCUS MAP	SITE NAME	ADDRESS	DATABASE ACRONYMS	DIST (ft. & mi.) DIRECTION
C9 / 10	BLACKS EARLE GARAGE	5490 HANOVER RD	RCRA-SQG	245 0.046 NE
C10 / 10	EARLE BLACKS GARAGE	5490 HANOVER ROAD	PA MANIFEST	245 0.046 NE
C11 / 10	EARLE BLACK'S GARAGE	5490 HANOVER ROAD	US AIRS, FINDS, ECHO	245 0.046 NE

Focus Map - 11 - 5531303.8s



- | | | | | | |
|---|----------------------|---|-------------------|---|------------------------------|
|  | Sites |  | Focus Map - Sites |  | Dept. Defense Sites |
|  | Target Property |  | Power Line |  | Indian Reservations BIA |
|  | Search Buffer |  | Pipe Line |  | National Priority List Sites |
|  | Focus Map - No Sites | | | | |



SITE NAME: Eisenhower Drive Extension
ADDRESS: Eisenhower Drive Extension
CITY/STATE: Hanover PA
ZIP: 17331

CLIENT: Dawood Engineering Inc.
CONTACT: Kevin Rucker
INQUIRY #: 5531303.8s
DATE: 01/14/19

MAPPED SITES SUMMARY - FOCUS MAP 11

Target Property:
EISENHOWER DRIVE EXTENSION
HANOVER, PA 17331

MAP ID / FOCUS MAP	SITE NAME	ADDRESS	DATABASE ACRONYMS	DIST (ft. & mi.) DIRECTION
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NO MAPPED SITES FOUND

Map ID
 Direction
 Distance
 Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number
 EPA ID Number

A1 **SIR SPEEDY PRINTING**
Target **1206 HIGH ST**
Property **HANOVER, PA 17331**

RCRA NonGen / NLR **1004777530**
FINDS **PAR000029991**
ECHO

Site 1 of 2 in cluster A

Actual:
545 ft.

RCRA NonGen / NLR:
 Date form received by agency: 11/02/2015
 Facility name: SIR SPEEDY PRINTING
 Facility address: 1206 HIGH ST
 HANOVER, PA 17331
 EPA ID: PAR000029991
 Contact: Not reported
 Contact address: Not reported
 Not reported
 Contact country: Not reported
 Contact telephone: Not reported
 Contact email: Not reported
 EPA Region: 03
 Land type: Other land type
 Classification: Non-Generator
 Description: Handler: Non-Generators do not presently generate hazardous waste

Focus Map:
3

Handler Activities Summary:

U.S. importer of hazardous waste: No
 Mixed waste (haz. and radioactive): No
 Recycler of hazardous waste: No
 Transporter of hazardous waste: No
 Treater, storer or disposer of HW: No
 Underground injection activity: No
 On-site burner exemption: No
 Furnace exemption: No
 Used oil fuel burner: No
 Used oil processor: No
 User oil refiner: No
 Used oil fuel marketer to burner: No
 Used oil Specification marketer: No
 Used oil transfer facility: No
 Used oil transporter: No

Historical Generators:

Date form received by agency: 06/23/1997
 Site name: SIR SPEEDY PRINTING
 Classification: Conditionally Exempt Small Quantity Generator

. Waste code: D000
 . Waste name: Not Defined

. Waste code: D011
 . Waste name: SILVER

Violation Status: No violations found

Evaluation Action Summary:

Evaluation date: 10/28/2015
 Evaluation: COMPLIANCE EVALUATION INSPECTION ON-SITE
 Area of violation: Not reported
 Date achieved compliance: Not reported

Map ID
Direction
Distance
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number
EPA ID Number

SIR SPEEDY PRINTING (Continued)

1004777530

Evaluation lead agency: State

FINDS:

Registry ID: 110000995497

Environmental Interest/Information System

RCRAInfo is a national information system that supports the Resource Conservation and Recovery Act (RCRA) program through the tracking of events and activities related to facilities that generate, transport, and treat, store, or dispose of hazardous waste. RCRAInfo allows RCRA program staff to track the notification, permit, compliance, and corrective action activities required under RCRA.

PA-EFACTS (Pennsylvania - Environmental Facility Application Compliance Tracking System) is a Department-wide database that provides a holistic view of clients and sites (including facilities) that DEP regulates.

[Click this hyperlink](#) while viewing on your computer to access additional FINDS: detail in the EDR Site Report.

ECHO:

Envid: 1004777530
Registry ID: 110000995497
DFR URL: <http://echo.epa.gov/detailed-facility-report?fid=110000995497>

2
Target
Property
HANOVER PLANT
477 OXFORD AVENUE
HANOVER, PA 17331

PADS **1005481483**
PAW000000049

Actual:
539 ft.

Focus Map:
7

PADS:

EPAID: PAW000000049
Facility name: HANOVER PLANT
Facility Address: 477 OXFORD AVENUE
HANOVER, PA 17331
Facility country: US
Generator: Yes
Storer: No
Transporter: No
Disposer: No
Research facility: No
Smelter: No
Facility owner name: PENNSYLVANIA LIME, INC.
Contact title: Not reported
Contact name: JEFF JACOBY
Contact tel: 717-630-8266
Contact extension: Not reported
Contact Email: Not reported
Mailing address: 477 OXFORD AVENUE
HANOVER, PA 17331
Mailing country: US
Cert. date: 05/31/2000

Map ID
Direction
Distance
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number
EPA ID Number

3 **MUMMERTS AUTO CENTER**
Target **3380 CENTENNIAL RD**
Property **HANOVER, PA 17331**

RCRA NonGen / NLR **1000298503**
FINDS **PAD982363186**
ECHO

Actual:
532 ft.
Focus Map:
6

RCRA NonGen / NLR:

Date form received by agency: 07/23/2015
Facility name: MUMMERTS AUTO CENTER
Facility address: 3380 CENTENNIAL RD
HANOVER, PA 17331
EPA ID: PAD982363186
Contact: Not reported
Contact address: Not reported
Not reported
Contact country: Not reported
Contact telephone: Not reported
Contact email: Not reported
EPA Region: 03
Land type: Other land type
Classification: Non-Generator
Description: Handler: Non-Generators do not presently generate hazardous waste

Handler Activities Summary:

U.S. importer of hazardous waste: No
Mixed waste (haz. and radioactive): No
Recycler of hazardous waste: No
Transporter of hazardous waste: No
Treater, storer or disposer of HW: No
Underground injection activity: No
On-site burner exemption: No
Furnace exemption: No
Used oil fuel burner: No
Used oil processor: No
User oil refiner: No
Used oil fuel marketer to burner: No
Used oil Specification marketer: No
Used oil transfer facility: No
Used oil transporter: No

Historical Generators:

Date form received by agency: 10/30/1987
Site name: MUMMERTS AUTO CENTER
Classification: Small Quantity Generator

. Waste code: D000
. Waste name: Not Defined

. Waste code: D001
. Waste name: IGNITABLE HAZARDOUS WASTES ARE THOSE WASTES WHICH HAVE A FLASHPOINT OF LESS THAN 140 DEGREES FAHRENHEIT AS DETERMINED BY A PENSKEY-MARTENS CLOSED CUP FLASH POINT TESTER. ANOTHER METHOD OF DETERMINING THE FLASH POINT OF A WASTE IS TO REVIEW THE MATERIAL SAFETY DATA SHEET, WHICH CAN BE OBTAINED FROM THE MANUFACTURER OR DISTRIBUTOR OF THE MATERIAL. LACQUER THINNER IS AN EXAMPLE OF A COMMONLY USED SOLVENT WHICH WOULD BE CONSIDERED AS IGNITABLE HAZARDOUS WASTE.

. Waste code: F003
. Waste name: THE FOLLOWING SPENT NON-HALOGENATED SOLVENTS: XYLENE, ACETONE, ETHYL ACETATE, ETHYL BENZENE, ETHYL ETHER, METHYL ISOBUTYL KETONE, N-BUTYL

Map ID
Direction
Distance
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number
EPA ID Number

MUMMERTS AUTO CENTER (Continued)

1000298503

ALCOHOL, CYCLOHEXANONE, AND METHANOL; ALL SPENT SOLVENT MIXTURES/BLENDS CONTAINING, BEFORE USE, ONLY THE ABOVE SPENT NON-HALOGENATED SOLVENTS; AND ALL SPENT SOLVENT MIXTURES/BLENDS CONTAINING, BEFORE USE, ONE OR MORE OF THE ABOVE NON-HALOGENATED SOLVENTS, AND, A TOTAL OF TEN PERCENT OR MORE (BY VOLUME) OF ONE OR MORE OF THOSE SOLVENTS LISTED IN F001, F002, F004, AND F005, AND STILL BOTTOMS FROM THE RECOVERY OF THESE SPENT SOLVENTS AND SPENT SOLVENT MIXTURES.

. Waste code: F005
. Waste name: THE FOLLOWING SPENT NON-HALOGENATED SOLVENTS: TOLUENE, METHYL ETHYL KETONE, CARBON DISULFIDE, ISOBUTANOL, PYRIDINE, BENZENE, 2-ETHOXYETHANOL, AND 2-NITROPROPANE; ALL SPENT SOLVENT MIXTURES/BLENDS CONTAINING, BEFORE USE, A TOTAL OF TEN PERCENT OR MORE (BY VOLUME) OF ONE OR MORE OF THE ABOVE NON-HALOGENATED SOLVENTS OR THOSE SOLVENTS LISTED IN F001, F002, OR F004; AND STILL BOTTOMS FROM THE RECOVERY OF THESE SPENT SOLVENTS AND SPENT SOLVENT MIXTURES.

Violation Status: No violations found

Evaluation Action Summary:

Evaluation date: 07/13/2015
Evaluation: COMPLIANCE EVALUATION INSPECTION ON-SITE
Area of violation: Not reported
Date achieved compliance: Not reported
Evaluation lead agency: State

FINDS:

Registry ID: 110001028557

Environmental Interest/Information System

RCRAInfo is a national information system that supports the Resource Conservation and Recovery Act (RCRA) program through the tracking of events and activities related to facilities that generate, transport, and treat, store, or dispose of hazardous waste. RCRAInfo allows RCRA program staff to track the notification, permit, compliance, and corrective action activities required under RCRA.

PA-EFACTS (Pennsylvania - Environmental Facility Application Compliance Tracking System) is a Department-wide database that provides a holistic view of clients and sites (including facilities) that DEP regulates.

[Click this hyperlink](#) while viewing on your computer to access additional FINDS: detail in the EDR Site Report.

ECHO:

Envid: 1000298503
Registry ID: 110001028557
DFR URL: <http://echo.epa.gov/detailed-facility-report?fid=110001028557>

Map ID
Direction
Distance
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number
EPA ID Number

B4 **MIDEASTERN MACHINERY/DEVLIEG BULLARD MACHINE TOOL**
East **351 CHURCH ST**
< 1/8 **HANOVER, PA 17331**
0.013 mi.
71 ft. **Site 1 of 2 in cluster B**

PA AIRS **S122341772**
N/A

Actual: **539 ft.** **AIRS:**
Focus Map: **6**
Address 2: Not reported
Primary Facility ID: 524730
Contact Name: Not reported
Contact Phone: Not reported
Contact Email: Not reported
Status: Unpermitted Inactive
Region: Southcentral Regional Office
Site ID: 499608
Client ID: 122388
Client Name: MIDEASTERN DIV OF DEVLIEG BULLARD GROUP
NAICS Code: 333999
Client Address: 351 CHURCH ST
Client Address 2: Not reported
Client City: HANOVER
Client State: PA
Client Zip: 17331-7771
Client Type: NON-GOVERNMENT
NAICS Description: All Other Miscellaneous General Purpose Machinery Manufacturing
Latitude: 39.810594
Longitude: -77.031528

B5 **MIDEASTERN INC**
East **351 CHURCH ST**
< 1/8 **HANOVER, PA 17331**
0.013 mi.
71 ft. **Site 2 of 2 in cluster B**

RCRA NonGen / NLR **1001229685**
US AIRS **PAR000035790**
FINDS
ECHO

Actual: **539 ft.** **RCRA NonGen / NLR:**
Focus Map: **6**
Date form received by agency: 10/01/2009
Facility name: MIDEASTERN INC
Facility address: 351 CHURCH ST
HANOVER, PA 17331
EPA ID: PAR000035790
Contact: Not reported
Contact address: Not reported
Not reported
Contact country: US
Contact telephone: Not reported
Contact email: Not reported
EPA Region: 03
Land type: Other land type
Classification: Non-Generator
Description: Handler: Non-Generators do not presently generate hazardous waste

Handler Activities Summary:
U.S. importer of hazardous waste: No
Mixed waste (haz. and radioactive): No
Recycler of hazardous waste: No
Transporter of hazardous waste: No
Treater, storer or disposer of HW: No
Underground injection activity: No
On-site burner exemption: No

Map ID
Direction
Distance
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number
EPA ID Number

MIDEASTERN INC (Continued)

1001229685

Furnace exemption: No
Used oil fuel burner: No
Used oil processor: No
Used oil refiner: No
Used oil fuel marketer to burner: No
Used oil Specification marketer: No
Used oil transfer facility: No
Used oil transporter: No

Historical Generators:

Date form received by agency: 08/19/1998

Site name: MIDEASTERN

Classification: Small Quantity Generator

. Waste code: D000
. Waste name: Not Defined

. Waste code: D001
. Waste name: IGNITABLE HAZARDOUS WASTES ARE THOSE WASTES WHICH HAVE A FLASHPOINT OF LESS THAN 140 DEGREES FAHRENHEIT AS DETERMINED BY A PENSKEY-MARTENS CLOSED CUP FLASH POINT TESTER. ANOTHER METHOD OF DETERMINING THE FLASH POINT OF A WASTE IS TO REVIEW THE MATERIAL SAFETY DATA SHEET, WHICH CAN BE OBTAINED FROM THE MANUFACTURER OR DISTRIBUTOR OF THE MATERIAL. LACQUER THINNER IS AN EXAMPLE OF A COMMONLY USED SOLVENT WHICH WOULD BE CONSIDERED AS IGNITABLE HAZARDOUS WASTE.

. Waste code: D002
. Waste name: A WASTE WHICH HAS A PH OF LESS THAN 2 OR GREATER THAN 12.5 IS CONSIDERED TO BE A CORROSIVE HAZARDOUS WASTE. SODIUM HYDROXIDE, A CAUSTIC SOLUTION WITH A HIGH PH, IS OFTEN USED BY INDUSTRIES TO CLEAN OR DEGREASE PARTS. HYDROCHLORIC ACID, A SOLUTION WITH A LOW PH, IS USED BY MANY INDUSTRIES TO CLEAN METAL PARTS PRIOR TO PAINTING. WHEN THESE CAUSTIC OR ACID SOLUTIONS BECOME CONTAMINATED AND MUST BE DISPOSED, THE WASTE WOULD BE A CORROSIVE HAZARDOUS WASTE.

. Waste code: D007
. Waste name: CHROMIUM

. Waste code: D009
. Waste name: MERCURY

. Waste code: F001
. Waste name: THE FOLLOWING SPENT HALOGENATED SOLVENTS USED IN DEGREASING: TETRACHLOROETHYLENE, TRICHLOROETHYLENE, METHYLENE CHLORIDE, 1,1,1-TRICHLOROETHANE, CARBON TETRACHLORIDE, AND CHLORINATED FLUOROCARBONS; ALL SPENT SOLVENT MIXTURES/BLENDS USED IN DEGREASING CONTAINING, BEFORE USE, A TOTAL OF TEN PERCENT OR MORE (BY VOLUME) OF ONE OR MORE OF THE ABOVE HALOGENATED SOLVENTS OR THOSE SOLVENTS LISTED IN F002, F004, AND F005, AND STILL BOTTOMS FROM THE RECOVERY OF THESE SPENT SOLVENTS AND SPENT SOLVENT MIXTURES.

Violation Status: No violations found

Evaluation Action Summary:

Evaluation date: 09/23/2009

Evaluation: COMPLIANCE EVALUATION INSPECTION ON-SITE

Map ID
Direction
Distance
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number
EPA ID Number

MIDEASTERN INC (Continued)

1001229685

Area of violation: Not reported
Date achieved compliance: Not reported
Evaluation lead agency: State

Evaluation date: 12/09/1998
Evaluation: COMPLIANCE EVALUATION INSPECTION ON-SITE
Area of violation: Not reported
Date achieved compliance: Not reported
Evaluation lead agency: State

US AIRS MINOR:

Envid: 1001229685
Region Code: 03
Programmatic ID: AIR PA000524730
Facility Registry ID: 110060044768
D and B Number: Not reported
Primary SIC Code: 3569
NAICS Code: 333999
Default Air Classification Code: MIN
Facility Type of Ownership Code: POF
Air CMS Category Code: Not reported
HPV Status: Not reported

US AIRS MINOR:

Region Code: 03
Programmatic ID: AIR PA000524730
Facility Registry ID: 110060044768
Air Operating Status Code: OPR
Default Air Classification Code: MIN
Air Program: State Implementation Plan for National Primary and Secondary Ambient Air Quality Standards
Activity Date: 1998-12-09 00:00:00
Activity Status Date: Not reported
Activity Group: Compliance Monitoring
Activity Type: Inspection/Evaluation
Activity Status: Not reported

FINDS:

Registry ID: 110000924849

Environmental Interest/Information System

AFS (Aerometric Information Retrieval System (AIRS) Facility Subsystem) replaces the former Compliance Data System (CDS), the National Emission Data System (NEDS), and the Storage and Retrieval of Aerometric Data (SAROAD). AIRS is the national repository for information concerning airborne pollution in the United States. AFS is used to track emissions and compliance data from industrial plants. AFS data are utilized by states to prepare State Implementation Plans to comply with regulatory programs and by EPA as an input for the estimation of total national emissions. AFS is undergoing a major redesign to support facility operating permits required under Title V of the Clean Air Act.

RCRAInfo is a national information system that supports the Resource Conservation and Recovery Act (RCRA) program through the tracking of events and activities related to facilities that generate, transport, and treat, store, or dispose of hazardous waste. RCRAInfo allows RCRA

Map ID
 Direction
 Distance
 Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number
 EPA ID Number

MIDEASTERN INC (Continued)

1001229685

program staff to track the notification, permit, compliance, and corrective action activities required under RCRA.

PA-EFACTS (Pennsylvania - Environmental Facility Application Compliance Tracking System) is a Department-wide database that provides a holistic view of clients and sites (including facilities) that DEP regulates.

Registry ID: 110060044768

Environmental Interest/Information System

PA-EFACTS (Pennsylvania - Environmental Facility Application Compliance Tracking System) is a Department-wide database that provides a holistic view of clients and sites (including facilities) that DEP regulates.

AIR MINOR

[Click this hyperlink](#) while viewing on your computer to access additional FINDS: detail in the EDR Site Report.

ECHO:

Envid: 1001229685
 Registry ID: 110000924849
 DFR URL: <http://echo.epa.gov/detailed-facility-report?fid=110000924849>

Envid: 1001229685
 Registry ID: 110060044768
 DFR URL: <http://echo.epa.gov/detailed-facility-report?fid=110060044768>

6
NNE
< 1/8
0.025 mi.
130 ft.

LIBERTY NISSAN
75 W. EISENHOWER DRIVE
HANOVER, PA 17331

US AIRS **1007729450**
FINDS **N/A**
ECHO

Actual:
558 ft.

Focus Map:
4

US AIRS MINOR:
 Envid: 1007729450
 Region Code: 03
 Programmatic ID: AIR PA0000004213340031
 Facility Registry ID: 110018863559
 D and B Number: Not reported
 Primary SIC Code: 5511
 NAICS Code: 441110
 Default Air Classification Code: MIN
 Facility Type of Ownership Code: POF
 Air CMS Category Code: Not reported
 HPV Status: Not reported

US AIRS MINOR:
 Region Code: 03
 Programmatic ID: AIR PA0000004213340031
 Facility Registry ID: 110018863559
 Air Operating Status Code: OPR
 Default Air Classification Code: MIN
 Air Program: Stratospheric Ozone Protection
 Activity Date: 2004-01-14 00:00:00

Map ID
 Direction
 Distance
 Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number
 EPA ID Number

LIBERTY NISSAN (Continued)

1007729450

Activity Status Date: Not reported
 Activity Group: Compliance Monitoring
 Activity Type: Inspection/Evaluation
 Activity Status: Not reported

FINDS:

Registry ID: 110018863559

Environmental Interest/Information System

AFS (Aerometric Information Retrieval System (AIRS) Facility Subsystem) replaces the former Compliance Data System (CDS), the National Emission Data System (NEDS), and the Storage and Retrieval of Aerometric Data (SAROAD). AIRS is the national repository for information concerning airborne pollution in the United States. AFS is used to track emissions and compliance data from industrial plants. AFS data are utilized by states to prepare State Implementation Plans to comply with regulatory programs and by EPA as an input for the estimation of total national emissions. AFS is undergoing a major redesign to support facility operating permits required under Title V of the Clean Air Act.

AIR MINOR

[Click this hyperlink](#) while viewing on your computer to access additional FINDS: detail in the EDR Site Report.

ECHO:

Envid: 1007729450
 Registry ID: 110018863559
 DFR URL: <http://echo.epa.gov/detailed-facility-report?fid=110018863559>

**A7
 NW
 < 1/8
 0.030 mi.
 157 ft.**

**FAMILY FIRST HEALTH CORP & 2 TRONE RENTAL PROPS
 1230 & 1250 HIGH ST
 HANOVER, PA 17331**

**PA VCP S118888323
 N/A**

Site 2 of 2 in cluster A

**Actual:
 542 ft.**

VCP:

**Focus Map:
 3**

Cleanup Records:
 Municipality: Conewago Twp
 Region: Southcentral Region
 Category Desc: Inorganics
 Type: Complete Sites
 LRP Activity Number: 49195
 Remediation: Statewide Health Standard
 Activity: YES
 Date Approved: 04/03/2017
 Date Received: Not reported
 Date Nonuse: Not reported
 ICS Code: Not reported
 Media: Soil
 Latitude: 39.82355
 Longitude: -77.002808

Map ID
Direction
Distance
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number
EPA ID Number

FAMILY FIRST HEALTH CORP & 2 TRONE RENTAL PROPS (Continued)

S118888323

Municipality: Conewago Twp
Region: Southcentral Region
Category Desc: Inorganics
Type: Complete Sites
LRP Activity Number: 50332
Remediation: Background Standard
Activity: YES
Date Approved: 04/03/2017
Date Received: Not reported
Date Nonuse: Not reported
ICS Code: Not reported
Media: Soil
Latitude: 39.82355
Longitude: -77.002808

Activity:
Activity ID: 809454, 809454, 809454,
Municipality: Conewago Twp
Region: Southcentral Region
Category Desc: Lead
Type: Complete Sites
LRP Activity Number: 49195
Remediation: Statewide Health Standard
Activity: YES
Date Approved: 04/03/2017
Date Received: Not reported
Date Nonuse: Not reported
ICS Code: Not reported
Media: Soil
Latitude: 39.82355
Longitude: -77.002808

8
NNW
< 1/8
0.040 mi.
210 ft.

LOIS E WHILSER PROP - MILLER CHEM CO FIRE
539 OXFORD AVE
HANOVER, PA 17331

PA VCP S118888343
N/A

Actual:
541 ft.
Focus Map:
7

VCP:
Cleanup Records:
Municipality: Conewago Twp
Region: Southcentral Region
Category Desc: Inorganics
Type: Complete Sites
LRP Activity Number: 49266
Remediation: Statewide Health Standard
Activity: YES
Date Approved: 05/23/2017
Date Received: Not reported
Date Nonuse: Not reported
ICS Code: Not reported
Media: Soil
Latitude: 39.822941
Longitude: -77.006341

Municipality: Conewago Twp
Region: Southcentral Region

Map ID
 Direction
 Distance
 Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number
 EPA ID Number

LOIS E WHILSER PROP - MILLER CHEM CO FIRE (Continued)

S118888343

Category Desc: Inorganics
 Type: Complete Sites
 LRP Activity Number: 50574
 Remediation: Background Standard
 Activity: YES
 Date Approved: 05/23/2017
 Date Received: Not reported
 Date Nonuse: Not reported
 ICS Code: Not reported
 Media: Soil
 Latitude: 39.822941
 Longitude: -77.006341

Municipality: Conewago Twp
 Region: Southcentral Region
 Category Desc: Inorganics
 Type: Complete Sites
 LRP Activity Number: 49267
 Remediation: Site-Specific Standard
 Activity: YES
 Date Approved: 05/23/2017
 Date Received: Not reported
 Date Nonuse: Not reported
 ICS Code: Not reported
 Media: Soil
 Latitude: 39.822941
 Longitude: -77.006341

Activity:
 Activity ID: 809798, 809798, 809798, 809798,
 Municipality: Conewago Twp
 Region: Southcentral Region
 Category Desc: Lead
 Type: Complete Sites
 LRP Activity Number: 49266
 Remediation: Statewide Health Standard
 Activity: YES
 Date Approved: 05/23/2017
 Date Received: Not reported
 Date Nonuse: Not reported
 ICS Code: Not reported
 Media: Soil
 Latitude: 39.822941
 Longitude: -77.006341

C9
NE
 < 1/8
 0.046 mi.
 245 ft.

BLACKS EARLE GARAGE INC
5490 HANOVER RD
HANOVER, PA 17331
Site 1 of 3 in cluster C

RCRA-SQG 1001125363
PAR000025312

Actual:
541 ft.

RCRA-SQG:
 Date form received by agency: 10/29/1996
 Facility name: BLACKS EARLE GARAGE INC
 Facility address: 5490 HANOVER RD
 HANOVER, PA 17331
 EPA ID: PAR000025312

Focus Map:
10

Map ID
Direction
Distance
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number
EPA ID Number

BLACKS EARLE GARAGE INC (Continued)

1001125363

Mailing address: 5490 HANOVE RD
HANOVER, PA 17331
Contact: EARLE JR BLACK
Contact address: 5490 HANOVER RD
HANOVER, PA 17331
Contact country: US
Contact telephone: 717-637-6296
Contact email: Not reported
EPA Region: 03
Classification: Small Small Quantity Generator
Description: Handler: generates more than 100 and less than 1000 kg of hazardous waste during any calendar month and accumulates less than 6000 kg of hazardous waste at any time; or generates 100 kg or less of hazardous waste during any calendar month, and accumulates more than 1000 kg of hazardous waste at any time

Owner/Operator Summary:

Owner/operator name: BLACK JR EARLE
Owner/operator address: 5490 HANOVER RD
HANOVER, PA 17331
Owner/operator country: Not reported
Owner/operator telephone: 717-637-6296
Owner/operator email: Not reported
Owner/operator fax: Not reported
Owner/operator extension: Not reported
Legal status: Private
Owner/Operator Type: Owner
Owner/Op start date: Not reported
Owner/Op end date: Not reported

Handler Activities Summary:

U.S. importer of hazardous waste: No
Mixed waste (haz. and radioactive): No
Recycler of hazardous waste: No
Transporter of hazardous waste: No
Treater, storer or disposer of HW: No
Underground injection activity: No
On-site burner exemption: No
Furnace exemption: No
Used oil fuel burner: No
Used oil processor: No
User oil refiner: No
Used oil fuel marketer to burner: No
Used oil Specification marketer: No
Used oil transfer facility: No
Used oil transporter: No

. Waste code: D001
. Waste name: IGNITABLE HAZARDOUS WASTES ARE THOSE WASTES WHICH HAVE A FLASHPOINT OF LESS THAN 140 DEGREES FAHRENHEIT AS DETERMINED BY A PENSKY-MARTENS CLOSED CUP FLASH POINT TESTER. ANOTHER METHOD OF DETERMINING THE FLASH POINT OF A WASTE IS TO REVIEW THE MATERIAL SAFETY DATA SHEET, WHICH CAN BE OBTAINED FROM THE MANUFACTURER OR DISTRIBUTOR OF THE MATERIAL. LACQUER THINNER IS AN EXAMPLE OF A COMMONLY USED SOLVENT WHICH WOULD BE CONSIDERED AS IGNITABLE HAZARDOUS WASTE.

Map ID
Direction
Distance
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number
EPA ID Number

BLACKS EARLE GARAGE INC (Continued)

1001125363

Violation Status: No violations found

C10 **EARLE BLACKS GARAGE INC.**
NE **5490 HANOVER ROAD**
< 1/8 **HANOVER, PA 17331**
0.046 mi.
245 ft. **Site 2 of 3 in cluster C**

PA MANIFEST **S116737255**
N/A

Actual: 541 ft. Manifest Details:
Focus Map: 10
Year: 2013
Manifest Number: 003335967SKS
Manifest Type: TSD Copy
Generator EPA Id: PAR000025312
Generator Date: 02/20/2013
Mailing Address: Not reported
Mailing City, St, Zip: Not reported
Contact Name: Not reported
Contact Phone: Not reported
TSD EPA Id: Not reported
TSD Date: Not reported
TSD Facility Name: Safety Kleen Systems Inc
TSD Facility Address: 10 Eleanor Dr
TSD Facility City: New Kingston
TSD Facility State: PA
Facility Telephone: Not reported
Page Number: 1
Line Number: 1
Waste Number: D039
Container Number: 2
Container Type: Metal drums, barrels, kegs
Waste Quantity: 30
Unit: Gallons (liquids only)
Handling Code: Not reported
TSP EPA Id: PAD000738823
Date TSP Sig: Not reported

C11 **EARLE BLACK'S GARAGE**
NE **5490 HANOVER ROAD**
< 1/8 **HANOVER, PA 17331**
0.046 mi.
245 ft. **Site 3 of 3 in cluster C**

US AIRS **1016060359**
FINDS **N/A**
ECHO

Actual: 541 ft. US AIRS MINOR:
Focus Map: 10
Envid: 1016060359
Region Code: 03
Programmatic ID: AIR PA0000004200144003
Facility Registry ID: 110004878981
D and B Number: Not reported
Primary SIC Code: 7532
NAICS Code: 811121
Default Air Classification Code: MIN
Facility Type of Ownership Code: POF
Air CMS Category Code: Not reported
HPV Status: Not reported
US AIRS MINOR:
Region Code: 03
Programmatic ID: AIR PA0000004200144003

Map ID
Direction
Distance
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number
EPA ID Number

EARLE BLACK'S GARAGE (Continued)

1016060359

Facility Registry ID: 110004878981
Air Operating Status Code: OPR
Default Air Classification Code: MIN
Air Program: Stratospheric Ozone Protection
Activity Date: 2003-10-01 00:00:00
Activity Status Date: Not reported
Activity Group: Compliance Monitoring
Activity Type: Inspection/Evaluation
Activity Status: Not reported

FINDS:

Registry ID: 110004878981

Environmental Interest/Information System

AFS (Aerometric Information Retrieval System (AIRS) Facility Subsystem) replaces the former Compliance Data System (CDS), the National Emission Data System (NEDS), and the Storage and Retrieval of Aerometric Data (SAROAD). AIRS is the national repository for information concerning airborne pollution in the United States. AFS is used to track emissions and compliance data from industrial plants. AFS data are utilized by states to prepare State Implementation Plans to comply with regulatory programs and by EPA as an input for the estimation of total national emissions. AFS is undergoing a major redesign to support facility operating permits required under Title V of the Clean Air Act.

RCRAInfo is a national information system that supports the Resource Conservation and Recovery Act (RCRA) program through the tracking of events and activities related to facilities that generate, transport, and treat, store, or dispose of hazardous waste. RCRAInfo allows RCRA program staff to track the notification, permit, compliance, and corrective action activities required under RCRA.

AIR MINOR

Click this hyperlink while viewing on your computer to access additional FINDS: detail in the EDR Site Report.

ECHO:

Envid: 1016060359
Registry ID: 110004878981
DFR URL: <http://echo.epa.gov/detailed-facility-report?fid=110004878981>

12
SSE
< 1/8
0.065 mi.
343 ft.

5 SEASE STREET
HANOVER, PA 17331

ERNS 2011988911
N/A

Actual:
526 ft.
Focus Map:
6

Click this hyperlink while viewing on your computer to access additional ERNS detail in the EDR Site Report.

MAP FINDINGS

Map ID
 Direction
 Distance
 Elevation

Site

Database(s)

EDR ID Number
 EPA ID Number

D13 **CONEWAGO TWP MAINT BLDG**
NNW **541 OXFORD AVE**
< 1/8 **HANOVER, PA 17331**
0.105 mi.
553 ft. **Site 1 of 4 in cluster D**

PA AST **A100319769**
 N/A

Actual: **AST:**
536 ft. Site ID: 561009
Focus Map: Client Id: 118241
7 Other Id: 01-07866
 Mailing Name: CONEWAGO TWP ADAMS CNTY
 Mailing Address: 541 OXFORD AVE
 Mailing Address: Not reported
 Mailing City,St,Zip: HANOVER, PA 17331-7748
 Municipality: Conewago
 Region Name: EP SC Rgnl Off Harrisburg

Tank Seq Num: 001A
 Tank Status: Currently In Use
 Tank Capacity: 2000
 Substance: Gasoline
 Date Installed: 02/08/2008
 Tank Code: AST
 Inspection Code: Not reported
 Tank Last Inspected: Not reported
 Registration Expiration Date: 06/04/2019
 Decode for Tstatus: Currently In Use
 Decode for Substance: Gasoline

Tank Seq Num: 002A
 Tank Status: Currently In Use
 Tank Capacity: 2000
 Substance: Gasoline
 Date Installed: 02/08/2008
 Tank Code: AST
 Inspection Code: Not reported
 Tank Last Inspected: Not reported
 Registration Expiration Date: 06/04/2019
 Decode for Tstatus: Currently In Use
 Decode for Substance: Gasoline

D14 **CONEWAGO TWP ADAMS CNTY MS4**
NNW **541 OXFORD AVE**
< 1/8 **HANOVER, PA 17331**
0.105 mi.
553 ft. **Site 2 of 4 in cluster D**

ECHO **1024138942**
 N/A

Actual: **ECHO:**
536 ft. Envid: 1024138942
Focus Map: Registry ID: 110070236696
7 DFR URL: <http://echo.epa.gov/detailed-facility-report?fid=110070236696>

MAP FINDINGS

Map ID
Direction
Distance
Elevation

Site

Database(s)

EDR ID Number
EPA ID Number

D15 **CONEWAGO TWP MAINT BLDG**
NNW **541 OXFORD AVE**
< 1/8 **HANOVER, PA 17331**
0.105 mi.
553 ft. **Site 3 of 4 in cluster D**

PA ARCHIVE UST **S119694378**
N/A

Actual: ARCHIVE UST:
536 ft. Facility Id: 01-07866
Focus Map: Site ID: Not reported
7 Municipality: Conewago Twp
 Client Date: Not reported
 Owner Id: Not reported
 Owner Name: CONEWAGO TWP ADAMS CNTY
 Owner Address: 350 THIRD ST
 Owner Address 2: Not reported
 Owner City,St,Zip: HANOVER, PA 17331
 Owner Phone: Not reported
 Owner County Code: Not reported
 Resp Party Name: Not reported
 RP Address: Not reported
 RP Address 2: Not reported
 RP City,St,Zip: Not reported
 Region Code Name: Not reported
 Regulated Expire Date: Not reported

 Tank Sequence #: 001
 Tank Id: Not reported
 Status: Exempt
 Status Code End Date: Not reported
 Capacity: 1000
 Substance: Heating Oil
 Tank Substance End Date: Not reported
 Install Date: 02/01/1980
 Tank Code: UST
 Inspection Code: Not reported
 Last Inspection: Not reported
 Substance Type: P
 CASRN for Hazardous Substances: Not reported
 Chemical Name: Not reported
 Other Information Regarding The Tank Substance: Not reported
 Undeliverable Address Ind.: N
 Contact Name: MILDRED M. MULLER SEC
 Company: Not reported

D16 **CONEWAGO TWP ADAMS CNTY MS4**
NNW **541 OXFORD AVE**
< 1/8 **HANOVER, PA 17331**
0.105 mi.
553 ft. **Site 4 of 4 in cluster D**

FINDS **1024236280**
N/A

Actual: FINDS:
536 ft.
Focus Map: Registry ID: 110070236696
7

Environmental Interest/Information System
US National Pollutant Discharge Elimination System (NPDES) module of the Compliance Information System (ICIS) tracks surface water permits issued under the Clean Water Act. Under NPDES, all facilities that discharge pollutants from any point source into waters of the United States are required to obtain a permit. The permit will likely contain

Map ID
 Direction
 Distance
 Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number
 EPA ID Number

CONEWAGO TWP ADAMS CNTY MS4 (Continued)

1024236280

limits on what can be discharged, impose monitoring and reporting requirements, and include other provisions to ensure that the discharge does not adversely affect water quality.

[Click this hyperlink](#) while viewing on your computer to access additional FINDS: detail in the EDR Site Report.

17
SSE
 < 1/8
 0.118 mi.
 622 ft.

METRO EDISON CO NORTH HANOVER SUBSTATION-SOIL CONT
RADIO RD WEST OF HIGH ST
HANOVER, PA 17331

PA VCP S118566238
N/A

Actual:
556 ft.

VCP:

Focus Map:
7

Activity:

Activity ID: 809371,

Cleanup Records:

Municipality: Conewago Twp
 Region: Southcentral Region
 Category Desc: Inorganics
 Type: Complete Sites
 LRP Activity Number: 49174
 Remediation: Statewide Health Standard
 Activity: YES
 Date Approved: 12/01/2016
 Date Received: Not reported
 Date Nonuse: Not reported
 ICS Code: Not reported
 Media: Soil
 Latitude: 39.820021
 Longitude: -77.002268

E18
NNW
 < 1/8
 0.125 mi.
 659 ft.

THE HANOVER KLONDIKE CO INC
1275 HIGH ST
HANOVER, PA 17331

PA ARCHIVE UST S111117093
N/A

Site 1 of 2 in cluster E

Actual:
537 ft.

ARCHIVE UST:

Focus Map:
3

Facility Id: 01-32069
 Site ID: Not reported
 Municipality: Not reported
 Client Date: Not reported
 Owner Id: 425
 Owner Name: HANOVER KLONDIKE CO INC
 Owner Address: 1275 HIGH ST
 Owner Address 2: Not reported
 Owner City,St,Zip: HANOVER, PA 17331-1125
 Owner Phone: 7176376611
 Owner County Code: 67
 Resp Party Name: Not reported
 RP Address: Not reported
 RP Address 2: Not reported
 RP City,St,Zip: Not reported

Map ID
Direction
Distance
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number
EPA ID Number

THE HANOVER KLONDIKE CO INC (Continued)

S111117093

Region Code Name: Not reported
Regulated Expire Date: Not reported

Tank Sequence #: 001
Tank Id: 628
Status: Not reported
Status Code End Date: Not reported
Capacity: 6000
Substance: DIESEL
Tank Substance End Date: Not reported
Install Date: Not reported
Tank Code: Not reported
Inspection Code: Not reported
Last Inspection: Not reported
Substance Type: Not reported
CASRN for Hazardous Substances: Not reported
Chemical Name: Not reported
Other Information Regarding The Tank Substance: Not reported
Undeliverable Address Ind.: Not reported
Contact Name: Not reported
Company: Not reported

**E19
NNW
< 1/8
0.125 mi.
659 ft.**

**GOOD HUMOR BREYERS ICE CREAM
1275 HIGH ST
HANOVER, PA 17331
Site 2 of 2 in cluster E**

**PA ARCHIVE UST S119707825
N/A**

**Actual:
537 ft.
Focus Map:
3**

ARCHIVE UST:
Facility Id: 67-32069
Site ID: Not reported
Municipality: Conewago Twp
Client Date: Not reported
Owner Id: Not reported
Owner Name: GOOD HUMOR BREYERS ICE CREAM
Owner Address: PO BOX 19007
Owner Address 2: 909 PACKERLAND DR
Owner City,St,Zip: GREENBAY, WI 54307-9007
Owner Phone: Not reported
Owner County Code: Not reported
Resp Party Name: Not reported
RP Address: Not reported
RP Address 2: Not reported
RP City,St,Zip: Not reported
Region Code Name: Not reported
Regulated Expire Date: Not reported

Tank Sequence #: 001
Tank Id: Not reported
Status: Closed Without a Permit
Status Code End Date: Not reported
Capacity: 6000
Substance: Diesel Fuel
Tank Substance End Date: Not reported
Install Date: 12/03/1987
Tank Code: UST
Inspection Code: Not reported
Last Inspection: Not reported

Map ID
Direction
Distance
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number
EPA ID Number

GOOD HUMOR BREYERS ICE CREAM (Continued)

S119707825

Substance Type: P
CASRN for Hazardous Substances: Not reported
Chemical Name: Not reported
Other Information Regarding The Tank Substance: Not reported
Undeliverable Address Ind.: N
Contact Name: UNKNOWN
Company: Not reported

F20

**SSE 262 CHURCH ST
1/8-1/4 HANOVER, PA 17331
0.128 mi.
675 ft. Site 1 of 5 in cluster F**

**ERNS 2002594994
N/A**

**Actual:
558 ft.**

[Click this hyperlink](#) while viewing on your computer to access additional ERNS detail in the EDR Site Report.

**Focus Map:
7**

**F21 COLONIAL FIBERGLASS INDUSTRIES
SSE 262 CHURCH ST
1/8-1/4 HANOVER, PA 17331
0.128 mi.
675 ft. Site 2 of 5 in cluster F**

**FINDS 1016085116
ECHO N/A**

**Actual: FINDS:
558 ft.**

**Focus Map: Registry ID: 110000333130
7**

Environmental Interest/Information System

AFS (Aerometric Information Retrieval System (AIRS) Facility Subsystem) replaces the former Compliance Data System (CDS), the National Emission Data System (NEDS), and the Storage and Retrieval of Aerometric Data (SAROAD). AIRS is the national repository for information concerning airborne pollution in the United States. AFS is used to track emissions and compliance data from industrial plants. AFS data are utilized by states to prepare State Implementation Plans to comply with regulatory programs and by EPA as an input for the estimation of total national emissions. AFS is undergoing a major redesign to support facility operating permits required under Title V of the Clean Air Act.

AIR SYNTHETIC MINOR

US EPA TRIS (Toxics Release Inventory System) contains information from facilities on the amounts of over 300 listed toxic chemicals that these facilities release directly to air, water, land, or that are transported off-site.

RCRAInfo is a national information system that supports the Resource Conservation and Recovery Act (RCRA) program through the tracking of events and activities related to facilities that generate, transport, and treat, store, or dispose of hazardous waste. RCRAInfo allows RCRA program staff to track the notification, permit, compliance, and

Map ID
Direction
Distance
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number
EPA ID Number

COLONIAL FIBERGLASS INDUSTRIES (Continued)

1016085116

corrective action activities required under RCRA.

PA-EFACTS (Pennsylvania - Environmental Facility Application Compliance Tracking System) is a Department-wide database that provides a holistic view of clients and sites (including facilities) that DEP regulates.

[Click this hyperlink](#) while viewing on your computer to access additional FINDS: detail in the EDR Site Report.

ECHO:

Envid: 1016085116
Registry ID: 110000333130
DFR URL: <http://echo.epa.gov/detailed-facility-report?fid=110000333130>

F22	COLONIAL FIBERGLASS INDUSTRIES INC	PA MANIFEST	S116737041
SSE	262 CHURCH ST		N/A
1/8-1/4	HANOVER, PA 17331		
0.128 mi.			
675 ft.	Site 3 of 5 in cluster F		

Actual:
558 ft.

Manifest Details:

Focus Map:
7

Year: 2013
Manifest Number: 004995240FLE
Manifest Type: TSD Copy
Generator EPA Id: PAD121720502
Generator Date: 04/30/2013
Mailing Address: Not reported
Mailing City,St,Zip: Not reported
Contact Name: Not reported
Contact Phone: 717-637-3895
TSD EPA Id: Not reported
TSD Date: Not reported
TSD Facility Name: Giant Resource Recovery Sumter Inc
TSD Facility Address: 755 Industrial Rd
TSD Facility City: Sumter
TSD Facility State: SC
Facility Telephone: Not reported
Page Number: 1
Line Number: 1
Waste Number: D001
Container Number: 1
Container Type: Metal drums, barrels, kegs
Waste Quantity: 55
Unit: Gallons (liquids only)
Handling Code: Not reported
TSP EPA Id: SCD036275626
Date TSP Sig: Not reported

Year: 2013
Manifest Number: 006471710FLE
Manifest Type: TSD Copy
Generator EPA Id: PAD121720502
Generator Date: 09/13/2013
Mailing Address: Not reported
Mailing City,St,Zip: Not reported

Map ID
Direction
Distance
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number
EPA ID Number

COLONIAL FIBERGLASS INDUSTRIES INC (Continued)

S116737041

Contact Name: Not reported
Contact Phone: 717-637-3895
TSD EPA Id: Not reported
TSD Date: Not reported
TSD Facility Name: Giant Resource Recovery Sumter Inc
TSD Facility Address: 755 Industrial Rd
TSD Facility City: Sumter
TSD Facility State: SC
Facility Telephone: Not reported
Page Number: 1
Line Number: 1
Waste Number: F003
Container Number: 1
Container Type: Metal drums, barrels, kegs
Waste Quantity: 55
Unit: Gallons (liquids only)
Handling Code: Not reported
TSP EPA Id: SCD036275626
Date TSP Sig: Not reported

Year: 2013
Manifest Number: 004995240FLE
Manifest Type: TSD Copy
Generator EPA Id: PAD121720502
Generator Date: 04/30/2013
Mailing Address: Not reported
Mailing City, St, Zip: Not reported
Contact Name: Not reported
Contact Phone: 717-637-3895
TSD EPA Id: Not reported
TSD Date: Not reported
TSD Facility Name: Giant Resource Recovery Sumter Inc
TSD Facility Address: 755 Industrial Rd
TSD Facility City: Sumter
TSD Facility State: SC
Facility Telephone: Not reported
Page Number: 1
Line Number: 1
Waste Number: F003
Container Number: 1
Container Type: Metal drums, barrels, kegs
Waste Quantity: 55
Unit: Gallons (liquids only)
Handling Code: Not reported
TSP EPA Id: SCD036275626
Date TSP Sig: Not reported

Year: 2013
Manifest Number: 006471710FLE
Manifest Type: TSD Copy
Generator EPA Id: PAD121720502
Generator Date: 09/13/2013
Mailing Address: Not reported
Mailing City, St, Zip: Not reported
Contact Name: Not reported
Contact Phone: 717-637-3895
TSD EPA Id: Not reported

Map ID
 Direction
 Distance
 Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number
 EPA ID Number

COLONIAL FIBERGLASS INDUSTRIES INC (Continued)

S116737041

TSD Date: Not reported
 TSD Facility Name: Giant Resource Recovery Sumter Inc
 TSD Facility Address: 755 Industrial Rd
 TSD Facility City: Sumter
 TSD Facility State: SC
 Facility Telephone: Not reported
 Page Number: 1
 Line Number: 1
 Waste Number: D001
 Container Number: 1
 Container Type: Metal drums, barrels, kegs
 Waste Quantity: 55
 Unit: Gallons (liquids only)
 Handling Code: Not reported
 TSP EPA Id: SCD036275626
 Date TSP Sig: Not reported

F23 ACME COMPOSITES/HANOVER
SSE 262 CHURCH ST
1/8-1/4 HANOVER, PA 17331
0.128 mi.
675 ft. Site 4 of 5 in cluster F

PA AIRS S107693320
PA MANIFEST N/A

Actual: AIRS:
558 ft. Address 2: Not reported
Focus Map: Primary Facility ID: 512902
7 Contact Name: Not reported
 Contact Phone: Not reported
 Contact Email: Not reported
 Status: Active
 Region: Southcentral Regional Office
 Site ID: 484093
 Client ID: 312700
 Client Name: ACME COMPOSITES
 NAICS Code: 326121
 Client Address: 262 CHURCH ST
 Client Address 2: Not reported
 Client City: HANOVER
 Client State: PA
 Client Zip: 17331-8991
 Client Type: NON-GOVERNMENT
 NAICS Description: Unlaminated Plastics Profile Shape Manufacturing
 Latitude: 39.80612
 Longitude: -77.029761

EMI:
 Facid: 512902
 Facility Name: Not reported
 Year: 2013
 PM10: .0
 PM25: Not reported
 NOX: Not reported
 SOX: Not reported
 VOC: 2.5
 CO: Not reported
 Latitude: 39.806120
 Longitude: -77.029761

Map ID
Direction
Distance
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number
EPA ID Number

ACME COMPOSITES/HANOVER (Continued)

S107693320

Facid: 512902
Facility Name: Not reported
Year: 2006
PM10: .0
PM25: Not reported
NOX: Not reported
SOX: Not reported
VOC: 9.1
CO: Not reported
Latitude: 39.806120
Longitude: -77.029761

Facid: 512902
Facility Name: Not reported
Year: 2004
PM10: .0
PM25: Not reported
NOX: Not reported
SOX: Not reported
VOC: 5.5
CO: Not reported
Latitude: 39.806120
Longitude: -77.029761

Facid: 512902
Facility Name: Not reported
Year: 2003
PM10: .0
PM25: Not reported
NOX: Not reported
SOX: Not reported
VOC: 6.5
CO: Not reported
Latitude: 39.806120
Longitude: -77.029761

Facid: 512902
Facility Name: Not reported
Year: 2001
PM10: .0
PM25: Not reported
NOX: Not reported
SOX: Not reported
VOC: 6.7
CO: Not reported
Latitude: 39.806120
Longitude: -77.029761

Facid: 512902
Facility Name: Not reported
Year: 1994
PM10: .0
PM25: Not reported
NOX: Not reported
SOX: Not reported
VOC: 5.4
CO: Not reported

Map ID
Direction
Distance
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number
EPA ID Number

ACME COMPOSITES/HANOVER (Continued)

S107693320

Latitude:	39.806120
Longitude:	-77.029761
Facid:	512902
Facility Name:	Not reported
Year:	2014
PM10:	.0
PM25:	Not reported
NOX:	Not reported
SOX:	Not reported
VOC:	1.6
CO:	Not reported
Latitude:	39.806120
Longitude:	-77.029761
Facid:	512902
Facility Name:	Not reported
Year:	2005
PM10:	.0
PM25:	Not reported
NOX:	Not reported
SOX:	Not reported
VOC:	8.6
CO:	Not reported
Latitude:	39.806120
Longitude:	-77.029761
Facid:	512902
Facility Name:	Not reported
Year:	1999
PM10:	.0
PM25:	Not reported
NOX:	Not reported
SOX:	Not reported
VOC:	10.8
CO:	Not reported
Latitude:	39.806120
Longitude:	-77.029761
Facid:	512902
Facility Name:	Not reported
Year:	1996
PM10:	.0
PM25:	Not reported
NOX:	Not reported
SOX:	Not reported
VOC:	7.9
CO:	Not reported
Latitude:	39.806120
Longitude:	-77.029761
Facid:	512902
Facility Name:	Not reported
Year:	2010
PM10:	.0
PM25:	Not reported
NOX:	Not reported

Map ID
Direction
Distance
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number
EPA ID Number

ACME COMPOSITES/HANOVER (Continued)

S107693320

SOX: Not reported
VOC: 2.2
CO: Not reported
Latitude: 39.806120
Longitude: -77.029761

Facid: 512902
Facility Name: Not reported
Year: 2007
PM10: .0
PM25: Not reported
NOX: Not reported
SOX: Not reported
VOC: 10.6
CO: Not reported
Latitude: 39.806120
Longitude: -77.029761

Facid: 512902
Facility Name: Not reported
Year: 1995
PM10: .0
PM25: Not reported
NOX: Not reported
SOX: Not reported
VOC: 6.3
CO: Not reported
Latitude: 39.806120
Longitude: -77.029761

Facid: 512902
Facility Name: Not reported
Year: 2016
PM10: .0
PM25: Not reported
NOX: Not reported
SOX: Not reported
VOC: 1.1
CO: Not reported
Latitude: 39.806120
Longitude: -77.029761

Facid: 512902
Facility Name: Not reported
Year: 1997
PM10: .0
PM25: Not reported
NOX: Not reported
SOX: Not reported
VOC: 8.9
CO: Not reported
Latitude: 39.806120
Longitude: -77.029761

Facid: 512902
Facility Name: Not reported
Year: 1992

Map ID
Direction
Distance
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number
EPA ID Number

ACME COMPOSITES/HANOVER (Continued)

S107693320

PM10: .0
PM25: Not reported
NOX: Not reported
SOX: Not reported
VOC: 5.5
CO: Not reported
Latitude: 39.806120
Longitude: -77.029761

Facid: 512902
Facility Name: Not reported
Year: 2009
PM10: .0
PM25: Not reported
NOX: Not reported
SOX: Not reported
VOC: 2.8
CO: Not reported
Latitude: 39.806120
Longitude: -77.029761

Facid: 512902
Facility Name: Not reported
Year: 1998
PM10: .0
PM25: Not reported
NOX: Not reported
SOX: Not reported
VOC: 16.2
CO: Not reported
Latitude: 39.806120
Longitude: -77.029761

Facid: 512902
Facility Name: Not reported
Year: 1991
PM10: .0
PM25: Not reported
NOX: Not reported
SOX: Not reported
VOC: 8.1
CO: Not reported
Latitude: 39.806120
Longitude: -77.029761

Facid: 512902
Facility Name: Not reported
Year: 2017
PM10: Not reported
PM25: Not reported
NOX: Not reported
SOX: Not reported
VOC: Not reported
CO: Not reported
Latitude: 39.806120
Longitude: -77.029761

Map ID
Direction
Distance
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number
EPA ID Number

ACME COMPOSITES/HANOVER (Continued)

S107693320

Facid: 512902
Facility Name: Not reported
Year: 2002
PM10: .0
PM25: Not reported
NOX: Not reported
SOX: Not reported
VOC: 4.4
CO: Not reported
Latitude: 39.806120
Longitude: -77.029761

Facid: 512902
Facility Name: Not reported
Year: 2015
PM10: .0
PM25: Not reported
NOX: Not reported
SOX: Not reported
VOC: 1.1
CO: Not reported
Latitude: 39.806120
Longitude: -77.029761

Facid: 512902
Facility Name: Not reported
Year: 2012
PM10: .0
PM25: Not reported
NOX: Not reported
SOX: Not reported
VOC: 2.0
CO: Not reported
Latitude: 39.806120
Longitude: -77.029761

Facid: 512902
Facility Name: Not reported
Year: 2008
PM10: .0
PM25: Not reported
NOX: Not reported
SOX: Not reported
VOC: 5.4
CO: Not reported
Latitude: 39.806120
Longitude: -77.029761

Facid: 512902
Facility Name: Not reported
Year: 1990
PM10: .0
PM25: Not reported
NOX: Not reported
SOX: Not reported
VOC: 6.7
CO: Not reported

Map ID
Direction
Distance
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number
EPA ID Number

ACME COMPOSITES/HANOVER (Continued)

S107693320

Latitude: 39.806120
Longitude: -77.029761

Facid: 512902
Facility Name: Not reported
Year: 2011
PM10: .0
PM25: Not reported
NOX: Not reported
SOX: Not reported
VOC: 1.9
CO: Not reported
Latitude: 39.806120
Longitude: -77.029761

Facid: 512902
Facility Name: Not reported
Year: 2000
PM10: .0
PM25: Not reported
NOX: Not reported
SOX: Not reported
VOC: 7.9
CO: Not reported
Latitude: 39.806120
Longitude: -77.029761

Facid: 512902
Facility Name: Not reported
Year: 1993
PM10: .0
PM25: Not reported
NOX: Not reported
SOX: Not reported
VOC: 5.1
CO: Not reported
Latitude: 39.806120
Longitude: -77.029761

Manifest Details:

Year: 2012
Manifest Number: 008167186JJK
Manifest Type: TSD Copy
Generator EPA Id: PAD121720502
Generator Date: 07/24/2012
Mailing Address: Not reported
Mailing City,St,Zip: Not reported
Contact Name: Not reported
Contact Phone: 717-637-3895
TSD EPA Id: Not reported
TSD Date: Not reported
TSD Facility Name: GIANT RESOURCE RECOVERY SUMTER INC
TSD Facility Address: 755 INDUSTRIAL RD
TSD Facility City: SUMTER
TSD Facility State: SC
Facility Telephone: Not reported

Map ID
Direction
Distance
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number
EPA ID Number

ACME COMPOSITES/HANOVER (Continued)

S107693320

Page Number: 1
Line Number: 1
Waste Number: D001
Container Number: 1
Container Type: Metal drums, barrels, kegs
Waste Quantity: 55
Unit: Gallons (liquids only)
Handling Code: Not reported
TSP EPA Id: SCD036275626
Date TSP Sig: Not reported

Year: 2012
Manifest Number: 008167186JJK
Manifest Type: TSD Copy
Generator EPA Id: PAD121720502
Generator Date: 07/24/2012
Mailing Address: Not reported
Mailing City, St, Zip: Not reported
Contact Name: Not reported
Contact Phone: 717-637-3895
TSD EPA Id: Not reported
TSD Date: Not reported
TSD Facility Name: GIANT RESOURCE RECOVERY SUMTER INC
TSD Facility Address: 755 INDUSTRIAL RD
TSD Facility City: SUMTER
TSD Facility State: SC
Facility Telephone: Not reported
Page Number: 1
Line Number: 1
Waste Number: F003
Container Number: 1
Container Type: Metal drums, barrels, kegs
Waste Quantity: 55
Unit: Gallons (liquids only)
Handling Code: Not reported
TSP EPA Id: SCD036275626
Date TSP Sig: Not reported

Year: 2010
Manifest Number: 003066682FLE
Manifest Type: TSD Copy
Generator EPA Id: PAD121720502
Generator Date: 08/10/2010
Mailing Address: Not reported
Mailing City, St, Zip: Not reported
Contact Name: Not reported
Contact Phone: 717-637-3895
TSD EPA Id: SCD036275626
TSD Date: Not reported
TSD Facility Name: GIANT RESOURCE RECOVERY SUMTER INC
TSD Facility Address: 755 INDUSTRIAL ROAD
TSD Facility City: SUMTER
TSD Facility State: SC
Facility Telephone: Not reported
Page Number: 1
Line Number: 1
Waste Number: F003

Map ID
Direction
Distance
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number
EPA ID Number

ACME COMPOSITES/HANOVER (Continued)

S107693320

Container Number: 1
Container Type: Metal drums, barrels, kegs
Waste Quantity: 55
Unit: Gallons (liquids only)
Handling Code: Not reported
TSP EPA Id: Not reported
Date TSP Sig: Not reported

Year: 2010
Manifest Number: 003066682FLE
Manifest Type: TSD Copy
Generator EPA Id: PAD121720502
Generator Date: 08/10/2010
Mailing Address: Not reported
Mailing City, St, Zip: Not reported
Contact Name: Not reported
Contact Phone: 717-637-3895
TSD EPA Id: SCD036275626
TSD Date: Not reported
TSD Facility Name: GIANT RESOURCE RECOVERY SUMTER INC
TSD Facility Address: 755 INDUSTRIAL ROAD
TSD Facility City: SUMTER
TSD Facility State: SC
Facility Telephone: Not reported
Page Number: 1
Line Number: 1
Waste Number: D001
Container Number: 1
Container Type: Metal drums, barrels, kegs
Waste Quantity: 55
Unit: Gallons (liquids only)
Handling Code: Not reported
TSP EPA Id: Not reported
Date TSP Sig: Not reported

F24 **ACME COMPOSITES/HANOVER**
SSE **262 CHURCH ST**
1/8-1/4 **HANOVER, PA 17331**
0.128 mi.
675 ft. **Site 5 of 5 in cluster F**

RCRA-CESQG **100033888**
ICIS **PAD121720502**
US AIRS
FINDS
ECHO

Actual: **558 ft.** RCRA-CESQG:
Date form received by agency: 06/25/2015
Focus Map: Facility name: ACME COMPOSITES
7 Facility address: 262 CHURCH ST
HANOVER, PA 17331
EPA ID: PAD121720502
Contact: Not reported
Contact address: Not reported
Not reported
Contact country: Not reported
Contact telephone: Not reported
Contact email: Not reported
EPA Region: 03
Land type: Other land type
Classification: Conditionally Exempt Small Quantity Generator
Description: Handler: generates 100 kg or less of hazardous waste per calendar month, and accumulates 1000 kg or less of hazardous waste at any time;

Map ID
Direction
Distance
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number
EPA ID Number

ACME COMPOSITES/HANOVER (Continued)

1000338888

or generates 1 kg or less of acutely hazardous waste per calendar month, and accumulates at any time: 1 kg or less of acutely hazardous waste; or 100 kg or less of any residue or contaminated soil, waste or other debris resulting from the cleanup of a spill, into or on any land or water, of acutely hazardous waste; or generates 100 kg or less of any residue or contaminated soil, waste or other debris resulting from the cleanup of a spill, into or on any land or water, of acutely hazardous waste during any calendar month, and accumulates at any time: 1 kg or less of acutely hazardous waste; or 100 kg or less of any residue or contaminated soil, waste or other debris resulting from the cleanup of a spill, into or on any land or water, of acutely hazardous waste

Handler Activities Summary:

U.S. importer of hazardous waste: No
Mixed waste (haz. and radioactive): No
Recycler of hazardous waste: No
Transporter of hazardous waste: No
Treater, storer or disposer of HW: No
Underground injection activity: No
On-site burner exemption: No
Furnace exemption: No
Used oil fuel burner: No
Used oil processor: No
User oil refiner: No
Used oil fuel marketer to burner: No
Used oil Specification marketer: No
Used oil transfer facility: No
Used oil transporter: No

. Waste code: D001
. Waste name: IGNITABLE HAZARDOUS WASTES ARE THOSE WASTES WHICH HAVE A FLASHPOINT OF LESS THAN 140 DEGREES FAHRENHEIT AS DETERMINED BY A PENSKEY-MARTENS CLOSED CUP FLASH POINT TESTER. ANOTHER METHOD OF DETERMINING THE FLASH POINT OF A WASTE IS TO REVIEW THE MATERIAL SAFETY DATA SHEET, WHICH CAN BE OBTAINED FROM THE MANUFACTURER OR DISTRIBUTOR OF THE MATERIAL. LACQUER THINNER IS AN EXAMPLE OF A COMMONLY USED SOLVENT WHICH WOULD BE CONSIDERED AS IGNITABLE HAZARDOUS WASTE.

. Waste code: F003
. Waste name: THE FOLLOWING SPENT NON-HALOGENATED SOLVENTS: XYLENE, ACETONE, ETHYL ACETATE, ETHYL BENZENE, ETHYL ETHER, METHYL ISOBUTYL KETONE, N-BUTYL ALCOHOL, CYCLOHEXANONE, AND METHANOL; ALL SPENT SOLVENT MIXTURES/BLENDS CONTAINING, BEFORE USE, ONLY THE ABOVE SPENT NON-HALOGENATED SOLVENTS; AND ALL SPENT SOLVENT MIXTURES/BLENDS CONTAINING, BEFORE USE, ONE OR MORE OF THE ABOVE NON-HALOGENATED SOLVENTS, AND, A TOTAL OF TEN PERCENT OR MORE (BY VOLUME) OF ONE OR MORE OF THOSE SOLVENTS LISTED IN F001, F002, F004, AND F005, AND STILL BOTTOMS FROM THE RECOVERY OF THESE SPENT SOLVENTS AND SPENT SOLVENT MIXTURES.

Historical Generators:

Date form received by agency: 06/19/2015
Site name: COLONIAL FIBERGLASS INDUSTRIES
Classification: Conditionally Exempt Small Quantity Generator

Map ID
Direction
Distance
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number
EPA ID Number

ACME COMPOSITES/HANOVER (Continued)

1000338888

. Waste code: D001
. Waste name: IGNITABLE HAZARDOUS WASTES ARE THOSE WASTES WHICH HAVE A FLASHPOINT OF LESS THAN 140 DEGREES FAHRENHEIT AS DETERMINED BY A PENSKEY-MARTENS CLOSED CUP FLASH POINT TESTER. ANOTHER METHOD OF DETERMINING THE FLASH POINT OF A WASTE IS TO REVIEW THE MATERIAL SAFETY DATA SHEET, WHICH CAN BE OBTAINED FROM THE MANUFACTURER OR DISTRIBUTOR OF THE MATERIAL. LACQUER THINNER IS AN EXAMPLE OF A COMMONLY USED SOLVENT WHICH WOULD BE CONSIDERED AS IGNITABLE HAZARDOUS WASTE.

. Waste code: F003
. Waste name: THE FOLLOWING SPENT NON-HALOGENATED SOLVENTS: XYLENE, ACETONE, ETHYL ACETATE, ETHYL BENZENE, ETHYL ETHER, METHYL ISOBUTYL KETONE, N-BUTYL ALCOHOL, CYCLOHEXANONE, AND METHANOL; ALL SPENT SOLVENT MIXTURES/BLENDS CONTAINING, BEFORE USE, ONLY THE ABOVE SPENT NON-HALOGENATED SOLVENTS; AND ALL SPENT SOLVENT MIXTURES/BLENDS CONTAINING, BEFORE USE, ONE OR MORE OF THE ABOVE NON-HALOGENATED SOLVENTS, AND, A TOTAL OF TEN PERCENT OR MORE (BY VOLUME) OF ONE OR MORE OF THOSE SOLVENTS LISTED IN F001, F002, F004, AND F005, AND STILL BOTTOMS FROM THE RECOVERY OF THESE SPENT SOLVENTS AND SPENT SOLVENT MIXTURES.

Date form received by agency: 09/10/2010
Site name: COLONIAL FIBERGLASS INDUSTRIES
Classification: Small Quantity Generator

. Waste code: D001
. Waste name: IGNITABLE HAZARDOUS WASTES ARE THOSE WASTES WHICH HAVE A FLASHPOINT OF LESS THAN 140 DEGREES FAHRENHEIT AS DETERMINED BY A PENSKEY-MARTENS CLOSED CUP FLASH POINT TESTER. ANOTHER METHOD OF DETERMINING THE FLASH POINT OF A WASTE IS TO REVIEW THE MATERIAL SAFETY DATA SHEET, WHICH CAN BE OBTAINED FROM THE MANUFACTURER OR DISTRIBUTOR OF THE MATERIAL. LACQUER THINNER IS AN EXAMPLE OF A COMMONLY USED SOLVENT WHICH WOULD BE CONSIDERED AS IGNITABLE HAZARDOUS WASTE.

. Waste code: F003
. Waste name: THE FOLLOWING SPENT NON-HALOGENATED SOLVENTS: XYLENE, ACETONE, ETHYL ACETATE, ETHYL BENZENE, ETHYL ETHER, METHYL ISOBUTYL KETONE, N-BUTYL ALCOHOL, CYCLOHEXANONE, AND METHANOL; ALL SPENT SOLVENT MIXTURES/BLENDS CONTAINING, BEFORE USE, ONLY THE ABOVE SPENT NON-HALOGENATED SOLVENTS; AND ALL SPENT SOLVENT MIXTURES/BLENDS CONTAINING, BEFORE USE, ONE OR MORE OF THE ABOVE NON-HALOGENATED SOLVENTS, AND, A TOTAL OF TEN PERCENT OR MORE (BY VOLUME) OF ONE OR MORE OF THOSE SOLVENTS LISTED IN F001, F002, F004, AND F005, AND STILL BOTTOMS FROM THE RECOVERY OF THESE SPENT SOLVENTS AND SPENT SOLVENT MIXTURES.

Date form received by agency: 10/06/2009
Site name: COLONIAL FIBERGLASS INDUSTRIES
Classification: Small Quantity Generator

Date form received by agency: 10/01/2009
Site name: COLONIAL FIBERGLASS INDUSTRIES
Classification: Small Quantity Generator

Date form received by agency: 03/18/1988
Site name: COLONIAL FIBERGLASS INDUSTRIES
Classification: Small Quantity Generator

Map ID
Direction
Distance
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number
EPA ID Number

ACME COMPOSITES/HANOVER (Continued)

1000338888

. Waste code: F003
. Waste name: THE FOLLOWING SPENT NON-HALOGENATED SOLVENTS: XYLENE, ACETONE, ETHYL ACETATE, ETHYL BENZENE, ETHYL ETHER, METHYL ISOBUTYL KETONE, N-BUTYL ALCOHOL, CYCLOHEXANONE, AND METHANOL; ALL SPENT SOLVENT MIXTURES/BLENDS CONTAINING, BEFORE USE, ONLY THE ABOVE SPENT NON-HALOGENATED SOLVENTS; AND ALL SPENT SOLVENT MIXTURES/BLENDS CONTAINING, BEFORE USE, ONE OR MORE OF THE ABOVE NON-HALOGENATED SOLVENTS, AND, A TOTAL OF TEN PERCENT OR MORE (BY VOLUME) OF ONE OR MORE OF THOSE SOLVENTS LISTED IN F001, F002, F004, AND F005, AND STILL BOTTOMS FROM THE RECOVERY OF THESE SPENT SOLVENTS AND SPENT SOLVENT MIXTURES.

Facility Has Received Notices of Violations:

Regulation violated: FR - 40cfr262.34c
Area of violation: Generators - General
Date violation determined: 04/02/2002
Date achieved compliance: Not reported
Violation lead agency: State
Enforcement action: Not reported
Enforcement action date: Not reported
Enf. disposition status: Not reported
Enf. disp. status date: Not reported
Enforcement lead agency: Not reported
Proposed penalty amount: Not reported
Final penalty amount: Not reported
Paid penalty amount: Not reported

Regulation violated: FR - 40cfr262.21
Area of violation: Generators - Manifest
Date violation determined: 04/02/2002
Date achieved compliance: Not reported
Violation lead agency: State
Enforcement action: Not reported
Enforcement action date: Not reported
Enf. disposition status: Not reported
Enf. disp. status date: Not reported
Enforcement lead agency: Not reported
Proposed penalty amount: Not reported
Final penalty amount: Not reported
Paid penalty amount: Not reported

Regulation violated: FR - 40cfr265.171-172-173(b)
Area of violation: Generators - General
Date violation determined: 04/02/2002
Date achieved compliance: Not reported
Violation lead agency: State
Enforcement action: Not reported
Enforcement action date: Not reported
Enf. disposition status: Not reported
Enf. disp. status date: Not reported
Enforcement lead agency: Not reported
Proposed penalty amount: Not reported
Final penalty amount: Not reported
Paid penalty amount: Not reported

Regulation violated: FR - 40cfr262.34(a)(2)(3)
Area of violation: Generators - General

Map ID
Direction
Distance
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number
EPA ID Number

ACME COMPOSITES/HANOVER (Continued)

1000338888

Date violation determined: 04/02/2002
Date achieved compliance: Not reported
Violation lead agency: State
Enforcement action: Not reported
Enforcement action date: Not reported
Enf. disposition status: Not reported
Enf. disp. status date: Not reported
Enforcement lead agency: Not reported
Proposed penalty amount: Not reported
Final penalty amount: Not reported
Paid penalty amount: Not reported

Regulation violated: FR - 40cfr262.34a
Area of violation: Generators - General
Date violation determined: 04/02/2002
Date achieved compliance: Not reported
Violation lead agency: State
Enforcement action: Not reported
Enforcement action date: Not reported
Enf. disposition status: Not reported
Enf. disp. status date: Not reported
Enforcement lead agency: Not reported
Proposed penalty amount: Not reported
Final penalty amount: Not reported
Paid penalty amount: Not reported

Regulation violated: FR - 40cfr262.40(a)(b)
Area of violation: Generators - Records/Reporting
Date violation determined: 04/02/2002
Date achieved compliance: Not reported
Violation lead agency: State
Enforcement action: Not reported
Enforcement action date: Not reported
Enf. disposition status: Not reported
Enf. disp. status date: Not reported
Enforcement lead agency: Not reported
Proposed penalty amount: Not reported
Final penalty amount: Not reported
Paid penalty amount: Not reported

Regulation violated: FR - 40cfr262.11
Area of violation: Generators - General
Date violation determined: 04/02/2002
Date achieved compliance: Not reported
Violation lead agency: State
Enforcement action: Not reported
Enforcement action date: Not reported
Enf. disposition status: Not reported
Enf. disp. status date: Not reported
Enforcement lead agency: Not reported
Proposed penalty amount: Not reported
Final penalty amount: Not reported
Paid penalty amount: Not reported

Regulation violated: FR - 40cfr262.34(a)(4)(d)
Area of violation: Generators - General
Date violation determined: 04/02/2002

Map ID
Direction
Distance
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number
EPA ID Number

ACME COMPOSITES/HANOVER (Continued)

1000338888

Date achieved compliance: Not reported
Violation lead agency: State
Enforcement action: Not reported
Enforcement action date: Not reported
Enf. disposition status: Not reported
Enf. disp. status date: Not reported
Enforcement lead agency: Not reported
Proposed penalty amount: Not reported
Final penalty amount: Not reported
Paid penalty amount: Not reported

Evaluation Action Summary:

Evaluation date: 06/18/2015
Evaluation: COMPLIANCE EVALUATION INSPECTION ON-SITE
Area of violation: Not reported
Date achieved compliance: Not reported
Evaluation lead agency: State

Evaluation date: 09/23/2009
Evaluation: COMPLIANCE EVALUATION INSPECTION ON-SITE
Area of violation: Not reported
Date achieved compliance: Not reported
Evaluation lead agency: State

Evaluation date: 04/02/2002
Evaluation: COMPLIANCE EVALUATION INSPECTION ON-SITE
Area of violation: Generators - General
Date achieved compliance: Not reported
Evaluation lead agency: State

Evaluation date: 04/02/2002
Evaluation: COMPLIANCE EVALUATION INSPECTION ON-SITE
Area of violation: Generators - Manifest
Date achieved compliance: Not reported
Evaluation lead agency: State

Evaluation date: 04/02/2002
Evaluation: COMPLIANCE EVALUATION INSPECTION ON-SITE
Area of violation: Generators - Records/Reporting
Date achieved compliance: Not reported
Evaluation lead agency: State

ICIS:

Enforcement Action ID: PA000A0000E00000000311003
FRS ID: 110060000118
Action Name: Not reported
Facility Name: ACME COMPOSITES/HANOVER
Facility Address: 262 CHURCH ST
HANOVER, PA 17331-8991
Enforcement Action Type: Notice of Violation
Facility County: ADAMS
Program System Acronym: AIR
Enforcement Action Forum Desc: Administrative - Informal
EA Type Code: NOV
Facility SIC Code: 3089
Federal Facility ID: Not reported
Latitude in Decimal Degrees: 39.80612

Map ID
Direction
Distance
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number
EPA ID Number

ACME COMPOSITES/HANOVER (Continued)

1000338888

Longitude in Decimal Degrees: -77.029761
Permit Type Desc: Not reported
Program System Acronym: PA000512902
Facility NAICS Code: 326121
Tribal Land Code: Not reported

Enforcement Action ID: PA000A0000E0000000066547
FRS ID: 110060000118
Action Name: Not reported
Facility Name: ACME COMPOSITES/HANOVER
Facility Address: 262 CHURCH ST
HANOVER, PA 17331-8991

Enforcement Action Type: Notice of Violation
Facility County: ADAMS
Program System Acronym: AIR
Enforcement Action Forum Desc: Administrative - Informal
EA Type Code: NOV
Facility SIC Code: 3089
Federal Facility ID: Not reported
Latitude in Decimal Degrees: 39.80612
Longitude in Decimal Degrees: -77.029761
Permit Type Desc: Not reported
Program System Acronym: PA000512902
Facility NAICS Code: 326121
Tribal Land Code: Not reported

Enforcement Action ID: PA000A0000420010004600420
FRS ID: 110060000118
Action Name: ACME COMPOSITES/HANOVER 420010004600420
Facility Name: ACME COMPOSITES/HANOVER
Facility Address: 262 CHURCH ST
HANOVER, PA 17331-8991

Enforcement Action Type: Notice of Violation
Facility County: ADAMS
Program System Acronym: AIR
Enforcement Action Forum Desc: Administrative - Informal
EA Type Code: NOV
Facility SIC Code: 3089
Federal Facility ID: Not reported
Latitude in Decimal Degrees: 39.80612
Longitude in Decimal Degrees: -77.029761
Permit Type Desc: Not reported
Program System Acronym: PA000512902
Facility NAICS Code: 326121
Tribal Land Code: Not reported

Enforcement Action ID: PA000A0000420010004600405
FRS ID: 110060000118
Action Name: ACME COMPOSITES/HANOVER 420010004600405
Facility Name: ACME COMPOSITES/HANOVER
Facility Address: 262 CHURCH ST
HANOVER, PA 17331-8991

Enforcement Action Type: Notice of Violation
Facility County: ADAMS
Program System Acronym: AIR
Enforcement Action Forum Desc: Administrative - Informal
EA Type Code: NOV

Map ID
Direction
Distance
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number
EPA ID Number

ACME COMPOSITES/HANOVER (Continued)

1000338888

Facility SIC Code: 3089
Federal Facility ID: Not reported
Latitude in Decimal Degrees: 39.80612
Longitude in Decimal Degrees: -77.029761
Permit Type Desc: Not reported
Program System Acronym: PA000512902
Facility NAICS Code: 326121
Tribal Land Code: Not reported

US AIRS (AFS):

Envid: 1000338888
Region Code: 03
County Code: PA001
Programmatic ID: AIR PA000512902
Facility Registry ID: 110060000118
D and B Number: Not reported
Facility Site Name: ACME COMPOSITES/HANOVER
Primary SIC Code: 3089
NAICS Code: 326121
Default Air Classification Code: SMI
Facility Type of Ownership Code: COR
Air CMS Category Code: SMI
HPV Status: Not reported

US AIRS (AFS):

Region Code: 03
Programmatic ID: AIR PA000512902
Facility Registry ID: 110060000118
Air Operating Status Code: OPR
Default Air Classification Code: SMI
Air Program: National Emission Standards for Hazardous Air Pollutants (40 CFR Part 61)
Activity Date: Not reported
Activity Status Date: 2016-05-04 16:03:15
Activity Group: Case File
Activity Type: Case File
Activity Status: Case File Data Entered

Region Code: 03
Programmatic ID: AIR PA000512902
Facility Registry ID: 110060000118
Air Operating Status Code: OPR
Default Air Classification Code: SMI
Air Program: National Emission Standards for Hazardous Air Pollutants (40 CFR Part 61)
Activity Date: 2016-02-23 00:00:00
Activity Status Date: 2016-03-03 14:35:31
Activity Group: Compliance Monitoring
Activity Type: Inspection/Evaluation
Activity Status: Active

Region Code: 03
Programmatic ID: AIR PA000512902
Facility Registry ID: 110060000118
Air Operating Status Code: OPR
Default Air Classification Code: SMI
Air Program: State Implementation Plan for National Primary and Secondary Ambient Air Quality Standards
Activity Date: 1998-01-08 00:00:00

Map ID
Direction
Distance
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number
EPA ID Number

ACME COMPOSITES/HANOVER (Continued)

1000338888

Activity Status Date: 2016-08-10 00:23:21
Activity Group: Compliance Monitoring
Activity Type: Inspection/Evaluation
Activity Status: Active

Region Code: 03
Programmatic ID: AIR PA000512902
Facility Registry ID: 110060000118
Air Operating Status Code: OPR
Default Air Classification Code: SMI
Air Program: State Implementation Plan for National Primary and Secondary Ambient Air Quality Standards
Activity Date: 1999-01-13 00:00:00
Activity Status Date: 2016-02-11 13:45:36
Activity Group: Compliance Monitoring
Activity Type: Inspection/Evaluation
Activity Status: Active

Region Code: 03
Programmatic ID: AIR PA000512902
Facility Registry ID: 110060000118
Air Operating Status Code: OPR
Default Air Classification Code: SMI
Air Program: State Implementation Plan for National Primary and Secondary Ambient Air Quality Standards
Activity Date: 2000-04-24 00:00:00
Activity Status Date: 2016-02-11 13:46:49
Activity Group: Compliance Monitoring
Activity Type: Inspection/Evaluation
Activity Status: Active

Region Code: 03
Programmatic ID: AIR PA000512902
Facility Registry ID: 110060000118
Air Operating Status Code: OPR
Default Air Classification Code: SMI
Air Program: State Implementation Plan for National Primary and Secondary Ambient Air Quality Standards
Activity Date: 2001-02-01 00:00:00
Activity Status Date: 2016-02-11 13:47:46
Activity Group: Compliance Monitoring
Activity Type: Inspection/Evaluation
Activity Status: Active

Region Code: 03
Programmatic ID: AIR PA000512902
Facility Registry ID: 110060000118
Air Operating Status Code: OPR
Default Air Classification Code: SMI
Air Program: State Implementation Plan for National Primary and Secondary Ambient Air Quality Standards
Activity Date: 2001-06-05 00:00:00
Activity Status Date: 2016-08-10 00:24:22
Activity Group: Compliance Monitoring
Activity Type: Inspection/Evaluation
Activity Status: Active

Region Code: 03
Programmatic ID: AIR PA000512902
Facility Registry ID: 110060000118
Air Operating Status Code: OPR

Map ID
Direction
Distance
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number
EPA ID Number

ACME COMPOSITES/HANOVER (Continued)

1000338888

Default Air Classification Code: SMI
Air Program: State Implementation Plan for National Primary and Secondary Ambient Air Quality Standards
Activity Date: 2001-10-22 00:00:00
Activity Status Date: 2016-02-11 13:48:22
Activity Group: Compliance Monitoring
Activity Type: Inspection/Evaluation
Activity Status: Active

Region Code: 03
Programmatic ID: AIR PA000512902
Facility Registry ID: 110060000118
Air Operating Status Code: OPR
Default Air Classification Code: SMI
Air Program: State Implementation Plan for National Primary and Secondary Ambient Air Quality Standards
Activity Date: 2002-10-28 00:00:00
Activity Status Date: 2016-02-11 13:55:22
Activity Group: Compliance Monitoring
Activity Type: Inspection/Evaluation
Activity Status: Active

Region Code: 03
Programmatic ID: AIR PA000512902
Facility Registry ID: 110060000118
Air Operating Status Code: OPR
Default Air Classification Code: SMI
Air Program: State Implementation Plan for National Primary and Secondary Ambient Air Quality Standards
Activity Date: 2002-10-30 00:00:00
Activity Status Date: 2016-02-11 13:49:06
Activity Group: Compliance Monitoring
Activity Type: Inspection/Evaluation
Activity Status: Active

Region Code: 03
Programmatic ID: AIR PA000512902
Facility Registry ID: 110060000118
Air Operating Status Code: OPR
Default Air Classification Code: SMI
Air Program: State Implementation Plan for National Primary and Secondary Ambient Air Quality Standards
Activity Date: 2003-10-28 00:00:00
Activity Status Date: 2016-02-11 13:49:42
Activity Group: Compliance Monitoring
Activity Type: Inspection/Evaluation
Activity Status: Active

Region Code: 03
Programmatic ID: AIR PA000512902
Facility Registry ID: 110060000118
Air Operating Status Code: OPR
Default Air Classification Code: SMI
Air Program: State Implementation Plan for National Primary and Secondary Ambient Air Quality Standards
Activity Date: 2004-10-28 00:00:00
Activity Status Date: 2016-02-11 13:50:26
Activity Group: Compliance Monitoring
Activity Type: Inspection/Evaluation
Activity Status: Active

Region Code: 03

Map ID
Direction
Distance
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number
EPA ID Number

ACME COMPOSITES/HANOVER (Continued)

1000338888

Programmatic ID: AIR PA000512902
Facility Registry ID: 110060000118
Air Operating Status Code: OPR
Default Air Classification Code: SMI
Air Program: State Implementation Plan for National Primary and Secondary Ambient Air Quality Standards
Activity Date: 2005-10-18 00:00:00
Activity Status Date: 2016-02-11 13:51:02
Activity Group: Compliance Monitoring
Activity Type: Inspection/Evaluation
Activity Status: Active

Region Code: 03
Programmatic ID: AIR PA000512902
Facility Registry ID: 110060000118
Air Operating Status Code: OPR
Default Air Classification Code: SMI
Air Program: State Implementation Plan for National Primary and Secondary Ambient Air Quality Standards
Activity Date: 2006-10-10 00:00:00
Activity Status Date: 2016-08-10 00:24:57
Activity Group: Compliance Monitoring
Activity Type: Inspection/Evaluation
Activity Status: Active

Region Code: 03
Programmatic ID: AIR PA000512902
Facility Registry ID: 110060000118
Air Operating Status Code: OPR
Default Air Classification Code: SMI
Air Program: State Implementation Plan for National Primary and Secondary Ambient Air Quality Standards
Activity Date: 2007-10-03 00:00:00
Activity Status Date: 2016-02-11 13:52:21
Activity Group: Compliance Monitoring
Activity Type: Inspection/Evaluation
Activity Status: Active

Region Code: 03
Programmatic ID: AIR PA000512902
Facility Registry ID: 110060000118
Air Operating Status Code: OPR
Default Air Classification Code: SMI
Air Program: State Implementation Plan for National Primary and Secondary Ambient Air Quality Standards
Activity Date: 2008-10-01 00:00:00
Activity Status Date: 2016-02-11 13:52:51
Activity Group: Compliance Monitoring
Activity Type: Inspection/Evaluation
Activity Status: Active

Region Code: 03
Programmatic ID: AIR PA000512902
Facility Registry ID: 110060000118
Air Operating Status Code: OPR
Default Air Classification Code: SMI
Air Program: State Implementation Plan for National Primary and Secondary Ambient Air Quality Standards
Activity Date: 2009-11-18 00:00:00
Activity Status Date: 2016-02-11 13:53:19
Activity Group: Compliance Monitoring
Activity Type: Inspection/Evaluation

Map ID
Direction
Distance
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number
EPA ID Number

ACME COMPOSITES/HANOVER (Continued)

1000338888

Activity Status: Active

Region Code: 03
Programmatic ID: AIR PA000512902
Facility Registry ID: 110060000118
Air Operating Status Code: OPR
Default Air Classification Code: SMI
Air Program: State Implementation Plan for National Primary and Secondary Ambient Air Quality Standards
Activity Date: 2012-02-08 00:00:00
Activity Status Date: 2016-02-11 13:54:08
Activity Group: Compliance Monitoring
Activity Type: Inspection/Evaluation
Activity Status: Active

Region Code: 03
Programmatic ID: AIR PA000512902
Facility Registry ID: 110060000118
Air Operating Status Code: OPR
Default Air Classification Code: SMI
Air Program: State Implementation Plan for National Primary and Secondary Ambient Air Quality Standards
Activity Date: 2014-03-25 00:00:00
Activity Status Date: 2016-02-11 13:54:48
Activity Group: Compliance Monitoring
Activity Type: Inspection/Evaluation
Activity Status: Active

Region Code: 03
Programmatic ID: AIR PA000512902
Facility Registry ID: 110060000118
Air Operating Status Code: OPR
Default Air Classification Code: SMI
Air Program: State Implementation Plan for National Primary and Secondary Ambient Air Quality Standards
Activity Date: 2014-05-01 00:00:00
Activity Status Date: 2016-02-11 13:54:50
Activity Group: Compliance Monitoring
Activity Type: Inspection/Evaluation
Activity Status: Active

Region Code: 03
Programmatic ID: AIR PA000512902
Facility Registry ID: 110060000118
Air Operating Status Code: OPR
Default Air Classification Code: SMI
Air Program: State Implementation Plan for National Primary and Secondary Ambient Air Quality Standards
Activity Date: 2015-05-18 00:00:00
Activity Status Date: 2016-02-11 13:55:07
Activity Group: Compliance Monitoring
Activity Type: Inspection/Evaluation
Activity Status: Active

Region Code: 03
Programmatic ID: AIR PA000512902
Facility Registry ID: 110060000118
Air Operating Status Code: OPR
Default Air Classification Code: SMI
Air Program: State Implementation Plan for National Primary and Secondary Ambient Air Quality Standards
Activity Date: 1997-02-26 00:00:00

Map ID
Direction
Distance
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number
EPA ID Number

ACME COMPOSITES/HANOVER (Continued)

1000338888

Activity Status Date: Not reported
Activity Group: Compliance Monitoring
Activity Type: Inspection/Evaluation
Activity Status: Not reported

Region Code: 03
Programmatic ID: AIR PA000512902
Facility Registry ID: 110060000118
Air Operating Status Code: OPR
Default Air Classification Code: SMI
Air Program: State Implementation Plan for National Primary and Secondary Ambient Air Quality Standards
Activity Date: 1998-01-08 00:00:00
Activity Status Date: Not reported
Activity Group: Compliance Monitoring
Activity Type: Inspection/Evaluation
Activity Status: Not reported

Region Code: 03
Programmatic ID: AIR PA000512902
Facility Registry ID: 110060000118
Air Operating Status Code: OPR
Default Air Classification Code: SMI
Air Program: State Implementation Plan for National Primary and Secondary Ambient Air Quality Standards
Activity Date: 1999-01-13 00:00:00
Activity Status Date: Not reported
Activity Group: Compliance Monitoring
Activity Type: Inspection/Evaluation
Activity Status: Not reported

Region Code: 03
Programmatic ID: AIR PA000512902
Facility Registry ID: 110060000118
Air Operating Status Code: OPR
Default Air Classification Code: SMI
Air Program: State Implementation Plan for National Primary and Secondary Ambient Air Quality Standards
Activity Date: 2000-04-24 00:00:00
Activity Status Date: Not reported
Activity Group: Compliance Monitoring
Activity Type: Inspection/Evaluation
Activity Status: Not reported

Region Code: 03
Programmatic ID: AIR PA000512902
Facility Registry ID: 110060000118
Air Operating Status Code: OPR
Default Air Classification Code: SMI
Air Program: State Implementation Plan for National Primary and Secondary Ambient Air Quality Standards
Activity Date: 2001-02-01 00:00:00
Activity Status Date: Not reported
Activity Group: Compliance Monitoring
Activity Type: Inspection/Evaluation
Activity Status: Not reported

Region Code: 03
Programmatic ID: AIR PA000512902
Facility Registry ID: 110060000118
Air Operating Status Code: OPR

Map ID
Direction
Distance
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number
EPA ID Number

ACME COMPOSITES/HANOVER (Continued)

1000338888

Default Air Classification Code: SMI
Air Program: State Implementation Plan for National Primary and Secondary Ambient Air Quality Standards
Activity Date: 2001-06-05 00:00:00
Activity Status Date: Not reported
Activity Group: Compliance Monitoring
Activity Type: Inspection/Evaluation
Activity Status: Not reported

Region Code: 03
Programmatic ID: AIR PA000512902
Facility Registry ID: 110060000118
Air Operating Status Code: OPR
Default Air Classification Code: SMI
Air Program: State Implementation Plan for National Primary and Secondary Ambient Air Quality Standards
Activity Date: 2001-10-22 00:00:00
Activity Status Date: Not reported
Activity Group: Compliance Monitoring
Activity Type: Inspection/Evaluation
Activity Status: Not reported

Region Code: 03
Programmatic ID: AIR PA000512902
Facility Registry ID: 110060000118
Air Operating Status Code: OPR
Default Air Classification Code: SMI
Air Program: State Implementation Plan for National Primary and Secondary Ambient Air Quality Standards
Activity Date: 2002-10-27 00:00:00
Activity Status Date: Not reported
Activity Group: Compliance Monitoring
Activity Type: Inspection/Evaluation
Activity Status: Not reported

Region Code: 03
Programmatic ID: AIR PA000512902
Facility Registry ID: 110060000118
Air Operating Status Code: OPR
Default Air Classification Code: SMI
Air Program: State Implementation Plan for National Primary and Secondary Ambient Air Quality Standards
Activity Date: 2002-10-30 00:00:00
Activity Status Date: Not reported
Activity Group: Compliance Monitoring
Activity Type: Inspection/Evaluation
Activity Status: Not reported

Region Code: 03
Programmatic ID: AIR PA000512902
Facility Registry ID: 110060000118
Air Operating Status Code: OPR
Default Air Classification Code: SMI
Air Program: State Implementation Plan for National Primary and Secondary Ambient Air Quality Standards
Activity Date: 2003-10-28 00:00:00
Activity Status Date: Not reported
Activity Group: Compliance Monitoring
Activity Type: Inspection/Evaluation
Activity Status: Not reported

Region Code: 03

Map ID
Direction
Distance
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number
EPA ID Number

ACME COMPOSITES/HANOVER (Continued)

1000338888

Programmatic ID: AIR PA000512902
Facility Registry ID: 110060000118
Air Operating Status Code: OPR
Default Air Classification Code: SMI
Air Program: State Implementation Plan for National Primary and Secondary Ambient Air Quality Standards
Activity Date: 2004-10-28 00:00:00
Activity Status Date: Not reported
Activity Group: Compliance Monitoring
Activity Type: Inspection/Evaluation
Activity Status: Not reported

Region Code: 03
Programmatic ID: AIR PA000512902
Facility Registry ID: 110060000118
Air Operating Status Code: OPR
Default Air Classification Code: SMI
Air Program: State Implementation Plan for National Primary and Secondary Ambient Air Quality Standards
Activity Date: 2005-10-18 00:00:00
Activity Status Date: Not reported
Activity Group: Compliance Monitoring
Activity Type: Inspection/Evaluation
Activity Status: Not reported

Region Code: 03
Programmatic ID: AIR PA000512902
Facility Registry ID: 110060000118
Air Operating Status Code: OPR
Default Air Classification Code: SMI
Air Program: State Implementation Plan for National Primary and Secondary Ambient Air Quality Standards
Activity Date: 2006-10-10 00:00:00
Activity Status Date: Not reported
Activity Group: Compliance Monitoring
Activity Type: Inspection/Evaluation
Activity Status: Not reported

Region Code: 03
Programmatic ID: AIR PA000512902
Facility Registry ID: 110060000118
Air Operating Status Code: OPR
Default Air Classification Code: SMI
Air Program: State Implementation Plan for National Primary and Secondary Ambient Air Quality Standards
Activity Date: 2007-10-03 00:00:00
Activity Status Date: Not reported
Activity Group: Compliance Monitoring
Activity Type: Inspection/Evaluation
Activity Status: Not reported

Region Code: 03
Programmatic ID: AIR PA000512902
Facility Registry ID: 110060000118
Air Operating Status Code: OPR
Default Air Classification Code: SMI
Air Program: State Implementation Plan for National Primary and Secondary Ambient Air Quality Standards
Activity Date: 2008-10-01 00:00:00
Activity Status Date: Not reported
Activity Group: Compliance Monitoring
Activity Type: Inspection/Evaluation

Map ID
Direction
Distance
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number
EPA ID Number

ACME COMPOSITES/HANOVER (Continued)

1000338888

Activity Status: Not reported

Region Code: 03
Programmatic ID: AIR PA000512902
Facility Registry ID: 110060000118
Air Operating Status Code: OPR
Default Air Classification Code: SMI
Air Program: State Implementation Plan for National Primary and Secondary Ambient Air Quality Standards
Activity Date: 2009-11-18 00:00:00
Activity Status Date: Not reported
Activity Group: Compliance Monitoring
Activity Type: Inspection/Evaluation
Activity Status: Not reported

Region Code: 03
Programmatic ID: AIR PA000512902
Facility Registry ID: 110060000118
Air Operating Status Code: OPR
Default Air Classification Code: SMI
Air Program: State Implementation Plan for National Primary and Secondary Ambient Air Quality Standards
Activity Date: 2012-02-08 00:00:00
Activity Status Date: Not reported
Activity Group: Compliance Monitoring
Activity Type: Inspection/Evaluation
Activity Status: Not reported

Region Code: 03
Programmatic ID: AIR PA000512902
Facility Registry ID: 110060000118
Air Operating Status Code: OPR
Default Air Classification Code: SMI
Air Program: State Implementation Plan for National Primary and Secondary Ambient Air Quality Standards
Activity Date: 2014-03-25 00:00:00
Activity Status Date: Not reported
Activity Group: Compliance Monitoring
Activity Type: Inspection/Evaluation
Activity Status: Not reported

Region Code: 03
Programmatic ID: AIR PA000512902
Facility Registry ID: 110060000118
Air Operating Status Code: OPR
Default Air Classification Code: SMI
Air Program: State Implementation Plan for National Primary and Secondary Ambient Air Quality Standards
Activity Date: 2014-05-01 00:00:00
Activity Status Date: Not reported
Activity Group: Compliance Monitoring
Activity Type: Inspection/Evaluation
Activity Status: Not reported

Region Code: 03
Programmatic ID: AIR PA000512902
Facility Registry ID: 110060000118
Air Operating Status Code: OPR
Default Air Classification Code: SMI
Air Program: State Implementation Plan for National Primary and Secondary Ambient Air Quality Standards
Activity Date: 2001-02-14 00:00:00

Map ID
 Direction
 Distance
 Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number
 EPA ID Number

ACME COMPOSITES/HANOVER (Continued)

1000338888

Activity Status Date: 2001-02-14 00:00:00
 Activity Group: Enforcement Action
 Activity Type: Administrative - Informal
 Activity Status: Achieved

Region Code: 03
 Programmatic ID: AIR PA000512902
 Facility Registry ID: 110060000118
 Air Operating Status Code: OPR
 Default Air Classification Code: SMI
 Air Program: State Implementation Plan for National Primary and Secondary Ambient Air Quality Standards
 Activity Date: 2014-05-13 00:00:00
 Activity Status Date: 2014-05-13 00:00:00
 Activity Group: Enforcement Action
 Activity Type: Administrative - Informal
 Activity Status: Achieved

FINDS:

Registry ID: 110060000118

Environmental Interest/Information System
 AIR SYNTHETIC MINOR

PA-EFACTS (Pennsylvania - Environmental Facility Application Compliance Tracking System) is a Department-wide database that provides a holistic view of clients and sites (including facilities) that DEP regulates.

[Click this hyperlink](#) while viewing on your computer to access additional FINDS: detail in the EDR Site Report.

ECHO:

Envid: 1000338888
 Registry ID: 110060000118
 DFR URL: <http://echo.epa.gov/detailed-facility-report?fid=110060000118>

25
 SE
 1/8-1/4
 0.136 mi.
 718 ft.

BARE DEV - MILLER CHEM CO FIRE
 275 RADIO RD
 HANOVER, PA 17331

PA VCP S118888342
 N/A

Actual:
 554 ft.
Focus Map:
 7

VCP:
 Cleanup Records:
 Municipality: Conewago Twp
 Region: Southcentral Region
 Category Desc: Inorganics
 Type: Complete Sites
 LRP Activity Number: 49264
 Remediation: Site-Specific Standard
 Activity: YES
 Date Approved: 01/11/2017
 Date Received: Not reported

Map ID
Direction
Distance
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number
EPA ID Number

BARE DEV - MILLER CHEM CO FIRE (Continued)

S118888342

Date Nonuse: Not reported
ICS Code: Not reported
Media: Soil
Latitude: 39.820694
Longitude: -77.004608

Municipality: Conewago Twp
Region: Southcentral Region
Category Desc: Inorganics
Type: Complete Sites
LRP Activity Number: 49265
Remediation: Statewide Health Standard
Activity: YES
Date Approved: 01/11/2017
Date Received: Not reported
Date Nonuse: Not reported
ICS Code: Not reported
Media: Soil
Latitude: 39.820694
Longitude: -77.004608

Activity:
Activity ID: 809791, 809791, 809791,
Municipality: Conewago Twp
Region: Southcentral Region
Category Desc: Lead
Type: Complete Sites
LRP Activity Number: 49264
Remediation: Site-Specific Standard
Activity: YES
Date Approved: 01/11/2017
Date Received: Not reported
Date Nonuse: Not reported
ICS Code: Not reported
Media: Soil
Latitude: 39.820694
Longitude: -77.004608

G26 MILLER CHEMICAL
SSW 120 RADIO ROAD
1/8-1/4 HANOVER, PA 17331
0.148 mi.
782 ft. Site 1 of 8 in cluster G

SEMS 1018149241
PRP PAN000303821

Actual: 560 ft.
Focus Map: 7
SEMS:
Site ID: 0303821
EPA ID: PAN000303821
Cong District: 04
FIPS Code: 42001
Latitude: 39.819743
Longitude: -77.000264
FF: N
NPL: Not on the NPL
Non NPL Status: Removal Only Site (No Site Assessment Work Needed)

SEMS Detail:
Region: 03
Site ID: 0303821

Map ID
Direction
Distance
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number
EPA ID Number

MILLER CHEMICAL (Continued)

1018149241

EPA ID: PAN000303821
Site Name: MILLER CHEMICAL
NPL: N
FF: N
OU: 00
Action Code: RS
Action Name: RV ASSESS
SEQ: 1
Start Date: 2015-06-08 04:00:00
Finish Date: 9/1/2015 4:00:00 AM
Qual: Not reported
Current Action Lead: EPA Perf

Region: 03
Site ID: 0303821
EPA ID: PAN000303821
Site Name: MILLER CHEMICAL
NPL: N
FF: N
OU: 00
Action Code: PJ
Action Name: RP EM REM
SEQ: 1
Start Date: 2015-06-08 04:00:00
Finish Date: 9/1/2015 4:00:00 AM
Qual: S
Current Action Lead: EPA Ovrsght

G27 **MILLER CHEMICAL & FERTILIZER CORP**
SSW **120 RADIO RD**
1/8-1/4 **HANOVER, PA 17331**
0.148 mi.
782 ft. **Site 2 of 8 in cluster G**

PA AST **1005433444**
SSTS **N/A**

Actual: **560 ft.** **AST:**
Focus Map: **7**
Site ID: 452666
Client Id: 320515
Other Id: 01-30795
Mailing Name: MILLER CHEMICAL & FERTILIZER LLC
Mailing Address: 120 RADIO RD
Mailing Address: Not reported
Mailing City,St,Zip: HANOVER, PA 17331-1139
Municipality: Conewago
Region Name: EP SC Rgnl Off Harrisburg

Tank Seq Num: 002A
Tank Status: Currently In Use
Tank Capacity: 6700
Substance: NPOIL
Date Installed: Not reported
Tank Code: AST
Inspection Code: In Service
Tank Last Inspected: 02/24/2012
Registration Expiration Date: 06/04/2019
Decode for Tstatus: Currently In Use
Decode for Substance: Not reported

Map ID
Direction
Distance
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number
EPA ID Number

MILLER CHEMICAL & FERTILIZER CORP (Continued)

1005433444

Tank Seq Num: 010A
Tank Status: Currently In Use
Tank Capacity: 5600
Substance: Other
Date Installed: 12/01/1986
Tank Code: AST
Inspection Code: In Service
Tank Last Inspected: 02/24/2012
Registration Expiration Date: 06/04/2019
Decode for Tstatus: Currently In Use
Decode for Substance: Other

Tank Seq Num: 011A
Tank Status: Currently In Use
Tank Capacity: 6700
Substance: Other
Date Installed: 12/01/1986
Tank Code: AST
Inspection Code: In Service
Tank Last Inspected: 02/24/2012
Registration Expiration Date: 06/04/2019
Decode for Tstatus: Currently In Use
Decode for Substance: Other

Tank Seq Num: 012A
Tank Status: Currently In Use
Tank Capacity: 13000
Substance: Hazardous mixed with Petroleum
Date Installed: 02/24/2012
Tank Code: AST
Inspection Code: Not reported
Tank Last Inspected: Not reported
Registration Expiration Date: 06/04/2019
Decode for Tstatus: Currently In Use
Decode for Substance: Hazardous Mixed with Petroleum

Tank Seq Num: 014A
Tank Status: Currently In Use
Tank Capacity: 13000
Substance: NPOIL
Date Installed: 01/01/2009
Tank Code: AST
Inspection Code: In Service
Tank Last Inspected: 10/22/2015
Registration Expiration Date: 06/04/2019
Decode for Tstatus: Currently In Use
Decode for Substance: Not reported

Tank Seq Num: 015A
Tank Status: Currently In Use
Tank Capacity: 13000
Substance: NPOIL
Date Installed: 01/01/2009

Map ID
Direction
Distance
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number
EPA ID Number

MILLER CHEMICAL & FERTILIZER CORP (Continued)

1005433444

Tank Code: AST
Inspection Code: In Service
Tank Last Inspected: 10/22/2015
Registration Expiration Date: 06/04/2019
Decode for Tstatus: Currently In Use
Decode for Substance: Not reported

Tank Seq Num: 016A
Tank Status: Currently In Use
Tank Capacity: 13000
Substance: NPOIL
Date Installed: 01/01/2009
Tank Code: AST
Inspection Code: In Service
Tank Last Inspected: 10/22/2015
Registration Expiration Date: 06/04/2019
Decode for Tstatus: Currently In Use
Decode for Substance: Not reported

Tank Seq Num: 017A
Tank Status: Currently In Use
Tank Capacity: 13000
Substance: NPOIL
Date Installed: 01/01/2009
Tank Code: AST
Inspection Code: In Service
Tank Last Inspected: 08/12/2015
Registration Expiration Date: 06/04/2019
Decode for Tstatus: Currently In Use
Decode for Substance: Not reported

SSTS:

Product: PRATT RESMETHRIN EC 26 INSECT SPRAY
Contact: Not reported
Status: Inactive
Registration Number: 000072PA 001
Report Year: 1996
Permit: Registered
Product Number: 00090400424
Product Type: End-use blend, formulation, or concentrate
Product Class: Not reported
Product Use: Restricted use only
UOM: G
Market: Marketed in the United States
Region: Not reported
Zero product: Not reported
Pesticide RUP report: Not reported

Product: PRATT RESMETHRIN EC 26 INSECT SPRAY
Contact: Not reported
Status: Inactive
Registration Number: 000072PA 001
Report Year: 1997
Permit: Registered
Product Number: 00090400424

Map ID
Direction
Distance
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number
EPA ID Number

MILLER CHEMICAL & FERTILIZER CORP (Continued)

1005433444

Product Type: End-use blend, formulation, or concentrate
Product Class: Not reported
Product Use: Restricted use only
UOM: G
Market: Marketed in the United States
Region: Not reported
Zero product: Not reported
Pesticide RUP report: Not reported

Product: Not reported
Contact: CHARLES SVEC P: 717-632-8921
Status: Not reported
Registration Number: 000072-PA-001
Report Year: 2008
Permit: Not reported
Product Number: Not reported
Product Type: Not reported
Product Class: Not reported
Product Use: Not reported
UOM: Not reported
Market: Not reported
Region: 3
Zero product: Yes
Pesticide RUP report: Not reported

Product: ENERGY MAX
Contact: CHARLES SVEC P: 717-632-8921
Status: Not reported
Registration Number: 000072-PA-001
Report Year: 2009
Permit: Not reported
Product Number: 72-577
Product Type: End-use blend, formulation, or concentrate
Product Class: Not reported
Product Use: Not reported
UOM: Not reported
Market: Marketed in the United States
Region: Not reported
Zero product: No
Pesticide RUP report: 2

G28
SSW
1/8-1/4
0.148 mi.
782 ft.
MILLER CHEMICAL
120 RADIO ROAD
HANOVER, PA 17331
Site 3 of 8 in cluster G

FINDS 1023388296
N/A

Actual: FINDS:
560 ft.
Focus Map: Registry ID: 110067037833
7
Environmental Interest/Information System
SUPERFUND (NON-NPL)

[Click this hyperlink](#) while viewing on your computer to access additional FINDS: detail in the EDR Site Report.

MAP FINDINGS

Map ID
 Direction
 Distance
 Elevation

Site

Database(s)

EDR ID Number
 EPA ID Number

G29 **MILLER CHEM & FERTILIZER**
SSW **120 RADIO RD**
1/8-1/4 **HANOVER, PA 17331**
0.148 mi.
782 ft. **Site 4 of 8 in cluster G**

PA ARCHIVE AST **S119691229**
N/A

Actual:
560 ft.

ARCHIVE AST:

Focus Map:
7

Facility ID:	01-30795
Site ID:	Not reported
Client ID:	Not reported
Municipality:	Conewago Twp
Region Name:	Not reported
Owner ID:	Not reported
Owner Name:	MILLER CHEMICAL & FERTILIZER, LLC
Owner Phone:	Not reported
Owner Address:	120 RADIO ROAD
Owner Address 2:	Not reported
Owner City,St,Zip:	HANOVER, PA 17331
Owner County Code:	Not reported
Resp Party Name:	Not reported
RP Address:	Not reported
RP Address 2:	Not reported
RP City,St,Zip:	Not reported
Regulated Exp Date:	Not reported

Tank ID:	Not reported
Tank Sequence #:	004A
Install Date:	12/01/1976
Status:	Exempt
Status Code End Date:	Not reported
Capacity:	20079
Substance:	Other (unlisted) Petroleum
Tank Substance End Date:	Not reported
Tank Code:	AST
Inspection Code:	Not reported
Last Inspection:	Not reported
Substance Type:	P
CASRN for Hazardous Substances:	Not reported
Chemical Name:	Not reported
Other Information Regarding The Tank Substance:	Not reported
Undeliverable Address Ind.:	N
Contact Name:	ANDREW SMITH
Company:	MILLER CHEMICAL & FERTILIZER, LLC

Tank ID:	Not reported
Tank Sequence #:	013A
Install Date:	01/01/2009
Status:	Exempt
Status Code End Date:	Not reported
Capacity:	13000
Substance:	Hazardous
Tank Substance End Date:	Not reported
Tank Code:	AST
Inspection Code:	Not reported
Last Inspection:	Not reported
Substance Type:	H
CASRN for Hazardous Substances:	7664-38-2
Chemical Name:	PHOSPHORIC ACID

Map ID
Direction
Distance
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number
EPA ID Number

MILLER CHEM & FERTILIZER (Continued)

S119691229

Other Information Regarding The Tank Substance: Not reported
Undeliverable Address Ind.: N
Contact Name: ANDREW SMITH
Company: MILLER CHEMICAL & FERTILIZER, LLC

Tank ID: Not reported
Tank Sequence #: 009A
Install Date: 12/01/1982
Status: Exempt
Status Code End Date: Not reported
Capacity: 900
Substance: Hazardous
Tank Substance End Date: Not reported
Tank Code: AST
Inspection Code: Not reported
Last Inspection: Not reported
Substance Type: H
CASRN for Hazardous Substances: 67-56-1
Chemical Name: METHANOL
Other Information Regarding The Tank Substance: Not reported
Undeliverable Address Ind.: N
Contact Name: ANDREW SMITH
Company: MILLER CHEMICAL & FERTILIZER, LLC

Tank ID: Not reported
Tank Sequence #: 008A
Install Date: 12/01/1982
Status: Closed Without a Permit
Status Code End Date: Not reported
Capacity: 755
Substance: Hazardous
Tank Substance End Date: Not reported
Tank Code: AST
Inspection Code: Not reported
Last Inspection: Not reported
Substance Type: H
CASRN for Hazardous Substances: 67-56-1
Chemical Name: METHANOL
Other Information Regarding The Tank Substance: Not reported
Undeliverable Address Ind.: N
Contact Name: ANDREW SMITH
Company: MILLER CHEMICAL & FERTILIZER, LLC

Tank ID: Not reported
Tank Sequence #: 007A
Install Date: 12/01/1982
Status: Exempt
Status Code End Date: Not reported
Capacity: 1460
Substance: Hazardous
Tank Substance End Date: Not reported
Tank Code: AST
Inspection Code: Not reported
Last Inspection: Not reported

Map ID
Direction
Distance
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number
EPA ID Number

MILLER CHEM & FERTILIZER (Continued)

S119691229

Substance Type: H
CASRN for Hazardous Substances: 67-56-1
Chemical Name: METHANOL
Other Information Regarding The Tank Substance: Not reported
Undeliverable Address Ind.: N
Contact Name: ANDREW SMITH
Company: MILLER CHEMICAL & FERTILIZER, LLC

Tank ID: Not reported
Tank Sequence #: 006A
Install Date: 12/01/1987
Status: Exempt
Status Code End Date: Not reported
Capacity: 6700
Substance: Other (unlisted) Petroleum
Tank Substance End Date: Not reported
Tank Code: AST
Inspection Code: Not reported
Last Inspection: Not reported
Substance Type: P
CASRN for Hazardous Substances: Not reported
Chemical Name: Not reported
Other Information Regarding The Tank Substance: SURFACTANTS
Undeliverable Address Ind.: N
Contact Name: ANDREW SMITH
Company: MILLER CHEMICAL & FERTILIZER, LLC

Tank ID: Not reported
Tank Sequence #: 003A
Install Date: Not reported
Status: Exempt
Status Code End Date: Not reported
Capacity: 19977
Substance: Other (unlisted) Petroleum
Tank Substance End Date: Not reported
Tank Code: AST
Inspection Code: Not reported
Last Inspection: Not reported
Substance Type: P
CASRN for Hazardous Substances: Not reported
Chemical Name: Not reported
Other Information Regarding The Tank Substance: Not reported
Undeliverable Address Ind.: N
Contact Name: ANDREW SMITH
Company: MILLER CHEMICAL & FERTILIZER, LLC

Tank ID: Not reported
Tank Sequence #: 001A
Install Date: 12/01/1986
Status: Exempt
Status Code End Date: Not reported
Capacity: 22000
Substance: Other (unlisted) Petroleum
Tank Substance End Date: Not reported

Map ID
 Direction
 Distance
 Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number
 EPA ID Number

MILLER CHEM & FERTILIZER (Continued)

S119691229

Tank Code: AST
 Inspection Code: Not reported
 Last Inspection: Not reported
 Substance Type: P
 CASRN for Hazardous Substances: Not reported
 Chemical Name: Not reported
 Other Information Regarding The Tank Substance: Not reported
 Undeliverable Address Ind.: N
 Contact Name: ANDREW SMITH
 Company: MILLER CHEMICAL & FERTILIZER, LLC

Tank ID: Not reported
 Tank Sequence #: 005A
 Install Date: 12/01/1978
 Status: Exempt
 Status Code End Date: Not reported
 Capacity: 18800
 Substance: Other (unlisted) Petroleum
 Tank Substance End Date: Not reported
 Tank Code: AST
 Inspection Code: Not reported
 Last Inspection: Not reported
 Substance Type: P
 CASRN for Hazardous Substances: Not reported
 Chemical Name: Not reported
 Other Information Regarding The Tank Substance: Not reported
 Undeliverable Address Ind.: N
 Contact Name: ANDREW SMITH
 Company: MILLER CHEMICAL & FERTILIZER, LLC

G30 FORMER ALCO INDUS
SSW 120 RADIO RD
1/8-1/4 HANOVER, PA 17331
0.148 mi.
782 ft. Site 5 of 8 in cluster G

PA VCP S122431900
N/A

Actual: VCP:
560 ft.
Focus Map: Activity:
7 Activity ID: 826338,
 Cleanup Records:
 Municipality: Not reported
 Region: Southcentral Region
 Category Desc: Not reported
 Type: Site In Progress
 LRP Activity Number: 51866
 Remediation: Statewide Health Standard
 Activity: Not reported
 Date Approved: Not reported
 Date Received: 05/04/2018
 Date Nonuse: Not reported
 ICS Code: Not reported
 Media: Groundwater
 Latitude: 39.818867
 Longitude: -77.000918

Map ID
Direction
Distance
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number
EPA ID Number

G31 **MILLER CHEMICAL & FERTILIZER CORP**
SSW **120 RADIO RD**
1/8-1/4 **HANOVER, PA 17331**
0.148 mi.
782 ft. **Site 6 of 8 in cluster G**

ICIS **1011996539**
FINDS **N/A**
ECHO

Actual:
560 ft.

ICIS:

Focus Map:
7

Enforcement Action ID: 03-2015-0208
FRS ID: 110038221215
Action Name: MILLER CHEMICAL AND FERTILIZER CORPORATION
Facility Name: MILLER CHEMICAL & FERTILIZER CORPORATION
Facility Address: 120 RADIO ROAD
HANOVER, PA 17331
Enforcement Action Type: FIFRA 14A Action For Penalty
Facility County: YORK
Program System Acronym: ICIS
Enforcement Action Forum Desc: Administrative - Formal
EA Type Code: 14A
Facility SIC Code: 2879
Federal Facility ID: Not reported
Latitude in Decimal Degrees: 39.819266
Longitude in Decimal Degrees: -77.00137
Permit Type Desc: Not reported
Program System Acronym: 40418
Facility NAICS Code: 325311
Tribal Land Code: Not reported

Enforcement Action ID: 03-200127406
FRS ID: 110038221215
Action Name: MILLER CHEMICAL
Facility Name: MILLER CHEMICAL & FERTILIZER CORPORATION
Facility Address: 120 RADIO ROAD
HANOVER, PA 17331
Enforcement Action Type: Show Cause Letter
Facility County: YORK
Program System Acronym: ICIS
Enforcement Action Forum Desc: Administrative - Informal
EA Type Code: SCL
Facility SIC Code: 2879
Federal Facility ID: Not reported
Latitude in Decimal Degrees: 39.819266
Longitude in Decimal Degrees: -77.00137
Permit Type Desc: Not reported
Program System Acronym: 40418
Facility NAICS Code: 325311
Tribal Land Code: Not reported

Enforcement Action ID: 03-200088794
FRS ID: 110038221215
Action Name: Miller Chemical
Facility Name: MILLER CHEMICAL & FERTILIZER CORPORATION
Facility Address: 120 RADIO ROAD
HANOVER, PA 17331
Enforcement Action Type: Show Cause Letter
Facility County: YORK
Program System Acronym: ICIS
Enforcement Action Forum Desc: Administrative - Informal
EA Type Code: SCL
Facility SIC Code: 2879

Map ID
Direction
Distance
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number
EPA ID Number

MILLER CHEMICAL & FERTILIZER CORP (Continued)

1011996539

Federal Facility ID: Not reported
Latitude in Decimal Degrees: 39.819266
Longitude in Decimal Degrees: -77.00137
Permit Type Desc: Not reported
Program System Acronym: 40418
Facility NAICS Code: 325311
Tribal Land Code: Not reported

Enforcement Action ID: 03-200059993
FRS ID: 110038221215
Action Name: Miller Chemical & Fertilizer Corp
Facility Name: MILLER CHEMICAL & FERTILIZER CORPORATION
Facility Address: 120 RADIO ROAD
HANOVER, PA 17331

Enforcement Action Type: Notice of Noncompliance Issued
Facility County: YORK
Program System Acronym: ICIS
Enforcement Action Forum Desc: Administrative - Informal
EA Type Code: NONC
Facility SIC Code: 2879
Federal Facility ID: Not reported
Latitude in Decimal Degrees: 39.819266
Longitude in Decimal Degrees: -77.00137
Permit Type Desc: Not reported
Program System Acronym: 40418
Facility NAICS Code: 325311
Tribal Land Code: Not reported

Enforcement Action ID: 03-200059993
FRS ID: 110038221215
Action Name: Miller Chemical & Fertilizer Corp
Facility Name: MILLER CHEMICAL & FERTILIZER CORP
Facility Address: 120 RADIO RD
HANOVER, PA 17331

Enforcement Action Type: Notice of Noncompliance Issued
Facility County: ADAMS
Program System Acronym: SSTS
Enforcement Action Forum Desc: Administrative - Informal
EA Type Code: NONC
Facility SIC Code: Not reported
Federal Facility ID: Not reported
Latitude in Decimal Degrees: 39.818208
Longitude in Decimal Degrees: -77.001103
Permit Type Desc: Not reported
Program System Acronym: 000072PA001
Facility NAICS Code: Not reported
Tribal Land Code: Not reported

Enforcement Action ID: 03-1993-0301
FRS ID: 110038221215
Action Name: MILLER CHEMICAL AND FERTILIZER CORP
Facility Name: MILLER CHEMICAL & FERTILIZER CORPORATION
Facility Address: 120 RADIO ROAD
HANOVER, PA 17331

Enforcement Action Type: TSCA 16 Action For Penalty
Facility County: YORK
Program System Acronym: ICIS

Map ID
Direction
Distance
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number
EPA ID Number

MILLER CHEMICAL & FERTILIZER CORP (Continued)

1011996539

Enforcement Action Forum Desc: Administrative - Formal
EA Type Code: 16
Facility SIC Code: 2879
Federal Facility ID: Not reported
Latitude in Decimal Degrees: 39.819266
Longitude in Decimal Degrees: -77.00137
Permit Type Desc: Not reported
Program System Acronym: 40418
Facility NAICS Code: 325311
Tribal Land Code: Not reported

Enforcement Action ID: 03-1986-0593
FRS ID: 110038221215
Action Name: MILLER CHEMICAL & FERTILIZER CORP.
Facility Name: MILLER CHEMICAL & FERTILIZER CORPORATION
Facility Address: 120 RADIO ROAD
HANOVER, PA 17331

Enforcement Action Type: FIFRA 14 AO For Comp And Penalties (Old)
Facility County: YORK
Program System Acronym: ICIS

Enforcement Action Forum Desc: Administrative - Formal
EA Type Code: 14
Facility SIC Code: 2879
Federal Facility ID: Not reported
Latitude in Decimal Degrees: 39.819266
Longitude in Decimal Degrees: -77.00137
Permit Type Desc: Not reported
Program System Acronym: 40418
Facility NAICS Code: 325311
Tribal Land Code: Not reported

Enforcement Action ID: 03-1986-0540
FRS ID: 110038221215
Action Name: MILLER CHEMICAL & FERTILIZER
Facility Name: MILLER CHEMICAL & FERTILIZER CORPORATION
Facility Address: 120 RADIO ROAD
HANOVER, PA 17331

Enforcement Action Type: FIFRA 14 AO For Comp And Penalties (Old)
Facility County: YORK
Program System Acronym: ICIS

Enforcement Action Forum Desc: Administrative - Formal
EA Type Code: 14
Facility SIC Code: 2879
Federal Facility ID: Not reported
Latitude in Decimal Degrees: 39.819266
Longitude in Decimal Degrees: -77.00137
Permit Type Desc: Not reported
Program System Acronym: 40418
Facility NAICS Code: 325311
Tribal Land Code: Not reported

Facility Name: MILLER CHEMICAL & FERTILIZER CORP
Address: 120 RADIO RD
Tribal Indicator: N
Fed Facility: No
NAIC Code: Not reported

Map ID
Direction
Distance
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number
EPA ID Number

MILLER CHEMICAL & FERTILIZER CORP (Continued)

1011996539

SIC Code:	2873
Facility Name:	MILLER CHEMICAL & FERTILIZER CORP
Address:	120 RADIO RD
Tribal Indicator:	N
Fed Facility:	No
NAIC Code:	Not reported
SIC Code:	2879
Facility Name:	MILLER CHEMICAL & FERTILIZER CORP
Address:	120 RADIO RD
Tribal Indicator:	N
Fed Facility:	No
NAIC Code:	Not reported
SIC Code:	2873
Facility Name:	MILLER CHEMICAL & FERTILIZER CORP
Address:	120 RADIO RD
Tribal Indicator:	N
Fed Facility:	No
NAIC Code:	Not reported
SIC Code:	2879
Facility Name:	MILLER CHEMICAL & FERTILIZER CORP
Address:	120 RADIO RD
Tribal Indicator:	N
Fed Facility:	No
NAIC Code:	Not reported
SIC Code:	2873
Facility Name:	MILLER CHEMICAL & FERTILIZER CORP
Address:	120 RADIO RD
Tribal Indicator:	N
Fed Facility:	No
NAIC Code:	Not reported
SIC Code:	2879
Facility Name:	MILLER CHEMICAL & FERTILIZER CORP
Address:	120 RADIO RD
Tribal Indicator:	N
Fed Facility:	No
NAIC Code:	Not reported
SIC Code:	2873
Facility Name:	MILLER CHEMICAL & FERTILIZER CORP
Address:	120 RADIO RD
Tribal Indicator:	N
Fed Facility:	No
NAIC Code:	Not reported
SIC Code:	2879
Facility Name:	MILLER CHEMICAL & FERTILIZER CORP
Address:	120 RADIO RD
Tribal Indicator:	N
Fed Facility:	No
NAIC Code:	Not reported
SIC Code:	2873

Map ID
Direction
Distance
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number
EPA ID Number

MILLER CHEMICAL & FERTILIZER CORP (Continued)

1011996539

Facility Name: MILLER CHEMICAL & FERTILIZER CORP
Address: 120 RADIO RD
Tribal Indicator: N
Fed Facility: No
NAIC Code: Not reported
SIC Code: 2879

Facility Name: MILLER CHEMICAL & FERTILIZER CORP
Address: 120 RADIO RD
Tribal Indicator: N
Fed Facility: No
NAIC Code: Not reported
SIC Code: 2873

Facility Name: MILLER CHEMICAL & FERTILIZER CORP
Address: 120 RADIO RD
Tribal Indicator: N
Fed Facility: No
NAIC Code: Not reported
SIC Code: 2879

Facility Name: MILLER CHEMICAL & FERTILIZER CORP
Address: 120 RADIO RD
Tribal Indicator: N
Fed Facility: No
NAIC Code: Not reported
SIC Code: 2873

Facility Name: MILLER CHEMICAL & FERTILIZER CORP
Address: 120 RADIO RD
Tribal Indicator: N
Fed Facility: No
NAIC Code: Not reported
SIC Code: 2879

Facility Name: MILLER CHEMICAL & FERTILIZER CORP
Address: 120 RADIO RD
Tribal Indicator: N
Fed Facility: No
NAIC Code: Not reported
SIC Code: 2873

Facility Name: MILLER CHEMICAL & FERTILIZER CORP
Address: 120 RADIO RD
Tribal Indicator: N
Fed Facility: No
NAIC Code: Not reported
SIC Code: 2879

Facility Name: MILLER CHEMICAL & FERTILIZER CORP
Address: 120 RADIO RD
Tribal Indicator: N
Fed Facility: No
NAIC Code: Not reported
SIC Code: 2873

Facility Name: MILLER CHEMICAL & FERTILIZER CORP

Map ID
Direction
Distance
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number
EPA ID Number

MILLER CHEMICAL & FERTILIZER CORP (Continued)

1011996539

Address:	120 RADIO RD
Tribal Indicator:	N
Fed Facility:	No
NAIC Code:	Not reported
SIC Code:	2879
Facility Name:	MILLER CHEMICAL & FERTILIZER CORP
Address:	120 RADIO RD
Tribal Indicator:	N
Fed Facility:	No
NAIC Code:	Not reported
SIC Code:	2873
Facility Name:	MILLER CHEMICAL & FERTILIZER CORP
Address:	120 RADIO RD
Tribal Indicator:	N
Fed Facility:	No
NAIC Code:	Not reported
SIC Code:	2879
Facility Name:	MILLER CHEMICAL & FERTILIZER CORP
Address:	120 RADIO RD
Tribal Indicator:	N
Fed Facility:	No
NAIC Code:	Not reported
SIC Code:	2873
Facility Name:	MILLER CHEMICAL & FERTILIZER CORP
Address:	120 RADIO RD
Tribal Indicator:	N
Fed Facility:	No
NAIC Code:	Not reported
SIC Code:	2879
Facility Name:	MILLER CHEMICAL & FERTILIZER CORP
Address:	120 RADIO RD
Tribal Indicator:	N
Fed Facility:	No
NAIC Code:	Not reported
SIC Code:	2873
Facility Name:	MILLER CHEMICAL & FERTILIZER CORP
Address:	120 RADIO RD
Tribal Indicator:	N
Fed Facility:	No
NAIC Code:	Not reported
SIC Code:	2879
Facility Name:	MILLER CHEMICAL & FERTILIZER CORP
Address:	120 RADIO RD
Tribal Indicator:	N
Fed Facility:	No
NAIC Code:	Not reported
SIC Code:	2873
Facility Name:	MILLER CHEMICAL & FERTILIZER CORP
Address:	120 RADIO RD

Map ID
Direction
Distance
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number
EPA ID Number

MILLER CHEMICAL & FERTILIZER CORP (Continued)

1011996539

Tribal Indicator:	N
Fed Facility:	No
NAIC Code:	Not reported
SIC Code:	2879
Facility Name:	MILLER CHEMICAL & FERTILIZER CORP
Address:	120 RADIO RD
Tribal Indicator:	N
Fed Facility:	No
NAIC Code:	Not reported
SIC Code:	2873
Facility Name:	MILLER CHEMICAL & FERTILIZER CORP
Address:	120 RADIO RD
Tribal Indicator:	N
Fed Facility:	No
NAIC Code:	Not reported
SIC Code:	2879
Facility Name:	MILLER CHEMICAL & FERTILIZER CORP
Address:	120 RADIO RD
Tribal Indicator:	N
Fed Facility:	No
NAIC Code:	Not reported
SIC Code:	2873
Facility Name:	MILLER CHEMICAL & FERTILIZER CORP
Address:	120 RADIO RD
Tribal Indicator:	N
Fed Facility:	No
NAIC Code:	Not reported
SIC Code:	2879
Facility Name:	MILLER CHEMICAL & FERTILIZER CORP
Address:	120 RADIO RD
Tribal Indicator:	N
Fed Facility:	No
NAIC Code:	Not reported
SIC Code:	2873
Facility Name:	MILLER CHEMICAL & FERTILIZER CORP
Address:	120 RADIO RD
Tribal Indicator:	N
Fed Facility:	No
NAIC Code:	Not reported
SIC Code:	2879
Facility Name:	MILLER CHEMICAL & FERTILIZER CORP
Address:	120 RADIO RD
Tribal Indicator:	N
Fed Facility:	No
NAIC Code:	Not reported
SIC Code:	2873
Facility Name:	MILLER CHEMICAL & FERTILIZER CORP
Address:	120 RADIO RD
Tribal Indicator:	N

Map ID
Direction
Distance
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number
EPA ID Number

MILLER CHEMICAL & FERTILIZER CORP (Continued)

1011996539

Fed Facility:	No
NAIC Code:	Not reported
SIC Code:	2879
Facility Name:	MILLER CHEMICAL & FERTILIZER CORP
Address:	120 RADIO RD
Tribal Indicator:	N
Fed Facility:	No
NAIC Code:	Not reported
SIC Code:	2873
Facility Name:	MILLER CHEMICAL & FERTILIZER CORP
Address:	120 RADIO RD
Tribal Indicator:	N
Fed Facility:	No
NAIC Code:	Not reported
SIC Code:	2879
Facility Name:	MILLER CHEMICAL & FERTILIZER CORP
Address:	120 RADIO RD
Tribal Indicator:	N
Fed Facility:	No
NAIC Code:	Not reported
SIC Code:	2873
Facility Name:	MILLER CHEMICAL & FERTILIZER CORP
Address:	120 RADIO RD
Tribal Indicator:	N
Fed Facility:	No
NAIC Code:	Not reported
SIC Code:	2879
Facility Name:	MILLER CHEMICAL & FERTILIZER CORP
Address:	120 RADIO RD
Tribal Indicator:	N
Fed Facility:	No
NAIC Code:	Not reported
SIC Code:	2873
Facility Name:	MILLER CHEMICAL & FERTILIZER CORP
Address:	120 RADIO RD
Tribal Indicator:	N
Fed Facility:	No
NAIC Code:	Not reported
SIC Code:	2879
Facility Name:	MILLER CHEMICAL & FERTILIZER CORP
Address:	120 RADIO RD
Tribal Indicator:	N
Fed Facility:	No
NAIC Code:	Not reported
SIC Code:	2873
Facility Name:	MILLER CHEMICAL & FERTILIZER CORP
Address:	120 RADIO RD
Tribal Indicator:	N
Fed Facility:	No

Map ID
Direction
Distance
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number
EPA ID Number

MILLER CHEMICAL & FERTILIZER CORP (Continued)

1011996539

NAIC Code:	Not reported
SIC Code:	2879
Facility Name:	MILLER CHEMICAL & FERTILIZER CORP
Address:	120 RADIO RD
Tribal Indicator:	N
Fed Facility:	No
NAIC Code:	Not reported
SIC Code:	2873
Facility Name:	MILLER CHEMICAL & FERTILIZER CORP
Address:	120 RADIO RD
Tribal Indicator:	N
Fed Facility:	No
NAIC Code:	Not reported
SIC Code:	2879
Facility Name:	MILLER CHEMICAL & FERTILIZER CORP
Address:	120 RADIO RD
Tribal Indicator:	N
Fed Facility:	No
NAIC Code:	Not reported
SIC Code:	2873
Facility Name:	MILLER CHEMICAL & FERTILIZER CORP
Address:	120 RADIO RD
Tribal Indicator:	N
Fed Facility:	No
NAIC Code:	Not reported
SIC Code:	2879
Facility Name:	MILLER CHEMICAL & FERTILIZER CORP
Address:	120 RADIO RD
Tribal Indicator:	N
Fed Facility:	No
NAIC Code:	Not reported
SIC Code:	2873
Facility Name:	MILLER CHEMICAL & FERTILIZER CORP
Address:	120 RADIO RD
Tribal Indicator:	N
Fed Facility:	No
NAIC Code:	Not reported
SIC Code:	2879
Facility Name:	MILLER CHEMICAL & FERTILIZER CORP
Address:	120 RADIO RD
Tribal Indicator:	N
Fed Facility:	No
NAIC Code:	Not reported
SIC Code:	2873
Facility Name:	MILLER CHEMICAL & FERTILIZER CORP
Address:	120 RADIO RD
Tribal Indicator:	N
Fed Facility:	No
NAIC Code:	Not reported
SIC Code:	2879

Map ID
Direction
Distance
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number
EPA ID Number

MILLER CHEMICAL & FERTILIZER CORP (Continued)

1011996539

SIC Code:	2879
Facility Name:	MILLER CHEMICAL & FERTILIZER CORP
Address:	120 RADIO RD
Tribal Indicator:	N
Fed Facility:	No
NAIC Code:	Not reported
SIC Code:	2873
Facility Name:	MILLER CHEMICAL & FERTILIZER CORP
Address:	120 RADIO RD
Tribal Indicator:	N
Fed Facility:	No
NAIC Code:	Not reported
SIC Code:	2879
Facility Name:	MILLER CHEMICAL & FERTILIZER CORP
Address:	120 RADIO RD
Tribal Indicator:	N
Fed Facility:	No
NAIC Code:	Not reported
SIC Code:	2873
Facility Name:	MILLER CHEMICAL & FERTILIZER CORP
Address:	120 RADIO RD
Tribal Indicator:	N
Fed Facility:	No
NAIC Code:	Not reported
SIC Code:	2879
Facility Name:	MILLER CHEMICAL & FERTILIZER CORP
Address:	120 RADIO RD
Tribal Indicator:	N
Fed Facility:	No
NAIC Code:	Not reported
SIC Code:	2873
Facility Name:	MILLER CHEMICAL & FERTILIZER CORP
Address:	120 RADIO RD
Tribal Indicator:	N
Fed Facility:	No
NAIC Code:	Not reported
SIC Code:	2879
Facility Name:	MILLER CHEMICAL & FERTILIZER CORP
Address:	120 RADIO RD
Tribal Indicator:	N
Fed Facility:	No
NAIC Code:	Not reported
SIC Code:	2873
Facility Name:	MILLER CHEMICAL & FERTILIZER CORP
Address:	120 RADIO RD
Tribal Indicator:	N
Fed Facility:	No
NAIC Code:	Not reported
SIC Code:	2879

Map ID
Direction
Distance
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number
EPA ID Number

MILLER CHEMICAL & FERTILIZER CORP (Continued)

1011996539

Facility Name: MILLER CHEMICAL & FERTILIZER CORP
Address: 120 RADIO RD
Tribal Indicator: N
Fed Facility: No
NAIC Code: Not reported
SIC Code: 2873

Facility Name: MILLER CHEMICAL & FERTILIZER CORP
Address: 120 RADIO RD
Tribal Indicator: N
Fed Facility: No
NAIC Code: Not reported
SIC Code: 2879

Facility Name: MILLER CHEMICAL & FERTILIZER CORP
Address: 120 RADIO RD
Tribal Indicator: N
Fed Facility: No
NAIC Code: Not reported
SIC Code: 2873

Facility Name: MILLER CHEMICAL & FERTILIZER CORP
Address: 120 RADIO RD
Tribal Indicator: N
Fed Facility: No
NAIC Code: Not reported
SIC Code: 2879

Facility Name: MILLER CHEMICAL & FERTILIZER CORP
Address: 120 RADIO RD
Tribal Indicator: N
Fed Facility: No
NAIC Code: Not reported
SIC Code: 2873

Facility Name: MILLER CHEMICAL & FERTILIZER CORP
Address: 120 RADIO RD
Tribal Indicator: N
Fed Facility: No
NAIC Code: Not reported
SIC Code: 2879

Facility Name: MILLER CHEMICAL & FERTILIZER CORP
Address: 120 RADIO RD
Tribal Indicator: N
Fed Facility: No
NAIC Code: Not reported
SIC Code: 2873

Facility Name: MILLER CHEMICAL & FERTILIZER CORP
Address: 120 RADIO RD
Tribal Indicator: N
Fed Facility: No
NAIC Code: Not reported
SIC Code: 2879

Facility Name: MILLER CHEMICAL & FERTILIZER CORP

Map ID
Direction
Distance
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number
EPA ID Number

MILLER CHEMICAL & FERTILIZER CORP (Continued)

1011996539

Address:	120 RADIO RD
Tribal Indicator:	N
Fed Facility:	No
NAIC Code:	Not reported
SIC Code:	2873
Facility Name:	MILLER CHEMICAL & FERTILIZER CORP
Address:	120 RADIO RD
Tribal Indicator:	N
Fed Facility:	No
NAIC Code:	Not reported
SIC Code:	2879
Facility Name:	MILLER CHEMICAL & FERTILIZER CORP
Address:	120 RADIO RD
Tribal Indicator:	N
Fed Facility:	No
NAIC Code:	Not reported
SIC Code:	2873
Facility Name:	MILLER CHEMICAL & FERTILIZER CORP
Address:	120 RADIO RD
Tribal Indicator:	N
Fed Facility:	No
NAIC Code:	Not reported
SIC Code:	2879
Facility Name:	MILLER CHEMICAL & FERTILIZER CORP
Address:	120 RADIO RD
Tribal Indicator:	N
Fed Facility:	No
NAIC Code:	Not reported
SIC Code:	2873
Facility Name:	MILLER CHEMICAL & FERTILIZER CORP
Address:	120 RADIO RD
Tribal Indicator:	N
Fed Facility:	No
NAIC Code:	Not reported
SIC Code:	2879
Facility Name:	MILLER CHEMICAL & FERTILIZER CORP
Address:	120 RADIO RD
Tribal Indicator:	N
Fed Facility:	No
NAIC Code:	Not reported
SIC Code:	2873
Facility Name:	MILLER CHEMICAL & FERTILIZER CORP
Address:	120 RADIO RD
Tribal Indicator:	N
Fed Facility:	No
NAIC Code:	Not reported
SIC Code:	2879
Facility Name:	MILLER CHEMICAL & FERTILIZER CORP
Address:	120 RADIO RD

Map ID
Direction
Distance
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number
EPA ID Number

MILLER CHEMICAL & FERTILIZER CORP (Continued)

1011996539

Tribal Indicator:	N
Fed Facility:	No
NAIC Code:	Not reported
SIC Code:	2873
Facility Name:	MILLER CHEMICAL & FERTILIZER CORP
Address:	120 RADIO RD
Tribal Indicator:	N
Fed Facility:	No
NAIC Code:	Not reported
SIC Code:	2879
Facility Name:	MILLER CHEMICAL & FERTILIZER CORP
Address:	120 RADIO RD
Tribal Indicator:	N
Fed Facility:	No
NAIC Code:	Not reported
SIC Code:	2873
Facility Name:	MILLER CHEMICAL & FERTILIZER CORP
Address:	120 RADIO RD
Tribal Indicator:	N
Fed Facility:	No
NAIC Code:	Not reported
SIC Code:	2879
Facility Name:	MILLER CHEMICAL & FERTILIZER CORP
Address:	120 RADIO RD
Tribal Indicator:	N
Fed Facility:	No
NAIC Code:	Not reported
SIC Code:	2873
Facility Name:	MILLER CHEMICAL & FERTILIZER CORP
Address:	120 RADIO RD
Tribal Indicator:	N
Fed Facility:	No
NAIC Code:	Not reported
SIC Code:	2879
Facility Name:	MILLER CHEMICAL & FERTILIZER CORP
Address:	120 RADIO RD
Tribal Indicator:	N
Fed Facility:	No
NAIC Code:	Not reported
SIC Code:	2873
Facility Name:	MILLER CHEMICAL & FERTILIZER CORP
Address:	120 RADIO RD
Tribal Indicator:	N
Fed Facility:	No
NAIC Code:	Not reported
SIC Code:	2879
Facility Name:	MILLER CHEMICAL & FERTILIZER CORP
Address:	120 RADIO RD
Tribal Indicator:	N

Map ID
Direction
Distance
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number
EPA ID Number

MILLER CHEMICAL & FERTILIZER CORP (Continued)

1011996539

Fed Facility: No
NAIC Code: Not reported
SIC Code: 2873

Facility Name: MILLER CHEMICAL & FERTILIZER CORP
Address: 120 RADIO RD
Tribal Indicator: N
Fed Facility: No
NAIC Code: Not reported
SIC Code: 2879

Facility Name: MILLER CHEMICAL & FERTILIZER CORP
Address: 120 RADIO RD
Tribal Indicator: N
Fed Facility: No
NAIC Code: Not reported
SIC Code: 2873

Facility Name: MILLER CHEMICAL & FERTILIZER CORP
Address: 120 RADIO RD
Tribal Indicator: N
Fed Facility: No
NAIC Code: Not reported
SIC Code: 2879

Facility Name: MILLER CHEMICAL & FERTILIZER CORP
Address: 120 RADIO RD
Tribal Indicator: N
Fed Facility: No
NAIC Code: Not reported
SIC Code: 2873

Facility Name: MILLER CHEMICAL & FERTILIZER CORP
Address: 120 RADIO RD
Tribal Indicator: N
Fed Facility: No
NAIC Code: Not reported
SIC Code: 2879

Facility Name: MILLER CHEMICAL & FERTILIZER CORP
Address: 120 RADIO RD
Tribal Indicator: N
Fed Facility: No
NAIC Code: Not reported
SIC Code: 2873

Facility Name: MILLER CHEMICAL & FERTILIZER CORP
Address: 120 RADIO RD
Tribal Indicator: N
Fed Facility: No
NAIC Code: Not reported
SIC Code: 2879

FINDS:

Registry ID: 110038221215

Map ID
Direction
Distance
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number
EPA ID Number

MILLER CHEMICAL & FERTILIZER CORP (Continued)

1011996539

Environmental Interest/Information System

NCDB (National Compliance Data Base) supports implementation of the Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA) and the Toxic Substances Control Act (TSCA). The system tracks inspections in regions and states with cooperative agreements, enforcement actions, and settlements.

TSCA SUBMITTER

OSHA ESTABLISHMENT

US National Pollutant Discharge Elimination System (NPDES) module of the Compliance Information System (ICIS) tracks surface water permits issued under the Clean Water Act. Under NPDES, all facilities that discharge pollutants from any point source into waters of the United States are required to obtain a permit. The permit will likely contain limits on what can be discharged, impose monitoring and reporting requirements, and include other provisions to ensure that the discharge does not adversely affect water quality.

RCRAInfo is a national information system that supports the Resource Conservation and Recovery Act (RCRA) program through the tracking of events and activities related to facilities that generate, transport, and treat, store, or dispose of hazardous waste. RCRAInfo allows RCRA program staff to track the notification, permit, compliance, and corrective action activities required under RCRA.

PA-EFACTS (Pennsylvania - Environmental Facility Application Compliance Tracking System) is a Department-wide database that provides a holistic view of clients and sites (including facilities) that DEP regulates.

SSTS (Section Seven Tracking System) evolved from the FIFRA and TSCA Enforcement System (FATES). SSTS tracks the registration of all pesticide-producing establishments and tracks annually the types and amounts of pesticides, active ingredients, and related devices that are produced, sold, or distributed each year.

ICIS (Integrated Compliance Information System) is the Integrated Compliance Information System and provides a database that, when complete, will contain integrated Enforcement and Compliance information across most of EPA's programs. The vision for ICIS is to replace EPA's independent databases that contain Enforcement data with a single repository for that information. Currently, ICIS contains all Federal Administrative and Judicial enforcement actions. This information is maintained in ICIS by EPA in the Regional offices and it Headquarters. A future release of ICIS will replace the Permit Compliance System (PCS) which supports the NPDES and will integrate that information with Federal actions already in the system. ICIS also has the capability to track other activities occurring in the Region that support Compliance and Enforcement programs. These include; Incident Tracking, Compliance Assistance, and Compliance Monitoring.

[Click this hyperlink](#) while viewing on your computer to access additional FINDS: detail in the EDR Site Report.

Map ID
 Direction
 Distance
 Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number
 EPA ID Number

MILLER CHEMICAL & FERTILIZER CORP (Continued)

1011996539

ECHO:

Envid: 1011996539
 Registry ID: 110038221215
 DFR URL: <http://echo.epa.gov/detailed-facility-report?fid=110038221215>

G32
SSW
1/8-1/4
0.148 mi.
782 ft.

MILLER CHEMICAL & FERTILIZER LLC FIRE
120, 150 & 170 RADIO RAD
HANOVER, PA 17332
Site 7 of 8 in cluster G

PA VCP S120840625
N/A

Actual:
560 ft.

VCP:

Focus Map:
7

Cleanup Records:

Municipality: Not reported
 Region: Southcentral Region
 Category Desc: Inorganics
 Type: Complete Sites
 LRP Activity Number: 50650
 Remediation: Statewide Health Standard
 Activity: YES
 Date Approved: 10/25/2017
 Date Received: Not reported
 Date Nonuse: Not reported
 ICS Code: Not reported
 Media: Soil
 Latitude: 39.819166
 Longitude: -77.000833

Municipality: Not reported
 Region: Southcentral Region
 Category Desc: Inorganics
 Type: Complete Sites
 LRP Activity Number: 50652
 Remediation: Background Standard
 Activity: YES
 Date Approved: 10/25/2017
 Date Received: Not reported
 Date Nonuse: Not reported
 ICS Code: Not reported
 Media: Soil
 Latitude: 39.819166
 Longitude: -77.000833

Municipality: Not reported
 Region: Southcentral Region
 Category Desc: Inorganics
 Type: Complete Sites
 LRP Activity Number: 50651
 Remediation: Site-Specific Standard
 Activity: YES
 Date Approved: 10/25/2017
 Date Received: Not reported
 Date Nonuse: Not reported
 ICS Code: Not reported
 Media: Soil
 Latitude: 39.819166
 Longitude: -77.000833

Map ID
Direction
Distance
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number
EPA ID Number

MILLER CHEMICAL & FERTILIZER LLC FIRE (Continued)

S120840625

Activity:

Activity ID: 819375, 819375, 819375, 819375,
Municipality: Not reported
Region: Southcentral Region
Category Desc: Lead
Type: Complete Sites
LRP Activity Number: 50650
Remediation: Statewide Health Standard
Activity: YES
Date Approved: 10/25/2017
Date Received: Not reported
Date Nonuse: Not reported
ICS Code: Not reported
Media: Soil
Latitude: 39.819166
Longitude: -77.000833

G33
SSW
1/8-1/4
0.148 mi.
782 ft.

MILLER CHEMICAL & FERTILIZER CORP
120 RADIO RD
HANOVER, PA 17331
Site 8 of 8 in cluster G

RCRA NonGen / NLR 1000280989
PAD003007499

Actual:
560 ft.

RCRA NonGen / NLR:

Date form received by agency: 10/11/2012

Focus Map:
7

Facility name: MILLER CHEMICAL & FERTILIZER CORP
Facility address: 120 RADIO RD
HANOVER, PA 17331-0333

EPA ID: PAD003007499
Mailing address: PO BOX 333
HANOVER, PA 17331-0333

Contact: ANDREW T OLPHIN
Contact address: PO BOX 333
HANOVER, PA 17331-0333

Contact country: US
Contact telephone: 717-632-8921
Telephone ext.: 247
Contact email: CHEMIST@MILLERCHEMICAL.COM

EPA Region: 03

Land type: Private

Classification: Non-Generator

Description: Handler: Non-Generators do not presently generate hazardous waste

Owner/Operator Summary:

Owner/operator name: ALCO INDUSTRIES INC
Owner/operator address: 820 ADAMS AVE STE 130
NORRISTOWN, PA 19403

Owner/operator country: US

Owner/operator telephone: Not reported

Owner/operator email: Not reported

Owner/operator fax: Not reported

Owner/operator extension: Not reported

Legal status: Private

Owner/Operator Type: Owner

Owner/Op start date: 01/01/1978

Owner/Op end date: Not reported

Map ID
Direction
Distance
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number
EPA ID Number

MILLER CHEMICAL & FERTILIZER CORP (Continued)

1000280989

Owner/operator name: MILLER CHEMICAL & FERTILIZER CORP
Owner/operator address: Not reported
Owner/operator country: Not reported
Owner/operator telephone: Not reported
Owner/operator email: Not reported
Owner/operator fax: Not reported
Owner/operator extension: Not reported
Legal status: Private
Owner/Operator Type: Operator
Owner/Op start date: 01/01/1978
Owner/Op end date: Not reported

Handler Activities Summary:

U.S. importer of hazardous waste: No
Mixed waste (haz. and radioactive): No
Recycler of hazardous waste: No
Transporter of hazardous waste: No
Treater, storer or disposer of HW: No
Underground injection activity: No
On-site burner exemption: No
Furnace exemption: No
Used oil fuel burner: No
Used oil processor: No
User oil refiner: No
Used oil fuel marketer to burner: No
Used oil Specification marketer: No
Used oil transfer facility: No
Used oil transporter: No

. Waste code: D001
. Waste name: IGNITABLE HAZARDOUS WASTES ARE THOSE WASTES WHICH HAVE A FLASHPOINT OF LESS THAN 140 DEGREES FAHRENHEIT AS DETERMINED BY A PENSKEY-MARTENS CLOSED CUP FLASH POINT TESTER. ANOTHER METHOD OF DETERMINING THE FLASH POINT OF A WASTE IS TO REVIEW THE MATERIAL SAFETY DATA SHEET, WHICH CAN BE OBTAINED FROM THE MANUFACTURER OR DISTRIBUTOR OF THE MATERIAL. LACQUER THINNER IS AN EXAMPLE OF A COMMONLY USED SOLVENT WHICH WOULD BE CONSIDERED AS IGNITABLE HAZARDOUS WASTE.

. Waste code: D004
. Waste name: ARSENIC

. Waste code: D007
. Waste name: CHROMIUM

. Waste code: D010
. Waste name: SELENIUM

. Waste code: D012
. Waste name: ENDRIN

. Waste code: D013
. Waste name: LINDANE

. Waste code: D014
. Waste name: METHOXYCHLOR

Map ID
Direction
Distance
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number
EPA ID Number

MILLER CHEMICAL & FERTILIZER CORP (Continued)

1000280989

- . Waste code: D015
- . Waste name: TOXAPHENE

Historical Generators:

Date form received by agency: 10/20/2010
Site name: MILLER CHEMICAL & FERTILIZER
Classification: Small Quantity Generator

- . Waste code: D001
- . Waste name: IGNITABLE HAZARDOUS WASTES ARE THOSE WASTES WHICH HAVE A FLASHPOINT OF LESS THAN 140 DEGREES FAHRENHEIT AS DETERMINED BY A PENSKEY-MARTENS CLOSED CUP FLASH POINT TESTER. ANOTHER METHOD OF DETERMINING THE FLASH POINT OF A WASTE IS TO REVIEW THE MATERIAL SAFETY DATA SHEET, WHICH CAN BE OBTAINED FROM THE MANUFACTURER OR DISTRIBUTOR OF THE MATERIAL. LACQUER THINNER IS AN EXAMPLE OF A COMMONLY USED SOLVENT WHICH WOULD BE CONSIDERED AS IGNITABLE HAZARDOUS WASTE.

- . Waste code: D004
- . Waste name: ARSENIC

- . Waste code: D007
- . Waste name: CHROMIUM

- . Waste code: D010
- . Waste name: SELENIUM

- . Waste code: D012
- . Waste name: ENDRIN

- . Waste code: D013
- . Waste name: LINDANE

- . Waste code: D014
- . Waste name: METHOXYCHLOR

- . Waste code: D015
- . Waste name: TOXAPHENE

Date form received by agency: 08/18/1980
Site name: MILLER CHEMICAL & FERTILIZER
Classification: Small Quantity Generator

- . Waste code: D000
- . Waste name: Not Defined

- . Waste code: P044
- . Waste name: DIMETHOATE

Violation Status: No violations found

Evaluation Action Summary:

Evaluation date: 08/29/2012
Evaluation: COMPLIANCE EVALUATION INSPECTION ON-SITE
Area of violation: Not reported
Date achieved compliance: Not reported
Evaluation lead agency: EPA

Map ID
 Direction
 Distance
 Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number
 EPA ID Number

MILLER CHEMICAL & FERTILIZER CORP (Continued)

1000280989

Evaluation date: 10/07/2011
 Evaluation: COMPLIANCE EVALUATION INSPECTION ON-SITE
 Area of violation: Not reported
 Date achieved compliance: Not reported
 Evaluation lead agency: State

**H34
 NE
 1/8-1/4
 0.152 mi.
 801 ft.**

**SEARS AUTO NORTH HANOVER
 1200 CARLISLE PLZ
 HANOVER, PA**

**PA RGA LUST S115474908
 N/A**

Site 1 of 4 in cluster H

**Actual:
 552 ft.**

RGA LUST:

2001	SEARS AUTO NORTH HANOVER	1200 CARLISLE PLZ
2000	SEARS AUTO NORTH HANOVER	1200 CARLISLE PLZ
1999	SEARS AUTO NORTH HANOVER	1200 CARLISLE PLZ
1998	SEARS AUTO NORTH HANOVER	1200 CARLISLE PLZ

**Focus Map:
 4**

**I35
 ENE
 1/8-1/4
 0.167 mi.
 880 ft.**

**TRACTOR SUPPLY NO 577
 1150 CARLISLE ST
 HANOVER, PA 17331**

**FINDS 1016889617
 ECHO N/A**

Site 1 of 4 in cluster I

**Actual:
 558 ft.**

FINDS:

**Focus Map:
 4**

Registry ID: 110060111310

Environmental Interest/Information System

RCRAInfo is a national information system that supports the Resource Conservation and Recovery Act (RCRA) program through the tracking of events and activities related to facilities that generate, transport, and treat, store, or dispose of hazardous waste. RCRAInfo allows RCRA program staff to track the notification, permit, compliance, and corrective action activities required under RCRA.

PA-EFACTS (Pennsylvania - Environmental Facility Application Compliance Tracking System) is a Department-wide database that provides a holistic view of clients and sites (including facilities) that DEP regulates.

[Click this hyperlink](#) while viewing on your computer to access additional FINDS: detail in the EDR Site Report.

ECHO:

Envid: 1016889617
 Registry ID: 110060111310
 DFR URL: <http://echo.epa.gov/detailed-facility-report?fid=110060111310>

MAP FINDINGS

Map ID
Direction
Distance
Elevation

Site

Database(s)

EDR ID Number
EPA ID Number

I36 **TRACTOR SUPPLY # 577**
ENE **1150 CARLISLE ST**
1/8-1/4 **HANOVER, PA 17331**
0.167 mi.
880 ft. **Site 2 of 4 in cluster I**

PA ARCHIVE UST **S111112765**
PA MANIFEST **N/A**

Actual:
558 ft.

ARCHIVE UST:

Focus Map:
4

Facility Id:	67-01448
Site ID:	Not reported
Municipality:	Not reported
Client Date:	Not reported
Owner Id:	3662
Owner Name:	DEE GEE IMPORTS INC
Owner Address:	1150 CARLISLE ST
Owner Address 2:	PO BOX 426
Owner City,St,Zip:	HANOVER, PA 17331-0426
Owner Phone:	7176371121
Owner County Code:	67
Resp Party Name:	Not reported
RP Address:	Not reported
RP Address 2:	Not reported
RP City,St,Zip:	Not reported
Region Code Name:	Not reported
Regulated Expire Date:	Not reported

Tank Sequence #:	001
Tank Id:	58874
Status:	Not reported
Status Code End Date:	Not reported
Capacity:	500
Substance:	NEW MOTOR OIL
Tank Substance End Date:	Not reported
Install Date:	Not reported
Tank Code:	Not reported
Inspection Code:	Not reported
Last Inspection:	Not reported
Substance Type:	Not reported
CASRN for Hazardous Substances:	Not reported
Chemical Name:	Not reported
Other Information Regarding The Tank Substance:	Not reported
Undeliverable Address Ind.:	Not reported
Contact Name:	Not reported
Company:	Not reported

Tank Sequence #:	002
Tank Id:	58875
Status:	Not reported
Status Code End Date:	Not reported
Capacity:	500
Substance:	Used Oil (all forms)
Tank Substance End Date:	Not reported
Install Date:	Not reported
Tank Code:	Not reported
Inspection Code:	Not reported
Last Inspection:	Not reported
Substance Type:	Not reported
CASRN for Hazardous Substances:	Not reported
Chemical Name:	Not reported

Map ID
Direction
Distance
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number
EPA ID Number

TRACTOR SUPPLY # 577 (Continued)

S111112765

Other Information Regarding The Tank Substance: Not reported
Undeliverable Address Ind.: Not reported
Contact Name: Not reported
Company: Not reported

Tank Sequence #: 003
Tank Id: 58876
Status: Not reported
Status Code End Date: Not reported
Capacity: 1000
Substance: GASOLINE
Tank Substance End Date: Not reported
Install Date: Not reported
Tank Code: Not reported
Inspection Code: Not reported
Last Inspection: Not reported
Substance Type: Not reported
CASRN for Hazardous Substances: Not reported
Chemical Name: Not reported
Other Information Regarding The Tank Substance: Not reported
Undeliverable Address Ind.: Not reported
Contact Name: Not reported
Company: Not reported

Manifest Details:

Year: 2017
Manifest Number: 010537571FLE
Manifest Type: TSD Copy
Generator EPA Id: PAR000544924
Generator Date: 05/05/2017
Mailing Address: Not reported
Mailing City,St,Zip: Not reported
Contact Name: Not reported
Contact Phone: Not reported
TSD EPA Id: Not reported
TSD Date: Not reported
TSD Facility Name: Clean Harbors Reidsville LLC
TSD Facility Address: 208 Watlington Industrial Rd
TSD Facility City: Reidsville
TSD Facility State: NC
Facility Telephone: Not reported
Page Number: 1
Line Number: 1
Waste Number: D007
Container Number: 1
Container Type: Fiberboard or plastic drums, barrels, kegs
Waste Quantity: 3
Unit: Pounds
Handling Code: Not reported
TSP EPA Id: NCD000648451
Date TSP Sig: Not reported

Year: 2017
Manifest Number: 011143312FLE
Manifest Type: TSD Copy
Generator EPA Id: PAR000544924

Map ID
Direction
Distance
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number
EPA ID Number

TRACTOR SUPPLY # 577 (Continued)

S111112765

Generator Date: 10/03/2017
Mailing Address: Not reported
Mailing City,St,Zip: Not reported
Contact Name: Not reported
Contact Phone: Not reported
TSD EPA Id: Not reported
TSD Date: Not reported
TSD Facility Name: Clean Harbors Reidsville LLC
TSD Facility Address: 208 Watlington Industrial Rd
TSD Facility City: Reidsville
TSD Facility State: NC
Facility Telephone: Not reported
Page Number: 1
Line Number: 2
Waste Number: D005
Container Number: 1
Container Type: Fiber or plastic boxes, cartons, cases
Waste Quantity: 7
Unit: Pounds
Handling Code: Not reported
TSP EPA Id: NCD000648451
Date TSP Sig: Not reported

Year: 2017
Manifest Number: 010537571FLE
Manifest Type: TSD Copy
Generator EPA Id: PAR000544924
Generator Date: 05/05/2017
Mailing Address: Not reported
Mailing City,St,Zip: Not reported
Contact Name: Not reported
Contact Phone: Not reported
TSD EPA Id: Not reported
TSD Date: Not reported
TSD Facility Name: Clean Harbors Reidsville LLC
TSD Facility Address: 208 Watlington Industrial Rd
TSD Facility City: Reidsville
TSD Facility State: NC
Facility Telephone: Not reported
Page Number: 1
Line Number: 2
Waste Number: D001
Container Number: 1
Container Type: Fiberboard or plastic drums, barrels, kegs
Waste Quantity: 9
Unit: Pounds
Handling Code: Not reported
TSP EPA Id: NCD000648451
Date TSP Sig: Not reported

Year: 2017
Manifest Number: 011143312FLE
Manifest Type: TSD Copy
Generator EPA Id: PAR000544924
Generator Date: 10/03/2017
Mailing Address: Not reported
Mailing City,St,Zip: Not reported

Map ID
Direction
Distance
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number
EPA ID Number

TRACTOR SUPPLY # 577 (Continued)

S111112765

Contact Name:	Not reported
Contact Phone:	Not reported
TSD EPA Id:	Not reported
TSD Date:	Not reported
TSD Facility Name:	Clean Harbors Reidsville LLC
TSD Facility Address:	208 Watlington Industrial Rd
TSD Facility City:	Reidsville
TSD Facility State:	NC
Facility Telephone:	Not reported
Page Number:	1
Line Number:	2
Waste Number:	D019
Container Number:	1
Container Type:	Fiber or plastic boxes, cartons, cases
Waste Quantity:	7
Unit:	Pounds
Handling Code:	Not reported
TSP EPA Id:	NCD000648451
Date TSP Sig:	Not reported
Year:	2017
Manifest Number:	010537571FLE
Manifest Type:	TSD Copy
Generator EPA Id:	PAR000544924
Generator Date:	05/05/2017
Mailing Address:	Not reported
Mailing City, St, Zip:	Not reported
Contact Name:	Not reported
Contact Phone:	Not reported
TSD EPA Id:	Not reported
TSD Date:	Not reported
TSD Facility Name:	Clean Harbors Reidsville LLC
TSD Facility Address:	208 Watlington Industrial Rd
TSD Facility City:	Reidsville
TSD Facility State:	NC
Facility Telephone:	Not reported
Page Number:	1
Line Number:	1
Waste Number:	D006
Container Number:	1
Container Type:	Fiberboard or plastic drums, barrels, kegs
Waste Quantity:	3
Unit:	Pounds
Handling Code:	Not reported
TSP EPA Id:	NCD000648451
Date TSP Sig:	Not reported
Year:	2017
Manifest Number:	011143312FLE
Manifest Type:	TSD Copy
Generator EPA Id:	PAR000544924
Generator Date:	10/03/2017
Mailing Address:	Not reported
Mailing City, St, Zip:	Not reported
Contact Name:	Not reported
Contact Phone:	Not reported
TSD EPA Id:	Not reported

Map ID
Direction
Distance
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number
EPA ID Number

TRACTOR SUPPLY # 577 (Continued)

S111112765

TSD Date: Not reported
TSD Facility Name: Clean Harbors Reidsville LLC
TSD Facility Address: 208 Watlington Industrial Rd
TSD Facility City: Reidsville
TSD Facility State: NC
Facility Telephone: Not reported
Page Number: 1
Line Number: 1
Waste Number: U002
Container Number: 1
Container Type: Fiber or plastic boxes, cartons, cases
Waste Quantity: 3
Unit: Pounds
Handling Code: Not reported
TSP EPA Id: NCD000648451
Date TSP Sig: Not reported

Year: 2017
Manifest Number: 010537571FLE
Manifest Type: TSD Copy
Generator EPA Id: PAR000544924
Generator Date: 05/05/2017
Mailing Address: Not reported
Mailing City, St, Zip: Not reported
Contact Name: Not reported
Contact Phone: Not reported
TSD EPA Id: Not reported
TSD Date: Not reported
TSD Facility Name: Clean Harbors Reidsville LLC
TSD Facility Address: 208 Watlington Industrial Rd
TSD Facility City: Reidsville
TSD Facility State: NC
Facility Telephone: Not reported
Page Number: 1
Line Number: 4
Waste Number: D009
Container Number: 1
Container Type: Fiberboard or plastic drums, barrels, kegs
Waste Quantity: 1
Unit: Pounds
Handling Code: Not reported
TSP EPA Id: NCD000648451
Date TSP Sig: Not reported

Year: 2017
Manifest Number: 011143312FLE
Manifest Type: TSD Copy
Generator EPA Id: PAR000544924
Generator Date: 10/03/2017
Mailing Address: Not reported
Mailing City, St, Zip: Not reported
Contact Name: Not reported
Contact Phone: Not reported
TSD EPA Id: Not reported
TSD Date: Not reported
TSD Facility Name: Clean Harbors Reidsville LLC
TSD Facility Address: 208 Watlington Industrial Rd

Map ID
Direction
Distance
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number
EPA ID Number

TRACTOR SUPPLY # 577 (Continued)

S111112765

TSD Facility City: Reidsville
TSD Facility State: NC
Facility Telephone: Not reported
Page Number: 1
Line Number: 1
Waste Number: D001
Container Number: 1
Container Type: Fiber or plastic boxes, cartons, cases
Waste Quantity: 3
Unit: Pounds
Handling Code: Not reported
TSP EPA Id: NCD000648451
Date TSP Sig: Not reported

Year: 2017
Manifest Number: 010537571FLE
Manifest Type: TSD Copy
Generator EPA Id: PAR000544924
Generator Date: 05/05/2017
Mailing Address: Not reported
Mailing City, St, Zip: Not reported
Contact Name: Not reported
Contact Phone: Not reported
TSD EPA Id: Not reported
TSD Date: Not reported
TSD Facility Name: Clean Harbors Reidsville LLC
TSD Facility Address: 208 Watlington Industrial Rd
TSD Facility City: Reidsville
TSD Facility State: NC
Facility Telephone: Not reported
Page Number: 1
Line Number: 2
Waste Number: D005
Container Number: 1
Container Type: Fiberboard or plastic drums, barrels, kegs
Waste Quantity: 9
Unit: Pounds
Handling Code: Not reported
TSP EPA Id: NCD000648451
Date TSP Sig: Not reported

Year: 2017
Manifest Number: 010537571FLE
Manifest Type: TSD Copy
Generator EPA Id: PAR000544924
Generator Date: 05/05/2017
Mailing Address: Not reported
Mailing City, St, Zip: Not reported
Contact Name: Not reported
Contact Phone: Not reported
TSD EPA Id: Not reported
TSD Date: Not reported
TSD Facility Name: Clean Harbors Reidsville LLC
TSD Facility Address: 208 Watlington Industrial Rd
TSD Facility City: Reidsville
TSD Facility State: NC
Facility Telephone: Not reported

Map ID
Direction
Distance
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number
EPA ID Number

TRACTOR SUPPLY # 577 (Continued)

S111112765

Page Number: 1
Line Number: 3
Waste Number: U279
Container Number: 1
Container Type: Fiberboard or plastic drums, barrels, kegs
Waste Quantity: 7
Unit: Pounds
Handling Code: Not reported
TSP EPA Id: NCD000648451
Date TSP Sig: Not reported

[Click this hyperlink](#) while viewing on your computer to access 9 additional PA_MANIFEST: record(s) in the EDR Site Report.

I37
ENE
1/8-1/4
0.167 mi.
880 ft.

TRACTOR SUPPLY NO 577
1150 CARLISLE ST
HANOVER, PA 17331
Site 3 of 4 in cluster I

RCRA-CESQG 1016975866
PAR000544924

Actual:
558 ft.

RCRA-CESQG:

Date form received by agency: 07/03/2014

Focus Map:
4

Facility name: TRACTOR SUPPLY NO 577
Facility address: 1150 CARLISLE ST
STE 12

HANOVER, PA 17331
EPA ID: PAR000544924
Mailing address: 200 POWELL PL
BRENTWOOD, TN 37027

Contact: TREY BROWN
Contact address: 200 POWELL PL
BRENTWOOD, TN 37027

Contact country: US
Contact telephone: 615-440-4660
Contact email: TSCRISKMGMT@TRACTORSUPPLY.COM
EPA Region: 03

Classification: Conditionally Exempt Small Quantity Generator
Description: Handler: generates 100 kg or less of hazardous waste per calendar month, and accumulates 1000 kg or less of hazardous waste at any time; or generates 1 kg or less of acutely hazardous waste per calendar month, and accumulates at any time: 1 kg or less of acutely hazardous waste; or 100 kg or less of any residue or contaminated soil, waste or other debris resulting from the cleanup of a spill, into or on any land or water, of acutely hazardous waste; or generates 100 kg or less of any residue or contaminated soil, waste or other debris resulting from the cleanup of a spill, into or on any land or water, of acutely hazardous waste during any calendar month, and accumulates at any time: 1 kg or less of acutely hazardous waste; or 100 kg or less of any residue or contaminated soil, waste or other debris resulting from the cleanup of a spill, into or on any land or water, of acutely hazardous waste

Owner/Operator Summary:

Owner/operator name: WRD HANOVER LP
Owner/operator address: 123 COULTER AVE STE 200
ARDMORE, PA 19003
Owner/operator country: US

Map ID
Direction
Distance
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number
EPA ID Number

TRACTOR SUPPLY NO 577 (Continued)

1016975866

Owner/operator telephone: Not reported
Owner/operator email: Not reported
Owner/operator fax: Not reported
Owner/operator extension: Not reported
Legal status: Private
Owner/Operator Type: Owner
Owner/Op start date: 02/14/2003
Owner/Op end date: Not reported

Owner/operator name: TRACTOR SUPPLY CO
Owner/operator address: Not reported
Not reported

Owner/operator country: Not reported
Owner/operator telephone: Not reported
Owner/operator email: Not reported
Owner/operator fax: Not reported
Owner/operator extension: Not reported
Legal status: Private
Owner/Operator Type: Operator
Owner/Op start date: 02/19/2003
Owner/Op end date: Not reported

Handler Activities Summary:

U.S. importer of hazardous waste: No
Mixed waste (haz. and radioactive): No
Recycler of hazardous waste: No
Transporter of hazardous waste: No
Treater, storer or disposer of HW: No
Underground injection activity: No
On-site burner exemption: No
Furnace exemption: No
Used oil fuel burner: No
Used oil processor: No
User oil refiner: No
Used oil fuel marketer to burner: No
Used oil Specification marketer: No
Used oil transfer facility: No
Used oil transporter: No

. Waste code: D001

. Waste name: IGNITABLE HAZARDOUS WASTES ARE THOSE WASTES WHICH HAVE A FLASHPOINT OF LESS THAN 140 DEGREES FAHRENHEIT AS DETERMINED BY A PENSKEY-MARTENS CLOSED CUP FLASH POINT TESTER. ANOTHER METHOD OF DETERMINING THE FLASH POINT OF A WASTE IS TO REVIEW THE MATERIAL SAFETY DATA SHEET, WHICH CAN BE OBTAINED FROM THE MANUFACTURER OR DISTRIBUTOR OF THE MATERIAL. LACQUER THINNER IS AN EXAMPLE OF A COMMONLY USED SOLVENT WHICH WOULD BE CONSIDERED AS IGNITABLE HAZARDOUS WASTE.

. Waste code: D002

. Waste name: A WASTE WHICH HAS A PH OF LESS THAN 2 OR GREATER THAN 12.5 IS CONSIDERED TO BE A CORROSIVE HAZARDOUS WASTE. SODIUM HYDROXIDE, A CAUSTIC SOLUTION WITH A HIGH PH, IS OFTEN USED BY INDUSTRIES TO CLEAN OR DEGREASE PARTS. HYDROCHLORIC ACID, A SOLUTION WITH A LOW PH, IS USED BY MANY INDUSTRIES TO CLEAN METAL PARTS PRIOR TO PAINTING. WHEN THESE CAUSTIC OR ACID SOLUTIONS BECOME CONTAMINATED AND MUST BE DISPOSED, THE WASTE WOULD BE A CORROSIVE HAZARDOUS WASTE.

Map ID
Direction
Distance
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number
EPA ID Number

TRACTOR SUPPLY NO 577 (Continued)

1016975866

. Waste code: F005
. Waste name: THE FOLLOWING SPENT NON-HALOGENATED SOLVENTS: TOLUENE, METHYL ETHYL KETONE, CARBON DISULFIDE, ISOBUTANOL, PYRIDINE, BENZENE, 2-ETHOXYETHANOL, AND 2-NITROPROPANE; ALL SPENT SOLVENT MIXTURES/BLENDS CONTAINING, BEFORE USE, A TOTAL OF TEN PERCENT OR MORE (BY VOLUME) OF ONE OR MORE OF THE ABOVE NON-HALOGENATED SOLVENTS OR THOSE SOLVENTS LISTED IN F001, F002, OR F004; AND STILL BOTTOMS FROM THE RECOVERY OF THESE SPENT SOLVENTS AND SPENT SOLVENT MIXTURES.

Violation Status: No violations found

J38 SW 1/8-1/4 0.171 mi. 901 ft. **MILLER CHEMICAL & FERTILIZER OF PA 170 RADIO RD HANOVER, PA 17331** **PA NPDES S118401050 N/A**
Site 1 of 2 in cluster J

Actual: 557 ft. NPDES:
Focus Map: 7 Permit Number: PAR233501
Permit Name: MILLER CHEM & FERTILIZER
Effective Date: 04/01/2015
Expiration Date: 03/31/2020
Receiving Waters: Unnamed Tributary To South Branch Conewago Creek
Current Major Minor Status: Minor
Total App. Design Flow (MGD): Not reported
Cognizant Official: Not reported
Cognizant Official Telephone: Not reported
Permit Street Address: 170 RADIO RD
Permit City/State/Zip: HANOVER, PA 17331

J39 SW 1/8-1/4 0.171 mi. 901 ft. **MILLER CHEMICAL & FERTILIZER OF PA 170 RADIO RD HANOVER, PA 17331** **ICIS 1019914114 N/A**
Site 2 of 2 in cluster J

Actual: 557 ft. ICIS:
Focus Map: 7 Enforcement Action ID: PA-R233501_11042014
FRS ID: 110038221215
Action Name: Notice of Violation
Facility Name: MILLER CHEMICAL & FERTILIZER OF PA
Facility Address: 170 RADIO RD HANOVER, PA 17331
Enforcement Action Type: Notice of Violation
Facility County: ADAMS
Program System Acronym: NPDES
Enforcement Action Forum Desc: Administrative - Informal
EA Type Code: NOV
Facility SIC Code: 2873
Federal Facility ID: Not reported
Latitude in Decimal Degrees: 39.819166
Longitude in Decimal Degrees: -77.001666
Permit Type Desc: General Permit Covered Facility
Program System Acronym: PAR233501
Facility NAICS Code: Not reported
Tribal Land Code: Not reported

MAP FINDINGS

Map ID			EDR ID Number
Direction			EPA ID Number
Distance			
Elevation	Site	Database(s)	

H40 NE 1/8-1/4 0.175 mi. 923 ft.	EDDIES CLNR HANOVER/HANOVER 1225 CARLISLE ST HANOVER, PA 17331 Site 2 of 4 in cluster H	FINDS ECHO	1016065412 N/A
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Actual: FINDS:
549 ft.

Focus Map: Registry ID: 110001019497
4

Environmental Interest/Information System

AFS (Aerometric Information Retrieval System (AIRS) Facility Subsystem) replaces the former Compliance Data System (CDS), the National Emission Data System (NEDS), and the Storage and Retrieval of Aerometric Data (SAROAD). AIRS is the national repository for information concerning airborne pollution in the United States. AFS is used to track emissions and compliance data from industrial plants. AFS data are utilized by states to prepare State Implementation Plans to comply with regulatory programs and by EPA as an input for the estimation of total national emissions. AFS is undergoing a major redesign to support facility operating permits required under Title V of the Clean Air Act.

RCRAInfo is a national information system that supports the Resource Conservation and Recovery Act (RCRA) program through the tracking of events and activities related to facilities that generate, transport, and treat, store, or dispose of hazardous waste. RCRAInfo allows RCRA program staff to track the notification, permit, compliance, and corrective action activities required under RCRA.

PA-EFACTS (Pennsylvania - Environmental Facility Application Compliance Tracking System) is a Department-wide database that provides a holistic view of clients and sites (including facilities) that DEP regulates.

AIR MINOR

[Click this hyperlink](#) while viewing on your computer to access additional FINDS: detail in the EDR Site Report.

ECHO:
 Envid: 1016065412
 Registry ID: 110001019497
 DFR URL: <http://echo.epa.gov/detailed-facility-report?fid=110001019497>

H41 NE 1/8-1/4 0.175 mi. 923 ft.	EDDIES CLEANERS OF HANOVER 1225 CARLISLE PIKE HANOVER, PA 17331 Site 3 of 4 in cluster H	EDR Hist Cleaner	1019980033 N/A
---	---	-------------------------	---------------------------------

Actual: EDR Hist Cleaner
549 ft.

Focus Map:	Year: Name:	Type:
4	1986 EDDIES CLEANERS OF HANOVER INC	Drycleaning Plants, Except Rugs
	1987 EDDIES CLEANERS OF HANOVER INC	Drycleaning Plants, Except Rugs
	1988 EDDIES CLEANERS OF HANOVER INC	Drycleaning Plants, Except Rugs
	1989 EDDIES CLEANERS OF HANOVER	Drycleaning Plants, Except Rugs

Map ID
 Direction
 Distance
 Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number
 EPA ID Number

EDDIES CLEANERS OF HANOVER (Continued)

1019980033

1990	EDDIES CLEANERS OF HANOVER	Drycleaning Plants, Except Rugs
1996	EDDIES CLEANERS OF HANOVER	Drycleaning Plants, Except Rugs
1997	EDDIES CLEANERS OF HANOVER	Drycleaning Plants, Except Rugs

H42
NE
1/8-1/4
0.175 mi.
923 ft.

EDDIES CLEANERS INC
1225 CARLISLE ST
HANOVER, PA 17331
Site 4 of 4 in cluster H

EDR Hist Cleaner **1018442216**
N/A

Actual: EDR Hist Cleaner
549 ft.

Focus Map:
4

Year:	Name:	Type:
1986	EDDIES CLEANERS INC	Drycleaning Plants, Except Rugs
1987	EDDIES CLEANERS INC	Drycleaning Plants, Except Rugs
1988	EDDIES CLEANERS INC	Drycleaning Plants, Except Rugs
1989	EDDIES CLEANERS INC	Drycleaning Plants, Except Rugs
1990	EDDIES CLEANERS INC	Drycleaning Plants, Except Rugs
1991	EDDIES CLEANERS OF HANOVER	Drycleaning Plants, Except Rugs
1991	EDDIES CLEANERS INC	Drycleaning Plants, Except Rugs
1992	EDDIES CLEANERS INC	Drycleaning Plants, Except Rugs
1992	EDDIES CLEANERS OF HANOVER	Drycleaning Plants, Except Rugs
1993	EDDIES CLEANERS OF HANOVER	Drycleaning Plants, Except Rugs
1993	EDDIES CLEANERS INC	Laundry And Drycleaner Agents
1994	EDDIES CLEANERS INC	Laundry And Drycleaner Agents
1994	EDDIES CLEANERS OF HANOVER	Drycleaning Plants, Except Rugs
1995	EDDIES CLEANERS OF HANOVER	Drycleaning Plants, Except Rugs
1995	EDDIES CLEANERS INC	Laundry And Drycleaner Agents
1996	EDDIES CLEANERS INC	Laundry And Drycleaner Agents
1997	EDDIES CLEANERS INC	Laundry And Drycleaner Agents
1998	EDDIES CLEANERS INC	Laundry And Drycleaner Agents
1998	EDDIES CLEANERS OF HANOVER	Drycleaning Plants, Except Rugs
1999	EDDIES CLEANERS OF HANOVER	Drycleaning Plants, Except Rugs
2000	EDDIES CLEANERS OF HANOVER	Drycleaning Plants, Except Rugs
2001	EDDIES CLEANERS OF HANOVER	Drycleaning Plants, Except Rugs
2002	EDDIES CLEANERS OF HANOVER	Drycleaning Plants, Except Rugs
2003	EDDIES CLEANERS OF HANOVER	Drycleaning Plants, Except Rugs

K43
ENE
1/8-1/4
0.177 mi.
936 ft.

SHEETZ 199
1191 CARLISLE ST
HANOVER, PA 17331
Site 1 of 5 in cluster K

PA LUST **U001961312**
PA UST **N/A**

Actual:
555 ft.

LUST:

Focus Map:
4

Region:	EP SC Rgnl Off Harrisburg
Municipality:	Hanover Boro
Facility Id:	616898
Facility Type:	Underground Storage Tank Containing Petroleum
Facility Status:	Interim or Remedial Actions Initiated
Status Date:	01/24/2003
Confirmed Date:	01/21/2003
Program Other Id:	67-64394
Client:	SHEETZ INC
Incident Id:	30229
Incident Desc:	NOC

Map ID
Direction
Distance
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number
EPA ID Number

SHEETZ 199 (Continued)

U001961312

Suspect Date: 1/21/2003
Source Of Notification: INSTL
Release Discovered: TTEST
Source Cause Of Release: PUST
Tank: Not reported
Impact Desc: Release Contained - No Environ. Impact
Substance: Kerosene
CAS RN: Not reported
Chemical: Not reported
Comments: Not reported
Horizontal Ref Datum: WGS84
Altitude Datum: Not reported
Latitude: 39.822835
Longitude: -76.997226

UST:

Site ID: 593417
Other Id: 67-64394
Client Id Number: 36334
Municipality Name: Hanover
Region: EP SC Rgnl Off Harrisburg
Mailing Name: SHEETZ INC
Mailing Address: 5700 6TH AVE
Mailing Address 2: Not reported
Mailing City,St,Zip: ALTOONA, PA 16602-1111
Registration Expiration Date: 06/04/2019

Tank Seq No: 001
Tank Status: Currently In Use
Capacity: 15000
Substance: Gasoline
Date Installed: 08/01/1993
Tank Code: UST
Inspection Code: Facility Operation Inspection
Tank Last Dt Inspected: 10/03/2017
Decode for Tstatus: Currently In Use
Decode for Substance: Gasoline

Tank Seq No: 002
Tank Status: Currently In Use
Capacity: 15000
Substance: Gasoline
Date Installed: 08/01/1993
Tank Code: UST
Inspection Code: Facility Operation Inspection
Tank Last Dt Inspected: 10/03/2017
Decode for Tstatus: Currently In Use
Decode for Substance: Gasoline

Tank Seq No: 003
Tank Status: Currently In Use
Capacity: 15000
Substance: Gasoline
Date Installed: 08/01/1993
Tank Code: UST

Map ID
Direction
Distance
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number
EPA ID Number

SHEETZ 199 (Continued)

U001961312

Inspection Code: Facility Operation Inspection
Tank Last Dt Inspected: 10/03/2017
Decode for Tstatus: Currently In Use
Decode for Substance: Gasoline

Tank Seq No: 004
Tank Status: Currently In Use
Capacity: 15000
Substance: Gasoline
Date Installed: 08/01/1993
Tank Code: UST
Inspection Code: Facility Operation Inspection
Tank Last Dt Inspected: 10/03/2017
Decode for Tstatus: Currently In Use
Decode for Substance: Gasoline

Tank Seq No: 005
Tank Status: Currently In Use
Capacity: 6000
Substance: Kerosene
Date Installed: 08/01/1993
Tank Code: UST
Inspection Code: Facility Operation Inspection
Tank Last Dt Inspected: 10/03/2017
Decode for Tstatus: Currently In Use
Decode for Substance: Kerosene

K44
ENE
1/8-1/4
0.177 mi.
936 ft.

SHEETZ STORE NO 199
1191 CARLISLE ST
HANOVER, PA 17331
Site 2 of 5 in cluster K

FINDS 1014907945
ECHO N/A

Actual:
555 ft.

FINDS:

Focus Map:
4

Registry ID: 110044299327

Environmental Interest/Information System

RCRAInfo is a national information system that supports the Resource Conservation and Recovery Act (RCRA) program through the tracking of events and activities related to facilities that generate, transport, and treat, store, or dispose of hazardous waste. RCRAInfo allows RCRA program staff to track the notification, permit, compliance, and corrective action activities required under RCRA.

PA-EFACTS (Pennsylvania - Environmental Facility Application Compliance Tracking System) is a Department-wide database that provides a holistic view of clients and sites (including facilities) that DEP regulates.

[Click this hyperlink](#) while viewing on your computer to access additional FINDS: detail in the EDR Site Report.

ECHO:

Map ID
 Direction
 Distance
 Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number
 EPA ID Number

SHEETZ STORE NO 199 (Continued)

1014907945

Envid: 1014907945
 Registry ID: 110044299327
 DFR URL: <http://echo.epa.gov/detailed-facility-report?fid=110044299327>

K45
ENE
1/8-1/4
0.177 mi.
936 ft.

SHEETZ 199
1191 CARLISLE ST
HANOVER, PA
Site 3 of 5 in cluster K

PA RGA LUST **S115475301**
N/A

Actual:
555 ft.

RGA LUST:

2012	SHEETZ 199	1191 CARLISLE ST
2011	SHEETZ 199	1191 CARLISLE ST
2010	SHEETZ 199	1191 CARLISLE ST
2009	SHEETZ 199	1191 CARLISLE ST
2008	SHEETZ 199	1191 CARLISLE ST
2007	SHEETZ 199	1191 CARLISLE ST
2006	SHEETZ 199	1191 CARLISLE ST
2005	SHEETZ 199	1191 CARLISLE ST
2004	SHEETZ 199	1191 CARLISLE ST
2003	SHEETZ 199	1191 CARLISLE ST

Focus Map:
4

K46
ENE
1/8-1/4
0.177 mi.
936 ft.

SHEETZ STORE NO 199
1191 CARLISLE STREET
HANOVER, PA 17331
Site 4 of 5 in cluster K

PA MANIFEST **S110051048**
N/A

Actual:
555 ft.

Manifest Details:

Focus Map:
4

Year: 2008
 Manifest Number: 001853294FLE
 Manifest Type: TSD Copy
 Generator EPA Id: PAR000526590
 Generator Date: 05/12/2008
 Mailing Address: Not reported
 Mailing City, St, Zip: Not reported
 Contact Name: Not reported
 Contact Phone: 814-239-1402
 TSD EPA Id: OHD001926740
 TSD Date: Not reported
 TSD Facility Name: HUKILL CHEMICAL CORP
 TSD Facility Address: 7013 KRICK ROAD
 TSD Facility City: BEDFORD
 TSD Facility State: OH
 Facility Telephone: Not reported
 Page Number: 1
 Line Number: 1

Map ID
Direction
Distance
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number
EPA ID Number

SHEETZ STORE NO 199 (Continued)

S110051048

Waste Number: D018
Container Number: 2
Container Type: Metal drums, barrels, kegs
Waste Quantity: 110
Unit: Gallons (liquids only)
Handling Code: Not reported
TSP EPA Id: Not reported
Date TSP Sig: Not reported

Year: 2008
Manifest Number: 001853294FLE
Manifest Type: TSD Copy
Generator EPA Id: PAR000526590
Generator Date: 05/12/2008
Mailing Address: Not reported
Mailing City, St, Zip: Not reported
Contact Name: Not reported
Contact Phone: 814-239-1402
TSD EPA Id: OHD001926740
TSD Date: Not reported
TSD Facility Name: HUKILL CHEMICAL CORP
TSD Facility Address: 7013 KRICK ROAD
TSD Facility City: BEDFORD
TSD Facility State: OH
Facility Telephone: Not reported

Page Number: 1
Line Number: 1
Waste Number: D001
Container Number: 2
Container Type: Metal drums, barrels, kegs
Waste Quantity: 110
Unit: Gallons (liquids only)
Handling Code: Not reported
TSP EPA Id: Not reported
Date TSP Sig: Not reported

K47 SHEETZ STORE NO 199
ENE 1191 CARLISLE ST
1/8-1/4 HANOVER, PA 17331
0.177 mi.
936 ft. Site 5 of 5 in cluster K

RCRA-CESQG 1008405360
PAR000526590

Actual: RCRA-CESQG:
555 ft. Date form received by agency: 08/10/2011
Focus Map: Facility name: SHEETZ STORE NO 199
4 Facility address: 1191 CARLISLE ST
HANOVER, PA 17331
EPA ID: PAR000526590
Mailing address: 5700 6TH AVE
ALTOONA, PA 16602
Contact: DAVID S DODSON
Contact address: 5700 6TH AVE
ALTOONA, PA 16602
Contact country: US
Contact telephone: 814-239-1402
Contact email: Not reported
EPA Region: 03
Classification: Conditionally Exempt Small Quantity Generator

Map ID
Direction
Distance
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number
EPA ID Number

SHEETZ STORE NO 199 (Continued)

1008405360

Description: Handler: generates 100 kg or less of hazardous waste per calendar month, and accumulates 1000 kg or less of hazardous waste at any time; or generates 1 kg or less of acutely hazardous waste per calendar month, and accumulates at any time: 1 kg or less of acutely hazardous waste; or 100 kg or less of any residue or contaminated soil, waste or other debris resulting from the cleanup of a spill, into or on any land or water, of acutely hazardous waste; or generates 100 kg or less of any residue or contaminated soil, waste or other debris resulting from the cleanup of a spill, into or on any land or water, of acutely hazardous waste during any calendar month, and accumulates at any time: 1 kg or less of acutely hazardous waste; or 100 kg or less of any residue or contaminated soil, waste or other debris resulting from the cleanup of a spill, into or on any land or water, of acutely hazardous waste

Owner/Operator Summary:

Owner/operator name: SHEETZ INC
Owner/operator address: Not reported
Not reported
Owner/operator country: Not reported
Owner/operator telephone: Not reported
Owner/operator email: Not reported
Owner/operator fax: Not reported
Owner/operator extension: Not reported
Legal status: Private
Owner/Operator Type: Operator
Owner/Op start date: 10/01/1993
Owner/Op end date: Not reported

Owner/operator name: SHEETZ INC
Owner/operator address: 5700 6TH AVE
ALTOONA, PA 16602
Owner/operator country: US
Owner/operator telephone: Not reported
Owner/operator email: Not reported
Owner/operator fax: Not reported
Owner/operator extension: Not reported
Legal status: Private
Owner/Operator Type: Owner
Owner/Op start date: 10/01/1993
Owner/Op end date: Not reported

Handler Activities Summary:

U.S. importer of hazardous waste: No
Mixed waste (haz. and radioactive): No
Recycler of hazardous waste: No
Transporter of hazardous waste: No
Treater, storer or disposer of HW: No
Underground injection activity: No
On-site burner exemption: No
Furnace exemption: No
Used oil fuel burner: No
Used oil processor: No
Used oil refiner: No
Used oil fuel marketer to burner: No
Used oil Specification marketer: No

Map ID
Direction
Distance
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number
EPA ID Number

SHEETZ STORE NO 199 (Continued)

1008405360

Used oil transfer facility: No
Used oil transporter: No

. Waste code: D001
. Waste name: IGNITABLE HAZARDOUS WASTES ARE THOSE WASTES WHICH HAVE A FLASHPOINT OF LESS THAN 140 DEGREES FAHRENHEIT AS DETERMINED BY A PENSKEY-MARTENS CLOSED CUP FLASH POINT TESTER. ANOTHER METHOD OF DETERMINING THE FLASH POINT OF A WASTE IS TO REVIEW THE MATERIAL SAFETY DATA SHEET, WHICH CAN BE OBTAINED FROM THE MANUFACTURER OR DISTRIBUTOR OF THE MATERIAL. LACQUER THINNER IS AN EXAMPLE OF A COMMONLY USED SOLVENT WHICH WOULD BE CONSIDERED AS IGNITABLE HAZARDOUS WASTE.

. Waste code: D018
. Waste name: BENZENE

Violation Status: No violations found

I48
ENE
1/8-1/4
0.180 mi.
951 ft.

SEARS 2244 7014
1155 CARLISLE ST STE 5
HANOVER, PA 17331
Site 4 of 4 in cluster I

PA MANIFEST S108851474
N/A

Actual:
559 ft.

Focus Map:
4

Manifest Details:
Year: 2017
Manifest Number: 006245705FLE
Manifest Type: TSD Copy
Generator EPA Id: PAR000027722
Generator Date: 05/25/2017
Mailing Address: Not reported
Mailing City,St,Zip: Not reported
Contact Name: Not reported
Contact Phone: 717-637-2731
TSD EPA Id: Not reported
TSD Date: Not reported
TSD Facility Name: Republic Environmental Systems (Pennsylvania) LLC
TSD Facility Address: 2869 Sandstone Dr
TSD Facility City: Hatfield
TSD Facility State: PA
Facility Telephone: Not reported
Page Number: 1
Line Number: 1
Waste Number: D009
Container Number: 1
Container Type: Fiber or plastic boxes, cartons, cases
Waste Quantity: 4
Unit: Pounds
Handling Code: Not reported
TSP EPA Id: PAD085690592
Date TSP Sig: Not reported

Year: 2006
Manifest Number: PAH260539
Manifest Type: TSD Copy
Generator EPA Id: PAR000027722
Generator Date: 07/31/2006
Mailing Address: Not reported
Mailing City,St,Zip: Not reported
Contact Name: Not reported

Map ID
 Direction
 Distance
 Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number
 EPA ID Number

SEARS 2244 7014 (Continued)

S108851474

Contact Phone: Not reported
 TSD EPA Id: PAD067098822
 TSD Date: Not reported
 TSD Facility Name: CYCLE CHEM INC
 TSD Facility Address: 550 INDUSTRIAL DRIVE
 TSD Facility City: LEWISBERRY
 TSD Facility State: PA
 Facility Telephone: 717-637-2731
 Page Number: 1
 Line Number: 1
 Waste Number: D018
 Container Number: 4
 Container Type: Metal drums, barrels, kegs
 Waste Quantity: 140
 Unit: Gallons (liquids only)
 Handling Code: Not reported
 TSP EPA Id: Not reported
 Date TSP Sig: Not reported

Year: 2006
 Manifest Number: PAH260539
 Manifest Type: TSD Copy
 Generator EPA Id: PAR000027722
 Generator Date: 07/31/2006
 Mailing Address: Not reported
 Mailing City,St,Zip: Not reported
 Contact Name: Not reported
 Contact Phone: Not reported
 TSD EPA Id: PAD067098822
 TSD Date: Not reported
 TSD Facility Name: CYCLE CHEM INC
 TSD Facility Address: 550 INDUSTRIAL DRIVE
 TSD Facility City: LEWISBERRY
 TSD Facility State: PA
 Facility Telephone: 717-637-2731
 Page Number: 1
 Line Number: 1
 Waste Number: D001
 Container Number: 4
 Container Type: Metal drums, barrels, kegs
 Waste Quantity: 140
 Unit: Gallons (liquids only)
 Handling Code: Not reported
 TSP EPA Id: Not reported
 Date TSP Sig: Not reported

L49 HANOVER HONDA
NNE 1226 CARLISLE STREET
1/8-1/4 HANOVER, PA 17331
0.187 mi.
989 ft. Site 1 of 4 in cluster L

US AIRS 1011938053
FINDS N/A
ECHO

Actual: 543 ft. US AIRS MINOR:
 Envid: 1011938053
Focus Map: 4 Region Code: 03
 Programmatic ID: AIR PA0000004213344045
 Facility Registry ID: 110037616078
 D and B Number: Not reported

Map ID
Direction
Distance
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number
EPA ID Number

HANOVER HONDA (Continued)

1011938053

Primary SIC Code: 5511
NAICS Code: 441110
Default Air Classification Code: MIN
Facility Type of Ownership Code: POF
Air CMS Category Code: Not reported
HPV Status: Not reported

US AIRS MINOR:

Region Code: 03
Programmatic ID: AIR PA0000004213344045
Facility Registry ID: 110037616078
Air Operating Status Code: OPR
Default Air Classification Code: MIN
Air Program: Stratospheric Ozone Protection
Activity Date: 2008-02-19 00:00:00
Activity Status Date: Not reported
Activity Group: Compliance Monitoring
Activity Type: Inspection/Evaluation
Activity Status: Not reported

FINDS:

Registry ID: 110037616078

Environmental Interest/Information System

AFS (Aerometric Information Retrieval System (AIRS) Facility Subsystem) replaces the former Compliance Data System (CDS), the National Emission Data System (NEDS), and the Storage and Retrieval of Aerometric Data (SAROAD). AIRS is the national repository for information concerning airborne pollution in the United States. AFS is used to track emissions and compliance data from industrial plants. AFS data are utilized by states to prepare State Implementation Plans to comply with regulatory programs and by EPA as an input for the estimation of total national emissions. AFS is undergoing a major redesign to support facility operating permits required under Title V of the Clean Air Act.

RCRAInfo is a national information system that supports the Resource Conservation and Recovery Act (RCRA) program through the tracking of events and activities related to facilities that generate, transport, and treat, store, or dispose of hazardous waste. RCRAInfo allows RCRA program staff to track the notification, permit, compliance, and corrective action activities required under RCRA.

PA-EFACTS (Pennsylvania - Environmental Facility Application Compliance Tracking System) is a Department-wide database that provides a holistic view of clients and sites (including facilities) that DEP regulates.

AIR MINOR

[Click this hyperlink](#) while viewing on your computer to access additional FINDS: detail in the EDR Site Report.

Map ID
 Direction
 Distance
 Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number
 EPA ID Number

HANOVER HONDA (Continued)

1011938053

ECHO:

Envid: 1011938053
 Registry ID: 110037616078
 DFR URL: <http://echo.epa.gov/detailed-facility-report?fid=110037616078>

M50
 South
 1/8-1/4
 0.190 mi.
 1004 ft.

HANOVER BORO STP
300 O'BRIEN LANE
MCSHERRYSTOWN, PA 17344
 Site 1 of 2 in cluster M

PA NPDES S110317788
N/A

Actual:
549 ft.

NPDES:

Permit Number: PA0026875
 Permit Name: HANOVER BORO YORK CNTY
 Effective Date: 01/01/2017
 Expiration Date: 12/31/2021
 Receiving Waters: South Branch Conewago Creek
 Current Major Minor Status: Major
 Total App. Design Flow (MGD): 17.600
 Cognizant Official: EDWARD REED/SUPERINTENDENT
 Cognizant Official Telephone: 717-633-6673
 Permit Street Address: 44 FREDERICK ST
 Permit City/State/Zip: HANOVER, PA 17331-3501

Focus Map:
6

M51
 South
 1/8-1/4
 0.190 mi.
 1004 ft.

HANOVER BORO STP
300 O'BRIEN LANE
MCSHERRYSTOWN, PA 17344
 Site 2 of 2 in cluster M

ICIS 1006147615
FINDS N/A
ECHO

Actual:
549 ft.

ICIS:

Enforcement Action ID: PA-0026875_05142014
 FRS ID: 110006368126
 Action Name: Notice of Violation
 Facility Name: HANOVER BORO STP
 Facility Address: 300 O'BRIEN LANE
 MCSHERRYSTOWN, PA 173441797
 Enforcement Action Type: Notice of Violation
 Facility County: YORK
 Program System Acronym: NPDES
 Enforcement Action Forum Desc: Administrative - Informal
 EA Type Code: NOV
 Facility SIC Code: 4952
 Federal Facility ID: Not reported
 Latitude in Decimal Degrees: 39.821944
 Longitude in Decimal Degrees: -77.042778
 Permit Type Desc: NPDES Individual Permit
 Program System Acronym: PA0026875
 Facility NAICS Code: Not reported
 Tribal Land Code: Not reported
 Enforcement Action ID: 03-1990-N014
 FRS ID: 110006368126
 Action Name: HANOVER BOROUGH REGIONAL WWTP (Permit PA0026875) Administrative Order
 Facility Name: HANOVER BORO STP
 Facility Address: 300 O'BRIEN LANE

Focus Map:
6

Map ID
Direction
Distance
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number
EPA ID Number

HANOVER BORO STP (Continued)

1006147615

MCSHERRYSTOWN, PA 173441797
Enforcement Action Type: CWA 309A AO For Compliance
Facility County: YORK
Program System Acronym: NPDES
Enforcement Action Forum Desc: Administrative - Formal
EA Type Code: 309A
Facility SIC Code: 4952
Federal Facility ID: Not reported
Latitude in Decimal Degrees: 39.821944
Longitude in Decimal Degrees: -77.042778
Permit Type Desc: NPDES Individual Permit
Program System Acronym: PA0026875
Facility NAICS Code: Not reported
Tribal Land Code: Not reported

Enforcement Action ID: 03-1988-N020
FRS ID: 110006368126
Action Name: HANOVER BOROUGH REGIONAL WWTP (Permit PA0026875) Pretreatment Ao
Facility Name: HANOVER BORO STP
Facility Address: 300 O'BRIEN LANE
MCSHERRYSTOWN, PA 173441797

Enforcement Action Type: CWA 309A AO For Compliance
Facility County: YORK
Program System Acronym: NPDES
Enforcement Action Forum Desc: Administrative - Formal
EA Type Code: 309A
Facility SIC Code: 4952
Federal Facility ID: Not reported
Latitude in Decimal Degrees: 39.821944
Longitude in Decimal Degrees: -77.042778
Permit Type Desc: NPDES Individual Permit
Program System Acronym: PA0026875
Facility NAICS Code: Not reported
Tribal Land Code: Not reported

Enforcement Action ID: 03-1988-N006
FRS ID: 110006368126
Action Name: HANOVER BOROUGH REGIONAL WWTP (Permit PA0026875) Pretreatment Ao
Facility Name: HANOVER BORO STP
Facility Address: 300 O'BRIEN LANE
MCSHERRYSTOWN, PA 173441797

Enforcement Action Type: CWA 309A AO For Compliance
Facility County: YORK
Program System Acronym: NPDES
Enforcement Action Forum Desc: Administrative - Formal
EA Type Code: 309A
Facility SIC Code: 4952
Federal Facility ID: Not reported
Latitude in Decimal Degrees: 39.821944
Longitude in Decimal Degrees: -77.042778
Permit Type Desc: NPDES Individual Permit
Program System Acronym: PA0026875
Facility NAICS Code: Not reported
Tribal Land Code: Not reported

Map ID
 Direction
 Distance
 Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number
 EPA ID Number

HANOVER BORO STP (Continued)

1006147615

FINDS:

Registry ID: 110006368126

Environmental Interest/Information System

US National Pollutant Discharge Elimination System (NPDES) module of the Compliance Information System (ICIS) tracks surface water permits issued under the Clean Water Act. Under NPDES, all facilities that discharge pollutants from any point source into waters of the United States are required to obtain a permit. The permit will likely contain limits on what can be discharged, impose monitoring and reporting requirements, and include other provisions to ensure that the discharge does not adversely affect water quality.

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Click this hyperlink while viewing on your computer to access additional FINDS: detail in the EDR Site Report.

ECHO:

Envid: 1006147615
 Registry ID: 110006368126
 DFR URL: <http://echo.epa.gov/detailed-facility-report?fid=110006368126>

**N52
 East
 1/8-1/4
 0.193 mi.
 1020 ft.**

**CALLEN TIRES INC
 1110 CARLISLE ST
 HANOVER, PA 17331
 Site 1 of 5 in cluster N**

**EDR Hist Auto 1022026720
 N/A**

Actual: 562 ft.
 EDR Hist Auto

**Focus Map:
 8**

Year:	Name:	Type:
1971	CALLEN TIRE INC	Auto And Home Supply Stores
1972	CALLEN TIRE INC	Auto And Home Supply Stores
1973	CALLEN TIRE INC	Auto And Home Supply Stores
1974	CALLEN TIRE INC	Auto And Home Supply Stores
1976	CALLEN TIRE INC	Auto And Home Supply Stores
1977	CALLEN TIRE INC	Auto And Home Supply Stores
1978	CALLEN TIRE INC	Auto And Home Supply Stores
1979	CALLEN TIRE INC	Auto And Home Supply Stores
1980	CALLEN TIRE INC	Auto And Home Supply Stores
1982	CALLEN TIRE INC	Auto And Home Supply Stores
1983	CALLEN TIRE INC	Auto And Home Supply Stores
1985	CALLEN TIRE INC	Auto And Home Supply Stores
1986	CALLEN TIRES INC	Auto And Home Supply Stores
1987	CALLEN TIRES INC	Auto And Home Supply Stores
1988	CALLEN TIRES INC	Auto And Home Supply Stores
1989	CALLEN TIRES INC	Auto And Home Supply Stores, NEC
1990	CALLEN TIRES INC	Auto And Home Supply Stores, NEC
1991	CALLEN TIRES INC	Auto And Home Supply Stores, NEC
1992	CALLEN TIRES INC	Auto And Home Supply Stores, NEC
1993	CALLEN TIRES INC	Auto And Home Supply Stores, NEC

Map ID
 Direction
 Distance
 Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number
 EPA ID Number

CALLEN TIRES INC (Continued)

1022026720

1994	CALLEN TIRES INC	Auto And Home Supply Stores, NEC
1995	CALLEN TIRES INC	Auto And Home Supply Stores, NEC
1996	CALLEN TIRES INC	Auto And Home Supply Stores, NEC
1997	CALLEN TIRES INC	Auto And Home Supply Stores, NEC
1998	CALLEN TIRES INC	Auto And Home Supply Stores, NEC
1999	CALLEN TIRES INC	Auto And Home Supply Stores, NEC
2000	CALLEN TIRES INC	Auto And Home Supply Stores, NEC
2001	CALLEN TIRES INC	Auto And Home Supply Stores, NEC
2002	CALLEN TIRES INC	Auto And Home Supply Stores, NEC
2003	CALLEN TIRES INC	Auto And Home Supply Stores, NEC
2004	CALLEN TIRES INC	Auto And Home Supply Stores, NEC
2005	CALLEN TIRES INC	Auto And Home Supply Stores, NEC
2006	CALLEN TIRES INC	Auto And Home Supply Stores, NEC
2007	CALLEN TIRES INC	Auto And Home Supply Stores, NEC
2008	CALLEN TIRES INC	Auto And Home Supply Stores, NEC
2009	CALLEN TIRES INC	Auto And Home Supply Stores, NEC
2010	CALLEN TIRES INC	Auto And Home Supply Stores, NEC
2011	CALLEN TIRES INC	Auto And Home Supply Stores, NEC
2012	CALLEN TIRES INC	Auto And Home Supply Stores, NEC
2013	CALLEN TIRES INC	Auto And Home Supply Stores, NEC
2014	CALLEN TIRES INC	Auto And Home Supply Stores, NEC

N53
East
1/8-1/4
0.193 mi.
1020 ft.

CALLEN TIRE
1110 CARLISLE STREET
HANOVER, PA 17331
Site 2 of 5 in cluster N

US AIRS 1011937672
N/A

Actual:
562 ft.
Focus Map:
8

US AIRS MINOR:
 Envid: 1011937672
 Region Code: 03
 Programmatic ID: AIR PA0000004213340044
 Facility Registry ID: 110001031874
 D and B Number: Not reported
 Primary SIC Code: 7534
 NAICS Code: 811121
 Default Air Classification Code: MIN
 Facility Type of Ownership Code: POF
 Air CMS Category Code: Not reported
 HPV Status: Not reported

US AIRS MINOR:
 Region Code: 03
 Programmatic ID: AIR PA0000004213340044
 Facility Registry ID: 110001031874
 Air Operating Status Code: OPR
 Default Air Classification Code: MIN
 Air Program: Stratospheric Ozone Protection
 Activity Date: 2008-02-19 00:00:00
 Activity Status Date: Not reported
 Activity Group: Compliance Monitoring
 Activity Type: Inspection/Evaluation
 Activity Status: Not reported

Map ID
Direction
Distance
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number
EPA ID Number

N54
East
1/8-1/4
0.193 mi.
1020 ft.

CALLEN TIRE
1110 CARLISLE ST
HANOVER, PA 17331
Site 3 of 5 in cluster N

RCRA NonGen / NLR **1000569443**
FINDS **PAD987337144**
ECHO

Actual:
562 ft.

RCRA NonGen / NLR:

Focus Map:
8

Date form received by agency: 08/07/2015
Facility name: CALLEN TIRE INC
Facility address: 1110 CARLISLE ST
HANOVER, PA 17331
EPA ID: PAD987337144
Contact: CHUCK O VINCENT
Contact address: 1110 CARLISLE ST
HANOVER, PA 17331
Contact country: US
Contact telephone: 717-632-7706
Contact email: Not reported
EPA Region: 03
Land type: Private
Classification: Non-Generator
Description: Handler: Non-Generators do not presently generate hazardous waste

Owner/Operator Summary:

Owner/operator name: DENNIS KRYNOCK
Owner/operator address: Not reported
Not reported
Owner/operator country: Not reported
Owner/operator telephone: Not reported
Owner/operator email: Not reported
Owner/operator fax: Not reported
Owner/operator extension: Not reported
Legal status: Private
Owner/Operator Type: Operator
Owner/Op start date: 01/01/1995
Owner/Op end date: Not reported

Owner/operator name: DENNIS KRYNOCK
Owner/operator address: 1110 CARLISLE ST
HANOVER, PA 17331
Owner/operator country: US
Owner/operator telephone: Not reported
Owner/operator email: Not reported
Owner/operator fax: Not reported
Owner/operator extension: Not reported
Legal status: Private
Owner/Operator Type: Owner
Owner/Op start date: 01/01/1995
Owner/Op end date: Not reported

Handler Activities Summary:

U.S. importer of hazardous waste: No
Mixed waste (haz. and radioactive): No
Recycler of hazardous waste: No
Transporter of hazardous waste: No
Treater, storer or disposer of HW: No
Underground injection activity: No
On-site burner exemption: No

Map ID
Direction
Distance
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number
EPA ID Number

CALLEN TIRE (Continued)

1000569443

Furnace exemption: No
Used oil fuel burner: No
Used oil processor: No
Used oil refiner: No
Used oil fuel marketer to burner: No
Used oil Specification marketer: No
Used oil transfer facility: No
Used oil transporter: No

Historical Generators:

Date form received by agency: 08/07/2015
Site name: CALLEN TIRE INC
Classification: Not a generator, verified

Date form received by agency: 07/24/2015
Site name: GOODYEAR TIRE CENTER
Classification: Small Quantity Generator

. Waste code: D001
. Waste name: IGNITABLE HAZARDOUS WASTES ARE THOSE WASTES WHICH HAVE A FLASHPOINT OF LESS THAN 140 DEGREES FAHRENHEIT AS DETERMINED BY A PENSKEY-MARTENS CLOSED CUP FLASH POINT TESTER. ANOTHER METHOD OF DETERMINING THE FLASH POINT OF A WASTE IS TO REVIEW THE MATERIAL SAFETY DATA SHEET, WHICH CAN BE OBTAINED FROM THE MANUFACTURER OR DISTRIBUTOR OF THE MATERIAL. LACQUER THINNER IS AN EXAMPLE OF A COMMONLY USED SOLVENT WHICH WOULD BE CONSIDERED AS IGNITABLE HAZARDOUS WASTE.

Date form received by agency: 05/07/1991
Site name: GOODYEAR TIRE CENTER
Classification: Small Quantity Generator

. Waste code: D000
. Waste name: Not Defined

. Waste code: D001
. Waste name: IGNITABLE HAZARDOUS WASTES ARE THOSE WASTES WHICH HAVE A FLASHPOINT OF LESS THAN 140 DEGREES FAHRENHEIT AS DETERMINED BY A PENSKEY-MARTENS CLOSED CUP FLASH POINT TESTER. ANOTHER METHOD OF DETERMINING THE FLASH POINT OF A WASTE IS TO REVIEW THE MATERIAL SAFETY DATA SHEET, WHICH CAN BE OBTAINED FROM THE MANUFACTURER OR DISTRIBUTOR OF THE MATERIAL. LACQUER THINNER IS AN EXAMPLE OF A COMMONLY USED SOLVENT WHICH WOULD BE CONSIDERED AS IGNITABLE HAZARDOUS WASTE.

. Waste code: D008
. Waste name: LEAD

. Waste code: D018
. Waste name: BENZENE

. Waste code: D039
. Waste name: TETRACHLOROETHYLENE

Violation Status: No violations found

Evaluation Action Summary:

Evaluation date: 07/13/2015

Map ID
Direction
Distance
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number
EPA ID Number

CalLEN TIRE (Continued)

1000569443

Evaluation: COMPLIANCE EVALUATION INSPECTION ON-SITE
Area of violation: Not reported
Date achieved compliance: Not reported
Evaluation lead agency: State

FINDS:

Registry ID: 110001031874

Environmental Interest/Information System

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AIR MINOR

[Click this hyperlink](#) while viewing on your computer to access additional FINDS: detail in the EDR Site Report.

ECHO:

Envid: 1000569443
Registry ID: 110001031874
DFR URL: <http://echo.epa.gov/detailed-facility-report?fid=110001031874>

N55
East
1/8-1/4
0.193 mi.
1020 ft.

GOODYEAR
1110 CARLISLE ST
HANOVER, PA 17331
Site 4 of 5 in cluster N

PA ARCHIVE UST **S119707838**
N/A

Actual:
562 ft.
Focus Map:
8

ARCHIVE UST:
Facility Id: 67-35056
Site ID: Not reported
Municipality: Hanover Boro
Client Date: Not reported
Owner Id: Not reported
Owner Name: RITA & RUSSELL G NELDIER

Map ID
 Direction
 Distance
 Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number
 EPA ID Number

GOODYEAR (Continued)

S119707838

Owner Address:	30 RADIO RD
Owner Address 2:	Not reported
Owner City,St,Zip:	HANOVER, PA 17331-1135
Owner Phone:	Not reported
Owner County Code:	Not reported
Resp Party Name:	Not reported
RP Address:	Not reported
RP Address 2:	Not reported
RP City,St,Zip:	Not reported
Region Code Name:	Not reported
Regulated Expire Date:	Not reported
Tank Sequence #:	001
Tank Id:	Not reported
Status:	Closed Without a Permit
Status Code End Date:	Not reported
Capacity:	550
Substance:	Used Oil (all forms)
Tank Substance End Date:	Not reported
Install Date:	Not reported
Tank Code:	UST
Inspection Code:	Not reported
Last Inspection:	Not reported
Substance Type:	P
CASRN for Hazardous Substances:	Not reported
Chemical Name:	Not reported
Other Information Regarding The Tank Substance:	Not reported
Undeliverable Address Ind.:	N
Contact Name:	UNKNOWN
Company:	Not reported

N56
East
1/8-1/4
0.196 mi.
1036 ft.

SEARS ROEBUCK & CO 2244 7014
1155 CARLISLE STREET SUITE 5
HANOVER, PA 17331
Site 5 of 5 in cluster N

PA MANIFEST **S116739286**
N/A

Actual:
559 ft.
Focus Map:
8

Manifest Details:	
Year:	2015
Manifest Number:	008521035FLE
Manifest Type:	TSD Copy
Generator EPA Id:	PAR000027722
Generator Date:	12/16/2015
Mailing Address:	Not reported
Mailing City,St,Zip:	Not reported
Contact Name:	Not reported
Contact Phone:	717-637-2731
TSD EPA Id:	Not reported
TSD Date:	Not reported
TSD Facility Name:	Republic Environmental Systems (Pennsylvania) LLC
TSD Facility Address:	2869 Sandstone Dr
TSD Facility City:	Hatfield
TSD Facility State:	PA
Facility Telephone:	Not reported
Page Number:	1
Line Number:	1
Waste Number:	D009
Container Number:	1

Map ID
Direction
Distance
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number
EPA ID Number

SEARS ROEBUCK & CO 2244 7014 (Continued)

S116739286

Container Type: Fiber or plastic boxes, cartons, cases
Waste Quantity: 4
Unit: Pounds
Handling Code: Not reported
TSP EPA Id: PAD085690592
Date TSP Sig: Not reported

Year: 2015
Manifest Number: 008521035FLE
Manifest Type: TSD Copy
Generator EPA Id: PAR000027722
Generator Date: 12/16/2015
Mailing Address: Not reported
Mailing City,St,Zip: Not reported
Contact Name: Not reported
Contact Phone: 717-637-2731
TSD EPA Id: Not reported
TSD Date: Not reported
TSD Facility Name: Republic Environmental Systems (Pennsylvania) LLC
TSD Facility Address: 2869 Sandstone Dr
TSD Facility City: Hatfield
TSD Facility State: PA
Facility Telephone: Not reported
Page Number: 1
Line Number: 2
Waste Number: D001
Container Number: 1
Container Type: Burlap, cloth, paper or plastic bags
Waste Quantity: 29
Unit: Pounds
Handling Code: Not reported
TSP EPA Id: PAD085690592
Date TSP Sig: Not reported

Year: 2013
Manifest Number: 005992352FLE
Manifest Type: TSD Copy
Generator EPA Id: PAR000027722
Generator Date: 07/12/2013
Mailing Address: Not reported
Mailing City,St,Zip: Not reported
Contact Name: Not reported
Contact Phone: 717-637-2731
TSD EPA Id: Not reported
TSD Date: Not reported
TSD Facility Name: Heritage Environmental Services Inc
TSD Facility Address: 7901 W Morris St
TSD Facility City: Indianapolis
TSD Facility State: IN
Facility Telephone: Not reported
Page Number: 1
Line Number: 1
Waste Number: D001
Container Number: 1
Container Type: Fiberboard or plastic drums, barrels, kegs
Waste Quantity: 45
Unit: Pounds

Map ID
Direction
Distance
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number
EPA ID Number

SEARS ROEBUCK & CO 2244 7014 (Continued)

S116739286

Handling Code: Not reported
TSP EPA Id: IND093219012
Date TSP Sig: Not reported

O57
East
1/8-1/4
0.201 mi.
1060 ft.

CHAMPION CHEVROLET-GEO INC
1177 CARLISLE ST
HANOVER, PA 17331
Site 1 of 5 in cluster O

RCRA NonGen / NLR **1000292836**
FINDS **PAD014172431**
ECHO
NY MANIFEST

Actual:
558 ft.

RCRA NonGen / NLR:

Date form received by agency: 04/22/1986

Focus Map:
4

Facility name: CHAMPION CHEVROLET-GEO INC
Facility address: 1177 CARLISLE ST
HANOVER, PA 17331

EPA ID: PAD014172431
Contact: ROBERT BOUDMAN
Contact address: 1177 CARLISLE ST
HANOVER, PA 17331

Contact country: US
Contact telephone: 717-637-6655
Contact email: Not reported
EPA Region: 03
Classification: Non-Generator
Description: Handler: Non-Generators do not presently generate hazardous waste

Owner/Operator Summary:

Owner/operator name: THOMAS F LIVELSBERGER
Owner/operator address: 1177 CARLISLE ST
HANOVER, PA 17331

Owner/operator country: Not reported
Owner/operator telephone: 717-637-6655
Owner/operator email: Not reported
Owner/operator fax: Not reported
Owner/operator extension: Not reported
Legal status: Private
Owner/Operator Type: Owner
Owner/Op start date: Not reported
Owner/Op end date: Not reported

Owner/operator name: OPERNAME
Owner/operator address: OPERSTREET
OPERCITY, AK 99999

Owner/operator country: Not reported
Owner/operator telephone: 215-555-1212
Owner/operator email: Not reported
Owner/operator fax: Not reported
Owner/operator extension: Not reported
Legal status: Private
Owner/Operator Type: Operator
Owner/Op start date: Not reported
Owner/Op end date: Not reported

Handler Activities Summary:

U.S. importer of hazardous waste: No
Mixed waste (haz. and radioactive): No
Recycler of hazardous waste: No

Map ID
Direction
Distance
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number
EPA ID Number

CHAMPION CHEVROLET-GEO INC (Continued)

1000292836

Transporter of hazardous waste: No
Treater, storer or disposer of HW: No
Underground injection activity: No
On-site burner exemption: No
Furnace exemption: No
Used oil fuel burner: No
Used oil processor: No
User oil refiner: No
Used oil fuel marketer to burner: No
Used oil Specification marketer: No
Used oil transfer facility: No
Used oil transporter: No

. Waste code: D000
. Waste name: Not Defined

. Waste code: D001
. Waste name: IGNITABLE HAZARDOUS WASTES ARE THOSE WASTES WHICH HAVE A FLASHPOINT OF LESS THAN 140 DEGREES FAHRENHEIT AS DETERMINED BY A PENSKEY-MARTENS CLOSED CUP FLASH POINT TESTER. ANOTHER METHOD OF DETERMINING THE FLASH POINT OF A WASTE IS TO REVIEW THE MATERIAL SAFETY DATA SHEET, WHICH CAN BE OBTAINED FROM THE MANUFACTURER OR DISTRIBUTOR OF THE MATERIAL. LACQUER THINNER IS AN EXAMPLE OF A COMMONLY USED SOLVENT WHICH WOULD BE CONSIDERED AS IGNITABLE HAZARDOUS WASTE.

. Waste code: D006
. Waste name: CADMIUM

. Waste code: D007
. Waste name: CHROMIUM

. Waste code: D008
. Waste name: LEAD

. Waste code: D018
. Waste name: BENZENE

. Waste code: D021
. Waste name: CHLOROBENZENE

. Waste code: D027
. Waste name: 1,4-DICHLOROBENZENE

. Waste code: D039
. Waste name: TETRACHLOROETHYLENE

. Waste code: D040
. Waste name: TRICHLOROETHYLENE

. Waste code: F003
. Waste name: THE FOLLOWING SPENT NON-HALOGENATED SOLVENTS: XYLENE, ACETONE, ETHYL ACETATE, ETHYL BENZENE, ETHYL ETHER, METHYL ISOBUTYL KETONE, N-BUTYL ALCOHOL, CYCLOHEXANONE, AND METHANOL; ALL SPENT SOLVENT MIXTURES/BLENDS CONTAINING, BEFORE USE, ONLY THE ABOVE SPENT NON-HALOGENATED SOLVENTS; AND ALL SPENT SOLVENT MIXTURES/BLENDS CONTAINING, BEFORE USE, ONE OR MORE OF THE ABOVE NON-HALOGENATED SOLVENTS, AND, A TOTAL OF TEN PERCENT OR MORE (BY VOLUME) OF ONE OR

Map ID
Direction
Distance
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number
EPA ID Number

CHAMPION CHEVROLET-GEO INC (Continued)

1000292836

MORE OF THOSE SOLVENTS LISTED IN F001, F002, F004, AND F005, AND STILL BOTTOMS FROM THE RECOVERY OF THESE SPENT SOLVENTS AND SPENT SOLVENT MIXTURES.

. Waste code: F005
. Waste name: THE FOLLOWING SPENT NON-HALOGENATED SOLVENTS: TOLUENE, METHYL ETHYL KETONE, CARBON DISULFIDE, ISOBUTANOL, PYRIDINE, BENZENE, 2-ETHOXYETHANOL, AND 2-NITROPROPANE; ALL SPENT SOLVENT MIXTURES/BLENDS CONTAINING, BEFORE USE, A TOTAL OF TEN PERCENT OR MORE (BY VOLUME) OF ONE OR MORE OF THE ABOVE NON-HALOGENATED SOLVENTS OR THOSE SOLVENTS LISTED IN F001, F002, OR F004; AND STILL BOTTOMS FROM THE RECOVERY OF THESE SPENT SOLVENTS AND SPENT SOLVENT MIXTURES.

Violation Status: No violations found

FINDS:

Registry ID: 110004837810

Environmental Interest/Information System

RCRAInfo is a national information system that supports the Resource Conservation and Recovery Act (RCRA) program through the tracking of events and activities related to facilities that generate, transport, and treat, store, or dispose of hazardous waste. RCRAInfo allows RCRA program staff to track the notification, permit, compliance, and corrective action activities required under RCRA.

[Click this hyperlink](#) while viewing on your computer to access additional FINDS: detail in the EDR Site Report.

ECHO:

Envid: 1000292836
Registry ID: 110004837810
DFR URL: <http://echo.epa.gov/detailed-facility-report?fid=110004837810>

NY MANIFEST:

Country: USA
EPA ID: PAD014172431
Facility Status: Not reported
Location Address 1: 1177 CARLISLE STREET
Code: BP
Location Address 2: Not reported
Total Tanks: Not reported
Location City: HANOVER
Location State: PA
Location Zip: 17331
Location Zip 4: Not reported

NY MANIFEST:

EPAID: PAD014172431
Mailing Name: CHAMPION CHEVROLET GEO
Mailing Contact: ROBERT BOUDMAN
Mailing Address 1: 1177 CARLISLE STREET
Mailing Address 2: Not reported
Mailing City: HANOVER
Mailing State: PA

Map ID
Direction
Distance
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number
EPA ID Number

CHAMPION CHEVROLET-GEO INC (Continued)

1000292836

Mailing Zip: 17331
Mailing Zip 4: Not reported
Mailing Country: USA
Mailing Phone: 7176376655

NY MANIFEST:

Document ID: NYA9737695
Manifest Status: K
seq: Not reported
Year: 1991
Trans1 State ID: YZ39437
Trans2 State ID: Not reported
Generator Ship Date: 10/01/1991
Trans1 Recv Date: 10/01/1991
Trans2 Recv Date: / /
TSD Site Recv Date: 10/04/1991
Part A Recv Date: 10/11/1991
Part B Recv Date: 10/28/1991
Generator EPA ID: PAD014172431
Trans1 EPA ID: ILD051060408
Trans2 EPA ID: Not reported
TSD ID 1: NYD980753784
TSD ID 2: Not reported
Manifest Tracking Number: Not reported
Import Indicator: Not reported
Export Indicator: Not reported
Discr Quantity Indicator: Not reported
Discr Type Indicator: Not reported
Discr Residue Indicator: Not reported
Discr Partial Reject Indicator: Not reported
Discr Full Reject Indicator: Not reported
Manifest Ref Number: Not reported
Alt Facility RCRA ID: Not reported
Alt Facility Sign Date: Not reported
MGMT Method Type Code: Not reported
Waste Code: F005 - UNKNOWN
Waste Code: Not reported
Waste Code: Not reported
Waste Code: Not reported
Waste Code: Not reported
Waste Code: Not reported
Quantity: 00699
Units: P - Pounds
Number of Containers: 008
Container Type: DM - Metal drums, barrels
Handling Method: B Incineration, heat recovery, burning.
Specific Gravity: 100

[Click this hyperlink](#) while viewing on your computer to access
-1 additional NY MANIFEST: record(s) in the EDR Site Report.

MAP FINDINGS

Map ID
Direction
Distance
Elevation

Site

Database(s)

EDR ID Number
EPA ID Number

O58
East
1/8-1/4
0.201 mi.
1060 ft.
Actual:
558 ft.
Focus Map:
4

CHAMPION CHEV
1177 CARLISLE ST
HANOVER, PA
Site 2 of 5 in cluster O
RGA LUST:
1997 CHAMPION CHEV 1177 CARLISLE ST

PA RGA LUST **S115453932**
N/A

O59
East
1/8-1/4
0.201 mi.
1060 ft.
Actual:
558 ft.
Focus Map:
4

CHAMPION CHEVROLET
1177 CARLISLE ST
HANOVER, PA 17331
Site 3 of 5 in cluster O
ARCHIVE UST:
Facility Id: 67-64256
Site ID: Not reported
Municipality: Hanover Boro
Client Date: Not reported
Owner Id: Not reported
Owner Name: SHULTZ ENTERPRISES
Owner Address: PO BOX 1403
Owner Address 2: Not reported
Owner City,St,Zip: HANOVER, PA 17331-7403
Owner Phone: Not reported
Owner County Code: Not reported
Resp Party Name: Not reported
RP Address: Not reported
RP Address 2: Not reported
RP City,St,Zip: Not reported
Region Code Name: Not reported
Regulated Expire Date: Not reported

Tank Sequence #: 005
Tank Id: Not reported
Status: Closed Without a Permit
Status Code End Date: Not reported
Capacity: 1000
Substance: Gasoline
Tank Substance End Date: Not reported
Install Date: 01/01/1965
Tank Code: UST
Inspection Code: Not reported
Last Inspection: Not reported
Substance Type: P
CASRN for Hazardous Substances: Not reported
Chemical Name: Not reported
Other Information Regarding The Tank Substance: Not reported
Undeliverable Address Ind.: N
Contact Name: UNKNOWN
Company: Not reported

Tank Sequence #: 007

PA ARCHIVE UST **S119707996**
N/A

Map ID
Direction
Distance
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number
EPA ID Number

CHAMPION CHEVROLET (Continued)

S119707996

Tank Id: Not reported
Status: Closed Without a Permit
Status Code End Date: Not reported
Capacity: 550
Substance: Used Oil (all forms)
Tank Substance End Date: Not reported
Install Date: 01/01/1970
Tank Code: UST
Inspection Code: Not reported
Last Inspection: Not reported
Substance Type: P
CASRN for Hazardous Substances: Not reported
Chemical Name: Not reported
Other Information Regarding The Tank Substance: Not reported
Undeliverable Address Ind.: N
Contact Name: UNKNOWN
Company: Not reported

Tank Sequence #: 006
Tank Id: Not reported
Status: Closed Without a Permit
Status Code End Date: Not reported
Capacity: 550
Substance: Gasoline
Tank Substance End Date: Not reported
Install Date: 01/01/1965
Tank Code: UST
Inspection Code: Not reported
Last Inspection: Not reported
Substance Type: P
CASRN for Hazardous Substances: Not reported
Chemical Name: Not reported
Other Information Regarding The Tank Substance: Not reported
Undeliverable Address Ind.: N
Contact Name: UNKNOWN
Company: Not reported

Tank Sequence #: 003
Tank Id: Not reported
Status: Closed Without a Permit
Status Code End Date: Not reported
Capacity: 6000
Substance: Gasoline
Tank Substance End Date: Not reported
Install Date: 01/01/1972
Tank Code: UST
Inspection Code: Not reported
Last Inspection: Not reported
Substance Type: P
CASRN for Hazardous Substances: Not reported
Chemical Name: Not reported
Other Information Regarding The Tank Substance: Not reported
Undeliverable Address Ind.: N
Contact Name: UNKNOWN
Company: Not reported

Map ID
Direction
Distance
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number
EPA ID Number

CHAMPION CHEVROLET (Continued)

S119707996

Tank Sequence #: 002
Tank Id: Not reported
Status: Closed Without a Permit
Status Code End Date: Not reported
Capacity: 6000
Substance: Gasoline
Tank Substance End Date: Not reported
Install Date: 01/01/1972
Tank Code: UST
Inspection Code: Not reported
Last Inspection: Not reported
Substance Type: P
CASRN for Hazardous Substances: Not reported
Chemical Name: Not reported
Other Information Regarding The Tank Substance: Not reported
Undeliverable Address Ind.: N
Contact Name: UNKNOWN
Company: Not reported

Tank Sequence #: 004
Tank Id: Not reported
Status: Closed Without a Permit
Status Code End Date: Not reported
Capacity: 6000
Substance: Gasoline
Tank Substance End Date: Not reported
Install Date: 01/01/1972
Tank Code: UST
Inspection Code: Not reported
Last Inspection: Not reported
Substance Type: P
CASRN for Hazardous Substances: Not reported
Chemical Name: Not reported
Other Information Regarding The Tank Substance: Not reported
Undeliverable Address Ind.: N
Contact Name: UNKNOWN
Company: Not reported

Tank Sequence #: 001
Tank Id: Not reported
Status: Closed Without a Permit
Status Code End Date: Not reported
Capacity: 8000
Substance: Gasoline
Tank Substance End Date: Not reported
Install Date: 01/01/1972
Tank Code: UST
Inspection Code: Not reported
Last Inspection: Not reported
Substance Type: P
CASRN for Hazardous Substances: Not reported
Chemical Name: Not reported
Other Information Regarding The Tank Substance: Not reported
Undeliverable Address Ind.: N
Contact Name: UNKNOWN

Map ID
Direction
Distance
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number
EPA ID Number

CHAMPION CHEVROLET (Continued)

S119707996

Company: Not reported

O60 SHULTZ ENTERPRISES PROP LOT 3
East 1177 CARLISLE ST
1/8-1/4 HANOVER, PA 17331
0.201 mi.
1060 ft. Site 4 of 5 in cluster O

PA UNREG LTANKS S105920817
PA VCP N/A

Actual: UNREG LTANKS:
558 ft. Region: South Central
Focus Map: Contaminant: Not reported
4 **Closed:** **Not reported**
Class: Cleanup of Tanks using authorities other than Act 32

VCP:

Cleanup Records:

Municipality: Hanover Boro
Region: Southcentral Region
Category Desc: Chlorinated Solvents
Type: Complete Sites
LRP Activity Number: 36995
Remediation: Statewide Health Standard
Activity: NO
Date Approved: 02/22/2007
Date Received: Not reported
Date Nonuse: Not reported
ICS Code: Not reported
Media: Groundwater
Latitude: 39.791111
Longitude: -76.994444

Municipality: Hanover Boro
Region: Southcentral Region
Category Desc: Chlorinated Solvents
Type: Complete Sites
LRP Activity Number: 36995
Remediation: Statewide Health Standard
Activity: NO
Date Approved: 02/22/2007
Date Received: Not reported
Date Nonuse: Not reported
ICS Code: Not reported
Media: Soil
Latitude: 39.791111
Longitude: -76.994444

Municipality: Hanover Boro
Region: Southcentral Region
Category Desc: Lead
Type: Complete Sites
LRP Activity Number: 36995
Remediation: Statewide Health Standard
Activity: NO
Date Approved: 02/22/2007
Date Received: Not reported
Date Nonuse: Not reported
ICS Code: Not reported

Map ID
Direction
Distance
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number
EPA ID Number

SHULTZ ENTERPRISES PROP LOT 3 (Continued)

S105920817

Media:	Groundwater
Latitude:	39.791111
Longitude:	-76.994444
Municipality:	Hanover Boro
Region:	Southcentral Region
Category Desc:	Lead
Type:	Complete Sites
LRP Activity Number:	36995
Remediation:	Statewide Health Standard
Activity:	NO
Date Approved:	02/22/2007
Date Received:	Not reported
Date Nonuse:	Not reported
ICS Code:	Not reported
Media:	Soil
Latitude:	39.791111
Longitude:	-76.994444
Municipality:	Hanover Boro
Region:	Southcentral Region
Category Desc:	Unleaded Gasoline
Type:	Complete Sites
LRP Activity Number:	36995
Remediation:	Statewide Health Standard
Activity:	NO
Date Approved:	02/22/2007
Date Received:	Not reported
Date Nonuse:	Not reported
ICS Code:	Not reported
Media:	Soil
Latitude:	39.791111
Longitude:	-76.994444
Municipality:	Hanover Boro
Region:	Southcentral Region
Category Desc:	Other Organics
Type:	Complete Sites
LRP Activity Number:	36995
Remediation:	Statewide Health Standard
Activity:	NO
Date Approved:	02/22/2007
Date Received:	Not reported
Date Nonuse:	Not reported
ICS Code:	Not reported
Media:	Soil
Latitude:	39.791111
Longitude:	-76.994444
Municipality:	Hanover Boro
Region:	Southcentral Region
Category Desc:	PAH
Type:	Complete Sites
LRP Activity Number:	36995
Remediation:	Statewide Health Standard
Activity:	NO
Date Approved:	02/22/2007

Map ID
Direction
Distance
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number
EPA ID Number

SHULTZ ENTERPRISES PROP LOT 3 (Continued)

S105920817

Date Received: Not reported
Date Nonuse: Not reported
ICS Code: Not reported
Media: Groundwater
Latitude: 39.791111
Longitude: -76.994444

Municipality: Hanover Boro
Region: Southcentral Region
Category Desc: PAH
Type: Complete Sites
LRP Activity Number: 36995
Remediation: Statewide Health Standard
Activity: NO
Date Approved: 02/22/2007
Date Received: Not reported
Date Nonuse: Not reported
ICS Code: Not reported
Media: Soil
Latitude: 39.791111
Longitude: -76.994444

Municipality: Hanover Boro
Region: Southcentral Region
Category Desc: Unleaded Gasoline
Type: Complete Sites
LRP Activity Number: 36995
Remediation: Statewide Health Standard
Activity: NO
Date Approved: 02/22/2007
Date Received: Not reported
Date Nonuse: Not reported
ICS Code: Not reported
Media: Groundwater
Latitude: 39.791111
Longitude: -76.994444

Activity:
Activity ID: 623269, 623269, 623269, 623269, 623269, 623269, 623269, 623269, 623269,
623269, 623269,
Municipality: Hanover Boro
Region: Southcentral Region
Category Desc: Other Organics
Type: Complete Sites
LRP Activity Number: 36995
Remediation: Statewide Health Standard
Activity: NO
Date Approved: 02/22/2007
Date Received: Not reported
Date Nonuse: Not reported
ICS Code: Not reported
Media: Groundwater
Latitude: 39.791111
Longitude: -76.994444

Map ID
 Direction
 Distance
 Elevation

MAP FINDINGS

EDR ID Number
 EPA ID Number

Site

Database(s)

O61 SHULTZ ENTERPRISES PROP LOT 3 PA RGA LUST S115475555
East 1177 CARLISLE ST N/A
1/8-1/4 HANOVER, PA
0.201 mi.
1060 ft. Site 5 of 5 in cluster O

Actual: RGA LUST:
558 ft. 2001 SHULTZ ENTERPRISES PROP LOT 3 1177 CARLISLE ST
Focus Map: 2000 SHULTZ ENTERPRISES PROP LOT 3 1177 CARLISLE ST
4 1999 SHULTZ ENTERPRISES PROP LOT 3 1177 CARLISLE ST
 1998 SHULTZ ENTERPRISES PROP LOT 3 1177 CARLISLE ST

P62 FAULKNER HANOVER GMC US AIRS 1007728532
NE 100 EISENHOWER DRIVE FINDS N/A
1/8-1/4 HANOVER, PA 17331 ECHO
0.206 mi.
1086 ft. Site 1 of 4 in cluster P

Actual: US AIRS MINOR:
551 ft. Envid: 1007728532
Focus Map: Region Code: 03
4 Programmatic ID: AIR PA0000004213340026
 Facility Registry ID: 110018851973
 D and B Number: Not reported
 Primary SIC Code: 5511
 NAICS Code: 441110
 Default Air Classification Code: MIN
 Facility Type of Ownership Code: POF
 Air CMS Category Code: Not reported
 HPV Status: Not reported

US AIRS MINOR:
 Region Code: 03
 Programmatic ID: AIR PA0000004213340026
 Facility Registry ID: 110018851973
 Air Operating Status Code: OPR
 Default Air Classification Code: MIN
 Air Program: Stratospheric Ozone Protection
 Activity Date: 2004-01-14 00:00:00
 Activity Status Date: Not reported
 Activity Group: Compliance Monitoring
 Activity Type: Inspection/Evaluation
 Activity Status: Not reported

FINDS:

Registry ID: 110018851973

Environmental Interest/Information System

NCDB (National Compliance Data Base) supports implementation of the Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA) and the Toxic Substances Control Act (TSCA). The system tracks inspections in regions and states with cooperative agreements, enforcement actions, and settlements.

AFS (Aerometric Information Retrieval System (AIRS) Facility

Map ID
Direction
Distance
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number
EPA ID Number

FAULKNER HANOVER GMC (Continued)

1007728532

Subsystem) replaces the former Compliance Data System (CDS), the National Emission Data System (NEDS), and the Storage and Retrieval of Aerometric Data (SAROAD). AIRS is the national repository for information concerning airborne pollution in the United States. AFS is used to track emissions and compliance data from industrial plants. AFS data are utilized by states to prepare State Implementation Plans to comply with regulatory programs and by EPA as an input for the estimation of total national emissions. AFS is undergoing a major redesign to support facility operating permits required under Title V of the Clean Air Act.

RCRAInfo is a national information system that supports the Resource Conservation and Recovery Act (RCRA) program through the tracking of events and activities related to facilities that generate, transport, and treat, store, or dispose of hazardous waste. RCRAInfo allows RCRA program staff to track the notification, permit, compliance, and corrective action activities required under RCRA.

PA-EFACTS (Pennsylvania - Environmental Facility Application Compliance Tracking System) is a Department-wide database that provides a holistic view of clients and sites (including facilities) that DEP regulates.

AIR MINOR

SSTS (Section Seven Tracking System) evolved from the FIFRA and TSCA Enforcement System (FATES). SSTS tracks the registration of all pesticide-producing establishments and tracks annually the types and amounts of pesticides, active ingredients, and related devices that are produced, sold, or distributed each year.

[Click this hyperlink](#) while viewing on your computer to access additional FINDS: detail in the EDR Site Report.

ECHO:

Envid: 1007728532
Registry ID: 110018851973
DFR URL: <http://echo.epa.gov/detailed-facility-report?fid=110018851973>

P63 ALL STAR OF HANOVER INC
NE 100 EISENHOWER DR
1/8-1/4 HANOVER, PA 17331
0.206 mi.
1086 ft. Site 2 of 4 in cluster P

PA ARCHIVE UST S111107146
N/A

Actual: ARCHIVE UST:
551 ft. Facility Id: 67-62781
Focus Map: Site ID: Not reported
4 Municipality: Not reported
Client Date: Not reported
Owner Id: 15398
Owner Name: ALL STAR OF HANOVER INC
Owner Address: 100 EISENHOWER DR
Owner Address 2: Not reported
Owner City,St,Zip: HANOVER, PA 17331
Owner Phone: 7176373811

Map ID
Direction
Distance
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number
EPA ID Number

ALL STAR OF HANOVER INC (Continued)

S111107146

Owner County Code: 67
Resp Party Name: Not reported
RP Address: Not reported
RP Address 2: Not reported
RP City,St,Zip: Not reported
Region Code Name: Not reported
Regulated Expire Date: Not reported

Tank Sequence #: 002
Tank Id: 123269
Status: CURRENTLY IN USE
Status Code End Date: Not reported
Capacity: 550
Substance: Used Oil (all forms)
Tank Substance End Date: Not reported
Install Date: Not reported
Tank Code: Not reported
Inspection Code: Not reported
Last Inspection: Not reported
Substance Type: Not reported
CASRN for Hazardous Substances: Not reported
Chemical Name: Not reported
Other Information Regarding The Tank Substance: Not reported
Undeliverable Address Ind.: Not reported
Contact Name: Not reported
Company: Not reported

**P64
NE
1/8-1/4
0.206 mi.
1086 ft.**

**FAULKNER CADILLAC PONTIAC GMC
100 EISENHOWER DR
HANOVER, PA 17331
Site 3 of 4 in cluster P**

**RCRA-SQG 1000122971
NY MANIFEST PAD981108806**

**Actual:
551 ft.**

RCRA-SQG:

Date form received by agency: 08/01/2008

**Focus Map:
4**

Facility name: FAULKNER CADILLAC PONTIAC GMC
Facility address: 100 EISENHOWER DR
HANOVER, PA 17331

EPA ID: PAD981108806
Contact: ED BUCKMAN
Contact address: 100 EISENHOWER DR
HANOVER, PA 17331

Contact country: US
Contact telephone: 717-637-3811
Contact email: Not reported
EPA Region: 03

Classification: Small Small Quantity Generator
Description: Handler: generates more than 100 and less than 1000 kg of hazardous waste during any calendar month and accumulates less than 6000 kg of hazardous waste at any time; or generates 100 kg or less of hazardous waste during any calendar month, and accumulates more than 1000 kg of hazardous waste at any time

Owner/Operator Summary:

Owner/operator name: JYLH OF HANOVER LLC
Owner/operator address: 100 EISENHOWER DR
HANOVER, PA 17331

Map ID
Direction
Distance
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number
EPA ID Number

FAULKNER CADILLAC PONTIAC GMC (Continued)

1000122971

Owner/operator country: US
Owner/operator telephone: Not reported
Owner/operator email: Not reported
Owner/operator fax: Not reported
Owner/operator extension: Not reported
Legal status: Private
Owner/Operator Type: Owner
Owner/Op start date: 08/13/2005
Owner/Op end date: Not reported

Owner/operator name: FAULKNER CADILLAC PONTIAC GMC
Owner/operator address: Not reported
Not reported

Owner/operator country: Not reported
Owner/operator telephone: Not reported
Owner/operator email: Not reported
Owner/operator fax: Not reported
Owner/operator extension: Not reported
Legal status: Private
Owner/Operator Type: Operator
Owner/Op start date: 08/13/2005
Owner/Op end date: Not reported

Handler Activities Summary:

U.S. importer of hazardous waste: No
Mixed waste (haz. and radioactive): No
Recycler of hazardous waste: No
Transporter of hazardous waste: No
Treater, storer or disposer of HW: No
Underground injection activity: No
On-site burner exemption: No
Furnace exemption: No
Used oil fuel burner: No
Used oil processor: No
User oil refiner: No
Used oil fuel marketer to burner: No
Used oil Specification marketer: No
Used oil transfer facility: No
Used oil transporter: No

. Waste code: D001

. Waste name: IGNITABLE HAZARDOUS WASTES ARE THOSE WASTES WHICH HAVE A FLASHPOINT OF LESS THAN 140 DEGREES FAHRENHEIT AS DETERMINED BY A PENSKEY-MARTENS CLOSED CUP FLASH POINT TESTER. ANOTHER METHOD OF DETERMINING THE FLASH POINT OF A WASTE IS TO REVIEW THE MATERIAL SAFETY DATA SHEET, WHICH CAN BE OBTAINED FROM THE MANUFACTURER OR DISTRIBUTOR OF THE MATERIAL. LACQUER THINNER IS AN EXAMPLE OF A COMMONLY USED SOLVENT WHICH WOULD BE CONSIDERED AS IGNITABLE HAZARDOUS WASTE.

. Waste code: D035

. Waste name: METHYL ETHYL KETONE

. Waste code: F003

. Waste name: THE FOLLOWING SPENT NON-HALOGENATED SOLVENTS: XYLENE, ACETONE, ETHYL ACETATE, ETHYL BENZENE, ETHYL ETHER, METHYL ISOBUTYL KETONE, N-BUTYL ALCOHOL, CYCLOHEXANONE, AND METHANOL; ALL SPENT SOLVENT MIXTURES/BLENDS CONTAINING, BEFORE USE, ONLY THE ABOVE SPENT

Map ID
Direction
Distance
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number
EPA ID Number

FAULKNER CADILLAC PONTIAC GMC (Continued)

1000122971

NON-HALOGENATED SOLVENTS; AND ALL SPENT SOLVENT MIXTURES/BLENDS CONTAINING, BEFORE USE, ONE OR MORE OF THE ABOVE NON-HALOGENATED SOLVENTS, AND, A TOTAL OF TEN PERCENT OR MORE (BY VOLUME) OF ONE OR MORE OF THOSE SOLVENTS LISTED IN F001, F002, F004, AND F005, AND STILL BOTTOMS FROM THE RECOVERY OF THESE SPENT SOLVENTS AND SPENT SOLVENT MIXTURES.

- . Waste code: F005
- . Waste name: THE FOLLOWING SPENT NON-HALOGENATED SOLVENTS: TOLUENE, METHYL ETHYL KETONE, CARBON DISULFIDE, ISOBUTANOL, PYRIDINE, BENZENE, 2-ETHOXYETHANOL, AND 2-NITROPROPANE; ALL SPENT SOLVENT MIXTURES/BLENDS CONTAINING, BEFORE USE, A TOTAL OF TEN PERCENT OR MORE (BY VOLUME) OF ONE OR MORE OF THE ABOVE NON-HALOGENATED SOLVENTS OR THOSE SOLVENTS LISTED IN F001, F002, OR F004; AND STILL BOTTOMS FROM THE RECOVERY OF THESE SPENT SOLVENTS AND SPENT SOLVENT MIXTURES.

Historical Generators:

Date form received by agency: 03/12/1986
Site name: BEST PONTIAC
Classification: Small Quantity Generator

- . Waste code: D001
- . Waste name: IGNITABLE HAZARDOUS WASTES ARE THOSE WASTES WHICH HAVE A FLASHPOINT OF LESS THAN 140 DEGREES FAHRENHEIT AS DETERMINED BY A PENSKEY-MARTENS CLOSED CUP FLASH POINT TESTER. ANOTHER METHOD OF DETERMINING THE FLASH POINT OF A WASTE IS TO REVIEW THE MATERIAL SAFETY DATA SHEET, WHICH CAN BE OBTAINED FROM THE MANUFACTURER OR DISTRIBUTOR OF THE MATERIAL. LACQUER THINNER IS AN EXAMPLE OF A COMMONLY USED SOLVENT WHICH WOULD BE CONSIDERED AS IGNITABLE HAZARDOUS WASTE.

- . Waste code: D007
- . Waste name: CHROMIUM

- . Waste code: D008
- . Waste name: LEAD

- . Waste code: D018
- . Waste name: BENZENE

- . Waste code: D022
- . Waste name: CHLOROFORM

- . Waste code: D028
- . Waste name: 1,2-DICHLOROETHANE

- . Waste code: D035
- . Waste name: METHYL ETHYL KETONE

- . Waste code: D039
- . Waste name: TETRACHLOROETHYLENE

- . Waste code: D040
- . Waste name: TRICHLOROETHYLENE

- . Waste code: F003
- . Waste name: THE FOLLOWING SPENT NON-HALOGENATED SOLVENTS: XYLENE, ACETONE, ETHYL ACETATE, ETHYL BENZENE, ETHYL ETHER, METHYL ISOBUTYL KETONE, N-BUTYL

Map ID
Direction
Distance
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number
EPA ID Number

FAULKNER CADILLAC PONTIAC GMC (Continued)

1000122971

ALCOHOL, CYCLOHEXANONE, AND METHANOL; ALL SPENT SOLVENT MIXTURES/BLENDS CONTAINING, BEFORE USE, ONLY THE ABOVE SPENT NON-HALOGENATED SOLVENTS; AND ALL SPENT SOLVENT MIXTURES/BLENDS CONTAINING, BEFORE USE, ONE OR MORE OF THE ABOVE NON-HALOGENATED SOLVENTS, AND, A TOTAL OF TEN PERCENT OR MORE (BY VOLUME) OF ONE OR MORE OF THOSE SOLVENTS LISTED IN F001, F002, F004, AND F005, AND STILL BOTTOMS FROM THE RECOVERY OF THESE SPENT SOLVENTS AND SPENT SOLVENT MIXTURES.

. Waste code: F005
. Waste name: THE FOLLOWING SPENT NON-HALOGENATED SOLVENTS: TOLUENE, METHYL ETHYL KETONE, CARBON DISULFIDE, ISOBUTANOL, PYRIDINE, BENZENE, 2-ETHOXYETHANOL, AND 2-NITROPROPANE; ALL SPENT SOLVENT MIXTURES/BLENDS CONTAINING, BEFORE USE, A TOTAL OF TEN PERCENT OR MORE (BY VOLUME) OF ONE OR MORE OF THE ABOVE NON-HALOGENATED SOLVENTS OR THOSE SOLVENTS LISTED IN F001, F002, OR F004; AND STILL BOTTOMS FROM THE RECOVERY OF THESE SPENT SOLVENTS AND SPENT SOLVENT MIXTURES.

Violation Status: No violations found

NY MANIFEST:

Country: USA
EPA ID: PAD981108806
Facility Status: Not reported
Location Address 1: 100 EISENHOWER DRIVE
Code: BP
Location Address 2: Not reported
Total Tanks: Not reported
Location City: HANOVER
Location State: PA
Location Zip: 17331
Location Zip 4: Not reported

NY MANIFEST:

EPAID: PAD981108806
Mailing Name: TOWN & COUNTRY PONTIAC
Mailing Contact: TOWN & COUNTRY PONTIAC
Mailing Address 1: 100 EISENHOWER DRIVE
Mailing Address 2: Not reported
Mailing City: HANOVER
Mailing State: PA
Mailing Zip: 17331
Mailing Zip 4: Not reported
Mailing Country: USA
Mailing Phone: 7176373811

NY MANIFEST:

Document ID: NYC1233988
Manifest Status: C
seq: Not reported
Year: 1991
Trans1 State ID: YE39437
Trans2 State ID: Not reported
Generator Ship Date: 09/24/1991
Trans1 Recv Date: 09/24/1991
Trans2 Recv Date: / /
TSD Site Recv Date: 09/27/1991
Part A Recv Date: 10/03/1991

Map ID
 Direction
 Distance
 Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number
 EPA ID Number

FAULKNER CADILLAC PONTIAC GMC (Continued)

1000122971

Part B Recv Date: 10/08/1991
 Generator EPA ID: PAD981108806
 Trans1 EPA ID: ILD051060408
 Trans2 EPA ID: Not reported
 TSD ID 1: NYD980753784
 TSD ID 2: Not reported
 Manifest Tracking Number: Not reported
 Import Indicator: Not reported
 Export Indicator: Not reported
 Discr Quantity Indicator: Not reported
 Discr Type Indicator: Not reported
 Discr Residue Indicator: Not reported
 Discr Partial Reject Indicator: Not reported
 Discr Full Reject Indicator: Not reported
 Manifest Ref Number: Not reported
 Alt Facility RCRA ID: Not reported
 Alt Facility Sign Date: Not reported
 MGMT Method Type Code: Not reported
 Waste Code: F005 - UNKNOWN
 Waste Code: Not reported
 Waste Code: Not reported
 Waste Code: Not reported
 Waste Code: Not reported
 Waste Code: Not reported
 Quantity: 00027
 Units: P - Pounds
 Number of Containers: 001
 Container Type: DM - Metal drums, barrels
 Handling Method: B Incineration, heat recovery, burning.
 Specific Gravity: 100

[Click this hyperlink](#) while viewing on your computer to access
 -1 additional NY MANIFEST: record(s) in the EDR Site Report.

P65
NE
1/8-1/4
0.206 mi.
1086 ft.

FAULKNER OF HANOVER L & M OLSDMOBILE CADILLAC
100 EISENHOWER DR
HANOVER, PA 17331
Site 4 of 4 in cluster P

PA MANIFEST S109245639
N/A

Actual:
551 ft.
Focus Map:
4

Manifest Details:
 Year: 2013
 Manifest Number: 006016187FLE
 Manifest Type: TSD Copy
 Generator EPA Id: PAD981108806
 Generator Date: 01/09/2013
 Mailing Address: Not reported
 Mailing City, St, Zip: Not reported
 Contact Name: Not reported
 Contact Phone: 717-637-3811
 TSD EPA Id: Not reported
 TSD Date: Not reported
 TSD Facility Name: Hukill Chemical Corp
 TSD Facility Address: 7013 Krick Rd
 TSD Facility City: Bedford
 TSD Facility State: OH
 Facility Telephone: Not reported

Map ID
Direction
Distance
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number
EPA ID Number

FAULKNER OF HANOVER L & M OLSDMOBILE CADILLAC (Continued)

S109245639

Page Number: 1
Line Number: 1
Waste Number: F005
Container Number: 4
Container Type: Metal drums, barrels, kegs
Waste Quantity: 185
Unit: Gallons (liquids only)
Handling Code: Not reported
TSP EPA Id: OHD001926740
Date TSP Sig: Not reported

Year: 2013
Manifest Number: 006016187FLE
Manifest Type: TSD Copy
Generator EPA Id: PAD981108806
Generator Date: 01/09/2013
Mailing Address: Not reported
Mailing City, St, Zip: Not reported
Contact Name: Not reported
Contact Phone: 717-637-3811
TSD EPA Id: Not reported
TSD Date: Not reported
TSD Facility Name: Hukill Chemical Corp
TSD Facility Address: 7013 Krick Rd
TSD Facility City: Bedford
TSD Facility State: OH
Facility Telephone: Not reported
Page Number: 1
Line Number: 1
Waste Number: D001
Container Number: 4
Container Type: Metal drums, barrels, kegs
Waste Quantity: 185
Unit: Gallons (liquids only)
Handling Code: Not reported
TSP EPA Id: OHD001926740
Date TSP Sig: Not reported

Year: 2013
Manifest Number: 006016187FLE
Manifest Type: TSD Copy
Generator EPA Id: PAD981108806
Generator Date: 01/09/2013
Mailing Address: Not reported
Mailing City, St, Zip: Not reported
Contact Name: Not reported
Contact Phone: 717-637-3811
TSD EPA Id: Not reported
TSD Date: Not reported
TSD Facility Name: Hukill Chemical Corp
TSD Facility Address: 7013 Krick Rd
TSD Facility City: Bedford
TSD Facility State: OH
Facility Telephone: Not reported
Page Number: 1
Line Number: 1
Waste Number: F003

Map ID
Direction
Distance
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number
EPA ID Number

FAULKNER OF HANOVER L & M OLSDMOBILE CADILLAC (Continued)

S109245639

Container Number: 4
Container Type: Metal drums, barrels, kegs
Waste Quantity: 185
Unit: Gallons (liquids only)
Handling Code: Not reported
TSP EPA Id: OHD001926740
Date TSP Sig: Not reported

Year: 2013
Manifest Number: 006016187FLE
Manifest Type: TSD Copy
Generator EPA Id: PAD981108806
Generator Date: 01/09/2013
Mailing Address: Not reported
Mailing City, St, Zip: Not reported
Contact Name: Not reported
Contact Phone: 717-637-3811
TSD EPA Id: Not reported
TSD Date: Not reported
TSD Facility Name: Hukill Chemical Corp
TSD Facility Address: 7013 Krick Rd
TSD Facility City: Bedford
TSD Facility State: OH
Facility Telephone: Not reported
Page Number: 1
Line Number: 1
Waste Number: D035
Container Number: 4
Container Type: Metal drums, barrels, kegs
Waste Quantity: 185
Unit: Gallons (liquids only)
Handling Code: Not reported
TSP EPA Id: OHD001926740
Date TSP Sig: Not reported

Year: 2012
Manifest Number: 005084355FLE
Manifest Type: TSD Copy
Generator EPA Id: PAD981108806
Generator Date: 01/06/2012
Mailing Address: Not reported
Mailing City, St, Zip: Not reported
Contact Name: Not reported
Contact Phone: 717-637-3811
TSD EPA Id: Not reported
TSD Date: Not reported
TSD Facility Name: HUKILL CHEMICAL CORP
TSD Facility Address: 7013 KRICK ROAD
TSD Facility City: BEDFORD
TSD Facility State: OH
Facility Telephone: Not reported
Page Number: 1
Line Number: 1
Waste Number: D001
Container Number: 4
Container Type: Metal drums, barrels, kegs
Waste Quantity: 220

Map ID
Direction
Distance
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number
EPA ID Number

FAULKNER OF HANOVER L & M OLSDMOBILE CADILLAC (Continued)

S109245639

Unit: Gallons (liquids only)
Handling Code: Not reported
TSP EPA Id: OHD001926740
Date TSP Sig: Not reported

Year: 2012
Manifest Number: 005084355FLE
Manifest Type: TSD Copy
Generator EPA Id: PAD981108806
Generator Date: 01/06/2012
Mailing Address: Not reported
Mailing City, St, Zip: Not reported
Contact Name: Not reported
Contact Phone: 717-637-3811
TSD EPA Id: Not reported
TSD Date: Not reported
TSD Facility Name: HUKILL CHEMICAL CORP
TSD Facility Address: 7013 KRICK ROAD
TSD Facility City: BEDFORD
TSD Facility State: OH
Facility Telephone: Not reported
Page Number: 1
Line Number: 1
Waste Number: F005
Container Number: 4
Container Type: Metal drums, barrels, kegs
Waste Quantity: 220
Unit: Gallons (liquids only)
Handling Code: Not reported
TSP EPA Id: OHD001926740
Date TSP Sig: Not reported

Year: 2012
Manifest Number: 005084355FLE
Manifest Type: TSD Copy
Generator EPA Id: PAD981108806
Generator Date: 01/06/2012
Mailing Address: Not reported
Mailing City, St, Zip: Not reported
Contact Name: Not reported
Contact Phone: 717-637-3811
TSD EPA Id: Not reported
TSD Date: Not reported
TSD Facility Name: HUKILL CHEMICAL CORP
TSD Facility Address: 7013 KRICK ROAD
TSD Facility City: BEDFORD
TSD Facility State: OH
Facility Telephone: Not reported
Page Number: 1
Line Number: 1
Waste Number: F003
Container Number: 4
Container Type: Metal drums, barrels, kegs
Waste Quantity: 220
Unit: Gallons (liquids only)
Handling Code: Not reported
TSP EPA Id: OHD001926740

Map ID
Direction
Distance
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number
EPA ID Number

FAULKNER OF HANOVER L & M OLSDMOBILE CADILLAC (Continued)

S109245639

Date TSP Sig: Not reported
Year: 2012
Manifest Number: 005084355FLE
Manifest Type: TSD Copy
Generator EPA Id: PAD981108806
Generator Date: 01/06/2012
Mailing Address: Not reported
Mailing City, St, Zip: Not reported
Contact Name: Not reported
Contact Phone: 717-637-3811
TSD EPA Id: Not reported
TSD Date: Not reported
TSD Facility Name: HUKILL CHEMICAL CORP
TSD Facility Address: 7013 KRICK ROAD
TSD Facility City: BEDFORD
TSD Facility State: OH
Facility Telephone: Not reported
Page Number: 1
Line Number: 1
Waste Number: D035
Container Number: 4
Container Type: Metal drums, barrels, kegs
Waste Quantity: 220
Unit: Gallons (liquids only)
Handling Code: Not reported
TSP EPA Id: OHD001926740
Date TSP Sig: Not reported

Year: 2009
Manifest Number: 005006217JJK
Manifest Type: TSD Copy
Generator EPA Id: PAD981108806
Generator Date: 04/23/2009
Mailing Address: Not reported
Mailing City, St, Zip: Not reported
Contact Name: Not reported
Contact Phone: 717-637-3811
TSD EPA Id: OHD001926740
TSD Date: Not reported
TSD Facility Name: HUKILL CHEMICAL CORP
TSD Facility Address: 7013 KRICK ROAD
TSD Facility City: BEDFORD
TSD Facility State: OH
Facility Telephone: Not reported
Page Number: 1
Line Number: 1
Waste Number: D035
Container Number: 2
Container Type: Metal drums, barrels, kegs
Waste Quantity: 110
Unit: Gallons (liquids only)
Handling Code: Not reported
TSP EPA Id: Not reported
Date TSP Sig: Not reported

Year: 2009

Map ID
Direction
Distance
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number
EPA ID Number

FAULKNER OF HANOVER L & M OLSDMOBILE CADILLAC (Continued)

S109245639

Manifest Number: 005006217JJK
Manifest Type: TSD Copy
Generator EPA Id: PAD981108806
Generator Date: 04/23/2009
Mailing Address: Not reported
Mailing City, St, Zip: Not reported
Contact Name: Not reported
Contact Phone: 717-637-3811
TSD EPA Id: OHD001926740
TSD Date: Not reported
TSD Facility Name: HUKILL CHEMICAL CORP
TSD Facility Address: 7013 KRICK ROAD
TSD Facility City: BEDFORD
TSD Facility State: OH
Facility Telephone: Not reported
Page Number: 1
Line Number: 1
Waste Number: F005
Container Number: 2
Container Type: Metal drums, barrels, kegs
Waste Quantity: 110
Unit: Gallons (liquids only)
Handling Code: Not reported
TSP EPA Id: Not reported
Date TSP Sig: Not reported

[Click this hyperlink](#) while viewing on your computer to access
14 additional PA_MANIFEST: record(s) in the EDR Site Report.

L66
NNE
1/8-1/4
0.210 mi.
1107 ft.

EDDIES CLNR/HANOVER
1225 CARLISLE PIKE
HANOVER, PA 17331
Site 2 of 4 in cluster L

PA AIRS S106935679
PA DRYCLEANERS N/A

Actual:
544 ft.

Focus Map:
4

AIRS:
Address 2: Not reported
Primary Facility ID: 495523
Contact Name: Not reported
Contact Phone: Not reported
Contact Email: Not reported
Status: Unpermitted Inactive
Region: Southcentral Regional Office
Site ID: 466318
Client ID: 96143
Client Name: EDDIES CLNR
NAICS Code: 812320
Client Address: 1255 CARLISLE PIKE
Client Address 2: Not reported
Client City: HANOVER
Client State: PA
Client Zip: 17331
Client Type: NON-GOVERNMENT
NAICS Description: Drycleaning and Laundry Services (except Coin-Operated)
Latitude: 39.816265
Longitude: -76.99548

Map ID
 Direction
 Distance
 Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number
 EPA ID Number

EDDIES CLNR/HANOVER (Continued)

S106935679

DRYCLEANERS:

Regional Office:	3
District Office:	33
County #:	67
Site Id:	466318
PF ID:	495523
EPA Compliance Data System #:	4213395003
EPA Class:	Not reported
Get Sic:	Not reported
Naics Number:	812320
AFS Id:	Not reported
PF Other Id:	23-2145248-1
Municipality Name:	Hanover Boro
Date Last Modified:	06/23/2004
Latitude Degrees:	39
Latitude Minutes:	48
Latitude Seconds:	58.5533
Longitude Degrees:	-76.00000
Longitude Minutes:	59.00000
Longitude Seconds:	43.72890
Clint ID:	96143
Regulatory Program:	MACT
Subpar:	Subpart M--National Perchloroethylene Air Emission Standards for Dry Cleaning Facilities
Region:	Southcentral Regional Office
Primary Facility Status:	Unpermitted Inactive
Contact Name:	Not reported
Contact Phone:	Not reported
Contact Email:	Not reported
Client:	EDDIES CLNR
Client Type:	Not reported
Client Address1:	1255 CARLISLE PIKE
Client Address2:	Not reported
Client City:	HANOVER
Client State:	PA
Client Zip:	17331
NAICS Description:	Drycleaning and Laundry Services (except Coin-Operated)
Latitude:	39.816265
Longitude:	-76.99548

L67 EDDIES CLNR HANOVER/HANOVER
NNE 1225 CARLISLE PIKE
1/8-1/4 HANOVER, PA 17331
0.210 mi.
1107 ft. Site 3 of 4 in cluster L

ICIS 1000249659
US AIRS N/A

Actual:	ICIS:	
544 ft.	Enforcement Action ID:	PA000A0000421339500300402
Focus Map:	FRS ID:	110001019497
4	Action Name:	EDDIES CLNR HANOVER/HANOVER 421339500300402
	Facility Name:	EDDIES CLNR HANOVER/HANOVER
	Facility Address:	1225 CARLISLE PIKE HANOVER, PA 173311134
	Enforcement Action Type:	Notice of Violation
	Facility County:	YORK
	Program System Acronym:	AIR
	Enforcement Action Forum Desc:	Administrative - Informal
	EA Type Code:	NOV

Map ID
Direction
Distance
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number
EPA ID Number

EDDIES CLNR HANOVER/HANOVER (Continued)

1000249659

Facility SIC Code: 7216
Federal Facility ID: Not reported
Latitude in Decimal Degrees: 39.825298
Longitude in Decimal Degrees: -76.998145
Permit Type Desc: Not reported
Program System Acronym: PA000495523
Facility NAICS Code: 812320
Tribal Land Code: Not reported

US AIRS MINOR:

Envid: 1000249659
Region Code: 03
Programmatic ID: AIR PA000495523
Facility Registry ID: 110001019497
D and B Number: Not reported
Primary SIC Code: 7216
NAICS Code: 812320
Default Air Classification Code: MIN
Facility Type of Ownership Code: POF
Air CMS Category Code: Not reported
HPV Status: Not reported

US AIRS MINOR:

Region Code: 03
Programmatic ID: AIR PA000495523
Facility Registry ID: 110001019497
Air Operating Status Code: OPR
Default Air Classification Code: MIN
Air Program: MACT Standards (40 CFR Part 63)
Activity Date: 1997-09-03 00:00:00
Activity Status Date: Not reported
Activity Group: Compliance Monitoring
Activity Type: Inspection/Evaluation
Activity Status: Not reported

Region Code: 03
Programmatic ID: AIR PA000495523
Facility Registry ID: 110001019497
Air Operating Status Code: OPR
Default Air Classification Code: MIN
Air Program: MACT Standards (40 CFR Part 63)
Activity Date: 1997-12-16 00:00:00
Activity Status Date: Not reported
Activity Group: Compliance Monitoring
Activity Type: Inspection/Evaluation
Activity Status: Not reported

Region Code: 03
Programmatic ID: AIR PA000495523
Facility Registry ID: 110001019497
Air Operating Status Code: OPR
Default Air Classification Code: MIN
Air Program: MACT Standards (40 CFR Part 63)
Activity Date: 1997-09-05 00:00:00
Activity Status Date: 1997-09-05 00:00:00
Activity Group: Enforcement Action

Map ID
Direction
Distance
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number
EPA ID Number

EDDIES CLNR HANOVER/HANOVER (Continued)

1000249659

Activity Type: Administrative - Informal
Activity Status: Achieved

Region Code: 03
Programmatic ID: AIR PA000495523
Facility Registry ID: 110001019497
Air Operating Status Code: OPR
Default Air Classification Code: MIN
Air Program: State Implementation Plan for National Primary and Secondary Ambient Air Quality Standards
Activity Date: 1997-09-03 00:00:00
Activity Status Date: Not reported
Activity Group: Compliance Monitoring
Activity Type: Inspection/Evaluation
Activity Status: Not reported

Region Code: 03
Programmatic ID: AIR PA000495523
Facility Registry ID: 110001019497
Air Operating Status Code: OPR
Default Air Classification Code: MIN
Air Program: State Implementation Plan for National Primary and Secondary Ambient Air Quality Standards
Activity Date: 1997-12-16 00:00:00
Activity Status Date: Not reported
Activity Group: Compliance Monitoring
Activity Type: Inspection/Evaluation
Activity Status: Not reported

Region Code: 03
Programmatic ID: AIR PA000495523
Facility Registry ID: 110001019497
Air Operating Status Code: OPR
Default Air Classification Code: MIN
Air Program: State Implementation Plan for National Primary and Secondary Ambient Air Quality Standards
Activity Date: 1997-09-05 00:00:00
Activity Status Date: 1997-09-05 00:00:00
Activity Group: Enforcement Action
Activity Type: Administrative - Informal
Activity Status: Achieved

L68
NNE
1/8-1/4
0.210 mi.
1107 ft.

EDDIES CLEANERS HANOVER INC
1225 CARLISLE ST
HANOVER, PA 17331
Site 4 of 4 in cluster L

RCRA NonGen / NLR **1015749678**
PAD981734601

Actual:
544 ft.

RCRA NonGen / NLR:

Date form received by agency: 04/05/2012
Facility name: EDDIES CLEANERS HANOVER INC
Facility address: 1225 CARLISLE ST
HANOVER, PA 17331
EPA ID: PAD981734601
Contact: Not reported
Contact address: Not reported
Not reported
Contact country: US
Contact telephone: Not reported
Contact email: Not reported

Focus Map:
4

Map ID
Direction
Distance
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number
EPA ID Number

EDDIES CLEANERS HANOVER INC (Continued)

1015749678

EPA Region: 03
Land type: Other land type
Classification: Non-Generator
Description: Handler: Non-Generators do not presently generate hazardous waste

Handler Activities Summary:

U.S. importer of hazardous waste: No
Mixed waste (haz. and radioactive): No
Recycler of hazardous waste: No
Transporter of hazardous waste: No
Treater, storer or disposer of HW: No
Underground injection activity: No
On-site burner exemption: No
Furnace exemption: No
Used oil fuel burner: No
Used oil processor: No
User oil refiner: No
Used oil fuel marketer to burner: No
Used oil Specification marketer: No
Used oil transfer facility: No
Used oil transporter: No

Historical Generators:

Date form received by agency: 09/30/1986
Site name: EDDIES CLEANERS HANOVER INC
Classification: Small Quantity Generator

. Waste code: D000
. Waste name: Not Defined

. Waste code: D001
. Waste name: IGNITABLE HAZARDOUS WASTES ARE THOSE WASTES WHICH HAVE A FLASHPOINT OF LESS THAN 140 DEGREES FAHRENHEIT AS DETERMINED BY A PENSKEY-MARTENS CLOSED CUP FLASH POINT TESTER. ANOTHER METHOD OF DETERMINING THE FLASH POINT OF A WASTE IS TO REVIEW THE MATERIAL SAFETY DATA SHEET, WHICH CAN BE OBTAINED FROM THE MANUFACTURER OR DISTRIBUTOR OF THE MATERIAL. LACQUER THINNER IS AN EXAMPLE OF A COMMONLY USED SOLVENT WHICH WOULD BE CONSIDERED AS IGNITABLE HAZARDOUS WASTE.

. Waste code: F002
. Waste name: THE FOLLOWING SPENT HALOGENATED SOLVENTS: TETRACHLOROETHYLENE, METHYLENE CHLORIDE, TRICHLOROETHYLENE, 1,1,1-TRICHLOROETHANE, CHLOROBENZENE, 1,1,2-TRICHLORO-1,2,2-TRIFLUOROETHANE, ORTHO-DICHLOROBENZENE, TRICHLOROFLUOROMETHANE, AND 1,1,2-TRICHLOROETHANE; ALL SPENT SOLVENT MIXTURES/BLENDS CONTAINING, BEFORE USE, A TOTAL OF TEN PERCENT OR MORE (BY VOLUME) OF ONE OR MORE OF THE ABOVE HALOGENATED SOLVENTS OR THOSE LISTED IN F001, F004, OR F005, AND STILL BOTTOMS FROM THE RECOVERY OF THESE SPENT SOLVENTS AND SPENT SOLVENT MIXTURES.

Violation Status: No violations found

Evaluation Action Summary:

Evaluation date: 04/03/2012
Evaluation: COMPLIANCE EVALUATION INSPECTION ON-SITE
Area of violation: Not reported

Map ID
 Direction
 Distance
 Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number
 EPA ID Number

EDDIES CLEANERS HANOVER INC (Continued)

1015749678

Date achieved compliance: Not reported
 Evaluation lead agency: State

Evaluation date: 07/31/1996
 Evaluation: COMPLIANCE EVALUATION INSPECTION ON-SITE
 Area of violation: Not reported
 Date achieved compliance: Not reported
 Evaluation lead agency: State

Evaluation date: 01/20/1987
 Evaluation: COMPLIANCE EVALUATION INSPECTION ON-SITE
 Area of violation: Not reported
 Date achieved compliance: Not reported
 Evaluation lead agency: State

69
ESE
1/8-1/4
0.227 mi.
1196 ft.

RABER DONALD
1125 CARLISLE AVE
HANOVER, PA 17331

EDR Hist Auto **1021681916**
N/A

Actual: EDR Hist Auto
563 ft.

Focus Map: 8	Year: Name: 1969 RABER DONALD 1970 RABER DONALD	Type: Gasoline Service Stations Gasoline Service Stations
-------------------------------	--	---

70
NNW
1/8-1/4
0.228 mi.
1202 ft.

JOSEPH F SMITH TRUCKING & EXCAVATING
29 CHAPEL RD
HANOVER, PA 17331

PA ARCHIVE AST **S111104208**
N/A

Actual: 519 ft.	ARCHIVE AST:	
Focus Map: 6	Facility ID:	01-61226
	Site ID:	Not reported
	Client ID:	Not reported
	Municipality:	Not reported
	Region Name:	Not reported
	Owner ID:	6319
	Owner Name:	JOSEPH F SMITH
	Owner Phone:	7176371687
	Owner Address:	29 CHAPEL RD
	Owner Address 2:	Not reported
	Owner City,St,Zip:	HANOVER, PA 17331
	Owner County Code:	1
	Resp Party Name:	Not reported
	RP Address:	Not reported
	RP Address 2:	Not reported
	RP City,St,Zip:	Not reported
	Regulated Exp Date:	Not reported
	Tank ID:	723
	Tank Sequence #:	001A
	Install Date:	03/01/1987
	Status:	Not reported
	Status Code End Date:	Not reported

Map ID
 Direction
 Distance
 Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number
 EPA ID Number

JOSEPH F SMITH TRUCKING & EXCAVATING (Continued)

S111104208

Capacity: 1000
 Substance: DIESEL
 Tank Substance End Date: Not reported
 Tank Code: Not reported
 Inspection Code: Not reported
 Last Inspection: Not reported
 Substance Type: Not reported
 CASRN for Hazardous Substances: Not reported
 Chemical Name: Not reported
 Other Information Regarding The Tank Substance: Not reported
 Undeliverable Address Ind.: Not reported
 Contact Name: Not reported
 Company: Not reported

Q71	EDDIES CLEANERS INC	EDR Hist Cleaner	1019980027
NNE	1231 CARLISLE ST		N/A
1/8-1/4	HANOVER, PA 17331		
0.239 mi.			
1261 ft.	Site 1 of 2 in cluster Q		
Actual:	EDR Hist Cleaner		
539 ft.			
Focus Map:	Year: Name:	Type:	
4	1985 EDDIES CLEANERS INC	Drycleaning Plants, Except Rugs	

R72	ALL STAR OF HANOVER	PA ARCHIVE AST	S119694351
ENE	100 EISENHOWER DR		N/A
1/8-1/4	HANOVER, PA 17331		
0.240 mi.			
1266 ft.	Site 1 of 2 in cluster R		
Actual:	ARCHIVE AST:		
556 ft.	Facility ID:	67-62781	
Focus Map:	Site ID:	Not reported	
4	Client ID:	Not reported	
	Municipality:	Hanover Boro	
	Region Name:	Not reported	
	Owner ID:	Not reported	
	Owner Name:	ALL STAR OF HANOVER INC	
	Owner Phone:	Not reported	
	Owner Address:	100 EISENHOWER DR	
	Owner Address 2:	Not reported	
	Owner City,St,Zip:	HANOVER, PA 17331	
	Owner County Code:	Not reported	
	Resp Party Name:	Not reported	
	RP Address:	Not reported	
	RP Address 2:	Not reported	
	RP City,St,Zip:	Not reported	
	Regulated Exp Date:	Not reported	
	Tank ID:	Not reported	
	Tank Sequence #:	001A	
	Install Date:	08/01/1985	
	Status:	Exempt	
	Status Code End Date:	Not reported	
	Capacity:	275	

Map ID
Direction
Distance
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number
EPA ID Number

ALL STAR OF HANOVER (Continued)

S119694351

Substance: New Motor Oil
Tank Substance End Date: Not reported
Tank Code: AST
Inspection Code: Not reported
Last Inspection: Not reported
Substance Type: P
CASRN for Hazardous Substances: Not reported
Chemical Name: Not reported
Other Information Regarding The Tank Substance: Not reported
Undeliverable Address Ind.: N
Contact Name: UNKNOWN
Company: Not reported

R73 100 EISENHOWER DRIVE
ENE 100 EISENHOWER DRIVE
1/8-1/4 HANOVER, BOROUGH OF, PA 17331
0.240 mi.
1266 ft. Site 2 of 2 in cluster R

FINDS 1022972927
ECHO N/A

Actual: FINDS:
556 ft.

Focus Map: Registry ID: 110070009276
4

Environmental Interest/Information System

US National Pollutant Discharge Elimination System (NPDES) module of the Compliance Information System (ICIS) tracks surface water permits issued under the Clean Water Act. Under NPDES, all facilities that discharge pollutants from any point source into waters of the United States are required to obtain a permit. The permit will likely contain limits on what can be discharged, impose monitoring and reporting requirements, and include other provisions to ensure that the discharge does not adversely affect water quality.

[Click this hyperlink](#) while viewing on your computer to access additional FINDS: detail in the EDR Site Report.

ECHO:

Envid: 1022972927
Registry ID: 110070009276
DFR URL: <http://echo.epa.gov/detailed-facility-report?fid=110070009276>

Q74 HANOVER COLD STORAGE INC
NNE 1301 CARLISLE PIKE
1/4-1/2 HANOVER, PA 17331
0.254 mi.
1340 ft. Site 2 of 2 in cluster Q

PA LUST 1004584217
PA ARCHIVE AST N/A
FINDS
ECHO

Actual:
539 ft.

Focus Map: LUST:
4 Region: EP SC Rgnl Off Harrisburg
Municipality: Penn Twp
Facility Id: 615933
Facility Type: Underground Storage Tank Containing Petroleum
Facility Status: Cleanup Completed
Status Date: 05/23/1996
Confirmed Date: 08/05/1989

Map ID
Direction
Distance
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number
EPA ID Number

HANOVER COLD STORAGE INC (Continued)

1004584217

Program Other Id: 67-22336
Client: HANOVER COLD STORAGE INC
Incident Id: 15388
Incident Desc: W E BITTINGER
Suspect Date: Not reported
Source Of Notification: Not reported
Release Discovered: Not reported
Source Cause Of Release: Not reported
Tank: Not reported
Impact Desc: Soil
Substance: Unleaded Gasoline
CAS RN: Not reported
Chemical: Not reported
Comments: Not reported
Horizontal Ref Datum: WGS84
Altitude Datum: Not reported
Latitude: 39.826125
Longitude: -76.998957

Region: EP SC Rgnl Off Harrisburg
Municipality: Penn Twp
Facility Id: 615933
Facility Type: Underground Storage Tank Containing Petroleum
Facility Status: Inactive
Status Date: 04/23/1999
Confirmed Date: 08/05/1989
Program Other Id: 67-22336
Client: HANOVER COLD STORAGE INC
Incident Id: 15706
Incident Desc: HANOVER COLD STORAGE INC
Suspect Date: Not reported
Source Of Notification: Not reported
Release Discovered: Not reported
Source Cause Of Release: Not reported
Tank: Not reported
Impact Desc: Soil
Substance: Unleaded Gasoline
CAS RN: Not reported
Chemical: Not reported
Comments: Not reported
Horizontal Ref Datum: WGS84
Altitude Datum: Not reported
Latitude: 39.826125
Longitude: -76.998957

ARCHIVE AST:

Facility ID: 67-22336
Site ID: 449596
Client ID: 34400
Municipality: Penn
Region Name: EP Sc Rgnl Off Harrisbrg
Owner ID: Not reported
Owner Name: Not reported
Owner Phone: Not reported
Owner Address: Not reported
Owner Address 2: Not reported
Owner City,St,Zip: Not reported

Map ID
Direction
Distance
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number
EPA ID Number

HANOVER COLD STORAGE INC (Continued)

1004584217

Owner County Code:	Not reported
Resp Party Name:	HANOVER COLD STORAGE INC
RP Address:	52 INDUSTRIAL RD
RP Address 2:	Not reported
RP City,St,Zip:	ELIZABETHTOWN, PA 17022-9425
Regulated Exp Date:	6/4/2008
Tank ID:	Not reported
Tank Sequence #:	001A
Install Date:	4/1/1946
Status:	Currently In Use
Status Code End Date:	Not reported
Capacity:	750
Substance:	HZSUB
Tank Substance End Date:	Not reported
Tank Code:	AST
Inspection Code:	Not reported
Last Inspection:	Not reported
Substance Type:	Not reported
CASRN for Hazardous Substances:	Not reported
Chemical Name:	Not reported
Other Information Regarding The Tank Substance:	Not reported
Undeliverable Address Ind.:	Not reported
Contact Name:	Not reported
Company:	Not reported

FINDS:

Registry ID: 110006694363

Environmental Interest/Information System

US National Pollutant Discharge Elimination System (NPDES) module of the Compliance Information System (ICIS) tracks surface water permits issued under the Clean Water Act. Under NPDES, all facilities that discharge pollutants from any point source into waters of the United States are required to obtain a permit. The permit will likely contain limits on what can be discharged, impose monitoring and reporting requirements, and include other provisions to ensure that the discharge does not adversely affect water quality.

[Click this hyperlink](#) while viewing on your computer to access additional FINDS: detail in the EDR Site Report.

ECHO:

Envid: 1004584217
Registry ID: 110006694363
DFR URL: <http://echo.epa.gov/detailed-facility-report?fid=110006694363>

Map ID
Direction
Distance
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number
EPA ID Number

75
East
1/4-1/2
0.325 mi.
1715 ft.

SHULTZ ENTERPRISES PROP LOTS 5 & 6
INTERSECTOIN OF CARLISLE ST & EISENHOWER DR
HANOVER, PA 17331

PA UNREG LTANKS
PA VCP
PA ACT 2-DEED
S105422988
N/A

Actual:
562 ft.
Focus Map:
8

UNREG LTANKS:
Region: South Central
Contaminant: BTEX
Closed: **Not reported**
Class: Cleanup of Tanks using authorities other than Act 32

VCP:

Cleanup Records:

Municipality: Hanover Boro
Region: Southcentral Region
Category Desc: Not reported
Type: Complete Sites
LRP Activity Number: 15365
Remediation: Background Standard
Activity: NO
Date Approved: 04/16/2002
Date Received: Not reported
Date Nonuse: Not reported
ICS Code: Not reported
Media: Groundwater
Latitude: 39.821388
Longitude: -76.993888

Municipality: Hanover Boro
Region: Southcentral Region
Category Desc: Chlorinated Solvents
Type: Complete Sites
LRP Activity Number: 15365
Remediation: Background Standard
Activity: NO
Date Approved: 04/16/2002
Date Received: Not reported
Date Nonuse: Not reported
ICS Code: Not reported
Media: Groundwater
Latitude: 39.821388
Longitude: -76.993888

Municipality: Hanover Boro
Region: Southcentral Region
Category Desc: Not reported
Type: Complete Sites
LRP Activity Number: 15366
Remediation: Statewide Health Standard
Activity: NO
Date Approved: 04/16/2002
Date Received: Not reported
Date Nonuse: Not reported
ICS Code: Not reported
Media: Groundwater
Latitude: 39.821388
Longitude: -76.993888

Map ID
Direction
Distance
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number
EPA ID Number

SHULTZ ENTERPRISES PROP LOTS 5 & 6 (Continued)

S105422988

Municipality: Hanover Boro
Region: Southcentral Region
Category Desc: Lead
Type: Complete Sites
LRP Activity Number: 15366
Remediation: Statewide Health Standard
Activity: NO
Date Approved: 04/16/2002
Date Received: Not reported
Date Nonuse: Not reported
ICS Code: Not reported
Media: Soil
Latitude: 39.821388
Longitude: -76.993888

Municipality: Hanover Boro
Region: Southcentral Region
Category Desc: Chlorinated Solvents
Type: Complete Sites
LRP Activity Number: 15366
Remediation: Statewide Health Standard
Activity: NO
Date Approved: 04/16/2002
Date Received: Not reported
Date Nonuse: Not reported
ICS Code: Not reported
Media: Groundwater
Latitude: 39.821388
Longitude: -76.993888

Municipality: Hanover Boro
Region: Southcentral Region
Category Desc: Chlorinated Solvents
Type: Complete Sites
LRP Activity Number: 15366
Remediation: Statewide Health Standard
Activity: NO
Date Approved: 04/16/2002
Date Received: Not reported
Date Nonuse: Not reported
ICS Code: Not reported
Media: Soil
Latitude: 39.821388
Longitude: -76.993888

Municipality: Hanover Boro
Region: Southcentral Region
Category Desc: Lead
Type: Complete Sites
LRP Activity Number: 15366
Remediation: Statewide Health Standard
Activity: NO
Date Approved: 04/16/2002
Date Received: Not reported
Date Nonuse: Not reported
ICS Code: Not reported
Media: Groundwater

Map ID
Direction
Distance
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number
EPA ID Number

SHULTZ ENTERPRISES PROP LOTS 5 & 6 (Continued)

S105422988

Latitude: 39.821388
Longitude: -76.993888

Activity:

Activity ID: 623268, 623268, 623268, 623268, 623268, 623268, 623268, 623268,
Municipality: Hanover Boro
Region: Southcentral Region
Category Desc: Not reported
Type: Complete Sites
LRP Activity Number: 15366
Remediation: Statewide Health Standard
Activity: NO
Date Approved: 04/16/2002
Date Received: Not reported
Date Nonuse: Not reported
ICS Code: Not reported
Media: Soil
Latitude: 39.821388
Longitude: -76.993888

ACT 2-DEED:

Region: 4300
Municipality: Hanover
Site Size: 2.5
Cleanup Standard: Statewide Health
Cleanup Indicator: Not reported
Response Date: 4/16/2002
Category Description: Chlorinated Solvents, Lead
Land Designation Code: Not reported

76
SSW
1/4-1/2
0.335 mi.
1770 ft.

**HANOVER AREA REG WWTF
END OBRIEN LN OFF SECOND ST
MCSHERRYSTOWN, PA 17344**

**PA LUST S112209038
PA AUL N/A
PA ARCHIVE AST**

**Actual:
532 ft.
Focus Map:
6**

LUST:

Region: EP SC Rgnl Off Harrisburg
Municipality: Conewago Twp
Facility Id: 575370
Facility Type: Underground Storage Tank Containing Petroleum
Facility Status: Cleanup Completed
Status Date: 04/23/2012
Confirmed Date: 03/13/2008
Program Other Id: 01-63598
Client: HANOVER BORO YORK CNTY
Incident Id: 38932
Incident Desc: UST 001 WAS OVERFILLED BY ARENTZ OIL RELEASING APPROX. 70-GALS OF DIESEL FUEL.
Suspect Date: 3/13/2008
Source Of Notification: OWNER
Release Discovered: VISOD
Source Cause Of Release: OVER
Tank: Not reported
Impact Desc: Soil
Substance: Diesel Fuel
CAS RN: Not reported

Map ID
Direction
Distance
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number
EPA ID Number

HANOVER AREA REG WWTF (Continued)

S112209038

Chemical: Not reported
Comments: Not reported
Horizontal Ref Datum: WGS84
Altitude Datum: Not reported
Latitude: 39.804832
Longitude: -77.029693

AUL:

Facility Id: 575370
Primary Facility Type: Storage Tank Locator
Latitude: 39 48' 14.46"
Longitude: -77 1' 48.30"
Region: Southcentral Region
Client Id: 92320
Client Name: HANOVER BORO YORK CNTY
Incident Id / Name Description: 38932 UST 001 WAS OVERFILLED BY ARENTZ OIL RELEASING APPROX. 70-GALS OF DIESEL FUEL.
Remediation Id: Not reported
Remediation Received Date: Not reported
Address: END OBRIEN LN OFF SECOND ST MCSHERRYSTOWN, PA 17344
AUL Code: ENVIRONMENTAL COVENANT
Received Date: 07/06/2012
Action Date: 07/18/2012
Action: DEP SIGNED
Recorded Date: 08/12/2012
Terminated Date: Not reported
Amended Date: Not reported
Activity Use Limitation Code: GWPRO
Activity Use Limitation Desc: GROUNDWATER USE PROHIBITED
Aul Comment: Not reported
Internal Use EDR Field: DETAIL AS OF JANUARY 2013

ARCHIVE AST:

Facility ID: 01-63598
Site ID: Not reported
Client ID: Not reported
Municipality: Conewago Twp
Region Name: Not reported
Owner ID: Not reported
Owner Name: HANOVER BORO YORK CNTY
Owner Phone: Not reported
Owner Address: 44 FREDERICK ST
Owner Address 2: Not reported
Owner City,St,Zip: HANOVER, PA 17331-3501
Owner County Code: Not reported
Resp Party Name: Not reported
RP Address: Not reported
RP Address 2: Not reported
RP City,St,Zip: Not reported
Regulated Exp Date: Not reported
Tank ID: Not reported
Tank Sequence #: 003A
Install Date: 12/23/1991
Status: Exempt
Status Code End Date: Not reported

Map ID
Direction
Distance
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number
EPA ID Number

HANOVER AREA REG WWTF (Continued)

S112209038

Capacity: 300
Substance: Diesel Fuel
Tank Substance End Date: Not reported
Tank Code: AST
Inspection Code: Not reported
Last Inspection: Not reported
Substance Type: P
CASRN for Hazardous Substances: Not reported
Chemical Name: Not reported
Other Information Regarding The Tank Substance: Not reported
Undeliverable Address Ind.: N
Contact Name: MICHAEL J. O'ROURKE BORO MGR
Company: Not reported

77
North
1/4-1/2
0.359 mi.
1895 ft.

CONEWAGO ENTERPRISES
660 EDGE GROVE RD
HANOVER, PA 17331

PA LUST U001451848
PA UST N/A
PA ARCHIVE UST

Actual:
523 ft.
Focus Map:
6

LUST:
Region: EP SC Rgnl Off Harrisburg
Municipality: Conewago Twp
Facility Id: 575145
Facility Type: Underground Storage Tank Containing Petroleum
Facility Status: Cleanup Completed
Status Date: 06/28/1996
Confirmed Date: 08/05/1989
Program Other Id: 01-24750
Client: CONEWAGO ENTERPRISES INC
Incident Id: 11436
Incident Desc: CONEWAGO CONTR INC tanks 1, 2, 3, 4, and 5
Suspect Date: Not reported
Source Of Notification: Not reported
Release Discovered: Not reported
Source Cause Of Release: Not reported
Tank: Not reported
Impact Desc: Soil
Substance: Diesel Fuel
CAS RN: Not reported
Chemical: Not reported
Comments: Not reported
Horizontal Ref Datum: WGS84
Altitude Datum: Not reported
Latitude: 39.82002
Longitude: -77.036372

UST:
Site ID: 561074
Other Id: 01-24750
Client Id Number: 78717
Municipality Name: Conewago
Region: EP SC Rgnl Off Harrisburg
Mailing Name: CONEWAGO ENTERPRISES INC
Mailing Address: PO BOX 407
Mailing Address 2: Not reported
Mailing City,St,Zip: HANOVER, PA 17331-0407

Map ID
Direction
Distance
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number
EPA ID Number

CONEWAGO ENTERPRISES (Continued)

U001451848

Registration Expiration Date: 06/04/2019

Tank Seq No: 006
Tank Status: Currently In Use
Capacity: 20000
Substance: Diesel Fuel
Date Installed: 12/01/1985
Tank Code: UST
Inspection Code: Facility Operation Inspection
Tank Last Dt Inspected: 01/28/2016
Decode for Tstatus: Currently In Use
Decode for Substance: Diesel Fuel

Tank Seq No: 007
Tank Status: Currently In Use
Capacity: 10000
Substance: Gasoline
Date Installed: 12/01/1979
Tank Code: UST
Inspection Code: Facility Operation Inspection
Tank Last Dt Inspected: 01/28/2016
Decode for Tstatus: Currently In Use
Decode for Substance: Gasoline

ARCHIVE UST:

Facility Id: 01-24750
Site ID: Not reported
Municipality: Conewago Twp
Client Date: Not reported
Owner Id: Not reported
Owner Name: CONEWAGO CONTR INC
Owner Address: 660 EDGE GROVE RD
Owner Address 2: Not reported
Owner City,St,Zip: HANOVER, PA 17331-7759
Owner Phone: Not reported
Owner County Code: Not reported
Resp Party Name: Not reported
RP Address: Not reported
RP Address 2: Not reported
RP City,St,Zip: Not reported
Region Code Name: Not reported
Regulated Expire Date: Not reported

Tank Sequence #: 005
Tank Id: Not reported
Status: Closed Without a Permit
Status Code End Date: Not reported
Capacity: 4000
Substance: Gasoline
Tank Substance End Date: Not reported
Install Date: 12/01/1974
Tank Code: UST
Inspection Code: Not reported
Last Inspection: Not reported
Substance Type: P
CASRN for Hazardous Substances: Not reported

Map ID
Direction
Distance
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number
EPA ID Number

CONEWAGO ENTERPRISES (Continued)

U001451848

Chemical Name: Not reported
Other Information Regarding The Tank Substance: Not reported
Undeliverable Address Ind.: N
Contact Name: UNKNOWN
Company: Not reported

Tank Sequence #: 001
Tank Id: Not reported
Status: Closed Without a Permit
Status Code End Date: Not reported
Capacity: 10000
Substance: Diesel Fuel
Tank Substance End Date: Not reported
Install Date: 12/01/1974
Tank Code: UST
Inspection Code: Not reported
Last Inspection: Not reported
Substance Type: P
CASRN for Hazardous Substances: Not reported
Chemical Name: Not reported
Other Information Regarding The Tank Substance: Not reported
Undeliverable Address Ind.: N
Contact Name: UNKNOWN
Company: Not reported

Tank Sequence #: 004
Tank Id: Not reported
Status: Closed Without a Permit
Status Code End Date: Not reported
Capacity: 4000
Substance: Gasoline
Tank Substance End Date: Not reported
Install Date: 12/01/1974
Tank Code: UST
Inspection Code: Not reported
Last Inspection: Not reported
Substance Type: P
CASRN for Hazardous Substances: Not reported
Chemical Name: Not reported
Other Information Regarding The Tank Substance: Not reported
Undeliverable Address Ind.: N
Contact Name: UNKNOWN
Company: Not reported

Tank Sequence #: 003
Tank Id: Not reported
Status: Closed Without a Permit
Status Code End Date: Not reported
Capacity: 10000
Substance: Gasoline
Tank Substance End Date: Not reported
Install Date: 12/01/1974
Tank Code: UST
Inspection Code: Not reported

Map ID
Direction
Distance
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number
EPA ID Number

CONEWAGO ENTERPRISES (Continued)

U001451848

Last Inspection:	Not reported
Substance Type:	P
CASRN for Hazardous Substances:	Not reported
Chemical Name:	Not reported
Other Information Regarding The Tank Substance:	Not reported
Undeliverable Address Ind.:	N
Contact Name:	UNKNOWN
Company:	Not reported
Tank Sequence #:	002
Tank Id:	Not reported
Status:	Closed Without a Permit
Status Code End Date:	Not reported
Capacity:	8000
Substance:	Diesel Fuel
Tank Substance End Date:	Not reported
Install Date:	12/01/1974
Tank Code:	UST
Inspection Code:	Not reported
Last Inspection:	Not reported
Substance Type:	P
CASRN for Hazardous Substances:	Not reported
Chemical Name:	Not reported
Other Information Regarding The Tank Substance:	Not reported
Undeliverable Address Ind.:	N
Contact Name:	UNKNOWN
Company:	Not reported

78
SE
1/4-1/2
0.384 mi.
2029 ft.

CLEARVIEW SHOPPING CTR
1000 CARLISLE ST NW COR ROUTE 94 & KUHN DR
YORK, PA 17401

PA VCP S111073308
N/A

Actual:
581 ft.
Focus Map:
8

VCP:
Cleanup Records:
Municipality: Hanover Boro
Region: Southcentral Region
Category Desc: Fuel Oil No 2
Type: Complete Sites
LRP Activity Number: 15389
Remediation: Statewide Health Standard
Activity: YES
Date Approved: 05/11/2006
Date Received: Not reported
Date Nonuse: Not reported
ICS Code: Not reported
Media: Soil
Latitude: 39.816944
Longitude: -76.995277

Activity:
Activity ID: 623275, 623275,
Municipality: Hanover Boro
Region: Southcentral Region
Category Desc: Fuel Oil No 2

Map ID
Direction
Distance
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number
EPA ID Number

CLEARVIEW SHOPPING CTR (Continued)

S111073308

Type: Complete Sites
LRP Activity Number: 15389
Remediation: Statewide Health Standard
Activity: YES
Date Approved: 05/11/2006
Date Received: Not reported
Date Nonuse: Not reported
ICS Code: Not reported
Media: Groundwater
Latitude: 39.816944
Longitude: -76.995277

S79 **CC 1606**
SE **1049 CARLISLE ST**
1/4-1/2 **HANOVER, PA 17331**
0.410 mi.
2167 ft. **Site 1 of 2 in cluster S**

PA LUST **S115909737**
 N/A

Actual:
583 ft.
Focus Map:
8

LUST:
Region: EP SC Rgnl Off Harrisburg
Municipality: Hanover Boro
Facility Id: 616462
Facility Type: Underground Storage Tank Containing Petroleum
Facility Status: Interim or Remedial Actions Initiated
Status Date: 03/16/2009
Confirmed Date: 01/01/2008
Program Other Id: 67-60540
Client: CORTEZ CAPITAL I LLC
Incident Id: 40049
Incident Desc: RELEASE FROM UST SYSTEM
Suspect Date: 1/1/2008
Source Of Notification: Not reported
Release Discovered: Not reported
Source Cause Of Release: INFNP
Tank: Not reported
Impact Desc: Ground Water
Substance: Unleaded Gasoline
CAS RN: Not reported
Chemical: Not reported
Comments: Not reported
Horizontal Ref Datum: NAD83
Altitude Datum: Not reported
Latitude: 39.817276
Longitude: -76.993846

Region: EP SC Rgnl Off Harrisburg
Municipality: Hanover Boro
Facility Id: 616462
Facility Type: Underground Storage Tank Containing Petroleum
Facility Status: Interim or Remedial Actions Initiated
Status Date: 03/16/2009
Confirmed Date: 01/01/2008
Program Other Id: 67-60540
Client: CORTEZ CAPITAL I LLC
Incident Id: 40049
Incident Desc: RELEASE FROM UST SYSTEM
Suspect Date: 1/1/2008
Source Of Notification: Not reported

Map ID
Direction
Distance
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number
EPA ID Number

CC 1606 (Continued)

S115909737

Release Discovered: Not reported
Source Cause Of Release: INFNP
Tank: Not reported
Impact Desc: Soil
Substance: Not reported
CAS RN: Not reported
Chemical: Not reported
Comments: Not reported
Horizontal Ref Datum: NAD83
Altitude Datum: Not reported
Latitude: 39.817276
Longitude: -76.993846

S80 **CVS NO 1653**
SE **1000 CARLISLE ST**
1/4-1/2 **HANOVER, PA 17331**
0.417 mi.
2203 ft. **Site 2 of 2 in cluster S**

RCRA-SQG **1004778115**
PA LUST **PAR000042903**
FINDS
ECHO
RI MANIFEST
PA MANIFEST

Actual:
584 ft.

Focus Map:
8

RCRA-SQG:
Date form received by agency: 05/22/2000
Facility name: CVS NO 1653
Facility address: 1000 CARLISLE ST
HANOVER, PA 17331
EPA ID: PAR000042903
Contact: SCOTT WAGNER
Contact address: 1000 CARLISLE ST
HANOVER, PA 17331
Contact country: US
Contact telephone: 717-637-6388
Contact email: Not reported
EPA Region: 03
Classification: Small Small Quantity Generator
Description: Handler: generates more than 100 and less than 1000 kg of hazardous waste during any calendar month and accumulates less than 6000 kg of hazardous waste at any time; or generates 100 kg or less of hazardous waste during any calendar month, and accumulates more than 1000 kg of hazardous waste at any time

Owner/Operator Summary:
Owner/operator name: CLEARVIEW ASSOC
Owner/operator address: 18 S GEORGE ST
YORK, PA 17401
Owner/operator country: Not reported
Owner/operator telephone: 717-505-1000
Owner/operator email: Not reported
Owner/operator fax: Not reported
Owner/operator extension: Not reported
Legal status: Private
Owner/Operator Type: Owner
Owner/Op start date: Not reported
Owner/Op end date: Not reported

Handler Activities Summary:
U.S. importer of hazardous waste: No
Mixed waste (haz. and radioactive): No

Map ID
Direction
Distance
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number
EPA ID Number

CVS NO 1653 (Continued)

1004778115

Recycler of hazardous waste: No
Transporter of hazardous waste: No
Treater, storer or disposer of HW: No
Underground injection activity: No
On-site burner exemption: No
Furnace exemption: No
Used oil fuel burner: No
Used oil processor: No
User oil refiner: No
Used oil fuel marketer to burner: No
Used oil Specification marketer: No
Used oil transfer facility: No
Used oil transporter: No

. Waste code: D011
. Waste name: SILVER

Violation Status: No violations found

LUST:

Region: EP SC Rgnl Off Harrisburg
Municipality: Hanover Boro
Facility Id: 616553
Facility Type: Underground Storage Tank Containing Petroleum
Facility Status: Cleanup Completed
Status Date: 10/03/1995
Confirmed Date: 08/05/1989
Program Other Id: 67-61102
Client: CLEARVIEW ASSOC
Incident Id: 15390
Incident Desc: CLEARVIEW SHOPPING CTR
Suspect Date: Not reported
Source Of Notification: Not reported
Release Discovered: Not reported
Source Cause Of Release: Not reported
Tank: Not reported
Impact Desc: Soil
Substance: PAH
CAS RN: Not reported
Chemical: Not reported
Comments: Not reported
Horizontal Ref Datum: WGS84
Altitude Datum: Not reported
Latitude: 39.816317
Longitude: -76.993555

FINDS:

Registry ID: 110004885697

Environmental Interest/Information System

RCRAInfo is a national information system that supports the Resource Conservation and Recovery Act (RCRA) program through the tracking of events and activities related to facilities that generate, transport, and treat, store, or dispose of hazardous waste. RCRAInfo allows RCRA program staff to track the notification, permit, compliance, and corrective action activities required under RCRA.

Map ID
Direction
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MAP FINDINGS

Site

Database(s)

EDR ID Number
EPA ID Number

CVS NO 1653 (Continued)

1004778115

[Click this hyperlink](#) while viewing on your computer to access additional FINDS: detail in the EDR Site Report.

ECHO:

Envid: 1004778115
Registry ID: 110004885697
DFR URL: <http://echo.epa.gov/detailed-facility-report?fid=110004885697>

RI MANIFEST:

EPA Id: PAR000042903
GEN Cert Date: 7/26/2001
Manifest Document Number: RIS0056388
Waste Description: PHOTO FIXER/DEVELOPER
TSDf Id: RID040098352
TSDf Name: NORTHLAND ENVIRONMENTAL INC.
Qty: 30
WT/Vol Units: G
TSDf Date: Not reported
Transporter 2 Id: Not reported
Item Number: 11155
Transporter 2 Name: Not reported
Transporter Name 2: REPUBLIC ENV SYS (TRANS GROUP)
Transporter EPAID: PAD982661381
Transporter Receipt Date: Not reported
Number Of Containers: 0
Container Type: Not reported
Waste Code1: Not reported
Waste Code2: Not reported
Waste Code3: Not reported
Waste Code4: Not reported
Waste Code5: Not reported
Waste Code6: Not reported
Fee Exempt Code: Not reported
Comment: Not reported
Transporter Name 2: Not reported
Company Permit Number: Not reported
Year: Not reported
Quarter: Not reported
Transporter Contact Name: Not reported
Transporter Contact Email: Not reported
Filing Date: Not reported
Total Fee: Not reported
Billing Name: Not reported
Paid Date: Not reported
Paid Time: Not reported
Facility Receipt Date: Not reported
Fee: Not reported
Manifest Created Date: Not reported
Manifest Updated Date: Not reported

RI MANIFEST:

Transporter Receipt Date: Not reported
Number Of Containers: 0
Container Type: Not reported
Waste Code1: Not reported
Waste Code2: Not reported

Map ID
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MAP FINDINGS

Site

Database(s)

EDR ID Number
EPA ID Number

CVS NO 1653 (Continued)

1004778115

Waste Code3:	Not reported
Waste Code4:	Not reported
Waste Code5:	Not reported
Waste Code6:	Not reported
Comment:	Not reported
Fee Exempt Code:	Not reported
TSDf Name:	NORTHLAND ENVIRONMENTAL INC.
TSDf Id:	RID040098352
Transporter Name 2:	Not reported
Company Permit Number:	Not reported
Year:	Not reported
EPA ID:	PAR000042903
Manifest Docket Number:	RIS0056274
Quarter:	Not reported
Waste Description:	PHOTO FIXER/DEVELOPER
Transporter Contact Name:	Not reported
Quantity:	26
Transporter Contact Email:	Not reported
WT/Vol Units:	G
Filing Date:	Not reported
Total Fee:	Not reported
Item Number:	13209
Transporter Name:	REPUBLIC ENV SYS (TRANS GROUP)
Billing Name:	Not reported
Transporter EPA ID:	PAD982661381
Date Paid:	Not reported
Time Paid:	Not reported
GEN Cert Date:	9/5/2001
Facility Receipt Date:	Not reported
Fee:	Not reported
Transporter 2 Receipt Date:	Not reported
Manifest Created Date:	Not reported
TSDf Receipt Date:	Not reported
Transporter 2 ID:	Not reported
Manifest Updated Date:	Not reported
Transporter Receipt Date:	Not reported
Number Of Containers:	0
Container Type:	Not reported
Waste Code1:	Not reported
Waste Code2:	Not reported
Waste Code3:	Not reported
Waste Code4:	Not reported
Waste Code5:	Not reported
Waste Code6:	Not reported
Comment:	Not reported
Fee Exempt Code:	Not reported
TSDf Name:	NORTHLAND ENVIRONMENTAL INC.
TSDf Id:	RID040098352
Transporter Name 2:	Not reported
Company Permit Number:	Not reported
Year:	Not reported
EPA ID:	PAR000042903
Manifest Docket Number:	RIS0058460
Quarter:	Not reported
Waste Description:	PHOTO FIXER/DEVELOPER
Transporter Contact Name:	Not reported

Map ID
Direction
Distance
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number
EPA ID Number

CVS NO 1653 (Continued)

1004778115

Quantity:	158
Transporter Contact Email:	Not reported
WT/Vol Units:	G
Filing Date:	Not reported
Total Fee:	Not reported
Item Number:	9391
Transporter Name:	REPUBLIC ENV SYS (TRANS GROUP)
Billing Name:	Not reported
Transporter EPA ID:	PAD982661381
Date Paid:	Not reported
Time Paid:	Not reported
GEN Cert Date:	8/8/2001
Facility Receipt Date:	Not reported
Fee:	Not reported
Transporter 2 Receipt Date:	Not reported
Manifest Created Date:	Not reported
TSDf Receipt Date:	Not reported
Transporter 2 ID:	Not reported
Manifest Updated Date:	Not reported
Transporter Receipt Date:	Not reported
Number Of Containers:	0
Container Type:	Not reported
Waste Code1:	Not reported
Waste Code2:	Not reported
Waste Code3:	Not reported
Waste Code4:	Not reported
Waste Code5:	Not reported
Waste Code6:	Not reported
Comment:	Not reported
Fee Exempt Code:	Not reported
TSDf Name:	NORTHLAND ENVIRONMENTAL INC.
TSDf Id:	RID040098352
Transporter Name 2:	Not reported
Company Permit Number:	Not reported
Year:	Not reported
EPA ID:	PAR000042903
Manifest Docket Number:	RIS0062452
Quarter:	Not reported
Waste Description:	PHOTO FIXER/DEVELOPER
Transporter Contact Name:	Not reported
Quantity:	28
Transporter Contact Email:	Not reported
WT/Vol Units:	G
Filing Date:	Not reported
Total Fee:	Not reported
Item Number:	16078
Transporter Name:	REPUBLIC ENV SYS (TRANS GROUP)
Billing Name:	Not reported
Transporter EPA ID:	PAD982661381
Date Paid:	Not reported
Time Paid:	Not reported
GEN Cert Date:	10/25/2001
Facility Receipt Date:	Not reported
Fee:	Not reported
Transporter 2 Receipt Date:	Not reported
Manifest Created Date:	Not reported

Map ID
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Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number
EPA ID Number

CVS NO 1653 (Continued)

1004778115

TSDf Receipt Date:	Not reported
Transporter 2 ID:	Not reported
Manifest Updated Date:	Not reported
Transporter Receipt Date:	Not reported
Number Of Containers:	0
Container Type:	Not reported
Waste Code1:	Not reported
Waste Code2:	Not reported
Waste Code3:	Not reported
Waste Code4:	Not reported
Waste Code5:	Not reported
Waste Code6:	Not reported
Comment:	Not reported
Fee Exempt Code:	Not reported
TSDf Name:	NORTHLAND ENVIRONMENTAL INC.
TSDf Id:	RID040098352
Transporter Name 2:	Not reported
Company Permit Number:	Not reported
Year:	Not reported
EPA ID:	PAR000042903
Manifest Docket Number:	RIS0058672
Quarter:	Not reported
Waste Description:	PHOTO FIXER/DEVELOPER
Transporter Contact Name:	Not reported
Quantity:	14
Transporter Contact Email:	Not reported
WT/Vol Units:	G
Filing Date:	Not reported
Total Fee:	Not reported
Item Number:	15245
Transporter Name:	REPUBLIC ENV SYS (TRANS GROUP)
Billing Name:	Not reported
Transporter EPA ID:	PAD982661381
Date Paid:	Not reported
Time Paid:	Not reported
GEN Cert Date:	10/17/2001
Facility Receipt Date:	Not reported
Fee:	Not reported
Transporter 2 Receipt Date:	Not reported
Manifest Created Date:	Not reported
TSDf Receipt Date:	Not reported
Transporter 2 ID:	Not reported
Manifest Updated Date:	Not reported
Transporter Receipt Date:	Not reported
Number Of Containers:	0
Container Type:	Not reported
Waste Code1:	Not reported
Waste Code2:	Not reported
Waste Code3:	Not reported
Waste Code4:	Not reported
Waste Code5:	Not reported
Waste Code6:	Not reported
Comment:	Not reported
Fee Exempt Code:	Not reported
TSDf Name:	NORTHLAND ENVIRONMENTAL INC.

Map ID
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MAP FINDINGS

Site

Database(s)

EDR ID Number
EPA ID Number

CVS NO 1653 (Continued)

1004778115

TSDf Id:	RID040098352
Transporter Name 2:	Not reported
Company Permit Number:	Not reported
Year:	Not reported
EPA ID:	PAR000042903
Manifest Docket Number:	RIS0058460
Quarter:	Not reported
Waste Description:	PHOTO FIXER/DEVELOPER
Transporter Contact Name:	Not reported
Quantity:	158
Transporter Contact Email:	Not reported
WT/Vol Units:	G
Filing Date:	Not reported
Total Fee:	Not reported
Item Number:	9391
Transporter Name:	REPUBLIC ENV SYS (TRANS GROUP)
Billing Name:	Not reported
Transporter EPA ID:	PAD982661381
Date Paid:	Not reported
Time Paid:	Not reported
GEN Cert Date:	8/8/2001
Facility Receipt Date:	Not reported
Fee:	Not reported
Transporter 2 Receipt Date:	Not reported
Manifest Created Date:	Not reported
TSDf Receipt Date:	Not reported
Transporter 2 ID:	Not reported
Manifest Updated Date:	Not reported
Transporter Receipt Date:	Not reported
Number Of Containers:	0
Container Type:	Not reported
Waste Code1:	Not reported
Waste Code2:	Not reported
Waste Code3:	Not reported
Waste Code4:	Not reported
Waste Code5:	Not reported
Waste Code6:	Not reported
Comment:	Not reported
Fee Exempt Code:	Not reported
TSDf Name:	NORTHLAND ENVIRONMENTAL INC.
TSDf Id:	RID040098352
Transporter Name 2:	Not reported
Company Permit Number:	Not reported
Year:	Not reported
EPA ID:	PAR000042903
Manifest Docket Number:	RIS0056274
Quarter:	Not reported
Waste Description:	PHOTO FIXER/DEVELOPER
Transporter Contact Name:	Not reported
Quantity:	26
Transporter Contact Email:	Not reported
WT/Vol Units:	G
Filing Date:	Not reported
Total Fee:	Not reported
Item Number:	13209
Transporter Name:	REPUBLIC ENV SYS (TRANS GROUP)

Map ID
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Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number
EPA ID Number

CVS NO 1653 (Continued)

1004778115

Billing Name:	Not reported
Transporter EPA ID:	PAD982661381
Date Paid:	Not reported
Time Paid:	Not reported
GEN Cert Date:	9/5/2001
Facility Receipt Date:	Not reported
Fee:	Not reported
Transporter 2 Receipt Date:	Not reported
Manifest Created Date:	Not reported
TSDf Receipt Date:	Not reported
Transporter 2 ID:	Not reported
Manifest Updated Date:	Not reported
Transporter Receipt Date:	Not reported
Number Of Containers:	0
Container Type:	Not reported
Waste Code1:	Not reported
Waste Code2:	Not reported
Waste Code3:	Not reported
Waste Code4:	Not reported
Waste Code5:	Not reported
Waste Code6:	Not reported
Comment:	Not reported
Fee Exempt Code:	Not reported
TSDf Name:	NORTHLAND ENVIRONMENTAL INC.
TSDf Id:	RID040098352
Transporter Name 2:	Not reported
Company Permit Number:	Not reported
Year:	Not reported
EPA ID:	PAR000042903
Manifest Docket Number:	RIS0056388
Quarter:	Not reported
Waste Description:	PHOTO FIXER/DEVELOPER
Transporter Contact Name:	Not reported
Quantity:	30
Transporter Contact Email:	Not reported
WT/Vol Units:	G
Filing Date:	Not reported
Total Fee:	Not reported
Item Number:	11155
Transporter Name:	REPUBLIC ENV SYS (TRANS GROUP)
Billing Name:	Not reported
Transporter EPA ID:	PAD982661381
Date Paid:	Not reported
Time Paid:	Not reported
GEN Cert Date:	7/26/2001
Facility Receipt Date:	Not reported
Fee:	Not reported
Transporter 2 Receipt Date:	Not reported
Manifest Created Date:	Not reported
TSDf Receipt Date:	Not reported
Transporter 2 ID:	Not reported
Manifest Updated Date:	Not reported
Transporter Receipt Date:	Not reported
Number Of Containers:	0
Container Type:	Not reported

Map ID
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MAP FINDINGS

Site

Database(s)

EDR ID Number
EPA ID Number

CVS NO 1653 (Continued)

1004778115

Waste Code1:	Not reported
Waste Code2:	Not reported
Waste Code3:	Not reported
Waste Code4:	Not reported
Waste Code5:	Not reported
Waste Code6:	Not reported
Comment:	Not reported
Fee Exempt Code:	Not reported
TSDf Name:	NORTHLAND ENVIRONMENTAL INC.
TSDf Id:	RID040098352
Transporter Name 2:	Not reported
Company Permit Number:	Not reported
Year:	Not reported
EPA ID:	PAR000042903
Manifest Docket Number:	RIS0058751
Quarter:	Not reported
Waste Description:	PHOTO FIXER/DEVELOPER
Transporter Contact Name:	Not reported
Quantity:	14
Transporter Contact Email:	Not reported
WT/Vol Units:	G
Filing Date:	Not reported
Total Fee:	Not reported
Item Number:	13318
Transporter Name:	REPUBLIC ENV SYS (TRANS GROUP)
Billing Name:	Not reported
Transporter EPA ID:	PAD982661381
Date Paid:	Not reported
Time Paid:	Not reported
GEN Cert Date:	9/19/2001
Facility Receipt Date:	Not reported
Fee:	Not reported
Transporter 2 Receipt Date:	Not reported
Manifest Created Date:	Not reported
TSDf Receipt Date:	Not reported
Transporter 2 ID:	Not reported
Manifest Updated Date:	Not reported
Transporter Receipt Date:	Not reported
Number Of Containers:	0
Container Type:	Not reported
Waste Code1:	Not reported
Waste Code2:	Not reported
Waste Code3:	Not reported
Waste Code4:	Not reported
Waste Code5:	Not reported
Waste Code6:	Not reported
Comment:	Not reported
Fee Exempt Code:	Not reported
TSDf Name:	NORTHLAND ENVIRONMENTAL INC.
TSDf Id:	RID040098352
Transporter Name 2:	Not reported
Company Permit Number:	Not reported
Year:	Not reported
EPA ID:	PAR000042903
Manifest Docket Number:	RIS0058832
Quarter:	Not reported

Map ID
Direction
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Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number
EPA ID Number

CVS NO 1653 (Continued)

1004778115

Waste Description: PHOTO FIXER/DEVELOPER
Transporter Contact Name: Not reported
Quantity: 14
Transporter Contact Email: Not reported
WT/Vol Units: G
Filing Date: Not reported
Total Fee: Not reported
Item Number: 13350
Transporter Name: REPUBLIC ENV SYS (TRANS GROUP)
Billing Name: Not reported
Transporter EPA ID: PAD982661381
Date Paid: Not reported
Time Paid: Not reported
GEN Cert Date: 9/26/2001
Facility Receipt Date: Not reported
Fee: Not reported
Transporter 2 Receipt Date: Not reported
Manifest Created Date: Not reported
TSDf Receipt Date: Not reported
Transporter 2 ID: Not reported
Manifest Updated Date: Not reported

Transporter Receipt Date: Not reported
Number Of Containers: 0
Container Type: Not reported
Waste Code1: Not reported
Waste Code2: Not reported
Waste Code3: Not reported
Waste Code4: Not reported
Waste Code5: Not reported
Waste Code6: Not reported
Comment: Not reported
Fee Exempt Code: Not reported
TSDf Name: NORTHLAND ENVIRONMENTAL INC.
TSDf Id: RID040098352
Transporter Name 2: Not reported
Company Permit Number: Not reported
Year: Not reported
EPA ID: PAR000042903
Manifest Docket Number: RIS0058751
Quarter: Not reported
Waste Description: PHOTO FIXER/DEVELOPER
Transporter Contact Name: Not reported
Quantity: 14
Transporter Contact Email: Not reported
WT/Vol Units: G
Filing Date: Not reported
Total Fee: Not reported
Item Number: 13318
Transporter Name: REPUBLIC ENV SYS (TRANS GROUP)
Billing Name: Not reported
Transporter EPA ID: PAD982661381
Date Paid: Not reported
Time Paid: Not reported
GEN Cert Date: 9/19/2001
Facility Receipt Date: Not reported
Fee: Not reported

Map ID
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MAP FINDINGS

Site

Database(s)

EDR ID Number
EPA ID Number

CVS NO 1653 (Continued)

1004778115

Transporter 2 Receipt Date:	Not reported
Manifest Created Date:	Not reported
TSDf Receipt Date:	Not reported
Transporter 2 ID:	Not reported
Manifest Updated Date:	Not reported
Transporter Receipt Date:	Not reported
Number Of Containers:	0
Container Type:	Not reported
Waste Code1:	Not reported
Waste Code2:	Not reported
Waste Code3:	Not reported
Waste Code4:	Not reported
Waste Code5:	Not reported
Waste Code6:	Not reported
Comment:	Not reported
Fee Exempt Code:	Not reported
TSDf Name:	NORTHLAND ENVIRONMENTAL INC.
TSDf Id:	RID040098352
Transporter Name 2:	Not reported
Company Permit Number:	Not reported
Year:	Not reported
EPA ID:	PAR000042903
Manifest Docket Number:	RIS0058540
Quarter:	Not reported
Waste Description:	PHOTO FIXER/DEVELOPER
Transporter Contact Name:	Not reported
Quantity:	26
Transporter Contact Email:	Not reported
WT/Vol Units:	G
Filing Date:	Not reported
Total Fee:	Not reported
Item Number:	9464
Transporter Name:	REPUBLIC ENV SYS (TRANS GROUP)
Billing Name:	Not reported
Transporter EPA ID:	PAD982661381
Date Paid:	Not reported
Time Paid:	Not reported
GEN Cert Date:	8/16/2001
Facility Receipt Date:	Not reported
Fee:	Not reported
Transporter 2 Receipt Date:	Not reported
Manifest Created Date:	Not reported
TSDf Receipt Date:	Not reported
Transporter 2 ID:	Not reported
Manifest Updated Date:	Not reported

[Click this hyperlink](#) while viewing on your computer to access 6 additional RI_MANIFEST: record(s) in the EDR Site Report.

Manifest Details:

Year:	2008
Manifest Number:	003816610JJK
Manifest Type:	TSD Copy
Generator EPA Id:	PAR000042903
Generator Date:	01/03/2008

Map ID
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Distance
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MAP FINDINGS

Site

Database(s)

EDR ID Number
EPA ID Number

CVS NO 1653 (Continued)

1004778115

Mailing Address: Not reported
Mailing City,St,Zip: Not reported
Contact Name: Not reported
Contact Phone: 717-637-6388
TSD EPA Id: PAD085690592
TSD Date: Not reported
TSD Facility Name: REPUBLIC ENVIRONMENTAL SYSTEMS OF PA INC
TSD Facility Address: 2869 SANDSTONE DRIVE
TSD Facility City: HATFIELD
TSD Facility State: PA
Facility Telephone: Not reported
Page Number: 1
Line Number: 1
Waste Number: D011
Container Number: 2
Container Type: Fiberboard or plastic drums, barrels, kegs
Waste Quantity: 28
Unit: Gallons (liquids only)
Handling Code: Not reported
TSP EPA Id: Not reported
Date TSP Sig: Not reported

Year: 2008
Manifest Number: 003222013JJK
Manifest Type: TSD Copy
Generator EPA Id: PAR000042903
Generator Date: 01/15/2008
Mailing Address: Not reported
Mailing City,St,Zip: Not reported
Contact Name: Not reported
Contact Phone: 717-637-6388
TSD EPA Id: PAD085690592
TSD Date: Not reported
TSD Facility Name: REPUBLIC ENVIRONMENTAL SYSTEMS OF PA INC
TSD Facility Address: 2869 SANDSTONE DRIVE
TSD Facility City: HATFIELD
TSD Facility State: PA
Facility Telephone: Not reported
Page Number: 1
Line Number: 1
Waste Number: D011
Container Number: 2
Container Type: Fiberboard or plastic drums, barrels, kegs
Waste Quantity: 28
Unit: Gallons (liquids only)
Handling Code: Not reported
TSP EPA Id: Not reported
Date TSP Sig: Not reported

Year: 2007
Manifest Number: 002451267JJK
Manifest Type: Not reported
Generator EPA Id: PAR000042903
Generator Date: 09/12/2007
Mailing Address: Not reported
Mailing City,St,Zip: Not reported
Contact Name: SCOTT WAGNER

Map ID
Direction
Distance
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number
EPA ID Number

CVS NO 1653 (Continued)

1004778115

Contact Phone: 717-637-6388
TSD EPA Id: PAD085690592
TSD Date: Not reported
TSD Facility Name: REPUBLIC ENVIRONMENTAL SYSTEMS OF PA INC
TSD Facility Address: 2869 SANDSTONE DRIVE
TSD Facility City: HATFIELD
TSD Facility State: PA
Facility Telephone: Not reported
Page Number: 1
Line Number: 1
Waste Number: D011
Container Number: 1
Container Type: Fiberboard or plastic drums, barrels, kegs
Waste Quantity: 15
Unit: Gallons (liquids only)
Handling Code: Not reported
TSP EPA Id: Not reported
Date TSP Sig: Not reported

Year: 2007
Manifest Number: 002447764JJK
Manifest Type: Not reported
Generator EPA Id: PAR000042903
Generator Date: 05/08/2007
Mailing Address: Not reported
Mailing City,St,Zip: Not reported
Contact Name: SCOTT WAGNER
Contact Phone: 717-637-6388
TSD EPA Id: PAD085690592
TSD Date: Not reported
TSD Facility Name: REPUBLIC ENVIRONMENTAL SYSTEMS OF PA INC
TSD Facility Address: 2869 SANDSTONE DRIVE
TSD Facility City: HATFIELD
TSD Facility State: PA
Facility Telephone: Not reported
Page Number: 1
Line Number: 1
Waste Number: D011
Container Number: 1
Container Type: Fiberboard or plastic drums, barrels, kegs
Waste Quantity: 14
Unit: Gallons (liquids only)
Handling Code: Not reported
TSP EPA Id: Not reported
Date TSP Sig: Not reported

Year: 2007
Manifest Number: 002128210JJK
Manifest Type: Not reported
Generator EPA Id: PAR000042903
Generator Date: 04/10/2007
Mailing Address: Not reported
Mailing City,St,Zip: Not reported
Contact Name: SCOTT WAGNER
Contact Phone: 717-637-6388
TSD EPA Id: PAD085690592
TSD Date: Not reported

Map ID
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MAP FINDINGS

Site

Database(s)

EDR ID Number
EPA ID Number

CVS NO 1653 (Continued)

1004778115

TSD Facility Name: REPUBLIC ENVIRONMENTAL SYSTEMS OF PA INC
TSD Facility Address: 2869 SANDSTONE DRIVE
TSD Facility City: HATFIELD
TSD Facility State: PA
Facility Telephone: Not reported
Page Number: 1
Line Number: 1
Waste Number: D011
Container Number: 1
Container Type: Fiberboard or plastic drums, barrels, kegs
Waste Quantity: 13
Unit: Gallons (liquids only)
Handling Code: Not reported
TSP EPA Id: Not reported
Date TSP Sig: Not reported

Year: 2007
Manifest Number: 000299464FLE
Manifest Type: Not reported
Generator EPA Id: PAR000042903
Generator Date: 01/03/2007
Mailing Address: Not reported
Mailing City,St,Zip: Not reported
Contact Name: SCOTT WAGNER
Contact Phone: 717-637-6388
TSD EPA Id: PAD085690592
TSD Date: Not reported
TSD Facility Name: REPUBLIC ENVIRONMENTAL SYSTEMS OF PA INC
TSD Facility Address: 2869 SANDSTONE DRIVE
TSD Facility City: HATFIELD
TSD Facility State: PA
Facility Telephone: Not reported
Page Number: 1
Line Number: 1
Waste Number: D011
Container Number: 2
Container Type: Fiberboard or plastic drums, barrels, kegs
Waste Quantity: 28
Unit: Gallons (liquids only)
Handling Code: Not reported
TSP EPA Id: Not reported
Date TSP Sig: Not reported

Year: 2007
Manifest Number: 002450122JJK
Manifest Type: Not reported
Generator EPA Id: PAR000042903
Generator Date: 07/31/2007
Mailing Address: Not reported
Mailing City,St,Zip: Not reported
Contact Name: SCOTT WAGNER
Contact Phone: 717-637-6388
TSD EPA Id: PAD085690592
TSD Date: Not reported
TSD Facility Name: REPUBLIC ENVIRONMENTAL SYSTEMS OF PA INC
TSD Facility Address: 2869 SANDSTONE DRIVE
TSD Facility City: HATFIELD

Map ID
Direction
Distance
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number
EPA ID Number

CVS NO 1653 (Continued)

1004778115

TSD Facility State: PA
Facility Telephone: Not reported
Page Number: 1
Line Number: 1
Waste Number: D011
Container Number: 2
Container Type: Fiberboard or plastic drums, barrels, kegs
Waste Quantity: 20
Unit: Gallons (liquids only)
Handling Code: Not reported
TSP EPA Id: Not reported
Date TSP Sig: Not reported

Year: 2007
Manifest Number: 001649373JJK
Manifest Type: Not reported
Generator EPA Id: PAR000042903
Generator Date: 03/13/2007
Mailing Address: Not reported
Mailing City,St,Zip: Not reported
Contact Name: SCOTT WAGNER
Contact Phone: 717-637-6388
TSD EPA Id: PAD085690592
TSD Date: Not reported
TSD Facility Name: REPUBLIC ENVIRONMENTAL SYSTEMS OF PA INC
TSD Facility Address: 2869 SANDSTONE DRIVE
TSD Facility City: HATFIELD
TSD Facility State: PA
Facility Telephone: Not reported
Page Number: 1
Line Number: 1
Waste Number: D011
Container Number: 1
Container Type: Fiberboard or plastic drums, barrels, kegs
Waste Quantity: 14
Unit: Gallons (liquids only)
Handling Code: Not reported
TSP EPA Id: Not reported
Date TSP Sig: Not reported

Year: 2007
Manifest Number: 003810733JJK
Manifest Type: Not reported
Generator EPA Id: PAR000042903
Generator Date: 12/18/2007
Mailing Address: Not reported
Mailing City,St,Zip: Not reported
Contact Name: SCOTT WAGNER
Contact Phone: 717-637-6388
TSD EPA Id: PAD085690592
TSD Date: Not reported
TSD Facility Name: REPUBLIC ENVIRONMENTAL SYSTEMS OF PA INC
TSD Facility Address: 2869 SANDSTONE DRIVE
TSD Facility City: HATFIELD
TSD Facility State: PA
Facility Telephone: Not reported
Page Number: 1

Map ID
 Direction
 Distance
 Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number
 EPA ID Number

CVS NO 1653 (Continued)

1004778115

Line Number: 1
 Waste Number: D011
 Container Number: 1
 Container Type: Fiberboard or plastic drums, barrels, kegs
 Waste Quantity: 14
 Unit: Gallons (liquids only)
 Handling Code: Not reported
 TSP EPA Id: Not reported
 Date TSP Sig: Not reported

Year: 2007
 Manifest Number: 002448514JJK
 Manifest Type: Not reported
 Generator EPA Id: PAR000042903
 Generator Date: 06/05/2007
 Mailing Address: Not reported
 Mailing City,St,Zip: Not reported
 Contact Name: SCOTT WAGNER
 Contact Phone: 717-637-6388
 TSD EPA Id: PAD085690592
 TSD Date: Not reported
 TSD Facility Name: REPUBLIC ENVIRONMENTAL SYSTEMS OF PA INC
 TSD Facility Address: 2869 SANDSTONE DRIVE
 TSD Facility City: HATFIELD
 TSD Facility State: PA
 Facility Telephone: Not reported
 Page Number: 1
 Line Number: 1
 Waste Number: D011
 Container Number: 2
 Container Type: Fiberboard or plastic drums, barrels, kegs
 Waste Quantity: 25
 Unit: Gallons (liquids only)
 Handling Code: Not reported
 TSP EPA Id: Not reported
 Date TSP Sig: Not reported

[Click this hyperlink](#) while viewing on your computer to access 53 additional PA_MANIFEST: record(s) in the EDR Site Report.

81
 SE
 1/4-1/2
 0.471 mi.
 2489 ft.

TOMS CLEARVIEW MOBIL 5
1001 CARLISLE ST
HANOVER, PA 17331

PA LUST U003996834
PA ARCHIVE UST N/A

Actual:
587 ft.
Focus Map:
8

LUST:
 Region: EP SC Rgnl Off Harrisburg
 Municipality: Hanover Boro
 Facility Id: 616137
 Facility Type: Underground Storage Tank Containing Petroleum
Facility Status: Cleanup Completed
 Status Date: 06/03/2010
 Confirmed Date: 03/30/2010
 Program Other Id: 67-28007
 Client: SHIPLEY STORES LLC
 Incident Id: 41174
 Incident Desc: CONTAMINATION WAS OBSERVED BENEATH THE DISPENSERS AND UNDER THE

Map ID
Direction
Distance
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number
EPA ID Number

TOMS CLEARVIEW MOBIL 5 (Continued)

U003996834

PRODUCT LINE DURING A CLOSURE PROJECT.
Suspect Date: Not reported
Source Of Notification: INSTL
Release Discovered: CLOS
Source Cause Of Release: DISP, PUST
Tank: Not reported
Impact Desc: Soil
Substance: Not reported
CAS RN: Not reported
Chemical: Not reported
Comments: Not reported
Horizontal Ref Datum: WGS84
Altitude Datum: Not reported
Latitude: 39.81634
Longitude: -76.993491

ARCHIVE UST:

Facility Id: 67-28007
Site ID: 592790
Municipality: Hanover
Client Date: 206755
Owner Id: Not reported
Owner Name: Not reported
Owner Address: Not reported
Owner Address 2: Not reported
Owner City,St,Zip: Not reported
Owner Phone: Not reported
Owner County Code: Not reported
Resp Party Name: SHIPLEY STORES LLC
RP Address: PO BOX 1509
RP Address 2: Not reported
RP City,St,Zip: YORK, PA 17405-1509
Region Code Name: EP Sc Rgnl Off Harrisbrg
Regulated Expire Date: Not reported

Tank Sequence #: 001
Tank Id: Not reported
Status: Currently In Use
Status Code End Date: Not reported
Capacity: 10000
Substance: OTHER
Tank Substance End Date: Not reported
Install Date: Not reported
Tank Code: UST
Inspection Code: FOI
Last Inspection: Not reported
Substance Type: Not reported
CASRN for Hazardous Substances: Not reported
Chemical Name: Not reported
Other Information Regarding The Tank Substance: Not reported
Undeliverable Address Ind.: Not reported
Contact Name: Not reported
Company: Not reported

Tank Sequence #: 002
Tank Id: Not reported

Map ID
Direction
Distance
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number
EPA ID Number

TOMS CLEARVIEW MOBIL 5 (Continued)

U003996834

Status: Currently In Use
Status Code End Date: Not reported
Capacity: 10000
Substance: GAS
Tank Substance End Date: Not reported
Install Date: Not reported
Tank Code: UST
Inspection Code: FOI
Last Inspection: Not reported
Substance Type: Not reported
CASRN for Hazardous Substances: Not reported
Chemical Name: Not reported
Other Information Regarding The Tank Substance: Not reported
Undeliverable Address Ind.: Not reported
Contact Name: Not reported
Company: Not reported

Tank Sequence #: 004
Tank Id: Not reported
Status: Currently In Use
Status Code End Date: Not reported
Capacity: 10000
Substance: GAS
Tank Substance End Date: Not reported
Install Date: Not reported
Tank Code: UST
Inspection Code: FOI
Last Inspection: Not reported
Substance Type: Not reported
CASRN for Hazardous Substances: Not reported
Chemical Name: Not reported
Other Information Regarding The Tank Substance: Not reported
Undeliverable Address Ind.: Not reported
Contact Name: Not reported
Company: Not reported

Tank Sequence #: 005
Tank Id: Not reported
Status: Currently In Use
Status Code End Date: Not reported
Capacity: 10000
Substance: GAS
Tank Substance End Date: Not reported
Install Date: Not reported
Tank Code: UST
Inspection Code: FOI
Last Inspection: Not reported
Substance Type: Not reported
CASRN for Hazardous Substances: Not reported
Chemical Name: Not reported
Other Information Regarding The Tank Substance: Not reported
Undeliverable Address Ind.: Not reported
Contact Name: Not reported
Company: Not reported

Map ID
Direction
Distance
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number
EPA ID Number

TOMS CLEARVIEW MOBIL 5 (Continued)

U003996834

Tank Sequence #: 003
Tank Id: Not reported
Status: Currently In Use
Status Code End Date: Not reported
Capacity: 10000
Substance: GAS
Tank Substance End Date: Not reported
Install Date: Not reported
Tank Code: UST
Inspection Code: FOI
Last Inspection: Not reported
Substance Type: Not reported
CASRN for Hazardous Substances: Not reported
Chemical Name: Not reported
Other Information Regarding The Tank Substance: Not reported
Undeliverable Address Ind.: Not reported
Contact Name: Not reported
Company: Not reported

82 **KINDIG LANE BULK PLT**
SE **100 KINDIG LN**
1/4-1/2 **HANOVER, PA 17331**
0.475 mi.
2508 ft.

PA LUST **S113470096**
N/A

Actual:
561 ft.
Focus Map:
7

LUST:
Region: EP SC Rgnl Off Harrisburg
Municipality: Conewago Twp
Facility Id: 575219
Facility Type: Underground Storage Tank Containing Petroleum
Facility Status: Cleanup Completed
Status Date: 04/10/2013
Confirmed Date: 03/07/2013
Program Other Id: 01-37213
Client: SHIPLEY ENERGY
Incident Id: 44958
Incident Desc: OVERFILL RESULTED IN THE RELEASE OF APPROX. 350 GALLONS OF HO
Suspect Date: Not reported
Source Of Notification: LKDET
Release Discovered: VISOD
Source Cause Of Release: OVER
Tank: Not reported
Impact Desc: Soil
Substance: Fuel Oil No 2
CAS RN: Not reported
Chemical: Not reported
Comments: Not reported
Horizontal Ref Datum: WGS84
Altitude Datum: Not reported
Latitude: 39.810778
Longitude: -77.001

MAP FINDINGS

Map ID
Direction
Distance
Elevation

Site

Database(s)

EDR ID Number
EPA ID Number

83 **HANOVER 76**
SE **998 CARLISLE ST**
1/4-1/2 **HANOVER, PA 17331**
0.493 mi.
2604 ft.

PA LUST **U001455924**
PA UST **N/A**
PA MANIFEST

Actual:
584 ft.
Focus Map:
8

LUST:
Region: EP SC Rgnl Off Harrisburg
Municipality: Hanover Boro
Facility Id: 615976
Facility Type: Underground Storage Tank Containing Petroleum
Facility Status: Inactive
Status Date: 07/19/2005
Confirmed Date: 05/04/2005
Program Other Id: 67-23155
Client: HANOVER 76 INC
Incident Id: 35126
Incident Desc: ENCOUNTERED CONTAMINATED PEA GRAVEL DURING A SPILL BUCKET UPGRADE PROJECT.

Suspect Date: Not reported
Source Of Notification: OWNER
Release Discovered: UPGRD
Source Cause Of Release: CONT
Tank: Not reported
Impact Desc: Soil
Substance: Unleaded Gasoline
CAS RN: Not reported
Chemical: Not reported
Comments: Not reported
Horizontal Ref Datum: WGS84
Altitude Datum: Not reported
Latitude: 39.816153
Longitude: -76.993459

UST:
Site ID: 505488
Other Id: 67-23155
Client Id Number: 317741
Municipality Name: Hanover
Region: EP SC Rgnl Off Harrisburg
Mailing Name: HANOVER 76 INC
Mailing Address: 4 F COLONIAL CTR
Mailing Address 2: Not reported
Mailing City,St,Zip: HANOVER, PA 17331
Registration Expiration Date: 06/04/2019

Tank Seq No: 001
Tank Status: Currently In Use
Capacity: 10000
Substance: Gasoline
Date Installed: 09/01/1985
Tank Code: UST
Inspection Code: Facility Operation Inspection
Tank Last Dt Inspected: 04/26/2016
Decode for Tstatus: Currently In Use
Decode for Substance: Gasoline

Tank Seq No: 002

Map ID
Direction
Distance
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number
EPA ID Number

HANOVER 76 (Continued)

U001455924

Tank Status: **Currently In Use**
Capacity: 10000
Substance: Gasoline
Date Installed: 09/01/1985
Tank Code: UST
Inspection Code: Facility Operation Inspection
Tank Last Dt Inspected: 04/26/2016
Decode for Tstatus: Currently In Use
Decode for Substance: Gasoline

Tank Seq No: 003
Tank Status: **Currently In Use**
Capacity: 10000
Substance: Gasoline
Date Installed: 09/01/1985
Tank Code: UST
Inspection Code: Facility Operation Inspection
Tank Last Dt Inspected: 04/26/2016
Decode for Tstatus: Currently In Use
Decode for Substance: Gasoline

Manifest Details:

Year: 2008
Manifest Number: 004025074JJK
Manifest Type: TSD Copy
Generator EPA Id: PAR000032268
Generator Date: 07/09/2008
Mailing Address: Not reported
Mailing City,St,Zip: Not reported
Contact Name: Not reported
Contact Phone: 732-750-6225
TSD EPA Id: NJD002200046
TSD Date: Not reported
TSD Facility Name: CYCLE CHEM INC
TSD Facility Address: 217 SOUTH FIRST STREET
TSD Facility City: ELIZABETH
TSD Facility State: NJ
Facility Telephone: Not reported
Page Number: 1
Line Number: 1
Waste Number: D018
Container Number: 1
Container Type: Metal drums, barrels, kegs
Waste Quantity: 100
Unit: Pounds
Handling Code: Not reported
TSP EPA Id: Not reported
Date TSP Sig: Not reported

Year: 2008
Manifest Number: 004025074JJK
Manifest Type: TSD Copy
Generator EPA Id: PAR000032268
Generator Date: 07/09/2008
Mailing Address: Not reported
Mailing City,St,Zip: Not reported

Map ID
Direction
Distance
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number
EPA ID Number

HANOVER 76 (Continued)

U001455924

Contact Name: Not reported
Contact Phone: 732-750-6225
TSD EPA Id: NJD002200046
TSD Date: Not reported
TSD Facility Name: CYCLE CHEM INC
TSD Facility Address: 217 SOUTH FIRST STREET
TSD Facility City: ELIZABETH
TSD Facility State: NJ
Facility Telephone: Not reported
Page Number: 1
Line Number: 1
Waste Number: D001
Container Number: 1
Container Type: Metal drums, barrels, kegs
Waste Quantity: 100
Unit: Pounds
Handling Code: Not reported
TSP EPA Id: Not reported
Date TSP Sig: Not reported

84 SE
1/4-1/2
0.499 mi.
2637 ft.

LATTA, GENE FORD/BUICK
140 DART DR
HANOVER, PA 17331

RCRA-SQG 1000395463
PA AUL PAD014173116
PA VCP
FINDS
ECHO
PA MANIFEST
NY MANIFEST

Actual:
586 ft.

Focus Map:
8

RCRA-SQG:

Date form received by agency: 11/05/1985
Facility name: LATTA, GENE FORD/BUICK
Facility address: 140 DART DR
HANOVER, PA 17331
EPA ID: PAD014173116
Contact: DAVID FUNK JR
Contact address: 140 DART DR
HANOVER, PA 17331
Contact country: US
Contact telephone: 717-632-5939
Contact email: Not reported
EPA Region: 03
Classification: Small Small Quantity Generator
Description: Handler: generates more than 100 and less than 1000 kg of hazardous waste during any calendar month and accumulates less than 6000 kg of hazardous waste at any time; or generates 100 kg or less of hazardous waste during any calendar month, and accumulates more than 1000 kg of hazardous waste at any time

Owner/Operator Summary:

Owner/operator name: OPERNAME
Owner/operator address: OPERSTREET
OPERCITY, AK 99999
Owner/operator country: Not reported
Owner/operator telephone: 215-555-1212
Owner/operator email: Not reported
Owner/operator fax: Not reported
Owner/operator extension: Not reported

Map ID
Direction
Distance
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number
EPA ID Number

LATTA, GENE FORD/BUICK (Continued)

1000395463

Legal status: Private
Owner/Operator Type: Operator
Owner/Op start date: Not reported
Owner/Op end date: Not reported

Owner/operator name: GENE LATTA
Owner/operator address: 140 DART DR
HANOVER, PA 17331

Owner/operator country: Not reported
Owner/operator telephone: 717-632-5939
Owner/operator email: Not reported
Owner/operator fax: Not reported
Owner/operator extension: Not reported
Legal status: Private
Owner/Operator Type: Owner
Owner/Op start date: Not reported
Owner/Op end date: Not reported

Handler Activities Summary:

U.S. importer of hazardous waste: No
Mixed waste (haz. and radioactive): No
Recycler of hazardous waste: No
Transporter of hazardous waste: No
Treater, storer or disposer of HW: No
Underground injection activity: No
On-site burner exemption: No
Furnace exemption: No
Used oil fuel burner: No
Used oil processor: No
User oil refiner: No
Used oil fuel marketer to burner: No
Used oil Specification marketer: No
Used oil transfer facility: No
Used oil transporter: No

. Waste code: D001
. Waste name: IGNITABLE HAZARDOUS WASTES ARE THOSE WASTES WHICH HAVE A FLASHPOINT OF LESS THAN 140 DEGREES FAHRENHEIT AS DETERMINED BY A PENSKEY-MARTENS CLOSED CUP FLASH POINT TESTER. ANOTHER METHOD OF DETERMINING THE FLASH POINT OF A WASTE IS TO REVIEW THE MATERIAL SAFETY DATA SHEET, WHICH CAN BE OBTAINED FROM THE MANUFACTURER OR DISTRIBUTOR OF THE MATERIAL. LACQUER THINNER IS AN EXAMPLE OF A COMMONLY USED SOLVENT WHICH WOULD BE CONSIDERED AS IGNITABLE HAZARDOUS WASTE.

. Waste code: D002
. Waste name: A WASTE WHICH HAS A PH OF LESS THAN 2 OR GREATER THAN 12.5 IS CONSIDERED TO BE A CORROSIVE HAZARDOUS WASTE. SODIUM HYDROXIDE, A CAUSTIC SOLUTION WITH A HIGH PH, IS OFTEN USED BY INDUSTRIES TO CLEAN OR DEGREASE PARTS. HYDROCHLORIC ACID, A SOLUTION WITH A LOW PH, IS USED BY MANY INDUSTRIES TO CLEAN METAL PARTS PRIOR TO PAINTING. WHEN THESE CAUSTIC OR ACID SOLUTIONS BECOME CONTAMINATED AND MUST BE DISPOSED, THE WASTE WOULD BE A CORROSIVE HAZARDOUS WASTE.

. Waste code: D008
. Waste name: LEAD

. Waste code: F003

Map ID
Direction
Distance
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number
EPA ID Number

LATTA, GENE FORD/BUICK (Continued)

1000395463

. Waste name: THE FOLLOWING SPENT NON-HALOGENATED SOLVENTS: XYLENE, ACETONE, ETHYL ACETATE, ETHYL BENZENE, ETHYL ETHER, METHYL ISOBUTYL KETONE, N-BUTYL ALCOHOL, CYCLOHEXANONE, AND METHANOL; ALL SPENT SOLVENT MIXTURES/BLENDS CONTAINING, BEFORE USE, ONLY THE ABOVE SPENT NON-HALOGENATED SOLVENTS; AND ALL SPENT SOLVENT MIXTURES/BLENDS CONTAINING, BEFORE USE, ONE OR MORE OF THE ABOVE NON-HALOGENATED SOLVENTS, AND, A TOTAL OF TEN PERCENT OR MORE (BY VOLUME) OF ONE OR MORE OF THOSE SOLVENTS LISTED IN F001, F002, F004, AND F005, AND STILL BOTTOMS FROM THE RECOVERY OF THESE SPENT SOLVENTS AND SPENT SOLVENT MIXTURES.

. Waste code: F005
. Waste name: THE FOLLOWING SPENT NON-HALOGENATED SOLVENTS: TOLUENE, METHYL ETHYL KETONE, CARBON DISULFIDE, ISOBUTANOL, PYRIDINE, BENZENE, 2-ETHOXYETHANOL, AND 2-NITROPROPANE; ALL SPENT SOLVENT MIXTURES/BLENDS CONTAINING, BEFORE USE, A TOTAL OF TEN PERCENT OR MORE (BY VOLUME) OF ONE OR MORE OF THE ABOVE NON-HALOGENATED SOLVENTS OR THOSE SOLVENTS LISTED IN F001, F002, OR F004; AND STILL BOTTOMS FROM THE RECOVERY OF THESE SPENT SOLVENTS AND SPENT SOLVENT MIXTURES.

Violation Status: No violations found

AUL:

Facility Id: 697220
Primary Facility Type: Land Recycling and Cleanup Locator
Latitude: 39 49' 1"
Longitude: -76 59' 33"
Region: Southcentral Region
Client Id: 126466
Client Name: LATTA GENE
Incident Id / Name Description: Not reported
Remediation Id: 36956
Remediation Received Date: 2007-08-20 00:00:00
Address: 140 DART DR HANOVER, PA 17103-1012
AUL Code: ENVIRONMENTAL COVENANT
Received Date: 12/23/2008
Action Date: 12/23/2008
Action: DEP SIGNED
Recorded Date: 01/13/2009
Terminated Date: Not reported
Amended Date: Not reported
Activity Use Limitation Code: MTCAP
Activity Use Limitation Desc: MAINTAIN CAP
Aul Comment: Not reported
Internal Use EDR Field: DETAIL AS OF JANUARY 2013

VCP:

Cleanup Records:

Municipality: Hanover Boro
Region: Southcentral Region
Category Desc: Not reported
Type: Complete Sites
LRP Activity Number: 38200
Remediation: Site-Specific Standard
Activity: YES
Date Approved: 12/31/2008
Date Received: Not reported

Map ID
Direction
Distance
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number
EPA ID Number

LATTA, GENE FORD/BUICK (Continued)

1000395463

Date Nonuse: Not reported
ICS Code: Not reported
Media: Soil
Latitude: 39.81711
Longitude: -76.992659

Activity:

Activity ID: 697220, 697220,
Municipality: Hanover Boro
Region: Southcentral Region
Category Desc: Not reported
Type: Complete Sites
LRP Activity Number: 38200
Remediation: Site-Specific Standard
Activity: YES
Date Approved: 12/31/2008
Date Received: Not reported
Date Nonuse: Not reported
ICS Code: Not reported
Media: Groundwater
Latitude: 39.81711
Longitude: -76.992659

FINDS:

Registry ID: 110060075573

Environmental Interest/Information System

RCRAInfo is a national information system that supports the Resource Conservation and Recovery Act (RCRA) program through the tracking of events and activities related to facilities that generate, transport, and treat, store, or dispose of hazardous waste. RCRAInfo allows RCRA program staff to track the notification, permit, compliance, and corrective action activities required under RCRA.

PA-EFACTS (Pennsylvania - Environmental Facility Application Compliance Tracking System) is a Department-wide database that provides a holistic view of clients and sites (including facilities) that DEP regulates.

[Click this hyperlink](#) while viewing on your computer to access additional FINDS: detail in the EDR Site Report.

ECHO:

Envid: 1000395463
Registry ID: 110060075573
DFR URL: <http://echo.epa.gov/detailed-facility-report?fid=110060075573>

Manifest Details:

Year: 2006
Manifest Number: 000239269CEX
Manifest Type: TSD Copy
Generator EPA Id: PAD014173116
Generator Date: 12/14/2006

Map ID
Direction
Distance
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number
EPA ID Number

LATTA, GENE FORD/BUICK (Continued)

1000395463

Mailing Address: Not reported
Mailing City,St,Zip: Not reported
Contact Name: Not reported
Contact Phone: Not reported
TSD EPA Id: ILD980613913
TSD Date: Not reported
TSD Facility Name: SAFETY KLEEN CORP
TSD Facility Address: 633 E 138TH ST
TSD Facility City: DOLTON
TSD Facility State: IL
Facility Telephone: 717-632-5939
Page Number: 1
Line Number: 1
Waste Number: D001
Container Number: 2
Container Type: Metal drums, barrels, kegs
Waste Quantity: 600
Unit: Pounds
Handling Code: Not reported
TSP EPA Id: Not reported
Date TSP Sig: Not reported

Year: 2006
Manifest Number: 000239269CEX
Manifest Type: TSD Copy
Generator EPA Id: PAD014173116
Generator Date: 12/14/2006
Mailing Address: Not reported
Mailing City,St,Zip: Not reported
Contact Name: Not reported
Contact Phone: Not reported
TSD EPA Id: ILD980613913
TSD Date: Not reported
TSD Facility Name: SAFETY KLEEN CORP
TSD Facility Address: 633 E 138TH ST
TSD Facility City: DOLTON
TSD Facility State: IL
Facility Telephone: 717-632-5939
Page Number: 1
Line Number: 1
Waste Number: D018
Container Number: 2
Container Type: Metal drums, barrels, kegs
Waste Quantity: 600
Unit: Pounds
Handling Code: Not reported
TSP EPA Id: Not reported
Date TSP Sig: Not reported

Year: 2006
Manifest Number: 000239269CEX
Manifest Type: TSD Copy
Generator EPA Id: PAD014173116
Generator Date: 12/14/2006
Mailing Address: Not reported
Mailing City,St,Zip: Not reported
Contact Name: Not reported

Map ID
Direction
Distance
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number
EPA ID Number

LATTA, GENE FORD/BUICK (Continued)

1000395463

Contact Phone: Not reported
TSD EPA Id: ILD980613913
TSD Date: Not reported
TSD Facility Name: SAFETY KLEEN CORP
TSD Facility Address: 633 E 138TH ST
TSD Facility City: DOLTON
TSD Facility State: IL
Facility Telephone: 717-632-5939
Page Number: 1
Line Number: 1
Waste Number: F003
Container Number: 2
Container Type: Metal drums, barrels, kegs
Waste Quantity: 600
Unit: Pounds
Handling Code: Not reported
TSP EPA Id: Not reported
Date TSP Sig: Not reported

Year: 2006
Manifest Number: 000239269CEX
Manifest Type: TSD Copy
Generator EPA Id: PAD014173116
Generator Date: 12/14/2006
Mailing Address: Not reported
Mailing City,St,Zip: Not reported
Contact Name: Not reported
Contact Phone: Not reported
TSD EPA Id: ILD980613913
TSD Date: Not reported
TSD Facility Name: SAFETY KLEEN CORP
TSD Facility Address: 633 E 138TH ST
TSD Facility City: DOLTON
TSD Facility State: IL
Facility Telephone: 717-632-5939
Page Number: 1
Line Number: 1
Waste Number: F005
Container Number: 2
Container Type: Metal drums, barrels, kegs
Waste Quantity: 600
Unit: Pounds
Handling Code: Not reported
TSP EPA Id: Not reported
Date TSP Sig: Not reported

Year: 2004
Manifest Number: IL11161207
Manifest Type: TSD Copy
Generator EPA Id: PAD014173116
Generator Date: 02/09/2004
Mailing Address: 140 DART DR
Mailing City,St,Zip: HANOVER, PA 17331
Contact Name: JOHN J REEVER
Contact Phone: 717-632-5939
TSD EPA Id: ILD980613913
TSD Date: 02/17/2004

Map ID
Direction
Distance
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number
EPA ID Number

LATTA, GENE FORD/BUICK (Continued)

1000395463

TSD Facility Name: SAFETY KLEEN CORP
TSD Facility Address: 633 E 138TH ST
TSD Facility City: DOLTON
TSD Facility State: IL
Facility Telephone: Not reported
Page Number: 1
Line Number: 1
Waste Number: D018
Container Number: 1
Container Type: Metal drums, barrels, kegs
Waste Quantity: 396
Unit: Pounds
Handling Code: Not reported
TSP EPA Id: TXR000050930
Date TSP Sig: 02/09/2004

Year: 2004
Manifest Number: IL11161207
Manifest Type: TSD Copy
Generator EPA Id: PAD014173116
Generator Date: 02/09/2004
Mailing Address: 140 DART DR
Mailing City,St,Zip: HANOVER, PA 17331
Contact Name: JOHN J REEVER
Contact Phone: 717-632-5939
TSD EPA Id: ILD980613913
TSD Date: 02/17/2004
TSD Facility Name: SAFETY KLEEN CORP
TSD Facility Address: 633 E 138TH ST
TSD Facility City: DOLTON
TSD Facility State: IL
Facility Telephone: Not reported
Page Number: 1
Line Number: 1
Waste Number: F005
Container Number: 1
Container Type: Metal drums, barrels, kegs
Waste Quantity: 396
Unit: Pounds
Handling Code: Not reported
TSP EPA Id: TXR000050930
Date TSP Sig: 02/09/2004

Year: 2004
Manifest Number: PAH077784
Manifest Type: TSD Copy
Generator EPA Id: PAD014173116
Generator Date: 02/09/2004
Mailing Address: 140 DART DR
Mailing City,St,Zip: HANOVER, PA 17331
Contact Name: JOHN J REEVER
Contact Phone: 717-632-5939
TSD EPA Id: KYD053348108
TSD Date: 02/17/2004
TSD Facility Name: SAFETY KLEEN CORP
TSD Facility Address: 3700 LAGRANGE RD
TSD Facility City: SMITHFIELD

Map ID
Direction
Distance
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number
EPA ID Number

LATTA, GENE FORD/BUICK (Continued)

1000395463

TSD Facility State: KY
Facility Telephone: Not reported
Page Number: 1
Line Number: 1
Waste Number: F003
Container Number: 1
Container Type: Metal drums, barrels, kegs
Waste Quantity: 229
Unit: Pounds
Handling Code: Not reported
TSP EPA Id: MOR000505347
Date TSP Sig: 02/12/2004

Year: 2004
Manifest Number: PAH077784
Manifest Type: TSD Copy
Generator EPA Id: PAD014173116
Generator Date: 02/09/2004
Mailing Address: 140 DART DR
Mailing City,St,Zip: HANOVER, PA 17331
Contact Name: JOHN J REEVER
Contact Phone: 717-632-5939
TSD EPA Id: KYD053348108
TSD Date: 02/17/2004
TSD Facility Name: SAFETY KLEEN CORP
TSD Facility Address: 3700 LAGRANGE RD
TSD Facility City: SMITHFIELD
TSD Facility State: KY
Facility Telephone: Not reported
Page Number: 1
Line Number: 1
Waste Number: D001
Container Number: 1
Container Type: Metal drums, barrels, kegs
Waste Quantity: 229
Unit: Pounds
Handling Code: Not reported
TSP EPA Id: MOR000505347
Date TSP Sig: 02/12/2004

Year: 2004
Manifest Number: PAH077784
Manifest Type: TSD Copy
Generator EPA Id: PAD014173116
Generator Date: 02/09/2004
Mailing Address: 140 DART DR
Mailing City,St,Zip: HANOVER, PA 17331
Contact Name: JOHN J REEVER
Contact Phone: 717-632-5939
TSD EPA Id: KYD053348108
TSD Date: 02/17/2004
TSD Facility Name: SAFETY KLEEN CORP
TSD Facility Address: 3700 LAGRANGE RD
TSD Facility City: SMITHFIELD
TSD Facility State: KY
Facility Telephone: Not reported
Page Number: 1

Map ID
Direction
Distance
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number
EPA ID Number

LATTA, GENE FORD/BUICK (Continued)

1000395463

Line Number: 1
Waste Number: D001
Container Number: 1
Container Type: Metal drums, barrels, kegs
Waste Quantity: 229
Unit: Pounds
Handling Code: Not reported
TSP EPA Id: TXR000050930
Date TSP Sig: 02/09/2004

Year: 2004
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Manifest Type: TSD Copy
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Generator Date: 02/09/2004
Mailing Address: 140 DART DR
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Contact Name: JOHN J REEVER
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TSD EPA Id: ILD980613913
TSD Date: 02/17/2004
TSD Facility Name: SAFETY KLEEN CORP
TSD Facility Address: 633 E 138TH ST
TSD Facility City: DOLTON
TSD Facility State: IL
Facility Telephone: Not reported
Page Number: 1
Line Number: 1
Waste Number: F003
Container Number: 1
Container Type: Metal drums, barrels, kegs
Waste Quantity: 396
Unit: Pounds
Handling Code: Not reported
TSP EPA Id: TXR000050930
Date TSP Sig: 02/09/2004

[Click this hyperlink](#) while viewing on your computer to access
2 additional PA_MANIFEST: record(s) in the EDR Site Report.

NY MANIFEST:

Country: USA
EPA ID: PAD014173116
Facility Status: Not reported
Location Address 1: 140 DART DRIVE
Code: BP
Location Address 2: Not reported
Total Tanks: Not reported
Location City: HANOVER
Location State: PA
Location Zip: 17331
Location Zip 4: Not reported

NY MANIFEST:

EPAID: PAD014173116
Mailing Name: GENE LATTA AUTO GROUP
Mailing Contact: TONIA A MILLER

Map ID
Direction
Distance
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number
EPA ID Number

LATTA, GENE FORD/BUICK (Continued)

1000395463

Mailing Address 1: 140 DART DRIVE
Mailing Address 2: Not reported
Mailing City: HANOVER
Mailing State: PA
Mailing Zip: 17331
Mailing Zip 4: Not reported
Mailing Country: USA
Mailing Phone: 7176325939

NY MANIFEST:

Document ID: NYC5943677
Manifest Status: Not reported
seq: 01
Year: 1999
Trans1 State ID: YAR68157P
Trans2 State ID: T423NY
Generator Ship Date: 12/30/1999
Trans1 Recv Date: 12/30/1999
Trans2 Recv Date: 01/05/2000
TSD Site Recv Date: 01/11/2000
Part A Recv Date: Not reported
Part B Recv Date: Not reported
Generator EPA ID: PAD014173116
Trans1 EPA ID: ILD984908202
Trans2 EPA ID: SCR000074591
TSD ID 1: NYD000708198
TSD ID 2: Not reported
Manifest Tracking Number: Not reported
Import Indicator: Not reported
Export Indicator: Not reported
Discr Quantity Indicator: Not reported
Discr Type Indicator: Not reported
Discr Residue Indicator: Not reported
Discr Partial Reject Indicator: Not reported
Discr Full Reject Indicator: Not reported
Manifest Ref Number: Not reported
Alt Facility RCRA ID: Not reported
Alt Facility Sign Date: Not reported
MGMT Method Type Code: Not reported
Waste Code: D039 - TETRACHLOROETHYLENE 0.73 MG/L TCLP
Waste Code: Not reported
Waste Code: Not reported
Waste Code: Not reported
Waste Code: Not reported
Waste Code: Not reported
Quantity: 00005
Units: G - Gallons (liquids only)* (8.3 pounds)
Number of Containers: 001
Container Type: DF - Fiberboard or plastic drums (glass)
Handling Method: T Chemical, physical, or biological treatment.
Specific Gravity: 01.00

[Click this hyperlink](#) while viewing on your computer to access
-1 additional NY MANIFEST: record(s) in the EDR Site Report.

Count: 15 records

ORPHAN SUMMARY

City	EDR ID	Site Name	Site Address	Zip	Database(s)
ADAMS COUNTY	S115913347	KEYSTONE LDFL NPL	CLOUSER RD & LINE RD		PA SHWS
ADAMS COUNTY	M300002453	CARMEUSE LIME	HANOVER LIME PLANT		US MINES
ADAMS COUNTY	M300001139	VULCAN MATERIALS CO.	HANOVER QUARRY (#371)		US MINES
HANOVER	1003865048	PENN TWP WASTE WTR TRTMT PLT	RIDGE AVE	17331	SEMS-ARCHIVE
HANOVER	95309130		NEAR HANOVER AIRPORT		ERNS
HANOVER	2000531030		EISENHOWER BLVD		ERNS
HANOVER	2002597592		RUS HANOVER		ERNS
HANOVER	S103474021	JF ROHRBAUGH CO INC	1030 RIDGE AVE	17331	PA LUST
HANOVER	S105802010	HIGHWAY OIL STA 714	CARLISLE ST EXIT	17331	PA LUST
HANOVER	S105954984	LUZERNE COUNTY DEMO	BEHIND HANOVER H S		PA HIST LF
HANOVER	S111116015	SEARS AUTO CTR	N HANOVER MALL	17331	PA ARCHIVE UST
HANOVER	S111109445	DEL WOOD KITCHENS INC	DUBS CHURCH RD	17331	PA ARCHIVE UST
HANOVER	S119691241	YORK LINTEL & CAST STONE INC	HANOVER OXFORD RD	17331	PA ARCHIVE AST
LITTLESTOWN	S119694393	MIDWAY COUNTRY STORE	1831 HANOVER PIKE	17340	PA ARCHIVE UST
WEST MANHEIM	1024089150	WYNDSONG POINTE PHASE 2	DUBS CHURCH ROAD	17331	FINDS, ECHO

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

To maintain currency of the following federal and state databases, EDR contacts the appropriate governmental agency on a monthly or quarterly basis, as required.

Number of Days to Update: Provides confirmation that EDR is reporting records that have been updated within 90 days from the date the government agency made the information available to the public.

NPL: National Priority List

National Priorities List (Superfund). The NPL is a subset of CERCLIS and identifies over 1,200 sites for priority cleanup under the Superfund Program. NPL sites may encompass relatively large areas. As such, EDR provides polygon coverage for over 1,000 NPL site boundaries produced by EPA's Environmental Photographic Interpretation Center (EPIC) and regional EPA offices.

Date of Government Version: 12/12/2018	Source: EPA
Date Data Arrived at EDR: 12/28/2018	Telephone: N/A
Date Made Active in Reports: 01/11/2019	Last EDR Contact: 12/28/2018
Number of Days to Update: 14	Next Scheduled EDR Contact: 04/15/2019
	Data Release Frequency: Quarterly

NPL Site Boundaries

Sources:

EPA's Environmental Photographic Interpretation Center (EPIC)
Telephone: 202-564-7333

EPA Region 1
Telephone 617-918-1143

EPA Region 3
Telephone 215-814-5418

EPA Region 4
Telephone 404-562-8033

EPA Region 5
Telephone 312-886-6686

EPA Region 10
Telephone 206-553-8665

EPA Region 6
Telephone: 214-655-6659

EPA Region 7
Telephone: 913-551-7247

EPA Region 8
Telephone: 303-312-6774

EPA Region 9
Telephone: 415-947-4246

Proposed NPL: Proposed National Priority List Sites

A site that has been proposed for listing on the National Priorities List through the issuance of a proposed rule in the Federal Register. EPA then accepts public comments on the site, responds to the comments, and places on the NPL those sites that continue to meet the requirements for listing.

Date of Government Version: 12/12/2018	Source: EPA
Date Data Arrived at EDR: 12/28/2018	Telephone: N/A
Date Made Active in Reports: 01/11/2019	Last EDR Contact: 12/28/2018
Number of Days to Update: 14	Next Scheduled EDR Contact: 04/15/2019
	Data Release Frequency: Quarterly

NPL LIENS: Federal Superfund Liens

Federal Superfund Liens. Under the authority granted the USEPA by CERCLA of 1980, the USEPA has the authority to file liens against real property in order to recover remedial action expenditures or when the property owner received notification of potential liability. USEPA compiles a listing of filed notices of Superfund Liens.

Date of Government Version: 10/15/1991	Source: EPA
Date Data Arrived at EDR: 02/02/1994	Telephone: 202-564-4267
Date Made Active in Reports: 03/30/1994	Last EDR Contact: 08/15/2011
Number of Days to Update: 56	Next Scheduled EDR Contact: 11/28/2011
	Data Release Frequency: No Update Planned

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

Delisted NPL: National Priority List Deletions

The National Oil and Hazardous Substances Pollution Contingency Plan (NCP) establishes the criteria that the EPA uses to delete sites from the NPL. In accordance with 40 CFR 300.425.(e), sites may be deleted from the NPL where no further response is appropriate.

Date of Government Version: 12/12/2018	Source: EPA
Date Data Arrived at EDR: 12/28/2018	Telephone: N/A
Date Made Active in Reports: 01/11/2019	Last EDR Contact: 12/28/2018
Number of Days to Update: 14	Next Scheduled EDR Contact: 04/15/2019
	Data Release Frequency: Quarterly

FEDERAL FACILITY: Federal Facility Site Information listing

A listing of National Priority List (NPL) and Base Realignment and Closure (BRAC) sites found in the Comprehensive Environmental Response, Compensation and Liability Information System (CERCLIS) Database where EPA Federal Facilities Restoration and Reuse Office is involved in cleanup activities.

Date of Government Version: 11/07/2016	Source: Environmental Protection Agency
Date Data Arrived at EDR: 01/05/2017	Telephone: 703-603-8704
Date Made Active in Reports: 04/07/2017	Last EDR Contact: 01/04/2019
Number of Days to Update: 92	Next Scheduled EDR Contact: 04/15/2019
	Data Release Frequency: Varies

SEMS: Superfund Enterprise Management System

SEMS (Superfund Enterprise Management System) tracks hazardous waste sites, potentially hazardous waste sites, and remedial activities performed in support of EPA's Superfund Program across the United States. The list was formerly known as CERCLIS, renamed to SEMS by the EPA in 2015. The list contains data on potentially hazardous waste sites that have been reported to the USEPA by states, municipalities, private companies and private persons, pursuant to Section 103 of the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA). This dataset also contains sites which are either proposed to or on the National Priorities List (NPL) and the sites which are in the screening and assessment phase for possible inclusion on the NPL.

Date of Government Version: 12/12/2018	Source: EPA
Date Data Arrived at EDR: 12/28/2018	Telephone: 800-424-9346
Date Made Active in Reports: 01/11/2019	Last EDR Contact: 12/28/2018
Number of Days to Update: 14	Next Scheduled EDR Contact: 01/28/2019
	Data Release Frequency: Quarterly

SEMS-ARCHIVE: Superfund Enterprise Management System Archive

SEMS-ARCHIVE (Superfund Enterprise Management System Archive) tracks sites that have no further interest under the Federal Superfund Program based on available information. The list was formerly known as the CERCLIS-NFRAP, renamed to SEMS ARCHIVE by the EPA in 2015. EPA may perform a minimal level of assessment work at a site while it is archived if site conditions change and/or new information becomes available. Archived sites have been removed and archived from the inventory of SEMS sites. Archived status indicates that, to the best of EPA's knowledge, assessment at a site has been completed and that EPA has determined no further steps will be taken to list the site on the National Priorities List (NPL), unless information indicates this decision was not appropriate or other considerations require a recommendation for listing at a later time. The decision does not necessarily mean that there is no hazard associated with a given site; it only means that, based upon available information, the location is not judged to be potential NPL site.

Date of Government Version: 12/13/2018	Source: EPA
Date Data Arrived at EDR: 12/28/2018	Telephone: 800-424-9346
Date Made Active in Reports: 01/11/2019	Last EDR Contact: 12/28/2018
Number of Days to Update: 14	Next Scheduled EDR Contact: 01/28/2019
	Data Release Frequency: Quarterly

CORRACTS: Corrective Action Report

CORRACTS identifies hazardous waste handlers with RCRA corrective action activity.

Date of Government Version: 03/01/2018	Source: EPA
Date Data Arrived at EDR: 03/28/2018	Telephone: 800-424-9346
Date Made Active in Reports: 06/22/2018	Last EDR Contact: 12/03/2018
Number of Days to Update: 86	Next Scheduled EDR Contact: 04/08/2019
	Data Release Frequency: Quarterly

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

RCRA-TSDF: RCRA - Treatment, Storage and Disposal

RCRAInfo is EPA's comprehensive information system, providing access to data supporting the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984. The database includes selective information on sites which generate, transport, store, treat and/or dispose of hazardous waste as defined by the Resource Conservation and Recovery Act (RCRA). Transporters are individuals or entities that move hazardous waste from the generator offsite to a facility that can recycle, treat, store, or dispose of the waste. TSDFs treat, store, or dispose of the waste.

Date of Government Version: 03/01/2018	Source: Environmental Protection Agency
Date Data Arrived at EDR: 03/28/2018	Telephone: 800-438-2474
Date Made Active in Reports: 06/22/2018	Last EDR Contact: 12/03/2018
Number of Days to Update: 86	Next Scheduled EDR Contact: 04/08/2019
	Data Release Frequency: Quarterly

RCRA-LQG: RCRA - Large Quantity Generators

RCRAInfo is EPA's comprehensive information system, providing access to data supporting the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984. The database includes selective information on sites which generate, transport, store, treat and/or dispose of hazardous waste as defined by the Resource Conservation and Recovery Act (RCRA). Large quantity generators (LQGs) generate over 1,000 kilograms (kg) of hazardous waste, or over 1 kg of acutely hazardous waste per month.

Date of Government Version: 03/01/2018	Source: Environmental Protection Agency
Date Data Arrived at EDR: 03/28/2018	Telephone: 800-438-2474
Date Made Active in Reports: 06/22/2018	Last EDR Contact: 12/03/2018
Number of Days to Update: 86	Next Scheduled EDR Contact: 04/08/2019
	Data Release Frequency: Quarterly

RCRA-SQG: RCRA - Small Quantity Generators

RCRAInfo is EPA's comprehensive information system, providing access to data supporting the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984. The database includes selective information on sites which generate, transport, store, treat and/or dispose of hazardous waste as defined by the Resource Conservation and Recovery Act (RCRA). Small quantity generators (SQGs) generate between 100 kg and 1,000 kg of hazardous waste per month.

Date of Government Version: 03/01/2018	Source: Environmental Protection Agency
Date Data Arrived at EDR: 03/28/2018	Telephone: 800-438-2474
Date Made Active in Reports: 06/22/2018	Last EDR Contact: 12/03/2018
Number of Days to Update: 86	Next Scheduled EDR Contact: 04/08/2019
	Data Release Frequency: Quarterly

RCRA-CESQG: RCRA - Conditionally Exempt Small Quantity Generators

RCRAInfo is EPA's comprehensive information system, providing access to data supporting the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984. The database includes selective information on sites which generate, transport, store, treat and/or dispose of hazardous waste as defined by the Resource Conservation and Recovery Act (RCRA). Conditionally exempt small quantity generators (CESQGs) generate less than 100 kg of hazardous waste, or less than 1 kg of acutely hazardous waste per month.

Date of Government Version: 03/01/2018	Source: Environmental Protection Agency
Date Data Arrived at EDR: 03/28/2018	Telephone: 800-438-2474
Date Made Active in Reports: 06/22/2018	Last EDR Contact: 12/03/2018
Number of Days to Update: 86	Next Scheduled EDR Contact: 04/08/2019
	Data Release Frequency: Quarterly

LUCIS: Land Use Control Information System

LUCIS contains records of land use control information pertaining to the former Navy Base Realignment and Closure properties.

Date of Government Version: 10/17/2018	Source: Department of the Navy
Date Data Arrived at EDR: 10/25/2018	Telephone: 843-820-7326
Date Made Active in Reports: 12/07/2018	Last EDR Contact: 10/15/2018
Number of Days to Update: 43	Next Scheduled EDR Contact: 02/25/2019
	Data Release Frequency: Varies

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

US ENG CONTROLS: Engineering Controls Sites List

A listing of sites with engineering controls in place. Engineering controls include various forms of caps, building foundations, liners, and treatment methods to create pathway elimination for regulated substances to enter environmental media or effect human health.

Date of Government Version: 07/31/2018	Source: Environmental Protection Agency
Date Data Arrived at EDR: 08/28/2018	Telephone: 703-603-0695
Date Made Active in Reports: 09/14/2018	Last EDR Contact: 11/28/2018
Number of Days to Update: 17	Next Scheduled EDR Contact: 03/11/2019
	Data Release Frequency: Varies

US INST CONTROL: Sites with Institutional Controls

A listing of sites with institutional controls in place. Institutional controls include administrative measures, such as groundwater use restrictions, construction restrictions, property use restrictions, and post remediation care requirements intended to prevent exposure to contaminants remaining on site. Deed restrictions are generally required as part of the institutional controls.

Date of Government Version: 07/31/2018	Source: Environmental Protection Agency
Date Data Arrived at EDR: 08/28/2018	Telephone: 703-603-0695
Date Made Active in Reports: 09/14/2018	Last EDR Contact: 11/28/2018
Number of Days to Update: 17	Next Scheduled EDR Contact: 03/11/2019
	Data Release Frequency: Varies

ERNS: Emergency Response Notification System

Emergency Response Notification System. ERNS records and stores information on reported releases of oil and hazardous substances.

Date of Government Version: 09/24/2018	Source: National Response Center, United States Coast Guard
Date Data Arrived at EDR: 09/25/2018	Telephone: 202-267-2180
Date Made Active in Reports: 11/09/2018	Last EDR Contact: 01/08/2019
Number of Days to Update: 45	Next Scheduled EDR Contact: 04/08/2019
	Data Release Frequency: Quarterly

STANDARD ENVIRONMENTAL RECORDS

State- and tribal - equivalent NPL

PA SHWS: Hazardous Sites Cleanup Act Site List

The Hazardous Sites Cleanup Act Site List includes sites listed on PA Priority List, sites delisted from PA Priority List, Interim Response Completed sites, and Sites Being Studied or Response Being Planned.

Date of Government Version: 10/16/2018	Source: Department Environmental Protection
Date Data Arrived at EDR: 10/17/2018	Telephone: 717-783-7816
Date Made Active in Reports: 11/27/2018	Last EDR Contact: 10/17/2018
Number of Days to Update: 41	Next Scheduled EDR Contact: 01/28/2019
	Data Release Frequency: Quarterly

PA HSCA: HSCA Remedial Sites Listing

A list of remedial sites on the PA Priority List. This is the PA state equivalent of the federal NPL superfund list.

Date of Government Version: 08/01/2017	Source: Department of Environmental Protection
Date Data Arrived at EDR: 01/23/2018	Telephone: 717-783-7816
Date Made Active in Reports: 02/05/2018	Last EDR Contact: 10/19/2018
Number of Days to Update: 13	Next Scheduled EDR Contact: 01/28/2019
	Data Release Frequency: Annually

State and tribal landfill and/or solid waste disposal site lists

PA SWF/LF: Operating Facilities

The listing includes Municipal Waste Landfills, Construction/Demolition Waste Landfills and Waste-to-Energy Facilities.

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

Date of Government Version: 11/19/2018
Date Data Arrived at EDR: 11/21/2018
Date Made Active in Reports: 01/03/2019
Number of Days to Update: 43

Source: Department of Environmental Protection
Telephone: 717-787-7564
Last EDR Contact: 11/19/2018
Next Scheduled EDR Contact: 03/04/2019
Data Release Frequency: Semi-Annually

State and tribal leaking storage tank lists

PA LUST: Storage Tank Release Sites

Leaking Underground Storage Tank Incident Reports. LUST records contain an inventory of reported leaking underground storage tank incidents. Not all states maintain these records, and the information stored varies by state.

Date of Government Version: 09/10/2018
Date Data Arrived at EDR: 09/13/2018
Date Made Active in Reports: 09/26/2018
Number of Days to Update: 13

Source: Department of Environmental Protection
Telephone: 717-783-7509
Last EDR Contact: 12/12/2018
Next Scheduled EDR Contact: 03/25/2019
Data Release Frequency: Quarterly

PA LAST: Storage Tank Release Sites

Leaking Aboveground Storage Tank Incident Reports.

Date of Government Version: 09/10/2018
Date Data Arrived at EDR: 09/13/2018
Date Made Active in Reports: 09/26/2018
Number of Days to Update: 13

Source: Department of Environmental Protection
Telephone: 717-783-7509
Last EDR Contact: 12/12/2018
Next Scheduled EDR Contact: 03/25/2019
Data Release Frequency: Quarterly

INDIAN LUST R5: Leaking Underground Storage Tanks on Indian Land

A listing of leaking underground storage tank locations on Indian Land.

Date of Government Version: 04/13/2018
Date Data Arrived at EDR: 05/18/2018
Date Made Active in Reports: 07/20/2018
Number of Days to Update: 63

Source: EPA Region 1
Telephone: 617-918-1313
Last EDR Contact: 10/26/2018
Next Scheduled EDR Contact: 02/04/2019
Data Release Frequency: Varies

INDIAN LUST R10: Leaking Underground Storage Tanks on Indian Land

A listing of leaking underground storage tank locations on Indian Land.

Date of Government Version: 04/13/2018
Date Data Arrived at EDR: 05/18/2018
Date Made Active in Reports: 07/20/2018
Number of Days to Update: 63

Source: EPA Region 1
Telephone: 617-918-1313
Last EDR Contact: 10/26/2018
Next Scheduled EDR Contact: 02/04/2019
Data Release Frequency: Varies

INDIAN LUST R9: Leaking Underground Storage Tanks on Indian Land

A listing of leaking underground storage tank locations on Indian Land.

Date of Government Version: 04/13/2018
Date Data Arrived at EDR: 05/18/2018
Date Made Active in Reports: 07/20/2018
Number of Days to Update: 63

Source: EPA Region 1
Telephone: 617-918-1313
Last EDR Contact: 10/26/2018
Next Scheduled EDR Contact: 02/04/2019
Data Release Frequency: Varies

INDIAN LUST R8: Leaking Underground Storage Tanks on Indian Land

A listing of leaking underground storage tank locations on Indian Land.

Date of Government Version: 04/13/2018
Date Data Arrived at EDR: 05/18/2018
Date Made Active in Reports: 07/20/2018
Number of Days to Update: 63

Source: EPA Region 1
Telephone: 617-918-1313
Last EDR Contact: 10/26/2018
Next Scheduled EDR Contact: 02/04/2019
Data Release Frequency: Varies

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

INDIAN LUST R7: Leaking Underground Storage Tanks on Indian Land

A listing of leaking underground storage tank locations on Indian Land.

Date of Government Version: 04/13/2018	Source: EPA Region 1
Date Data Arrived at EDR: 05/18/2018	Telephone: 617-918-1313
Date Made Active in Reports: 07/20/2018	Last EDR Contact: 10/26/2018
Number of Days to Update: 63	Next Scheduled EDR Contact: 02/04/2019
	Data Release Frequency: Varies

INDIAN LUST R6: Leaking Underground Storage Tanks on Indian Land

A listing of leaking underground storage tank locations on Indian Land.

Date of Government Version: 04/13/2018	Source: EPA Region 1
Date Data Arrived at EDR: 05/18/2018	Telephone: 617-918-1313
Date Made Active in Reports: 07/20/2018	Last EDR Contact: 10/26/2018
Number of Days to Update: 63	Next Scheduled EDR Contact: 02/04/2019
	Data Release Frequency: Varies

INDIAN LUST R4: Leaking Underground Storage Tanks on Indian Land

A listing of leaking underground storage tank locations on Indian Land.

Date of Government Version: 04/13/2018	Source: EPA Region 1
Date Data Arrived at EDR: 05/18/2018	Telephone: 617-918-1313
Date Made Active in Reports: 07/20/2018	Last EDR Contact: 10/26/2018
Number of Days to Update: 63	Next Scheduled EDR Contact: 02/04/2019
	Data Release Frequency: Varies

INDIAN LUST R1: Leaking Underground Storage Tanks on Indian Land

A listing of leaking underground storage tank locations on Indian Land.

Date of Government Version: 04/13/2018	Source: EPA Region 1
Date Data Arrived at EDR: 05/18/2018	Telephone: 617-918-1313
Date Made Active in Reports: 07/20/2018	Last EDR Contact: 10/26/2018
Number of Days to Update: 63	Next Scheduled EDR Contact: 02/04/2019
	Data Release Frequency: Varies

PA UNREG LTANKS: Unregulated Tank Cases

Leaking storage tank cases from unregulated storage tanks.

Date of Government Version: 04/12/2002	Source: Department of Environmental Protection
Date Data Arrived at EDR: 08/14/2003	Telephone: 717-783-7509
Date Made Active in Reports: 08/29/2003	Last EDR Contact: 08/14/2003
Number of Days to Update: 15	Next Scheduled EDR Contact: N/A
	Data Release Frequency: No Update Planned

FEMA UST: Underground Storage Tank Listing

A listing of all FEMA owned underground storage tanks.

Date of Government Version: 05/15/2017	Source: FEMA
Date Data Arrived at EDR: 05/30/2017	Telephone: 202-646-5797
Date Made Active in Reports: 10/13/2017	Last EDR Contact: 01/08/2019
Number of Days to Update: 136	Next Scheduled EDR Contact: 04/22/2019
	Data Release Frequency: Varies

State and tribal registered storage tank lists

PA UST: Listing of Pennsylvania Regulated Underground Storage Tanks

Registered Underground Storage Tanks. UST's are regulated under Subtitle I of the Resource Conservation and Recovery Act (RCRA) and must be registered with the state department responsible for administering the UST program. Available information varies by state program.

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

Date of Government Version: 09/04/2018
Date Data Arrived at EDR: 09/13/2018
Date Made Active in Reports: 09/27/2018
Number of Days to Update: 14

Source: Department of Environmental Protection
Telephone: 717-772-5599
Last EDR Contact: 12/12/2018
Next Scheduled EDR Contact: 03/25/2019
Data Release Frequency: Varies

PA AST: Listing of Pennsylvania Regulated Aboveground Storage Tanks
Registered Aboveground Storage Tanks.

Date of Government Version: 09/04/2018
Date Data Arrived at EDR: 09/13/2018
Date Made Active in Reports: 09/27/2018
Number of Days to Update: 14

Source: Department of Environmental Protection
Telephone: 717-772-5599
Last EDR Contact: 12/12/2018
Next Scheduled EDR Contact: 03/25/2019
Data Release Frequency: Varies

INDIAN UST R8: Underground Storage Tanks on Indian Land

Date of Government Version: 04/06/2016
Date Data Arrived at EDR: 03/02/2017
Date Made Active in Reports: 04/07/2017
Number of Days to Update: 36

Source: N/A
Telephone: N/A
Last EDR Contact: 10/26/2018
Next Scheduled EDR Contact: 02/04/2019
Data Release Frequency: Varies

INDIAN UST R6: Underground Storage Tanks on Indian Land

Date of Government Version: 04/06/2016
Date Data Arrived at EDR: 03/02/2017
Date Made Active in Reports: 04/07/2017
Number of Days to Update: 36

Source: N/A
Telephone: N/A
Last EDR Contact: 10/26/2018
Next Scheduled EDR Contact: 02/04/2019
Data Release Frequency: Varies

INDIAN UST R5: Underground Storage Tanks on Indian Land

Date of Government Version: 04/06/2016
Date Data Arrived at EDR: 03/02/2017
Date Made Active in Reports: 04/07/2017
Number of Days to Update: 36

Source: N/A
Telephone: N/A
Last EDR Contact: 10/26/2018
Next Scheduled EDR Contact: 02/04/2019
Data Release Frequency: Varies

INDIAN UST R4: Underground Storage Tanks on Indian Land

Date of Government Version: 04/06/2016
Date Data Arrived at EDR: 03/02/2017
Date Made Active in Reports: 04/07/2017
Number of Days to Update: 36

Source: N/A
Telephone: N/A
Last EDR Contact: 10/26/2018
Next Scheduled EDR Contact: 02/04/2019
Data Release Frequency: Varies

INDIAN UST R1: Underground Storage Tanks on Indian Land

Date of Government Version: 04/06/2016
Date Data Arrived at EDR: 03/02/2017
Date Made Active in Reports: 04/07/2017
Number of Days to Update: 36

Source: N/A
Telephone: N/A
Last EDR Contact: 10/26/2018
Next Scheduled EDR Contact: 02/04/2019
Data Release Frequency: Varies

INDIAN UST R10: Underground Storage Tanks on Indian Land

Date of Government Version: 04/06/2016
Date Data Arrived at EDR: 03/02/2017
Date Made Active in Reports: 04/07/2017
Number of Days to Update: 36

Source: N/A
Telephone: N/A
Last EDR Contact: 10/26/2018
Next Scheduled EDR Contact: 02/04/2019
Data Release Frequency: Varies

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

INDIAN UST R9: Underground Storage Tanks on Indian Land

Date of Government Version: 04/06/2016	Source: N/A
Date Data Arrived at EDR: 03/02/2017	Telephone: N/A
Date Made Active in Reports: 04/07/2017	Last EDR Contact: 10/26/2018
Number of Days to Update: 36	Next Scheduled EDR Contact: 02/04/2019
	Data Release Frequency: Varies

INDIAN UST R7: Underground Storage Tanks on Indian Land

Date of Government Version: 04/06/2016	Source: N/A
Date Data Arrived at EDR: 03/02/2017	Telephone: N/A
Date Made Active in Reports: 04/07/2017	Last EDR Contact: 10/26/2018
Number of Days to Update: 36	Next Scheduled EDR Contact: 02/04/2019
	Data Release Frequency: Varies

State and tribal institutional control / engineering control registries

PA ENG CONTROLS: Engineering Controls Site Listing

Under the Land Recycling Act (Act 2) persons who perform a site cleanup using the site-specific standard or the special industrial area standard may use engineering or institutional controls as part of the response action. Engineering controls include various forms of caps, building foundations, liners, and treatment methods to create pathway elimination for regulated substances to enter environmental media or effect human health.

Date of Government Version: 05/15/2008	Source: Department of Environmental Protection
Date Data Arrived at EDR: 05/16/2008	Telephone: 717-783-9470
Date Made Active in Reports: 06/12/2008	Last EDR Contact: 10/16/2018
Number of Days to Update: 27	Next Scheduled EDR Contact: 01/28/2019
	Data Release Frequency: No Update Planned

PA AUL: Environmental Covenants Listing

A listing of sites with environmental covenants.

Date of Government Version: 10/16/2018	Source: Department of Environmental Protection
Date Data Arrived at EDR: 10/17/2018	Telephone: 717-783-7509
Date Made Active in Reports: 11/27/2018	Last EDR Contact: 10/17/2018
Number of Days to Update: 41	Next Scheduled EDR Contact: 01/28/2019
	Data Release Frequency: Quarterly

PA INST CONTROL: Institutional Controls Site Listing

Under the Land Recycling Act (Act 2) persons who perform a site cleanup using the site-specific standard or the special industrial area standard may use engineering or institutional controls as part of the response action. Institutional controls include administrative measures, such as groundwater use restrictions, construction restrictions, property use restrictions, and post remediation care requirements intended to prevent exposure to contaminants remaining on site. Deed restrictions are generally required as part of the institutional controls.

Date of Government Version: 05/15/2008	Source: Department of Environmental Protection
Date Data Arrived at EDR: 05/16/2008	Telephone: 717-783-9470
Date Made Active in Reports: 06/12/2008	Last EDR Contact: 10/16/2018
Number of Days to Update: 27	Next Scheduled EDR Contact: 01/28/2019
	Data Release Frequency: No Update Planned

INDIAN VCP R1: Voluntary Cleanup Priority Listing

A listing of voluntary cleanup priority sites located on Indian Land located in Region 7.

Date of Government Version: 03/20/2008	Source: EPA, Region 7
Date Data Arrived at EDR: 04/22/2008	Telephone: 913-551-7365
Date Made Active in Reports: 05/19/2008	Last EDR Contact: 04/20/2009
Number of Days to Update: 27	Next Scheduled EDR Contact: 07/20/2009
	Data Release Frequency: Varies

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

INDIAN VCP R7: Voluntary Cleanup Priority Listing

A listing of voluntary cleanup priority sites located on Indian Land located in Region 7.

Date of Government Version: 03/20/2008	Source: EPA, Region 7
Date Data Arrived at EDR: 04/22/2008	Telephone: 913-551-7365
Date Made Active in Reports: 05/19/2008	Last EDR Contact: 04/20/2009
Number of Days to Update: 27	Next Scheduled EDR Contact: 07/20/2009
	Data Release Frequency: Varies

State and tribal voluntary cleanup sites

PA VCP: Voluntary Cleanup Program Sites

The VCP listings included Completed Sites, Sites in Progress and Act 2 Non-Use Aquifer Determinations Sites. Formerly known as the Act 2, the Land Recycling Program encourages the voluntary cleanup and reuse of contaminated commercial and industrial sites.

Date of Government Version: 10/09/2018	Source: Department of Environmental Protection
Date Data Arrived at EDR: 10/11/2018	Telephone: 717-783-2388
Date Made Active in Reports: 10/22/2018	Last EDR Contact: 01/10/2019
Number of Days to Update: 11	Next Scheduled EDR Contact: 04/22/2019
	Data Release Frequency: Quarterly

State and tribal Brownfields sites

PA BROWNFIELDS: Brownfields Sites

Brownfields are generally defined as abandoned or underused industrial or commercial properties where redevelopment is complicated by actual or perceived environmental contamination. Brownfields vary in size, location, age and past use. They can range from a small, abandoned corner gas station to a large, multi-acre former manufacturing plant that has been closed for years.

Date of Government Version: 10/16/2018	Source: Department of Environmental Protection
Date Data Arrived at EDR: 10/17/2018	Telephone: 717-783-1566
Date Made Active in Reports: 11/28/2018	Last EDR Contact: 10/17/2018
Number of Days to Update: 42	Next Scheduled EDR Contact: 01/28/2019
	Data Release Frequency: Quarterly

US BROWNFIELDS: A Listing of Brownfields Sites

Brownfields are real property, the expansion, redevelopment, or reuse of which may be complicated by the presence or potential presence of a hazardous substance, pollutant, or contaminant. Cleaning up and reinvesting in these properties takes development pressures off of undeveloped, open land, and both improves and protects the environment. Assessment, Cleanup and Redevelopment Exchange System (ACRES) stores information reported by EPA Brownfields grant recipients on brownfields properties assessed or cleaned up with grant funding as well as information on Targeted Brownfields Assessments performed by EPA Regions. A listing of ACRES Brownfield sites is obtained from Cleanups in My Community. Cleanups in My Community provides information on Brownfields properties for which information is reported back to EPA, as well as areas served by Brownfields grant programs.

Date of Government Version: 12/17/2018	Source: Environmental Protection Agency
Date Data Arrived at EDR: 12/18/2018	Telephone: 202-566-2777
Date Made Active in Reports: 01/11/2019	Last EDR Contact: 12/18/2018
Number of Days to Update: 24	Next Scheduled EDR Contact: 04/01/2019
	Data Release Frequency: Semi-Annually

ADDITIONAL ENVIRONMENTAL RECORDS

Local Lists of Landfill / Solid Waste Disposal Sites

PA HIST LF ALI: Abandoned Landfill Inventory

The report provides facility information recorded in the Pennsylvania Department of Environmental Protection ALI database. Some of this information has been abstracted from old records and may not accurately reflect the current conditions and status at these facilities

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

Date of Government Version: 01/04/2005
Date Data Arrived at EDR: 01/04/2005
Date Made Active in Reports: 02/04/2005
Number of Days to Update: 31

Source: Department of Environmental Protection
Telephone: 717-787-7564
Last EDR Contact: 11/26/2012
Next Scheduled EDR Contact: 03/11/2013
Data Release Frequency: Varies

PA HIST LF INACTIVE: Inactive Facilities List

A listing of inactive non-hazardous facilities (10000 & 300000 series). This listing is no longer updated or maintained by the Department of Environmental Protection. At the time the listing was available, the DEP's name was the Department of Environmental Resources.

Date of Government Version: 12/20/1994
Date Data Arrived at EDR: 07/12/2005
Date Made Active in Reports: 08/11/2005
Number of Days to Update: 30

Source: Department of Environmental Protection
Telephone: 717-787-7381
Last EDR Contact: 06/21/2005
Next Scheduled EDR Contact: 12/19/2005
Data Release Frequency: No Update Planned

PA HIST LF INVENTORY: Facility Inventory

A listing of solid waste facilities. This listing is no longer updated or maintained by the Department of Environmental Protection. At the time the listing was available, the DEP's name was the Department of Environmental Resources.

Date of Government Version: 06/02/1999
Date Data Arrived at EDR: 07/12/2005
Date Made Active in Reports: 08/11/2005
Number of Days to Update: 30

Source: Department of Environmental Protection
Telephone: 717-787-7381
Last EDR Contact: 09/19/2005
Next Scheduled EDR Contact: 12/19/2005
Data Release Frequency: No Update Planned

INDIAN ODI: Report on the Status of Open Dumps on Indian Lands

Location of open dumps on Indian land.

Date of Government Version: 12/31/1998
Date Data Arrived at EDR: 12/03/2007
Date Made Active in Reports: 01/24/2008
Number of Days to Update: 52

Source: Environmental Protection Agency
Telephone: 703-308-8245
Last EDR Contact: 10/25/2018
Next Scheduled EDR Contact: 02/11/2019
Data Release Frequency: Varies

ODI: Open Dump Inventory

An open dump is defined as a disposal facility that does not comply with one or more of the Part 257 or Part 258 Subtitle D Criteria.

Date of Government Version: 06/30/1985
Date Data Arrived at EDR: 08/09/2004
Date Made Active in Reports: 09/17/2004
Number of Days to Update: 39

Source: Environmental Protection Agency
Telephone: 800-424-9346
Last EDR Contact: 06/09/2004
Next Scheduled EDR Contact: N/A
Data Release Frequency: No Update Planned

DEBRIS REGION 9: Torres Martinez Reservation Illegal Dump Site Locations

A listing of illegal dump sites location on the Torres Martinez Indian Reservation located in eastern Riverside County and northern Imperial County, California.

Date of Government Version: 01/12/2009
Date Data Arrived at EDR: 05/07/2009
Date Made Active in Reports: 09/21/2009
Number of Days to Update: 137

Source: EPA, Region 9
Telephone: 415-947-4219
Last EDR Contact: 10/22/2018
Next Scheduled EDR Contact: 02/04/2019
Data Release Frequency: No Update Planned

IHS OPEN DUMPS: Open Dumps on Indian Land

A listing of all open dumps located on Indian Land in the United States.

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

Date of Government Version: 04/01/2014
Date Data Arrived at EDR: 08/06/2014
Date Made Active in Reports: 01/29/2015
Number of Days to Update: 176

Source: Department of Health & Human Services, Indian Health Service
Telephone: 301-443-1452
Last EDR Contact: 11/02/2018
Next Scheduled EDR Contact: 02/11/2019
Data Release Frequency: Varies

US HIST CDL: National Clandestine Laboratory Register

A listing of clandestine drug lab locations that have been removed from the DEAs National Clandestine Laboratory Register.

Date of Government Version: 09/21/2018
Date Data Arrived at EDR: 09/21/2018
Date Made Active in Reports: 11/09/2018
Number of Days to Update: 49

Source: Drug Enforcement Administration
Telephone: 202-307-1000
Last EDR Contact: 11/26/2018
Next Scheduled EDR Contact: 03/11/2019
Data Release Frequency: No Update Planned

US CDL: Clandestine Drug Labs

A listing of clandestine drug lab locations. The U.S. Department of Justice ("the Department") provides this web site as a public service. It contains addresses of some locations where law enforcement agencies reported they found chemicals or other items that indicated the presence of either clandestine drug laboratories or dumpsites. In most cases, the source of the entries is not the Department, and the Department has not verified the entry and does not guarantee its accuracy. Members of the public must verify the accuracy of all entries by, for example, contacting local law enforcement and local health departments.

Date of Government Version: 09/21/2018
Date Data Arrived at EDR: 09/21/2018
Date Made Active in Reports: 11/09/2018
Number of Days to Update: 49

Source: Drug Enforcement Administration
Telephone: 202-307-1000
Last EDR Contact: 11/26/2018
Next Scheduled EDR Contact: 03/11/2019
Data Release Frequency: Quarterly

Local Lists of Registered Storage Tanks

PA ARCHIVE UST: Archived Underground Storage Tank Sites

The list includes tanks storing highly hazardous substances that were removed from the DEP's Storage Tank Information database because of the Department's policy on sensitive information. The list also may include tanks that are removed or permanently closed.

Date of Government Version: 09/04/2018
Date Data Arrived at EDR: 09/13/2018
Date Made Active in Reports: 09/27/2018
Number of Days to Update: 14

Source: Department of Environmental Protection
Telephone: 717-772-5599
Last EDR Contact: 12/13/2018
Next Scheduled EDR Contact: 03/25/2019
Data Release Frequency: Varies

PA ARCHIVE AST: Archived Aboveground Storage Tank Sites

The list includes aboveground tanks with a capacity greater than 21,000 gallons that were removed from the DEP's Storage Tank Information database because of the Department's policy on sensitive information. The list also may include tanks that are removed or permanently closed.

Date of Government Version: 09/04/2018
Date Data Arrived at EDR: 09/13/2018
Date Made Active in Reports: 09/27/2018
Number of Days to Update: 14

Source: Department of Environmental Protection
Telephone: 717-772-5599
Last EDR Contact: 12/13/2018
Next Scheduled EDR Contact: 03/25/2019
Data Release Frequency: Varies

LIENS 2: CERCLA Lien Information

A Federal CERCLA ("Superfund") lien can exist by operation of law at any site or property at which EPA has spent Superfund monies. These monies are spent to investigate and address releases and threatened releases of contamination. CERCLIS provides information as to the identity of these sites and properties.

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

Date of Government Version: 12/12/2018
Date Data Arrived at EDR: 12/28/2018
Date Made Active in Reports: 01/11/2019
Number of Days to Update: 14

Source: Environmental Protection Agency
Telephone: 202-564-6023
Last EDR Contact: 12/28/2018
Next Scheduled EDR Contact: 02/04/2019
Data Release Frequency: Semi-Annually

Local Land Records

PA ACT 2-DEED: Act 2-Deed Acknowledgment Sites

This listing pertains to sites where the Department has approved a cleanup requiring a deed acknowledgment under Act 2. This list includes sites remediated to a non-residential Statewide health standard (Section 303(g)); all sites demonstrating attainment of a Site-specific standard (Section 304(m)); and sites being remediated as a special industrial area (Section 305(g)). Persons who remediated a site to a standard that requires a deed acknowledgment shall comply with the requirements of the Solid Waste Management Act or the Hazardous Sites Cleanup Act, as referenced in Act 2. These statutes require a property description section in the deed concerning the hazardous substance disposal on the site. The location of disposed hazardous substances and a description of the type of hazardous substances disposed on the site shall be included in the deed acknowledgment. A deed acknowledgment is required at the time of conveyance of the property.

Date of Government Version: 04/23/2010
Date Data Arrived at EDR: 04/28/2010
Date Made Active in Reports: 04/30/2010
Number of Days to Update: 2

Source: Department of Environmental Protection
Telephone: 717-783-9470
Last EDR Contact: 07/22/2011
Next Scheduled EDR Contact: 11/07/2011
Data Release Frequency: Varies

HMIRS: Hazardous Materials Information Reporting System

Hazardous Materials Incident Report System. HMIRS contains hazardous material spill incidents reported to DOT.

Date of Government Version: 03/26/2018
Date Data Arrived at EDR: 03/27/2018
Date Made Active in Reports: 06/08/2018
Number of Days to Update: 73

Source: U.S. Department of Transportation
Telephone: 202-366-4555
Last EDR Contact: 01/08/2019
Next Scheduled EDR Contact: 04/08/2019
Data Release Frequency: Quarterly

Records of Emergency Release Reports

PA SPILLS: State spills

A listing of hazardous material incidents.

Date of Government Version: 11/10/2018
Date Data Arrived at EDR: 11/15/2018
Date Made Active in Reports: 01/02/2019
Number of Days to Update: 48

Source: DEP, Emergency Response
Telephone: 717-787-5715
Last EDR Contact: 01/07/2019
Next Scheduled EDR Contact: 04/22/2019
Data Release Frequency: Semi-Annually

RCRA NonGen / NLR: RCRA - Non Generators / No Longer Regulated

RCRAInfo is EPA's comprehensive information system, providing access to data supporting the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984. The database includes selective information on sites which generate, transport, store, treat and/or dispose of hazardous waste as defined by the Resource Conservation and Recovery Act (RCRA). Non-Generators do not presently generate hazardous waste.

Date of Government Version: 03/01/2018
Date Data Arrived at EDR: 03/28/2018
Date Made Active in Reports: 06/22/2018
Number of Days to Update: 86

Source: Environmental Protection Agency
Telephone: 800-438-2474
Last EDR Contact: 12/03/2018
Next Scheduled EDR Contact: 04/08/2019
Data Release Frequency: Quarterly

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

FUDS: Formerly Used Defense Sites

The listing includes locations of Formerly Used Defense Sites properties where the US Army Corps of Engineers is actively working or will take necessary cleanup actions.

Date of Government Version: 01/31/2015	Source: U.S. Army Corps of Engineers
Date Data Arrived at EDR: 07/08/2015	Telephone: 202-528-4285
Date Made Active in Reports: 10/13/2015	Last EDR Contact: 11/19/2018
Number of Days to Update: 97	Next Scheduled EDR Contact: 03/04/2019
	Data Release Frequency: Varies

DOD: Department of Defense Sites

This data set consists of federally owned or administered lands, administered by the Department of Defense, that have any area equal to or greater than 640 acres of the United States, Puerto Rico, and the U.S. Virgin Islands.

Date of Government Version: 12/31/2005	Source: USGS
Date Data Arrived at EDR: 11/10/2006	Telephone: 888-275-8747
Date Made Active in Reports: 01/11/2007	Last EDR Contact: 01/11/2019
Number of Days to Update: 62	Next Scheduled EDR Contact: 04/22/2019
	Data Release Frequency: Semi-Annually

FEDLAND: Federal and Indian Lands

Federally and Indian administrated lands of the United States. Lands included are administrated by: Army Corps of Engineers, Bureau of Reclamation, National Wild and Scenic River, National Wildlife Refuge, Public Domain Land, Wilderness, Wilderness Study Area, Wildlife Management Area, Bureau of Indian Affairs, Bureau of Land Management, Department of Justice, Forest Service, Fish and Wildlife Service, National Park Service.

Date of Government Version: 12/31/2005	Source: U.S. Geological Survey
Date Data Arrived at EDR: 02/06/2006	Telephone: 888-275-8747
Date Made Active in Reports: 01/11/2007	Last EDR Contact: 01/11/2019
Number of Days to Update: 339	Next Scheduled EDR Contact: 04/22/2019
	Data Release Frequency: N/A

SCRD DRYCLEANERS: State Coalition for Remediation of Drycleaners Listing

The State Coalition for Remediation of Drycleaners was established in 1998, with support from the U.S. EPA Office of Superfund Remediation and Technology Innovation. It is comprised of representatives of states with established drycleaner remediation programs. Currently the member states are Alabama, Connecticut, Florida, Illinois, Kansas, Minnesota, Missouri, North Carolina, Oregon, South Carolina, Tennessee, Texas, and Wisconsin.

Date of Government Version: 01/01/2017	Source: Environmental Protection Agency
Date Data Arrived at EDR: 02/03/2017	Telephone: 615-532-8599
Date Made Active in Reports: 04/07/2017	Last EDR Contact: 11/16/2018
Number of Days to Update: 63	Next Scheduled EDR Contact: 02/25/2019
	Data Release Frequency: Varies

US FIN ASSUR: Financial Assurance Information

All owners and operators of facilities that treat, store, or dispose of hazardous waste are required to provide proof that they will have sufficient funds to pay for the clean up, closure, and post-closure care of their facilities.

Date of Government Version: 08/31/2018	Source: Environmental Protection Agency
Date Data Arrived at EDR: 09/25/2018	Telephone: 202-566-1917
Date Made Active in Reports: 11/09/2018	Last EDR Contact: 12/21/2018
Number of Days to Update: 45	Next Scheduled EDR Contact: 04/08/2019
	Data Release Frequency: Quarterly

EPA WATCH LIST: EPA WATCH LIST

EPA maintains a "Watch List" to facilitate dialogue between EPA, state and local environmental agencies on enforcement matters relating to facilities with alleged violations identified as either significant or high priority. Being on the Watch List does not mean that the facility has actually violated the law only that an investigation by EPA or a state or local environmental agency has led those organizations to allege that an unproven violation has in fact occurred. Being on the Watch List does not represent a higher level of concern regarding the alleged violations that were detected, but instead indicates cases requiring additional dialogue between EPA, state and local agencies - primarily because of the length of time the alleged violation has gone unaddressed or unresolved.

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

Date of Government Version: 08/30/2013
Date Data Arrived at EDR: 03/21/2014
Date Made Active in Reports: 06/17/2014
Number of Days to Update: 88

Source: Environmental Protection Agency
Telephone: 617-520-3000
Last EDR Contact: 11/05/2018
Next Scheduled EDR Contact: 02/18/2019
Data Release Frequency: Quarterly

2020 COR ACTION: 2020 Corrective Action Program List

The EPA has set ambitious goals for the RCRA Corrective Action program by creating the 2020 Corrective Action Universe. This RCRA cleanup baseline includes facilities expected to need corrective action. The 2020 universe contains a wide variety of sites. Some properties are heavily contaminated while others were contaminated but have since been cleaned up. Still others have not been fully investigated yet, and may require little or no remediation. Inclusion in the 2020 Universe does not necessarily imply failure on the part of a facility to meet its RCRA obligations.

Date of Government Version: 09/30/2017
Date Data Arrived at EDR: 05/08/2018
Date Made Active in Reports: 07/20/2018
Number of Days to Update: 73

Source: Environmental Protection Agency
Telephone: 703-308-4044
Last EDR Contact: 11/09/2018
Next Scheduled EDR Contact: 02/18/2019
Data Release Frequency: Varies

TSCA: Toxic Substances Control Act

Toxic Substances Control Act. TSCA identifies manufacturers and importers of chemical substances included on the TSCA Chemical Substance Inventory list. It includes data on the production volume of these substances by plant site.

Date of Government Version: 12/31/2016
Date Data Arrived at EDR: 06/21/2017
Date Made Active in Reports: 01/05/2018
Number of Days to Update: 198

Source: EPA
Telephone: 202-260-5521
Last EDR Contact: 12/21/2018
Next Scheduled EDR Contact: 04/01/2019
Data Release Frequency: Every 4 Years

TRIS: Toxic Chemical Release Inventory System

Toxic Release Inventory System. TRIS identifies facilities which release toxic chemicals to the air, water and land in reportable quantities under SARA Title III Section 313.

Date of Government Version: 12/31/2016
Date Data Arrived at EDR: 01/10/2018
Date Made Active in Reports: 01/12/2018
Number of Days to Update: 2

Source: EPA
Telephone: 202-566-0250
Last EDR Contact: 11/16/2018
Next Scheduled EDR Contact: 03/04/2019
Data Release Frequency: Annually

SSTS: Section 7 Tracking Systems

Section 7 of the Federal Insecticide, Fungicide and Rodenticide Act, as amended (92 Stat. 829) requires all registered pesticide-producing establishments to submit a report to the Environmental Protection Agency by March 1st each year. Each establishment must report the types and amounts of pesticides, active ingredients and devices being produced, and those having been produced and sold or distributed in the past year.

Date of Government Version: 12/31/2009
Date Data Arrived at EDR: 12/10/2010
Date Made Active in Reports: 02/25/2011
Number of Days to Update: 77

Source: EPA
Telephone: 202-564-4203
Last EDR Contact: 10/24/2018
Next Scheduled EDR Contact: 02/04/2019
Data Release Frequency: Annually

ROD: Records Of Decision

Record of Decision. ROD documents mandate a permanent remedy at an NPL (Superfund) site containing technical and health information to aid in the cleanup.

Date of Government Version: 12/12/2018
Date Data Arrived at EDR: 12/28/2018
Date Made Active in Reports: 01/11/2019
Number of Days to Update: 14

Source: EPA
Telephone: 703-416-0223
Last EDR Contact: 12/28/2018
Next Scheduled EDR Contact: 03/18/2019
Data Release Frequency: Annually

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

RMP: Risk Management Plans

When Congress passed the Clean Air Act Amendments of 1990, it required EPA to publish regulations and guidance for chemical accident prevention at facilities using extremely hazardous substances. The Risk Management Program Rule (RMP Rule) was written to implement Section 112(r) of these amendments. The rule, which built upon existing industry codes and standards, requires companies of all sizes that use certain flammable and toxic substances to develop a Risk Management Program, which includes a(n): Hazard assessment that details the potential effects of an accidental release, an accident history of the last five years, and an evaluation of worst-case and alternative accidental releases; Prevention program that includes safety precautions and maintenance, monitoring, and employee training measures; and Emergency response program that spells out emergency health care, employee training measures and procedures for informing the public and response agencies (e.g the fire department) should an accident occur.

Date of Government Version: 10/26/2018	Source: Environmental Protection Agency
Date Data Arrived at EDR: 11/06/2018	Telephone: 202-564-8600
Date Made Active in Reports: 01/11/2019	Last EDR Contact: 10/23/2018
Number of Days to Update: 66	Next Scheduled EDR Contact: 02/04/2019
	Data Release Frequency: Varies

RAATS: RCRA Administrative Action Tracking System

RCRA Administration Action Tracking System. RAATS contains records based on enforcement actions issued under RCRA pertaining to major violators and includes administrative and civil actions brought by the EPA. For administration actions after September 30, 1995, data entry in the RAATS database was discontinued. EPA will retain a copy of the database for historical records. It was necessary to terminate RAATS because a decrease in agency resources made it impossible to continue to update the information contained in the database.

Date of Government Version: 04/17/1995	Source: EPA
Date Data Arrived at EDR: 07/03/1995	Telephone: 202-564-4104
Date Made Active in Reports: 08/07/1995	Last EDR Contact: 06/02/2008
Number of Days to Update: 35	Next Scheduled EDR Contact: 09/01/2008
	Data Release Frequency: No Update Planned

PRP: Potentially Responsible Parties

A listing of verified Potentially Responsible Parties

Date of Government Version: 08/13/2018	Source: EPA
Date Data Arrived at EDR: 10/04/2018	Telephone: 202-564-6023
Date Made Active in Reports: 11/09/2018	Last EDR Contact: 12/28/2018
Number of Days to Update: 36	Next Scheduled EDR Contact: 02/18/2019
	Data Release Frequency: Quarterly

PADS: PCB Activity Database System

PCB Activity Database. PADS Identifies generators, transporters, commercial storers and/or brokers and disposers of PCB's who are required to notify the EPA of such activities.

Date of Government Version: 09/14/2018	Source: EPA
Date Data Arrived at EDR: 10/11/2018	Telephone: 202-566-0500
Date Made Active in Reports: 12/07/2018	Last EDR Contact: 01/11/2019
Number of Days to Update: 57	Next Scheduled EDR Contact: 04/22/2019
	Data Release Frequency: Annually

ICIS: Integrated Compliance Information System

The Integrated Compliance Information System (ICIS) supports the information needs of the national enforcement and compliance program as well as the unique needs of the National Pollutant Discharge Elimination System (NPDES) program.

Date of Government Version: 11/18/2016	Source: Environmental Protection Agency
Date Data Arrived at EDR: 11/23/2016	Telephone: 202-564-2501
Date Made Active in Reports: 02/10/2017	Last EDR Contact: 01/07/2019
Number of Days to Update: 79	Next Scheduled EDR Contact: 04/22/2019
	Data Release Frequency: Quarterly

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

FTTS: FIFRA/ TSCA Tracking System - FIFRA (Federal Insecticide, Fungicide, & Rodenticide Act)/TSCA (Toxic Substances Control Act)
FTTS tracks administrative cases and pesticide enforcement actions and compliance activities related to FIFRA, TSCA and EPCRA (Emergency Planning and Community Right-to-Know Act). To maintain currency, EDR contacts the Agency on a quarterly basis.

Date of Government Version: 04/09/2009	Source: EPA/Office of Prevention, Pesticides and Toxic Substances
Date Data Arrived at EDR: 04/16/2009	Telephone: 202-566-1667
Date Made Active in Reports: 05/11/2009	Last EDR Contact: 08/18/2017
Number of Days to Update: 25	Next Scheduled EDR Contact: 12/04/2017
	Data Release Frequency: Quarterly

FTTS INSP: FIFRA/ TSCA Tracking System - FIFRA (Federal Insecticide, Fungicide, & Rodenticide Act)/TSCA (Toxic Substances Control Act)
FTTS tracks administrative cases and pesticide enforcement actions and compliance activities related to FIFRA, TSCA and EPCRA (Emergency Planning and Community Right-to-Know Act). To maintain currency, EDR contacts the Agency on a quarterly basis.

Date of Government Version: 04/09/2009	Source: EPA/Office of Prevention, Pesticides and Toxic Substances
Date Data Arrived at EDR: 04/16/2009	Telephone: 202-566-1667
Date Made Active in Reports: 05/11/2009	Last EDR Contact: 08/18/2017
Number of Days to Update: 25	Next Scheduled EDR Contact: 12/04/2017
	Data Release Frequency: Quarterly

MLTS: Material Licensing Tracking System

MLTS is maintained by the Nuclear Regulatory Commission and contains a list of approximately 8,100 sites which possess or use radioactive materials and which are subject to NRC licensing requirements. To maintain currency, EDR contacts the Agency on a quarterly basis.

Date of Government Version: 08/30/2016	Source: Nuclear Regulatory Commission
Date Data Arrived at EDR: 09/08/2016	Telephone: 301-415-7169
Date Made Active in Reports: 10/21/2016	Last EDR Contact: 10/11/2018
Number of Days to Update: 43	Next Scheduled EDR Contact: 02/04/2019
	Data Release Frequency: Quarterly

COAL ASH DOE: Steam-Electric Plant Operation Data

A listing of power plants that store ash in surface ponds.

Date of Government Version: 12/31/2005	Source: Department of Energy
Date Data Arrived at EDR: 08/07/2009	Telephone: 202-586-8719
Date Made Active in Reports: 10/22/2009	Last EDR Contact: 12/05/2018
Number of Days to Update: 76	Next Scheduled EDR Contact: 03/18/2019
	Data Release Frequency: Varies

COAL ASH EPA: Coal Combustion Residues Surface Impoundments List

A listing of coal combustion residues surface impoundments with high hazard potential ratings.

Date of Government Version: 07/01/2014	Source: Environmental Protection Agency
Date Data Arrived at EDR: 09/10/2014	Telephone: N/A
Date Made Active in Reports: 10/20/2014	Last EDR Contact: 12/03/2018
Number of Days to Update: 40	Next Scheduled EDR Contact: 03/18/2019
	Data Release Frequency: Varies

PCB TRANSFORMER: PCB Transformer Registration Database

The database of PCB transformer registrations that includes all PCB registration submittals.

Date of Government Version: 05/24/2017	Source: Environmental Protection Agency
Date Data Arrived at EDR: 11/30/2017	Telephone: 202-566-0517
Date Made Active in Reports: 12/15/2017	Last EDR Contact: 10/26/2018
Number of Days to Update: 15	Next Scheduled EDR Contact: 02/04/2019
	Data Release Frequency: Varies

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

RADINFO: Radiation Information Database

The Radiation Information Database (RADINFO) contains information about facilities that are regulated by U.S. Environmental Protection Agency (EPA) regulations for radiation and radioactivity.

Date of Government Version: 10/02/2018	Source: Environmental Protection Agency
Date Data Arrived at EDR: 10/03/2018	Telephone: 202-343-9775
Date Made Active in Reports: 11/09/2018	Last EDR Contact: 01/03/2019
Number of Days to Update: 37	Next Scheduled EDR Contact: 04/15/2019
	Data Release Frequency: Quarterly

HIST FTTS: FIFRA/TSCA Tracking System Inspection & Enforcement Case Listing

A complete inspection and enforcement case listing from the FIFRA/TSCA Tracking System (FTTS) for all ten EPA regions. The information was obtained from the National Compliance Database (NCDB). NCDB supports the implementation of FIFRA (Federal Insecticide, Fungicide, and Rodenticide Act) and TSCA (Toxic Substances Control Act). Some EPA regions are now closing out records. Because of that, and the fact that some EPA regions are not providing EPA Headquarters with updated records, it was decided to create a HIST FTTS database. It included records that may not be included in the newer FTTS database updates. This database is no longer updated.

Date of Government Version: 10/19/2006	Source: Environmental Protection Agency
Date Data Arrived at EDR: 03/01/2007	Telephone: 202-564-2501
Date Made Active in Reports: 04/10/2007	Last EDR Contact: 12/17/2008
Number of Days to Update: 40	Next Scheduled EDR Contact: 03/17/2008
	Data Release Frequency: No Update Planned

HIST FTTS INSP: FIFRA/TSCA Tracking System Inspection & Enforcement Case Listing

A complete inspection and enforcement case listing from the FIFRA/TSCA Tracking System (FTTS) for all ten EPA regions. The information was obtained from the National Compliance Database (NCDB). NCDB supports the implementation of FIFRA (Federal Insecticide, Fungicide, and Rodenticide Act) and TSCA (Toxic Substances Control Act). Some EPA regions are now closing out records. Because of that, and the fact that some EPA regions are not providing EPA Headquarters with updated records, it was decided to create a HIST FTTS database. It included records that may not be included in the newer FTTS database updates. This database is no longer updated.

Date of Government Version: 10/19/2006	Source: Environmental Protection Agency
Date Data Arrived at EDR: 03/01/2007	Telephone: 202-564-2501
Date Made Active in Reports: 04/10/2007	Last EDR Contact: 12/17/2008
Number of Days to Update: 40	Next Scheduled EDR Contact: 03/17/2008
	Data Release Frequency: No Update Planned

DOT OPS: Incident and Accident Data

Department of Transportation, Office of Pipeline Safety Incident and Accident data.

Date of Government Version: 07/31/2012	Source: Department of Transportation, Office of Pipeline Safety
Date Data Arrived at EDR: 08/07/2012	Telephone: 202-366-4595
Date Made Active in Reports: 09/18/2012	Last EDR Contact: 10/30/2018
Number of Days to Update: 42	Next Scheduled EDR Contact: 02/11/2019
	Data Release Frequency: Varies

CONSENT: Superfund (CERCLA) Consent Decrees

Major legal settlements that establish responsibility and standards for cleanup at NPL (Superfund) sites. Released periodically by United States District Courts after settlement by parties to litigation matters.

Date of Government Version: 09/30/2018	Source: Department of Justice, Consent Decree Library
Date Data Arrived at EDR: 10/12/2018	Telephone: Varies
Date Made Active in Reports: 12/07/2018	Last EDR Contact: 01/07/2019
Number of Days to Update: 56	Next Scheduled EDR Contact: 04/22/2019
	Data Release Frequency: Varies

BRS: Biennial Reporting System

The Biennial Reporting System is a national system administered by the EPA that collects data on the generation and management of hazardous waste. BRS captures detailed data from two groups: Large Quantity Generators (LQG) and Treatment, Storage, and Disposal Facilities.

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

Date of Government Version: 12/31/2015
Date Data Arrived at EDR: 02/22/2017
Date Made Active in Reports: 09/28/2017
Number of Days to Update: 218

Source: EPA/NTIS
Telephone: 800-424-9346
Last EDR Contact: 11/21/2018
Next Scheduled EDR Contact: 03/04/2019
Data Release Frequency: Biennially

INDIAN RESERV: Indian Reservations

This map layer portrays Indian administered lands of the United States that have any area equal to or greater than 640 acres.

Date of Government Version: 12/31/2014
Date Data Arrived at EDR: 07/14/2015
Date Made Active in Reports: 01/10/2017
Number of Days to Update: 546

Source: USGS
Telephone: 202-208-3710
Last EDR Contact: 01/07/2019
Next Scheduled EDR Contact: 04/22/2019
Data Release Frequency: Semi-Annually

FUSRAP: Formerly Utilized Sites Remedial Action Program

DOE established the Formerly Utilized Sites Remedial Action Program (FUSRAP) in 1974 to remediate sites where radioactive contamination remained from Manhattan Project and early U.S. Atomic Energy Commission (AEC) operations.

Date of Government Version: 08/08/2017
Date Data Arrived at EDR: 09/11/2018
Date Made Active in Reports: 09/14/2018
Number of Days to Update: 3

Source: Department of Energy
Telephone: 202-586-3559
Last EDR Contact: 11/01/2018
Next Scheduled EDR Contact: 02/18/2019
Data Release Frequency: Varies

UMTRA: Uranium Mill Tailings Sites

Uranium ore was mined by private companies for federal government use in national defense programs. When the mills shut down, large piles of the sand-like material (mill tailings) remain after uranium has been extracted from the ore. Levels of human exposure to radioactive materials from the piles are low; however, in some cases tailings were used as construction materials before the potential health hazards of the tailings were recognized.

Date of Government Version: 06/23/2017
Date Data Arrived at EDR: 10/11/2017
Date Made Active in Reports: 11/03/2017
Number of Days to Update: 23

Source: Department of Energy
Telephone: 505-845-0011
Last EDR Contact: 12/14/2018
Next Scheduled EDR Contact: 03/04/2019
Data Release Frequency: Varies

LEAD SMELTER 1: Lead Smelter Sites

A listing of former lead smelter site locations.

Date of Government Version: 12/12/2018
Date Data Arrived at EDR: 12/28/2018
Date Made Active in Reports: 01/11/2019
Number of Days to Update: 14

Source: Environmental Protection Agency
Telephone: 703-603-8787
Last EDR Contact: 12/28/2018
Next Scheduled EDR Contact: 04/15/2019
Data Release Frequency: Varies

LEAD SMELTER 2: Lead Smelter Sites

A listing of former lead smelter site locations.

Date of Government Version: 12/12/2018
Date Data Arrived at EDR: 12/28/2018
Date Made Active in Reports: 01/11/2019
Number of Days to Update: 14

Source: Environmental Protection Agency
Telephone: 703-603-8787
Last EDR Contact: 12/28/2018
Next Scheduled EDR Contact: 04/15/2019
Data Release Frequency: Varies

US AIRS (AFS): Aerometric Information Retrieval System Facility Subsystem

Date of Government Version: 10/27/2009
Date Data Arrived at EDR: 11/10/2009
Date Made Active in Reports: 12/08/2009
Number of Days to Update: 28

Source: N/A
Telephone: N/A
Last EDR Contact: 11/12/1996
Next Scheduled EDR Contact: N/A
Data Release Frequency: Annually

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

US AIRS MINOR: Aerometric Information Retrieval System Facility Subsystem

Date of Government Version: 10/27/2009	Source: N/A
Date Data Arrived at EDR: 11/10/2009	Telephone: N/A
Date Made Active in Reports: 12/08/2009	Last EDR Contact: 11/12/1996
Number of Days to Update: 28	Next Scheduled EDR Contact: N/A
	Data Release Frequency: Annually

US MINES: Active Mines & Mineral Plants Database Listing

Active Mines and Mineral Processing Plant operations for commodities monitored by the Minerals Information Team of the USGS.

Date of Government Version: 04/14/2011	Source: USGS
Date Data Arrived at EDR: 06/08/2011	Telephone: 703-648-7709
Date Made Active in Reports: 09/13/2011	Last EDR Contact: 11/30/2018
Number of Days to Update: 97	Next Scheduled EDR Contact: 03/11/2019
	Data Release Frequency: Varies

US MINES 2: Active Mines & Mineral Plants Database Listing

Active Mines and Mineral Processing Plant operations for commodities monitored by the Minerals Information Team of the USGS.

Date of Government Version: 04/14/2011	Source: USGS
Date Data Arrived at EDR: 06/08/2011	Telephone: 703-648-7709
Date Made Active in Reports: 09/13/2011	Last EDR Contact: 11/30/2018
Number of Days to Update: 97	Next Scheduled EDR Contact: 03/11/2019
	Data Release Frequency: Varies

US MINES 3: Active Mines & Mineral Plants Database Listing

Active Mines and Mineral Processing Plant operations for commodities monitored by the Minerals Information Team of the USGS.

Date of Government Version: 04/14/2011	Source: USGS
Date Data Arrived at EDR: 06/08/2011	Telephone: 703-648-7709
Date Made Active in Reports: 09/13/2011	Last EDR Contact: 11/30/2018
Number of Days to Update: 97	Next Scheduled EDR Contact: 03/11/2019
	Data Release Frequency: Varies

ABANDONED MINES: Abandoned Mines

An inventory of land and water impacted by past mining (primarily coal mining) is maintained by OSMRE to provide information needed to implement the Surface Mining Control and Reclamation Act of 1977 (SMCRA). The inventory contains information on the location, type, and extent of AML impacts, as well as, information on the cost associated with the reclamation of those problems. The inventory is based upon field surveys by State, Tribal, and OSMRE program officials. It is dynamic to the extent that it is modified as new problems are identified and existing problems are reclaimed.

Date of Government Version: 09/10/2018	Source: Department of Interior
Date Data Arrived at EDR: 09/11/2018	Telephone: 202-208-2609
Date Made Active in Reports: 09/14/2018	Last EDR Contact: 12/19/2018
Number of Days to Update: 3	Next Scheduled EDR Contact: 03/25/2019
	Data Release Frequency: Quarterly

FINDS: Facility Index System/Facility Registry System

Facility Index System. FINDS contains both facility information and 'pointers' to other sources that contain more detail. EDR includes the following FINDS databases in this report: PCS (Permit Compliance System), AIRS (Aerometric Information Retrieval System), DOCKET (Enforcement Docket used to manage and track information on civil judicial enforcement cases for all environmental statutes), FURS (Federal Underground Injection Control), C-DOCKET (Criminal Docket System used to track criminal enforcement actions for all environmental statutes), FFIS (Federal Facilities Information System), STATE (State Environmental Laws and Statutes), and PADS (PCB Activity Data System).

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

Date of Government Version: 11/15/2018
Date Data Arrived at EDR: 12/05/2018
Date Made Active in Reports: 01/11/2019
Number of Days to Update: 37

Source: EPA
Telephone: (215) 814-5000
Last EDR Contact: 01/08/2019
Next Scheduled EDR Contact: 03/18/2019
Data Release Frequency: Quarterly

ECHO: Enforcement & Compliance History Information

ECHO provides integrated compliance and enforcement information for about 800,000 regulated facilities nationwide.

Date of Government Version: 09/02/2018
Date Data Arrived at EDR: 09/05/2018
Date Made Active in Reports: 09/14/2018
Number of Days to Update: 9

Source: Environmental Protection Agency
Telephone: 202-564-2280
Last EDR Contact: 01/07/2019
Next Scheduled EDR Contact: 03/18/2019
Data Release Frequency: Quarterly

UXO: Unexploded Ordnance Sites

A listing of unexploded ordnance site locations

Date of Government Version: 09/30/2017
Date Data Arrived at EDR: 06/19/2018
Date Made Active in Reports: 09/14/2018
Number of Days to Update: 87

Source: Department of Defense
Telephone: 703-704-1564
Last EDR Contact: 10/15/2018
Next Scheduled EDR Contact: 01/28/2019
Data Release Frequency: Varies

DOCKET HWC: Hazardous Waste Compliance Docket Listing

A complete list of the Federal Agency Hazardous Waste Compliance Docket Facilities.

Date of Government Version: 05/31/2018
Date Data Arrived at EDR: 07/26/2018
Date Made Active in Reports: 10/05/2018
Number of Days to Update: 71

Source: Environmental Protection Agency
Telephone: 202-564-0527
Last EDR Contact: 11/30/2018
Next Scheduled EDR Contact: 03/11/2019
Data Release Frequency: Varies

FUELS PROGRAM: EPA Fuels Program Registered Listing

This listing includes facilities that are registered under the Part 80 (Code of Federal Regulations) EPA Fuels Programs. All companies now are required to submit new and updated registrations.

Date of Government Version: 08/22/2018
Date Data Arrived at EDR: 08/22/2018
Date Made Active in Reports: 10/05/2018
Number of Days to Update: 44

Source: EPA
Telephone: 800-385-6164
Last EDR Contact: 11/19/2018
Next Scheduled EDR Contact: 03/04/2019
Data Release Frequency: Quarterly

Other Ascertainable Records

PA AIRS: Permit and Emissions Inventory Data

Permit and emissions inventory data.

Date of Government Version: 09/18/2018
Date Data Arrived at EDR: 09/19/2018
Date Made Active in Reports: 10/22/2018
Number of Days to Update: 33

Source: Department of Environmental Protection
Telephone: 717-787-9702
Last EDR Contact: 12/14/2018
Next Scheduled EDR Contact: 04/01/2019
Data Release Frequency: Annually

PA ASBESTOS: Asbestos Notification Listing

Asbestos sites

Date of Government Version: 11/30/2018
Date Data Arrived at EDR: 12/06/2018
Date Made Active in Reports: 01/02/2019
Number of Days to Update: 27

Source: Department of Labor & Industry
Telephone: 717-703-1092
Last EDR Contact: 11/30/2018
Next Scheduled EDR Contact: 03/18/2019
Data Release Frequency: Varies

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

PA DRYCLEANERS: Drycleaner Facility Locations A listing of drycleaner facility locations.

Date of Government Version: 09/18/2018
Date Data Arrived at EDR: 09/19/2018
Date Made Active in Reports: 10/22/2018
Number of Days to Update: 33

Source: Department of Environmental Protection
Telephone: 717-787-9702
Last EDR Contact: 12/14/2018
Next Scheduled EDR Contact: 04/01/2019
Data Release Frequency: Quarterly

PA MANIFEST: Manifest Information Hazardous waste manifest information.

Date of Government Version: 12/31/2017
Date Data Arrived at EDR: 10/23/2018
Date Made Active in Reports: 11/27/2018
Number of Days to Update: 35

Source: Department of Environmental Protection
Telephone: 717-783-8990
Last EDR Contact: 01/11/2019
Next Scheduled EDR Contact: 04/29/2019
Data Release Frequency: Annually

NY MANIFEST: Facility and Manifest Data

Manifest is a document that lists and tracks hazardous waste from the generator through transporters to a TSD facility.

Date of Government Version: 10/01/2018
Date Data Arrived at EDR: 10/31/2018
Date Made Active in Reports: 12/20/2018
Number of Days to Update: 50

Source: Department of Environmental Conservation
Telephone: 518-402-8651
Last EDR Contact: 10/31/2018
Next Scheduled EDR Contact: 02/11/2019
Data Release Frequency: Quarterly

RI MANIFEST: Manifest information Hazardous waste manifest information

Date of Government Version: 12/31/2017
Date Data Arrived at EDR: 02/23/2018
Date Made Active in Reports: 04/09/2018
Number of Days to Update: 45

Source: Department of Environmental Management
Telephone: 401-222-2797
Last EDR Contact: 11/16/2018
Next Scheduled EDR Contact: 03/04/2019
Data Release Frequency: Annually

PA MINES: Abandoned Mine Land Inventory

This data set portrays the approximate location of Abandoned Mine Land Problem Areas containing public health, safety, and public welfare problems created by past coal mining.

Date of Government Version: 10/03/2018
Date Data Arrived at EDR: 10/24/2018
Date Made Active in Reports: 11/27/2018
Number of Days to Update: 34

Source: PASDA
Telephone: 814-863-0104
Last EDR Contact: 10/24/2018
Next Scheduled EDR Contact: 02/04/2019
Data Release Frequency: Semi-Annually

PA NPDES: NPDES Permit Listing A listing of facilities with an NPDES permit.

Date of Government Version: 09/19/2017
Date Data Arrived at EDR: 09/21/2017
Date Made Active in Reports: 10/09/2017
Number of Days to Update: 18

Source: Department of Environmental Protection
Telephone: 717-787-9642
Last EDR Contact: 12/07/2018
Next Scheduled EDR Contact: 03/18/2019
Data Release Frequency: Varies

PA UIC: Underground Injection Wells A listing of underground injection well locations.

Date of Government Version: 09/18/2018
Date Data Arrived at EDR: 09/19/2018
Date Made Active in Reports: 10/22/2018
Number of Days to Update: 33

Source: Department of Environmental Protection
Telephone: 717-783-7209
Last EDR Contact: 12/19/2018
Next Scheduled EDR Contact: 04/01/2019
Data Release Frequency: Quarterly

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

EDR MGP: EDR Proprietary Manufactured Gas Plants

The EDR Proprietary Manufactured Gas Plant Database includes records of coal gas plants (manufactured gas plants) compiled by EDR's researchers. Manufactured gas sites were used in the United States from the 1800's to 1950's to produce a gas that could be distributed and used as fuel. These plants used whale oil, rosin, coal, or a mixture of coal, oil, and water that also produced a significant amount of waste. Many of the byproducts of the gas production, such as coal tar (oily waste containing volatile and non-volatile chemicals), sludges, oils and other compounds are potentially hazardous to human health and the environment. The byproduct from this process was frequently disposed of directly at the plant site and can remain or spread slowly, serving as a continuous source of soil and groundwater contamination.

Date of Government Version: N/A
Date Data Arrived at EDR: N/A
Date Made Active in Reports: N/A
Number of Days to Update: N/A

Source: EDR, Inc.
Telephone: N/A
Last EDR Contact: N/A
Next Scheduled EDR Contact: N/A
Data Release Frequency: No Update Planned

EDR Hist Auto: EDR Exclusive Historical Auto Stations

EDR has searched selected national collections of business directories and has collected listings of potential gas station/filling station/service station sites that were available to EDR researchers. EDR's review was limited to those categories of sources that might, in EDR's opinion, include gas station/filling station/service station establishments. The categories reviewed included, but were not limited to gas, gas station, gasoline station, filling station, auto, automobile repair, auto service station, service station, etc. This database falls within a category of information EDR classifies as "High Risk Historical Records", or HRHR. EDR's HRHR effort presents unique and sometimes proprietary data about past sites and operations that typically create environmental concerns, but may not show up in current government records searches.

Date of Government Version: N/A
Date Data Arrived at EDR: N/A
Date Made Active in Reports: N/A
Number of Days to Update: N/A

Source: EDR, Inc.
Telephone: N/A
Last EDR Contact: N/A
Next Scheduled EDR Contact: N/A
Data Release Frequency: Varies

EDR Hist Cleaner: EDR Exclusive Historical Cleaners

EDR has searched selected national collections of business directories and has collected listings of potential dry cleaner sites that were available to EDR researchers. EDR's review was limited to those categories of sources that might, in EDR's opinion, include dry cleaning establishments. The categories reviewed included, but were not limited to dry cleaners, cleaners, laundry, laundromat, cleaning/laundry, wash & dry etc. This database falls within a category of information EDR classifies as "High Risk Historical Records", or HRHR. EDR's HRHR effort presents unique and sometimes proprietary data about past sites and operations that typically create environmental concerns, but may not show up in current government records searches.

Date of Government Version: N/A
Date Data Arrived at EDR: N/A
Date Made Active in Reports: N/A
Number of Days to Update: N/A

Source: EDR, Inc.
Telephone: N/A
Last EDR Contact: N/A
Next Scheduled EDR Contact: N/A
Data Release Frequency: Varies

EDR RECOVERED GOVERNMENT ARCHIVES

Exclusive Recovered Govt. Archives

PA RGA HWS: Recovered Government Archive State Hazardous Waste Facilities List

The EDR Recovered Government Archive State Hazardous Waste database provides a list of SHWS incidents derived from historical databases and includes many records that no longer appear in current government lists. Compiled from Records formerly available from the Department Environmental Protection in Pennsylvania.

Date of Government Version: N/A
Date Data Arrived at EDR: 07/01/2013
Date Made Active in Reports: 12/30/2013
Number of Days to Update: 182

Source: Department Environmental Protection
Telephone: N/A
Last EDR Contact: 06/01/2012
Next Scheduled EDR Contact: N/A
Data Release Frequency: Varies

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

PA RGA LF: Recovered Government Archive Solid Waste Facilities List

The EDR Recovered Government Archive Landfill database provides a list of landfills derived from historical databases and includes many records that no longer appear in current government lists. Compiled from Records formerly available from the Department Environmental Protection in Pennsylvania.

Date of Government Version: N/A	Source: Department Environmental Protection
Date Data Arrived at EDR: 07/01/2013	Telephone: N/A
Date Made Active in Reports: 01/10/2014	Last EDR Contact: 06/01/2012
Number of Days to Update: 193	Next Scheduled EDR Contact: N/A
	Data Release Frequency: Varies

PA RGA LUST: Recovered Government Archive Leaking Underground Storage Tank

The EDR Recovered Government Archive Leaking Underground Storage Tank database provides a list of LUST incidents derived from historical databases and includes many records that no longer appear in current government lists. Compiled from Records formerly available from the Department Environmental Protection in Pennsylvania.

Date of Government Version: N/A	Source: Department Environmental Protection
Date Data Arrived at EDR: 07/01/2013	Telephone: N/A
Date Made Active in Reports: 12/30/2013	Last EDR Contact: 06/01/2012
Number of Days to Update: 182	Next Scheduled EDR Contact: N/A
	Data Release Frequency: Varies

OTHER DATABASE(S)

Depending on the geographic area covered by this report, the data provided in these specialty databases may or may not be complete. For example, the existence of wetlands information data in a specific report does not mean that all wetlands in the area covered by the report are included. Moreover, the absence of any reported wetlands information does not necessarily mean that wetlands do not exist in the area covered by the report.

Oil/Gas Pipelines

Source: PennWell Corporation

Petroleum Bundle (Crude Oil, Refined Products, Petrochemicals, Gas Liquids (LPG/NGL), and Specialty Gases (Miscellaneous)) N = Natural Gas Bundle (Natural Gas, Gas Liquids (LPG/NGL), and Specialty Gases (Miscellaneous)). This map includes information copyrighted by PennWell Corporation. This information is provided on a best effort basis and PennWell Corporation does not guarantee its accuracy nor warrant its fitness for any particular purpose. Such information has been reprinted with the permission of PennWell.

Electric Power Transmission Line Data

Source: PennWell Corporation

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Sensitive Receptors: There are individuals deemed sensitive receptors due to their fragile immune systems and special sensitivity to environmental discharges. These sensitive receptors typically include the elderly, the sick, and children. While the location of all sensitive receptors cannot be determined, EDR indicates those buildings and facilities - schools, daycares, hospitals, medical centers, and nursing homes - where individuals who are sensitive receptors are likely to be located.

AHA Hospitals:

Source: American Hospital Association, Inc.

Telephone: 312-280-5991

The database includes a listing of hospitals based on the American Hospital Association's annual survey of hospitals.

Medical Centers: Provider of Services Listing

Source: Centers for Medicare & Medicaid Services

Telephone: 410-786-3000

A listing of hospitals with Medicare provider number, produced by Centers of Medicare & Medicaid Services, a federal agency within the U.S. Department of Health and Human Services.

Nursing Homes

Source: National Institutes of Health

Telephone: 301-594-6248

Information on Medicare and Medicaid certified nursing homes in the United States.

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

Public Schools

Source: National Center for Education Statistics

Telephone: 202-502-7300

The National Center for Education Statistics' primary database on elementary and secondary public education in the United States. It is a comprehensive, annual, national statistical database of all public elementary and secondary schools and school districts, which contains data that are comparable across all states.

Private Schools

Source: National Center for Education Statistics

Telephone: 202-502-7300

The National Center for Education Statistics' primary database on private school locations in the United States.

Daycare Centers: Child Care Facility List

Source: Department of Public Welfare

Telephone: 717-783-3856

Flood Zone Data: This data was obtained from the Federal Emergency Management Agency (FEMA). It depicts 100-year and 500-year flood zones as defined by FEMA. It includes the National Flood Hazard Layer (NFHL) which incorporates Flood Insurance Rate Map (FIRM) data and Q3 data from FEMA in areas not covered by NFHL.

Source: FEMA

Telephone: 877-336-2627

Date of Government Version: 2003, 2015

NWI: National Wetlands Inventory. This data, available in select counties across the country, was obtained by EDR in 2002, 2005 and 2010 from the U.S. Fish and Wildlife Service.

State Wetlands Data: Wetlands Inventory

Source: Pennsylvania Spatial Data Access

Telephone: 610-344-6105

STREET AND ADDRESS INFORMATION

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APPENDIX G: FILE REVIEW DOCUMENTATION

SITE 1
NICK'S GARAGE (EARLE BLACK'S)
5490 HANOVER ROAD

**NO PADEP SOUTHCENTRAL REGIONAL OFFICE FILES WERE
AVAILABLE TO REVIEW FOR THIS FACILITY**

SITE 2
DENNIS STEM (FORMERLY MUMMERT'S AUTO)
3380 CENTENNIAL ROAD

**NO PADEP SOUTHCENTRAL REGIONAL OFFICE FILES WERE
AVAILABLE TO REVIEW FOR THIS FACILITY**

SITE 3
LAMCO SAFETY PRODUCTS
360 CHURCH STREET

**NO PADEP SOUTHCENTRAL REGIONAL OFFICE FILES WERE
AVAILABLE TO REVIEW FOR THIS FACILITY**

SITE 4
RING CONTAINER TECHNOLOGIES (FORMERLY MIDEASTERN
MACHINERY)
351 CHURCH STREET



FILE

ADAMS Co
CONEWAGO TWP
MIDEASTERN, INC
Inspection ID 1789340

3H

COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF ENVIRONMENTAL PROTECTION
BUREAU OF WASTE MANAGEMENT
P.O. Box 8472, Harrisburg, PA 17105-8472

GENERAL INSPECTION REPORT

Permit Number PAR000035790
 EPA I.D. Number _____ Employer I.D. Number (EIN) _____
 Facility Name MIDEASTERN INC Operator Name MIDEASTERN DIV OF DEVLIEG BULLARD GROUP
 Address 351 CHURCH ST Address 351 CHURCH ST
 City HANOVER State PA Zip 17331 City HANOVER State PA Zip 17331
 Municipality 01910 Conewago County Adams
 Responsible Official _____ Title _____
 Person Interviewed _____ Title _____
 Telephone # _____
 Inspector Carrie Ann Fleming Title _____
 eFACTS ID # Client 122388 Site 499608 PF 524467 SF 407474
 Comment _____
 Inspection Date Start 09/23/2009 Inspection Time Start 1015 Inspection Date End 09/23/2009 Inspection Time End 1020
 Inspection Type RTNC Routine/Complete Inspection Inspection Result NVPSD No Viols - Permanently Shut Down

Permit Expiration Date: _____ Days/Week Operated: _____ Max. Daily Volume: _____

1 - No Violation Observed 2 - Not-Applicable 3 - Not-Determined 4 - Non-Compliance 5 - Resolved

STATUS					REQUIREMENT	COMMENTS ATTACHED	CHAPTER CITATION	LINE ITEM
1	2	3	4	5				
GENERAL PROVISIONS								
<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Please see comment section	<input type="checkbox"/>		
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1 - No Violation Observed 2 - Not-Applicable 3 - Not-Determined 4 - Non-Compliance 5 - Resolved

STATUS					REQUIREMENT	COMMENTS ATTACHED	CHAPTER CITATION	LINE ITEM
1	2	3	4	5				
<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		<input type="checkbox"/>		
<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		<input type="checkbox"/>		
<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		<input type="checkbox"/>		
<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		<input type="checkbox"/>		

Company/Facility/Site Name MIDEASTERN INC
Identification Number PAR000035790
Inspection Date 09/23/2009

COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF ENVIRONMENTAL PROTECTION
BUREAU OF WASTE MANAGEMENT

INSPECTION REPORT COMMENTS

Comments:

Visited the address at 351 Church Street in Hanover, PA. Present for the Department was Carrie Fleming and Mark Houser. Upon arrival, it was found that Mideastern Machine Rebuilding was no longer at this location. The Department noted that the business at this address is now Ring Plastics Inc. Additional investigation also shows that another company, Say Plastics, is present at this location.

This inspection report is notice of the findings of an inspection conducted by a representative of the Department. This report is formal notification of any violations observed during the inspection. Additional notification of violations may be issued concerning either violations noted herein, or other violations identified as a result of review of laboratory analyses or Department records.

This report does not constitute an order or other enforceable action of the Department. Nothing contained herein shall be deemed to grant or imply immunity from legal action for any violation noted herein.

Signature by the persons interviewed does not necessarily imply concurrence with the findings on this report, but does acknowledge that the person was shown the report or that a copy was left with the person.

Person Interviewed FILK Date —
(Signature)

Inspector [Signature] Date 10/01/09
(Signature)

Hb_s



COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF ENVIRONMENTAL PROTECTION
BUREAU OF LAND RECYCLING AND WASTE MANAGEMENT

Inspection Date 12/98
Time Start 11:00 a.m.
Time Finish 11:35 a.m.

HAZARDOUS WASTE INSPECTION REPORT

GENERATOR S Q GENERATOR

Company name MidEastern Inc Div. Deuling Bullert I.D. Number PAR 000035790
Site Address 351 Church Street
County Adams Municipality Conewago ZIP 17331
Name of Inspector Stephen D. Bartos
Name & Title of Responsible Official Bill Hooper, Plant Manager
Person Interviewed See Telephone (717) 632-9691
Mailing Address (if different from above) _____
Amount of Hazardous Waste Generated per Month: 400 Pounds _____ Kgs

1. Site Characterization:

STORAGE: Container Tanks Containment Bldg. Drip Pad Other Parts Cleaners
PBR: Neutralization/WWTP Reclaim Other _____
Generator Treatment Containers Tanks Containment Bldg. Drip Pad

2. Universal Waste: Large Quantity Handler Small Quantity Handler

Universal Waste Types _____

3. Hazardous Waste Transporters:

Transporter Name Safety Klean Systems, Inc. License Number ILD 984908202
Transporter Name Safety Klean (IG), Inc. License Number SCD 987574647
Transporter Name _____ License Number _____

4. Types of hazardous waste generated and destination facility (location & type).

Waste Code	Waste Description	Destination Facility
F001	RQ Haz. Waste Solid N.O.S.	S-K Systems Inc. Dalton, IL 60419
F001	RQ Haz. Waste Liquid, N.O.S.	" "
	Tetrachloroethylene	

COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF ENVIRONMENTAL PROTECTION
BUREAU OF LAND RECYCLING AND WASTE MANAGEMENT

**HAZARDOUS WASTE INSPECTION REPORT
GENERATORS -- SMALL QUANTITY GENERATORS**

Site Name Mid Eastern Inc. ID Number PAR 0600 35790 Date 12/9/94

1 - No Violation Observed 2 - Not Applicable 3 - Not Determined 4 - Non Compliance

STATUS

1	2	3	4	REQUIREMENT	CHAPTER CIT.	LINE
				Hazardous waste determination performed on all waste streams	262.11	H001
				Identification Number	262.12	H002
				Licensed transporters only	262.12(b)	H003
		3		TSD Authorization received for wastes shipped within PA	262.13	H004
				Proper manifest used	262.20	H005
				Manifests filled out correctly and completely	262.20(g)	H006
				Manifests routed properly and within time limits	262.23	H007
				Generator waste accumulated on site for 90 days or less	262.34(a)	H008
				SQG waste accumulated on site for 180 days max unless 200 mile distance rule applies - 270 days	262.34(e) (f)	H009
				SQG waste accumulated on-site never exceeds 6000 kg	262.34(e)	H010
				Satellite accumulation requirements complied with	262.34(c)	H011
				Personnel training program per 265.16 complied with (Gen 262.34(a)(5); SQG 262.34(e))	262.34(a)(5), 262.34(e)	H012
				Manifest and biennial reports retained for 3 years	262.40(a)(b)	H013
				Specified records retained for 20 years	262.40(c)(e)	H014
	2			Biennial reports submitted to the Department (LQG only)	262.41	H015
	2			Exception reporting procedures followed	262.42	H016
	2			Spill reporting procedures followed	262.46	H017
				PPC plan developed and implemented	262.46	H018
	2			Special requirements followed for international shipments	262.50	H019
	2			Source reduction strategy prepared and available (LQG only)	262.80	H020
	2			Excluded waste complies with exclusionary requirements	261.4	H021

COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF ENVIRONMENTAL PROTECTION
BUREAU OF LAND RECYCLING AND WASTE MANAGEMENT

**HAZARDOUS WASTE INSPECTION REPORT
GENERATORS -- SMALL QUANTITY GENERATORS
FACILITY SPECIFICS**

Site Name MidEastern Inc ID Number PAR 0460 35740 Date 12/9/98

1 - No Violation Observed 2 - Not Applicable 3 - Not Determined 4 - Non Compliance

STATUS

1 2 3 4

REQUIREMENT**CHAPTER CIT.****LINE**

				CONTAINERS (Subchapter I)		
1				Containers managed in compliance with Chapter 265 Subchapter I	262.34	H025
1				Containers of hazardous waste in good condition	265.171	H026
1				Containers and stored waste compatible	265.172	H027
1				Containers kept closed except during addition or removal of wastes	265.173	H028
1				Containers managed to prevent leaks	265.173(b)	H029
1				Containers labeled to accurately identify contents	265.173(c)	H030
1				Container storage areas inspected at least weekly	265.174	H031
1				Special requirements for ignitable or reactive and incompatible waste complied with	265.176, 265.177	H032
1				Proper containment and collection systems in place	265.178(a)-(d)	H033
1				All storage requirements for ignitable or reactive wastes and nonignitable or nonreactive wastes met	265.178(e)	H034
1				Containers clearly marked with accumulation date and visible for inspection	262.34(a)(2)	H035
						H036
						H037
						H038
				TANKS (Subchapter J)		
2				Tanks labeled "Hazardous Waste"	262.34(a)(4)	H039
2				Written certification by registered professional engineer for proper tank (system) design and installation on file	265.192	H040
2				Secondary containment provided for tanks (systems) as required	265.193	H041
2				Tanks (systems) managed to prevent rupture, leak, corrode or fail	265.194	H042
2				Tanks labeled to accurately identify contents	265.194(d)	H043
2				Required inspections completed and documented in operating log	265.195	H044
2				Release reported to Department within 24 hours, unless exempted	265.196	H045
2				Special requirements for ignitable and reactive wastes followed	265.198	H046
2				SQ Generator complies with 265.201	262.34(e)(3)	H047

COMMONWEALTH OF PENNSYLVANIA
 DEPARTMENT OF ENVIRONMENTAL PROTECTION
 BUREAU OF LAND RECYCLING AND WASTE MANAGEMENT

HAZARDOUS WASTE INSPECTION REPORT
 GENERATORS -- SMALL QUANTITY GENERATORS
 FACILITY SPECIFICS

Site Name M: d Eyster - Inc. ID Number PAR 0000 35790 Date 12/9/98

1 - No Violation Observed 2 - Not Applicable 3 - Not Determined 4 - Non Compliance

STATUS

1	2	3	4	REQUIREMENT	CHAPTER CIT.	LINE
				Containment Buildings (Subchapter T)		
	2			Building completely enclosed to prevent exposure to the elements	265.521(a)(1)	H048
	2			Meets special requirements if liquids present	265.521(b)	H049
	2			Primary barrier free of significant gaps, cracks and deterioration	265.521(d)(1)(i)	H050
	2			Level of hazardous waste within unit is below containment walls	265.521(d)(1)(ii)	H051
	2			Tracking of waste out of unit by equipment or personnel prevented	265.521(d)(1)(iii)	H052
	2			No visible dust emissions at doors, windows, vents, etc.	265.521(d)(1)(iv)	H053
	2			Professional engineer's certification placed in operating record	265.521(d)(2)	H054
	2			Required inspections performed and logged in operating record	265.521	H055
						H056
						H057
						H058
						H059
				Drip Pads (Subchapter S)		
	2			Engineer's certification of existing drip pads on file	265.501	H060
	2			Drip pad meets 265.503 design & operating standards	265.501	H061
	2			(a) nonearthen, sloped construction with berm to channel associated drippage to collection system	265.501(a)	H062
	2			(b) Has synthetic liner below the pad with properly constructed leak detection system	265.501(b)	H063
	2			Drip pads & collection system maintained to prevent deterioration	265.503(c)	H064
	2			Drip pads & collection systems designed to prevent run off	265.503(d)	H065
	2			Run-on/run-off control system maintained unless pad protected by a structure	265.503(e)	H066
	2			Release reporting requirements met	265.503(m)	H067
	2			Drip pads inspected weekly and after storms when in operation	265.504(b)	H068
						H069
						H070
						H071
						H072
						H073

Commonwealth of Pennsylvania
Department of Environmental Protection
Bureau of Waste Management
Inspection Report Comments

The Department conducted a hazardous and residual waste inspection of MidEastern Inc. (MidEastern) Conewago Township, Adams County. Present for the Department were M. Anonia and S. Bartos. Present for MidEastern was W. Hooper, Plant Manager. MidEastern is a manufacturer of machine tools. The Department's inspection included but was not limited to:

Areas Covered

1. Main Plant
2. Shipping & Receiving Dock

Elements Covered

1. Interview Bill Hooper
2. Records Review (Hazardous Waste Manifests, Training Plan, PPC, 25R, 26R, Weekly Inspections)

Inspection

The Department met with Mr. Hooper prior to the physical inspection of the site. The Department was then escorted on a walk through of the facility and adjoining outside yard. No violations were observed by the Department during the inspection.

Main Plant

The Department observed that MidEastern uses satellite accumulation areas throughout the plant for the collection of both hazardous and non-hazardous waste. Mr. Hooper explained that after a waste drum is filled it is removed to the waste storage area. The Department observed waste rags, and waste solvent being collected at the satellite accumulation areas.

The Department inspected the paint storage room and observed five (5 gal.) buckets of used oil, one drum (55 gal.) hazardous waste, and one Safety-Kleen parts cleaner machine.

Shipping & Receiving

The Department observed two dumpsters for plant trash of which one was being used for the collection of cardboard.

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Signature by the person interviewed does not necessarily imply concurrence with the findings on this report, but does acknowledge that the person was shown the report or that a copy was left with the person

Person Interviewed (signature) _____

Date _____

Inspector (signature) _____

Date _____

Commonwealth of Pennsylvania
Department of Environmental Protection
Bureau of Waste Management
Inspection Report Comments

New Building Addition

The Department observed two (55 gal.) drums of sludge waste in the north east corner of addition. The Department observed one (55 gal.) drum pig mats and one parts cleaner machine (400 gal. cold dip tank) in the east central end of building. The Department observed two (25 gal.) parts cleaner machines in the west and south end of the building, respectively.

Records

The Department reviewed MidEastern's hazardous waste manifests, PPC Plan, Training Records, Weekly Inspections, GM 330, 330's, 25R & 26R. All records were in order at the time of inspection.

MidEastern was in compliance at the time of inspection.

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Signature by the person interviewed does not necessarily imply concurrence with the findings on this report, but does acknowledge that the person was shown the report or that a copy was left with the person

Person Interviewed (signature) Mailek

Date _____

Inspector (signature) Stephen D. Banta

Date 12/14/98

INSPECTION REPORT - RESIDUAL WASTE GENERATOR

Generator I.D. # PA R 0 0 0 3 5 7 9 0 Telephone # (717) 632-9691
 Site Name Mid Eastern Inc. Operator Name DeVlieg, Boland
 Site Address 351 Church Street Address _____
Homer, PA 17331
 Municipality Coneysburg County _____
 Responsible Official Bill Hooper Title Plant Mgr.
 Person Interviewed Sam Title _____
 Inspector Stephen D. Bartas Time AM

Inspection Date

--	--	--	--	--	--

 Inspection Type 01 Inspector I.D. # 2322 # Violation NO

- INSPECTION TYPE
- | | | |
|--------------------|------------------|---------------|
| 01 Routine | 04 Follow Up | 07 Complaint |
| 02 Spill Response | 05 Sampling Only | 08 Record Rev |
| 03 Remedial Action | 06 Ground Water | 09 Other |

Comment ROUTINE INSPECTION

Waste Description: Plant trash Waste Code: _____
 Treatment Yes No Type Municipal like waste
 Type of Storage: Containers Tanks Piles Impoundments
 Disposition: Destination Facility Waste Regt Inc
 Location York Type Modern Landfill
 Amount Generated: ? lb./mo.

Waste Description: Cardboard Waste Code: _____
 Treatment Yes No Type _____
 Type of Storage: Containers Tanks Piles Impoundments
 Disposition: Destination Facility Waste Regt
 Location York Type Modern Landfill
 Amount Generated: ? lb./mo.

Waste Description: Residual Oil & Coolants Waste Code: _____
 Treatment Yes No Type _____
 Type of Storage: Containers Tanks Piles Impoundments
 Disposition: Destination Facility Safety Klean
 Location New Jersey Type _____
 Amount Generated: 1300 lb./mo.

INSPECTION REPORT - RESIDUAL WASTE GENERATOR

Generator Name Mid Ecken Inc. Generator I.D. #

P	A	R	0	0	0	3	5	7	8	0
---	---	---	---	---	---	---	---	---	---	---

Waste Description: Metal Turnings & Scrap Waste Code: _____
Treatment Yes No Type _____
Type of Storage: Containers Tanks Piles Impoundments
Disposition: Destination Facility Wayman's Salvage
Location Gettysburg Type _____
Amount Generated: _____ lb./mo.

Waste Description: _____ Waste Code: _____
Treatment Yes No Type _____
Type of Storage: Containers Tanks Piles Impoundments
Disposition: Destination Facility _____
Location _____ Type _____
Amount Generated: _____ lb./mo.

Waste Description: _____ Waste Code: _____
Treatment Yes No Type _____
Type of Storage: Containers Tanks Piles Impoundments
Disposition: Destination Facility _____
Location _____ Type _____
Amount Generated: _____ lb./mo.

Waste Description: _____ Waste Code: _____
Treatment Yes No Type _____
Type of Storage: Containers Tanks Piles Impoundments
Disposition: Destination Facility _____
Location _____ Type _____
Amount Generated: _____ lb./mo.

Waste Description: _____ Waste Code: _____
Treatment Yes No Type _____
Type of Storage: Containers Tanks Piles Impoundments
Disposition: Destination Facility _____
Location _____ Type _____
Amount Generated: _____ lb./mo.

Generator Name Mid-Escher Inc.
Date 12/9/98

INSPECTION REPORT - RESIDUAL WASTE GENERATOR

1 = No Violation Observed		2 = Not Applicable		3 = Not Determined		4 = Non-Compliance	
Chapter Citation 25 Pa Code	Requirement GENERAL PROVISIONS	Status				Line Number	
		1	2	3	4		
287.6	Designated facility: valid permit? Permit Number (PA) _____			3		3001	
287.52(a)	Biennial report submitted by March 1 of each odd numbered year.			3		3002	
287.53	Written source reduction strategy on file and in effect.			3		3003	
287.53(b)	Waste reduction strategy covers all waste streams.			3		3004	
287.53(c)	Reduction strategy updated every five years or when waste or manufacturing process changes.			3		3005	
287.54	Waste analysis performed: copy on file.			3		3006	
287.54(b, f)	Annual analysis or certification of waste submitted to Department and designated facility.			3		3007	
287.55	Small quantity generator record keeping requirements.	1				3008	
287.101(a)	Operation of disposal or processing facility without a permit.		2			3009	
STORAGE REQUIREMENTS							
299.111(1)	Residual waste not mixed with hazardous waste.	1				3010	
299.111(2)	Waste stored as not to create a safety risk.	1				3011	
299.111(3)	Residual waste not mixed with special handling waste.	1				3012	
299.111(4)	Waste not blown or otherwise deposited outside storage area.	1				3013	
299.112(c)	Storage area inspected; records available.	1				3014	
299.113(a)	All waste stored less than one year.	1				3015	
299.114(a)	Equipment maintained in operable condition.	1				3016	
299.114(c)	Equipment cleaning frequencies maintained.	1				3017	
299.115	Vectors controlled and public nuisances prevented.	1				3018	
299.116(a)(b)	Run on, runoff minimized; storage areas managed in accordance with Clean Streams Law.	1				3019	
299.116(c)	Waste stored to prevent groundwater degradation.	1				3020	
299.121	Sufficient number of properly constructed storage containers.	1				3021	
299.122	Storage tank design standards.		2			3022	
299.112(d), 299.131(b)	No putrescible waste or liquid waste stored in piles.		2			3023	
299.131	Waste storage pile area properly designed, constructed and maintained.	1				3024	
299.132	Storage pad or liner system properly designed and maintained.			3		3025	
299.133	Proper design and maintenance of leachate and runoff control systems.		2			3026	
299.151	Proper storage and containment of incinerator ash residue.		2			3027	
299.152	Proper storage and containment of friable asbestos containing waste.		2			3028	
299.153	Proper storage and containment of coal ash.		2			3029	
299.154	Proper storage and containment of PCB containing waste material.		2			3030	



NEW BRITAIN MACHINES
DeVLIEG-BULLARD SERVICES GROUP
351 CHURCH STREET
HANOVER, PA 17331
PH: (717) 632-9691 * (800) 966-6579 * FAX: (717) 632-7645

COVER SHEET**TELECOPY INSTRUCTIONS**

TO: MARILYN STERANKO

COMPANY: _____

FROM: ELAINE

DATE: 9-15-98

NO. OF PAGES (INCLUDING COVER SHEET): 2

Please call (717) 632-9691 in the event of problems in receiving this transmission.

RECEIVED

NOV 24 1998

DEP - CHAMBERSBURG

Federal

AMP Building 202 is listed as a conditionally exempt small quantity waste generator on the Resource Conservation and Recovery Information System (RCRIS). The EPA identification number is 1000127126. The RCRIS listing is cross-referenced to the Facility Index System (FINDS). The FINDS identification number is PAD982362907. Table 1 provides EPA Waste Codes associated with the facility included on the RCRIS database. No generator quantities were included on the database.

Table 1 EPA Waste Codes AMP Building 202 Site	
Code	Description
D001	Ignitable Hazardous Wastes
D002	Corrosive Hazardous Wastes
D007	Chromium
D009	Mercury
F001	Spent Halogenated Degreasing Solvents

State

The ASTs in the pump house are included on the Pennsylvania Department of Environmental Protection's (DEP's) Listing of Pennsylvania Regulated Aboveground Storage Tanks. The AST identification number is U002319589. (See Section 2.4 for details on the ASTs).

Local

Plant wastewater was analyzed twice annually for suspended solids, pH, color and fluoride. Testing was performed to determine compliance with maximum concentrations allowed by the Borough's Pretreatment Ordinance as well as with Federal Categorical requirements. No discharge permits were required. No significant exceedances (i.e., exceedances that required plant shutdown or that resulted in an enforcement action) were identified. Wastewater is discussed in more detail in Section 2.5.2.

RECEIVED

NOV 24 1998

CONFIDENTIAL

DEP - CHAMBERSBURG

EVALUATION - VIOLATION - ENFORCEMENT FORM

01/97 VERSION

Handler ID Number		Contact Name	RESERVED FOR EPA USE
P A R 0 0 0 0 3 5 7 9 0		Bill Hooper	
Handler Name		Mid Eastern Inc. Division - Perlyng Ballard	
Street		City	
351 Church Street		Hanover	

UNIVERSE CHANGE REQUIRED YES NO

<p>I. Indicate the facility's current universe(s): SQG</p> <p>II. Indicate the new RCRIS Generator Universe (mark only one):</p> <p>LQG <input type="checkbox"/> CEG <input type="checkbox"/> NON-HANDLER <input type="checkbox"/> SQG <input type="checkbox"/> CLOSED <input type="checkbox"/></p> <p>NOTE: All TSD activity changes must be handled by the state data coordinator and cannot be made using this form</p>	<p>III. Indicate the new transporter status (Mark here only if the facility requires a transporter status change):</p> <table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 50%; padding: 5px;"> <p>Transporter <input type="checkbox"/></p> <p>If the transporter box is checked, you must check at least one of the boxes below:</p> <p>Mark Mode of Transportation</p> <table style="width: 100%;"> <tr> <td><input type="checkbox"/> Air</td> <td><input type="checkbox"/> Water</td> </tr> <tr> <td><input type="checkbox"/> Rail</td> <td><input type="checkbox"/> Other</td> </tr> <tr> <td><input type="checkbox"/> Highway</td> <td></td> </tr> </table> </td> <td style="width: 50%; padding: 5px;"> <p>Non-Transporter <input type="checkbox"/></p> <p>Check this box if the facility is currently listed in RCRIS as a transporter and no longer transports hazardous waste.</p> </td> </tr> </table>	<p>Transporter <input type="checkbox"/></p> <p>If the transporter box is checked, you must check at least one of the boxes below:</p> <p>Mark Mode of Transportation</p> <table style="width: 100%;"> <tr> <td><input type="checkbox"/> Air</td> <td><input type="checkbox"/> Water</td> </tr> <tr> <td><input type="checkbox"/> Rail</td> <td><input type="checkbox"/> Other</td> </tr> <tr> <td><input type="checkbox"/> Highway</td> <td></td> </tr> </table>	<input type="checkbox"/> Air	<input type="checkbox"/> Water	<input type="checkbox"/> Rail	<input type="checkbox"/> Other	<input type="checkbox"/> Highway		<p>Non-Transporter <input type="checkbox"/></p> <p>Check this box if the facility is currently listed in RCRIS as a transporter and no longer transports hazardous waste.</p>
<p>Transporter <input type="checkbox"/></p> <p>If the transporter box is checked, you must check at least one of the boxes below:</p> <p>Mark Mode of Transportation</p> <table style="width: 100%;"> <tr> <td><input type="checkbox"/> Air</td> <td><input type="checkbox"/> Water</td> </tr> <tr> <td><input type="checkbox"/> Rail</td> <td><input type="checkbox"/> Other</td> </tr> <tr> <td><input type="checkbox"/> Highway</td> <td></td> </tr> </table>	<input type="checkbox"/> Air	<input type="checkbox"/> Water	<input type="checkbox"/> Rail	<input type="checkbox"/> Other	<input type="checkbox"/> Highway		<p>Non-Transporter <input type="checkbox"/></p> <p>Check this box if the facility is currently listed in RCRIS as a transporter and no longer transports hazardous waste.</p>		
<input type="checkbox"/> Air	<input type="checkbox"/> Water								
<input type="checkbox"/> Rail	<input type="checkbox"/> Other								
<input type="checkbox"/> Highway									

EVALUATION Add Change Delete

Date	Number	Agency	Type	Reason	Branch	Person
120998		5	C/E/S		WM	P, A, S, D, B

AREAS OF EVALUATION (E - Evaluated NE - Not Evaluated NA - Not Applicable)

GGR <input checked="" type="checkbox"/>	GSC <input type="checkbox"/>	TWD <input type="checkbox"/>	DGW <input type="checkbox"/>	DOR <input type="checkbox"/>	DWP <input type="checkbox"/>	BRR <input type="checkbox"/>	FEA <input type="checkbox"/>
GLB <input type="checkbox"/>	GSQ <input checked="" type="checkbox"/>	DCH <input type="checkbox"/>	DLB <input type="checkbox"/>	DPB <input type="checkbox"/>	DIN <input type="checkbox"/>	BPS <input type="checkbox"/>	CSS <input type="checkbox"/>
GMR <input checked="" type="checkbox"/>	GEX <input type="checkbox"/>	DCL <input type="checkbox"/>	DLF <input type="checkbox"/>	DPP <input type="checkbox"/>	DIA <input type="checkbox"/>	BIS <input type="checkbox"/>	UOR <input type="checkbox"/>
GOR <input checked="" type="checkbox"/>	TGR <input type="checkbox"/>	DCP <input type="checkbox"/>	DLT <input type="checkbox"/>	DSI <input type="checkbox"/>	DPS <input type="checkbox"/>	BCE <input type="checkbox"/>	<input type="checkbox"/>
GPT <input type="checkbox"/>	TMR <input type="checkbox"/>	DFR <input type="checkbox"/>	DMC <input type="checkbox"/>	DTR <input type="checkbox"/>	DOP <input type="checkbox"/>	BDT <input type="checkbox"/>	<input type="checkbox"/>
GRR <input checked="" type="checkbox"/>	TOR <input type="checkbox"/>	DGS <input type="checkbox"/>	DMR <input type="checkbox"/>	DTT <input type="checkbox"/>	DMI <input type="checkbox"/>	CAS <input type="checkbox"/>	<input type="checkbox"/>

Comments Routine Inspection

OUTSTANDING VIOLATIONS COVERED BY ABOVE EVALUATION

Agency	Number	Area	Date Determined	Agency	Number	Area	Date Determined
<input type="checkbox"/>				<input type="checkbox"/>			
<input type="checkbox"/>				<input type="checkbox"/>			
<input type="checkbox"/>				<input type="checkbox"/>			
<input type="checkbox"/>				<input type="checkbox"/>			
<input type="checkbox"/>				<input type="checkbox"/>			

VIOLATION Add Change Delete Link to Above Evaluation? (Y/N)

Agency	Number	Area	Class	Regulation Type	Regulation Citation						
<input type="checkbox"/>			<input type="checkbox"/>								
Date Determined		Priority	Branch	Person	Returned to Compliance Scheduled Actual						
					<table style="width: 100%; border: none;"> <tr> <td style="border: none;"><input type="checkbox"/></td> <td style="border: none;"><input type="checkbox"/></td> <td style="border: none;"><input type="checkbox"/></td> <td style="border: none;"><input type="checkbox"/></td> <td style="border: none;"><input type="checkbox"/></td> <td style="border: none;"><input type="checkbox"/></td> </tr> </table>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>						
Comments _____											

VIOLATION Add Change Delete Link to Above Evaluation? (Y/N)

Agency	Number	Area	Class	Regulation Type	Regulation Citation
<input type="checkbox"/>	_____	_____	<input type="checkbox"/>	_____	_____
Date Determined	Priority	Branch	Person	Returned to Compliance	
_____	_____	_____	_____	Scheduled	Actual
				_____	_____
Comments _____					

VIOLATION Add Change Delete Link to Above Evaluation? (Y/N)

Agency	Number	Area	Class	Regulation Type	Regulation Citation
<input type="checkbox"/>	_____	_____	<input type="checkbox"/>	_____	_____
Date Determined	Priority	Branch	Person	Returned to Compliance	
_____	_____	_____	_____	Scheduled	Actual
				_____	_____
Comments _____					

VIOLATION Add Change Delete Link to Above Evaluation? (Y/N)

Agency	Number	Area	Class	Regulation Type	Regulation Citation
<input type="checkbox"/>	_____	_____	<input type="checkbox"/>	_____	_____
Date Determined	Priority	Branch	Person	Returned to Compliance	
_____	_____	_____	_____	Scheduled	Actual
				_____	_____
Comments _____					

ENFORCEMENT Add Change Delete

Date	Number	Agency	Type	Branch	Person	Attorney Initials
_____	_____	<input type="checkbox"/>	_____	_____	_____	_____
Docket Number _____						
Penalty Type	Penalty Amount		Multimedia Enforcement Codes (Place an 'X' next to all that apply)			
<input type="checkbox"/>	\$ _____		<input type="checkbox"/> AIR	<input type="checkbox"/> UST		
<input type="checkbox"/>	\$ _____		<input type="checkbox"/> EPCRA	<input type="checkbox"/> UIC		
			<input type="checkbox"/> FIFRA	<input type="checkbox"/> WATER		
			<input type="checkbox"/> SPCC	<input type="checkbox"/> WETLANDS		
			<input type="checkbox"/> TSCA PCB			
NOTE: To record activities for Supplemental Environmental Projects (SEPs) or to add penalty payment information, use the Supplemental Enforcement Form.						
Comments _____						

VIOLATIONS COVERED BY ABOVE ENFORCEMENT ACTION

Agency	Number	Area	Date Determined	Agency	Number	Area	Date Determined
<input type="checkbox"/>	_____	_____	_____	<input type="checkbox"/>	_____	_____	_____
<input type="checkbox"/>	_____	_____	_____	<input type="checkbox"/>	_____	_____	_____
<input type="checkbox"/>	_____	_____	_____	<input type="checkbox"/>	_____	_____	_____
<input type="checkbox"/>	_____	_____	_____	<input type="checkbox"/>	_____	_____	_____
<input type="checkbox"/>	_____	_____	_____	<input type="checkbox"/>	_____	_____	_____

For Early Notification before completing this form. The information requested here is required by law (Section 3010 of the Resource Conservation and Recovery Act).



Notification of Regulated Waste Activity

Date received (For Official Use Only)

AUG 15 1990

United States Environmental Protection Agency

I. Installation's EPA ID Number (Mark 'X' in the appropriate box)

A. First Notification

B. Subsequent Notification (complete item C)

C. Installation's EPA ID Number

PAR00003579C

II. Name of Installation (Include company and specific site name)

MID EASTERN

III. Location of Installation (Physical address not P.O. Box or Route Number)

Street

351 Church ST

Street (continued)

City or Town

HANOVER

State

ZIP Code

PA

17331-

County Code

County Name

133

MORRIS

IV. Installation Mailing Address (See Instructions)

Street or P.O. Box

351 Church ST

City or Town

HANOVER

State

ZIP Code

PA

17331-

V. Installation Contact (Person to be contacted regarding waste activities at site)

Name (last)

(first)

FLOREMAN

BILLI

Job Title

Phone Number (area code and number)

ext 225

FLOREMAN

717-632-3296

VI. Installation Contact Address (See Instructions)

A. Contact Address Location Mailing

B. Street or P.O. Box

351 Church ST

City or Town

HANOVER

State

ZIP Code

PA

17331-

VII. Ownership (See Instructions)

A. Name of Installation's Legal Owner

MID EASTERN

Street, P.O. Box, or Route Number

351 Church ST

City or Town

HANOVER

State

ZIP Code

PA

17331-

Phone Number (area code and number)

B. Land Type

C. Owner Type

D. Change of Owner Indicator

(Date Changed) Month Day Year

717-632-9697

Yes

No

Month

Day

Year

III. Type of Regulated Waste Activity (Mark 'X' in the appropriate boxes. Refer to Instructions.)

A. Hazardous Waste Activity

- 1. Generator (See Instructions)
 - a. Greater than 1000kg/mo (2,200 lbs.)
 - b. 100 to 1000 kg/mo (220 - 2,200 lbs.)
 - c. Less than 100 kg/mo (220 lbs.)
- 2. Transporter (Indicate Mode in boxes 1-5 below)
 - a. For own waste only
 - b. For commercial purposes

Mode of Transportation

 - 1. Air
 - 2. Rail
 - 3. Highway
 - 4. Water
 - 5. Other - specify
- 3. Treater, Storer, Disposer (at installation)

Note: A permit is required for this activity; see Instructions.
- 4. Hazardous Waste Fuel
 - a. Generator Marketing to Burner
 - b. Other Marketers
 - c. Burner - indicate device(s) - Type of Combustion Device
 - 1. Utility Boiler
 - 2. Industrial Boiler
 - 3. Industrial Furnace
- 5. Underground Injection Control

B. Used Oil Fuel Activities

- 1. Off-Specification Used Oil Fuel
 - a. Generator Marketing to Burner
 - b. Other Marketer
 - c. Burner - indicate device(s) - Type of Combustion Device
 - 1. Utility Boiler
 - 2. Industrial Boiler
 - 3. Industrial Furnace
- 2. Specification Used Oil Fuel Market (or On-site Burner) Who First Claim the Oil Meets the Specification

IX. Description of Regulated Wastes (Use additional sheets if necessary)

A. Characteristics of Nonlisted Hazardous Wastes. Mark 'X' in the boxes corresponding to the characteristics of nonlisted hazardous wastes your installation handles (See 40 CFR Parts 261.20 - 261.24)

- 1. Ignitable (D001)
 - 2. Corrosive (D002)
 - 3. Reactive (D003)
 - 4. EP Toxic (D000) (List specific EPA hazardous waste number(s) for the EP Toxic contaminant(s))
- + + + + + D007 D009

9. Listed Hazardous Wastes. (See 40 CFR 261.31 - 33. See instructions if you need to list more than 12 waste codes.)

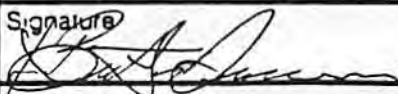
1	2	3	4	5	6
+ F001					
7	8	9	10	11	12

C. Other Wastes. (State or other wastes requiring an ID number. See instructions.)

1	2	3	4	5	6

X. Certification

I certify under penalty of law that I have personally examined and am familiar with the information submitted in this and all attached documents, and that based on my inquiry of those individuals immediately responsible for obtaining the information, I believe that the submitted information is true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fines and imprisonment.

Signature 	Name and Official Title (type or print) Butch Duncan	Date Signed 8-6-98
--	---	-----------------------

XI. Comments

BPH/cvn 10/12/98

REC

NOV 24 1998

DEP-CHAMBERLAIN

Note: Mail completed form to the appropriate EPA Regional or State Office. (See Section III of the booklet for addresses.)

SITE 5
SMITH REAL ESTATE HOLDINGS LLC, FARM
509 CHURCH STREET

**NO PADEP SOUTHCENTRAL REGIONAL OFFICE FILES WERE
AVAILABLE TO REVIEW FOR THIS FACILITY**

SITE 6
BARE DEVELOPMENT LP, FARM
444 OXFORD AVENUE

**NO PADEP SOUTHCENTRAL REGIONAL OFFICE FILES WERE
AVAILABLE TO REVIEW FOR THIS FACILITY**

SITE 7
CLARKS AMERICA
355 KINDIG LANE

**NO PADEP SOUTHCENTRAL REGIONAL OFFICE FILES WERE
AVAILABLE TO REVIEW FOR THIS FACILITY**

SITE 8
PATRICK & ELIZABETH SHEAFFER, FARM
301 OXFORD AVENUE

**NO PADEP SOUTHCENTRAL REGIONAL OFFICE FILES WERE
AVAILABLE TO REVIEW FOR THIS FACILITY**

SITE 9
BARE DEVELOPMENT LP (WYCR-FM)
275 RADIO ROAD



FILE 103

April 28, 2016

Ms. Barbara Carbaugh
Bare Development LP & Radio Hanover
PO Box 234
Hanover, PA 17331

Re: Receipt of Notice of Intent to Remediate
Background, Site Specific and Statewide Health Standards
Bare Development / Miller Chemical Co Fire
eFACTS PF # 809791
275 Radio Road, Hanover, PA
Conewago Township, Adams County

Dear Ms. Carbaugh:

This letter acknowledges receipt of your Notice of Intent to Remediate (NIR) on April 19, 2016 pertaining to the subject property and submitted in accordance with the Land Recycling and Environmental Remediation Standards Act (Act 2). The procedures set forth in Act 2 must be followed in order for this site to qualify for the liability protection provided by the Act. The Department of Environmental Protection (DEP or Department) will not accept plans and reports until after the 30-day comment period following submission of the NIR ends.

The 30-day comment period following submission of the NIR allows the municipality the opportunity to request to be involved in the development of remediation and reuse plans for the property. If the municipality requests a public involvement plan, any comments and responses must be included in any subsequent reports. Remedial investigation reports, risk assessment reports, cleanup plans, and final reports submitted to the Department under the site-specific standard need to be accompanied by the required fees and documentation verifying compliance with the public notification requirements.

Additional technical and program information can be found at www.dep.pa.gov, under Businesses > Land > Land Recycling. Also, please refer to the Land Recycling Program checklists which are helpful in assuring reports are complete before submittal. The DEP uses the checklists to perform administrative and technical completeness reviews when plans and/or reports are submitted. It is strongly encouraged to include the appropriate completed checklist with your final report submission. Land Recycling checklists can be found at the website under 'Forms, Checklists & Notifications' link.

Please refer to the enclosed Standard Attachment for considerations of other programs which may be applicable to this property.

Ms. Barbara Carbaugh

2

April 28, 2016

Mr. Richard Kaiser, Jr. is the project manager assigned to your project and will be working with you towards the remediation of this property. Frequent contact is encouraged between your representatives and our staff. If you have any questions or need further clarifications of our procedures, please call Mr. Kaiser at 717.705.4851.

Sincerely,



Kathleen G. Horvath, P.G.
Land Recycling Chief
Environmental Cleanup and Brownfields Program

Enclosure: Standard Attachment

cc: Sarah Stoneking, Ramboll Environ US Corp.
Tony Hartlaub, Miller Chemical & Fertilizer, LLC
Adams County Conservation District
Conewago Township

kgH



site #15505
For DEP Use Only
809791
Rem ID #
PO = Kaiser

NOTICE OF INTENT TO REMEDIATE

Act 1995-2 requires four general information items to be included in the NIR: the general location, listing of contaminants, intended use of property, and proposed remediation measures. In addition, indicate the standard(s) to be obtained (if known) and attach a scaled site map (if available).

Property Name Bare Development / Miller Chemical Co Fire
 Former Name(s) / AKA _____
 Address / Location 275 Radio Road
 City Hanover Zip Code 17331
 Municipality(s) Hanover Conewago Twp County(ies) Adams
 Latitude 39 ° (deg). 49 ' (min) 14.50 " (sec) Longitude 77 ° (deg). 0 ' (min) 16.59 " (sec)
 Horizontal Collection Method EMAP
 Horizontal Reference Datum EMAP Reference Point Center of Bare Development
 Parcel _____



Wish to participate in the DEP/EPA MOA. Contact Troy Conrad at tconrad@state.pa.us for details.
 EPA ID#, if known none identified
 DEP ID#(s), if known none identified
 (i.e., eFACTS site ID#, storage tank facility ID#, water quality permit #, watershed permit, air quality permit #, etc.)
 Date Release Occurred (if known) June 8, 2015

Provide a brief description of the site contamination in plain language (e.g. fuel oil spill, historical chemical industrial area contamination), the names of any know primary contaminants to be addressed, and the intended future use of the property.

Identified impacts at the Bare Development property resulted from the migration of fire-fighting water during emergency response activities related to the June 8, 2015 fire at the Miller Chemical & Fertilizer, LLC (Miller Chemical) facility located at 170 Radio Road in Hanover. The fire water carried fertilizer constituents from the Miller Chemical site. Constituents of potential concern include metals and nutrients and as such, soil samples from background and visibly affected areas have been collected and analyzed for the presence of metals, nitrate, nitrite, total kjeldahl nitrogen, sulfate, and phosphorus. The intended future use of the property is agricultural. As a conservative measure, concentrations of constituents of potential concern were evaluated with respect to future unrestricted site use.

Provide a general description of proposed remediation measures.

No remediation measures are proposed at this property because measured concentrations of constituents of potential concern in site soil are below the Statewide Health Standards for unrestricted site use, are below background, or are not of concern given the results of a site specific analysis (for those constituents without Statewide Health Standards).

Remediation Standard(s) planned (if known at this time):

- | | | |
|---|--|--------------------------------------|
| <input type="checkbox"/> Unknown at this time | <input type="checkbox"/> Soil | <input type="checkbox"/> Groundwater |
| <input checked="" type="checkbox"/> Background
Contaminants: Co | <input checked="" type="checkbox"/> Soil | <input type="checkbox"/> Groundwater |
| <input checked="" type="checkbox"/> Statewide Health - Residential
Contaminants: aluminum, antimony, arsenic, barium, beryllium, boron, cadmium, calcium, total chromium, cobalt, copper, iron, lead, manganese, mercury, molybdenum, nickel, selenium, silver, thallium, vanadium, zinc, nitrate, nitrite | <input type="checkbox"/> Soil | <input type="checkbox"/> Groundwater |
| <input type="checkbox"/> Statewide Health - Non-Residential
Contaminants: | <input checked="" type="checkbox"/> Soil | <input type="checkbox"/> Groundwater |
| <input checked="" type="checkbox"/> Site Specific
Contaminants: potassium, phosphorous, sulfate, total kjeldahl nitrogen, magnesium, sodium, calcium | <input checked="" type="checkbox"/> Soil | <input type="checkbox"/> Groundwater |
| <input type="checkbox"/> Special Industrial Area*
Contaminants: | <input type="checkbox"/> Soil | <input type="checkbox"/> Groundwater |

*NOTE: Specific standard or Special Industrial Area require a 30-day municipal comment period

Remediator / Property Owner / Consultant. Complete the form below for each recipient obtaining a release of liability upon approval of the final report. Attach additional sheets as necessary.

Remediator	
Contact Person/Title <u>Tony Hartlaub/ VP Finance</u>	eFACTS Client ID* <u>320514</u> 555879
Relationship to Site <u>Remediator</u> (e.g. owner, remediator, participant in cleanup, consultant, etc.)	Client Type* <u>LLC</u>
Phone Number <u>717-632-8921</u>	Email Address <u>Tonyhartlaub@millerchemical.com</u>
Company Name <u>Miller Chemical & Fertilizer, LLC</u>	EIN or Federal ID # <u>46-5407027</u>
Address (street, city, state, zip) <u>120 Radio Road, Hanover, PA 17332</u>	

Property Owner	
Contact Person/Title <u>Barbara Carbaugh</u>	eFACTS Client ID* <u>327735</u>
Relationship to Site <u>Owner</u> (e.g. owner, remediator, participant in cleanup, consultant, etc.)	Client Type* <u>Other</u>
Phone Number <u>717-817-1374</u>	Email Address <u>bcarbaugh@thepeak985.com</u>
Company Name <u>Bare Development, L.P. & Radio Hanover, Inc.</u>	EIN or Federal ID # _____
Address (street, city, state, zip) <u>PO Box 234, Hanover, PA 17331</u>	

Consultant	
Contact Person/Title <u>Sarah Stoneking</u>	eFACTS Client ID* <u>327 099</u>
Relationship to Site <u>Consultant</u> (e.g. owner, remediator, participant in cleanup, consultant, etc.)	Client Type* <u>Other</u>
Phone Number <u>703-516-2407</u>	Email Address <u>sstoneking@ramboll.com</u>
Company Name <u>Ramboll Environ US Corporation</u>	EIN or Federal ID # <u>52-1248616</u>
Address (street, city, state, zip) <u>4350 North Fairfax Drive, Suite 300, Arlington, VA 22203</u>	

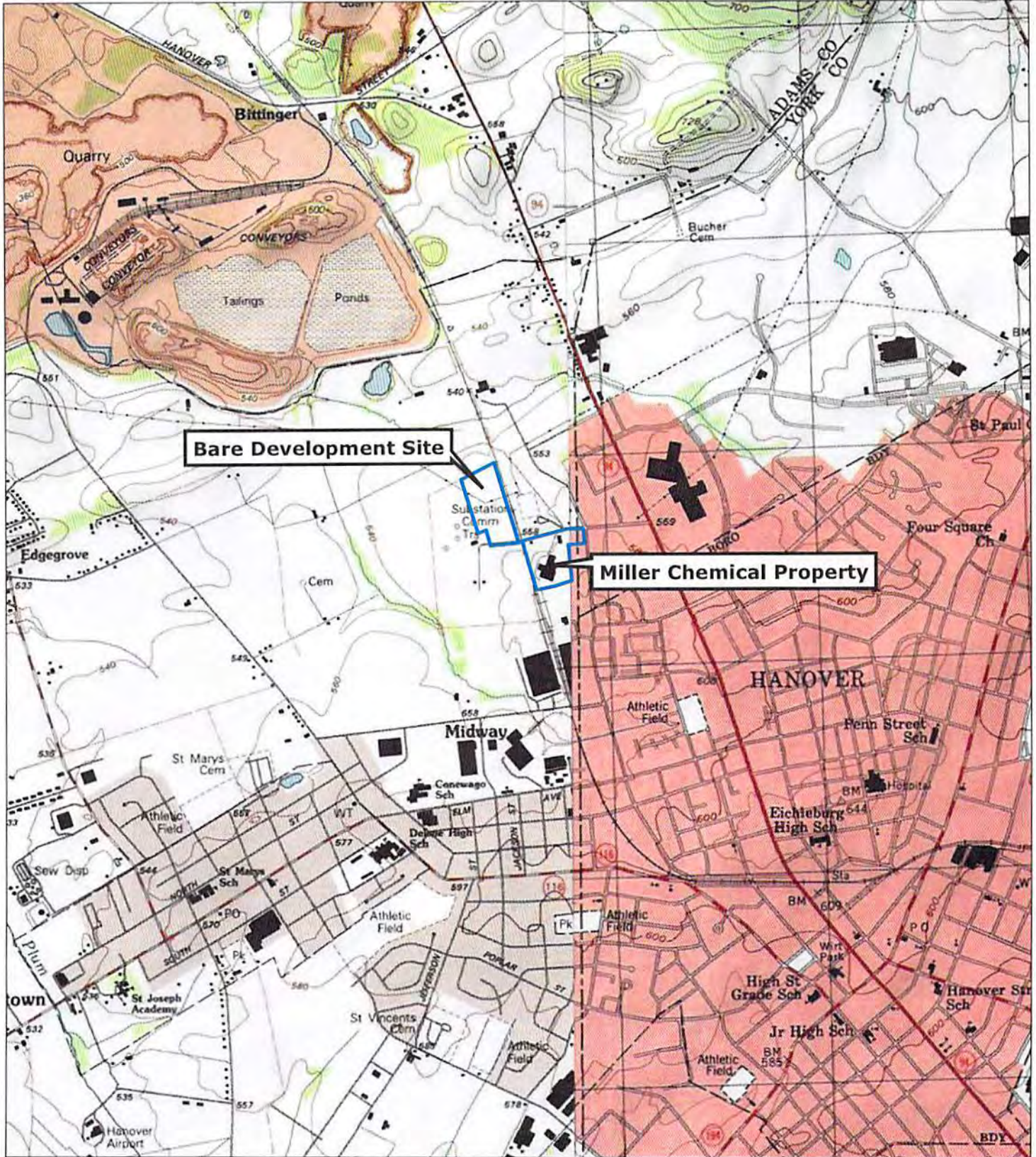
*Include eFACTS Client ID (if known) - "Client Types" below:

- | | | |
|--------------------------|-------------------------------|---------------------|
| Association/Organization | Limited Liability company | Partnership-General |
| Authority | Limited Liability Partnership | Partnership-Limited |
| County | Municipality | School District |
| Estate/Trust | Non-Pennsylvania Government | Sole Proprietorship |
| Federal Agency | Other (Non-Government) | State Agency |
| Individual | Pennsylvania Corporation | |

Preparer of Notice of Intent to Remediate

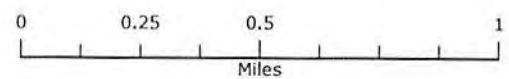
Name <u>Mark Nielsen</u>	Title <u>Principal</u>
Phone Number <u>215-532-5602</u>	Email Address <u>mnielsen@ramboll.com</u>
Company Name <u>Ramboll Environ US Corporation</u>	eFACTS Client ID _____

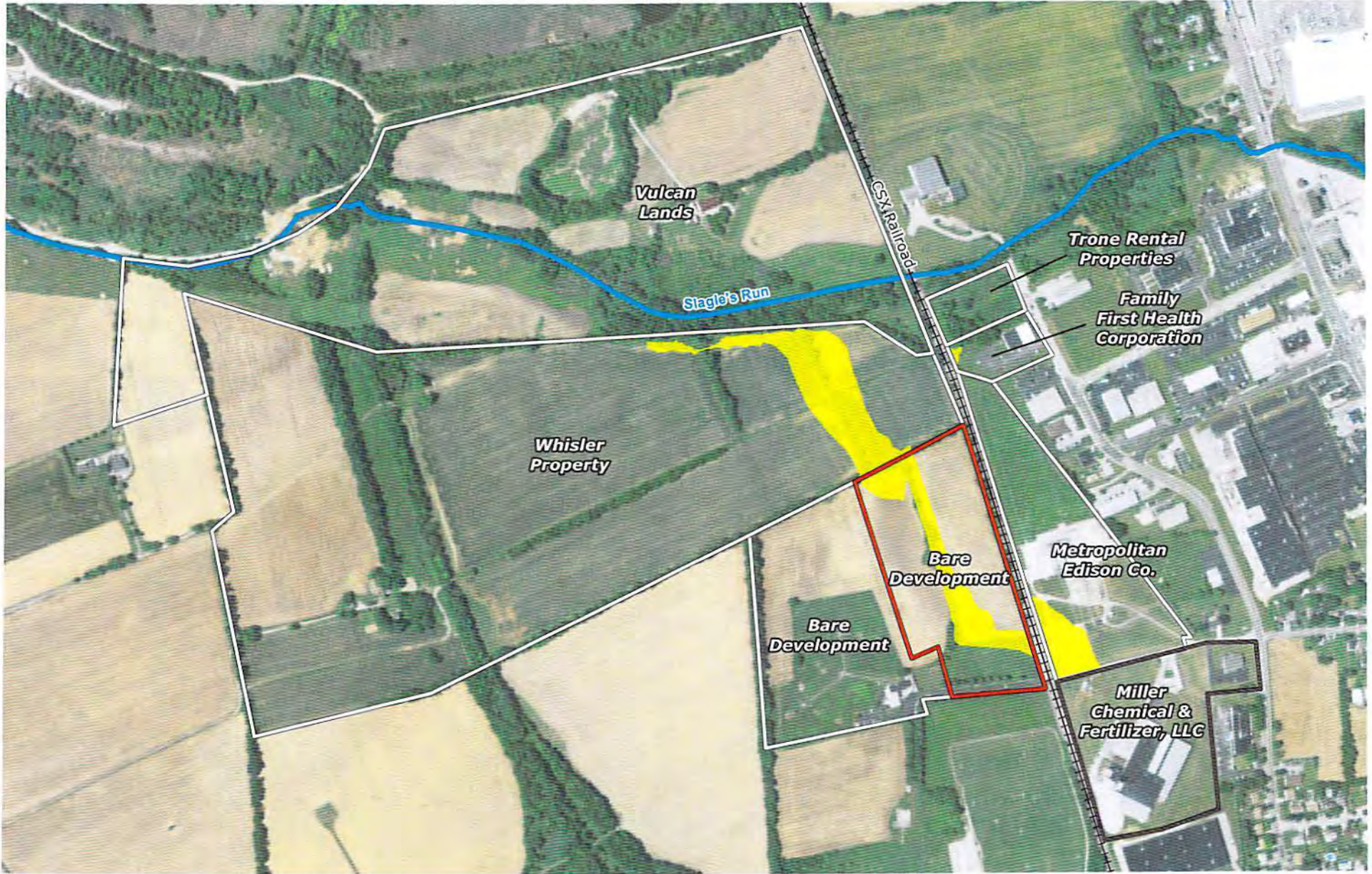
Address (street, city, state, zip) 1760 Market Street, Suite 1000, Philadelphia, PA 19103



SCALE 1:24,000

Source: USGS 7.5 minute (topographic) quadrangles
Hanover and McSherrystown, Pennsylvania



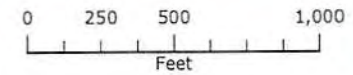


- Miller Chemical Property
- Other Off-Site Properties
- Bare Development Property
- Visibly Affected Area

Imagery Source: Esri Streaming Imagery

Notes:

- (1) Visibly affected area extended to Slagle's Run north of the Whisler Property.
- (2) Visibly affected area on the Miller Chemical property is not shown on this figure.



Proof of Publication State of Pennsylvania

AD # 0001597972-01

The Evening Sun is the name of the newspaper(s) of general circulation published continuously for more than six months at its principal place of business, 37 Broadway Street, Hanover, PA.

The printed copy of the advertisement hereto attached is a true copy, exactly as printed and published, of an advertisement printed in the regular issues of the said **The Evening Sun** published on the following dates, viz:

NEWSPAPER NOTIFICATION

Bare Development Property (Correction)

Pursuant to the Land Recycling and Environmental Remediation Standards Act, the act of May 18, 1995, P.L. 4, No. 1995-2, notice is hereby given that Miller Chemical & Fertilizer, LLC (Miller Chemical) has submitted to the Pennsylvania Department of Environmental Protection a Notice of Intent to Remediate a site located at 275 Radio Road, Conewago Township, Adams County. This Notice of Intent to Remediate states that the site is an agricultural property owned by Bare Development L.P. and Radio Hanover. The site has been found to be impacted by fertilizer constituents mobilized by fire-fighting emergency response activities performed on June 8, 2015 at the Miller Chemical facility located at 170 Radio Road in Hanover. Runoff of the fire-fighting water carried fertilizer constituents from the Miller Chemical site, including metals and nutrients, which were suspected to have contaminated soil at the property owned by Bare Development L.P. and Radio Hanover. Soils from background and visibly affected areas were sampled for metals and nutrients. The future use of the property is expected to remain in agricultural or other unrestricted use. Concentrations of constituents of potential concern in site soils are below the Statewide Health Standards established for residential site use or are not of concern given the results of a background and site-specific analysis (for those constituents without Statewide Health Standards). As such, Miller Chemical has not proposed remediation measures.

4/7/2016

COMMONWEALTH OF PENNSYLVANIA COUNTY OF YORK

Before me, a Notary Public, personally came Pam Rodencal who being duly sworn deposes and says that she is the Legal Advertising Clerk of The Evening Sun and her personal knowledge of the publication of the advertisement mentioned in the foregoing statement as to the time, place and character of publications are true, and that the affiant is not interested in the subject matter of the above mentioned advertisement.

Sworn and subscribed to before me, on
this 7 day of April 2016

Nachelle L. Whitmoyer } Pam Rodencal
Notary Public

COMMONWEALTH OF PENNSYLVANIA

NOTARIAL SEAL
NACHELLE L. WHITMOYER, Notary Public
West Manchester Twp., York County
My Commission Expires April 14, 2019

The charge for the following publication of above mentioned advertisement and the expense of the affidavit.

Advertisement Cost	\$147.20
Affidavit Fee	\$5.00
Total Cost	\$152.20

Ms. Barbara Krebs
Township Manager
Conewago Township
541 Oxford Avenue
Hanover, PA 17331

**RE: Notice of Intent to Remediate to Statewide Health, Background
and Site Specific Standards
Bare Development Property
275 Radio Road
Conewago Township
Adams County**

Dear Ms. Krebs,

The Land Recycling and Environmental Remediation Standards Act (Act 2) requires that a Notice of Intent to Remediate (NIR) a site be provided to the municipality in which the site is located. In accordance with this provision of Act 2, we are formally notifying you of our Intent to remediate the subject site. A copy of the Notice of Intent to Remediate, which has been sent to the Department of Environmental Protection (DEP), is enclosed. This notice will also be published in the Pennsylvania Bulletin, and a summary of the notice will be placed in a local newspaper.

Publication of this notice in a local newspaper initiates the 30-day public and municipal comment period. During this time, your municipality may request to become involved in the development of remediation and reuse plans for the site. If the municipality wishes to become involved in this project, please send your comments to the Department of Environmental Protection at 909 Elmerton Avenue, Harrisburg, PA 17110-8200 to the attention of the case manager, Mr. Richard Kaiser.

Date March 29, 2016

Ramboll Environ
4350 North Fairfax Drive
Suite 300
Arlington, VA 22203
USA

T +1 703 516 2300
F +1 703 516 2345
www.ramboll-environ.com

Should you have any questions or comments regarding the proposed remediation, please feel free to contact me at (703) 516-2407.

Yours sincerely,



Sarah Stoneking
Senior Manager

D +1 703 516 2407
sstoneking@ramboll.com

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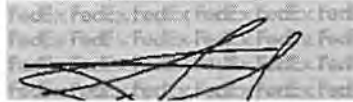
Sarah Stonoking
Suite 300
4350 North Fairfax Drive
Arlington, VA US 22203
703 201-2317

Actual delivery

Wed 3/30/2016 2:20 pm

Delivered

Signed for by: S SCHMIDT



Conewago Township
Ms. Barbara Krebs, Township
Manager
541 Oxford Avenue
HANOVER, PA US 17331
717 637-0411

Travel History

Date/Time	Activity	Location
- 3/30/2016 - Wednesday		
2:20 pm	Delivered	HANOVER, PA
8:33 am	On FedEx vehicle for delivery	York, PA
8:14 am	At local FedEx facility	YORK, PA
4:45 am	At destination sort facility	MIDDLETOWN, PA
3:54 am	Departed FedEx location	NEWARK, NJ
- 3/29/2016 - Tuesday		
11:59 pm	Arrived at FedEx location	NEWARK, NJ
9:11 pm	Left FedEx origin facility	ALEXANDRIA, VA
6:51 pm	Picked up	ALEXANDRIA, VA
3:36 pm	Shipment information sent to FedEx®	

Shipment Facts

Tracking number	775987813267	Service	FedEx Standard Overnight
Weight	0.5 lbs / 0.23 kgs	Delivery attempts	1
Delivered To	Receptionist/Front Desk	Total pieces	1
Total shipment weight	0.5 lbs / 0.23 kgs	Terms	Not Available
Shipper reference	0137782A Phase USOFF2	Packaging	FedEx Envelope
Special handling section	Deliver Weekday		



Search on tracking number | Sub

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October 28, 2016

Via Electronic Mail & FedEx

Kathleen Horvath
Pennsylvania Department of Environmental Protection
Environmental Cleanup and Brownfields Program
909 Elmerton Avenue
Harrisburg, PA 17110



RE: REVISED BARE DEVELOPMENT REMEDIAL INVESTIGATION AND FINAL REPORT

Dear Ms. Horvath:

At the request of Miller Chemical & Fertilizer, LLC (Miller), Ramboll Environ US Corporation (Ramboll Environ) has updated the *Remedial Investigation and Final Report, Bare Development, LP Property* to address comments provided by the Pennsylvania Department of Environmental Protection (PADEP) in a Letter of Technical Deficiency dated September 13, 2016 and additional comment provided on September 28, 2016. This letter provides responses to the comments provided by PADEP and also indicates where in the revised report each comment has been addressed. Our responses are provided below.

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4350 North Fairfax Drive
Suite 300
Arlington, VA 22203
USA

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Comment No. 1. *The 95% UCL Statistical Analysis was completed to demonstrate attainment of the Statewide Health Standard for arsenic and manganese in soil. However, only the analysis output sheets were included with this submission. The information outlined in Section II(B)(6)(g)(ii) of the current Technical Guidance Manual should be included so the statistical analysis can be fully evaluated.*

Response: The requested inputs were provided to PADEP via email on September 1, 2016 and have also been incorporated into Appendix J of the report.

Comment No. 2. *Calcium, magnesium, phosphorous, potassium, sodium, and sulfate were detected in site soils. These compounds do not have medium specific concentrations (MSCs) and were evaluated using the site specific standard.*

- (a) *The ingestion pathway was evaluated for these compounds. However, the calculations used for this were not included.*
- (b) *The inhalation and direct contact pathways have not been evaluated for these compounds.*

Response:

- A. The ingestion pathway calculations are discussed in the text of Section 6.2.2 of the report. The formula for the calculations is presented in Section 6.2.2.2 of the report.
- B. For the nutrients for which MSCs have not been published, Ramboll Environ reviewed information that is available through the USEPA's

hierarchy of toxicity data sources: (1) Integrated Risk Information System (IRIS), (2) Provisional Peer Reviewed Toxicity Values (PPRTV) and (3) Other Toxicity Values. No toxicity data were identified to support the calculation of SHSs for protection of human health based on the inhalation or ingestion pathways. In addition, Ramboll Environ reviewed information published by the Agency for Toxic Substances and Disease Registry (ATSDR) and National Institute for Occupational Safety and Health (NIOSH) for inhalation exposure limits or toxicity data that would support the calculation of such limits; no such data were identified for these constituents. As discussed in the report, the nutrients discussed in Section 6.2.2 of the report are not generally considered to be toxic to humans. The text of Section 6.2 of the report has been modified to incorporate an expanded discussion of Ramboll Environ's evaluation of toxicity data.

Comment No. 3. *Numerous other minor comments were provided via email and are summarized on the attached page(s).*

Response: Responses to the additional comments provided via email are provided below.

EMAIL COMMENTS (August 22, 2016)

✓ **Comment No. 1.** *The 60 day review period ends on September 13, 2016.*

Response: No response needed.

✓ **Comment No. 2.** *Page 1, first paragraph – this report is a request for a relief of liability.*

Response: Ramboll Environ has modified the language of the report as requested.

✓ **Comment No. 3.** *Page 2, Section 1.2 – was the CSX property impacted?*

Response: The CSX property consists only of a rail line. CSX indicated to Miller Chemical that the Company is not seeking Relief of Liability in relation to the fertilizer release. A note has been added to Section 1.2 of the report to provide further clarification and information. Ramboll Environ further notes that documentation relating to the removal of material from within and surrounding the corrugated pipe running beneath the CSX rail line is included in the Act 2 Final Report for the Metropolitan Edison property.

✓ **Comment No. 4.** *Page 4, Section 2.1 – Show the wetlands on a figure and reference (see also Section 2.5, page 5).*

Response: A figure showing the wetlands has been added as Appendix B.

Comment No. 5. *Pages 7-8, Section 3.2:*

- A. *How were the discussed sample locations determined?*
- B. *Reference the appropriate section where the soil analytical parameters can be found, or include the analytical parameters in each discussion if there is variability between sample locations.*
- C. *Clarify what is meant by a "5 point composite" sample.*
- D. *Again, were these biased/random samples?*

Response:

As discussed with PADEP, Ramboll Environ divided the visibly affected area into 5,000-square-foot grid cells using GPS boundary coordinates collected after the fire. Consistent with the approach described in the *Off-Site Act 2 Sampling and Analysis Plan*, dated November 2015

and approved by PADEP, Ramboll Environ determined composite soil sampling locations within each grid cell of a systematic random grid. Certain of the sample locations were biased toward more visibly affected soils or areas that experienced more substantial water flow after the fire at the request of PADEP. Locations where deeper samples were collected (approximately 33% of the overall sample locations) were selected with a bias toward locations that experienced greater water flow or pooling as discussed with PADEP. Background sample locations were selected randomly from outside of the visibly affected area. Boundary, dry ditch, and disturbed area sample locations were selected based on criteria discussed in the report.

- (A) The analytical parameters for the Act 2 soil samples are discussed in Sections 3.5 and 4.2 of the revised report.
- (B) As described in the *Off-Site Act 2 Sampling and Analysis Plan*, 5-point composite samples were collected by collecting five equal volume subsamples, combining the subsamples in a stainless steel bowl, and mixing thoroughly prior to packaging in a laboratory-supplied container. For the dry creek and the boundary samples, the five subsamples were collected in an equally-spaced linear fashion with the center sample located at the mapped sample point. Within other visibly affected areas, the sub-samples were collected from the mapped center location and compass points of a ten foot diameter circle centered on the sample point. Ramboll Environ has updated the final report to address this comment.
- (C) See response to letter A, above.

Comment No. 6. Page 8, Section 3.3:

- A. Designate which samples are being discussed.
B. Are these biased?

Response:

- ✓ (A) The text of Section 3.3 (now, Section 4.3) has been modified to designate the sample IDs for the agricultural soil samples.
- ✓ (B) Agricultural soil samples were collected from random locations within the farmed portions of the agricultural properties as specified by the Penn State Agricultural Analytical Services Laboratory (PSAASL).

Comment No. 7. Page 10:

- A. First paragraph – there is no medium specific concentration (MSC) for total chromium. In order to be conservative, the hexavalent chromium MSC should be used.
- B. Section 3.4.2 – designate which sample number and show on a figure. Does this single sample determine the analytical parameters for all subsequent soil samples?

Response:

- ✓ (A) Prior to developing the Soil Sampling and Analysis Plan, Ramboll Environ discussed with PADEP that Miller Chemical did not store or use compounds or materials containing hexavalent chromium at the Miller Chemical property and PADEP concurred that testing for hexavalent chromium did not need to be conducted. As such, the parties agreed that it would be appropriate to test for total chromium and to apply the MSCs for trivalent chromium. A footnote has been added to the report text to document this decision. Ramboll Environ notes however, that the highest detected concentration of total chromium

was 170 mg/kg. This concentration is below the residential direct contact MSC for hexavalent chromium at the time of the report's submission (660 mg/kg).

- (B) Section 3.4.2 (now, 4.4.2) has been revised to include the sample ID. Results have been incorporated as Appendix D. The soil sample was collected from a heavily affected portion of the drainage ditch on the Miller Chemical property. As discussed in Section 4.4, including 4.4.1, 4.4.2, and 4.4.3 of the report (previously, Sections 3.4), analytical parameters for soil samples were determined based on multiple sources of information including analysis of the fire water, analysis of soil from one of the (apparent) most affected areas of the Miller Chemical property, a review of product and raw materials inventories, and data collected by PADEP immediately after the fire.

Comment No. 8. Page 14:

- A. *In order to maintain continuity, switch Sections 3 and 4. The report would flow better and be easier to follow.*
- B. *Section 4.1 – what was the Army Corps of Engineers role?*

Response:

(A) Ramboll Environ has revised the report to address Comment 8(A).

(B) Preliminary restoration activities along the dry creek were conducted under Federal Authorization from the US Army Corps of Engineers dated November 16, 2015. Mr. Jason Shirey of PADEP interfaced with the USACE and provided input on behalf of PADEP. A footnote has been added to the report to clarify this point.

Comment No. 9. Pages 15-16 - *Is the relief of liability for the residential or non-residential Statewide Health Standard? Only discuss/include MSCs for the standard being attained.*

Response: Relief of liability is being sought for the residential Statewide Health Standard. Ramboll Environ has removed references to the non-residential Statewide Health Standard and MSCs to address this comment.

Comment No. 10. Footnote 8:

- A. *Are the nitrate/nitrite calculations in the appendix?*
- B. *Aluminum, iron, potassium, sodium and sulfate were stated as being either not toxic or only have secondary MCLs. If not toxic, how was this determined?*
- C. *Table 5-2 – what is the purpose of the detected concentration to MSC ratio? Why are all the samples in the table listed as "off-site"?*

Response:

- (A) Soil to groundwater pathway numeric values for inorganic chemicals as specified by PA code §250.308 can be selected using two methods. Ramboll Environ applied the first method, which selects, "a value which is 100 times the applicable MSC for groundwater identified in §250.304(c) or (d) (relating to MSCs for groundwater), expressed as milligrams per kilogram of soil". For nitrate and nitrite the applicable MSCs for groundwater identified in section 250.304(c) are maximum contaminant levels (MCLs) established by the United States Environmental Protection Agency (USEPA). The MCLs for nitrate and nitrite are 10 milligrams per liter (mg/L) and 1 mg/L, respectively. Multiplying these concentrations by 100 yields MSCs for nitrate and nitrite are 1,000 mg/kg and 100 mg/kg.

The second method described in Section 250.308(a)(4) calculates a numeric value using a partitioning equation. The parameters used in that equation are the target groundwater

concentration, partitioning coefficient, the water-filled porosity of the soil, the bulk density of the soil, and the dilution factor. No soil to water partitioning coefficients for nitrate or nitrite were identified in the literature, thus, this approach was not utilized.

The text of Section 5.2 of the report has been revised to provide this additional discussion regarding computation of the soil to groundwater pathway numeric values.

- (B) For the Soil to Groundwater pathway, the chemicals with only secondary MCLs are aluminum, iron, and sulfate. Pennsylvania Code Chapter 250.305(g) indicates that, "a person conducting a remediation of soils contaminated with a substance having a secondary MCL will not be required to comply with the soil-to-groundwater pathway requirements for those substances to protect groundwater in aquifers for drinking water. As discussed in section 6.3, potassium and sodium do not have any toxicity values from USEPA's hierarchy of sources: (1) Integrated Risk Information System (IRIS), (2) Provisional Peer Reviewed Toxicity Values (PPRTV) and (3) Other Toxicity Values. When a toxicity value was not available from the first two tiers of the hierarchy, other USEPA and Non-USEPA sources (e.g. Agency for Toxic Substances and Disease Registry (ATSDR)) of toxicity values were consulted. However, no toxicity data were identified from these sources for the sodium and potassium.
- (C) Table 5-2 has been modified to remove the column indicating "off-site." The detected concentration to MSC ratio provides an indication of how large the detected concentration is relative to the MSC.

Comment No. 11. *95% UCL – in order to evaluate the 95% UCL, put together/forward a table showing the concentrations, depths, and types (composite vs grab) of samples used in the evaluation.*

Response: A tabular summary of inputs has been prepared and is included in Appendix J with the UCL output.

EMAIL COMMENTS (September 1, 2016)

Comment No. 1. *Again, the 60-day review period ends of September 13, 2016.*

Response: Acknowledged.

Comment No. 2. *Table 5-2 – include the sample number and whether the sample was a discrete or composite sample.*

Response: Individual sample IDs and the type of each sample (grab or composite) are identified in Table 5-1; Table 5-2 does not list Individual samples.

Comment No. 3. *Discuss why most of the arsenic exceedances were detected in grab rather than composite samples.*

Response: Twelve soil samples exhibited exceedances of the arsenic MSC; seven of 33 grab soil samples (21%) and five of the 51 composite soil samples (10%). Given this small percentage, it is unclear whether there is a statistical difference between composite and grab soil sample results. Ramboll Environ does note however, that composite soil samples were collected only from the upper 3 inches of soil while grab soil samples were collected at depth, possibly indicating natural variation in arsenic concentrations with depth.

Comment No. 4. *Page 19-20 – Is a release of liability being requested for cobalt using the background standard?*

Response: No. As the report text indicates, the only exceedance of the cobalt SHS was identified for a background soil sample. To evaluate whether further analysis was prudent, Ramboll Environ performed an outlier test on the data to confirm that the concentration of cobalt measured at BA-BACK-01 is an outlier and is not representative of soil conditions. Therefore, measured concentrations of cobalt in site soil meet the residential MSC. Ramboll Environ has revised the text of the report to incorporate the discussion of cobalt under Section 6.1 for clarity.

Comment No. 5. *Pages 20-22, Sections 6.3.1-6.3.2.2 - I want to run these sections past Pam before commenting.*

Response: Acknowledged.

Comment No. 6. *Page 26, Step 6 - Include wetland locations on a figure (or reference a figure).*

Response: A map showing the extent of the mapped wetlands is included as Appendix B.

Comment No. 7. *Page 27, Section 8.0*

- A. *Are the residential or non-residential medium specific concentrations (MSCs) being used?*
- B. *What is the relief of liability covering? Designate the compounds, media, and standard (Statewide Health vs. Site Specific as well as residential/non-residential). The ROL should apply only to the site, i.e., the visibly affected areas.*

Response:

(A) The Bare Development soils are being addressed under the residential MSCs.

(B) Ramboll Environ has revised Section 8 of the report to clarify the constituents and media for which relief of liability is being sought.

Comment No. 8. *Once the 95% UCL information requested below is submitted, I will forward the information on to CO; additional comments/questions may result from their review.*

Response: Supporting information requested by PADEP was provided via email on September 1, 2016 and has been incorporated into the report.

Comment No. 9. *Also include any relevant clarification details discussed in our phone call this morning.*

Response: Supporting information requested by PADEP was provided via email on September 1, 2016 and has been incorporated into the report.

Ramboll Environ notes that the report text has also been updated to incorporate several additional generic comments provided on other Act 2 reports relating to the Miller Chemical fire.

EMAIL COMMENTS (September 28, 2016)

Comment. *Grab and composite data should not be mixed when calculating the UCL.*

Response: The sampling program consisting of grab and composite sampling is consistent with the approved Sampling and Analysis Plan. Because the composite soil samples were gathered over a relatively discrete area (a 10-foot diameter circle) compared to the size of the affected area, the composite soil samples are representative of a small area of the site and thus, it was judged that calculations of the UCL could reasonably include both composite and discrete soil samples. Nevertheless, Ramboll Environ re-calculated UCLs using separate discrete (grab) and composite soil sample data sets. The calculated UCLs for both discrete and composite soil sample data sets are below the MSCs for arsenic and manganese. These additional computations have been added to the revised report.

Please contact us if you have any questions regarding the revised *Remedial Investigation and Final Report* for the Bare Development property.

Sincerely,



Sarah Stoneking
Senior Manager

D +1 703-516-2407
SStoneking@ramboll.com



J. Mark Nielsen, PE
Principal

D +1 609-243-9859
MNIelsen@ramboll.com

SS/JMN:ags
0137782A\PRIN_WP\42091v1

October 28, 2016

Mr. Richard Kaiser
Pennsylvania Department of Environmental Protection
Regional Office
909 Elmerton Avenue Southcentral
Harrisburg, Pennsylvania 17110

Re: Bare Development Property Remedial Investigation and Final Report

Dear Mr. Kaiser:

Enclosed is (1) two hardcopy versions of the text, tables, figures, and appendices of the Remedial Investigation and Final Report for the Bare Development Property located at 275 Radio Road in Hanover, Pennsylvania and (2) two copies of the digital version of the complete report.

Sincerely,



Christopher Bowles
Senior Associate

Enclosures (2)



18

September 13, 2016

CERTIFIED MAIL NO. NUMBER 9171 9690 0935 0023 3544 15



Ms. Barbara Carbaugh
Bare Development LP & Radio Hanover
PO Box 234
Hanover, PA 17331

Re: Letter of Technical Deficiency
Remedial Investigation and Final Report
Bare Development / Miller Chemical Co. Fire
eFACTS PF # 809791
275 Radio Road, Hanover, PA
Conewago Township, Adams County

Dear Ms. Carbaugh:

The Department of Environmental Protection (Department) has reviewed the June 2016 document titled "Remedial Investigation and Final Report" (report) for the property referenced above. The report was prepared by Ramboll Environ US Corp. and submitted to the Department in accordance with the Land Recycling and Environmental Remediation Standards Act (Act 2). This report was reviewed by or under the supervision of a Pennsylvania licensed professional geologist.

The procedures and regulations set forth in Act 2 must be followed in order for your site to qualify for the liability protection provided by the Act. Upon initial review, the Department finds the submission is technically deficient and the following items are needed to complete your submission:

- 1.) The 95% UCL statistical analysis was completed to demonstrate attainment of the Statewide Health Standard for arsenic and manganese in soil. However, only the analysis output sheets were included with this submission. The information outlined in Section II (B)(6)(g)(ii) of the current Technical Guidance Manual should be included so the statistical analysis can be fully evaluated.
- 2.) Calcium, magnesium, phosphorus, potassium, sodium, and sulfate were detected in site soils. These compounds do not have medium specific concentrations (MSCs) and were evaluated using the Site Specific Standard.
 - a. The ingestion pathway was evaluated for these compounds. However, the calculations used for this evaluation were not included.
 - b. The inhalation and direct contact pathways have not been evaluated for these compounds.

3.) Numerous other minor comments were provided via email and are summarized on the attached page(s).

Please address the above summarized technical deficiencies within 60 days. If the deficiencies noted above are corrected within 60 days, it will not be necessary to resubmit report review fees, resend the municipal notice, or republish the public notice. *Please include a copy of this correspondence with any submitted correction to confirm to Department staff that an administrative completeness check is not necessary. If the report is not corrected within 60 days from the date of this letter any report submission will require the appropriate fees and proofs of municipal and public notices.*

We look forward to assisting you in the remediation of this property and encourage you to contact us throughout this process. If you have any questions or need further information regarding this matter, please call James E. Rea, P.G. at 717.705.4850.

Any person aggrieved by this action may appeal, pursuant to Section 4 of the Environmental Hearing Board Act, 35 P.S. Section §7514, and the Administrative Agency Law, 2 Pa.C.S. Chapter 5A, to the Environmental Hearing Board, Second Floor, Rachel Carson State Office Building, 400 Market Street, P.O. Box 8457, Harrisburg, PA 17105-8457, 717.787.3483. TDD users may contact the Board through the Pennsylvania Relay Service, 800.654.5984. Appeals must be filed with the Environmental Hearing Board within 30 days of receipt of written notice of this action unless the appropriate statute provides a different time period. Copies of the appeal form and the Board's rules of practice and procedure may be obtained from the Board. The appeal form and the Board's rules of practice and procedure are also available in braille or on audiotape from the Secretary to the Board at 717.787.3483. This paragraph does not, in and of itself, create any right of appeal beyond that permitted by applicable statutes and decisional law.

If you want to challenge this action, your appeal must reach the Board within 30 days. You do not need a lawyer to file an appeal with the Board.

Important legal rights are at stake, however, so you should show this document to a lawyer at once. If you cannot afford a lawyer, you may qualify for free pro bono representation. Call the Secretary to the Board (717.787.3483) for more information.

Sincerely,



Benjamin Stone-Thonus
Program Manager
Environmental Cleanup and Brownfields Program

cc: Sarah Stoneking, Ramboll Environ US Corp.
Tony Hartlaub, Miller Chemical & Fertilizer, LLC

jr

Rea, James

From: Rea, James
Sent: Thursday, September 01, 2016 4:07 PM
To: 'Sarah Stoneking'; Mark Nielsen (mnielsen@ramboll.com)
Subject: Bare Development - Additional FR Comments

Sarah/Mark,

As discussed this morning below are comments concerning the Bare Development FR. This email is meant to supplement my August 22, 2016 email (see below). Some of these may overlap our discussion this morning. Once I receive the requested 95% UCL input data I will forward that to Central Office (CO) for their review. I will relay their comments once I receive them.

- 1.) Again, the 60 day review period ends on **September 13, 2016**.
- 2.) **Table 5-2** – include the sample number and whether the sample was a discrete or composite sample.
- 3.) Discuss why most of the Arsenic exceedances were detected in grab rather than composite samples.
- 4.) **Page 19 – 20** - Is a release of liability being requested for cobalt using the background standard?
- 5.) **Pages 20-22, Sections 6.3.1 – 6.3.2.2** – I want to run these sections past Pam, before commenting.
- 6.) **Page 26, Step 6** – include wetland locations on a figure (or reference a figure).
- 7.) **Page 27, Section 8.0**
 - a. Are the residential or non-residential medium specific concentrations (MSCs) being used?
 - b. What is the relief of liability covering? Designate the compounds, media, and standard (Statewide Health vs Site Specific as well as residential/nonresidential). The ROL should apply only to the site, i.e. the visibly affected areas.
- 8.) Once the 95% UCL information requested below is submitted, I will forward that information on to CO. Additional comments/questions may result from their review.
- 9.) Also include any relevant clarification details discussed in our phone conversation this morning.

As indicated this morning, I'm scheduled out of the office tomorrow and at least part of the day Tuesday; Monday is a holiday. Let me know if you have any questions.

James E. Rea, P.G. | Licensed Professional Geologist
Dept. of Environmental Protection | Environmental Cleanup and Brownfields
909 Elmerton Avenue | Harrisburg, PA 17110
Phone: 717.705.4850 | Fax: 717.705.4830
www.dep.state.pa.us

From: Rea, James
Sent: Monday, August 22, 2016 4:29 PM
To: 'mnielsen@ramboll.com'; 'Sarah Stoneking'
Cc: Horvath, Kathleen
Subject: Bare Development FR Comments/Questions

Mark/Sarah,

Below are some initial comments/questions concerning the Bare Development Final Report. I have not completed reviewing this report, so there will be additional comments/questions in the future.

- 1.) The 60 day review period ends on **September 13, 2016**.
- 2.) **Page 1, first paragraph** – this report is a request for a *relief* of liability.
- 3.) **Page 2, Section 1.2** – was the CSX property impacted?
- 4.) **Page 4, Section 2.1** – Show the wetlands on a figure and reference (see also Section 2.5, page 5).

5.) Pages 7-8, Section 3.2

- a. How were the discussed sample locations determined?
- b. Reference the appropriate section where the soil analytical parameters can be found, or include the analytical parameters in each discussion if there is variability between sample locations.
- c. Clarify what is meant by a "5 point composite" sample.
- d. Again, were these biased/random samples?

6.) Page 8, Section 3.3

- a. Designate which samples are being discussed.
- b. Are these biased?

7.) Page 10

- a. First paragraph – there is no medium specific concentration (MSC) for total chromium. In order to be conservative, the hexavalent chromium MSC should be used.
- b. Section 3.4.2 – designated which sample number and show on a figure. Does this single sample determine the analytical parameters for all subsequent soil samples?

8.) Page 14

- a. In order to maintain continuity, switch Sections 3 and 4. The report would flow better and be easier to follow.
- b. Section 4.1 – what was the Army Corps of Engineers role?

9.) Pages 15-16 - Is the relief of liability for the residential or non-residential Statewide Health Standard? Only discuss/include MSCs for the standard being attained.

10.) Footnote 8

- a. Are the nitrate/nitrite calculations in the appendix?
- b. Aluminum, iron, potassium, sodium and sulfate were stated as being either not toxic or only have secondary MCLs. If not toxic, how was this determined?
- c. Table 5-2 – what is the purpose of the detected concentration to MSC ratio? Why are all the samples in the table listed as "off-site" ?

11.) 95% UCL – in order to evaluate the 95% UCL, put together/forward a table showing the concentrations, depths, and types (composite vs grab) of samples used in the evaluation.

As indicated in our conference call earlier today, I will be out of the office the remainder of the week. I'll be back in on Monday, August 29. Thanks.

James E. Rea, P.G. | Licensed Professional Geologist
Dept. of Environmental Protection | Environmental Cleanup and Brownfields
909 Elmerton Avenue | Harrisburg, PA 17110
Phone: 717.705.4850 | Fax: 717.705.4830
www.dep.state.pa.us



MEMO

TO File

THROUGH ECB Program Manager *BJ*
Land Recycling Section Chief *KGH*

FROM James Rea, P.G. *JRC*
DEP Project Manager

DATE September 12, 2016

RE Act 2 Technical Memo Summary
Remedial Investigation and Final Report –Technical Deficiency
eFACTS PF # 809791
Bare Development / Miller Chemical Co. Fire
275 Radio Road, Hanover, PA
Conewago Township, Adams County

The following is based solely on the information provided in the report(s) submitted to DEP. The information was reviewed, but not verified, by DEP, and represents the remediator(s)'s best professional judgment.

Property Owner Name: Ms. Barbara Carbaugh, Bare Development LP & Radio Hanover
PO Box 234, Hanover, PA 17331

Site Address: 275 Radio Road, Hanover, PA

Act 2 Standards Sought for Soils:

Statewide Health (aluminum, antimony, arsenic, barium, beryllium, boron, cadmium, calcium, total chromium, copper, iron, lead, manganese, mercury, molybdenum, nickel, selenium, silver, thallium, vanadium, zinc, nitrate, nitrite)

Site Specific (potassium, phosphorous, sulfate, magnesium, sodium, and calcium)

Background Standards (cobalt)

Property Size: approx. 32 acres.

Act 2 Site Size: approx. 3.1 acres.

Project Site History: The property is comprised of approximately 32 acres. The eastern half is used for agricultural purposes, was affected by the Miller Chemical firefighting efforts, and is the subject of this investigation. The Act 2 "site" is approximately 3.1 acres and was affected by firewater runoff (see attached map from this RI/FR). The western half of the property was not affected and is currently occupied by a radio station building and tower.

Site Findings: Site soils were found to be impacted by arsenic, manganese, and cobalt at concentrations above the current MSCs. Numerous other COCs were identified at concentrations less than their respective MSCs. Several COCs (calcium, magnesium, phosphorus, potassium, sodium, sulfate) that did not have MSCs were also detected and addressed.

Site Cleanup History: N/A

Discussion of Cleanup Involved and Demonstration of Attainment: The following information provides a summary of this investigation:

- Site soils were impacted as a result of runoff from fighting a fire at the adjacent Miller Chemical & Fertilizer, LP property (see the attached Section 1.2 from this RI/FR). Other adjacent properties were affected as well, but will be addressed separately, as will groundwater.
- Emergency response measures included the installation of two interceptor trenches, placement of a gravel haul road, and installation of a one million gallon “pool” in an attempt to contain firefighting and surface water coming onto, and moving through the site.
- Given the size of the affected area, a sampling plan entitled “*Off-site Act 2 Soil Sampling and Analysis Plan*” (SAP) was submitted to the Department in November 2015. The purpose was to provide a sampling approach for characterizing soils and sediment across the affected properties.
- Contaminants of concern (COC) analytical parameters were determined using analysis of firewater, a surface soil sample from the northern drainage ditch on the Miller Chemical site, and chemical inventory review. Pesticides, herbicides, VOCs, SVOCs, PCBs, and reactive cyanide and sulfide were ruled out as COCs by various means. **TAL metals (listed above); TKN nitrate and nitrite; sulfate; and total phosphorus were retained as COCs.**
- Site soils were sampled in accordance with the SAP and include the following: 12 background samples (BA-BACK-01 to BA-BACK-12); 38 samples from the visibly affected area (BA-VA-01 to BA-VA-38); 19 delineation samples (BA-BS-01 to BA-BS-19); 8 samples from the dry creek (BA-DC-01 to BA-DC-08); 2 samples from the disturbed area (BA-DA-01 to BA-DA-02); and additional background samples SS3-F1-C and SB3-AGR. Samples from these various locations were a mixture of composite and grab samples.
- *Firefighting water released off-site contained dyes and other fertilizer constituents that resulted in visible discoloration of the water and surficial soils over which the water traveled* (November 2012 SAP). This site deviates from the normal Act 2 approach because soils in the “visually affected” area (shaded yellow in attached Figure 1-2 from this RI/FR) were able to be “visually characterized” and the impacted area was delineated using GPS. Samples collected from the visually affected area were permitted to be used as “attainment samples.” Samples were also collected on the fringes of the visually affected area to confirm the extent of contamination.
- Analytical results are summarized in the attached Conclusion section from this RI/FR.
- Attainment was not achieved for the reasons indicated below.

DEP Final Action: A Technical Deficiency Letter will be issued for the following reasons:

- 1.) The 95% UCL statistical analysis was completed to demonstrate attainment of the Statewide Health Standard for arsenic and manganese. The input parameters used in completing the analysis were not included in this submission. As a result, the analysis could not be fully evaluated.
- 2.) Calcium, magnesium, phosphorus, potassium, sodium, and sulfate were detected in site soils. These compounds do not have medium specific concentrations (MSCs) and were evaluated using the Site Specific Standard.
 - a. The ingestion pathway was evaluated for these compounds. However, the calculations used for this evaluation were not included.
 - b. The inhalation and direct contact pathways should also be evaluated for these compounds.
- 3.) Numerous other minor comments were provided via email and are summarized on the attached page(s).

DEP Contact: James E. Rea, P.G. **Phone:** 717.705.4850

Site Contact: Barbara Carbaugh, Bare Development, L.P. & Radio Hanover
Phone: 717.817.1374

Site Consultant: Sarah Stoneking, Ramboll Environ US Corporation **Phone:** 703.516.2407

jr

manufacturing facility and was operated by Union Fertilizer from the late 1930s until the mid-1940s as a fertilizer manufacturing facility. The property was acquired by Miller Chemical and Fertilizer Corporation in the mid-1940s and was operated by Miller Chemical and Fertilizer Corporation for fertilizer and pesticide formulation. By the early 1990s, the facility began shifting operations to fertilizer blending, and pesticide handling was limited to repackaging until 1995 when all pesticide handling operations ceased. Miller Chemical & Fertilizer, LLC acquired the Miller Chemical property and the assets of the business in 2014 and operated the facility for the formulation and packaging of fertilizers.

At the time of the fire, the Miller Chemical property was developed with an approximately 96,000-square foot main (production and warehouse) building, which was located in the center of the property (170 Radio Road), and three smaller buildings used for administrative activities (120 Radio Road), and for maintenance and document storage (150 Radio Road). Although the main building was mostly destroyed during the fire, construction of a new building within the same footprint is underway.

The areas surrounding the current and former buildings are landscaped with grass and other vegetation. A storm water retention pond is located northeast of the former building and connects to a storm water ditch located along the northern edge of the Miller Chemical property.¹ In addition, construction of a new storm water pond in the northwest portion of the site is ongoing.

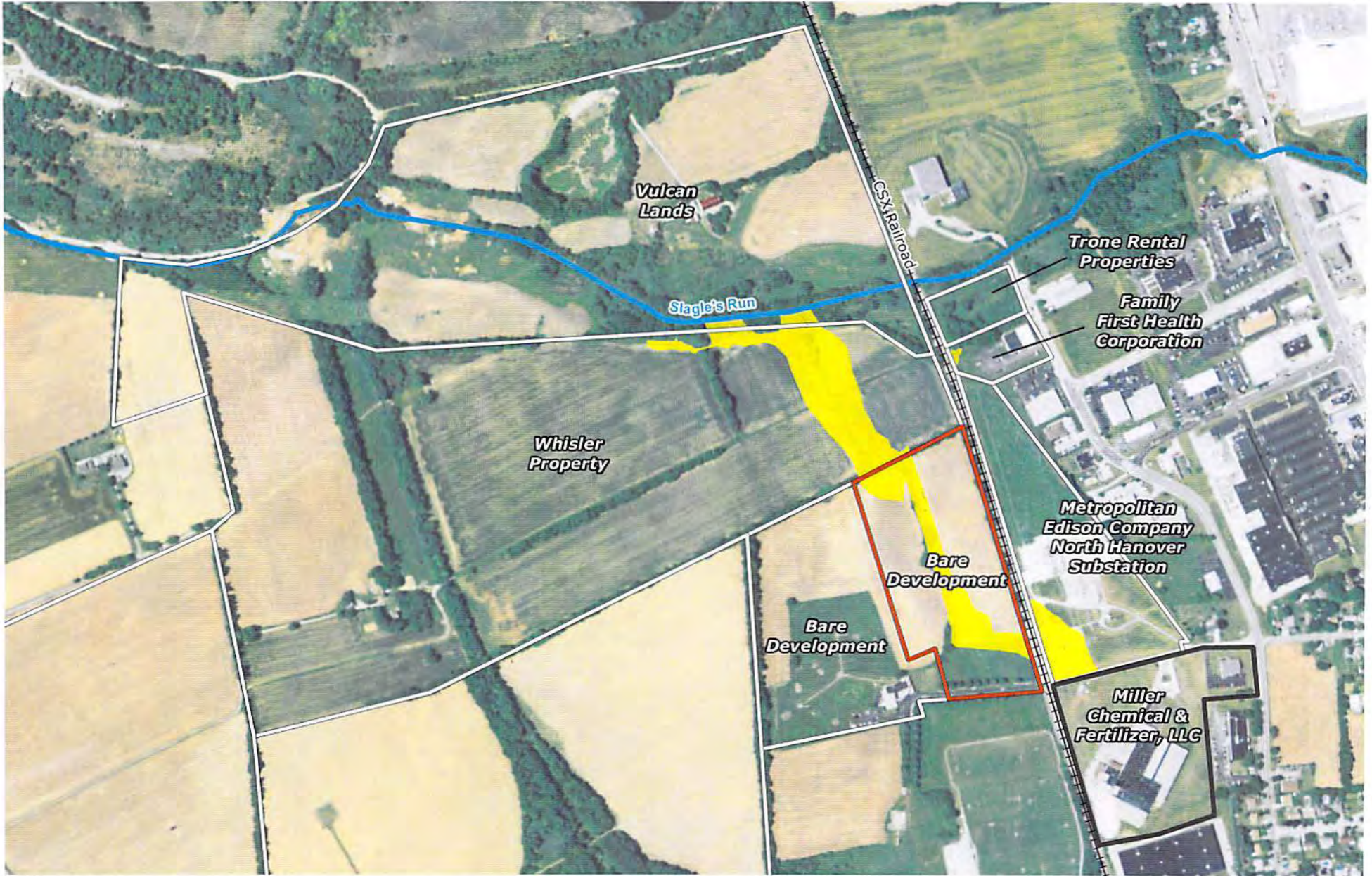
1.2 History of Events

At approximately 3:30 am on Monday, June 8, 2015, emergency responders were alerted to a fire at the Miller Chemical production and warehouse building located southeast of the Bare Development property. No one was inside the main building at the time and no injuries occurred while fighting the fire. Firefighters applied a large volume of water to extinguish the fire, as well as firefighting foam confirmed to be Universal Gold Alcohol Resistant Aqueous Film Forming Foam. A heavy rainfall occurred during the fire. Despite efforts to contain firefighting water and rainwater in the Miller Chemical property's retention pond and a series of connected pits excavated on the northwestern portion of the Miller Chemical property during the fire, runoff from firefighting activities traveled across various parcels, including the Bare Development property, towards Slagle's Run north of the Miller Chemical property (Figure 1-2). More specifically, the majority of the fire water flowed across the Miller Chemical property to a ditch running east-west along the north side of the Miller Chemical property, with a portion of the water flowing across the Miller Chemical property to a ditch running south-north along the west side of the property. Water in both ditches flowed to the northwest corner of the Miller Chemical property and through a culvert beneath Radio Road into the southwest corner of the Met-Ed property. During the early firefighting efforts, water also appears to have overtopped the drainage ditch on the Miller Chemical property and flowed across Radio Road onto the southwestern portion of the Met-Ed property. From the Met-Ed property, most of this water flowed through a corrugated metal drainage pipe beneath the CSX Transportation (CSX) rail tracks and onto the Bare Development property to the west, eventually discharging to Slagle's Run after crossing the Whisler property. A small portion of fire water flowed north along the east side of the CSX

¹ These observations are current as of June 2016. Ramboll Environ notes that reconstruction activities are ongoing at the Miller property, thus site conditions are changing daily.

rail tracks to the Family First Health Corporation property. Approximately 3.1 acres of the Bare Development site were visibly affected by the fire water.

Subsequent to the fire, water and storm water runoff generated at the Miller Chemical property was pumped into a number of above ground storage containers (i.e., frac tanks) located at the Miller Chemical property. In an effort to control additional storm water runoff from reaching Slagle's Run in the days after the fire, several trenches and pits were excavated within the adjacent agricultural fields near Slagle's Run; these pits have since been filled. In addition, a 1-million-gallon water holding tank (the "pool") was constructed on the Bare Development parcel to increase storm water runoff holding capacity. Water was pumped into the pool from the surrounding pits and drainage areas. A number of berms and other storm water diversions were also placed on the Miller Chemical property and on the agricultural parcels to reduce the flow of storm water from upgradient properties onto the Miller Chemical property and affected properties and to separate storm water from affected areas and unaffected areas.

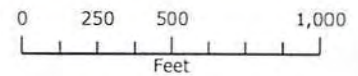


- Miller Chemical Property
- Other Off-Site Properties
- Eastern Parcel of Bare Development Property
- Visibly Affected Area

Imagery Source: Esri Streaming Imagery

Notes:

- (1) Location of the visibly affected area is based on the 8/28/2015 and 9/21/2015 surveys conducted by GHI and on GPS measurements collected by Ramboll Environ Staff. North of the Whisler Property, the location of the visibly affected area is based on field observations.
- (2) Visibly affected area on the Miller Chemical property is not shown on this figure.



8. CONCLUSION

Emergency response actions associated with a June 8, 2015 fire at the Miller Chemical facility, which is located southeast of the Bare Development property, resulted in the migration of fertilizer constituents in fire water runoff, which flowed across an approximately 3.1-acre portion of the Bare Development property. On behalf of Miller Chemical, Ramboll Environ investigated the nature and extent of soil impacts at the Bare Development property. Soils were analyzed for a broad suite of potential contaminants of concern, including metals and other fertilizer constituents. Results of the soil sample analysis indicate that only arsenic and manganese were detected at concentrations exceeding applicable Pennsylvania MSCs (i.e., the Residential MSC, Non-Residential MSC, and the Soil-to-Groundwater MSC) in visibly affected area soils. Consistent with 25 Pa. Code §250.707 (b)(1)(ii), Ramboll Environ demonstrated that the 95% UCL on the mean arsenic and manganese concentrations within visibly affected soils are less than the Residential MSCs, the Non-Residential MSCs, and the Soil-to-Groundwater MSCs. As such, the arsenic and manganese concentrations in soil at the Bare Development property are in attainment of the SHS.

Ramboll Environ also conducted a human health evaluation to assess the potential significance of detected constituents with no established MSCs. Based on the results of the evaluation, the detected concentrations of these constituents (calcium, magnesium, phosphorus, potassium, sodium, and sulfate) in soil at the Bare Development property do not represent a human health concern.

To address property owner concerns, soil fertility testing was conducted to assess the conditions for continued use of the visibly affected area for crop production. Based on the evaluation conducted by PSAASL, soil concentrations in the visibly affected area are consistent with a well fertilized area and do not represent conditions that would adversely affect agricultural use of the affected area. PSAASL recommended that potassium and phosphorus not be applied to the visibly affected area this (2016) growing season. The affected and unaffected areas should be resampled after the 2016 growing season to reassess nutrient levels prior to application of fertilizer for the 2017 growing season.

Finally, conduct of an ecological screening assessment in accordance with PADEP guidance did not identify habitats or species of concern on or adjacent to the site, and no migration pathways exist from the site to ecologically sensitive areas. As such, no further ecological evaluation is necessary.

Rea, James

From: Rea, James
Sent: Thursday, September 01, 2016 4:07 PM
To: 'Sarah Stoneking'; Mark Nielsen (mnielsen@ramboll.com)
Subject: Bare Development - Additional FR Comments

Sarah/Mark,

As discussed this morning below are comments concerning the Bare Development FR. This email is meant to supplement my August 22, 2016 email (see below). Some of these may overlap our discussion this morning. Once I receive the requested 95% UCL input data I will forward that to Central Office (CO) for their review. I will relay their comments once I receive them.

- 1.) Again, the 60 day review period ends on **September 13, 2016**.
- 2.) **Table 5-2** – include the sample number and whether the sample was a discrete or composite sample.
- 3.) Discuss why most of the Arsenic exceedances were detected in grab rather than composite samples.
- 4.) **Page 19 – 20** - Is a release of liability being requested for cobalt using the background standard?
- 5.) **Pages 20-22, Sections 6.3.1 – 6.3.2.2** – I want to run these sections past Pam, before commenting.
- 6.) **Page 26, Step 6** – include wetland locations on a figure (or reference a figure).
- 7.) **Page 27, Section 8.0**
 - a. Are the residential or non-residential medium specific concentrations (MSCs) being used?
 - b. What is the relief of liability covering? Designate the compounds, media, and standard (Statewide Health vs Site Specific as well as residential/nonresidential). The ROL should apply only to the site, i.e. the visibly affected areas.
- 8.) Once the 95% UCL information requested below is submitted, I will forward that information on to CO. Additional comments/questions may result from their review.
- 9.) Also include any relevant clarification details discussed in our phone conversation this morning.

As indicated this morning, I'm scheduled out of the office tomorrow and at least part of the day Tuesday; Monday is a holiday. Let me know if you have any questions.

James E. Rea, P.G. | Licensed Professional Geologist
Dept. of Environmental Protection | Environmental Cleanup and Brownfields
909 Elmerton Avenue | Harrisburg, PA 17110
Phone: 717.705.4850 | Fax: 717.705.4830
www.dep.state.pa.us

From: Rea, James
Sent: Monday, August 22, 2016 4:29 PM
To: 'mnielsen@ramboll.com'; 'Sarah Stoneking'
Cc: Horvath, Kathleen
Subject: Bare Development FR Comments/Questions

Mark/Sarah,

Below are some initial comments/questions concerning the Bare Development Final Report. I have not completed reviewing this report, so there will be additional comments/questions in the future.

- 1.) The 60 day review period ends on **September 13, 2016**.
- 2.) **Page 1, first paragraph** – this report is a request for a *relief* of liability.
- 3.) **Page 2, Section 1.2** – was the CSX property impacted?
- 4.) **Page 4, Section 2.1** – Show the wetlands on a figure and reference (see also Section 2.5, page 5).

5.) Pages 7-8, Section 3.2

- a. How were the discussed sample locations determined?
- b. Reference the appropriate section where the soil analytical parameters can be found, or include the analytical parameters in each discussion if there is variability between sample locations.
- c. Clarify what is meant by a "5 point composite" sample.
- d. Again, were these biased/random samples?

6.) Page 8, Section 3.3

- a. Designate which samples are being discussed.
- b. Are these biased?

7.) Page 10

- a. First paragraph – there is no medium specific concentration (MSC) for total chromium. In order to be conservative, the hexavalent chromium MSC should be used.
- b. Section 3.4.2 – designated which sample number and show on a figure. Does this single sample determine the analytical parameters for all subsequent soil samples?

8.) Page 14

- a. In order to maintain continuity, switch Sections 3 and 4. The report would flow better and be easier to follow.
- b. Section 4.1 – what was the Army Corps of Engineers role?

9.) Pages 15-16 - Is the relief of liability for the residential or non-residential Statewide Health Standard? Only discuss/Include MSCs for the standard being attained.

10.) Footnote 8

- a. Are the nitrate/nitrite calculations in the appendix?
- b. Aluminum, iron, potassium, sodium and sulfate were stated as being either not toxic or only have secondary MCLs. If not toxic, how was this determined?
- c. Table 5-2 – what is the purpose of the detected concentration to MSC ratio? Why are all the samples in the table listed as "off-site" ?

11.) 95% UCL – in order to evaluate the 95% UCL, put together/forward a table showing the concentrations, depths, and types (composite vs grab) of samples used in the evaluation.

As indicated in our conference call earlier today, I will be out of the office the remainder of the week. I'll be back in on Monday, August 29. Thanks.

James E. Rea, P.G. | Licensed Professional Geologist
Dept. of Environmental Protection | Environmental Cleanup and Brownfields
909 Elmerton Avenue | Harrisburg, PA 17110
Phone: 717.705.4850 | Fax: 717.705.4830
www.dep.state.pa.us

Site-specific Standard Checklist

Notice of Intent to Remediate

1. Site name and location information, including latitude and longitude
2. Description of site and intended future use of property
3. Contact information
 - a. Remediator
 - b. Owner
 - c. Consultant
4. Site map
5. Submit Public Involvement Plan (if requested by municipality)

-
-
-
-
-
-
- NA

Remedial Investigation Report, Risk Assessment Report, Cleanup Plan

1. Remedial Investigation Report
2. Risk Assessment Report (if necessary)
3. Cleanup Plan (if necessary)
4. Transmittal sheet
5. Notification
 - a. Proof of publication of a summary of the reports and plan in a newspaper
 - b. Proof of submission of the reports and plan to municipality
6. Fees

-
- NA
- NA
-
-
-
-
- With other package

Final Report

1. Transmittal Sheet
2. Notification
 - a. Proof of publication of NIR newspaper notice
 - b. Proof of submission of NIR to municipality
 - c. Proof of publication of final report newspaper notice
 - d. Proof of submission of final report to municipality
3. Fees
4. Final Report Summary per on-line format
5. Final Report
 - a. Site name and location information, including municipality, county, and latitude and longitude
 - b. Remediation
 - c. List of contaminants
 - d. Attainment demonstration
 - i. Residential or Non-residential
 - ii. Groundwater
 - iii. Soils
 - iv. If applicable
 - (1) Surface water requirements
 - (2) Air Quality requirements

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- NA
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- NA

- e. Narrative of site and remediation
 - i. History of site and land use
 - ii. Use of regulated substances on site
 - iii. Remediation performed
 - iv. Volume of contaminants remediated
- f. Post remediation care plan
- g. Contact information
 - i. Remediator
 - ii. Owner
 - iii. Consultant
- h. Attachments, including
 - i. Analytical results
 - ii. As applicable:
 - (1) Tables
 - (2) Maps and
 - (3) Figures
- i. Signatures

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Preparer Name Christopher Bowles

Preparer Signature 

Date 10/27/2016

SECTION 1



COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF ENVIRONMENTAL PROTECTION
BUREAU OF ENVIRONMENTAL CLEANUP AND BROWNFIELDS
LAND RECYCLING PROGRAM

Land Recycling Program Transmittal Sheet for Plan/Report Submission

Instructions: Please provide all requested information in each of the four sections. This transmittal sheet shall accompany any plan/report submitted to the Department under the Land Recycling Program. Proper completion of the Transmittal Sheet will assist Department review and may avoid a finding of plan/report deficiency. The Facility ID number can be obtained from the Department's Environmental Cleanup Program in the region where the site is located.

Section 1 - Site Identification

eFACTS Facility ID Site ID: 815505

Site Name Bare Development Property

Site Address 275 Radio Road, Hanover, PA 17331

Municipality and County Conewago Township; Adams County

Section 2 - Remediation Standard . . Plan/Report . . Fees

Identify the remediation standard being pursued and the type of plan/report being submitted. Please note required Department fees follow each type of plan/report.

Check the relevant standard and the type of plan/report being submitted.

- | | |
|--|---|
| <input type="checkbox"/> Background Standard
Final Report (\$250 fee) | <input checked="" type="checkbox"/> Statewide Health Standard
Final Report (\$250 fee) |
| <input checked="" type="checkbox"/> Site-Specific Standard | <input type="checkbox"/> Special Industrial Area |
| <input checked="" type="checkbox"/> Remedial Investigation Report
(\$250 fee) | <input type="checkbox"/> Work Plan
(no fee) |
| <input type="checkbox"/> Risk Assessment Report
(\$250 fee) | <input type="checkbox"/> Baseline Environmental Report
(no fee) |
| <input type="checkbox"/> Cleanup Plan (\$250 fee) | |
| <input checked="" type="checkbox"/> Final Report (\$500 fee) | |

Ensure your check covers all required fees and is made payable to the Commonwealth of Pennsylvania.

Section 3 - Municipal/Public Notice Confirmation

There are two stages in the Land Recycling Program where municipal and public notices are required. Read the information associated with each stage. You will be asked to confirm that information establishing your compliance with these notification requirements has been included with this submission.

Check here if you are planning to meet the Background or Statewide Health Standard and your Final Report has been submitted within 90 days of the release.

Indicate date of release here _____

No further completion of this section is required if your Final Report for these two standards conforms to the 90 day time frame.

Stage 1 - Notice of Intent to Remediate (NIR)

Check here to confirm you have included proof that a copy of your NIR was provided to each municipality where your site is located. Proof will be a copy of your cover letter and a copy of a signed certified mail receipt slip from the municipality.

Check here to confirm a copy of a proof of publication document from a newspaper serving the area of your site has been included with this submission.

Check here to indicate that a Site-Specific Standard or a Special Industrial Area is involved and a municipal request was received for development of a public involvement plan. The plan/report submission shall include municipality and public comments, which were submitted, and your responses to those comments.

Stage 2 - Cleanup Plan/Report Submission

6/2/2016 Place date here that each municipality was notified of any plan or report submitted under any of the three remediation standards.

Hanover Evening Sun 6/2/2016 Place the newspaper name and date that your notice of your plan/report submission was published.

Section 4 - Project Contact

On the lines below, place the name, company, and business phone number of the individuals who can be contacted regarding this submission:

<u>Sarah Stoneking, Ramboll Environ US Corporation</u>	<u>703-516-2407</u>
<u>Mark Nielsen, Ramboll Environ US Corporation</u>	<u>215-523-5602</u>
<u>Tony Hartlaub, Miller Chemical & Fertilizer, LLC</u>	<u>717-632-8921</u>

SECTION 2

Proof of Publication
State of Pennsylvania

AD # 0001597972-01

The Evening Sun is the name of the newspaper(s) of general circulation published continuously for more than six months at its principal place of business, 37 Broadway Street, Hanover, PA.

The printed copy of the advertisement hereto attached is a true copy, exactly as printed and published, of an advertisement printed in the regular issues of the said The Evening Sun published on the following dates, viz:

4/7/2016

NEWSPAPER NOTIFICATION

Bare Development Property (Correction)

Pursuant to the Land Recycling and Environmental Remediation Standards Act, the act of May 19, 1995, P.L. 4, No. 1995-2, notice is hereby given that Miller Chemical & Fertilizer, LLC (Miller Chemical) has submitted to the Pennsylvania Department of Environmental Protection a Notice of Intent to Remediate a site located at 275 Radio Road, Conewago Township, Adams County. This Notice of Intent to Remediate states that the site is an agricultural property owned by Bare Development L.P. and Radio Hanover. The site has been found to be impacted by fertilizer constituents mobilized by fire-fighting emergency response activities performed on June 8, 2015 at the Miller Chemical facility located at 170 Radio Road in Hanover. Runoff of the fire-fighting water carried fertilizer constituents from the Miller Chemical site, including metals and nutrients, which were suspected to have contaminated soil at the property owned by Bare Development L.P. and Radio Hanover. Soils from background and visibly affected areas were sampled for metals and nutrients. The future use of the property is expected to remain in agricultural or other unrestricted use. Concentrations of constituents of potential concern in site soils are below the Statewide Health Standards established for residential site use or are not of concern given the results of a background and site-specific analysis (for those constituents without Statewide Health Standards). As such, Miller Chemical has not proposed remediation measures.

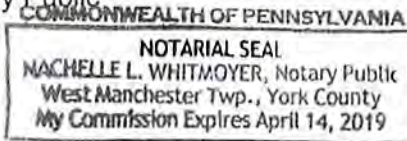
Miller Chemical plans to use the site-specific standard at the site for fertilizer constituents for which Statewide Health Standards do not exist. The Act provides for a 30-day public comment period for site-specific standard remediations. The 30-day comment period is initiated with the publication of this notice. Until May 7, 2016, Conewago Township may submit a request to Miller Chemical during this 30-day comment period to develop and implement a public involvement plan. Copies of these requests and of any comments should also be submitted to the Department of Environmental Protection at 909 Elmerton Avenue, Harrisburg, PA 17110-8200, Attn: Richard Kaiser.

COMMONWEALTH OF PENNSYLVANIA
COUNTY OF YORK

Before me, a Notary Public, personally came Pam Rodencal who being duly sworn deposes and says that she is the Legal Advertising Clerk of The Evening Sun and her personal knowledge of the publication of the advertisement mentioned in the foregoing statement as to the time, place and character of publications are true, and that the affiant is not interested in the subject matter of the above mentioned advertisement.

Sworn and subscribed to before me, on
this 7 day of April 2016

Nachelle L. Whitmoyer } *Pam Rodencal*
Notary Public



The charge for the following publication of above mentioned advertisement and the expense of the affidavit.

Advertisement Cost	\$147.20
Affidavit Fee	\$5.00
Total Cost	\$152.20

Ms. Barbara Krebs
Township Manager
Conewago Township
541 Oxford Avenue
Hanover, PA 17331

**RE: Notice of Intent to Remediate to Statewide Health, Background
and Site Specific Standards
Bare Development Property
275 Radio Road
Conewago Township
Adams County**

Dear Ms. Krebs,

The Land Recycling and Environmental Remediation Standards Act (Act 2) requires that a Notice of Intent to Remediate (NIR) a site be provided to the municipality in which the site is located. In accordance with this provision of Act 2, we are formally notifying you of our intent to remediate the subject site. A copy of the Notice of Intent to Remediate, which has been sent to the Department of Environmental Protection (DEP), is enclosed. This notice will also be published in the Pennsylvania Bulletin, and a summary of the notice will be placed in a local newspaper.

Publication of this notice in a local newspaper initiates the 30-day public and municipal comment period. During this time, your municipality may request to become involved in the development of remediation and reuse plans for the site. If the municipality wishes to become involved in this project, please send your comments to the Department of Environmental Protection at 909 Elmerton Avenue, Harrisburg, PA 17110-8200 to the attention of the case manager, Mr. Richard Kaiser.

Date March 29, 2016

Ramboll Environ
4350 North Fairfax Drive
Suite 300
Arlington, VA 22203
USA

T +1 703 516 2300
F +1 703 516 2345
www.ramboll-environ.com

Should you have any questions or comments regarding the proposed remediation, please feel free to contact me at (703) 516-2407.

Yours sincerely,

A handwritten signature in black ink, appearing to read "Sarah Stoneking". The signature is fluid and cursive, with the first name "Sarah" and last name "Stoneking" clearly distinguishable.

Sarah Stoneking
Senior Manager

D +1 703 516 2407
ssoneking@ramboll.com

Attachment A
Notice of Intent to Remediate



For DEP Use Only
TF # _____
Rem ID # _____

NOTICE OF INTENT TO REMEDIATE

Act 1995-2 requires four general information items to be included in the NIR: the general location, listing of contaminants, intended use of property, and proposed remediation measures. In addition, indicate the standard(s) to be obtained (if known) and attach a scaled site map (if available).

Property Name Bare Development

Former Name(s) / AKA _____

Address / Location 275 Radio Road

City Hanover Zip Code 17331

Municipality(s) Hanover County(ies) Adams

Latitude 39 ° (deg). 49 ' (min) 14.50 " (sec) Longitude 77 ° (deg). 0 ' (min) 16.59 " (sec)

Horizontal Collection Method EMAP

Horizontal Reference Datum EMAP Reference Point Center of Bare Development Parcel

Wish to participate in the DEP/EPA MOA. Contact Troy Conrad at tconrad@state.pa.us for details.

EPA ID#, if known none identified

DEP ID#(s), if known none identified
 (i.e., eFACTS site ID#, storage tank facility ID#, water quality permit #, watershed permit, air quality permit #, etc.)

Date Release Occurred (if known) June 8, 2015

Provide a brief description of the site contamination in plain language (e.g. fuel oil spill, historical chemical industrial area contamination), the names of any know primary contaminants to be addressed, and the intended future use of the property.

Identified impacts at the Bare Development property resulted from the migration of fire-fighting water during emergency response activities related to the June 8, 2015 fire at the Miller Chemical & Fertilizer, LLC (Miller Chemical) facility located at 170 Radio Road in Hanover. The fire water carried fertilizer constituents from the Miller Chemical site. Constituents of potential concern include metals and nutrients and as such, soil samples from background and visibly affected areas have been collected and analyzed for the presence of metals, nitrate, nitrite, total kjeldahl nitrogen, sulfate, and phosphorus. The intended future use of the property is agricultural. As a conservative measure, concentrations of constituents of potential concern were evaluated with respect to future unrestricted site use.

Provide a general description of proposed remediation measures.

No remediation measures are proposed at this property because measured concentrations of constituents of potential concern in site soil are below the Statewide Health Standards for unrestricted site use, are below background, or are not of concern given the results of a site specific analysis (for those constituents without Statewide Health Standards).

Remediation Standard(s) planned (if known at this time):

- | | | |
|---|--|--------------------------------------|
| <input type="checkbox"/> Unknown at this time | <input type="checkbox"/> Soil | <input type="checkbox"/> Groundwater |
| <input checked="" type="checkbox"/> Background
Contaminants: Co | <input checked="" type="checkbox"/> Soil | <input type="checkbox"/> Groundwater |
| <input checked="" type="checkbox"/> Statewide Health - Residential
Contaminants: aluminum, antimony, arsenic, barium, beryllium, boron, cadmium, calcium, total chromium, cobalt, copper, iron, lead, manganese, mercury, molybdenum, nickel, selenium, silver, thallium, vanadium, zinc, nitrate, nitrite | <input type="checkbox"/> Soil | <input type="checkbox"/> Groundwater |
| <input type="checkbox"/> Statewide Health - Non-Residential
Contaminants: | <input checked="" type="checkbox"/> Soil | <input type="checkbox"/> Groundwater |
| <input checked="" type="checkbox"/> Site Specific
Contaminants: potassium, phosphorous, sulfate, total kjeldahl nitrogen, magnesium, sodium, calcium | <input checked="" type="checkbox"/> Soil | <input type="checkbox"/> Groundwater |
| <input type="checkbox"/> Special Industrial Area*
Contaminants: | <input type="checkbox"/> Soil | <input type="checkbox"/> Groundwater |

*NOTE: Specific standard or Special Industrial Area require a 30-day municipal comment period

Remediator / Property Owner / Consultant. Complete the form below for each recipient obtaining a release of liability upon approval of the final report. Attach additional sheets as necessary.

Remediator		
Contact Person/Title <u>Tony Hartlaub/ VP Finance</u>	eFACTS Client ID* <u>553873</u>	
Relationship to Site <u>Remediator</u> (e.g. owner, remediator, participant in cleanup, consultant, etc.)	Client Type* <u>LLC</u>	
Phone Number <u>717-632-8921</u>	Email Address <u>Tonyhartlaub@millerchemical.com</u>	
Company Name <u>Miller Chemical & Fertilizer, LLC</u>	EIN or Federal ID # <u>46-5407027</u>	
Address (street, city, state, zip) <u>120 Radio Road, Hanover, PA 17332</u>		

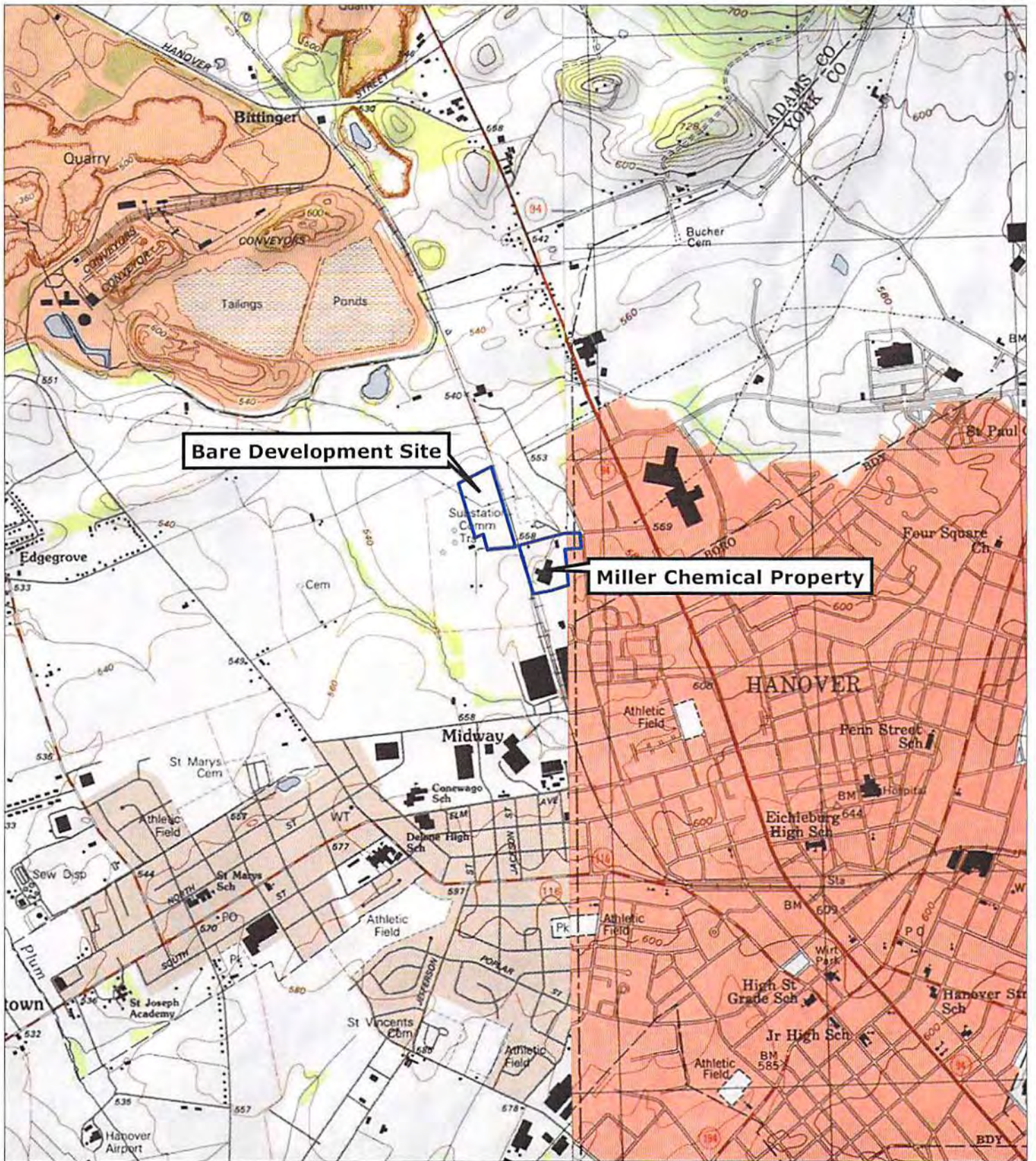
Property Owner		
Contact Person/Title <u>Barbara Carbaugh</u>	eFACTS Client ID* _____	
Relationship to Site <u>Owner</u> (e.g. owner, remediator, participant in cleanup, consultant, etc.)	Client Type* <u>Other</u>	
Phone Number <u>717-817-1374</u>	Email Address <u>bcarbaugh@thepeak985.com</u>	
Company Name <u>Bare Development, L.P. & Radio Hanover, Inc.</u>	EIN or Federal ID # _____	
Address (street, city, state, zip) <u>PO Box 234, Hanover, PA 17331</u>		

Consultant		
Contact Person/Title <u>Sarah Stoneking</u>	eFACTS Client ID* _____	
Relationship to Site <u>Consultant</u> (e.g. owner, remediator, participant in cleanup, consultant, etc.)	Client Type* <u>Other</u>	
Phone Number <u>703-516-2407</u>	Email Address <u>sstoneking@ramboll.com</u>	
Company Name <u>Ramboll Environ US Corporation</u>	EIN or Federal ID # <u>52-1248616</u>	
Address (street, city, state, zip) <u>4350 North Fairfax Drive, Suite 300, Arlington, VA 22203</u>		

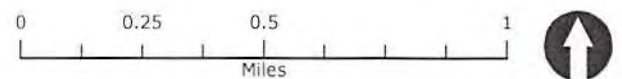
*Include eFACTS Client ID (if known) – "Client Types" below:		
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Authority	Limited Liability Partnership	Partnership-Limited
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Estate/Trust	Non-Pennsylvania Government	Sole Proprietorship
Federal Agency	Other (Non-Government)	State Agency
Individual	Pennsylvania Corporation	

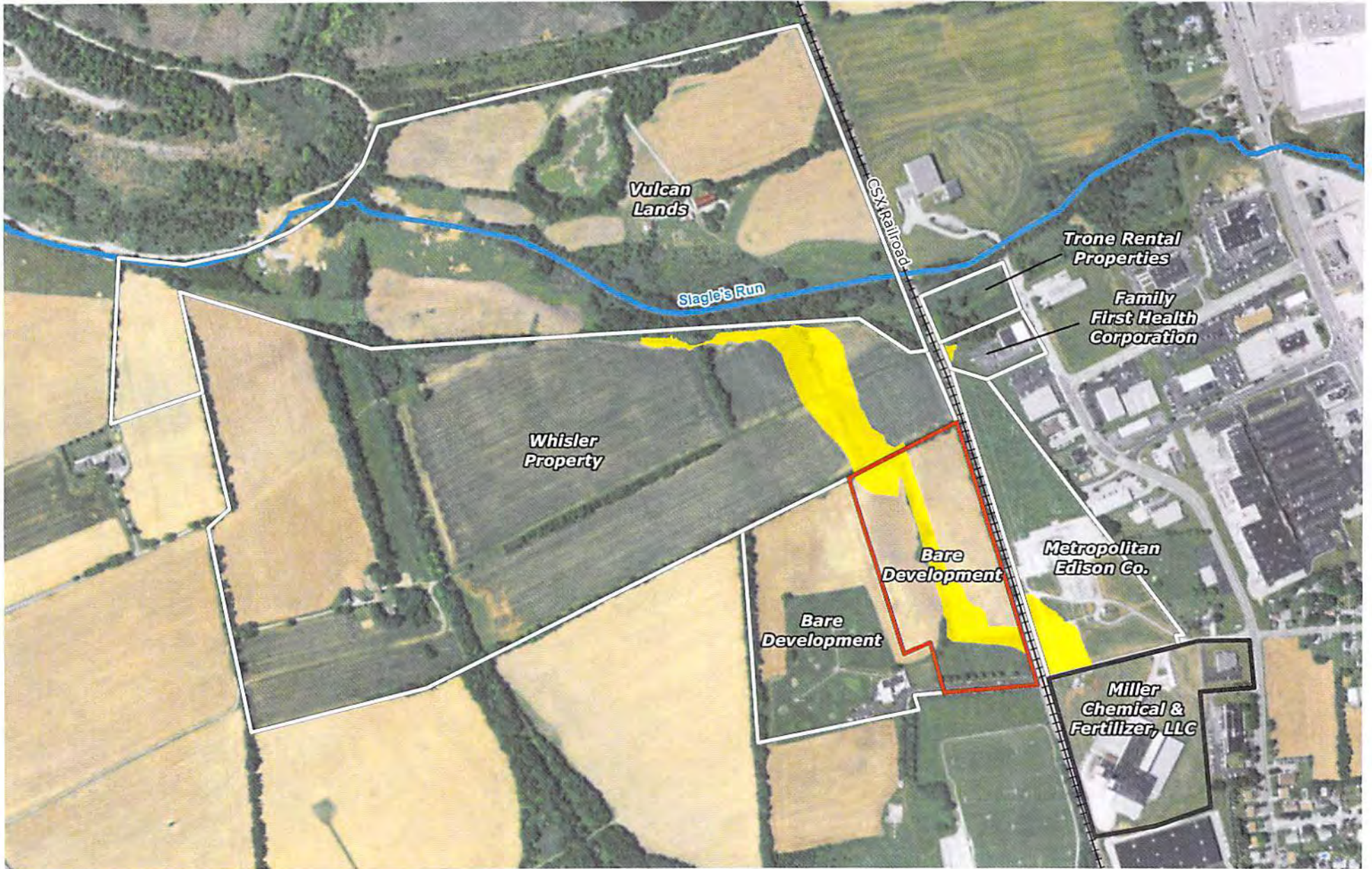
Preparer of Notice of Intent to Remediate		
Name <u>Mark Nielsen</u>	Title <u>Principal</u>	
Phone Number <u>215-532-5602</u>	Email Address <u>mnielsen@ramboll.com</u>	
Company Name <u>Ramboll Environ US Corporation</u>	eFACTS Client ID _____	

Address (street, city, state, zip) 1760 Market Street, Suite 1000, Philadelphia, PA 19103



SCALE 1:24,000

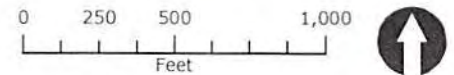




- Miller Chemical Property
- Other Off-Site Properties
- Bare Development Property
- Visibly Affected Area

Imagery Source: Esri Streaming Imagery

Notes:
 (1) Visibly affected area extended to Slagle's Run north of the Whisler Property.
 (2) Visibly affected area on the Miller Chemical property is not shown on this figure.



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Conewago Township
Ms. Barbara Krebs, Township
Manager
541 Oxford Avenue
HANOVER, PA US 17331
717 537-3411

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Signed for by: S.SCHMIDT



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Proof of Publication
State of Pennsylvania

AD # 0001609936-01

The Evening Sun is the name of the newspaper(s) of general circulation published continuously for more than six months at its principal place of business, 37 Broadway Street, Hanover, PA.

The printed copy of the advertisement hereto attached is a true copy, exactly as printed and published, of an advertisement printed in the regular issues of the said **The Evening Sun** published on the following dates, viz:



**NEWSPAPER NOTIFICATION
Bare Development Property**

Notice is hereby given that Miller Chemical & Fertilizer, LLC (Miller Chemical) has submitted a final report to the Pennsylvania Department of Environmental Protection, South-central Regional Office, to demonstrate attainment of the Statewide health standard for the Bare Development property located at 275 Radio Road, Conewago Township, Adams County. Miller Chemical has indicated that the remediation measures taken have attained compliance with the Statewide health clean up standard established under the Land Recycling and Environmental Remediation Standards Act.

This notice is made under the provision of the Land Recycling and Environmental Remediation Standards Act, the Act of May 19, 1995, P.L. #4, No. 2.

6/2/2016

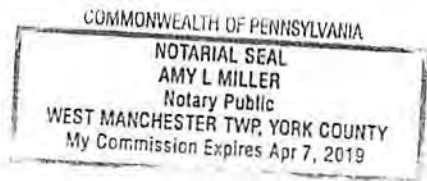
**COMMONWEALTH OF PENNSYLVANIA
COUNTY OF YORK**

Before me, a Notary Public, personally came Pam Rodencal who being duly sworn deposes and says that she is the Legal Advertising Clerk of The Evening Sun and her personal knowledge of the publication of the advertisement mentioned in the foregoing statement as to the time, place and character of publications are true, and that the affiant is not interested in the subject matter of the above mentioned advertisement.

Sworn and subscribed to before me, on
this 2 day of June 2016

Amy L Miller }
Notary Public

Pam Rodencal



The charge for the following publication of above mentioned advertisement and the expense of the affidavit.

Advertisement Cost	\$60.08
Affidavit Fee	\$5.00
Total Cost	<u>\$65.08</u>

Ms. Barbara Krebs
Township Manager
Conewago Township
541 Oxford Avenue
Hanover, PA 17331

**RE: Notice of Final Report Submission for Statewide Health
Standards
Bare Development Property
275 Radio Road
Conewago Township
Adams County**

Dear Ms. Krebs,

Notice is hereby given that Miller Chemical & Fertilizer, LLC has submitted a final report to the Department of Environmental Protection for the Bare Development property located at 275 Radio Road, west of High Street, Conewago Township, Adams County. The report indicates that the remediation performed has attained compliance with the statewide health cleanup standard.

This notice is made under the provision of the Land Recycling and Environmental Standards Act, the Act of May 19, 1995, P.L. 4, No. 2.

Yours sincerely,



Sarah Stoneking
Senior Manager

D +1 703 516 2407
sstoneking@ramboll.com

Date June 1, 2016

Ramboll Environ
4350 North Fairfax Drive
Suite 300
Arlington, VA 22203
USA

T +1 703 516 2300
F +1 703 516 2345
www.ramboll-environ.com



June 13, 2016

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SECTION 3



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FINAL REPORT SUMMARY

The Final Report Summary (FRS) is a brief report consisting of set of data required in addition to the Act 2 Final Report. The summary is used in part as a reference to the Final Report Approval Letter which conveys liability relief to the remediator and other applicable persons. It is of value long after the remediation to be used by the public and Department in understanding key information about the site and remediation.

This use is increased by the fact that it will ultimately be merged into the Department's eFACTS system, which allows the public to have the ease of computer access to environmental information at sites. For more information, see www.ahs.dep.pa.gov/eFACTSWeb/default.aspx. Finally, the summary will be used by the Department to help to better assess the status and the level of success of the program. In the past, numbers of sites remediated has been tracked. With the inclusion of this summary information, progress can be tracked in many specific ways, including identification of individual chemical constituents, and the mass treated, removed or managed safely in place.

Identification

Property Name Bare Development Property

Property Descriptor Agricultural fields and a radio station.

Address / Location

Address 275 Radio Road

City Hanover Zip Code 17331

Municipality(s) Conewago Township County(ies) Adams

Latitude 39 ° (deg). 49 ' (min) 14.50 " (sec) Longitude -77 ° (deg). 0 ' (min) 16.59 " (sec)

Horizontal Collection Method EMAP

Horizontal Reference Datum EMAP Reference Point Center of Bare Development Parcel

Property Specifics

Size of Property Eastern Parcel (~14.9 acres); Western Parcel (~17.1 acres)

Number of Sites 1 (two adjoining parcels)

Combined acreage of sites ~32 acres

Remediation

Standards attained or special industrial area attainment. (Check all that apply. Can use multiple.)

- Background Statewide Health Site-Specific Special Industrial Area

Proposed future property use - scenario for which the attainment of Statewide Health standard is demonstrated

- Residential Non-residential

List of contaminants

Soils

Chemical Name	CAS Number	Mass Contaminant Treated or Removed (lbs.)	Mass Contaminant Managed on Site (lbs.)
Aluminum	7429-90-5	0	0
Antimony	7440-36-0	0	0
Arsenic	7440-38-2	0	0
Barium	7440-39-3	0	0
Beryllium	7440-41-7	0	0
Boron	7440-42-8	0	0
Cadmium	7440-43-9	0	0
Calcium	7440-70-2	0	0
Chromium (total)	7440-47-3	0	0

Cobalt	7440-48-4	0	0
Copper	7440-50-8	0	0
Iron	7439-89-6	0	0
Lead	7439-92-1	0	0
Magnesium	7439-95-4	0	0
Manganese	7439-96-5	0	0
Mercury	9439-97-6	0	0
Molybdenum	7439-98-7	0	0
Nickel	7440-02-0	0	0
Nitrite	14797-65-0	0	0
Nitrate	14797-55-8	0	0
Phosphorus	7723-14-0	0	0
Potassium	7440-09-7	0	0
Selenium	7782-49-2	0	0
Silver	7440-28-0	0	0
Sodium	7440-23-5	0	0
Sulfate	14808-79-8	0	0
Thallium	7440-28-0	0	0
Total Kjehdahl Nitrogen	7727-37-9	0	0
Vanadium	7440-62-2	0	0
Zinc	7440-66-6	0	0

Groundwater

Chemical Name	CAS Number	Mass Contaminant Treated or Removed (lbs.)	Mass Contaminant Managed on Site (lbs.)

Remediation

Number of sampling rounds for groundwater attainment: NA

Special Features

Non-use aquifer approval date: _____

Area-wide background approval date: _____

Amount of waste removed other than soil or groundwater (cubic yards): _____

Municipal ordinance prohibiting groundwater use:

Not applicable

Post remediation care plan:

Not applicable

Other Programs

- Key Site
- Multi-site Agreement; Date: _____
- Enterprise Zone
- Keystone Opportunity Zone

Administrative

- Municipality request for public involvement plan

Deed notification

- Deed acknowledgment:

Not applicable

- Environmental covenant:

Not applicable

Cleanup cost (\$): _____

Jobs created/saved: _____

Narrative: Provide property history and description, site characterization findings, site description, summary of remediation, summary of attainment demonstration, description of pathway elimination, engineering and institutional controls, and benefits of land reuse, when applicable.

Emergency response actions associated with a June 8, 2015 fire at the Miller Chemical facility, which is located southeast of the Bare Development property, resulted in the migration of fertilizer constituents in fire water runoff, which flowed across an approximately 3.1-acre portion of the Bare Development property. On behalf of Miller Chemical, Ramboll Environ investigated the nature and extent of soil impacts at the Bare Development property. Soils were analyzed for a broad suite of potential contaminants of concern, including metals and other fertilizer constituents. Results of the soil sample analysis indicate that only arsenic and manganese were detected at concentrations exceeding Pennsylvania Residential MSCs in visibly affected area soils.

Consistent with 25 Pa. Code §250.707 (b)(1)(ii), Ramboll Environ demonstrated that the 95% UCL on the mean arsenic and manganese concentrations within visibly affected soils are less than the Residential MSCs. As such, the arsenic and manganese concentrations in soil at the Bare Development property are in attainment of the SHS.

Ramboll Environ also conducted a human health evaluation to assess the potential significance of detected

constituents with no established MSCs. Based on the results of the evaluation, the detected concentrations of these constituents (calcium, magnesium, phosphorus, potassium, sodium, and sulfate) in soil at the Bare Development property do not represent a human health concern.

To address property owner concerns, soil fertility testing was conducted to assess the conditions for continued use of the visibly affected area for crop production. Based on the evaluation conducted by the Penn State Agricultural Analytical Services Laboratory (PSAASL), soil concentrations in the visibly affected area are consistent with a well fertilized area and do not represent conditions that would adversely affect agricultural use of the affected area. PSAASL recommended that potassium and phosphorus not be applied to the visibly affected area this (2016) growing season. The affected and unaffected areas should be resampled after the 2016 growing season to reassess nutrient levels prior to application of fertilizer for the 2017 growing season.

Finally, conduct of an ecological screening assessment in accordance with PADEP guidance did not identify habitats or species of concern on or adjacent to the site, and no migration pathways exist from the site to ecologically sensitive areas. As such, no further ecological evaluation is necessary.

Based on the above, Relief of Liability is being sought for the following compounds in soil at the Bare Development property under the Residential Statewide Health Standard:

- Aluminum, antimony, arsenic, barium, beryllium, boron, cadmium, chromium, cobalt, copper, iron, lead, manganese, mercury, molybdenum, nickel, selenium, silver, thallium, vanadium, and zinc;
- Nitrogen, nitrate, and nitrite.

Relief of Liability is also being sought for the following constituents, for which MSCs have not been developed, under the Site Specific Standard:

- Calcium
- Magnesium
- Phosphorous
- Potassium
- Sodium
- Sulfate

Remediator / Property Owner / Consultant. Complete the form below for each recipient obtaining a release of liability upon approval of the final report. Attach additional sheets as necessary.

Remediator

Contact Person/Title Tony Hartlaub/ VP Finance eFACTS Client ID* 320516
 Relationship to Site Remediator Client Type* LLC
 (e.g. owner, remediator, participant in cleanup, consultant, etc.)
 Phone Number 717-632-8921 Email Address Tonyhartlaub@millerchemical.com
 Company Name Miller Chemical & Fertilizer, LLC EIN or Federal ID # 46-5407027
 Street Address 120 Radio Road
 City Hanover State PA Zip Code 17332

Property Owner

Contact Person/Title Barbara Carbaugh eFACTS Client ID* _____
 Relationship to Site Owner Client Type* Other
 (e.g. owner, remediator, participant in cleanup, consultant, etc.)
 Phone Number 717-817-1374 Email Address bcarbaugh@thepeak895.com
 Company Name Bare Development, L.P. & Radio Hanover EIN or Federal ID # _____
 Street Address PO Box 234
 City Hanover State PA Zip Code 17331

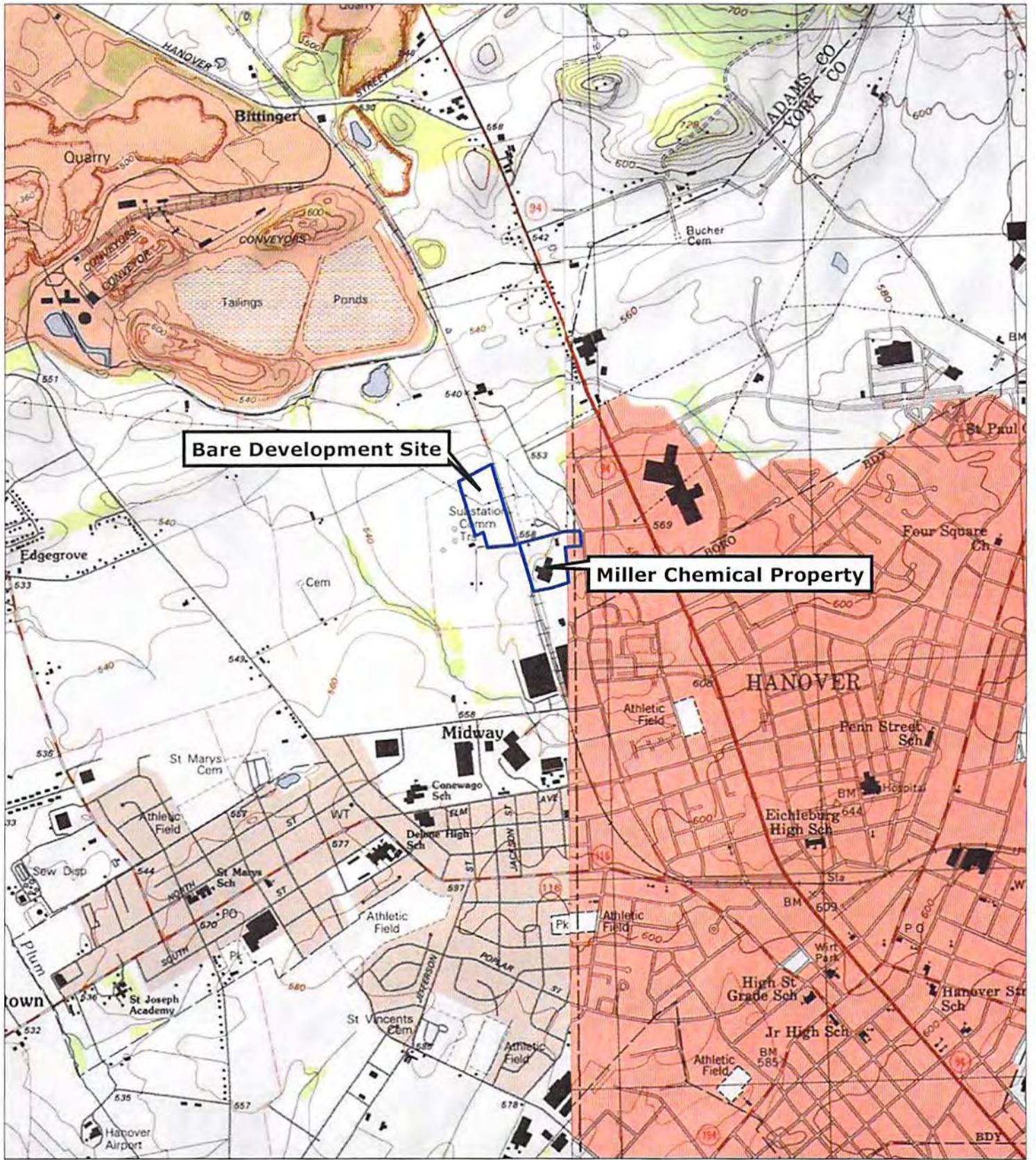
Consultant

Contact Person/Title Sarah Stoneking eFACTS Client ID* 274925
 Relationship to Site Consultant Client Type* Other (Non Government)
 (e.g. owner, remediator, participant in cleanup, consultant, etc.)
 Phone Number 703-516-2407 Email Address sstoneking@ramboll.com
 Company Name Ramboll Environ US Corporation EIN or Federal ID # 52-1248616
 Street Address 4350 North Fairfax Drive, Suite 300
 City Arlington State VA Zip Code 22203

*Include eFACTS Client ID (if known) – "Client Types" below:

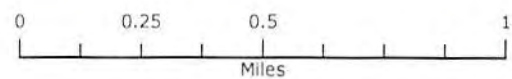
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Authority	Limited Liability Partnership	Partnership-Limited
County	Municipality	School District
Estate/Trust	Non-Pennsylvania Government	Sole Proprietorship
Federal Agency	Other (Non-Government)	State Agency
Individual	Pennsylvania Corporation	

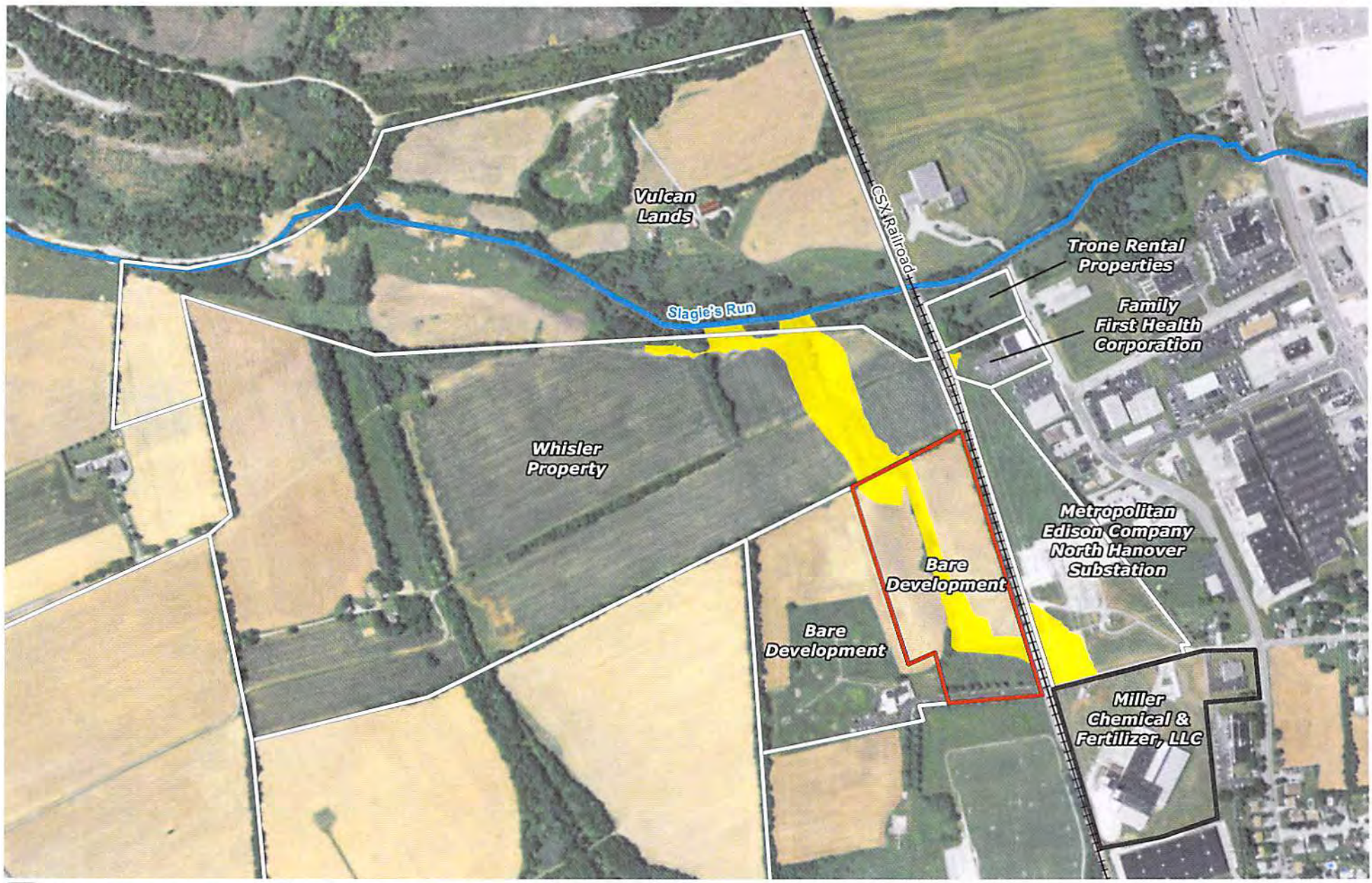
Attachments: In addition to the data entered in this FRS, the Department requests scanned image(s) of a map view of the site indicating, at a minimum, the boundaries of the "site" relative to the locations of the adjacent property boundaries. The location of the site (as defined by Act 2) is that which will receive the liability relief conveyed by Act 2, Chapter 5. The maps may portray other features but should clearly show the Act 2 site boundaries. You may also attach other applicable image files or attachments. These files should be in Adobe Acrobat (*.pdf), GIF (*.gif) or JPEG file interchange format (*.jpg).



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Source: USGS 7.5 minute (topographic) quadrangles
Hanover and McSherrystown, Pennsylvania

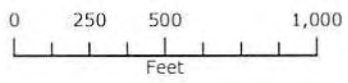




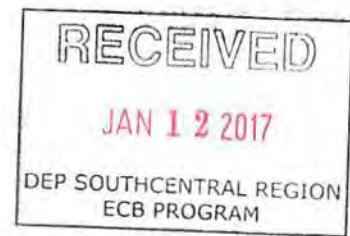
- Miller Chemical Property
- Other Off-Site Properties
- Eastern Parcel of Bare Development Property
- Visibly Affected Area

Imagery Source: Esri Streaming Imagery

Notes:
 (1) Location of the visibly affected area is based on the 8/28/2015 and 9/21/2015 surveys conducted by GHI and on GPS measurements collected by Ramboll Environ Staff. North of the Whisler Property, the location of the visibly affected area is based on field observations.
 (2) Visibly affected area on the Miller Chemical property is not shown on this figure.



SECTION 4



Prepared for:
Miller Chemical & Fertilizer, LLC
Hanover, Pennsylvania

Prepared By:
Ramboll Environ US Corporation
Arlington, Virginia
Princeton, New Jersey

Date
January 2017

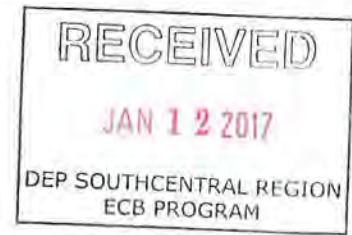
Project Number
01-137782A

REMEDIAL INVESTIGATION AND FINAL REPORT

BARE DEVELOPMENT PROPERTY

275 RADIO ROAD, HANOVER, PENNSYLVANIA

REMEDIAL INVESTIGATION AND FINAL REPORT



Revision **2**
Date **January 11, 2017**
Prepared by **Kevin Long and Christopher Bowles**
Checked by **Sarah Stoneking**
Approved by **J. Mark Nielsen, P.E.**
Description **Remedial Investigation and Final Report
Bare Development Property,
275 Radio Road, Hanover, Pennsylvania**

Ref 01-137782A

REMEDIAL INVESTIGATION AND FINAL REPORT

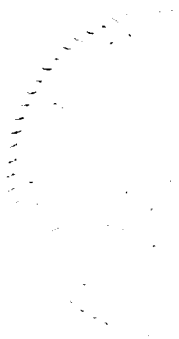
Pursuant to the requirements of the Pennsylvania Land Recycling and Environmental Remediation Standards Act (Act 2), adopted August 16, 1997, which state that:

Interpretation of geologic and hydrogeologic data shall be prepared by a professional geologist licensed in this Commonwealth

I hereby attest that, as a Professional Geologist licensed in the Commonwealth of Pennsylvania, I am familiar with, and have reviewed and/or prepared the interpretation of the geology and hydrogeology presented in the attached report entitled:

Remedial Investigation and Final Report, Bare Development Property, 275 Radio Road, Hanover, Pennsylvania, dated January 2017.

Based on the available data represented in the report, I believe that the geologic and hydrogeologic interpretations made herein are reasonable and accurate.



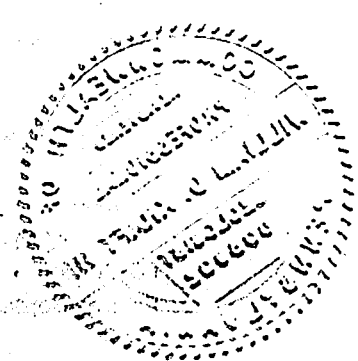
William A Kraft PG

William Kraft, PG

PG-003902

Expires September 2017

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Appendix D:	Miller Site Soil Characterization Sample Analytical Data Package, Data Summary and Figure
Appendix E:	Laboratory Data Package for Phase Separation Science Organics Water
Appendix F:	Soil Grain Size Analysis
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Appendix M:	Bog Turtle Survey

1. INTRODUCTION

On behalf of Miller Chemical & Fertilizer, LLC (Miller), Ramboll Environ US Corporation (Ramboll Environ) has prepared this Final Report for the Bare Development property located at 275 Radio Road in Hanover, Conewago Township, Adams County, Pennsylvania (the "site") (Figure 1-1). This RI and Final Report presents the results of investigation activities conducted to evaluate potential impacts relating to the mobilization of fertilizer constituents from the Miller Chemical property by fire water during and subsequent to emergency fire-fighting response efforts at the Miller Chemical facility on June 8, 2015. Section 1 of this report provides information relating to the Miller Chemical operations and the fire. Section 2 of this report provides background information relating to the Bare Development property operations and setting, and surrounding area geology, hydrogeology, and meteorology. A summary of the soil investigation activities, modifications to the *Miller Chemical & Fertilizer, LLC, 170 Radio Road, Hanover, Pennsylvania Off-Site Act 2 Soil Sampling and Analysis Plan* (the "SAP"), and the analyte selection process are described in Section 3 of this report. Section 4 contains a discussion of emergency response measures that have occurred on the Bare Development property. Section 5 presents the soil sampling results, and Section 6 contains a demonstration of attainment of applicable soil standards. Section 7 of this report presents the conclusions of the ecological risk review. Section 8 provides a summary of conclusions.

The investigation activities described herein were conducted pursuant to the requirements of the Land Recycling and Environmental Standards Act (Act 2) as set forth in Title 25, Chapter 250 regulations, promulgated by the Pennsylvania Department of Environmental Protection (PADEP). The purpose of this report is to demonstrate attainment of Act 2 standards for compounds evaluated in soil at the Bare Development property and qualification for a Relief of Liability pursuant to Act 2. This report also applies a Site Specific approach to evaluate constituents for which no media specific concentrations (MSCs) have been developed.

A Notice of Intent to Remediate (NIR) was submitted to PADEP on April 19, 2016. A copy of the NIR was also submitted to the local municipality (Conewago Township) and a legal notification was published in the Hanover Evening Sun. The NIR states that chemicals of concern (COCs) will be addressed under the Statewide Health Standards (SHS) for unrestricted site use, an evaluation of background soil concentrations, or a site specific approach (for constituents for which no MSCs have been developed). Copies of notification documents are included in Appendix A.

Emergency fire-fighting response activities also affected other properties. Separate NIRs have been submitted to demonstrate attainment for COCs evaluated in soil at other affected properties; in addition, demonstration of attainment with Act 2 standards for groundwater will be submitted under a separate NIR and will be evaluated holistically across all potentially affected properties.

1.1 Miller Chemical Information

The Miller Chemical facility is located at 120, 150, and 170 Radio Road in Hanover, Conewago Township, Adams County, Pennsylvania and is approximately 13-acres in size. The Miller Chemical property was first developed in the late 1930s as a fertilizer manufacturing facility and was operated by Union Fertilizer from the late 1930s until the

mid-1940s as a fertilizer manufacturing facility. The property was acquired by Miller Chemical and Fertilizer Corporation in the mid-1940s and was operated by Miller Chemical and Fertilizer Corporation for fertilizer and pesticide formulation. By the early 1990s, the facility began shifting operations to fertilizer blending, and pesticide handling was limited to repackaging until 1995 when all pesticide handling operations ceased. Miller Chemical & Fertilizer, LLC acquired the Miller Chemical property and the assets of the business in 2014 and operated the facility for the formulation and packaging of fertilizers.

At the time of the fire, the Miller Chemical property was developed with an approximately 96,000-square foot main (production and warehouse) building, which was located in the center of the property (170 Radio Road), and three smaller buildings used for administrative activities (120 Radio Road), and for maintenance and document storage (150 Radio Road). Although the main building was mostly destroyed during the fire, construction of a new building within the same footprint is underway.

The areas surrounding the current and former buildings are landscaped with grass and other vegetation. A storm water retention pond is located northeast of the former building and connects to a storm water ditch located along the northern edge of the Miller Chemical property.¹ In addition, construction of a new storm water pond in the northwest portion of the site is ongoing.

1.2 History of Events

At approximately 3:30 am on Monday, June 8, 2015, emergency responders were alerted to a fire at the Miller Chemical production and warehouse building located southeast of the Bare Development property. No one was inside the main building at the time and no injuries occurred while fighting the fire. Firefighters applied a large volume of water to extinguish the fire, as well as firefighting foam confirmed to be Universal Gold Alcohol Resistant Aqueous Film Forming Foam. A heavy rainfall occurred during the fire. Despite efforts to contain firefighting water and rainwater in the Miller Chemical property's retention pond and a series of connected pits excavated on the northwestern portion of the Miller Chemical property during the fire, runoff from firefighting activities traveled across various parcels, including the Bare Development property, towards Slagle's Run north of the Miller Chemical property (Figure 1-2). More specifically, the majority of the fire water flowed across the Miller Chemical property to a ditch running east-west along the north side of the Miller Chemical property, with a portion of the water flowing across the Miller Chemical property to a ditch running south-north along the west side of the property. Water in both ditches flowed to the northwest corner of the Miller Chemical property and through a culvert beneath Radio Road into the southwest corner of the Met-Ed property. During the early firefighting efforts, water also appears to have overtopped the drainage ditch on the Miller Chemical property and flowed across Radio Road onto the southwestern portion of the Met-Ed property. From the Met-Ed property, most of this water flowed through a corrugated metal drainage pipe beneath the CSX Transportation (CSX) rail tracks and onto the Bare Development property to the west, eventually discharging to Slagle's Run after crossing the Whisler property. A small portion of fire water flowed north along the east side of the CSX

¹ These observations are current as of June 2016. Ramboll Environ notes that reconstruction activities are ongoing at the Miller property, thus site conditions are changing daily.

rail tracks to the Family First Health Corporation property.² Approximately 3.1 acres of the Bare Development site were visibly affected by the fire water.

Subsequent to the fire, water and storm water runoff generated at the Miller Chemical property was pumped into a number of above ground storage containers (i.e., frac tanks) located at the Miller Chemical property. In an effort to control additional storm water runoff from reaching Slagle's Run in the days after the fire, several trenches and pits were excavated within the adjacent agricultural fields near Slagle's Run; these pits have since been filled. In addition, a 1-million-gallon water holding tank (the "pool") was constructed on the Bare Development parcel to increase storm water runoff holding capacity. Water was pumped into the pool from the surrounding pits and drainage areas. A number of berms and other storm water diversions were also placed on the Miller Chemical property and on the agricultural parcels to reduce the flow of storm water from upgradient properties onto the Miller Chemical property and affected properties and to separate storm water from affected areas and unaffected areas.

² Soil was observed to have accumulated near the Inlet (east side) to the culvert pipe running beneath the CSX tracks. The accumulated soil was removed by CSX and disposed at Modern landfill by Miller Chemical.

2. SITE SETTING

2.1 Site Description

The Bare Development property (the "site") is located at 275 Radio Road in Hanover, Conewago Township, Adams County, Pennsylvania and comprises approximately 32 acres. The eastern parcel (parcel identification number 08L13-0051-000) was visibly affected by the fire. The location of the site is shown on the United States Geological Survey (USGS) topographic map for the McSherrytown quadrangle (Figure 1-1). The Bare Development property is comprised of several agricultural fields and a radio station. The site is improved with one building that occupies approximately 11,500 square feet located in the south central area and a radio broadcast tower that occupies that the southwestern area. A wetland is present in the southeastern portion of the site. The wetland area discharges to the dry creek that runs south to north through the center of the eastern parcel; a narrow area of land adjacent to the dry creek has also been designated as wetland; a figure prepared by Johnson, Mirmiran & Thompson (JMT) and depicting the mapped wetland areas is included as Appendix B to this report.

The visibly-affected area of the Bare Development property includes an area encompassing approximately 3.1 acres that originates from the corrugated metal pipe running underneath the CSX rail tracks from the Met-Ed property and generally runs south to north along the dry creek (Figure 1-2).

2.2 Site History

Based on a review of a historical aerial photographs, topographic maps, and discussions with the Bare Development property representatives, the site appears to have been developed for agricultural land use purposes as early as 1937. A residence appears to have been located in close proximity to the radio station as early as 1937. The residence no longer exists; based on the documents reviewed, the radio station appears to have been constructed between 1968 and 1981. Based on Ramboll Environ's review, it does not appear that the site was used for any other industrial or commercial purpose.

2.3 Climate

Hanover, Pennsylvania has an average annual temperature of 53 degrees Fahrenheit, average annual humidity of 72%, and averages approximately 39 inches of precipitation annually.³ Approximately half of the annual precipitation returns to the atmosphere through evapotranspiration. The amount of precipitation that recharges to groundwater in this region of Pennsylvania typically averages approximately 30% of the total precipitation amount, with the rest flowing into surface water bodies (Reese & Risser, 2010). This suggests that approximately 11.7 inches of precipitation reaches groundwater per year; although factors such as soil type, precipitation rates, ratio of pervious to impervious surfaces, and the slope of the ground will impact the infiltration rate.

³ <http://www.usclimatedata.com/climate/hanover/pennsylvania/united-states/uspa0672>;
<http://www.wunderground.com/personal-weather-station/dashboard?ID=KPAHANOV9>.

2.4 Topography

Topography at the site is generally characterized by a gentle slope to the north. Surface elevations range from approximately 550 feet above mean sea level (AMSL) in the south of the property to approximately 535 feet AMSL in the north central area of the property. The Bare Development property is bounded on the east side by the CSX rail line, which is situated on an approximately 4 foot high berm.

2.5 Site and Surrounding Area Geology/Hydrogeology

The site is located within the southwestern portion of the Piedmont Lowland Section of the Piedmont Province. The Piedmont Lowland Section consists of karst valleys separated by broad, low hills (Sevon, 2000). The rock is complexly folded and faulted and dominantly consists of limestone and dolomite with some shale and sandstone. The Conestoga Limestone crops out within the site vicinity. This formation dominantly consists of thinly-bedded, dark-gray limestone with some shale. Underlying the limestone is black to dark-gray shale and limestone, which may be over 1,000 feet in thickness (Taylor & Royer, 1981).

According to the United States Department of Agriculture (USDA) Natural Resources Conservation Service (NRCS) Web Soil Survey, the natural surface soils within the vicinity of the site are identified as the Conestoga silt loam, which is characterized as well drained, the Dunning silty clay loam, which is characterized as very poorly drained, and the Penlaw silt loam, which is characterized as somewhat poorly drained.⁴

A wetland, which receives storm water flow from the Met-Ed property via a culvert under the CSX rail tracks, exists along the southeastern corner of the Bare Development property (see Figure 2-1). The wetland drains into a dry ditch (referred to as the "dry creek"), which eventually drains to Slagle's Run, a tributary of the South Branch of Conewago Creek; the dry creek and a narrow strip of land adjacent the dry creek is also considered wetland.

2.6 Current and Future On-site Land Use

As discussed in Section 2.1, the Bare Development property contains a radio station and a radio broadcast tower; in addition, undeveloped portions of the property are used for agricultural purposes. The site is currently zoned for commercial land use (i.e., Highway Commercial) by Conewago Township.⁵ The Conewago Township Comprehensive Plan (the "Comprehensive Plan;" 2008)⁶ calls for the parcel to remain used for commercial purposes. The Comprehensive Plan notes that portions of the parcel may be designated as conservation zone. Zoning documents are available in Appendix C.

2.7 Current and Future Surrounding Land Use

The Bare Development property is bounded to the east by the CSX rail line, beyond which is the Met-Ed property. The Met-Ed property is developed as an electrical substation and is improved with high-voltage transformers and a power distribution grid. The properties immediately to the west and north are used for agricultural purposes with some residences located on the western properties. The property to the south is primarily athletic fields.

⁴ <http://websoilsurvey.nrcs.usda.gov>

⁵ <http://www.conewagotwp.org/departments/zoning-codes/>.

⁶ <http://www.conewagotwp.org/departments/zoning-codes/comprehensive-plan/>.

With the exception of the agricultural fields to the west (zoned for suburban residential), these land uses are generally consistent with Conewago Township's current zoning. The Comprehensive Plan calls for the properties west and north of Bare Development to be rezoned as agricultural; the properties east and south will remain as they are currently zoned, with the exception of portions of the Bare Development and Met-Ed parcels which may be designated as conservation zones.

2.8 Groundwater Use

To evaluate groundwater use at properties in the vicinity of the site, Ramboll Environ conducted a water well search in June 2015 that was subsequently updated in February 2016. The water well survey identified 15 withdrawal water wells (commercial, domestic, industrial, and/or agricultural) and 64 other types of wells (monitoring, observation, injection, mine, test, unused) within a 1-mile radius of the Miller Chemical property (Figure 2-2); the nearest domestic water well was identified approximately 2,700 feet south of the Bare Development property. In addition, a nearby land owner noted that a spring is located in the vicinity of a residence on the Whisler Property, approximately 2,600 feet west of the dry creek.

Groundwater is not currently used at the site. With the exception of the spring located near the residence on the Whisler property, no potable water wells were identified within a one mile radius in the presumed downgradient direction (north to northwest). In the future, while it is expected that water will continue to be provided to the site and surrounding parcels by Hanover Municipal Water Works, Ramboll Environ did not identify local ordinances that would restrict the future installation of potable or non-potable wells at or in vicinity of the site; as such, the future use of groundwater as a drinking water source cannot be ruled out.

Potential groundwater effects related to the fire at the Miller Chemical property will be assessed separately.

3. EMERGENCY RESPONSE MEASURES

As part of the emergency response to the fire, certain emergency response activities occurred prior to the preparation of the Act 2 report and are discussed in further detail below:

- Excavation of trenches;
- Placement of gravel Haul Road; and
- Installation of the million-gallon pool.

3.1 Excavation of Trenches

As part of the emergency response, a storm water interceptor trench was installed on the southeastern agricultural field of the Bare Development property (herein referred to as "Trench A"; Figure 2-1). Trench A was approximately 70 feet in length and was dug to a depth of approximately four feet bgs. Under the direction of WCD, Conewago Enterprises, Inc. (Conewago) filled the trench in and re-graded the area on September 29, 2015; Ramboll Environ observed and documented the restoration activities and marked the footprint of the trench after the area was restored. In addition, a trench was dug along the northern boundary of the Bare Development to facilitate flow within the dry creek (herein referred to as "Trench B"; Figure 2-1). Trench B was approximately 80 feet in length and was dug to depths ranging from approximately one to four feet bgs. Trench B was restored by Conewago under the direction of Ramboll Environ between December 7 and 8, 2015. This work was conducted in accordance with a restoration work plan which was approved by the United States Army Corps of Engineers (USACE) on November 16, 2015⁷. As discussed in Section 4.2 of this report, soils within the restored area of Trench A and from the base of Trench B (prior to restoration) were sampled as part of the Act 2 soil sampling.

3.2 Placement of Gravel Haul Road

As part of the emergency response, a gravel road was constructed along the western side of the dry creek (herein referred to as the "Haul Road"; see Figure 2-1). The Haul Road is approximately 1,200 feet in length and allowed emergency response vehicles to access the million-gallon pool and the Whisler parcel to the north. As part of the Act 2 work plan, soils in the vicinity of the Haul Road (but not beneath the gravel road itself) were sampled to evaluate potential impacts.

3.3 Installation of Million-Gallon Pool

As part of the emergency response efforts, a million-gallon aboveground pool was installed in the south-central portion of the Bare Development property (Figure 2-1). This pool was constructed to increase storm water runoff holding capacity. Water was pumped into the pool from the surrounding pits and drainage areas and was subsequently characterized and disposed off-site. Following cessation of active water collection on the agricultural properties in late September 2015, the pool was disassembled and the area was regraded and seeded on October 22 and 23, 2015, respectively. Soils within the footprint of the pool were sampled as part of this Act 2 investigation.

⁷ Restoration activities were conducted under Federal authorization from the US Army Corps of Engineers due to the identification of the dry creek as designated wetland.

4. SOIL CHARACTERIZATION SCOPE OF WORK

Ramboll Environ conducted soil sampling activities as described in the following documents:

- The SAP, which was approved by PADEP on November 3, 2015, and subsequently revised to respond to additional off-site property owner comments.
- SAP Addendum titled Additional Sampling for Agricultural Properties and Off-Site Soil Stockpiles, and dated December 17, 2015, which describes the collection of additional composite soil samples for analysis by the Pennsylvania State University College of Agricultural Sciences Agricultural Analytical Services Laboratory.
- Email SAP Addendum dated March 16, 2016. The SAP Addendum included the re-sampling of a single sample location (BA-VA-24; 1 to 2 feet bgs) for which the initial manganese result of 30,000 mg/kg appeared to be an outlier. The property owners and PADEP were notified of the additional sampling via e-mail on March 16, 2016. The additional sampling was conducted on March 17, 2016, following property owner approval.

The sampling activities were conducted in accordance with the approved SAP with the following modifications:

- One boundary sample (BA-BS-19) was collected along the eastern site boundary, but within the visibly affected area within the wetland, adjacent to the CSX rail tracks. This boundary sample was treated as a visibly affected area sample for data evaluation purposes.

4.1 Pre-Mobilization Activities

Pre-mobilization activities included a preliminary meeting with representatives of Bare Development, preparation of a site Health and Safety Plan (HASP), mark-out of public subsurface utilities by the Pennsylvania One-Call service, preparation of a topographic survey by a licensed land surveyor, and field mapping of the visibly-affected areas.

4.2 Act 2 Soil Sample Collection

Ramboll Environ conducted the Act 2 soil sampling activities from November 13 to November 20, 2015. An additional, supplemental sample was collected on March 17, 2016. Soil sampling activities included the collection of twelve background soil samples (BA-BACK-01 to BA-BACK-12), thirty-eight visibly affected area samples (BA-VA-01 to BA-VA-38), nineteen delineation (or boundary) samples (BA-BS-01 to BA-BS-19), eight dry creek samples (BA-DC-01 to BA-DC-08), and two disturbed area samples (BA-DA-01 and BA-DA-02). For data evaluation purposes, Ramboll Environ also considered the results for two additional background soil samples (SS3-F1-C and SB3-AGR) that were collected in June 2015 as part of fire response activities. The sampling locations are depicted on Figure 4-1. Ramboll Environ also collected seven duplicate soil samples and six equipment rinse blanks for quality assurance purposes. Per an email addendum to the SAP, Ramboll Environ re-sampled soil near BA-VA-24 on March 17, 2016.

Act 2 soil samples were collected at pre-specified depth intervals using the procedures documented in the Act 2 Off-Site SAP and summarized briefly below.

Background Samples (BA-BACK-01 to BA-BACK-12)

Background soil samples were collected as grab soil samples from twelve visibly unaffected locations on the Bare Development property. Soil samples were collected from 0 to 3 inches bgs; 6 to 12 inches bgs; and 1 to 2 feet bgs at each background soil sample location. In addition, soil samples were collected from a depth of 4 to 5 feet bgs at three locations (BA-BACK-03, BA-BACK-06, and BA-BACK-09). Background soil samples collected in June 2015 were collected from the upper three inches of soil using similar methodologies.

Visibly Affected Area (BA-VA-01 to BA-VA-38)

Five point composite soil samples were collected at a depth Interval of 0 to 3 inches bgs at each visibly affected area location. In addition, at approximately 33% of the sample locations, 14 deeper soil samples were collected as discrete grab samples from depths of 1 to 2 feet bgs and 4 to 5 feet bgs (including one duplicate collected at each depth).⁸

Boundary Samples (BA-BS-01 to BA-BS-19)

Soil samples were collected from the boundary of the visibly affected area at a rate of approximately one sample per 150 linear feet. Boundary samples were collected as five-point composite soil samples from a depth interval of 0 to 3 inches bgs.

Dry Ditch (BA-DC-01 to BA-DC-09)

Soil samples were collected from the base of the dry ditch approximately every 150 linear feet along the ditch. These samples were collected as five point composite soil samples from a depth of 0 to 3 inches bgs.

Disturbed Areas (BA-DA-01 to BA-DA-02)

Two trenches were dug on the Bare Development property during the initial response efforts; these trenches were subsequently backfilled. To evaluate the native soil beneath these features, Ramboll Environ collected soil samples from the base of these features and collected additional soil samples every 5 feet below the base of these features, to the water table, or to refusal, whichever was encountered first.

Soil samples were packaged in laboratory-provided containers, labelled, placed on ice, and delivered under chain-of-custody protocols to Phase Separation Science, Inc. (PSS) and ALS for laboratory analysis. These laboratories are Pennsylvania certified for the constituents that were analyzed (listed below in Section 4.5).

4.3 Agricultural Soil Sample Collection

To further evaluate nutrients for which no SHSs have been established, a total of four composite soil samples (BDCSS-01020; BDCSS-01060; BDCSS-02020; and BDCSS-02060) were collected for analysis by Penn State Agricultural Analytical Services Laboratory (PSAASL) on December 15, 2015. Agricultural samples were collected as composite samples from depths of 0 to 2 inches bgs and 2 to 6 inches bgs (referred to herein as "surface" and "shallow," respectively). One set of surface and shallow soil samples were collected from within the visibly affected area and another set was collected from background locations,

⁸ Due to the presence of approximately two feet of gravel at BA-VA-34, the first at-depth sample was collected at 2 to 3 feet bgs; in addition, at the same location, refusal was encountered at 4.5 feet bgs thus one sample was collected at 3.5 to 4.5 feet bgs.

resulting in the collection of four samples. Each composite sample was comprised of 15 discrete soil samples; the discrete sample locations were selected in the field to provide uniform coverage across the Bare Development property with an emphasis on portions of the parcel that are used for agricultural purposes (rather than tree covered portions of the parcel or areas within the footprint of the dry creek). Figure 4-2 presents the locations where the individual discrete samples were collected.

4.4 Act 2 Analyte Selection Process

Ramboll Environ conducted a review of available information from Miller Chemical and PADEP to evaluate potential analytes that could have been present in fire water flows, and to identify the list of potential COCs. This review began with an assessment of broad spectrum sampling data from affected soil and fire water and then extended to a review of Miller Chemical's chemical inventories and product composition information. More specifically, Ramboll Environ relied upon the following information sources:

- Analytical results for fire water samples collected on-site immediately following the fire and analyzed for an extensive analyte list (as described in further detail below);
- Analytical results for soil samples collected from the visibly worst-affected areas of the Miller Chemical property shortly following the fire (e.g., the on-site drainage ditch) and analyzed for an extensive analyte list (as described in further detail below);
- Product and raw materials inventories review; and
- Data that PADEP collected immediately after the fire.

4.4.1 Fire Water Analysis

Environmental Products & Services of Vermont, Inc. (EPS), the emergency response contractor appointed by Adams County, collected a sample of fire water on June 9, 2015. The sample was submitted to Pace Analytical Services, Inc. in Greensburg, Pennsylvania for analysis of the parameters listed below, and certain additional waste characterization parameters, such as pH, flashpoint, etc.:

- Total phosphorus by Standard Method (SM) 4500-P E;
- TKN by USEPA Method 351.2;
- Nitrate (as N) by SM 4500-NO3 F;
- Nitrite by Method SM 4500-NO2 B;
- Metals including: antimony, arsenic, barium, beryllium, cadmium, chromium (total), copper, lead, nickel, selenium, silver, thallium, and zinc by USEPA Method 6010B;
- Mercury by USEPA Method 7470A;
- Polychlorinated biphenyls (PCBs) by USEPA Method SW-846 8082;
- Reactive cyanide by USEPA Method SW-846 7.3.3.2;
- Reactive sulfide by USEPA Method SW-846 7.3.4.2; and
- Toxicity characteristic leaching procedure (TCLP) pesticides by USEPA Method SW-846 8081A;
- TCLP metals by USEPA Method SW-846 6010B;

- TCLP semi-volatile organic compounds (SVOCs) by USEPA Method SW-846 8270C;
- TCLP VOCs by USEPA Method SW-846 8260B;
- TCLP herbicides by USEPA Method SW-8406 8151A (analyzed by Summit Environmental Technologies, Inc.).

Results for the fire water analysis were non-detect for leachable (TCLP) pesticides, PCBs, leachable (TCLP) SVOCs, leachable (TCLP) VOCs, reactive cyanide, and reactive sulfide. Certain of the metals were also non-detect. Detected constituents and parameters included total phosphorus, TKN, nitrate, nitrite, sulfate, certain metals, and select leachable (TCLP) metals including arsenic, chromium (total), and lead⁹.

4.4.2 Miller Site Surface Soil

On June 15, 2015, Ramboll Environ collected a surface soil sample (SS8-IS-A-061515) from a heavily impacted drainage ditch along the northern boundary of Miller Chemical property. This sample was submitted for laboratory analysis of the following constituents:

- Total phosphorus (as P) by USEPA Method 365.1;
- Total Kjeldahl nitrogen (TKN) by Standard Method (SM) 4500-NH3 C-1997;
- Nitrate (as N), nitrite (as N), and sulfate by USEPA Method 300.0;
- Target Analyte List (TAL) metals including: aluminum, antimony, arsenic, barium, beryllium, cadmium, chromium (total), cobalt, copper, iron, lead, manganese, mercury, nickel, potassium, selenium, silver, sodium, thallium, and zinc by USEPA Method SW-846 6020A;
- Organochlorine pesticides by USEPA Method SW-846 8081B;
- Organophosphorus compounds by USEPA Method SW-846 8141B;
- Chlorinated herbicides by USEPA Method SW-846 8151A;
- TCLP metals by USEPA Method SW-846 6020A;
- TCLP organochlorine pesticides by USEPA Method SW-846 8081B;
- TCLP chlorinated herbicides by USEPA Method SW-846 8151A;
- TCLP volatile organic compounds (VOCs) by USEPA Method SW-846 8260B; and
- TCLP organophosphorus compounds by USEPA Method SW-846 8141B.

Results for the soil sample were non-detect for chlorinated herbicides, leachable (TCLP) metals, leachable (TCLP) organochlorine pesticides, leachable (TCLP) organochlorine herbicides, leachable (TCLP) VOCs, and organophosphorus compounds; a map showing the approximate sample location, a data summary of detected constituents, and the complete analytical data report are included as Appendix D.¹⁰ A single organochlorine pesticide

⁹ Based on information provided to PADEP indicating that Miller Chemical did not use or store chemicals or raw materials containing hexavalent chromium, the Department verbally agreed that testing for total chromium and application of the trivalent chromium MSC would be appropriate for this site.

¹⁰ The laboratory analytical report included results for samples collected from other properties and media, which are not pertinent to the evaluation discussed in Section 4.4; data for these samples has been redacted from the analytical data report provided in Appendix D.

(methoxychlor) was detected at a concentration of 1.2 milligrams per kilogram (mg/kg) in the soil sample. The measured concentration of methoxychlor is well below the Statewide Health Standards of 630 mg/kg for protection of groundwater and 1,100 mg/kg for direct contact at residential properties. Ramboll Environ also notes that methoxychlor was not detected in subsequent, additional soil characterization samples collected from the Miller Chemical property. Remaining detected parameters included total phosphorus, TKN, nitrate, nitrite, sulfate, and certain metals.

4.4.3 Chemical Inventory Review

As part of the chemical inventory review, Ramboll Environ reviewed product and raw materials inventories provided by Miller Chemical (including estimates of the amount of material present on the Miller Chemical property at the time of the fire and, for certain materials, estimates of the amount of material recovered after the fire). Ramboll Environ also interviewed representatives of Miller Chemical regarding chemical use and reviewed Safety data sheets (SDSs) and other publicly available information (e.g., product labels) regarding the composition of materials listed on the inventories.

More specifically, Ramboll Environ reviewed chemical composition information listed on SDSs and labels provided by Miller Chemical or available through Miller Chemical-specific online portals. Ramboll Environ also reviewed other publicly available SDS repositories not associated with Miller Chemical to identify SDSs associated with Miller Chemical. Given the overall number of chemicals present on-site and the range in quantities, more detailed chemical composition review was conducted for products present at the time of the fire in quantities in excess of 75,000 pounds (this quantity was selected based on an estimate of the volume of firewater that flowed off the Miller Chemical property and potential resulting average contaminant concentrations). The chemical composition review was focused on identifying additional analytes of potential concern.

4.4.4 Selection of Analytes of Potential Concern

Based on the results for analyses of on-site soil and fire water and the review of Miller's chemical use and inventory, Ramboll Environ ruled out the following constituents of concern:

- Pesticides - No pesticides other than methoxychlor were detected in the samples described above and Miller Chemical did not store or use pesticides on-site at the time of the fire. Methoxychlor was identified in only a single soil sample and was not detected in fire water, surface water, or in samples collected during subsequent characterization of visibly-affected soils. As such, pesticides were not retained as constituents of concern for the purposes of the Act 2 investigation.
- Herbicides - No herbicides were detected in the samples described above and Miller Chemical did not store or use herbicides at the site at the time of the fire. As such, herbicides were ruled out as a constituent of concern associated with the fire.
- VOCs/SVOCs - Neither VOCs nor SVOCs were detected in the characterization samples described above. It is likely that volatile compounds within materials stored at the site were consumed by the fire. Ramboll Environ did not identify materials in the chemical and raw material inventory containing appreciable SVOCs.
- PCBs - PCBs were not detected in the characterization samples and Miller Chemical did not use or store PCBs at the Miller Chemical facility. As such, PCBs were not retained as a constituent of concern for the Act 2 investigation.

- Reactive cyanide and sulfide – Neither reactive cyanide nor sulfide were detected in the characterization samples discussed above. Further, these compounds are not anticipated based on chemical inventory information. As such, these compounds were ruled out as constituents of potential concern for the Act 2 investigation.

The following analytes were retained as potential constituents of concern:

- TAL metals (aluminum, antimony, arsenic, barium, beryllium, cadmium, calcium, total chromium, cobalt, copper, iron, lead, magnesium, manganese, mercury, nickel, potassium, selenium, silver, sodium, thallium, vanadium, and zinc) plus molybdenum and boron;
- TKN, nitrate, and nitrite;
- Sulfate; and
- Total phosphorus.

4.5 Soil Sample Analysis

Based on the analyte selection process described above, Act 2 soil samples were analyzed for the presence of the following compounds, in accordance with the SAP:

- Target Analyte List (TAL) metals including: aluminum, antimony, arsenic, barium, beryllium, cadmium, calcium, total chromium, cobalt, copper, iron, lead, magnesium, manganese, mercury, nickel, potassium, selenium, silver, sodium, thallium, vanadium, and zinc plus molybdenum and boron by SW846-6020A (submitted to PSS);
- TKN by Standard Method (SM) 4500-NH3 C-1997 (submitted to ALS);
- Nitrate (as N) by USEPA method 300.0 (submitted to ALS);
- Nitrite (as N) by USEPA method 300.0 (submitted to ALS);
- Sulfate by USEPA method 300.0 (submitted to ALS); and
- Total phosphorous (as P) by USEPA method 365.1 (submitted to ALS).

In addition, one representative soil sample from the visibly affected area was collected and submitted to Schnabel Engineering, Inc. for soil grain-size analysis and to PSS for total organic carbon analysis by USEPA method 9060A.

The agricultural samples were analyzed for pH, Mehlich buffer lime requirement, phosphorus, potassium, calcium, magnesium, zinc, copper, sulfur, nitrate nitrogen, ammonium nitrogen, arsenic, and soluble salts in accordance with recommendations from PSAASL.

4.6 Quality Assurance/Quality Control

Chain-of-custody documents and field log books were maintained for all samples. Sample locations were recorded using both a Trimble GeoXH GPS and traditional survey methods.

To evaluate the repeatability of the sampling procedures, one duplicate sample per 20 samples was collected during the sampling event, resulting in the collection and analysis of seven duplicate soil samples.

Re-useable sampling equipment was decontaminated using appropriate procedures including a non-phosphate detergent wash, followed by a double de-ionized water rinse. Six equipment rinse blanks were collected from decontaminated sampling equipment to document the effectiveness of equipment decontamination methods. Laboratory-provided

deionized water was poured over the sampling equipment into laboratory provided containers. The samples were submitted to the laboratory for the constituents identified in Section 3.4.

The analytical laboratory employed standard QA/QC practices including the analysis of internal laboratory duplicates, reagent blanks, method blanks, matrix spikes and matrix spike duplicates, surrogate spikes, laboratory control samples, and continuing calibrations. Analytical data was reviewed and validated prior to reporting by Laboratory Data Consultants, Inc. (LDC). Results of the data validation are further discussed in Section 3.7.

Forms summarizing the analytical data were checked and the overall completeness of the data packages was evaluated. Completeness checks were administered on all data to determine whether all necessary deliverables were present. Data validation included a complete review of all technical holding times; the instrument performance check sample results, initial & continuing calibration results, blanks, surrogate spikes, matrix spikes/matrix spike duplicates and laboratory control sample results; internal standards; target compound identification and quantitation; and system performance checks.

4.7 Data Usability

During a review of data validation results, Ramboll Environ observed that numerous soil samples were flagged with a non-detect qualifier ("U" qualifier) due to the presence of inorganic constituents including aluminum, barium, calcium, copper, magnesium, nitrate, potassium, sodium, strontium, sulfate, and zinc in the six field equipment rinse blanks (EB-1-111915, EB-2-111915, EB-3-120415, EB-4-120415, EB-5-121015, and EB-6-121015). Based on a review of the available data and discussions with Phase Separation Science (PSS), Ramboll Environ concluded that the laboratory-provided deionized water used to collect these equipment blanks may not have been free of inorganic parameters. During follow up conversations, PSS indicated that they use two separate sources of deionized water within the lab; one source is used for analysis of inorganics while the second source is used for organics testing. The laboratory-provided deionized water was supposed to have been provided from the inorganics source, since this water undergoes additional filtering at the laboratory to reduce metals concentrations. At the request of Ramboll Environ, PSS tested the two deionized water sources on March 9th, 2016. Based on a review of these results, observed concentrations of inorganic compounds in the six field equipment blanks are similar to those measured in the laboratory water supply for organics analysis. Therefore, it appears that this water source was used to provide water for collection of the equipment blanks designated above (see Appendix E for analytical results for the PSS organics water).

As a result of this review, Ramboll Environ has rejected the equipment blank data for samples EB-1-111915, EB-2-111915, EB-3-120415, EB-4-120415, EB-5-121015, and EB-6-121015 and has removed all qualifiers associated with contamination in these equipment blanks. Note that by removing these data qualifiers, Ramboll Environ is applying a conservative assumption that 100% of the concentration of the inorganic parameters identified above and observed in the associated soil samples are the result of concentrations in the soil and not cross-contamination by laboratory provided water.

5. SITE CHARACTERIZATION RESULTS

Results of soil characterization activities on the Bare Development property are presented in this section. Soils on other affected parcels are being addressed under separate NIRs and reports. Groundwater will be addressed holistically for all affected parcels under a separate NIR and report.

5.1 Field Observations

Surface soils at the Bare Development property were described as dark brown to grayish brown silt with little to some clay and trace fine sand; analysis of a representative sample of surface soil (BA-GRAIN-121415) for soil grain size indicated silt with sand. Soil grain size analytical data sheets are included as Appendix F to this report. Subsurface soils are generally characterized as yellowish brown to dark gray silts and clays underlain by a shale bedrock layer. The depth to shallow groundwater on the Bare Development property is anticipated to be approximately 5 to 10 feet bgs. Although most borings were not advanced beyond a depth of 5 feet bgs, groundwater was encountered at a depth of approximately 5.5 feet bgs at one of two deeper borings (BA-DA-02).

5.2 Soil Sampling Results

A summary of detected constituents in site soil samples is included in Table 5-1; soil sample locations are depicted on Figure 4-1. Copies of the full laboratory analytical data packages are included in Appendix G. The complete data validation package is included in Appendix H. Detected constituents include 22 metals (aluminum, antimony, arsenic, barium, beryllium, boron, calcium, chromium (total), cobalt, copper, iron, lead, magnesium, manganese, mercury, molybdenum, nickel, potassium, silver, sodium, vanadium, and zinc), nitrate, nitrite, TKN, sulfate, phosphorus, and total organic carbon. Cadmium, selenium, and thallium were not detected in soil samples collected from the Bare Development property.

In order to help support a determination as to whether adequate sampling had been performed to characterize the nature and extent of potential soil contamination, and to evaluate whether further action to evaluate or address soils is necessary, detected soil concentrations were compared to the following applicable PADEP Statewide Health Standards:

- Residential direct contact within the upper fifteen feet of soil (Residential Direct Contact value),
- Migration from soil to groundwater (Soil-to-GW)¹¹ pathways,¹²
- Calculated Soil to Groundwater Values for nitrate and nitrite. Soil to groundwater pathway numeric values for inorganic chemicals as specified by PA code §250.308 can be selected using two methods. Ramboll Environ applied the first method, which selects, "a

¹¹ For residential used aquifer with TDS \leq 2,500 milligrams per liter (mg/L).

¹² Soil-to-Groundwater values were developed consistent with 25 Pa. Code §250.308 for nitrate and nitrite using the Federal maximum contaminant levels (MCLs) of 10 micrograms per liter ($\mu\text{g/L}$) and 1 $\mu\text{g/L}$, respectively, as target groundwater concentrations, since Pennsylvania has not developed groundwater values for these chemicals. Soil-to-groundwater values for aluminum, iron, phosphorus, potassium, sodium, and sulfate were not derived since these chemicals are either not toxic to humans at relevant concentrations or only have secondary MCLs.

value which is 100 times the applicable MSC for groundwater identified in §250.304(c) or (d) (relating to MSCs for groundwater), expressed as milligrams per kilogram of soil". For nitrate and nitrite, the applicable MSCs for groundwater identified in §250.304(c) are maximum contaminant levels (MCLs) established by the USEPA. The MCLs for nitrate and nitrite are 10 milligrams per liter (mg/L) and 1 mg/L, respectively. Multiplying these concentrations by 100 yields soil to groundwater values for nitrate and nitrite of 1,000 mg/kg and 100 mg/kg, respectively.

In Table 5-2, maximum concentrations of detected constituents in soil are compared to Residential Direct Contact values and the Soil-to-GW values; the Residential medium specific concentration (MSC) for soil is the more stringent of these two values. The maximum detected concentrations of constituents in soil are below the applicable MSCs with the exception of arsenic, cobalt, and manganese, which are discussed below. In addition, constituents for which PADEP has not established MSCs are also discussed below.

5.2.1 Constituents Exceeding MSCs

Arsenic, cobalt, and manganese were the only constituents detected above applicable MSCs and are further described below.

Arsenic

Arsenic was detected in 12 of the 147 samples collected on the Bare Development property at concentrations greater than the Residential MSC of 12 mg/kg. Arsenic was not detected at concentrations greater than the Soil-to-GW value (29 mg/kg) in any sample collected on the Bare Development property. The highest detection of arsenic (22 mg/kg) was measured in a background sample (SB3-AGR) collected from the 6 to 12 inch depth interval; the highest concentration of arsenic from a visibly affected location was 20 mg/kg at BA-VA-27 at a depth of 1 to 2 feet bgs. As presented on Figure 5-1, the nature and extent of arsenic concentrations in soil was adequately characterized with arsenic concentrations delineated to the applicable MSC.

Cobalt

Cobalt was detected in one of the 147 samples collected on the Bare Development property at a concentration (80 mg/kg) greater than the Residential MSC of 50 mg/kg, based on the soil to groundwater value. This sample was collected from a background location (BA-BACK-01) from the 0 to 3 inch depth interval. The highest detected concentration of cobalt from a visibly affected location was 39 mg/kg at BA-VA-19 at a depth of 0 to 3 inches bgs, which is below the MSC. Ramboll Environ conducted a statistical outlier test, which confirmed that the single detection of cobalt above the MSC in a background soil sample is an outlier. Output from the statistical outlier test is included as Appendix I.

Manganese

Manganese was detected in six of the 147 samples collected on the Bare Development property at concentrations greater than the MSC (2,000 mg/kg). Manganese was not detected at concentrations greater than the Residential Direct Contact value (10,000

mg/kg).¹³ The highest manganese concentration (4,900 mg/kg) was measured in a background sample (SB3-AGR) from the 2 to 6 inch bgs interval whereas the highest concentration of manganese from a visibly affected location was 2,500 mg/kg at BA-VA-06 at a depth of 4 to 5 feet bgs. As presented on Figure 5-2, the nature and extent of manganese concentrations in soil was adequately characterized with manganese concentrations delineated to the MSC.

Given the nature and extent of the arsenic, cobalt, and manganese concentrations, no additional sampling is necessary in order to evaluate the potential significance of current and future receptor exposures to soil or to determine if remedial action would be warranted. The presence of arsenic, cobalt, and manganese in soils at concentrations exceeding the MSCs was further evaluated using procedures set forth under the Act 2 program as discussed in Section 6 of this report.

5.2.2 Constituents with no PADEP MSCs

Sample analyses also identified a number of analytes of potential concern in soil for which no MSCs have been established. These analytes were identified at the following maximum concentrations and locations: calcium (62,000 mg/kg; BA-VA-10), magnesium (23,000 mg/kg; BA-DA-01), phosphorus (7,170 mg/kg; BA-BS-19), potassium (4,600 mg/kg; BA-VA-06), sodium (250 mg/kg; BA-BS-05), sulfate (350 mg/kg; BA-DC-01), and TKN (15,400 mg/kg; BA-BS-01). The measured concentrations of these constituents are discussed further in Section 6.2 of this report.

5.2.3 PSAASL Analysis

As discussed in Section 4.3 of this report, a total of four composite soil samples were analyzed by PSAASL to evaluate soil fertility characteristics for crop growth in the surface soil zone (0 to 2 inches bgs) and shallow soil zone (2 to 6 inches bgs). A summary of detected constituents in the agricultural soil samples is included in Table 5-3; composite soil sample locations are depicted on Figure 4-2. Copies of the PSAASL Soil Test Reports for the agricultural soil samples are included in Appendix J. Results of the agricultural soil analyses were discussed with Dr. John Spargo, Director of PSAASL, on January 19, 2016. Results of the agricultural soil analyses and the discussion with Dr. Spargo are summarized below.

Measured concentrations of calcium, copper, phosphorus, potassium, sulfur, and zinc within the visibly affected area soil samples were generally greater than those measured in soil samples collected outside of the visibly affected area. According to PSAASL, these higher levels are consistent with a well fertilized agricultural field and similar to conditions observed at sites with repeated applications of animal manure – but not levels that would be a concern with regards to crop nutrition. Of these constituents, the only potential concern identified by PSAASL is the concentration of potassium in the surface soil sample collected from the visibly

¹³ Ramboll Environ notes that manganese was initially detected at a concentration of 30,000 mg/kg at a depth of 1 to 2 feet bgs at location BA-VA-24. Because the measured concentration was significantly greater than concentrations measured in soil from the worst-affected areas of the Miller property, the sample was further evaluated to determine whether it was representative. Further statistical consideration of this sample point confirmed the point to be a statistical outlier. As such, following discussion with PADEP, Ramboll Environ collected a second sample from this location and depth interval on March 17, 2016. The results of the follow up sampling confirmed the initial result to be an outlier; as such, the measured concentrations of the March 17, 2016 sample and duplicate (960 mg/kg and 1,800 mg/kg) were utilized for this location for data evaluation purposes.

affected area. While not of concern for production of soybean or corn, according to PSAASL, elevated potassium concentrations can be of concern for forage or grain crops because elevated potassium concentrations can result in reduced magnesium uptake into crops which in turn could impact animal health. However, PSAASL further explained that such a concern is mitigated in this case due to two factors: 1) concentrations of potassium decrease with depth and the measured concentration of potassium in the deeper soil sample (which is more representative of the root zone) is at an optimal level and would not pose such a concern, and 2) measured concentrations of magnesium in the shallow soil sample are also elevated, which would help to counter the high potassium concentration observed in the surface soil.

Overall, PSAASL explained that soil concentrations in the affected area represent a condition that would be consistent with a well fertilized area and do not represent conditions that would adversely affect agricultural use of soil in the affected area of the parcel. PSAASL recommended that potassium and phosphorus not be applied to the visibly affected area this (2016) growing season. The affected and unaffected areas should be resampled after harvesting to reassess nutrient levels prior to application of fertilizer for the 2017 growing season.

6. DEMONSTRATION OF ATTAINMENT

Section 6.1 provides details and information necessary to demonstrate attainment of the SHS for soil with respect to arsenic, manganese, and cobalt concentrations which were detected in certain samples above the MSCs. The results of a limited human health evaluation for the constituents that do not have established MSCs is provided in Section 6.2. Section 6.3 provides a summary of the evaluation performed to assess the potential significance of storm water runoff from the Bare Development property.

6.1 Site Soil - SHS

Arsenic and manganese concentrations in visibly affected area soil were further evaluated by calculating 95% upper confidence limit (UCL) on the mean concentrations for the distinct area of contamination consistent with 25 Pa. Code §250.707 (b)(ii) and comparing the result to the Residential MSC, which is based on the lower of the Residential Direct Contact value or the Soil-to-GW value. Sampling data for locations within the visibly affected area were included in the UCL calculation. This included the boundary sample that was collected from within the visibly affected area along the eastern boundary of the site, adjacent to the CSX rail tracks (i.e., BA-BS-19). The UCL calculation was performed using USEPA's ProUCL software. The resulting UCLs on the mean for each constituent are discussed below. The statistical outputs of these UCL calculations are provided in Appendix K.

In addition, as a sensitivity analysis, the UCL on the mean concentration for the distinct area of contamination for each constituent was also calculated including sampling data for all locations that are within the visibly affected area as well as those locations at the boundary of the visibly affected area. The resulting UCLs on the mean for each constituent are discussed below.

Arsenic

The 95% UCL on the mean for arsenic using visibly affected area samples is 9.92 mg/kg which is less than the Residential MSC of 12 mg/kg based on direct contact, inhalation, and ingestion of soil (see Table K-1 in Appendix K). The 95% UCL on the mean for arsenic when considering all visibly affected and boundary samples is 10.2 mg/kg which is also less than the Residential MSC (Table K-2, Appendix K). As an additional sensitivity analysis, the 95% UCL on the mean for arsenic was calculated using only grab soil samples from the visibly affected area and using only composite soil samples from the visibly affected area (Tables K-3 and K-4, Appendix K). The calculated UCLs on the mean for visibly affected grab and composite soil samples are 11.81 mg/kg and 10.06 mg/kg, respectively, as compared to the residential MSC of 12 mg/kg. Therefore, measured concentrations of arsenic in site soil meet the SHSs and no further action is necessary to evaluate or address measured concentrations of arsenic.

Manganese

The 95% UCL on the mean for manganese using visibly affected area samples is 1,152 mg/kg which is less than the Residential MSC of 2,000 mg/kg based on soil to groundwater migration (see Table K-5, Appendix K). The 95% UCL on the mean for manganese when considering all visibly affected and boundary samples is 1,113 mg/kg which is also less than the Residential MSC (Table K-6, Appendix K). As an additional sensitivity analysis, the 95% UCLs were calculated for manganese in soil using only

visibly affected area grab soil samples and only visibly affected area composite soil samples (Tables K-7 and K-8, Appendix K). The calculated 95% UCLs for visibly affected grab samples only and for visibly affected composite soil samples only are 1,190 mg/kg and 1,060 mg/kg respectively, as compared to the Residential MSC of 2,000 mg/kg. Therefore, measured concentrations of manganese in site soil meet the SHSs and no further action is necessary to evaluate or address measured concentrations of manganese.

This evaluation of arsenic and manganese concentrations in site soil, and the associated sensitivity analyses, demonstrate that arsenic and manganese concentrations in soil within the visibly affected area at the Bare Development property are in attainment of the SHS and no further evaluation or action is necessary to address the measured concentrations of arsenic or manganese in site soils.

Cobalt

Cobalt was detected in one background sample (BA-BACK-01) at a concentration of 80 mg/kg, which is greater than the Residential MSC of 50 mg/kg, based on soil to groundwater migration. Cobalt was not detected in any other site soil samples at a concentration exceeding the MSC for cobalt, including samples collected within the visibly affected area. Based on the application of a statistical outlier test, the single exceedance of the MSC for cobalt in background soil qualities is an outlier. Because no exceedances of the MSC were identified for visibly affected area soil samples, no further analysis of cobalt is necessary.

6.2 Assessment of Constituents Without PADEP MSCs

As discussed above, six constituents were detected in site soils but do not have established MSCs (calcium, magnesium, phosphorus, potassium, sodium, and sulfate). As such, these are not PADEP regulated constituents in soil. Ramboll Environ investigated toxicity values for these constituents from USEPA's hierarchy of sources (USEPA 2003b), as follows:

1. Integrated Risk Information System (IRIS);
2. Provisional Peer Reviewed Toxicity Values (PPRTV); and
3. Other Toxicity Values.

Ramboll Environ also reviewed information published by other USEPA and non-USEPA sources (e.g., Agency for Toxic Substances and Disease Registry (ATSDR) and National Institute for Occupational Safety and Health (NIOSH)) for possible human health toxicity values. However, no toxicity data were identified from these sources for the constituents listed above. Due to a lack of toxicity data for these constituents, MSCs cannot be calculated as the supporting data necessary to calculate MSCs could not be identified.

The predominant health concern within the scientific literature and among government agencies for these constituents is related to inadequate intake as they are (or contain) essential human nutrients and minerals. As a conservative measure, Ramboll Environ conducted additional analysis to evaluate whether an ingestion risk to humans exists, as this would be expected to be the primary route of exposure.

6.2.1 Approach and Methods

To evaluate potential risk associated with ingestion of soil and in the absence of MSCs, Ramboll Environ compared ingestion of these constituents from soil in the visibly affected area to the respective Dietary Reference Intake (DRI) value for each constituent as recommended by the Food and Nutrition Board of the Institute of Medicine (IOM), the National Academy of Science, and other authoritative bodies. For purposes of this analysis, Ramboll Environ first compared the standard residential soil ingestion rate of 100 mg/day adopted by PADEP (25 Pa. Code §250.306) to the DRI values for each constituent. Ramboll Environ also calculated the amount of soil that would need to be ingested to exceed the DRIs discussed below, based on maximum detected concentrations of constituents in surface soil at the site¹⁴. This approach is described further below.

6.2.1.1 Description of DRIs

DRI values vary by age and gender, therefore, values for children (beginning at age one) were used in this analysis since this is typically the most sensitive group with the lowest recommended DRI values as well the highest potential for soil ingestion. DRI values include the following (NIH 2016):

- Recommended Daily Allowance (RDA): average goal intake sufficient to meet the nutrient requirements of nearly all (97%-98%) healthy people in a group.
- Adequate Intake (AI): average goal intake established when evidence is insufficient to develop an RDA, but is set at a level assumed to ensure nutritional adequacy.
- Tolerable Upper Intake Levels (UL): maximum level of daily nutrient intake that is likely to pose no risk of adverse effects.

DRI values for the constituents evaluated as part of this analysis are provided in Table 6-1. Ramboll Environ notes that a DRI value for sulfate has not been established by IOM. However, the World Health Organization (WHO) established that the average daily intake of sulfate from all sources (drinking water, air, and food), with food being the primary source, is 500 mg. Therefore, this value was used for the purposes of this analysis (WHO 2003; WHO 2004); mild adverse effects have been reported for sulfate intake levels of 1,500 mg/day (IOM 2005).

6.2.2 Results and Discussion

6.2.2.1 Analysis using the PADEP Standard Residential Ingestion Rate of 100 mg/day

As a first step in evaluating potential soil ingestion, Ramboll Environ compared the typical soil ingestion rate established by PADEP for residents (100 mg/kg) to the lowest of the DRI values for each constituent (Table 6.1). This analysis conservatively assumes that the soil

¹⁴ An approach similar to that taken in this analysis was conducted by the Texas Natural Resource Conservation Commission (now known as the Texas Commission on Environmental Quality) to determine whether certain chemicals (including five of the nutrients discussed here: calcium, magnesium, potassium, sodium, and phosphorus) should be considered chemicals of potential concern for soil remediation. The Commission concluded that where DRI values were significantly higher than the soil ingestion rates, any concentration of these chemicals (even if the soil were 100% of the constituent) would not be expected to be a health concern (TNRCC 2001).

consists solely of the constituent of concern (i.e., 1,000,000 mg/kg). For five of the six constituents (calcium, phosphorus, potassium, sodium, and sulfate), the PADEP residential soil ingestion rate is below the lowest DRI value. For example, the RDA or AI for calcium for a child is 700 mg/day as compared to the PADEP residential soil ingestion rate of 100 mg/day; as such, a child ingesting the standard daily amount of soil could not ingest the recommended daily amount of calcium from soil, regardless of the concentration of calcium in soil. For magnesium, the lowest DRI is 65 mg/day for a child, which is less than the 100 mg/day upper percentile soil ingestion rate.

This analysis indicates that surface soil concentrations of calcium, phosphorus, potassium, sodium, and sulfate at the Bare Development property do not present a human health concern. Ramboll Environ further evaluated potential ingestion of magnesium by calculating the amount of soil that would need to be ingested in a day to meet the lowest DRI value as discussed in Section 6.3.2.2.

6.2.2.2 Soil Ingestion Needed to Meet Lowest DRI

Because the RDA and UL for magnesium are below the PADEP residential ingestion rate, Ramboll Environ evaluated the mass of soil that would need to be ingested in a day to meet or exceed the UL (the more conservative, lower value) assuming ingestion of soil containing the maximum magnesium concentrations observed in surface soils on-site.¹⁵

$$\frac{\text{Soil Ingestion needed to meet}}{\text{Lowest RDA/AI/UL (mg/d)}} = \frac{\text{Lowest RDA/AI/UL (mg/d)}}{\text{Max Soil Concentration (mg/kg)}} * 1,000,000 \text{ mg/kg}$$

The maximum detected concentration of magnesium in site soil is 23,000 mg/kg. In order to meet the UL for magnesium for a child (65 mg/day), a child would need to ingest 2,826 mg of soil in a single day. Therefore, magnesium concentrations in soil at the Bare Development property do not present a human health concern.¹⁶

6.3 Surface Water/Storm Water

As discussed above, storm water flows onto the Bare Development property from the Met-Ed property via a culvert under the CSX railroad tracks. The flow continues along the dry creek which eventually drains to Slagle’s Run, a tributary of the South Branch of Conewago Creek. Runoff from portions of the agricultural fields on the Bare Development property also flows into the dry creek.

Following the fire, Miller Chemical began collecting storm water runoff from the Miller Chemical property and affected off-site properties and disposing of the water at approved facilities. During this time, Ramboll Environ monitored fertilizer constituent concentrations in the collected storm water and also conducted routine sampling of the dry creek, Slagle’s Run, South Branch Conewago Creek, and Conewago Creek to evaluate potential impacts resulting from flow of storm water over visibly affected soils.

¹⁵ Soil ingestion calculation is derived from Equation 1 in TNRCC 2001 with frequency and duration removed as this approach conservatively assumes constant exposure.

¹⁶ As shown in Table 6-1, calculated soil ingestion rates needed to meet the lowest DRI values for all six constituents are at least an order of magnitude greater than the PADEP residential soil ingestion rates, in keeping with the analysis discussed in Section 6.2.2.2.

Ramboll Environ calculated site specific benchmarks for surface water using PADEP's PENTOX model. The storm water benchmarks, which were designed to be protective of human health and aquatic life in Slagle's Run, were presented to PADEP in a memorandum dated September 3, 2015 and were subsequently approved. Fertilizer constituent concentrations in surface water and collected storm water declined over time. Upon confirmation that concentrations were below these benchmarks, on September 21, 2015, PADEP granted Miller Chemical's request to permit storm water running over the off-site affected properties to be released to Slagle's Run along its original flow path. Following additional sampling on October 2, 2015, PADEP also granted a follow-up request to release storm water running off the Miller Chemical Property along its original flow path. Storm water has been allowed to flow freely from the off-site affected properties and the Miller Chemical site since October 1, 2015 and October 9, 2015, respectively, and measured concentrations of fertilizer constituents in surface water within Slagle's Run remain below the benchmarks.

Based on the results of storm water and surface water monitoring, storm water runoff over visibly affected soils on the Bare Development property is not a concern and no further action is necessary to address overland flow of storm water to Slagle's Run.

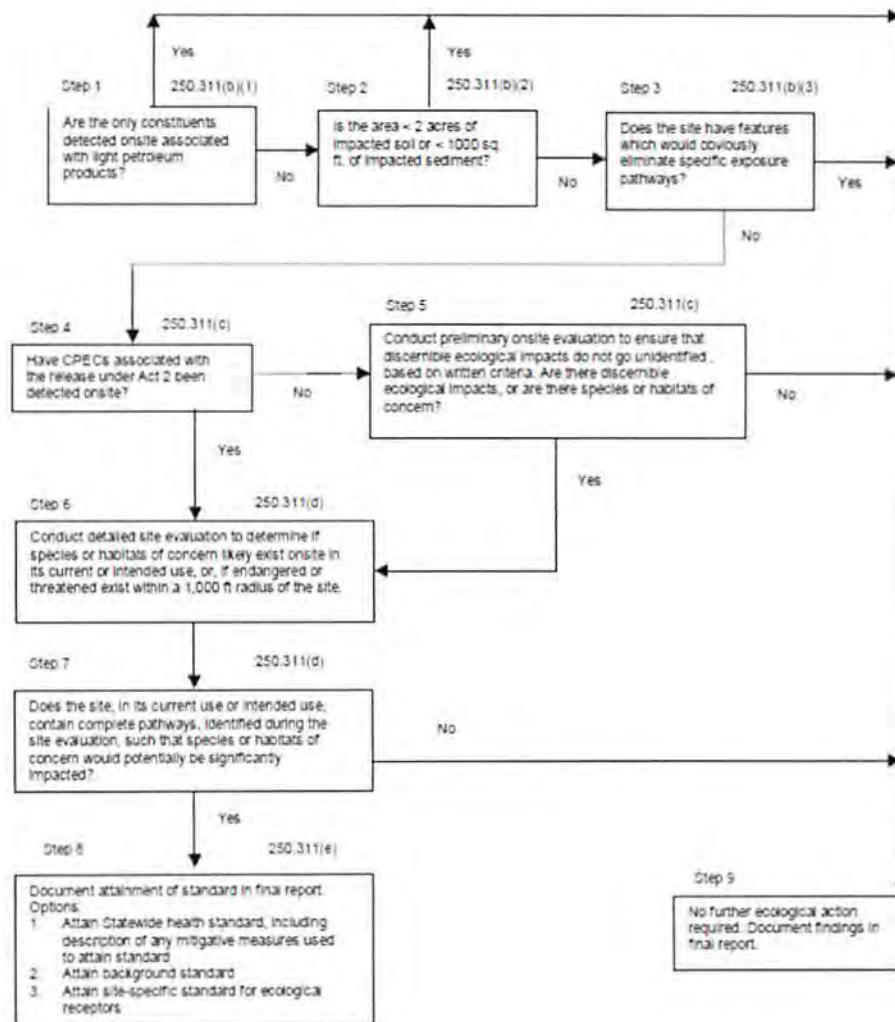
6.4 Vapor Intrusion

As discussed in Section 4.4, constituents of concern relating to the fire and fire response activities at the Miller Chemical site do not include volatile compounds. As such, vapor intrusion is not a pathway of concern on the Bare Development site.

7. ECOLOGICAL SCREENING ASSESSMENT

Ramboll Environ conducted an ecological screening evaluation for the Site in accordance with PA Statewide Health Standards of the PA Code (§250.311) and Section II.B of the PADEP Technical Guidance Manual (TGM). The regulatory framework for conducting an ecological screening evaluation under the Statewide Health Standards is summarized by the ecological screening flow chart Figure II-10 of the TGM provided below. The PADEP's Statewide Health Standard ecological screening process is comprised of nine steps that are consistent with USEPA's ecological risk assessment guidelines for contaminated sites (U.S. EPA, 1997).

Figure II-10
Ecological Screening Flow Chart



Following the screening process outlined on Figure II-10, the ecological evaluation of the site required completion of Steps 1 through 4 and Steps 6, 7, and 9, as discussed below. Note that Step 5 is only applicable when constituents of potential ecological concern (CPECs) are not detected on the site. Step 8 is only applicable when the need for further ecological evaluation cannot be eliminated based on Steps 1 through 7. Although this report also applies a Site-Specific approach to evaluate those constituents for which no MSCs have been developed, none are considered Constituents of Potential Ecological Concern (CPECs) as identified in Appendix A, Table 8 of the PA Code, and therefore do not require site-specific ecological evaluation.

Step 1 – Presence of Light Petroleum Product Constituents

Site constituents of concern are not light petroleum product constituents.

Step 2 – Site Size

The area of visibly affected soil on the site is greater than two acres. Specifically, the total affected area is approximately 3.1 acres.

Step 3 – Obvious Pathway Elimination

The site is an unpaved agricultural field. Therefore, the site does not have features that would obviously eliminate specific potential exposure pathways.

Step 4 – Presence of Constituents of Potential Ecological Concern (CPECs)

The results of soil sampling performed at the site indicate that CPECs, as per Appendix A Table 8 of the PA Code, associated with the release have been detected onsite.

Step 5 – Preliminary Onsite Evaluation

Step 5 is not applicable because CPECs have been detected on the site.

Step 6 – Detailed Onsite Evaluation

The detailed site evaluation consisted of a determination of whether species or habitats of concern exist on-site or if endangered or threatened species exist within 1,000¹⁷ feet of the site, and whether or not there is a complete pathway, identified during the site evaluation, such that species or habitats of concern would potentially be significantly impacted. Ramboll Environ conducted an assessment of potential ecological receptors at the site to determine if the potential for impact to species and or habitats of concern was present. This evaluation was based on the following:

- A search of PADEP's Pennsylvania Natural Diversity Inventory (PNDI) database.
- Site reconnaissance conducted on September 9, 2015 as part of a bog turtle (*Glyptemys muhlenbergii*) survey by Johnson, Mirmiran, and Thompson (JMT) qualified ecologists.

The PNDI search performed for the site indicated that no threatened and endangered species and or special concern species and resources are present. In addition, no known impact was identified and no further review is required. The results of the PNDI search are provided as Appendix L.

¹⁷ Step 6 of Table II-10, indicates an evaluation for threatened and endangered species within a 1,000 ft radius of the site should be performed, which appears to be a typographical error, as the text of TGM and PA Code 250.311(d) indicate a 2,500 search radius should be used.

The results of the site reconnaissance are summarized below.

On-Site

The site consists of agricultural fields on the western and eastern portions of the property (with a radio station located on the west beyond the agricultural fields), maintained lawn in the southwestern corner, a palustrine emergent wetland in the southeastern corner of the site, and a wetland drainage ditch (the "dry creek") extending from the emergent wetland to the northern property boundary (see Appendix B). The area of palustrine emergent wetlands is dominated by reed canarygrass (*Phalaris arundinacea*) and included goldenrod (*Solidago sp.*), common milkweed (*Asclepias syriaca*), and jumpseed (*Persicaria virginiana*). The wetland drainage ditch, which extends from the palustrine emergent wetlands, is dominated by reed canarygrass and also included arrow-leaf tearthumb (*Persicaria sagittata*), and black cherry (*Prunus serotina*) scattered throughout. JMT concluded that the wetlands present on the site are not exceptional value wetlands and do not contain potential bog turtle habitat (Appendix M).

Off-Site

North of the Site there are agricultural fields and the continuation of the wetland drainage ditch (the "dry creek") identified on site, which leads to Slagle's Run. Slagle's Run is a tributary of the Plum Creek-South Branch Conewago Creek subwatershed, a sub-basin of the Susquehanna River drainage basin. Slagle's Run has not been identified as Approved Trout Waters, a Class A Wild Trout Stream, or as a stream supporting natural trout reproduction. The wetland drainage ditch is dominated by reed canarygrass and also included goldenrod (*Solidago sp.*), common teasel (*Dipsacus fullonum*), and a small grove of choke cherry (*Prunus virginiana*). West of the site are agricultural fields. South of the site are Radio Road and athletic fields. Along the eastern property boundary is a railroad and an electrical substation followed by areas of urban development. JMT identified no potential bog turtle habitat in these areas.

Within 1,000 feet of the visibly affected area onsite, there is a palustrine forested wetland to the northeast of the site, on a portion of the Trone Rental Properties. The wetland feature contains standing water and drains into Slagle's Run. The palustrine forested wetland is dominated by reed canarygrass (*Phalaris arundinacea*), arrow-leaf tearthumb, jewelweed (*Impatiens capensis*), and common reed (*Phragmites australis*). Additional vegetation overserved includes soft rush (*Juncus effusus*), sedges (*Carex sp.*), goldenrod (*Solidago sp.*), box elder (*Acer negundo*), and black walnut. This palustrine forested wetland was identified as potential habitat for bog turtle, however, no sightings were observed during the assessment.

During the field survey, JMT did not observe the presence of any threatened or endangered species or any species of special concern.

Step 7 – Identification of Completed Exposure Pathways

As discussed under Step 6 above, no threatened and endangered species and/or special concern species and resources are present on or adjacent to the site. As a conservative evaluation, Ramboll Environ evaluated the potential for CPECs to hypothetically migrate from the site to potentially ecologically sensitive areas (i.e., the wetland to the northeast of the site). As presented on Figure 1-2, the visibly affected area extended up to Slagle's Run. As discussed in Appendix M, no bog turtle habitat was identified within the affected area. In addition, the potential bog turtle habitat identified to the northeast of the site on the Trone Rental Properties lies upstream of the confluence of the wetland drainage ditch and Slagle's Run. Therefore, CPECs are not expected to migrate from the site to the off-site wetland.

Step 8 – Attainment of Standard and Mitigative Measures

Based on the findings for Steps 1 through 7, the site is eliminated from further ecological evaluation. Therefore, Step 8 is not applicable.

Step 9 – Final Report – No Further Ecological Evaluation Required

The results of the ecological evaluation indicate that no habitat or species of concern were identified on or near the site and no migration pathways from the site to ecologically sensitive areas were identified. Therefore, no further ecological evaluation is required.

8. CONCLUSION

Emergency response actions associated with a June 8, 2015 fire at the Miller Chemical facility, which is located southeast of the Bare Development property, resulted in the migration of fertilizer constituents in fire water runoff, which flowed across an approximately 3.1-acre portion of the Bare Development property. On behalf of Miller Chemical, Ramboll Environ investigated the nature and extent of soil impacts at the Bare Development property. Soils were analyzed for a broad suite of potential contaminants of concern, including metals and other fertilizer constituents. Results of the soil sample analysis indicate that only arsenic and manganese were detected at concentrations exceeding Pennsylvania Residential MSCs in visibly affected area soils.

Consistent with 25 Pa. Code §250.707 (b)(1)(ii), Ramboll Environ demonstrated that the 95% UCL on the mean arsenic and manganese concentrations within visibly affected soils are less than the Residential MSCs. As such, the arsenic and manganese concentrations in soil at the Bare Development property are in attainment of the SHS.

Ramboll Environ also conducted a human health evaluation to assess the potential significance of detected constituents with no established MSCs. Based on the results of the evaluation, the detected concentrations of these constituents (calcium, magnesium, phosphorus, potassium, sodium, and sulfate) in soil at the Bare Development property do not represent a human health concern.

To address property owner concerns, soil fertility testing was conducted to assess the conditions for continued use of the visibly affected area for crop production. Based on the evaluation conducted by PSAASL, soil concentrations in the visibly affected area are consistent with a well fertilized area and do not represent conditions that would adversely affect agricultural use of the affected area. PSAASL recommended that potassium and phosphorus not be applied to the visibly affected area this (2016) growing season. The affected and unaffected areas should be resampled after the 2016 growing season to reassess nutrient levels prior to application of fertilizer for the 2017 growing season.

Finally, conduct of an ecological screening assessment in accordance with PADEP guidance did not identify habitats or species of concern on or adjacent to the site, and no migration pathways exist from the site to ecologically sensitive areas. As such, no further ecological evaluation is necessary.

Based on the above, Relief of Liability is being sought for the following compounds in soil at the Bare Development property under the Residential Statewide Health Standard:

- Aluminum, antimony, arsenic, barium, beryllium, boron, cadmium, chromium, cobalt, copper, iron, lead, manganese, mercury, molybdenum, nickel, selenium, silver, thallium, vanadium, and zinc;
- Nitrate and nitrite.

Relief of Liability is also being sought for the following constituents, for which MSCs have not been developed, under the Site Specific Standard:

- Calcium
- Magnesium
- Phosphorous
- Potassium
- Sodium
- Sulfate

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REMEDIAL INVESTIGATION AND FINAL REPORT

TABLES

**TABLE 5-1
Soil Sampling Results
Bare Development Parcel
Miller Chemical & Fertilizer, Hanover, Pennsylvania**

Location Location Type	BA-DA-01 Visibly Affected	BA-DA-01 Visibly Affected	BA-DA-01 Visibly Affected	BA-DA-02 Visibly Affected	BA-DA-02 Visibly Affected
Field Sample ID(s)	BA-DA-01-G3.5-4-111715	BA-DA-01-G6.5-7-111715	BA-DA-01-C-111815	BA-DA-02-G4.5-5-111715	BA-DA-02-C-111815
PADEP Residential Direct Contact Values (0-15ft)	Residential MSC	Residential MSC	Residential MSC	Residential MSC	Residential MSC
Soil to Groundwater Values - Residential - Used Aquifer - TDS <= 2500	Soil to Groundwater Values - Residential - Used Aquifer - TDS <= 2500	Soil to Groundwater Values - Residential - Used Aquifer - TDS <= 2500	Soil to Groundwater Values - Residential - Used Aquifer - TDS <= 2500	Soil to Groundwater Values - Residential - Used Aquifer - TDS <= 2500	Soil to Groundwater Values - Residential - Used Aquifer - TDS <= 2500
Lab Sample ID(s)	15111812-007 / 15112043-027	15111812-006 / 15112043-026	15111906-003 / 15112008-003	15111811-005 / 15112043-005	15111905-013 / 15112007-013
Collection Depth (ft bgs)	3.5 - 4	6.5 - 7	0 - 0.25	4.5 - 5	0 - 0.25
Sample Method	Grab	Grab	Composite	Grab	Composite
Sample Date	11/17/2015	11/17/2015	11/18/2015	11/17/2015	11/18/2015
Comments					
INORG					
Aluminum	190000	190000	190000	190000	190000
Ammonia	1900	3000	1900	1900	1900
Antimony	88	27	27	UJ (2.2)	UJ (2.4)
Arsenic	12	29	12	6.1 (0.45)	2.5 J (2.5)
Barium	44000	8200	8200	74 J (2.2)	85 (2.4)
Beryllium	440	320	320	UJ (2.2)	U (2.4)
Boron	44000	1900	1900	U (2.2)	U (24)
Calcium				4100 (2200)	4500 (950)
Chromium (total)	190000	190000	190000	28 J (2.2)	29 J (2.4)
Cobalt	66	50	50	16 J (2.2)	18 (2.4)
Copper	8100	43000	8100	20 (2.2)	UJ (13)
Iron	150000		150000	56000 (2200)	31000 (950)
Lead	500	450	450	19 (2.2)	28 J (2.4)
Magnesium				20000 (2200)	3300 (950)
Manganese	10000	2000	2000	210 (2.2)	150 (24)
Mercury	35	10	10	U (0.089)	0.065 J (0.095)
Molybdenum	1100	650	650	U (4.5)	UJ (4.7)
Nickel	4400	650	650	32 (2.2)	19 (2.4)
Nitrate	350000	1000	1000	5.9 J (12.4)	1.3 J (13.2)
Nitrite	22000	100	100	U (2.5)	U (2.6)
Total Kjeldahl Nitrogen				828 (92.2)	2710 J (99.6)
Phosphorus (total)				433 (59.4)	377 (64.9)
Potassium				1100 J (1100)	2200 (47)
Silver	1100	84	84	U (2.2)	U (2.4)
Sodium				55 (45)	UJ (64)
Sulfate				U (124)	UJ (132)
Vanadium	1500	26000	1500	25 J (2.2)	42 (2.4)
Zinc	66000	12000	12000	68 J (68)	60 (9.5)

Notes:

- All concentrations are presented in milligrams per kilogram (mg/kg).
- Only compounds with at least one detection are shown.
- Concentrations that exceed the PADEP Residential Direct Contact Values (0-15ft) are **boldfaced**.
- Concentrations that exceed the Soil to GW Values - Used Aquifer - TDS <= 2500 are underlined.
- The values for chromium III are used to evaluate chromium (total).
- The Soil to Groundwater values for nitrate and nitrite are 100x the Federal maximum contaminant level (MCL).
- Blank cells in columns with criteria indicate that no value has been established.

Abbreviations:

- MSC -- Medium specific criteria.
- U -- Not Detected.
- J -- Estimated Concentration.
- TDS -- Total Dissolved Solids.
- () -- Reporting Limit.
- -- Not Analyzed

**TABLE 5-1
Soil Sampling Results
Bare Development Parcel
Miller Chemical & Fertilizer, Hanover, Pennsylvania**

Location Location Type		BA-DA-02 Visibly Affected			BA-DC-01 Visibly Affected		BA-DC-02 Visibly Affected	BA-DC-03 Visibly Affected	BA-DC-04 Visibly Affected		
Field Sample ID(s)		BA-DA-02-G5-S-5-111715			BA-DC-01-C-111815		BA-DC-02-C-111815	BA-DC-03-C-111815	BA-DC-04-C-111715		
PADEP Residential Direct Contact Values (0-15ft)		Soil to Groundwater Values - Residential - Used Aquifer - TDS <= 2500			Residential MSC		15111811-004 / 15112043-004	15111904-018 / 15112006-018	15111904-017 / 15112006-017	15111904-016 / 15112006-016	15111813-007 / 15112043-047
Lab Sample ID(s)					5 - 5.3		0 - 0.25	0 - 0.25	0 - 0.25	0 - 0.25	0 - 0.25
Collection Depth (ft bgs)					Grab		Composite	Composite	Composite	Composite	Composite
Sample Method					Grab		Composite	Composite	Composite	Composite	Composite
Sample Date					11/17/2015		11/18/2015	11/18/2015	11/18/2015	11/18/2015	11/17/2015
Comments											
INORG											
Aluminum	190000			190000	25000 (4900)	25000 (1500)	37000 (3200)	24000 (2200)	34000 (4200)		
Ammonia	1900	3000		1900	--	--	--	--	--		
Antimony	88	27		27	UJ (2.4)	UJ (3.8)	UJ (3.2)	UJ (2.2)	UJ (2.1)		
Arsenic	12	29		12	2.6 J (2.6)	12 (0.76)	10 J (0.64)	11 J (0.43)	7.7 J (0.42)		
Barium	44000	8200	8200	8200	83 (2.4)	250 (3.8)	200 (3.2)	110 (2.2)	82 (2.1)		
Beryllium	440	320	320	320	U (2.4)	UJ (3.8)	UJ (3.2)	1.1 J (2.2)	1.1 J (2.1)		
Boron	44000	1900	1900	1900	U (2.4)	UJ (3.8)	UJ (3.2)	UJ (2.2)	UJ (2.1)		
Calcium					6600 (4900)	20000 (1500)	9200 (3200)	5300 (2200)	3200 (420)		
Chromium (total)	190000	190000	190000	190000	17 J (2.4)	43 J (3.8)	39 J (3.2)	29 J (2.2)	32 J (2.1)		
Cobalt	66	50	50	50	14 J (2.4)	10 (3.8)	13 J (3.2)	14 J (2.2)	13 J (2.1)		
Copper	8100	43000	8100	8100	19 J (1.9)	92 J (3.8)	45 J (3.2)	30 J (3.0)	15 J (1.5)		
Iron	150000		150000	150000	30000 (4900)	23000 (1500)	32000 J (3200)	29000 J (2200)	40000 J (4200)		
Lead	500	450	450	450	13 J (2.4)	82 J (3.8)	50 J (3.2)	29 J (2.2)	18 J (2.1)		
Magnesium					16000 (4900)	7000 (1500)	5300 J (3200)	3800 J (3800)	7100 J (420)		
Manganese	10000	2000	2000	2000	110 (2.4)	2000 (76)	880 (160)	810 (110)	340 (21)		
Mercury	35	10	10	10	U (0.097)	0.14 J (0.15)	0.079 J (0.13)	0.071 J (0.087)	0.049 J (0.085)		
Molybdenum	1100	650	650	650	UJ (4.9)	UJ (7.6)	UJ (6.4)	UJ (4.3)	UJ (4.2)		
Nickel	4400	650	650	650	26 (2.4)	21 (3.8)	21 J (3.2)	17 J (2.2)	20 J (2.1)		
Nitrate	350000	1000	1000	1000	U (12.8)	U (18.5)	1.2 J (1.5)	15.6 (13)	2.3 J (12.9)		
Nitrite	22000	100	100	100	U (2.6)	U (3.7)	U (3)	U (2.6)	U (2.6)		
Total Kjeldahl Nitrogen					444 (95)	3930 (138)	3040 (112)	1360 (97.2)	U (94.9)		
Phosphorus (total)					1490 J (128)	5140 (457)	3480 (75.8)	2340 (65.5)	1450 (65.2)		
Potassium					3600 (490)	3200 (76)	3200 (64)	1400 (43)	1400 (42)		
Silver	1100	84	84	84	U (2.4)	U (3.8)	U (3.2)	U (2.2)	U (2.1)		
Sodium					28 J (4.9)	150 (76)	110 J (110)	57 J (57)	68 (42)		
Sulfate					68.8 J (128)	350 (185)	85.6 J (150)	30.6 J (130)	4.9 J (129)		
Vanadium	1500	26000	1500	1500	19 (2.4)	42 (3.8)	49 J (3.2)	36 J (2.2)	37 J (2.1)		
Zinc	66000	12000	12000	12000	70 J (70)	310 (15)	150 J (13)	100 J (100)	64 J (64)		

Notes:

- All concentrations are presented in milligrams per kilogram (mg/kg).
- Only compounds with at least one detection are shown.
- Concentrations that exceed the PADEP Residential Direct Contact Values (0-15ft) are **boldfaced**.
- Concentrations that exceed the Soil to GW Values - Used Aquifer - TDS <= 2500 are underlined.
- The values for chromium III are used to evaluate chromium (total).
- The Soil to Groundwater values for nitrate and nitrite are 100x the Federal maximum contaminant level (MCL).
- Blank cells in columns with criteria indicate that no value has been established.

Abbreviations:

MSC -- Medium specific criteria.
 U -- Not Detected.
 J -- Estimated Concentration.
 TDS -- Total Dissolved Solids.
 () -- Reporting Limit.
 -- -- Not Analyzed

**TABLE S-1
Soil Sampling Results
Bare Development Parcel
Millor Chemical & Fertilizer, Hanover, Pennsylvania**

Location	BA-DC-05		BA-DC-05		BA-DC-06		BA-DC-07		BA-DC-08	
Location Type	Visibly Affected		Visibly Affected		Visibly Affected		Visibly Affected		Visibly Affected	
Field Sample ID(s)	BA-DC-05-C-111715		DUP-7-111715		BA-DC-06-C-111715		BA-DC-07-C-111715		BA-DC-08-C-111715	
PADEP Residential Direct Contact Values (0-15ft)	Soil to Groundwater Values - Residential - Used Aquifer - TDS <= 2500		Residential MSC							
Lab Sample ID(s)	15112043-045		15112043-045		15112043-046		15112043-044		15112043-042	
Collection Depth (ft bgs)	0 - 0.25		0 - 0.25		0 - 0.25		0 - 0.25		0 - 0.25	
Sample Method	Composite		Composite		Composite		Composite		Composite	
Sample Date	11/17/2015		11/17/2015		11/17/2015		11/17/2015		11/17/2015	
Comments			Field Duplicate							
INORG										
Aluminum	190000		190000	18000 (2200)	23000 (2500)	28000 (1300)	30000 (1600)	28000 (1400)		
Ammonia	1900	3000	1900	--	--	--	--	--		
Antimony	88	27	27	UJ (2.2)	UJ (2.5)	U (3.3)	U (3.9)	U (3.5)		
Arsenic	12	29	12	13 J (0.45)	15 J (0.5)	11 (0.66)	12 (0.77)	9.3 (0.7)		
Barium	44000	8200	8200	110 (2.2)	130 (2.5)	160 (3.3)	160 (3.9)	160 (3.5)		
Beryllium	440	320	320	1.2 J (2.2)	1.3 J (2.5)	U (3.3)	U (3.9)	U (3.5)		
Boron	44000	1900	1900	UJ (22)	UJ (25)	U (33)	U (39)	U (35)		
Calcium				4000 (2200)	5300 (2500)	9000 (1300)	9700 (1600)	6900 (1400)		
Chromium (total)	190000	190000	190000	25 J (2.2)	34 J (2.5)	36 (3.3)	39 (3.9)	34 (3.5)		
Cobalt	66	50	50	23 J (2.2)	22 J (2.5)	15 (3.3)	14 (3.9)	9.4 (3.5)		
Copper	8100	43000	8100	37 J (37)	47 J (2.5)	100 (3.3)	130 (3.9)	75 (3.5)		
Iron	150000		150000	38000 J (2200)	45000 J (2500)	34000 (1300)	33000 (1600)	28000 (1400)		
Lead	500	450	450	32 J (2.2)	38 J (2.5)	43 (3.3)	38 (3.9)	40 (3.5)		
Magnesium				2100 J (2100)	2400 J (2400)	4300 (1300)	3800 (77)	3200 (70)		
Manganese	10000	2000	2000	1200 (110)	1400 (130)	1200 (66)	980 (77)	770 (70)		
Mercury	35	10	10	0.072 J (0.089)	0.07 J (0.1)	0.087 J (0.13)	0.092 J (0.16)	0.1 J (0.14)		
Molybdenum	1100	650	650	UJ (4.5)	UJ (5)	U (6.6)	U (7.7)	U (7)		
Nickel	4400	650	650	16 J (2.2)	19 J (2.5)	20 (3.3)	21 (3.9)	19 (3.5)		
Nitrate	350000	1000	1000	2.5 J (12.6)	2.4 J (13.5)	3.6 J (15.1)	6.5 J (16.3)	11.9 J (15.7)		
Nitrite	22000	100	100	U (2.5)	U (2.7)	U (3)	U (3.3)	U (3.1)		
Total Kjeldahl Nitrogen				2000 J (95.2)	UJ (99.2)	3700 (114)	4910 (122)	4750 (116)		
Phosphorus (total)				1850 (61.3)	1900 (67.8)	3070 (74.7)	3360 (80.3)	3390 (80.5)		
Potassium				1300 (45)	1500 (50)	2600 (66)	3000 (77)	3000 (70)		
Silver	1100	84	84	U (2.2)	U (2.5)	U (3.3)	U (3.9)	U (3.5)		
Sodium				57 (45)	65 (50)	97 (66)	120 (77)	100 (70)		
Sulfate				5.5 J (5.5)	3.5 J (3.5)	7.8 J (15.1)	7.8 J (16.3)	5.6 J (15.7)		
Vanadium	1500	26000	1500	37 J (2.2)	43 J (2.5)	41 (3.3)	43 (3.9)	39 (3.5)		
Zinc	66000	12000	12000	130 J (8.9)	160 J (10)	220 J (13)	250 J (16)	210 J (14)		

Notes:

- All concentrations are presented in milligrams per kilogram (mg/kg).
- Only compounds with at least one detection are shown.
- Concentrations that exceed the PADEP Residential Direct Contact Values (0-15ft) are **boldfaced**.
- Concentrations that exceed the Soil to GW Values - Used Aquifer - TDS <= 2500 are underlined.
- The values for chromium III are used to evaluate chromium (total).
- The Soil to Groundwater values for nitrate and nitrite are 100x the Federal maximum contaminant level (MCL).
- Blank cells in columns with criteria indicate that no value has been established.

Abbreviations:

MSC -- Medium specific criteria.
 U -- Not Detected.
 J -- Estimated Concentration.
 TDS -- Total Dissolved Solids.
 () -- Reporting Limit.
 -- -- Not Analyzed

TABLE 5-1
Soil Sampling Results
Bare Development Parcel
Miller Chemical & Fertilizer, Hanover, Pennsylvania

Location	BA-VA-01		BA-VA-02		BA-VA-03		BA-VA-03		BA-VA-03	
Location Type	Visibly Affected		Visibly Affected		Visibly Affected		Visibly Affected		Visibly Affected	
Field Sample ID(s)	PADEP Residential Direct Contact Values (0-15ft)	Soil to Groundwater Values - Residential - Used Aquifer - TDS <= 2500	Residential MSC	BA-VA-01-C-111915	BA-VA-02-C-111915	BA-VA-03-C-111915	BA-VA-03-GC-111715	BA-VA-03-GD-111715		
Lab Sample ID(s)				15112035-001 / 15112515-001	15112035-002 / 15112515-002	15112035-003 / 15112515-003	15111812-018 / 15112043-038	15111812-019 / 15112043-039		
Collection Depth (ft bgs)				0 - 0.25	0 - 0.25	0 - 0.25	1 - 2	4 - 5		
Sample Method				Composite	Composite	Composite	Grab	Grab		
Sample Date				11/19/2015	11/19/2015	11/19/2015	11/17/2015	11/17/2015		
Comments										
INORG										
Aluminum	190000		190000	29000 (1500)	17000 (1300)	28000 (5200)	39000 (2400)	27000 (2200)		
Ammonia	1900	3000	1900	--	--	--	--	--		
Antimony	88	27	27	UJ (3.8)	UJ (3.1)	UJ (2.6)	UJ (2.4)	UJ (2.2)		
Arsenic	12	29	12	6.9 (0.75)	5.9 (0.63)	7.8 (0.52)	13 (0.49)	6 (0.44)		
Barium	44000	8200	8200	140 (3.8)	110 (3.1)	130 (2.6)	180 J (2.4)	160 J (2.2)		
Beryllium	440	320	320	U (3.8)	U (3.1)	U (2.6)	1.3 J (2.4)	UJ (2.2)		
Boron	44000	1900	1900	UJ (3.8)	16 J (3.1)	UJ (2.6)	UJ (2.4)	UJ (2.2)		
Calcium				11000 (1500)	12000 (1300)	6000 (1000)	8000 J (8000)	4500 (2200)		
Chromium (total)	190000	190000	190000	33 (3.8)	21 (3.1)	28 (2.6)	33 J (2.4)	21 J (2.2)		
Cobalt	66	50	50	14 (3.8)	7.5 (3.1)	7.9 (2.6)	9.6 J (2.4)	9.9 J (2.2)		
Copper	8100	43000	8100	130 (3.8)	170 (3.1)	23 (2.6)	16 (2.4)	19 (2.2)		
Iron	150000		150000	26000 (1500)	16000 (1300)	26000 (1000)	37000 J (2400)	45000 (2200)		
Lead	500	450	450	34 (3.8)	21 (3.1)	23 (2.6)	25 (2.4)	16 J (2.2)		
Magnesium				3500 (75)	2500 (63)	3500 (1000)	4600 (2400)	11000 (2200)		
Manganese	10000	2000	2000	990 (75)	680 (63)	770 (52)	1500 (120)	1700 (110)		
Mercury	35	10	10	0.11 J (0.15)	0.12 J (0.13)	0.11 (0.1)	0.066 J (0.098)	0.059 J (0.087)		
Molybdenum	1100	650	650	UJ (7.5)	3.7 J (6.3)	UJ (5.2)	U (4.9)	U (4.4)		
Nickel	4400	650	650	18 (3.8)	11 (3.1)	16 (2.6)	18 (2.4)	25 (2.2)		
Nitrate	350000	1000	1000	27.5 (21.8)	U (27.8)	30.8 (15.7)	3.4 J (13)	2 J (12.6)		
Nitrite	22000	100	100	U (4.4)	U (5.6)	U (3.1)	U (2.6)	U (2.5)		
Total Kjeldahl Nitrogen				9000 (165)	15300 (208)	9020 (117)	2310 (96.5)	799 (94.2)		
Phosphorus (total)				2510 (108)	5290 (134)	1860 (83.3)	1190 (65.6)	939 (64.3)		
Potassium				2300 (75)	1700 (63)	2200 (52)	2100 J (2100)	1100 J (1100)		
Silver	1100	84	84	U (3.8)	U (3.1)	U (2.6)	U (2.4)	U (2.2)		
Sodium				120 (75)	91 (63)	48 J (52)	110 (49)	58 (44)		
Sulfate				79.8 J (218)	96.7 J (278)	27.7 J (157)	U (130)	5.3 J (126)		
Vanadium	1500	26000	1500	34 (3.8)	21 (3.1)	36 (2.6)	45 J (2.4)	23 J (2.2)		
Zinc	66000	12000	12000	210 J (15)	210 J (13)	UJ (75)	69 J (69)	50 J (50)		

Notes:

- All concentrations are presented in milligrams per kilogram (mg/kg).
- Only compounds with at least one detection are shown.
- Concentrations that exceed the PADEP Residential Direct Contact Values (0-15ft) are **boldfaced**.
- Concentrations that exceed the Soil to GW Values - Used Aquifer - TDS <= 2500 are underlined.
- The values for chromium III are used to evaluate chromium (total).
- The Soil to Groundwater values for nitrate and nitrite are 100x the Federal maximum contaminant level (MCL).
- Blank cells in columns with criteria indicate that no value has been established.

Abbreviations:

- MSC -- Medium specific criteria.
- U -- Not Detected.
- J -- Estimated Concentration.
- TDS -- Total Dissolved Solids.
- () -- Reporting Limit.
- -- Not Analyzed

TABLE 5-1
Soil Sampling Results
Bare Development Parcel
Miller Chemical & Fertilizer, Hanover, Pennsylvania

Location Location Type	BA-VA-04 Visibly Affected	BA-VA-04 Visibly Affected	BA-VA-04 Visibly Affected	BA-VA-05 Visibly Affected	BA-VA-06 Visibly Affected
Field Sample ID(s)	BA-VA-04-C-111915	BA-VA-04-GC-111715	BA-VA-04-GD-111715	BA-VA-05-C-111915	BA-VA-06-C-111915
PADEP Residential Direct Contact Values (0-15ft)	Residential MSC	Residential MSC	Residential MSC	Residential MSC	Residential MSC
Soil to Groundwater Values - Residential - Used Aquifer - TDS <= 2500	Soil to Groundwater Values - Residential - Used Aquifer - TDS <= 2500	Soil to Groundwater Values - Residential - Used Aquifer - TDS <= 2500	Soil to Groundwater Values - Residential - Used Aquifer - TDS <= 2500	Soil to Groundwater Values - Residential - Used Aquifer - TDS <= 2500	Soil to Groundwater Values - Residential - Used Aquifer - TDS <= 2500
Lab Sample ID(s)	15112035-004 / 15112515-004	15111812-002 / 15112043-022	15111812-005 / 15112043-025	15112035-005 / 15112515-005	15112035-006 / 15112515-006
Collection Depth (ft bgs)	0 - 0.25	1 - 2	4 - 5	0 - 0.25	0 - 0.25
Sample Method	Composite	Grab	Grab	Composite	Composite
Sample Date	11/19/2015	11/17/2015	11/17/2015	11/19/2015	11/19/2015
Comments					
INORG					
Aluminum	190000	190000	190000	190000	190000
Ammonia	1900	3000	1900	3000	1900
Antimony	88	27	27	27	27
Arsenic	12	29	12	29	12
Barium	44000	8200	8200	8200	8200
Beryllium	440	320	320	320	320
Boron	44000	1900	1900	1900	1900
Calcium					
Chromium (total)	190000	190000	190000	190000	190000
Cobalt	66	50	50	50	50
Copper	8100	43000	8100	43000	8100
Iron	150000	150000	150000	150000	150000
Lead	500	450	450	450	450
Magnesium					
Manganese	10000	2000	2000	2000	2000
Mercury	35	10	10	10	10
Molybdenum	1100	650	650	650	650
Nickel	4400	650	650	650	650
Nitrate	350000	1000	1000	1000	1000
Nitrite	22000	100	100	100	100
Total Kjeldahl Nitrogen					
Phosphorus (total)					
Potassium					
Silver	1100	84	84	84	84
Sodium					
Sulfate					
Vanadium	1500	26000	1500	26000	1500
Zinc	66000	12000	12000	12000	12000

Notes:

- All concentrations are presented in milligrams per kilogram (mg/kg).
- Only compounds with at least one detection are shown.
- Concentrations that exceed the PADEP Residential Direct Contact Values (0-15ft) are **boldfaced**.
- Concentrations that exceed the Soil to GW Values - Used Aquifer - TDS <= 2500 are underlined.
- The values for chromium III are used to evaluate chromium (total).
- The Soil to Groundwater values for nitrate and nitrite are 100x the Federal maximum contaminant level (MCL).
- Blank cells in columns with criteria indicate that no value has been established.

Abbreviations:

MSC -- Medium specific criteria.
 U -- Not Detected.
 J -- Estimated Concentration.
 TDS -- Total Dissolved Solids.
 () -- Reporting Limit.
 -- -- Not Analyzed

**TABLE 5-1
Soil Sampling Results
Bare Development Parcel
Miller Chemical & Fertilizer, Hanover, Pennsylvania**

Location Location Type	BA-VA-06 Visibly Affected	BA-VA-06 Visibly Affected	BA-VA-07 Visibly Affected	BA-VA-08 Visibly Affected	BA-VA-09 Visibly Affected
Field Sample ID(s)	BA-VA-06-GC-111715	BA-VA-06-GD-111715	BA-VA-07-C-111915	BA-VA-08-C-111915	BA-VA-09-C-111915
PADEP Residential Direct Contact Values (0-15ft)	15111812-003 / 15112043-023	15111812-004 / 15112043-024	15112035-007 / 15112515-007	15112035-008 / 15112515-008	15112035-009 / 15112515-009
Soil to Groundwater Values - Residential - Used Aquifer - TDS <= 2500	1 - 2	4 - 5	0 - 0.25	0 - 0.25	0 - 0.25
Residential MSC	Grab	Grab	Composite	Composite	Composite
Collection Depth (ft bgs)	11/17/2015	11/17/2015	11/19/2015	11/19/2015	11/19/2015
Sample Method					
Sample Date					
Comments					
1NORG					
Aluminum	190000	190000	30000 (3900)	17000 (4600)	29000 (4400)
Ammonia	1900	1900	--	--	--
Antimony	88	27	UJ (2.6)	UJ (2.3)	UJ (2.2)
Arsenic	12	12	13 (0.52)	14 (0.4)	5.6 (0.44)
Barium	44000	8200	96 J (2.6)	110 J (2)	150 (2.2)
Beryllium	440	320	UJ (2.6)	1.1 J (2)	1.2 J (2.2)
Boron	44000	1900	U (26)	U (20)	UJ (22)
Calcium			2400 (52)	1800 (40)	5700 (890)
Chromium (total)	190000	190000	48 J (2.6)	50 J (2)	29 (2.2)
Cobalt	66	50	18 J (2.6)	25 J (2)	9.2 (2.2)
Copper	8100	8100	16 (2.6)	16 (2)	33 (2.2)
Iron	150000	150000	75000 (2600)	79000 (2000)	29000 (890)
Lead	500	450	26 (2.6)	30 (2)	19 (2.2)
Magnesium			6500 (2600)	3400 (2000)	3700 (890)
Manganese	10000	2000	920 J (130)	<u>2500 J (100)</u>	1000 (39)
Mercury	35	10	0.087 J (0.1)	0.055 J (0.081)	0.072 J (0.092)
Molybdenum	1100	650	U (5.2)	U (4)	UJ (4.6)
Nickel	4400	650	27 (2.6)	22 (2)	14 (2.2)
Nitrate	350000	1000	12.6 (11.9)	U (11.7)	U (17.1)
Nitrite	22000	100	U (2.4)	U (2.3)	U (2.6)
Total Kjeldahl Nitrogen			880 (88)	642 (88.6)	7200 (129)
Phosphorus (total)			153 (59.2)	328 (56.8)	725 (64.3)
Potassium			1300 J (1300)	1100 J (1100)	3230 (85.1)
Silver	1100	84	U (2.6)	U (2)	2100 (46)
Sodium			96 (52)	72 (40)	U (2.3)
Sulfate			U (119)	U (117)	UJ (79)
Vanadium	1500	26000	56 J (2.6)	50 J (2)	78.7 J (171)
Zinc	66000	12000	69 J (69)	56 J (56)	34 (2.3)
				UJ (65)	160 J (9.2)

Notes:

- All concentrations are presented in milligrams per kilogram (mg/kg).
- Only compounds with at least one detection are shown.
- Concentrations that exceed the PADEP Residential Direct Contact Values (0-15ft) are **boldfaced**.
- Concentrations that exceed the Soil to GW Values - Used Aquifer - TDS <= 2500 are underlined.
- The values for chromium III are used to evaluate chromium (total).
- The Soil to Groundwater values for nitrate and nitrite are 100x the Federal maximum contaminant level (MCL).
- Blank cells in columns with criteria indicate that no value has been established.

Abbreviations:

MSC -- Medium specific criteria.
 U -- Not Detected.
 J -- Estimated Concentration.
 TDS -- Total Dissolved Solids.
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 -- -- Not Analyzed

**TABLE 5-1
Soil Sampling Results
Bare Development Parcel
Miller Chemical & Fertilizer, Hanover, Pennsylvania**

Location	BA-VA-09	BA-VA-10	BA-VA-10	BA-VA-10	BA-VA-11
Location Type	Visibly Affected	Visibly Affected	Visibly Affected	Visibly Affected	Visibly Affected
Field Sample ID(s)	DUP-2-111915	BA-VA-10-C-111915	BA-VA-10-GC-111715	BA-VA-10-GD-111715	BA-VA-11-C-111915
PADEP Residential Direct Contact Values (0-15ft)	Residential MSC				
Soil to Groundwater Values - Residential - Used Aquifer - TDS <= 2500					
Lab Sample ID(s)	15112036-009 / 15112516-009	15112035-010 / 15112515-010	15111812-009 / 15112043-029	15111812-010 / 15112043-030	15112035-011 / 15112515-011
Collection Depth (ft bgs)	0 - 0.25	0 - 0.25	1 - 2	4 - 5	0 - 0.25
Sample Method	Composite	Composite	Grab	Grab	Composite
Sample Date	11/19/2015	11/19/2015	11/17/2015	11/17/2015	11/19/2015
Comments	Field Duplicate				
INORG					
Aluminum	190000	190000	34000 (2600)	34000 (5500)	34000 (2200)
Antimony	1900	3000	1900	1900	33000 (2700)
Antimony	88	27	27	27	33000 (4500)
Arsenic	12	29	12	12	33000 (4500)
Barium	44000	8200	8200	8200	33000 (4500)
Beryllium	440	320	320	320	33000 (4500)
Boron	44000	1900	1900	1900	33000 (4500)
Calcium					33000 (4500)
Chromium (total)	190000	190000	190000	190000	33000 (4500)
Cobalt	66	50	50	50	33000 (4500)
Copper	8100	43000	8100	8100	33000 (4500)
Iron	150000	150000	150000	150000	33000 (4500)
Lead	500	450	450	450	33000 (4500)
Magnesium					33000 (4500)
Manganese	10000	2000	2000	2000	33000 (4500)
Mercury	35	10	10	10	33000 (4500)
Molybdenum	1100	650	650	650	33000 (4500)
Nickel	4400	650	650	650	33000 (4500)
Nitrate	350000	1000	1000	1000	33000 (4500)
Nitrite	22000	100	100	100	33000 (4500)
Total Kjeldahl Nitrogen					33000 (4500)
Phosphorus (total)					33000 (4500)
Potassium					33000 (4500)
Silver	1100	84	84	84	33000 (4500)
Sodium					33000 (4500)
Sulfate					33000 (4500)
Vanadium	1500	26000	1500	1500	33000 (4500)
Zinc	66000	12000	12000	12000	33000 (4500)

Notes:

- All concentrations are presented in milligrams per kilogram (mg/kg).
- Only compounds with at least one detection are shown.
- Concentrations that exceed the PADEP Residential Direct Contact Values (0-15ft) are **boldfaced**.
- Concentrations that exceed the Soil to GW Values - Used Aquifer - TDS <= 2500 are underlined.
- The values for chromium III are used to evaluate chromium (total).
- The Soil to Groundwater values for nitrate and nitrite are 100x the Federal maximum contaminant level (MCL).
- Blank cells in columns with criteria indicate that no value has been established.

Abbreviations:

MSC -- Medium specific criteria.
 U -- Not Detected.
 J -- Estimated Concentration.
 TDS -- Total Dissolved Solids.
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 -- -- Not Analyzed

**TABLE 5-1
Soil Sampling Results
Bare Development Parcel
Miller Chemical & Fertilizer, Hanover, Pennsylvania**

Location Location Type	BA-VA-12 Visibly Affected	BA-VA-13 Visibly Affected	BA-VA-13 Visibly Affected	BA-VA-13 Visibly Affected	BA-VA-14 Visibly Affected
Field Sample ID(s)	BA-VA-12-C-111915	BA-VA-13-C-111915	BA-VA-13-GC-111715	BA-VA-13-GD-111715	BA-VA-14-C-111915
PADEP Residential Direct Contact Values (0-15ft)	Residential MSC	Residential MSC	Residential MSC	Residential MSC	Residential MSC
Soil to Groundwater Values - Residential - Used Aquifer - TDS <= 2500	Soil to Groundwater Values - Residential - Used Aquifer - TDS <= 2500	Soil to Groundwater Values - Residential - Used Aquifer - TDS <= 2500	Soil to Groundwater Values - Residential - Used Aquifer - TDS <= 2500	Soil to Groundwater Values - Residential - Used Aquifer - TDS <= 2500	Soil to Groundwater Values - Residential - Used Aquifer - TDS <= 2500
Lab Sample ID(s)	15112035-012 / 15112515-012	15112035-013 / 15112515-013	15111812-011 / 15112043-031	15111812-012 / 15112043-032	15112035-014 / 15112515-014
Collection Depth (ft bgs)	0 - 0.25	0 - 0.25	1 - 2	4 - 5	0 - 0.25
Sample Method	Composite	Composite	Grab	Grab	Composite
Sample Date	11/19/2015	11/19/2015	11/17/2015	11/17/2015	11/19/2015
Comments					
INORG					
Aluminum	190000	190000	37000 (6100)	35000 (4500)	40000 (2900)
Ammonia	1900	3000	1900	1900	31000 (2300)
Antimony	88	27	27	UJ (3)	30000 (4900)
Arsenic	12	29	12	UJ (2.3)	UJ (2.5)
Barium	44000	8200	8200	7.7 (0.61)	UJ (2.5)
Beryllium	440	320	320	6.7 (0.45)	7.7 (0.49)
Boron	44000	1900	1900	150 (2.3)	150 (2.5)
Calcium				U (3)	U (2.5)
Chromium (total)	190000	190000	190000	U (2.9)	U (2.5)
Cobalt	66	50	50	U (23)	U (25)
Copper	8100	43000	8100	6000 (1200)	4400 (990)
Iron	150000	150000	150000	5200 (910)	3200 (2300)
Lead	500	450	450	4300 (2900)	4400 (990)
Magnesium				36 (3)	33 (2.5)
Manganese	10000	2000	2000	10 (3)	12 (2.5)
Mercury	35	10	10	8.1 (2.3)	12 (2.5)
Molybdenum	1100	650	650	25 (2.3)	21 (2.5)
Nickel	4400	650	650	34000 (1200)	34000 (990)
Nitrate	350000	1000	1000	25 (3)	26 (2.5)
Nitrite	22000	100	100	4200 (1200)	42000 (2300)
Total Kjeldahl Nitrogen				20 (2.9)	34000 (990)
Phosphorus (total)				4200 (2900)	42000 (2300)
Potassium				3900 (910)	4600 (990)
Silver	1100	84	84	4600 (2900)	5300 (2300)
Sodium				710 (45)	170 (2.3)
Sulfate				140 (2.9)	170 (2.3)
Vanadium	1500	26000	1500	0.07 J (0.12)	0.066 J (0.091)
Zinc	66000	12000	12000	0.063 J (0.091)	0.074 J (0.11)

Notes:

- All concentrations are presented in milligrams per kilogram (mg/kg).
- Only compounds with at least one detection are shown.
- Concentrations that exceed the PADEP Residential Direct Contact Values (0-15ft) are **boldfaced**.
- Concentrations that exceed the Soil to GW Values - Used Aquifer - TDS <= 2500 are underlined.
- The values for chromium III are used to evaluate chromium (total).
- The Soil to Groundwater values for nitrate and nitrite are 100x the Federal maximum contaminant level (MCL).
- Blank cells in columns with criteria indicate that no value has been established.

Abbreviations:

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 -- -- Not Analyzed

**TABLE 5-1
Soil Sampling Results
Bare Development Parcel
Miller Chemical & Fertilizer, Manover, Pennsylvania**

Location Location Type	BA-VA-15 Visibly Affected	BA-VA-16 Visibly Affected	BA-VA-16 Visibly Affected	BA-VA-16 Visibly Affected	BA-VA-16 Visibly Affected
Field Sample 1D(s)	BA-VA-15-C-111915	BA-VA-16-C-111915	BA-VA-16-GC-111715	DUP-4-111715	BA-VA-16-GD-111715
PADEP Residential Direct Contact Values (0-15ft)	Residential MSC	Residential MSC	Residential MSC	Residential MSC	Residential MSC
Lab Sample 1D(s)	15112035-015 /	15112035-016 /	15111812-013 /	15111812-014 /	15111812-015 /
Collection Depth (ft bgs)	15112515-015	15112515-016	15112043-033	15112043-034	15112043-035
Sample Method	0 - 0.25	0 - 0.25	1 - 2	1 - 2	4 - 5
Sample Date	Composite	Composite	Grab	Grab	Grab
Comments	11/19/2015	11/19/2015	11/17/2015	11/17/2015	11/17/2015
				Field Duplicate	
INORG					
Aluminum	190000	190000	28000 (5300)	23000 (990)	40000 (2800)
Ammonia	1900	3000	1900	--	--
Antimony	88	27	27	UJ (2.7)	UJ (2.8)
Arsenic	12	29	12	6.8 (0.53)	6.8 J (0.49)
Barium	44000	8200	8200	140 (2.7)	130 J (2.8)
Beryllium	440	320	320	U (2.7)	UJ (2.8)
Boron	44000	1900	1900	UJ (27)	UJ (25)
Calcium			4000 (1100)	2900 (990)	4500 (2800)
Chromium (total)	190000	190000	190000	28 (2.7)	27 J (2.5)
Cobalt	66	50	50	12 (2.7)	11 J (2.5)
Copper	8100	43000	8100	24 (2.7)	UJ (24)
Iron	150000	150000	150000	30000 (1100)	27000 (990)
Lead	500	450	450	23 (2.7)	28 J (2.5)
Magnesium			3400 (1100)	2900 (990)	10000 (2800)
Manganese	10000	2000	2000	650 (53)	680 (49)
Mercury	35	10	10	U (0.11)	0.064 J (0.099)
Molybdenum	1100	650	650	UJ (5.3)	UJ (4.9)
Nickel	4400	650	650	14 (2.7)	14 J (2.5)
Nitrate	350000	1000	1000	26.5 (12.6)	39.3 (13.1)
Nitrite	22000	100	100	U (2.5)	U (2.6)
Total Kjeldahl Nitrogen			1990 (93.8)	2180 (98.6)	884 (95.6)
Phosphorus (total)			757 (62.8)	1190 (64.3)	97.2 (64.4)
Potassium			2300 (53)	2200 (49)	1400 J (1400)
Silver	1100	84	84	U (2.7)	U (2.8)
Sodium			UJ (81)	UJ (100)	86 (56)
Sulfate			17.9 J (126)	33.3 J (131)	U (127)
Vanadium	1500	26000	1500	40 (2.7)	38 J (2.5)
Zinc	66000	12000	12000	UJ (61)	UJ (67)
					64 J (64)
					63 J (63)

Notes:

- All concentrations are presented in milligrams per kilogram (mg/kg).
- Only compounds with at least one detection are shown.
- Concentrations that exceed the PADEP Residential Direct Contact Values (0-15ft) are **boldfaced**.
- Concentrations that exceed the Soil to GW Values - Used Aquifer - TDS <= 2500 are underlined.
- The values for chromium III are used to evaluate chromium (total).
- The Soil to Groundwater values for nitrate and nitrite are 100x the Federal maximum contaminant level (MCL).
- Blank cells in columns with criteria indicate that no value has been established.

Abbreviations:

- MSC -- Medium specific criteria.
 U -- Not Detected.
 J -- Estimated Concentration.
 TDS -- Total Dissolved Solids.
 () -- Reporting Limit.
 -- -- Not Analyzed

TABLE 5-1
Soil Sampling Results
Bare Development Parcel
Miller Chemical & Fertilizer, Hanover, Pennsylvania

Location	BA-VA-17			BA-VA-18			BA-VA-19		
Location Type	Visibly Affected			Visibly Affected			Visibly Affected		
Field Sample 1D(s)	PADEP Residential Direct Contact Values (0-15ft)	Soil to Groundwater Values - Residential - Used Aquifer - TDS <= 2500	Residential MSC	BA-VA-17-C-111915	BA-VA-18-C-111915	BA-VA-19-C-111915	BA-VA-19-GC-111715	BA-VA-19-GD-111715	
Lab Sample 1D(s)				15112035-017 / 15112515-017	15112035-018 / 15112515-018	15112035-019 / 15112515-019	15111812-016 / 15112043-036	15111812-017 / 15112043-037	
Collection Depth (ft bgs)				0 - 0.25	0 - 0.25	0 - 0.25	1 - 2	4 - 5	
Sample Method				Composite	Composite	Composite	Grab	Grab	
Sample Date				11/19/2015	11/19/2015	11/19/2015	11/17/2015	11/17/2015	
Comments									
INORG									
Aluminum	190000		190000	24000 (1100)	19000 (970)	20000 (890)	23000 (1200)	26000 (2200)	
Ammonia	1900	3000	1900	--	--	--	--	--	
Antimony	88	27	27	UJ (2.6)	UJ (2.4)	UJ (2.2)	UJ (3)	UJ (2.2)	
Arsenic	12	29	12	7.6 J (0.53)	6 J (0.48)	9.8 J (0.44)	5.2 (0.59)	6.1 (0.43)	
Barium	44000	8200	8200	99 (2.6)	91 (2.4)	140 (2.2)	140 J (3)	92 J (2.2)	
Beryllium	440	320	320	UJ (2.6)	UJ (2.4)	UJ (2.2)	UJ (3)	UJ (2.2)	
Boron	44000	1900	1900	UJ (26)	UJ (24)	UJ (22)	UJ (30)	UJ (22)	
Calcium				3200 (1100)	2400 (970)	1800 (44)	2200 (59)	2900 (870)	
Chromium (total)	190000	190000	190000	31 J (2.6)	28 J (2.4)	53 J (2.2)	26 J (3)	30 J (2.2)	
Cobalt	66	50	50	10 J (2.6)	9.3 J (2.4)	39 J (2.4)	11 J (3)	14 J (2.2)	
Copper	8100	43000	8100	UJ (24)	UJ (23)	UJ (19)	14 (3)	11 (2.2)	
Iron	150000		150000	32000 (1100)	22000 (970)	39000 (890)	27000 (1200)	41000 (870)	
Lead	500	450	450	21 J (2.6)	19 J (2.4)	39 J (2.2)	17 (3)	18 (2.2)	
Magnesium				2400 (53)	2000 (48)	1700 (44)	2000 (59)	3100 (870)	
Manganese	10000	2000	2000	420 (53)	280 (48)	1600 (110)	890 (59)	320 (43)	
Mercury	35	10	10	0.069 J (0.11)	0.053 J (0.097)	0.051 J (0.089)	U (0.12)	U (0.087)	
Molybdenum	1100	650	650	UJ (5.3)	UJ (4.8)	UJ (4.4)	U (5.9)	U (4.3)	
Nickel	4400	650	650	14 J (2.6)	12 J (2.4)	15 J (2.2)	14 (3)	16 (2.2)	
Nitrate	350000	1000	1000	32.4 (12)	44.5 (12.7)	20.6 (12.8)	26.5 (12.2)	3.8 J (12)	
Nitrite	22000	100	100	U (2.4)	U (2.5)	U (2.6)	U (2.4)	U (2.4)	
Total Kjeldahl Nitrogen				1590 (89.9)	1610 (95.9)	1850 (96.4)	978 (89.7)	504 (88.8)	
Phosphorus (total)				958 (59.4)	898 (62.9)	1000 (64.1)	284 (62.2)	129 J (60.3)	
Potassium				2500 (53)	2000 (48)	1800 (44)	1900 J (1900)	1400 J (1400)	
Silver	1100	84	84	U (2.6)	U (2.4)	U (2.2)	U (3)	U (2.2)	
Sodium				UJ (140)	UJ (130)	UJ (77)	140 (59)	76 (43)	
Sulfate				27.1 J (120)	30.8 J (127)	19.3 J (128)	5.4 J (122)	3.3 J (120)	
Vanadium	1500	26000	1500	41 J (2.6)	36 J (2.4)	48 J (2.2)	36 J (3)	41 J (2.2)	
Zinc	66000	12000	12000	UJ (58)	UJ (57)	UJ (57)	46 J (46)	37 J (37)	

Notes:

- All concentrations are presented in milligrams per kilogram (mg/kg).
- Only compounds with at least one detection are shown.
- Concentrations that exceed the PADEP Residential Direct Contact Values (0-15ft) are **boldfaced**.
- Concentrations that exceed the Soil to GW Values - Used Aquifer - TDS <= 2500 are underlined.
- The values for chromium III are used to evaluate chromium (total).
- The Soil to Groundwater values for nitrate and nitrite are 100x the Federal maximum contaminant level (MCL).
- Blank cells in columns with criteria indicate that no value has been established.

Abbreviations:

- MSC -- Medium specific criteria.
- U -- Not Detected.
- J -- Estimated Concentration.
- TDS -- Total Dissolved Solids.
- () -- Reporting Limit.
- -- Not Analyzed

**TABLE 5-1
Soil Sampling Results
Bare Development Parcel
Miller Chemical & Fertilizer, Monover, Pennsylvania**

Location Location Type	BA-VA-20 Visibly Affected	BA-VA-21 Visibly Affected	BA-VA-22 Visibly Affected	BA-VA-22 Visibly Affected	BA-VA-22 Visibly Affected
Field Sample ID(s)	BA-VA-20-C-111915	BA-VA-21-C-111915	BA-VA-22-C-111915	BA-VA-22-GC-111715	BA-VA-22-GD-111715
PADEP Residential Direct Contact Values (0-15ft)	Residential MSC	Residential MSC	Residential MSC	Residential MSC	Residential MSC
Soil to Groundwater Values - Residential - Used Aquifer - TDS <= 2500	Residential MSC	Residential MSC	Residential MSC	Residential MSC	Residential MSC
Lab Sample ID(s)	15112035-020 / 15112515-020	15112036-001 / 15112516-001	15112036-002 / 15112516-002	15111811-006 / 15112043-006	15111811-007 / 15112043-007
Collection Depth (ft bgs)	0 - 0.25	0 - 0.25	0 - 0.25	1 - 2	4 - 5
Sample Method	Composite	Composite	Composite	Grab	Grab
Sample Date	11/19/2015	11/19/2015	11/19/2015	11/17/2015	11/17/2015
Comments					
INORG					
Aluminum	190000	190000	16000 (930)	19000 (1200)	22000 (1500)
Ammonia	1900	3000	1900	--	--
Antimony	88	27	27	UJ (2.3)	UJ (3.1)
Arsenic	12	29	12	UJ (4.5)	5.5 J (0.62)
Barium	44000	8200	8200	90 (2.3)	93 (3.1)
Beryllium	440	320	320	UJ (2.3)	UJ (3.1)
Boron	44000	1900	1900	UJ (23)	UJ (31)
Calcium			2300 (930)	1900 (62)	3400 (77)
Chromium (total)	190000	190000	190000	21 J (2.3)	23 J (3.1)
Cobalt	66	50	50	7 J (2.3)	8.5 J (3.1)
Copper	8100	43000	8100	UJ (20)	UJ (23)
Iron	150000		150000	17000 (930)	19000 (1200)
Lead	500	450	450	18 J (2.3)	19 J (3.1)
Magnesium			1800 (46)	2000 (62)	2400 (77)
Manganese	10000	2000	2000	310 (46)	380 (62)
Mercury	35	10	10	0.057 J (0.093)	U (0.12)
Molybdenum	1100	650	650	UJ (4.6)	UJ (6.2)
Nickel	4400	650	650	10 J (2.3)	11 J (3.1)
Nitrate	350000	1000	1000	13.9 (13.1)	83.7 (12.8)
Nitrite	22000	100	100	U (2.6)	U (2.6)
Total Kjeldahl Nitrogen			1790 (98.6)	1570 (95.3)	3330 (114)
Phosphorus (total)			812 (65.1)	899 (64.1)	1390 (74.3)
Potassium			1800 (46)	2300 (62)	2700 (77)
Silver	1100	84	84	U (2.3)	U (3.1)
Sodium			UJ (83)	UJ (140)	UJ (140)
Sulfate			18.3 J (131)	61.3 J (128)	40 J (150)
Vanadium	1500	26000	1500	28 J (2.3)	31 J (3.1)
Zinc	66000	12000	12000	UJ (50)	UJ (65)

Notes:

- All concentrations are presented in milligrams per kilogram (mg/kg).
- Only compounds with at least one detection are shown.
- Concentrations that exceed the PADEP Residential Direct Contact Values (0-15ft) are **boldfaced**.
- Concentrations that exceed the Soil to GW Values - Used Aquifer - TDS <= 2500 are underlined.
- The values for chromium III are used to evaluate chromium (total).
- The Soil to Groundwater values for nitrate and nitrite are 100x the Federal maximum contaminant level (MCL).
- Blank cells in columns with criteria indicate that no value has been established.

Abbreviations:

- MSC -- Medium specific criteria.
- U -- Not Detected.
- J -- Estimated Concentration.
- TDS -- Total Dissolved Solids.
- () -- Reporting Limit.
- -- Not Analyzed

**TABLE 5-1
Soil Sampling Results
Bare Development Parcel
Miller Chemical & Fertilizer, Manover, Pennsylvania**

Location Location Type	BA-VA-23 Visibly Affected	BA-VA-24 Visibly Affected	BA-VA-24 Visibly Affected	BA-VA-24 Visibly Affected	BA-VA-24 Visibly Affected			
Field Sample 1D(s)	BA-VA-23-C-111915	BA-VA-24-C-111915	BA-VA-24-GC-111615 / BA-VA-24-ALT-1-2-031716	Dup-1-031716	BA-VA-24-GD-111615			
Lab Sample 1D(s) Collection Depth (ft bgs) Sample Method Sample Date Comments	PADEP Residential Direct Contact Values (0-15ft)	Soil to Groundwater Values - Residential - Used Aquifer - TDS <= 2500	Residential MSC	15112036-003 / 15112516-003 0 - 0.25 Composite 11/19/2015	15112036-004 / 15112516-004 0 - 0.25 Composite 11/19/2015	15111703-017 / 15111817-017 / 16031816-001 1 - 2 Grab 3/17/2016 Field Duplicate	15111703-018 / 15111817-018 4 - 5 Grab 11/16/2015	
INORG								
Aluminum	190000		190000	26000 (1700)	22000 (2700)	32000 (4600)	--	25000 (2500)
Ammonia	1900	3000	1900	--	--	--	--	--
Antimony	88	27	27	UJ (4.2)	UJ (2.7)	UJ (2.3)	--	UJ (2.5)
Arsenic	12	29	12	9.1 J (0.83)	6 J (0.54)	6.7 (0.46)	--	9 (0.51)
Barium	44000	8200	8200	150 (4.2)	190 (2.7)	200 (2.3)	--	100 (2.5)
Beryllium	440	320	320	UJ (4.2)	UJ (2.7)	1.7 J (2.3)	--	1.3 J (2.5)
Boron	44000	1900	1900	UJ (42)	UJ (27)	UJ (23)	--	UJ (25)
Calcium				13000 (1700)	6900 (1100)	5600 (4600)	--	4300 (2500)
Chromium (total)	190000	190000	190000	29 J (4.2)	31 J (2.7)	29 J (2.3)	--	31 J (2.5)
Cobalt	66	50	50	12 J (4.2)	12 J (2.7)	23 (2.3)	--	34 J (2.5)
Copper	8100	43000	8100	200 J (4.2)	UJ (22)	10 (2.3)	--	20 (2.5)
Iron	150000		150000	28000 (1700)	30000 (1100)	46000 (4600)	--	50000 (2500)
Lead	500	450	450	32 J (4.2)	29 J (2.7)	21 (2.3)	--	25 (2.5)
Magnesium				2900 (83)	4300 (1100)	4800 (4600)	--	8500 (2500)
Manganese	10000	2000	2000	1100 (83)	1000 (140)	960 (28)	1800 (31)	2300 J (150)
Mercury	35	10	10	0.092 J (0.17)	0.066 J (0.11)	0.049 J (0.092)	--	U (0.1)
Molybdenum	1100	650	650	8.9 J (8.3)	UJ (5.4)	U (4.6)	--	U (5.1)
Nickel	4400	650	650	16 J (4.2)	18 J (2.7)	24 (2.3)	--	33 (2.5)
Nitrate	350000	1000	1000	5.1 J (18.2)	2 J (14.6)	3.3 J (12.7)	--	1.2 J (1.2)
Nitrite	22000	100	100	U (3.6)	U (2.9)	0.76 J (2.5)	--	U (2.4)
Total Kjeldahl Nitrogen				5780 (137)	3150 (110)	1320 J (94)	--	659 J (89.7)
Phosphorus (total)				3270 (90.6)	810 (72.6)	414 J (63.6)	--	783 J (60)
Potassium				3100 (83)	2300 (54)	1700 (46)	--	1300 (51)
Silver	1100	84	84	U (4.2)	U (2.7)	U (2.3)	--	U (2.5)
Sodium				UJ (190)	UJ (87)	48 (46)	--	33 J (51)
Sulfate				138 J (182)	25.7 J (146)	123 J (127)	--	81 J (120)
Vanadium	1500	26000	1500	35 J (4.2)	37 J (2.7)	39 (2.3)	--	33 (2.5)
Zinc	66000	12000	12000	490 J (17)	UJ (93)	67 (9.2)	--	64 (10)

Notes:

- All concentrations are presented in milligrams per kilogram (mg/kg).
- Only compounds with at least one detection are shown.
- Concentrations that exceed the PADEP Residential Direct Contact Values (0-15ft) are **boldfaced**.
- Concentrations that exceed the Soil to GW Values - Used Aquifer - TDS <= 2500 are underlined.
- The values for chromium III are used to evaluate chromium (total).
- The Soil to Groundwater values for nitrate and nitrite are 100x the Federal maximum contaminant level (MCL).
- Blank cells in columns with criteria indicate that no value has been established.
- The manganese result at 8A-VA-24 at a depth interval of 1 - 2 ft bgs was obtained from a sample taken on 3/17/2016.

Abbreviations:

MSC -- Medium specific criteria.
 U -- Not Detected.
 J -- Estimated Concentration.
 TDS -- Total Dissolved Solids.
 () -- Reporting Limit.
 -- -- Not Analyzed

TABLE 5-1
Soil Sampling Results
Bare Development Parcel
Miller Chemical & Fertilizer, Manover, Pennsylvania

Location Location Type	BA-VA-24 Visibly Affected	BA-VA-25 Visibly Affected	BA-VA-26 Visibly Affected	BA-VA-27 Visibly Affected	BA-VA-27 Visibly Affected
Field Sample 1D(s)	DUP-5-111615	BA-VA-25-C-111915	BA-VA-26-C-111915	BA-VA-27-C-111915	BA-VA-27-GC-111615
PADEP Residential Direct Contact Values (0-15ft)	Residential MSC	Residential MSC	Residential MSC	Residential MSC	Residential MSC
Soil to Groundwater Values - Residential - Used Aquifer - TDS <= 2500	Soil to Groundwater Values - Residential - Used Aquifer - TDS <= 2500	Soil to Groundwater Values - Residential - Used Aquifer - TDS <= 2500	Soil to Groundwater Values - Residential - Used Aquifer - TDS <= 2500	Soil to Groundwater Values - Residential - Used Aquifer - TDS <= 2500	Soil to Groundwater Values - Residential - Used Aquifer - TDS <= 2500
Lab Sample 1D(s)	15111703-019 / 15111817-019	15112036-005 / 15112516-005	15112036-006 / 15112516-006	15112036-007 / 15112516-007	15111703-015 / 15111817-015
Collection Depth (ft bgs)	4 - S	0 - 0.25	0 - 0.25	0 - 0.25	1 - 2
Sample Method	Grab	Composite	Composite	Composite	Grab
Sample Date	11/16/2015	11/19/2015	11/19/2015	11/19/2015	11/16/2015
Comments	Field Duplicate				
INORG					
Aluminum	190000	190000	29000 (2300)	32000 (2700)	36000 (3400)
Ammonia	1900	3000	1900	1900	31000 (2900)
Antimony	88	27	27	27	31000 (2600)
Arsenic	12	29	12	12	31000 (2600)
Barium	44000	8200	8200	8200	31000 (2600)
Beryllium	440	320	320	320	31000 (2600)
Boron	44000	1900	1900	1900	31000 (2600)
Calcium			4100 (2300)	6000 (1100)	9200 (1400)
Chromium (total)	190000	190000	190000	190000	190000
Cobalt	66	50	50	50	31000 (2600)
Copper	8100	43000	8100	8100	31000 (2600)
Iron	150000	150000	150000	150000	31000 (2600)
Lead	500	450	450	450	31000 (2600)
Magnesium			10000 (2300)	3700 (1100)	4900 (1400)
Manganese	10000	2000	2000	2000	31000 (2600)
Mercury	35	10	10	10	31000 (2600)
Methylbdenum	1100	650	650	650	31000 (2600)
Nickel	4400	650	650	650	31000 (2600)
Nitrate	350000	1000	1000	1000	31000 (2600)
Nitrite	22000	100	100	100	31000 (2600)
Total Kjeldahl Nitrogen			846 J (90.7)	2670 (102)	3100 (108)
Phosphorus (total)			742 J (60.2)	1190 (66.9)	839 (71)
Potassium			1600 (47)	2500 (54)	2600 (68)
Silver	1100	84	84	84	31000 (2600)
Sodium			46 J (47)	UJ (140)	UJ (90)
Sulfate			66.1 J (121)	43.9 J (134)	21.5 J (143)
Vanadium	1500	26000	1500	1500	31000 (2600)
Zinc	66000	12000	12000	12000	31000 (2600)

Notes:

- All concentrations are presented in milligrams per kilogram (mg/kg).
- Only compounds with at least one detection are shown.
- Concentrations that exceed the PADEP Residential Direct Contact Values (0-15ft) are **boldfaced**.
- Concentrations that exceed the Soil to GW Values - Used Aquifer - TDS <= 2500 are underlined.
- The values for chromium III are used to evaluate chromium (total).
- The Soil to Groundwater values for nitrate and nitrite are 100x the Federal maximum contaminant level (MCL).
- Blank cells in columns with criteria indicate that no value has been established.

Abbreviations:

- MSC -- Medium specific criteria.
 U -- Not Detected.
 J -- Estimated Concentration.
 TDS -- Total Dissolved Solids.
 () -- Reporting Limit.
 -- -- Not Analyzed

TABLE 5-1
Soil Sampling Results
Bare Development Parcel
Miller Chemical & Fertilizer, Hanover, Pennsylvania

Location	BA-VA-27	BA-VA-28	BA-VA-29	BA-VA-30	BA-VA-31
Location Type	Visibly Affected	Visibly Affected	Visibly Affected	Visibly Affected	Visibly Affected
Field Sample ID(s)	BA-VA-27-GD-111615	BA-VA-28-C-111915	BA-VA-29-C-112015	BA-VA-30-C-112015	BA-VA-31-C-112015
PADEP Residential Direct Contact Values (0-15ft)	Residential MSC	Residential MSC	Residential MSC	Residential MSC	Residential MSC
Soil to Groundwater Values - Residential - Used Aquifer - TDS <= 2500	15111703-016 / 15111817-016	15112036-008 / 15112516-008	15112037-001 / 15112517-001	15112037-002 / 15112517-002	15112037-006 / 15112517-006
Lab Sample ID(s)					
Collection Depth (ft bgs)	4 - 5	0 - 0.25	0 - 0.25	0 - 0.25	0 - 0.25
Sample Method	Grab	Composite	Composite	Composite	Composite
Sample Date	11/16/2015	11/19/2015	11/20/2015	11/20/2015	11/20/2015
Comments					
INORG					
Aluminum	190000	190000	38000 (2800)	32000 (2400)	18000 (2100)
Ammonia	1900	3000	1900	1900	25000 (4700)
Antimony	88	27	27	27	32000 (2500)
Arsenic	12	29	12	12	3500 (2500)
Barium	44000	8200	8200	8200	3500 (2500)
Beryllium	440	320	320	320	3500 (2500)
Boron	44000	1900	1900	1900	3500 (2500)
Calcium			3900 (2800)	7500 (2400)	2300 (2100)
Chromium (total)	190000	190000	190000	190000	190000
Cobalt	66	50	50	50	3500 (2500)
Copper	8100	43000	8100	8100	3500 (2500)
Iron	150000	150000	150000	150000	3500 (2500)
Lead	500	450	450	450	3500 (2500)
Magnesium			12000 (2800)	4300 (2400)	2100 (2100)
Manganese	10000	2000	2000	2000	4100 (930)
Mercury	35	10	10	10	560 (47)
Molybdenum	1100	650	650	650	1500 (120)
Nickel	4400	650	650	650	740 (100)
Nitrate	350000	1000	1000	1000	1500 (150)
Nitrite	22000	100	100	100	1500 (120)
Total Kjeldahl Nitrogen			898 J (90.1)	3290 (103)	1700 (90.6)
Phosphorus (total)			502 J (60.5)	778 (66.6)	485 (59.4)
Potassium			1400 (56)	2000 (48)	1600 (41)
Silver	1100	84	84	84	1600 (47)
Sodium			54 J (56)	U (2.8)	U (2.3)
Sulfate			27.8 J (121)	11.6 J (135)	U (37)
Vanadium	1500	26000	1500	1500	U (36)
Zinc	66000	12000	12000	12000	10.3 J (117)

Notes:

- All concentrations are presented in milligrams per kilogram (mg/kg).
- Only compounds with at least one detection are shown.
- Concentrations that exceed the PADEP Residential Direct Contact Values (0-15ft) are **boldfaced**.
- Concentrations that exceed the Soil to GW Values - Used Aquifer - TDS <= 2500 are underlined.
- The values for chromium III are used to evaluate chromium (total).
- The Soil to Groundwater values for nitrate and nitrite are 100x the Federal maximum contaminant level (MCL).
- Blank cells in columns with criteria indicate that no value has been established.

Abbreviations:

- MSC -- Medium specific criteria.
- U -- Not Detected.
- J -- Estimated Concentration.
- TDS -- Total Dissolved Solids.
- () -- Reporting Limit.
- -- Not Analyzed

**TABLE 5-1
Soil Sampling Results
Bare Development Parcel
Miller Chemical & Fertilizer, Manover, Pennsylvania**

Location Location Type	BA-VA-31 Visibly Affected	BA-VA-31 Visibly Affected	BA-VA-32 Visibly Affected	BA-VA-33 Visibly Affected	BA-VA-34 Visibly Affected
Field Sample ID(s)	BA-VA-31-GC-111615	BA-VA-31-GD-111615	BA-VA-32-C-112015	BA-VA-33-C-112015	BA-VA-34-C-112015
PADEP Residential Direct Contact Values (0-15ft)	Residential MSC	Residential MSC	Residential MSC	Residential MSC	Residential MSC
Soil to Groundwater Values - Residential - Used Aquifer - TDS <= 2500	Soil to Groundwater Values - Residential - Used Aquifer - TDS <= 2500	Soil to Groundwater Values - Residential - Used Aquifer - TDS <= 2500	Soil to Groundwater Values - Residential - Used Aquifer - TDS <= 2500	Soil to Groundwater Values - Residential - Used Aquifer - TDS <= 2500	Soil to Groundwater Values - Residential - Used Aquifer - TDS <= 2500
Lab Sample ID(s)	15111703-020 /	15111703-021 /	15112037-003 /	15112037-005 /	15112037-004 /
Collection Depth (ft bgs)	15111817-020	15111817-021	15112517-003	15112517-004	15112517-005
Sample Method	1 - 2	4 - 5	0 - 0.25	0 - 0.25	0 - 0.25
Sample Date	Grab	Grab	Composite	Composite	Composite
Comments	11/16/2015	11/16/2015	11/20/2015	11/20/2015	11/20/2015
INORG					
Aluminum	190000	190000	32000 (2900)	23000 (2300)	30000 (2500)
Ammonia	1900	3000	1900	1900	42000 (2500)
Antimony	88	27	27	UJ (2.9)	UJ (2.5)
Arsenic	12	29	12	UJ (2.9)	UJ (2.5)
Barium	44000	8200	8200	14 (0.58)	10 (0.45)
Beryllium	440	320	320	130 (2.9)	97 (2.3)
Boron	44000	1900	1900	U (2.9)	1.2 J (2.3)
Calcium				UJ (29)	UJ (25)
Chromium (total)	190000	190000	190000	3800 (2900)	10000 (2300)
Cobalt	66	50	50	7600 (2500)	19000 (2500)
Copper	8100	43000	8100	37 J (2.9)	36 (2.3)
Iron	150000	150000	150000	19 (2.9)	29 (2.3)
Lead	500	450	450	16 (2.9)	17 (2.3)
Magnesium				44000 (2900)	59000 (2300)
Manganese	10000	2000	2000	21 (2.9)	27 (2.3)
Mercury	35	10	10	6000 (2900)	5500 (2300)
Molybdenum	1100	650	650	930 (140)	1300 (110)
Nickel	4400	650	650	0.064 J (0.12)	U (0.09)
Nitrate	350000	1000	1000	U (5.8)	U (4.5)
Nitrite	22000	100	100	22 (2.9)	21 (2.3)
Total Kjeldahl Nitrogen				1.5 J (12.4)	1.2 J (11.8)
Phosphorus (total)				U (2.5)	U (2.4)
Potassium				889 J (93.3)	498 J (87.4)
Silver	1100	84	84	191 J (62.1)	187 J (58.9)
Sodium				1400 (58)	1000 (45)
Sulfate				U (2.9)	U (2.3)
Vanadium	1500	26000	1500	32 J (58)	36 J (45)
Zinc	66000	12000	12000	137 (124)	78.7 J (118)
				56 (2.9)	41 (2.3)
				57 (12)	44 J (44)
					UJ (87)
					UJ (84)
					UJ (100)

Notes:

- All concentrations are presented in milligrams per kilogram (mg/kg).
- Only compounds with at least one detection are shown.
- Concentrations that exceed the PADEP Residential Direct Contact Values (0-15ft) are **boldfaced**.
- Concentrations that exceed the Soil to GW Values - Used Aquifer - TDS <= 2500 are underlined.
- The values for chromium III are used to evaluate chromium (total).
- The Soil to Groundwater values for nitrate and nitrite are 100x the Federal maximum contaminant level (MCL).
- Blank cells in columns with criteria indicate that no value has been established.

Abbreviations:

- MSC -- Medium specific criteria.
- U -- Not Detected.
- J -- Estimated Concentration.
- TDS -- Total Dissolved Solids.
- () -- Reporting Limit.
- -- Not Analyzed

TABLE 5-1
Soil Sampling Results
Bare Development Parcel
Miller Chemical & Fertilizer, Hanover, Pennsylvania

Location Location Type	BA-VA-34 Visibly Affected	BA-VA-34 Visibly Affected	BA-VA-35 Visibly Affected	BA-VA-35 Visibly Affected	BA-VA-36 Visibly Affected
Field Sample ID(s)	BA-VA-34-G2-3-111715	A-VA-34-G3.5-4.5-111715	BA-VA-35-C-111815	DUP-3-111815	BA-VA-36-C-111815
PADEP Residential Direct Contact Values (0-15ft)	Residential MSC	Residential MSC	Residential MSC	Residential MSC	Residential MSC
Soil to Groundwater Values - Residential - Used Aquifer - TDS <= 2500	Soil to Groundwater Values - Residential - Used Aquifer - TDS <= 2500	Soil to Groundwater Values - Residential - Used Aquifer - TDS <= 2500	Soil to Groundwater Values - Residential - Used Aquifer - TDS <= 2500	Soil to Groundwater Values - Residential - Used Aquifer - TDS <= 2500	Soil to Groundwater Values - Residential - Used Aquifer - TDS <= 2500
Lab Sample ID(s)	15111813-001 / 15112043-041	15111812-020 / 15112043-040	15111904-015 / 15112006-015	15111906-005 / 15112008-005	15111904-014 / 15112006-014
Collection Depth (ft bgs)	2 - 3	3.5 - 4.5	0 - 0.25	0 - 0.25	0 - 0.25
Sample Method	Grab	Grab	Composite	Composite	Composite
Sample Date	11/17/2015	11/17/2015	11/18/2015	11/18/2015	11/18/2015
Comments				Field Duplicate	
INDRG					
Aluminum	190000	190000	28000 (2200)	27000 (2300)	26000 (2800)
Ammonia	1900	3000	1900	1900	1900
Antimony	88	27	27	U (2.2)	UJ (2.8)
Arsenic	12	29	12	10 (0.44)	7.5 (0.46)
Barium	44000	8200	8200	140 (2.2)	150 J (2.3)
Beryllium	440	320	320	U (2.2)	UJ (2.3)
Boron	44000	1900	1900	U (22)	UJ (23)
Calcium				8800 (2200)	3800 (920)
Chromium (total)	190000	190000	190000	36 (2.2)	25 J (2.3)
Cobalt	66	50	50	13 (2.2)	14 J (2.3)
Copper	8100	43000	8100	37 (2.2)	12 (2.3)
Iron	150000	150000	150000	110000 (2200)	40000 (920)
Lead	500	450	450	210 (2.2)	26 J (2.3)
Magnesium				3300 (2200)	3600 (920)
Manganese	10000	2000	2000	980 (110)	890 (46)
Mercury	35	10	10	0.079 J (0.089)	UJ (0.092)
Molybdenum	1100	650	650	U (4.4)	U (4.6)
Nickel	4400	650	650	21 (2.2)	15 (2.3)
Nitrate	350000	1000	1000	1 J (13)	0.76 J (12.6)
Nitrite	22000	100	100	U (2.6)	U (2.5)
Total Kjeldahl Nitrogen				1020 (97.7)	1060 (94.6)
Phosphorus (total)				366 (66)	275 (61.6)
Potassium				1300 (44)	1400 J (1400)
Silver	1100	84	84	U (2.2)	U (2.3)
Sodium				43 J (44)	59 (46)
Sulfate				U (130)	U (126)
Vanadium	1500	26000	1500	31 (2.2)	36 J (2.3)
Zinc	66000	12000	12000	110 J (8.9)	56 J (56)

Notes:

- All concentrations are presented in milligrams per kilogram (mg/kg).
- Only compounds with at least one detection are shown.
- Concentrations that exceed the PADEP Residential Direct Contact Values (0-15ft) are **boldfaced**.
- Concentrations that exceed the Soil to GW Values - Used Aquifer - TDS <= 2500 are underlined.
- The values for chromium III are used to evaluate chromium (total).
- The Soil to Groundwater values for nitrate and nitrite are 100x the Federal maximum contaminant level (MCL).
- Blank cells in columns with criteria indicate that no value has been established.

Abbreviations:

- MSC -- Medium specific criteria.
- U -- Not Detected.
- J -- Estimated Concentration.
- TDS -- Total Dissolved Solids.
- () -- Reporting Limit.
- -- Not Analyzed

**TABLE 5-1
Soil Sampling Results
Bare Development Parcel
Miller Chemical & Fertilizer, Hanover, Pennsylvania**

Location Location Type	BA-VA-36 Visibly Affected	BA-VA-36 Visibly Affected	BA-VA-37 Visibly Affected	BA-VA-38 Visibly Affected	BA-B5-19 Visibly Affected
Field Sample ID(s)	BA-VA-36-GC-111715	BA-VA-36-GD-111715	BA-VA-37-C-111715	BA-VA-38-C-111815	BA-B5-19-C-111815
PADEP Residential Direct Contact Values (0-15ft)	Residential MSC				
Soil to Groundwater Values - Residential - Used Aquifer - TDS <= 2500					
Lab Sample ID(s)	15111811-001 / 15112043-001	15111811-002 / 15112043-002	15111811-003 / 15112043-003	15111904-013 / 15112006-013	15111906-002 / 15112008-002
Collection Depth (ft bgs)	1 - 2	4 - 5	0 - 0.25	0 - 0.25	0 - 0.25
Sample Method	Grab	Grab	Composite	Composite	Composite
Sample Date	11/17/2015	11/17/2015	11/17/2015	11/18/2015	11/18/2015
Comments					
INORG					
Aluminum	190000	190000	27000 (2300)	40000 (2300)	29000 (2700)
Ammonia	1900	3000	1900	--	--
Antimony	88	27	27	UJ (2.3)	UJ (2.3)
Arsenic	12	29	12	7.3 J (0.47)	6.6 J (0.47)
Barium	44000	8200	8200	94 (2.3)	100 (2.3)
Beryllium	440	320	320	1.4 J (2.3)	2.2 J (2.3)
Boron	44000	1900	1900	U (23)	U (23)
Calcium			2900 (2300)	2100 (47)	1700 (54)
Chromium (total)	190000	190000	190000	37 J (2.3)	25 J (2.3)
Cobalt	66	50	50	18 J (2.3)	9.6 J (2.3)
Copper	8100	43000	8100	16 J (16)	21 J (21)
Iron	150000	150000	150000	37000 (2300)	59000 (2300)
Lead	500	450	450	26 J (2.3)	16 J (2.3)
Magnesium			4800 (2300)	4500 (2300)	3500 (2700)
Manganese	10000	2000	2000	480 (120)	200 (120)
Mercury	35	10	10	0.056 J (0.093)	0.26 (0.094)
Molybdenum	1100	650	650	UJ (4.7)	UJ (4.7)
Nickel	4400	650	650	24 (2.3)	31 (2.3)
Nitrate	350000	1000	1000	1.7 J (12.2)	1.7 J (12.2)
Nitrite	22000	100	100	U (2.4)	U (2.4)
Total Kjeldahl Nitrogen			793 (92)	863 (90.6)	2930 (251)
Phosphorus (total)			214 J (122)	330 J (121)	873 J (334)
Potassium			1400 (47)	1200 (47)	1100 (54)
Silver	1100	84	84	U (2.3)	U (2.3)
Sodium			29 J (47)	30 J (47)	U (54)
Sulfate			66.5 J (122)	74.7 J (122)	233 J (334)
Vanadium	1500	26000	1500	42 (2.3)	30 (2.3)
Zinc	66000	12000	12000	49 J (49)	59 J (59)

Notes:

- All concentrations are presented in milligrams per kilogram (mg/kg).
- Only compounds with at least one detection are shown.
- Concentrations that exceed the PADEP Residential Direct Contact Values (0-15ft) are **boldfaced**.
- Concentrations that exceed the Soil to GW Values - Used Aquifer - TDS <= 2500 are underlined.
- The values for chromium III are used to evaluate chromium (total).
- The Soil to Groundwater values for nitrate and nitrite are 100x the Federal maximum contaminant level (MCL).
- Blank cells in columns with criteria indicate that no value has been established.

Abbreviations:

- MSC -- Medium specific criteria.
- U -- Not Detected.
- J -- Estimated Concentration.
- TDS -- Total Dissolved Solids.
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- -- Not Analyzed

TABLE S-1
Soil Sampling Results
Bare Development Parcel
Miller Chemical & Fertilizer, Hanover, Pennsylvania

Location	BA-BS-01		BA-BS-02		BA-BS-03		BA-BS-04		BA-BS-05	
Location Type	Boundary		Boundary		Boundary		Boundary		Boundary	
Field Sample ID(s)	BA-BS-01-C-111315		BA-BS-02-C-111315		BA-BS-03-C-111315		BA-BS-04-C-111315		BA-BS-05-C-111315	
PADEP Residential Direct Contact Values (0-15ft)	Soil to Groundwater Values - Residential - Used Aquifer - TDS <= 2500		Residential MSC		15111330-001 / 15111623-001		15111330-002 / 15111623-002		15111330-003 / 15111623-003	
Lab Sample ID(s)	0 - 0.25		0 - 0.25		0 - 0.25		0 - 0.25		0 - 0.25	
Collection Depth (ft bgs)	Composite		Composite		Composite		Composite		Composite	
Sample Method	11/13/2015		11/13/2015		11/13/2015		11/13/2015		11/13/2015	
Sample Date										
Comments										
INORG										
Aluminum	190000		190000	31000 (1900)	30000 (2200)	29000 (1500)	37000 (1700)	34000 (4400)		
Ammonia	1900	3000	1900	--	--	--	--	--		
Antimony	88	27	27	UJ (4.8)	UJ (5.6)	UJ (3.9)	UJ (4.2)	1.1 J (2.2)		
Arsenic	12	29	12	5.5 (0.96)	5.7 (1.1)	8.4 (0.77)	7.4 (0.84)	5.1 (0.44)		
Barium	44000	8200	8200	160 J (4.8)	170 J (5.6)	140 J (3.9)	180 J (4.2)	150 J (2.2)		
Beryllium	440	320	320	U (4.8)	U (5.6)	U (3.9)	U (4.2)	U (2.2)		
Boron	440000	1900	1900	U (48)	UJ (56)	UJ (39)	UJ (42)	UJ (22)		
Calcium				8900 (1900)	9900 (2200)	6300 (1500)	8800 (1700)	34000 (880)		
Chromium (total)	190000	190000	190000	32 (4.8)	32 (5.6)	29 (3.9)	36 (4.2)	26 (2.2)		
Cobalt	66	50	50	11 (4.8)	8.5 (5.6)	11 (3.9)	11 (4.2)	10 (2.2)		
Copper	8100	43000	8100	17 (4.8)	66 (5.6)	19 (3.9)	19 (4.2)	76 (2.2)		
Iron	150000		150000	25000 (1900)	22000 (2200)	28000 (1500)	31000 (1700)	30000 (880)		
Lead	500	450	450	30 (4.8)	23 (5.6)	29 (3.9)	27 (4.2)	170 (2.2)		
Magnesium				3800 (96)	3800 (110)	3300 (77)	4000 (84)	12000 (880)		
Manganese	10000	2000	2000	1100 (96)	1000 (110)	870 (77)	980 (84)	800 (44)		
Mercury	35	10	10	0.096 J (0.19)	U (0.22)	0.097 J (0.15)	0.094 J (0.17)	0.19 (0.088)		
Molybdenum	1100	650	650	UJ (9.6)	UJ (11)	UJ (7.7)	UJ (8.4)	UJ (4.4)		
Nickel	4400	650	650	19 (4.8)	18 (5.6)	18 (3.9)	22 (4.2)	21 (2.2)		
Nitrate	350000	1000	1000	U (21)	U (32.3)	3 J (16.8)	1.3 J (16.4)	1.6 J (13.1)		
Nitrite	22000	100	100	U (4.2)	U (6.5)	U (3.4)	U (3.3)	U (2.6)		
Total Kjeldahl Nitrogen				15400 (155)	14600 (242)	10200 (127)	10800 (124)	5740 (96.8)		
Phosphorus (total)				699 (192)	1160 (310)	1050 (175)	524 (173)	304 (139)		
Potassium				2400 (96)	2500 (110)	2700 (77)	2900 (84)	1400 (44)		
Silver	1100	84	84	U (4.8)	U (5.6)	U (3.9)	U (4.2)	2 J (2.2)		
Sodium				71 J (96)	96 J (110)	49 J (77)	60 J (84)	250 (44)		
Sulfate				13 J (210)	136 J (323)	5 J (168)	4.3 J (164)	U (131)		
Vanadium	1500	26000	1500	37 (4.8)	39 (5.6)	38 (3.9)	45 (4.2)	34 (2.2)		
Zinc	66000	12000	12000	84 J (84)	110 J (22)	81 J (81)	90 J (90)	200 J (8.8)		

Notes:

- All concentrations are presented in milligrams per kilogram (mg/kg).
- Only compounds with at least one detection are shown.
- Concentrations that exceed the PADEP Residential Direct Contact Values (0-15ft) are **boldfaced**.
- Concentrations that exceed the Soil to GW Values - Used Aquifer - TDS <= 2500 are underlined.
- The values for chromium III are used to evaluate chromium (total).
- The Soil to Groundwater values for nitrate and nitrite are 100x the Federal maximum contaminant level (MCL).
- Blank cells in columns with criteria indicate that no value has been established.

Abbreviations:

MSC -- Medium specific criteria.
 U -- Not Detected.
 J -- Estimated Concentration.
 TDS -- Total Dissolved Solids.
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 -- -- Not Analyzed

**TABLE 5-1
Soil Sampling Results
Bare Development Parcel
Miller Chemical & Fertilizer, Hanover, Pennsylvania**

Location Location Type	BA-BS-06 Boundary	BA-BS-07 Boundary	BA-BS-08 Boundary	BA-BS-09 Boundary	BA-BS-10 Boundary
Flod Sample ID(s)	BA-BS-06-C-111315	BA-BS-07-C-111315	BA-BS-08-C-111315	BA-BS-09-C-111815	BA-BS-10-C-111815
PADEP Residential Direct Contact Values (0-15ft)	Residential MSC	Residential MSC	Residential MSC	Residential MSC	Residential MSC
Soil to Groundwater Values - Residential - Used Aquifer - TDS <= 2500	Soil to Groundwater Values - Residential - Used Aquifer - TDS <= 2500	Soil to Groundwater Values - Residential - Used Aquifer - TDS <= 2500	Soil to Groundwater Values - Residential - Used Aquifer - TDS <= 2500	Soil to Groundwater Values - Residential - Used Aquifer - TDS <= 2500	Soil to Groundwater Values - Residential - Used Aquifer - TDS <= 2500
Lab Sample ID(s)	15111330-006 / 15111623-006	15111330-007 / 15111623-007	15111330-008 / 15111623-008	15111905-014 / 15112007-014	15111905-011 / 15112007-011
Collection Depth (ft bgs)	0 - 0.25	0 - 0.25	0 - 0.25	0 - 0.25	0 - 0.25
Sample Method	Composite	Composite	Composite	Composite	Composite
Sample Date	11/13/2015	11/13/2015	11/13/2015	11/18/2015	11/18/2015
Comments					
INORG					
Aluminum	190000	190000	190000	190000	190000
Ammonia	1900	1900	1900	1900	1900
Antimony	88	27	27	UJ (3.3)	UJ (2.3)
Arsenic	12	29	12	7.9 (0.66)	8.9 (0.52)
Barium	44000	8200	8200	140 J (3.3)	110 J (2.6)
Beryllium	440	320	320	U (3.3)	U (2.6)
Boron	44000	1900	1900	UJ (33)	UJ (26)
Calcium				5200 (1300)	20000 (1000)
Chromium (total)	190000	190000	190000	37 (3.3)	28 (2.6)
Cobalt	66	50	50	15 (3.3)	15 (2.6)
Copper	8100	43000	8100	16 (3.3)	12 (2.6)
Iron	150000	150000	150000	35000 (1300)	31000 (1000)
Lead	500	450	450	28 (3.3)	26 (2.6)
Magnesium				5000 (1300)	8600 (1000)
Manganese	10000	2000	2000	980 (66)	790 (52)
Mercury	35	10	10	U (0.13)	U (0.1)
Molybdenum	1100	650	650	UJ (6.6)	UJ (5.2)
Nickel	4400	650	650	22 (3.3)	15 (2.6)
Nitrate	350000	1000	1000	U (13.6)	1.7 J (12.5)
Nitrite	22000	100	100	U (2.7)	U (2.5)
Total Kjeldahl Nitrogen				6470 (101)	4420 (92.8)
Phosphorus (total)				582 (134)	415 (115)
Potassium				2700 (66)	1400 (52)
Silver	1100	84	84	U (3.3)	U (2.6)
Sodium				50 J (66)	38 J (52)
Sulfate				U (136)	U (125)
Vanadium	1500	26000	1500	45 (3.3)	39 (2.6)
Zinc	66000	12000	12000	89 J (89)	47 J (47)

Notes:

- All concentrations are presented in milligrams per kilogram (mg/kg).
- Only compounds with at least one detection are shown.
- Concentrations that exceed the PADEP Residential Direct Contact Values (0-15ft) are **boldfaced**.
- Concentrations that exceed the Soil to GW Values - Used Aquifer - TDS <= 2500 are underlined.
- The values for chromium III are used to evaluate chromium (total).
- The Soil to Groundwater values for nitrate and nitrite are 100x the Federal maximum contaminant level (MCL).
- Blank cells in columns with criteria indicate that no value has been established.

Abbreviations:

- MSC -- Medium specific criteria.
- U -- Not Detected.
- J -- Estimated Concentration.
- TDS -- Total Dissolved Solids.
- () -- Reporting Limit.
- -- Not Analyzed

**TABLE 5-1
Soil Sampling Results
Bare Development Parcel
Miller Chemical & Fertilizer, Manover, Pennsylvania**

Location	PADEP Residential Direct Contact Values (0-15ft)	Soil to Groundwater Values - Residential - Used Aquifer - TDS <= 2500	Residential MSC	BA-BS-10 Boundary DUP-6-111815	BA-BS-11 Boundary BA-BS-11-C-111815	BA-BS-12 Boundary BA-BS-12-C-111815	BA-BS-13 Boundary BA-BS-13-C-111815	BA-BS-14 Boundary BA-BS-14-C-111815
Location Type								
Field Sample ID(s)				15111906-006 / 15112008-006	15111905-012 / 15112007-012	15111905-015 / 15112007-015	15111905-016 / 15112007-016	15111905-017 / 15112007-017
Lab Sample ID(s)				0 - 0.25	0 - 0.25	0 - 0.25	0 - 0.25	0 - 0.25
Collection Depth (ft bgs)				Composite	Composite	Composite	Composite	Composite
Sample Method				11/18/2015	11/18/2015	11/18/2015	11/18/2015	11/18/2015
Sample Date				Field Duplicate				
Comments								
INORG								
Aluminum	190000		190000	37000 (2900)	22000 (890)	18000 (870)	22000 (1200)	17000 (1000)
Ammonia	1900	3000	1900
Antimony	88	27	27	UJ (2.9)	UJ (2.2)	UJ (2.2)	UJ (2.9)	UJ (2.5)
Arsenic	12	29	12	7.3 (0.59)	5.2 (0.45)	4.9 (0.44)	8.2 (0.59)	5.4 (0.5)
Barium	44000	8200	8200	190 (2.9)	110 (2.2)	78 (2.2)	100 (2.9)	74 (2.5)
Beryllium	440	320	320	1.8 J (2.9)	UJ (2.2)	UJ (2.2)	UJ (2.9)	UJ (2.5)
Boron	44000	1900	1900	UJ (29)	UJ (22)	UJ (22)	UJ (29)	UJ (25)
Calcium				6800 (2900)	2600 (890)	1000 (44)	2200 (59)	1100 (50)
Chromium (total)	190000	190000	190000	38 (2.9)	22 J (2.2)	20 J (2.2)	37 J (2.9)	18 J (2.5)
Cobalt	66	50	50	13 (2.9)	11 (2.2)	7.3 (2.2)	16 (2.9)	7.8 (2.5)
Copper	8100	43000	8100	17 (2.9)	UJ (12)	UJ (7.4)	UJ (11)	UJ (6.8)
Iron	150000		150000	35000 J (2900)	25000 (890)	21000 (870)	37000 (1200)	20000 (1000)
Lead	500	450	450	31 (2.9)	23 J (2.2)	22 J (2.2)	30 J (2.9)	18 J (2.5)
Magnesium				5100 J (2900)	2100 (45)	1500 (44)	1500 (59)	1300 (50)
Manganese	10000	2000	2000	1500 (150)	600 (45)	410 (44)	800 (59)	590 (50)
Mercury	35	10	10	0.08 J (0.12)	U (0.089)	U (0.087)	U (0.12)	U (0.1)
Molybdenum	1100	650	650	U (5.9)	UJ (4.5)	UJ (4.4)	UJ (5.9)	UJ (5)
Nickel	4400	650	650	20 (2.9)	14 (2.2)	9.3 (2.2)	12 (2.9)	8.4 (2.5)
Nitrate	350000	1000	1000	3.1 J (13.1)	4.5 J (12.5)	15.2 (13.6)	7.9 J (12.8)	3 J (12.3)
Nitrite	22000	100	100	U (2.6)	U (2.5)	U (2.7)	U (2.6)	U (2.5)
Total Kjeldahl Nitrogen				5040 J (98.2)	5000 J (93.6)	2780 J (103)	4050 J (97.3)	2950 J (91.9)
Phosphorus (total)				429 J (62.2)	504 (62.6)	216 J (68.6)	299 J (62.2)	289 J (57.8)
Potassium				1800 (59)	1500 (45)	1200 (44)	1600 (59)	1100 (50)
Silver	1100	84	84	U (2.9)	U (2.2)	U (2.2)	U (2.9)	U (2.5)
Sodium				UJ (33)	UJ (22)	UJ (44)	UJ (59)	UJ (50)
Sulfate				5.5 J (131)	5 J (125)	7.3 J (136)	U (128)	3.2 J (123)
Vanadium	1500	26000	1500	45 J (2.9)	29 (2.2)	30 (2.2)	40 (2.9)	26 (2.5)
Zinc	66000	12000	12000	UJ (92)	46 (8.9)	35 (8.7)	40 (12)	30 (10)

Notes:

- All concentrations are presented in milligrams per kilogram (mg/kg).
- Only compounds with at least one detection are shown.
- Concentrations that exceed the PADEP Residential Direct Contact Values (0-15ft) are **boldfaced**.
- Concentrations that exceed the Soil to GW Values - Used Aquifer - TDS <= 2500 are underlined.
- The values for chromium III are used to evaluate chromium (total).
- The Soil to Groundwater values for nitrate and nitrite are 100x the Federal maximum contaminant level (MCL).
- Blank cells in columns with criteria indicate that no value has been established.

Abbreviations:

MSC -- Medium specific criteria.
 U -- Not Detected.
 J -- Estimated Concentration.
 TDS -- Total Dissolved Solids.
 () -- Reporting Limit.
 -- -- Not Analyzed

TABLE 5-1
Soil Sampling Results
Bare Development Parcel
Miller Chemical & Fertilizer, Hanover, Pennsylvania

Location	BA-BS-15	BA-BS-16	BA-BS-17	BA-BS-18	BA-BACK-01
Location Type	Boundary	Boundary	Boundary	Boundary	Background
Field Sample ID(s)	BA-BS-15-C-111815	BA-BS-16-C-111815	BA-BS-17-C-111815	BA-BS-18-C-111815	BA-BACK-01-GA-111815
PADEP Residential Direct Contact Values (0-15ft)	Residential MSC	Residential MSC	Residential MSC	Residential MSC	Residential MSC
Soil to Groundwater Values - Residential - Used Aquifer - TDS <= 2500	15111905-018 / 15112007-018	15111905-019 / 15112007-019	15111905-020 / 15112007-020	15111906-001 / 15112008-001	15111904-019 / 15112006-019
Lab Sample ID(s)					
Collection Depth (ft bgs)	0 - 0.25	0 - 0.25	0 - 0.25	0 - 0.25	0 - 0.25
Sample Method	Composite	Composite	Composite	Composite	Grab
Sample Date	11/18/2015	11/18/2015	11/18/2015	11/18/2015	11/18/2015
Comments					
INORG					
Aluminum	190000	190000	190000	190000	190000
Ammonia	1900	3000	1900	1900	1900
Antimony	88	27	27	UJ (2.3)	UJ (2.3)
Arsenic	12	29	12	5.9 (0.46)	7.7 (0.47)
Barium	44000	8200	8200	86 (2.3)	87 (2.3)
Beryllium	440	320	320	U (2.3)	U (2.3)
Boron	44000	1900	1900	UJ (2.3)	UJ (2.3)
Calcium				2100 (46)	1900 (46)
Chromium (total)	190000	190000	190000	23 (2.3)	21 (2.3)
Cobalt	66	50	50	12 (2.3)	14 (2.3)
Copper	8100	43000	8100	9.8 (2.3)	8.1 (2.3)
Iron	150000	150000	150000	24000 (910)	27000 (930)
Lead	500	450	450	24 (2.3)	24 (2.3)
Magnesium				2100 (46)	1600 (46)
Manganese	10000	2000	2000	420 (46)	660 (46)
Mercury	35	10	10	U (0.091)	0.048 J (0.093)
Molybdenum	1100	650	650	U (4.6)	U (4.6)
Nickel	4400	650	650	12 (2.3)	10 (2.3)
Nitrate	350000	1000	1000	1.2 J (11.9)	0.76 J (12.6)
Nitrite	22000	100	100	U (2.4)	U (2.5)
Total Kjeldahl Nitrogen				2480 J (89.4)	2790 J (95.5)
Phosphorus (total)				255 J (60.4)	285 J (63.1)
Potassium				1300 (46)	980 (46)
Silver	1100	84	84	U (2.3)	U (2.3)
Sodium				UJ (46)	UJ (46)
Sulfate				U (119)	U (126)
Vanadium	1500	26000	1500	33 J (2.3)	32 J (2.3)
Zinc	66000	12000	12000	UJ (40)	UJ (36)

Notes:

- All concentrations are presented in milligrams per kilogram (mg/kg).
- Only compounds with at least one detection are shown.
- Concentrations that exceed the PADEP Residential Direct Contact Values (0-15ft) are **boldfaced**.
- Concentrations that exceed the Soil to GW Values - Used Aquifer - TDS <= 2500 are underlined.
- The values for chromium III are used to evaluate chromium (total).
- The Soil to Groundwater values for nitrate and nitrite are 100x the Federal maximum contaminant level (MCL).
- Blank calls in columns with criteria indicate that no value has been established.

Abbreviations:

- MSC -- Medium specific criteria.
- U -- Not Detected.
- J -- Estimated Concentration.
- TDS -- Total Dissolved Solids.
- () -- Reporting Limit.
- -- Not Analyzed

TABLE 5-1
Soil Sampling Results
Bare Development Parcel
Miller Chemical & Fertilizer, Hanover, Pennsylvania

Location Location Type	BA-BACK-01 Background	BA-BACK-01 Background	BA-BACK-01 Background	BA-BACK-02 Background	BA-BACK-02 Background
Field Sample ID(s)	BA-BACK-01-GB-111715	DUP-1-111715	BA-BACK-01-GC-111715	BA-BACK-02-GA-111815	BA-BACK-02-GB-111715
PADEP Residential Direct Contact Values (0-15ft)	15111811-020 / 15112043-020	15111812-008 / 15112043-028	15111812-001 / 15112043-021	15111904-020 / 15112006-020	15111811-019 / 15112043-019
Soil to Groundwater Values - Residential - Residential MSC	0.5 - 1	0.5 - 1	1 - 2	0 - 0.25	0.5 - 1
Used Aquifer - TDS <= 2500	Grab	Grab	Grab	Grab	Grab
Collection Depth (ft bgs)	11/17/2015	11/17/2015	11/17/2015	11/18/2015	11/17/2015
Sample Method		Field Duplicate			
Sample Date					
Comments					
INORG					
Aluminum	190000	190000	21000 (2100)	24000 (2700)	24000 (2500)
Ammonia	1900	3000	1900	--	--
Antimony	88	27	27	UJ (2.1)	UJ (2.7)
Arsenic	12	29	12	8.8 J (0.41)	6.3 (0.53)
Barium	44000	8200	8200	76 (2.1)	82 J (2.7)
Beryllium	440	320	320	U (2.1)	UJ (2.7)
Boron	44000	1900	1900	UJ (21)	U (27)
Calcium			800 J (800)	1200 J (1200)	920 (50)
Chromium (total)	190000	190000	190000	40 J (2.1)	29 J (2.7)
Cobalt	66	50	50	11 J (2.1)	7.5 J (2.7)
Copper	8100	43000	8100	9.1 J (9.1)	11 (2.7)
Iron	150000	150000	150000	43000 J (2100)	29000 J (2700)
Lead	500	450	450	17 J (2.1)	14 (2.7)
Magnesium			1600 J (1600)	2100 (53)	1500 (50)
Manganese	10000	2000	2000	330 (100)	120 J (2.7)
Mercury	35	10	10	U (0.082)	0.056 J (0.11)
Molybdenum	1100	650	650	UJ (4.1)	U (5.3)
Nickel	4400	650	650	12 (2.1)	13 (2.7)
Nitrate	350000	1000	1000	1.5 J (12.5)	1.5 J (12.4)
Nitrite	22000	100	100	U (2.5)	U (2.5)
Total Kjeldahl Nitrogen			448 (93.6)	343 (92.9)	319 (93.2)
Phosphorus (total)			153 J (61.8)	134 (61.9)	134 J (62.1)
Potassium			940 (41)	1200 J (1200)	1100 J (1100)
Silver	1100	84	84	U (2.1)	U (2.7)
Sodium			UJ (41)	37 J (37)	U (50)
Sulfate			U (125)	U (124)	U (123)
Vanadium	1500	26000	1500	50 (2.1)	43 J (2.7)
Zinc	66000	12000	12000	33 J (33)	34 J (34)

Notes:

- All concentrations are presented in milligrams per kilogram (mg/kg).
- Only compounds with at least one detection are shown.
- Concentrations that exceed the PADEP Residential Direct Contact Values (0-15ft) are boldfaced.
- Concentrations that exceed the Soil to GW Values - Used Aquifer - TDS <= 2500 are underlined.
- The values for chromium III are used to evaluate chromium (total).
- The Soil to Groundwater values for nitrate and nitrite are 100x the Federal maximum contaminant level (MCL).
- Blank cells in columns with criteria indicate that no value has been established.

Abbreviations:

MSC -- Medium specific criteria.
 U -- Not Detected.
 J -- Estimated Concentration.
 TDS -- Total Dissolved Solids.
 () -- Reporting Limit.
 -- -- Not Analyzed

**TABLE 5-1
Soil Sampling Results
Bare Development Parcel
Miller Chemical & Fertilizer, Hanover, Pennsylvania**

Location	BA-BACK-02	BA-BACK-03	BA-BACK-03	BA-BACK-03	BA-BACK-03
Location Type	Background	Background	Background	Background	Background
Field Sample ID(s)	BA-BACK-02-GC-111715	BA-BACK-03-GA-111815	BA-BACK-03-GB-111715	BA-BACK-03-GC-111715	BA-BACK-03-GD-111715
PADEP Residential Direct Contact Values (0-15ft)	Residential MSC	Residential MSC	Residential MSC	Residential MSC	Residential MSC
Soil to Groundwater Values - Residential - Used Aquifer - TDS <= 2500	15111B11-01B / 15112043-01B	15111905-001 / 15112007-001	15111B11-015 / 15112043-015	15111811-016 / 15112043-016	15111B11-017 / 15112043-017
Lab Sample ID(s)					
Collection Depth (ft bgs)	1 - 2	0 - 0.25	0.5 - 1	1 - 2	4 - 5
Sample Method	Grab	Grab	Grab	Grab	Grab
Sample Date	11/17/2015	11/18/2015	11/17/2015	11/17/2015	11/17/2015
Comments					
INORG					
Aluminum	190000	190000	38000 (2400)	20000 (960)	21000 (2300)
Ammonia	1900	3000	1900	--	--
Antimony	88	27	27	UJ (2.4)	UJ (2.3)
Arsenic	12	29	12	7.8 J (0.49)	7.4 (0.48)
Barium	44000	8200	8200	150 (2.4)	100 (2.4)
Beryllium	440	320	320	1.7 J (2.4)	UJ (2.4)
Boron	44000	1900	1900	UJ (24)	UJ (23)
Calcium			3200 (2400)	920 (48)	930 (46)
Chromium (total)	190000	190000	190000	38 J (2.4)	36 J (2.4)
Cobalt	66	50	50	15 J (2.4)	16 (2.4)
Copper	8100	43000	8100	15 J (15)	UJ (9.4)
Iron	150000	150000	58000 (2400)	28000 (960)	47000 (2300)
Lead	500	450	450	21 J (2.4)	22 J (2.3)
Magnesium			2400 J (2400)	1200 (48)	1300 J (1300)
Manganese	10000	2000	2000	300 (120)	820 (48)
Mercury	35	10	10	0.077 J (0.097)	U (0.096)
Molybdenum	1100	650	650	UJ (4.9)	UJ (4.8)
Nickel	4400	650	650	28 (2.4)	12 (2.4)
Nitrate	350000	1000	1000	U (12.4)	5 J (12.6)
Nitrite	22000	100	100	U (2.5)	U (2.5)
Total Kjeldahl Nitrogen			599 (90.9)	2650 J (94.7)	468 (90.8)
Phosphorus (total)			86.6 J (12.3)	338 (60.8)	284 J (61.2)
Potassium			1400 (49)	1200 (48)	1100 (46)
Silver	1100	84	84	U (2.4)	U (2.3)
Sodium			35 J (49)	UJ (48)	U (46)
Sulfate			U (124)	3.8 J (126)	118 J (121)
Vanadium	1500	26000	1500	48 (2.4)	38 (2.4)
Zinc	66000	12000	12000	40 J (40)	38 (9.6)

Notes:

- All concentrations are presented in milligrams per kilogram (mg/kg).
- Only compounds with at least one detection are shown.
- Concentrations that exceed the PADEP Residential Direct Contact Values (0-15ft) are **boldfaced**.
- Concentrations that exceed the Soil to GW Values - Used Aquifer - TDS <= 2500 are underlined.
- The values for chromium III are used to evaluate chromium (total).
- The Soil to Groundwater values for nitrate and nitrite are 100x the Federal maximum contaminant level (MCL).
- Blank cells in columns with criteria indicate that no value has been established.

Abbreviations:

- MSC -- Medium specific criteria.
- U -- Not Detected.
- J -- Estimated Concentration.
- TDS -- Total Dissolved Solids.
- () -- Reporting Limit.
- -- Not Analyzed

**TABLE 5-1
Soil Sampling Results
Bare Development Parcel
Miller Chemical & Fertilizer, Hanover, Pennsylvania**

Location	BA-BACK-04	BA-BACK-04	BA-BACK-04	BA-BACK-05	BA-BACK-05
Location Type	Background	Background	Background	Background	Background
Field Sample ID(s)	BA-BACK-04-GA-111B15	BA-BACK-04-GB-111715	BA-BACK-04-GC-111715	BA-BACK-05-GA-111B15	BA-BACK-05-GB-111715
PADEP Residential Direct Contact Values (0-15ft)	Residential MSC				
Soil to Groundwater Values - Residential - Used Aquifer - TDS <= 2500					
Lab Sample ID(s)	15111905-002 / 15112007-002	15111811-012 / 15112043-012	15111811-011 / 15112043-011	15111905-003 / 15112007-003	15111811-013 / 15112043-013
Collection Depth (ft bgs)	0 - 0.25	0.5 - 1	1 - 2	0 - 0.25	0.5 - 1
Sample Method	Grab	Grab	Grab	Grab	Grab
Sample Date	11/18/2015	11/17/2015	11/17/2015	11/18/2015	11/17/2015
Comments					
INORG					
Aluminum	190000	190000	18000 (920)	19000 (920)	35000 (4700)
Ammonia	1900	3000	1900	--	--
Antimony	88	27	27 UJ (2.3)	UJ (2.3)	UJ (2.4)
Arsenic	12	29	12 7.5 (0.46)	8.3 J (0.58)	6.3 (0.46) 6.2 J (0.47)
Barium	44000	8200	8200 96 (2.3)	120 (2.9)	74 (2.3) 140 (2.3) 120 (2.4)
Beryllium	440	320	320 UJ (2.3)	U (2.9)	U (2.3) U (2.4)
Boron	44000	1900	1900 UJ (23)	UJ (29)	UJ (23) UJ (24)
Calcium			1400 (46)	1100 (58)	1500 (47) 1100 (46) 1800 (47)
Chromium (total)	190000	190000	190000 34 J (2.3)	33 J (2.9)	55 J (2.3) 31 J (2.3) 33 J (2.4)
Cobalt	66	50	50 15 (2.3)	14 J (2.9)	19 J (2.3) 7.8 J (2.4)
Copper	8100	43000	8100 UJ (10)	9.4 J (9.4)	16 J (16) UJ (9.3) 14 J (14)
Iron	150000	150000	150000 32000 (920)	36000 (5800)	50000 (2300) 28000 (920) 47000 (4700)
Lead	500	450	450 28 J (2.3)	29 J (2.9)	20 J (2.3) 28 J (2.3) 16 J (2.4)
Magnesium			1500 (46)	1400 J (1400)	1600 J (1600) 1300 (46) 1700 J (1700)
Manganese	10000	2000	2000 890 (46)	960 (290)	380 (120) 1200 (46) 120 (24)
Mercury	35	10	10 0.047 J (0.092)	U (0.12)	0.072 J (0.093) 0.052 J (0.092) U (0.095)
Molybdenum	1100	650	650 UJ (4.6)	UJ (5.8)	UJ (4.7) UJ (4.7)
Nickel	4400	650	650 10 (2.3)	11 (2.9)	20 (2.3) 11 (2.3) 19 (2.4)
Nitrate	350000	1000	1000 9.5 J (12.8)	4.3 J (11.9)	2.4 J (12) 5.5 J (12.4) 2 J (12.5)
Nitrite	22000	100	100 U (2.6)	U (2.4)	U (2.5) U (2.5)
Total Kjeldahl Nitrogen			2370 J (95.6)	622 (89.7)	497 (91) 3450 J (94.2) 658 (92.2)
Phosphorus (total)			364 (65.9)	299 J (119)	150 J (120) 348 (61.2) 229 J (12.5)
Potassium			1400 (46)	1200 (58)	1300 (47) 1400 (46) 1800 (47)
Silver	1100	84	84 U (2.3)	U (2.9)	U (2.3) U (2.4)
Sodium			UJ (46)	U (58)	U (47) UJ (46) U (47)
Sulfate			12.8 J (128)	71.1 J (119)	87.8 J (120) 6 J (124) 76 J (125)
Vanadium	1500	26000	1500 39 (2.3)	40 (2.9)	54 (2.3) 34 (2.3) 45 (2.4)
Zinc	66000	12000	12000 37 (9.2)	42 J (42)	36 J (36) 38 (9.2) 39 J (39)

Notes:

- All concentrations are presented in milligrams per kilogram (mg/kg).
- Only compounds with at least one detection are shown.
- Concentrations that exceed the PADEP Residential Direct Contact Values (0-15ft) are **boldfaced**.
- Concentrations that exceed the Soil to GW Values - Used Aquifer - TDS <= 2500 are underlined.
- The values for chromium III are used to evaluate chromium (total).
- The Soil to Groundwater values for nitrate and nitrite are 100x the Federal maximum contaminant level (MCL).
- Blank cells in columns with criteria indicate that no value has been established.

Abbreviations:

- MSC -- Medium specific criteria.
- U -- Not Detected.
- J -- Estimated Concentration.
- TDS -- Total Dissolved Solids.
- () -- Reporting Limit.
- -- Not Analyzed

TABLE 5-1
Soil Sampling Results
Bare Development Parcel
Miller Chemical & Fertilizer, Manover, Pennsylvania

Location Location Type	BA-BACK-05 Background	BA-BACK-06 Background	BA-BACK-06 Background	BA-BACK-06 Background	BA-BACK-06 Background
Field Sample ID(s)	BA-BACK-05-GC-111715	BA-BACK-06-GA-111815	BA-BACK-06-GB-111715	BA-BACK-06-GC-111715	BA-BACK-06-GD-111715
PADEP Residential Direct Contact Values (0-15ft)	15111811-014 / 15112043-014	15111905-004 / 15112007-004	15111811-010 / 15112043-010	15111811-008 / 15112043-008	15111811-009 / 15112043-009
Soil to Groundwater Values - Residential - Used Aquifer - TDS <= 2500	1 - 2	0 - 0.25	0.5 - 1	1 - 2	4 - 5
Residential MSC	Grab	Grab	Grab	Grab	Grab
Lab Sample ID(s)	11/17/2015	11/18/2015	11/17/2015	11/17/2015	11/17/2015
Collection Depth (ft bgs)					
Sample Method					
Sample Date					
Comments					
INORG					
Aluminum	190000	190000	190000	39000 (4800)	19000 (860)
Ammonia	1900	3000	1900	--	--
Antimony	88	27	27	U (2.4)	U (2.1)
Arsenic	12	29	12	7.3 J (0.48)	6.6 (0.43)
Barium	44000	8200	8200	84 (2.4)	91 (2.1)
Beryllium	440	320	320	U (2.4)	U (2.1)
Boron	44000	1900	1900	U (24)	U (21)
Calcium				2000 (48)	960 (43)
Chromium (total)	190000	190000	190000	40 J (2.4)	31 J (2.1)
Cobalt	66	50	50	7.6 J (2.4)	12 (2.1)
Copper	8100	43000	8100	15 J (15)	U (8.3)
Iron	150000		150000	55000 (4800)	28000 (860)
Lead	500	450	450	17 J (2.4)	23 J (2.1)
Magnesium				1800 J (1800)	1400 (43)
Manganese	10000	2000	2000	120 (24)	540 (43)
Mercury	35	10	10	0.057 J (0.095)	U (0.086)
Molybdenum	1100	650	650	U (4.8)	U (4.3)
Nickel	4400	650	650	20 (2.4)	11 (2.1)
Nitrate	350000	1000	1000	0.77 J (12.9)	4 J (12.6)
Nitrite	22000	100	100	U (2.6)	U (2.5)
Total Kjeldahl Nitrogen				619 (97)	2590 J (94.2)
Phosphorus (total)				212 J (63.7)	347 (63.6)
Potassium				1800 (48)	1300 (43)
Silver	1100	84	84	U (2.4)	U (2.1)
Sodium				U (48)	U (43)
Sulfate				48.6 J (129)	6 J (126)
Vanadium	1500	26000	1500	49 (2.4)	35 (2.1)
Zinc	66000	12000	12000	41 J (41)	37 (8.6)
					37 J (37)
					29 J (29)
					52 J (52)

Notes:

- All concentrations are presented in milligrams per kilogram (mg/kg).
- Only compounds with at least one detection are shown.
- Concentrations that exceed the PADEP Residential Direct Contact Values (0-15ft) are **boldfaced**.
- Concentrations that exceed the Soil to GW Values - Used Aquifer - TDS <= 2500 are underlined.
- The values for chromium III are used to evaluate chromium (total).
- The Soil to Groundwater values for nitrate and nitrite are 100x the Federal maximum contaminant level (MCL).
- Blank cells in columns with criteria indicate that no value has been established.

Abbreviations:

MSC -- Medium specific criteria.
 U -- Not Detected.
 J -- Estimated Concentration.
 TDS -- Total Dissolved Solids.
 () -- Reporting Limit.
 -- -- Not Analyzed

TABLE 5-1
Soil Sampling Results
Bare Development Parcel
Miller Chemical & Fertilizer, Hanover, Pennsylvania

Location	BA-BACK-07			BA-BACK-07			BA-BACK-07		
Location Type	Background			Background			Background		
Field Sample ID(s)	PADEP Residential Direct Contact Values (0-15ft)	Soil to Groundwater Values - Residential - Used Aquifer - TDS <= 2500	Residential MSC	BA-BACK-07-GA-111815	BA-BACK-07-GB-111615	BA-BACK-07-GC-111615	BA-BACK-08-GA-111815	BA-BACK-08-GB-111615	
Lab Sample ID(s)				15111905-010 / 15112007-010	15111703-014 / 15111817-014	15111703-013 / 15111817-013	15111905-009 / 15112007-009	15111703-022 / 15111817-022	
Collection Depth (ft bgs)				0 - 0.25	0.5 - 1	1 - 2	0 - 0.25	0.5 - 1	
Sample Method				Grab	Grab	Grab	Grab	Grab	
Sample Date				11/18/2015	11/16/2015	11/16/2015	11/18/2015	11/16/2015	
Comments									
INORG									
Aluminum	190000		190000	31000 (2600)	37000 (3000)	38000 (6000)	39000 (2400)	37000 (2800)	
Ammonia	1900	3000	1900	--	--	--	--	--	
Antimony	88	27	27	UJ (2.6)	UJ (3)	UJ (3)	UJ (2.4)	U (2.8)	
Arsenic	12	29	12	5.3 (0.52)	6.9 (0.61)	7.1 (0.6)	6.4 (0.48)	7 (0.55)	
Barium	44000	8200	8200	160 (2.6)	240 (3)	240 (3)	170 (2.4)	160 (2.8)	
Beryllium	440	320	320	UJ (2.6)	1.8 J (3)	1.7 J (3)	1.3 J (2.4)	1.5 J (2.8)	
Boron	44000	1900	1900	UJ (26)	UJ (30)	UJ (30)	UJ (24)	UJ (28)	
Calcium				4100 (2600)	4900 (3000)	2400 (60)	7100 (2400)	6800 (2800)	
Chromium (total)	190000	190000	190000	25 J (2.6)	32 J (3)	39 J (3)	36 J (2.4)	38 (2.8)	
Cobalt	66	50	50	11 (2.6)	15 (3)	46 (3)	12 (2.4)	13 (2.8)	
Copper	8100	43000	8100	UJ (12)	15 (3)	21 (3)	UJ (16)	15 (2.8)	
Iron	150000		150000	28000 (2600)	34000 (3000)	56000 (6000)	38000 (2400)	42000 (2800)	
Lead	500	450	450	23 J (2.6)	25 (3)	28 (3)	29 J (2.4)	24 (2.8)	
Magnesium				4300 (2600)	4600 (3000)	8300 (6000)	5200 (2400)	5200 (2800)	
Manganese	10000	2000	2000	1500 (130)	2000 (150)	2900 (300)	1400 (120)	1300 (140)	
Mercury	35	10	10	0.058 J (0.1)	0.072 J (0.12)	0.061 J (0.12)	0.063 J (0.096)	0.066 J (0.11)	
Molybdenum	1100	650	650	UJ (5.2)	U (6.1)	U (6)	UJ (4.8)	U (5.5)	
Nickel	4400	650	650	16 (2.6)	21 (3)	36 (3)	19 (2.4)	21 (2.8)	
Nitrate	350000	1000	1000	3.5 J (12.6)	1.3 J (12.6)	0.99 J (12.4)	3 J (12.4)	3.3 J (11.7)	
Nitrite	22000	100	100	U (2.5)	U (2.5)	U (2.5)	U (2.5)	U (2.3)	
Total Kjeldahl Nitrogen				5240 J (93.3)	2070 J (93.4)	1890 J (91.2)	7250 J (91.6)	2190 J (87.9)	
Phosphorus (total)				419 (61.9)	267 J (61.9)	170 J (61.5)	494 (61.9)	195 J (58.7)	
Potassium				1700 (52)	1900 (61)	1400 (60)	2200 (48)	1700 (55)	
Silver	1100	84	84	U (2.6)	U (3)	U (3)	U (2.4)	U (2.8)	
Sodium				UJ (30)	39 J (61)	U (60)	UJ (42)	46 J (55)	
Sulfate				U (126)	U (126)	U (124)	7.4 J (124)	U (117)	
Vanadium	1500	26000	1500	33 (2.6)	43 (3)	47 (3)	46 (2.4)	46 (2.8)	
Zinc	66000	12000	12000	55 (10)	70 (12)	70 (12)	79 (9.6)	72 J (72)	

Notes:

- All concentrations are presented in milligrams per kilogram (mg/kg).
- Only compounds with at least one detection are shown.
- Concentrations that exceed the PADEP Residential Direct Contact Values (0-15ft) are **boldfaced**.
- Concentrations that exceed the Soil to GW Values - Used Aquifer - TDS <= 2500 are underlined.
- The values for chromium III are used to evaluate chromium (total).
- The Soil to Groundwater values for nitrate and nitrite are 100x the Federal maximum contaminant level (MCL).
- Blank cells in columns with criteria indicate that no value has been established.

Abbreviations:

MSC -- Medium specific criteria.
 U -- Not Detected.
 J -- Estimated Concentration.
 TDS -- Total Dissolved Solids.
 () -- Reporting Limit.
 -- -- Not Analyzed

TABLE 5-1
Soil Sampling Results
Bare Development Parcel
Miller Chemical & Fertilizer, Manover, Pennsylvania

Location	BA-BACK-08	BA-BACK-09	BA-BACK-09	BA-BACK-09	BA-BACK-09
Location Type	Background	Background	Background	Background	Background
Field Sample ID(s)	BA-BACK-08-GC-111615	BA-BACK-09-GA-111615	BA-BACK-09-GB-111615	BA-BACK-09-GC-111615	BA-BACK-09-GD-111615
PADEP Residential Direct Contact Values (0-15ft)					
Soil to Groundwater Values - Residential - Used Aquifer - TDS <= 2500					
Residential MSC					
Lab Sample ID(s)	15111703-023 /	15111905-007 /	15111703-010 /	15111703-009 /	15111703-008 /
Collection Depth (ft bgs)	15111817-023	15112007-007	15111817-010	15111817-009	15111817-008
Sample Method	1 - 2	0 - 0.25	0.5 - 1	1 - 2	4 - 5
Sample Date	Grab	Grab	Grab	Grab	Grab
Comments	11/16/2015	11/18/2015	11/16/2015	11/16/2015	11/16/2015
INORG					
Aluminum	190000	190000	25000 (1100)	40000 (2700)	57000 (2500)
Ammonia	1900	3000	1900	--	--
Antimony	88	27	27	U (2.8)	U (2.8)
Arsenic	12	29	12	9.7 (0.56)	4.7 (0.54)
Barium	44000	8200	8200	83 (2.8)	190 (2.7)
Beryllium	440	320	320	U (2.8)	U (2.8)
Boron	44000	1900	1900	U (28)	U (27)
Calcium			1700 (56)	6900 (2700)	8600 (2500)
Chromium (total)	190000	190000	190000	41 (2.8)	34 J (2.7)
Cobalt	66	50	50	23 (2.8)	11 (2.7)
Copper	8100	43000	8100	14 (2.8)	U (13)
Iron	150000	150000	42000 (1100)	27000 (2700)	31000 (2500)
Lead	500	450	450	25 (2.8)	24 J (2.7)
Magnesium			6100 (1100)	5000 (2700)	6500 (2500)
Manganese	10000	2000	2000	630 (56)	1600 (140)
Mercury	35	10	10	0.058 J (0.11)	0.061 J (0.11)
Molybdenum	1100	650	650	U (5.6)	U (5.4)
Nickel	4400	650	650	20 (2.8)	20 (2.7)
Nitrate	350000	1000	1000	1.9 J (11.9)	2.8 J (12.6)
Nitrite	22000	100	100	U (2.4)	U (2.5)
Total Kjeldahl Nitrogen			769 J (88.5)	6140 J (94.4)	3610 J (101)
Phosphorus (total)			249 J (59.6)	479 (62.2)	183 (66.4)
Potassium			870 (56)	1900 (54)	1600 (50)
Silver	1100	84	84	U (2.8)	U (2.7)
Sodium			U (56)	U (37)	55 (50)
Sulfate			107 J (119)	8.6 J (126)	U (134)
Vanadium	1500	26000	1500	39 (2.8)	36 (2.7)
Zinc	66000	12000	12000	40 J (40)	70 (11)

Notes:

- All concentrations are presented in milligrams per kilogram (mg/kg).
- Only compounds with at least one detection are shown.
- Concentrations that exceed the PADEP Residential Direct Contact Values (0-15ft) are **boldfaced**.
- Concentrations that exceed the Soil to GW Values - Used Aquifer - TDS <= 2500 are underlined.
- The values for Chromium III are used to evaluate chromium (total).
- The Soil to Groundwater values for nitrate and nitrite are 100x the Federal maximum contaminant level (MCL).
- Blank cells in columns with criteria indicate that no value has been established.

Abbreviations:

MSC -- Medium specific criteria.
 U -- Not Detected.
 J -- Estimated Concentration.
 TDS -- Total Dissolved Solids.
 () -- Reporting Limit.
 -- -- Not Analyzed

**TABLE 5-1
Soil Sampling Results
Bare Development Parcel
Miller Chemical & Fertilizer, Manover, Pennsylvania**

Location Location Type	BA-BACK-10 Background	BA-BACK-10 Background	BA-BACK-10 Background	BA-BACK-11 Background	BA-BACK-11 Background
Field Sample ID(s)	BA-BACK-10-GA-111815	BA-BACK-10-GB-111615	BA-BACK-10-GC-111615	BA-BACK-11-GA-111815	BA-BACK-11-GB-111615
PADEP Residential Direct Contact Values (0-15ft)	Residential MSC				
Soil to Groundwater Values - Residential - Used Aquifer - TDS <= 2500					
Lab Sample ID(s)	15111905-008 / 15112007-008	15111703-012 / 15111817-012	15111703-011 / 15111817-011	15111905-006 / 15112007-006	15111703-007 / 15111817-007
Collection Depth (ft bgs)	0 - 0.25	0.5 - 1	1 - 2	0 - 0.25	0.5 - 1
Sample Method	Grab	Grab	Grab	Grab	Grab
Sample Date	11/18/2015	11/16/2015	11/16/2015	11/18/2015	11/16/2015
Comments					
INORG					
Aluminum	190000	190000	35000 (2500)	41000 (2800)	30000 (2500)
Ammonia	1900	3000	1900	--	--
Antimony	88	27	27	UJ (2.5)	UJ (3)
Arsenic	12	29	12	5.8 (0.49)	6.4 (0.56)
Barium	44000	8200	8200	140 (2.5)	170 (2.8)
Beryllium	440	320	320	1.3 J (2.5)	1.5 J (2.8)
Boron	44000	1900	1900	UJ (25)	UJ (28)
Calcium			6400 (2500)	6800 (2800)	3600 (2500)
Chromium (total)	190000	190000	190000	34 J (2.5)	37 J (2.8)
Cobalt	66	50	50	9.9 (2.5)	11 (2.8)
Copper	8100	43000	8100	UJ (15)	15 (2.8)
Iron	150000	150000	150000	31000 (2500)	36000 (2800)
Lead	500	450	450	27 J (2.5)	25 (2.8)
Magnesium			5600 (2500)	5900 (2800)	6500 (2500)
Manganese	10000	2000	2000	900 (120)	1100 (140)
Mercury	35	10	10	0.057 J (0.099)	0.073 J (0.11)
Molybdenum	1100	650	650	UJ (4.9)	U (5.6)
Nickel	4400	650	650	19 (2.5)	21 (2.8)
Nitrate	350000	1000	1000	4.7 J (13.1)	1.8 J (12.9)
Nitrite	22000	100	100	U (2.6)	U (2.6)
Total Kjeldahl Nitrogen			7300 J (98.4)	3460 J (95.7)	2440 J (91.7)
Phosphorus (total)			582 (64.9)	264 J (63.6)	132 (60.4)
Potassium			2000 (49)	2000 (56)	1300 (49)
Silver	1100	84	84	U (2.5)	U (2.8)
Sodium			UJ (34)	43 J (56)	33 J (49)
Sulfate			7.6 J (131)	U (129)	U (123)
Vanadium	1500	26000	1500	41 (2.5)	45 (2.8)
Zinc	66000	12000	12000	81 (9.9)	82 (11)
				64 (9.8)	42 (12)
					47 (11)

Notes:

- All concentrations are presented in milligrams per kilogram (mg/kg).
- Only compounds with at least one detection are shown.
- Concentrations that exceed the PADEP Residential Direct Contact Values (0-15ft) are **boldfaced**.
- Concentrations that exceed the Soil to GW Values - Used Aquifer - TDS <= 2500 are underlined.
- The values for chromium III are used to evaluate chromium (total).
- The Soil to Groundwater values for nitrate and nitrite are 100x the Federal maximum contaminant level (MCL).
- Blank cells in columns with criteria indicate that no value has been established.

Abbreviations:

- MSC -- Medium specific criteria.
 U -- Not Detected.
 J -- Estimated Concentration.
 TDS -- Total Dissolved Solids.
 () -- Reporting Limit.
 -- -- Not Analyzed

TABLE 5-1
Soil Sampling Results
Bare Development Parcel
Miller Chemical & Fertilizer, Hanover, Pennsylvania

Location Location Type	BA-BACK-11 Background	BA-BACK-12 Background	BA-BACK-12 Background	BA-BACK-12 Background	5B3-AGR Background
Field Sample ID(s)	BA-BACK-11-GC-111615	BA-BACK-12-GA-111815	BA-BACK-12-GB-111615	BA-BACK-12-GC-111615	5B3-AGR-0-2-062615
PADEP Residential Direct Contact Values (0-15ft)	Residential MSC				
Soil to Groundwater Values - Residential - Used Aquifer - TDS <= 2500					
Lab Sample ID(s)	15111703-006 / 15111817-006	15111905-005 / 15112007-005	15111703-005 / 15111817-005	15111703-004 / 15111817-004	15062906-025 / 15062914-025
Collection Depth (ft bgs)	1 - 2	0 - 0.25	0.5 - 1	1 - 2	0 - 0.2
Sample Method	Grab	Grab	Grab	Grab	Grab
Sample Date	11/16/2015	11/18/2015	11/16/2015	11/16/2015	6/26/2015
Comments					
INORG					
Aluminum	190000	190000	34000 (2300)	33000 (2000)	40000 (2800)
Ammonia	1900	3000	1900	--	--
Antimony	88	27	27	UJ (2.3)	UJ (2)
Arsenic	12	29	12	7.3 (0.47)	7.1 (0.4)
Barium	44000	8200	8200	110 (2.3)	150 (2)
Beryllium	440	320	320	1.4 J (2.3)	1.1 J (2)
Boron	44000	1900	1900	UJ (23)	UJ (20)
Calcium			1800 (47)	4700 (2000)	6400 (2800)
Chromium (total)	190000	190000	190000	33 J (2.3)	31 J (2)
Cobalt	66	50	50	17 (2.3)	11 (2)
Copper	8100	43000	8100	15 (2.3)	UJ (12)
Iron	150000	150000	150000	37000 (2300)	34000 (2000)
Lead	500	450	450	18 (2.3)	26 J (2)
Magnesium			4400 (2300)	5100 (2000)	6100 (2800)
Manganese	10000	2000	2000	140 (120)	1100 (99)
Mercury	35	10	10	0.062 J (0.094)	0.054 J (0.079)
Molybdenum	1100	650	650	U (4.7)	U (4)
Nickel	4400	650	650	23 (2.3)	18 (2)
Nitrate	350000	1000	1000	U (12.3)	18.5 (11)
Nitrite	22000	100	100	U (2.5)	U (2.2)
Total Kjeldahl Nitrogen			1350 J (92)	4620 J (82.5)	3720 J (93.2)
Phosphorus (total)			126 (61.3)	514 (54.2)	413 (62.1)
Potassium			1300 (47)	1700 (40)	1800 (57)
Silver	1100	84	84	U (2.3)	U (2)
Sodium			29 J (47)	UJ (32)	39 J (57)
Sulfate			U (123)	14.7 J (110)	U (124)
Vanadium	1500	26000	1500	37 (2.3)	40 (2)
Zinc	66000	12000	12000	47 (9.4)	59 (7.9)
					76 (11)
					42 (9.2)
					43 (11)

Notes:

- All concentrations are presented in milligrams per kilogram (mg/kg).
- Only compounds with at least one detection are shown.
- Concentrations that exceed the PADEP Residential Direct Contact Values (0-15ft) are **boldfaced**.
- Concentrations that exceed the Soil to GW Values - Used Aquifer - TDS <= 2500 are underlined.
- The values for chromium III are used to evaluate chromium (total).
- The Soil to Groundwater values for nitrate and nitrite are 100x the Federal maximum contaminant level (MCL).
- Blank cells in columns with criteria indicate that no value has been established.

Abbreviations:

- MSC -- Medium specific criteria.
 U -- Not Detected.
 J -- Estimated Concentration.
 TDS -- Total Dissolved Solids.
 () -- Reporting Limit.
 -- -- Not Analyzed

**TABLE 5-1
Soil Sampling Results
Bare Development Parcel
Miller Chemical & Fertilizer, Hanover, Pennsylvania**

Location Location Type	583-AGR Background		583-AGR Background		SS3-F1-C Background	
Field Sample ID(s)	PADEP Residential Direct Contact Values (0-15ft)	Soil to Groundwater Values - Residential - Used Aquifer - TDS <= 2500	Residential MSC	583-AGR-2-6-062615	583-AGR-6-12-062615	SS3-F1-C-061515
Lab Sample ID(s)				15062906-026 /	15062906-027 /	15061601-003 /
Collection Depth (ft bgs)				15062914-026	15062914-027	15061603-003
Sample Method				0.2 - 0.5	0.5 - 1	0 - 0.2
Sample Date				Grab	Grab	Grab
Comments				6/26/2015	6/26/2015	6/15/2015
INORG						
Aluminum	190000		190000	19000 (5800)	29000 (5400)	27000 (2800)
Ammonia	1900	3000	1900	91.8 (9.6)	42.4 (9.1)	--
Antimony	88	27	27	U (2.9)	U (2.7)	U (2.8)
Arsenic	12	29	12	10 (0.58)	22 (0.54)	8.4 (0.57)
Barium	44000	8200	8200	400 (290)	92 (2.7)	160 (2.8)
Beryllium	440	320	320	U (2.9)	U (2.7)	U (2.8)
Boron	44000	1900	1900	--	--	--
Calcium				--	--	--
Chromium (total)	190000	190000	190000	40 (2.9)	170 (2.7)	32 (2.8)
Cobalt	66	50	50	25 (2.9)	24 (2.7)	15 (2.8)
Copper	8100	43000	8100	8.9 (2.9)	13 (2.7)	15 (2.8)
Iron	150000		150000	39000 (5800)	120000 (5400)	31000 (2800)
Lead	500	450	450	34 (2.9)	42 (2.7)	34 (2.8)
Magnesium				--	--	--
Manganese	10000	2000	2000	4900 (290)	1100 (270)	1300 (140)
Mercury	35	10	10	U (0.12)	U (0.11)	U (0.11)
Molybdenum	1100	650	650	--	--	--
Nickel	4400	650	650	14 (2.9)	27 (2.7)	17 (2.8)
Nitrate	350000	1000	1000	--	--	1.7 (1.2)
Nitrite	22000	100	100	U (1.2)	U (1.2)	U (1.2)
Total Kjeldahl Nitrogen				3000 (95.3)	1820 (90.5)	2300 (95.8)
Phosphorus (total)				428 (63.8)	174 (58.5)	744 (60.8)
Potassium				960 (58)	730 (54)	2200 (57)
Silver	1100	84	84	U (2.9)	U (2.7)	U (2.8)
Sodium				U (58)	U (54)	U (57)
Sulfate				U (60)	U (60)	U (62)
Vanadium	1500	26000	1500	--	--	--
Zinc	66000	12000	12000	44 (12)	31 (11)	67 (11)

Notes:

- All concentrations are presented in milligrams per kilogram (mg/kg).
- Only compounds with at least one detection are shown.
- Concentrations that exceed the PADEP Residential Direct Contact Values (0-15ft) are **boldfaced**.
- Concentrations that exceed the Soil to GW Values - Used Aquifer - TDS <= 2500 are underlined.
- The values for chromium III are used to evaluate chromium (total).
- The Soil to Groundwater values for nitrate and nitrite are 100x the Federal maximum contaminant level (MCL).
- Blank cells in columns with criteria indicate that no value has been established.

Abbreviations:

- MSC -- Medium specific criteria.
 U -- Not Detected.
 J -- Estimated Concentration.
 TDS -- Total Dissolved Solids.
 () -- Reporting Limit.
 -- -- Not Analyzed

**Table 5-2: Soil Screening Summary (Comparison of Maximum Detected Concentrations to PA Criteria)
Bare Development Parcel, Miller Chemical & Fertilizer, Hanover, Pennsylvania**

Location Type	Chem Group	Chemical	CASRN	Analyzed	Detected	Max Detected (mg/kg)	PADEP Residential Direct Contact (0-15 ft) Values (mg/kg)	Ratio of Max Detect to PADEP Residential Direct Contact (0-15 ft) Values	PADEP Soil to Groundwater Values - Residential (mg/kg)	Ratio of Max Detect to PADEP Soil to Groundwater Values - Residential	PADEP Residential MSCs (mg/kg)	Ratio of Max Detect to PADEP Residential MSCs
Visibly Affected	INORG	Aluminum	7429-90-5	84	84	4.20E+04	1.9E+05	2.2E-01			1.9E+05	2.2E-01
Visibly Affected	INORG	Arsenic	7440-38-2	84	83	2.00E+01	1.2E+01	1.7E+00	2.9E+01	6.9E-01	1.2E+01	1.7E+00
Visibly Affected	INORG	Barium	7440-39-3	84	84	2.50E+02	4.4E+04	5.7E-03	8.2E+03	3.0E-02	8.2E+03	3.0E-02
Visibly Affected	INORG	Beryllium	7440-41-7	84	27	2.20E+00	4.4E+02	5.0E-03	3.2E+02	6.9E-03	3.2E+02	6.9E-03
Visibly Affected	INORG	Boron	7440-42-8	84	1	1.60E+01	4.4E+04	3.6E-04	1.9E+03	8.4E-03	1.9E+03	8.4E-03
Visibly Affected	INORG	Calcium	7440-70-2	84	84	6.20E+04						
Visibly Affected	INORG	Chromium (total)	7440-47-3	84	84	5.30E+01	1.9E+05	2.8E-04	1.9E+05	2.8E-04	1.9E+05	2.8E-04
Visibly Affected	INORG	Cobalt	7440-48-4	84	84	3.90E+01	6.6E+01	5.9E-01	5.0E+01	7.8E-01	5.0E+01	7.8E-01
Visibly Affected	INORG	Copper	7440-50-8	84	65	2.00E+02	8.1E+03	2.5E-02	4.3E+04	4.7E-03	8.1E+03	2.5E-02
Visibly Affected	INORG	Iron	7439-89-6	84	84	1.10E+05	1.5E+05	7.3E-01			1.5E+05	7.3E-01
Visibly Affected	INORG	Lead	7439-92-1	84	84	2.10E+02	5.0E+02	4.2E-01	4.5E+02	4.7E-01	4.5E+02	4.7E-01
Visibly Affected	INORG	Magnesium	7439-95-4	84	84	2.30E+04						
Visibly Affected	INORG	Manganese	7439-96-5	85	85	2.50E+03	1.0E+04	2.5E-01	2.0E+03	1.3E+00	2.0E+03	1.3E+00
Visibly Affected	INORG	Mercury	7439-97-6	84	66	2.60E-01	3.5E+01	7.4E-03	1.0E+01	2.6E-02	1.0E+01	2.6E-02
Visibly Affected	INORG	Molybdenum	7439-98-7	84	3	8.90E+00	1.1E+03	8.1E-03	6.5E+02	1.4E-02	6.5E+02	1.4E-02
Visibly Affected	INORG	Nickel	7440-02-0	84	84	3.30E+01	4.4E+03	7.5E-03	6.5E+02	5.1E-02	6.5E+02	5.1E-02
Visibly Affected	INORG	Nitrate	14797-55-8	84	75	8.37E+01	3.5E+05	2.4E-04	1.0E+03	8.4E-02	1.0E+03	8.4E-02
Visibly Affected	INORG	Nitrite	14797-65-0	84	1	7.60E-01	2.2E+04	3.5E-05	1.0E+02	7.6E-03	1.0E+02	7.6E-03
Visibly Affected	INORG	Total Kjeldahl Nitrogen	C-021	84	82	1.53E+04						
Visibly Affected	INORG	Phosphorus (total)	7723-14-0	84	84	7.17E+03						
Visibly Affected	INORG	Potassium	7440-09-7	84	84	4.60E+03						
Visibly Affected	INORG	Sodium	7440-23-5	84	49	1.50E+02						
Visibly Affected	INORG	Sulfate	14808-79-8	84	72	3.50E+02						
Visibly Affected	INORG	Vanadium	7440-62-2	84	84	6.60E+01	1.5E+03	4.4E-02	2.6E+04	2.5E-03	1.5E+03	4.4E-02
Visibly Affected	INORG	Zinc	7440-66-6	84	54	4.90E+02	6.6E+04	7.4E-03	1.2E+04	4.1E-02	1.2E+04	4.1E-02
Boundary	INORG	Aluminum	7429-90-5	19	19	4.00E+04	1.9E+05	2.1E-01			1.9E+05	2.1E-01
Boundary	INORG	Antimony	7440-36-0	19	1	1.10E+00	8.8E+01	1.3E-02	2.7E+01	4.1E-02	2.7E+01	4.1E-02
Boundary	INORG	Arsenic	7440-38-2	19	19	8.90E+00	1.2E+01	7.4E-01	2.9E+01	3.1E-01	1.2E+01	7.4E-01
Boundary	INORG	Barium	7440-39-3	19	19	1.90E+02	4.4E+04	4.3E-03	8.2E+03	2.3E-02	8.2E+03	2.3E-02
Boundary	INORG	Beryllium	7440-41-7	19	3	1.80E+00	4.4E+02	4.1E-03	3.2E+02	5.6E-03	3.2E+02	5.6E-03
Boundary	INORG	Calcium	7440-70-2	19	19	3.40E+04						
Boundary	INORG	Chromium (total)	7440-47-3	19	19	3.80E+01	1.9E+05	2.0E-04	1.9E+05	2.0E-04	1.9E+05	2.0E-04
Boundary	INORG	Cobalt	7440-48-4	19	19	2.90E+01	6.6E+01	4.4E-01	5.0E+01	5.8E-01	5.0E+01	5.8E-01
Boundary	INORG	Copper	7440-50-8	19	13	7.60E+01	8.1E+03	9.4E-03	4.3E+04	1.8E-03	8.1E+03	9.4E-03
Boundary	INORG	Iron	7439-89-6	19	19	3.70E+04	1.5E+05	2.5E-01			1.5E+05	2.5E-01

**Table 5-2: Soil Screening Summary (Comparison of Maximum Detected Concentrations to PA Criteria)
Bare Development Parcel, Miller Chemical & Fertilizer, Hanover, Pennsylvania**

Location Type	Chem Group	Chemical	CASRN	Analyzed	Detected	Max Detected (mg/kg)	PADEP Residential Direct Contact (0-15 ft) Values (mg/kg)	Ratio of Max Detect to PADEP Residential Direct Contact (0-15 ft) Values	PADEP Soil to Groundwater Values - Residential (mg/kg)	Ratio of Max Detect to PADEP Soil to Groundwater Values - Residential	PADEP Residential MSCs (mg/kg)	Ratio of Max Detect to PADEP Residential MSCs
Boundary	INORG	Lead	7439-92-1	19	19	1.70E+02	5.0E+02	3.4E-01	4.5E+02	3.8E-01	4.5E+02	3.8E-01
Boundary	INORG	Magnesium	7439-95-4	19	18	1.20E+04						
Boundary	INORG	Manganese	7439-96-5	19	19	2.30E+03	1.0E+04	2.3E-01	2.0E+03	1.2E+00	2.0E+03	1.2E+00
Boundary	INORG	Mercury	7439-97-6	19	10	1.90E-01	3.5E+01	5.4E-03	1.0E+01	1.9E-02	1.0E+01	1.9E-02
Boundary	INORG	Nickel	7440-02-0	19	19	2.20E+01	4.4E+03	5.0E-03	6.5E+02	3.4E-02	6.5E+02	3.4E-02
Boundary	INORG	Nitrate	14797-55-8	19	16	1.52E+01	3.5E+05	4.3E-05	1.0E+03	1.5E-02	1.0E+03	1.5E-02
Boundary	INORG	Total Kjeldahl Nitrogen	C-021	19	19	1.54E+04						
Boundary	INORG	Phosphorus (total)	7723-14-0	19	19	1.16E+03						
Boundary	INORG	Potassium	7440-09-7	19	19	2.90E+03						
Boundary	INORG	Silver	7440-22-4	19	1	2.00E+00	1.1E+03	1.8E-03	8.4E+01	2.4E-02	8.4E+01	2.4E-02
Boundary	INORG	Sodium	7440-23-5	19	8	2.50E+02						
Boundary	INORG	Sulfate	14808-79-8	19	10	1.36E+02						
Boundary	INORG	Vanadium	7440-62-2	19	19	4.50E+01	1.5E+03	3.0E-02	2.6E+04	1.7E-03	1.5E+03	3.0E-02
Boundary	INORG	Zinc	7440-66-6	19	14	2.00E+02	6.6E+04	3.0E-03	1.2E+04	1.7E-02	1.2E+04	1.7E-02
Background	INORG	Ammonia	7664-41-7	3	3	1.18E+02	1.9E+03	6.2E-02	3.0E+03	3.9E-02	1.9E+03	6.2E-02
Background	INORG	Aluminum	7429-90-5	44	44	5.70E+04	1.9E+05	3.0E-01			1.9E+05	3.0E-01
Background	INORG	Arsenic	7440-38-2	44	44	2.20E+01	1.2E+01	1.8E+00	2.9E+01	7.6E-01	1.2E+01	1.8E+00
Background	INORG	Barium	7440-39-3	44	44	4.00E+02	4.4E+04	9.1E-03	8.2E+03	4.9E-02	8.2E+03	4.9E-02
Background	INORG	Beryllium	7440-41-7	44	20	1.90E+00	4.4E+02	4.3E-03	3.2E+02	5.9E-03	3.2E+02	5.9E-03
Background	INORG	Calcium	7440-70-2	40	40	8.60E+03						
Background	INORG	Chromium (total)	7440-47-3	44	44	1.70E+02	1.9E+05	8.9E-04	1.9E+05	8.9E-04	1.9E+05	8.9E-04
Background	INORG	Cobalt	7440-48-4	44	44	8.00E+01	6.6E+01	1.2E+00	5.0E+01	1.6E+00	5.0E+01	1.6E+00
Background	INORG	Copper	7440-50-8	44	34	2.50E+01	8.1E+03	3.1E-03	4.3E+04	5.8E-04	8.1E+03	3.1E-03
Background	INORG	Iron	7439-89-6	44	44	1.20E+05	1.5E+05	8.0E-01			1.5E+05	8.0E-01
Background	INORG	Lead	7439-92-1	44	44	5.80E+01	5.0E+02	1.2E-01	4.5E+02	1.3E-01	4.5E+02	1.3E-01
Background	INORG	Magnesium	7439-95-4	40	40	8.30E+03						
Background	INORG	Manganese	7439-96-5	44	44	4.90E+03	1.0E+04	4.9E-01	2.0E+03	2.5E+00	2.0E+03	2.5E+00
Background	INORG	Mercury	7439-97-6	44	31	1.50E-01	3.5E+01	4.3E-03	1.0E+01	1.5E-02	1.0E+01	1.5E-02
Background	INORG	Nickel	7440-02-0	44	44	3.60E+01	4.4E+03	8.2E-03	6.5E+02	5.5E-02	6.5E+02	5.5E-02
Background	INORG	Nitrate	14797-55-8	41	35	1.85E+01	3.5E+05	5.3E-05	1.0E+03	1.9E-02	1.0E+03	1.9E-02
Background	INORG	Total Kjeldahl Nitrogen	C-021	47	44	7.30E+03						
Background	INORG	Phosphorus (total)	7723-14-0	44	44	9.91E+02						
Background	INORG	Potassium	7440-09-7	44	44	2.20E+03						
Background	INORG	Sodium	7440-23-5	44	14	5.50E+01						
Background	INORG	Sulfate	14808-79-8	44	22	1.18E+02						

**Table 5-2: Soil Screening Summary (Comparison of Maximum Detected Concentrations to PA Criteria)
Bare Development Parcel, Miller Chemical & Fertilizer, Hanover, Pennsylvania**

Location Type	Chem Group	Chemical	CASRN	Analyzed	Detected	Max Detected (mg/kg)	PADEP Residential Direct Contact (0-15 ft) Values (mg/kg)	Ratio of Max Detect to PADEP Residential Direct Contact (0-15 ft) Values	PADEP Soil to Groundwater Values - Residential (mg/kg)	Ratio of Max Detect to PADEP Soil to Groundwater Values - Residential	PADEP Residential MSCs (mg/kg)	Ratio of Max Detect to PADEP Residential MSCs
Background	INORG	Vanadium	7440-62-2	40	40	5.90E+01	1.5E+03	3.9E-02	2.6E+04	2.3E-03	1.5E+03	3.9E-02
Background	INORG	Zinc	7440-66-6	44	44	9.00E+01	6.6E+04	1.4E-03	1.2E+04	7.5E-03	1.2E+04	7.5E-03

Notes:

Only constituents detected in each area are shown.

Results are provided in milligrams per kilogram (mg/kg).

Ratios of concentration to the criteria greater than 1 are shaded in bold.

Chem Group - chemical group.

MSC - Medium Specific Concentration.

The PADEP Soil to Groundwater Value for a Residential Used Aquifer with TDS <= 2500, per PADEP guidance, is the maximum of the generic residential value and 100 x the Groundwater value.

The PADEP Soil to Groundwater values for Nitrate and Nitrite are 100 x the Federal maximum contaminant level (MCL).

The Chromium (total) values for PADEP are the values for Chromium III.

The sample count for the visibly affected area samples includes one duplicate.

Blank cells in columns with criteria indicate that no value has been established.

One boundary sample location (BA-BS-19), was treated as visibly affected for the purposes of data analysis.

**TABLE 5-3
Agricultural Sampling Results
Bare Development Parcel
Miller Chemical & Fertilizer, Hanover, Pennsylvania**

Location	BDCSS01	BDCSS01	BDCSS02	BDCSS02
Field Sample ID	BDCSS01020	BDCSS01060	BDCSS02020	BDCSS02060
Lab Sample ID	S15-47873	S15-47872	S15-47871	S15-47870
Collection Depth (In bgs)	2	6	2	6
Location Type	Background	Background	Affected Area	Affected Area
Sample Method	Composite	Composite	Composite	Composite
Sample Date	12/16/2015	12/16/2015	12/16/2015	12/16/2015
Comments				
PHYS				
Acidity (total) [meq/100g]	3.4	4.5	3.4	3.9
Cation exchange capacity [meq/100g]	12.6	12.2	20.2	17.7
Electrical Conductivity [mmhos/cm]	0.06	0.05	0.12	0.2
pH [SU]	6.4	5.9	6.5	6.1
INORG				
Ammonium	1.9	2.2	3.2	2.6
Arsenic	6.97	8.1	7.75	6.51
Calcium	1436	1257	2736	2312
Copper	1.4	1.3	8.7	4.5
Magnesium	195	155	212	225
Nitrate	5.2	5.4	22.7	30.6
Phosphorus (total)	31	19	374	55
Potassium	166	67	518	152
Sulfur	10.1	10.3	19.1	23.1
Zinc	2.1	1.7	15.2	10.2

Notes:

- 1 All concentrations are presented in mg/kg (ppm) except where otherwise noted.
- 2 Samples were analyzed at Penn State University's Agricultural Analytical Services Laboratory.

TABLE 6-1

Limited Human Health Evaluation Results

Miller Chemical & Fertilizer, Hanover, Pennsylvania

Elements / Compounds	Soil Concentration (mg/kg)	Dietary Reference Intakes (DRI's)				Soil Ingestion Rate ² (mg/day) - PADEP Residential	Soil Ingestion needed to meet minimum RDA / AI / UL value (mg)	Mg element/200 mg soil
		RDA / AI ¹ (mg/day) (Adult)	UL ¹ (mg/day) (Adult)	RDA / AI (mg/day) (Child)	UL (mg/day) (Child)			
Calcium	62,000	1,000	2,000	700	2,500	100	11,290	12.40
Magnesium	23,000	310	350	80	65	100	2,826	4.60
Phosphorus	7,170	700	3,000	460	3,000	100	64,156	1.43
Potassium	4,600	4,700	None	3,000	None	100	652,174	0.92
Sodium	150	1,200	2,300	1,000	1,500	100	6,666,667	0.03
Sulfate ⁴	350	500	None	None	None	100	1,428,571	0.07

¹Selected RDA / AI / UL values were those for the most sensitive groups of adults and children. All values are RDAs except for Manganese, Potassium, and Sodium (AIs).

RDA (Recommended Dietary Allowance): goal intake set to meet needs of almost all (97-98%) individuals in a group

AI (Adequate Intake): goal intake believed to cover the needs of all individuals in the group, but lack of data to prevent being able to specify with confidence the percentage of individuals covered by this intake

UL (Tolerable Upper Intake Level): maximum level of daily nutrient intake that is likely to pose no risk of adverse effects

Source: Food and Nutrition Board, Institute of Medicine, National Academies: Dietary Reference Intakes.

https://ods.od.nih.gov/Health_Information/Dietary_Reference_Intakes.aspx

Nitrate RDAs calculated using WHO RDA of 3.7 mg/kg/day and EPA standard weights for an adult (80 kg) and a child age 1-2 years (11.4 kg)

Sources: CDC. Nitrate/Nitrite Toxicity. <http://www.atsdr.cdc.gov/csem/csem.asp?csem=28&po=8>

EPA (2011) Exposure Factors Handbook (pg. 8-2). <https://cfpub.epa.gov/ncea/risk/recordisplay.cfm?deid=236252>

²Soil ingestion rates include exposure to soil and indoor and outdoor settled dust, and account for both ingestion and inhalation.

Source: EPA (2011) Exposure Factors Handbook (pgs. 5-3, 5-5): <https://cfpub.epa.gov/ncea/risk/recordisplay.cfm?deid=236252>

³Includes adults and children

⁴Average daily intake of sulfate from all sources is used in this table (500 mg), with food being the major source. RDA/AI for sulfate is not available because recommended intake for protein and sulfur amino acids should provide adequate sulfate for synthesis of sulfur-containing compounds. No UL was set because odor and off taste usually limit intake from drinking water. Diarrhea was observed in areas where water supply had high levels. Laxative effect has been observed in piglets and humans at 1000-1200 mg/L. No health-based guideline has been proposed, though it is recommended that health authorities be notified of sources of drinking water that contain sulfate concentrations in excess of 500 mg/L.

Sources: Food and Nutrition Board, Institute of Medicine, National Academies: Dietary Reference Intakes.

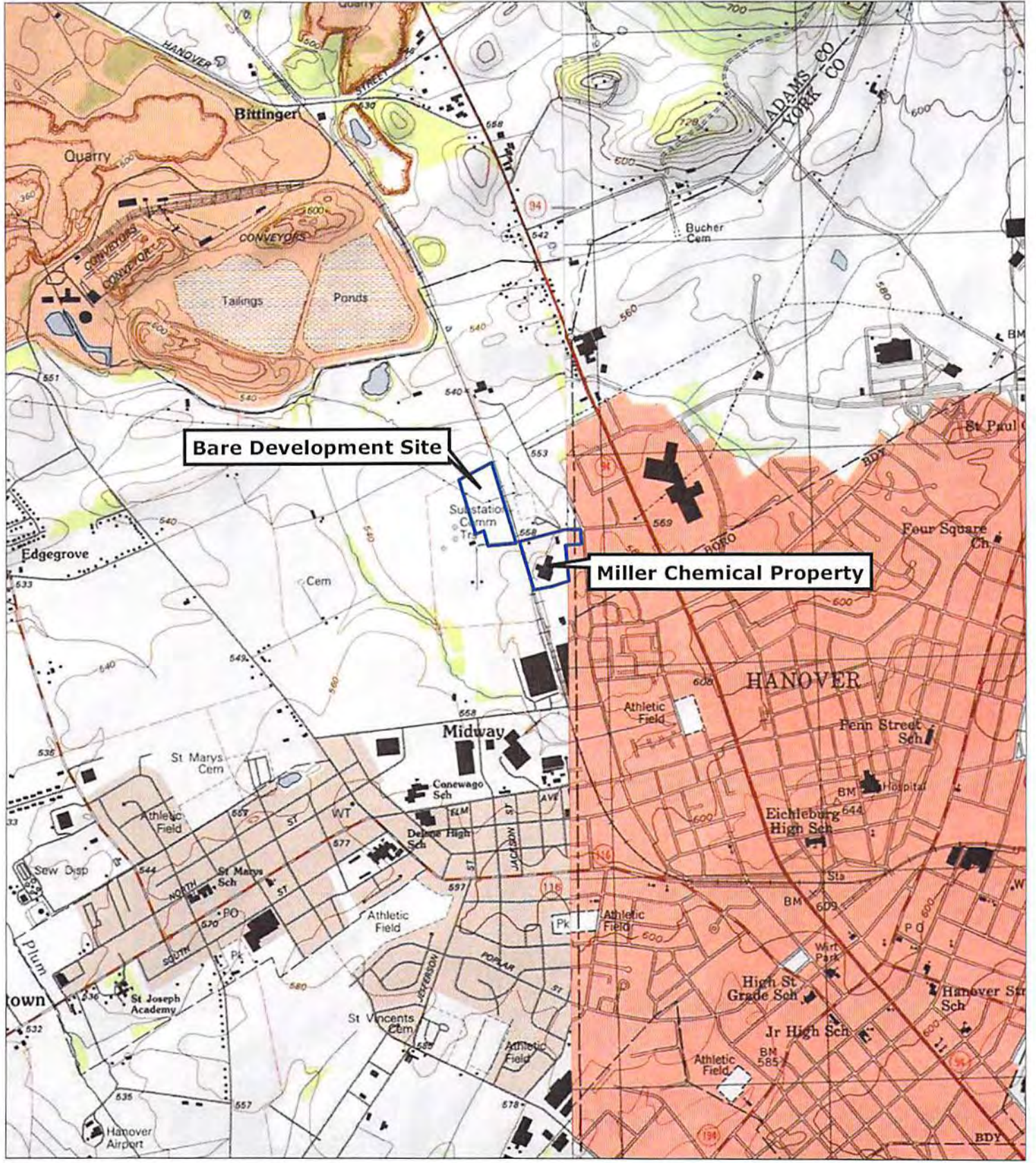
https://ods.od.nih.gov/Health_Information/Dietary_Reference_Intakes.aspx

WHO (2003). Chemical fact sheet in WHO Guidelines for Drinking-water Quality.

http://www.who.int/water_sanitation_health/dwq/chemicals/sulfate/en/

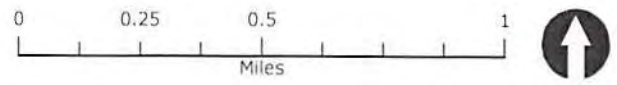
REMEDIAL INVESTIGATION AND FINAL REPORT

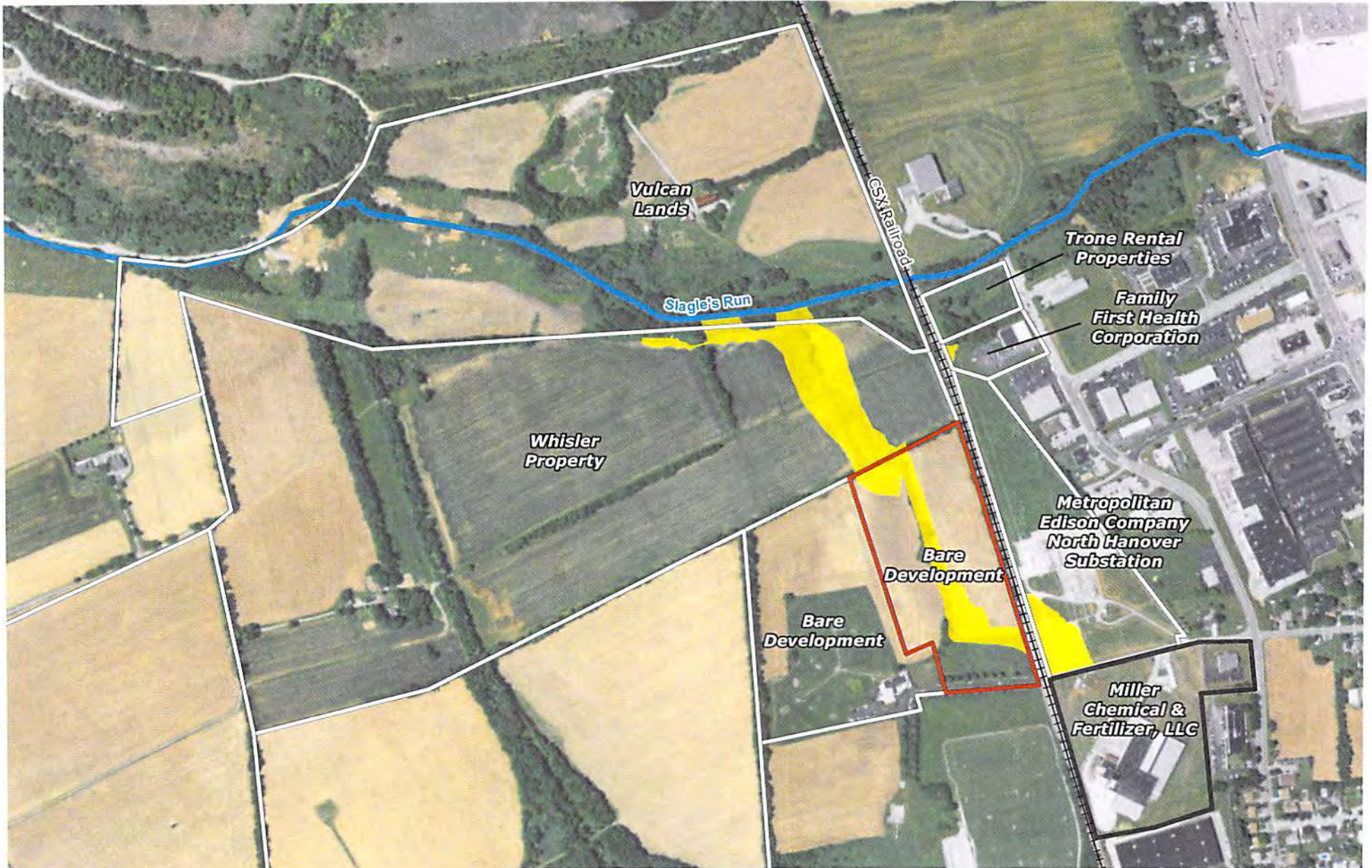
FIGURES



SCALE 1:24,000

Source: USGS 7.5 minute (topographic) quadrangles
Hanover and McSherrystown, Pennsylvania

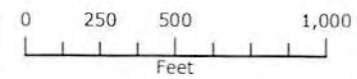


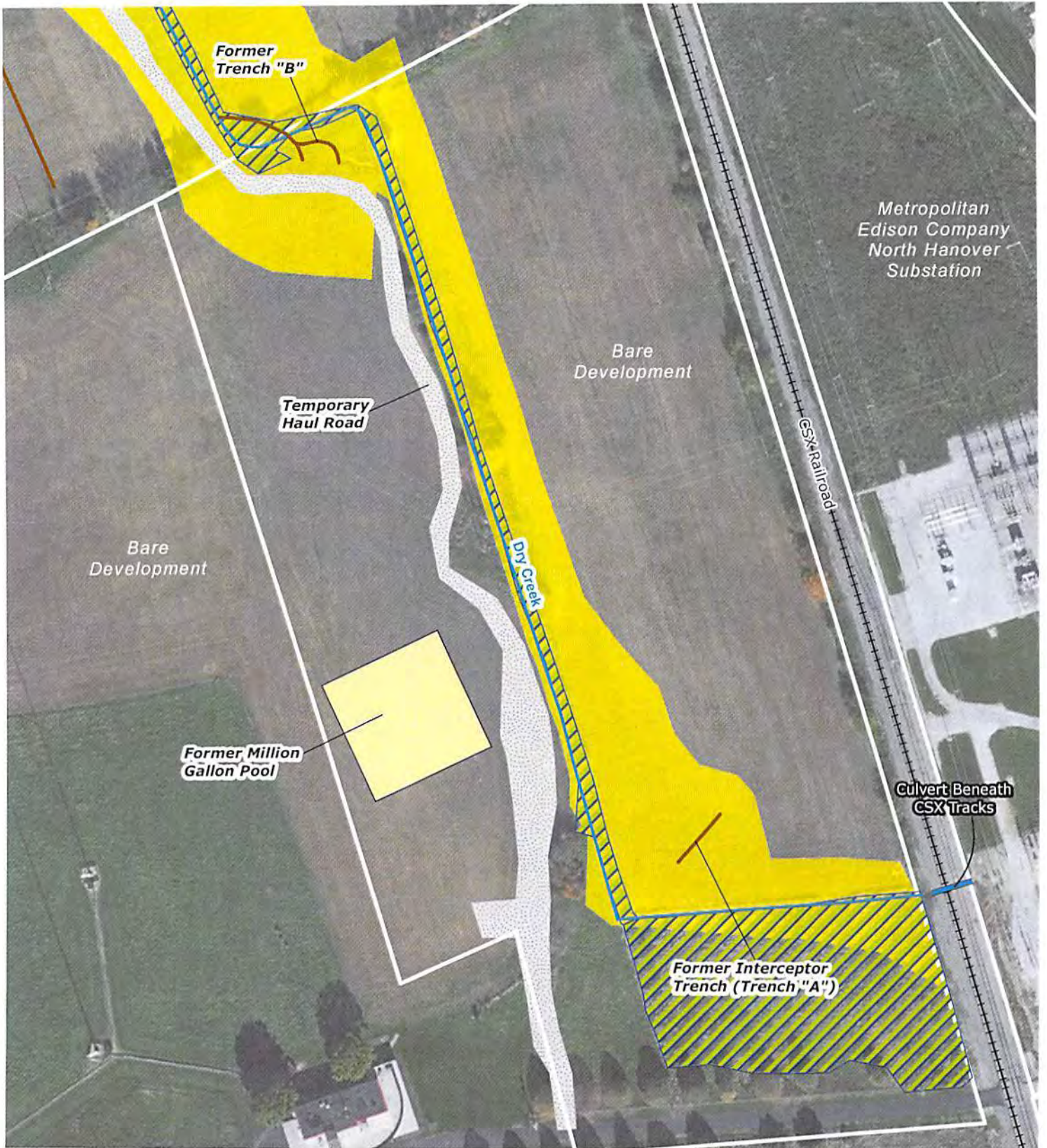





- Miller Chemical Property
- Other Off-Site Properties
- Eastern Parcel of Bare Development Property
- Visibly Affected Area

Notes:
 (1) Location of the visibly affected area is based on the 8/28/2015 and 9/21/2015 surveys conducted by GHI and on GPS measurements collected by Ramboll Environ Staff. North of the Whisler Property, the location of the visibly affected area is based on field observations.
 (2) Visibly affected area on the Miller Chemical property is not shown on this figure.

Imagery Source: Esri Streaming Imagery

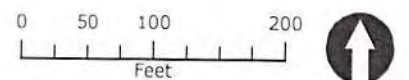


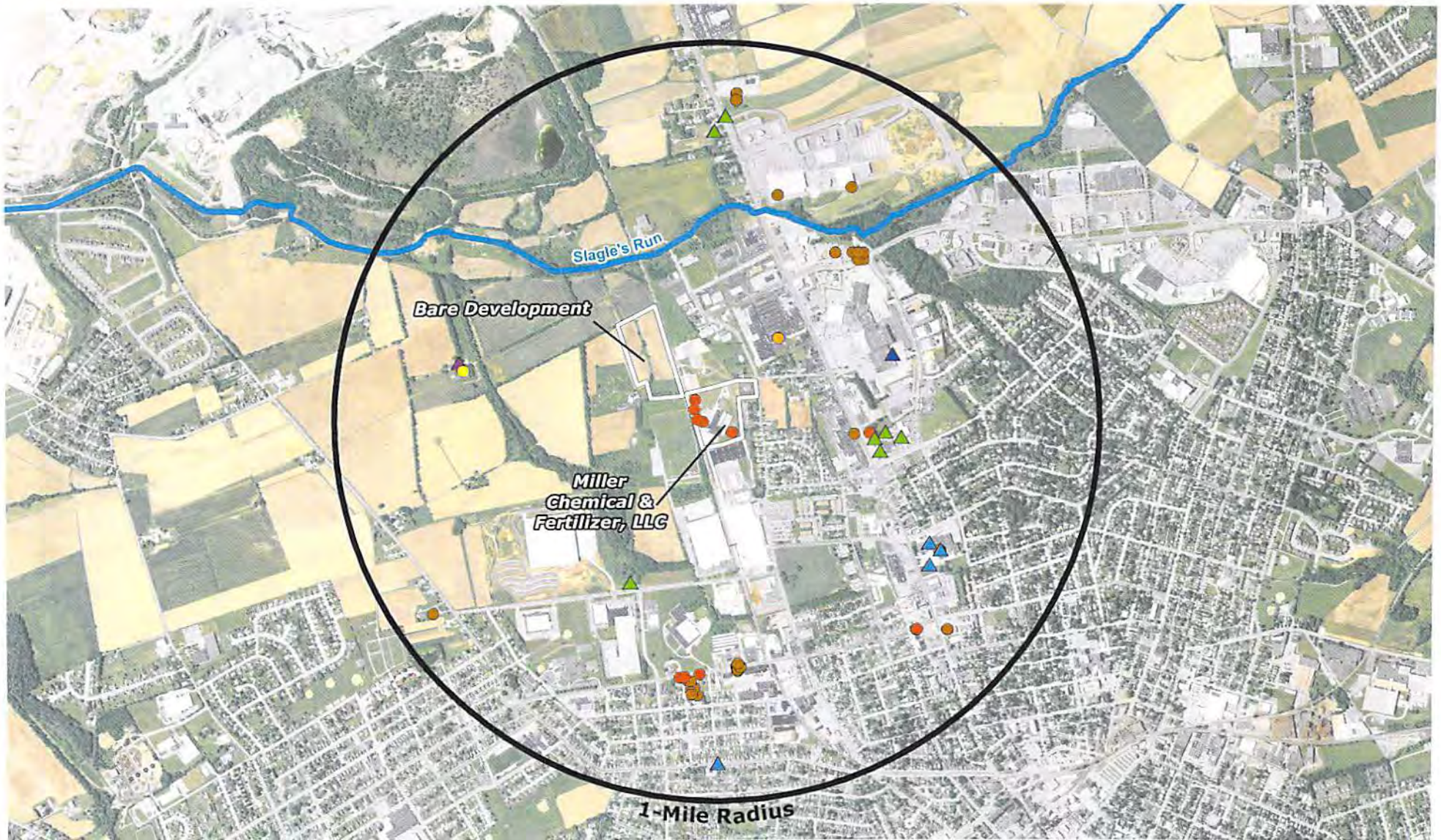


-  Dry Creek
-  Delineated Wetlands
-  Visibly Affected Area

Notes:
 (1) Wetland boundaries were delineated by JMT, Inc. on 11/13/2015.
 (2) Dry Creek feature is approximate.
 (3) Location of the Visibly Affected Area, Haul Road, Former Trench "B", Former Interceptor Trench "A", and Former Million Gallon Pool are based on the 9/21/2015 survey conducted by GHI.

Imagery Source: Esri Streaming Imagery





Groundwater Well Usage

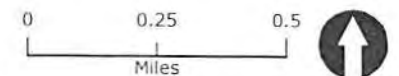
- ▲ Withdrawal - Commercial
- ▲ Withdrawal - Domestic
- ▲ Withdrawal - Industrial
- ▲ Withdrawal - Agricultural
- ▲ Approx. Location

- Spring - Approx. Location
- Monitoring
- Monitoring - Approx. Location
- Unknown, Unused, Test, Observation, Injection, Mine, or Geothermal

Notes:

- (1) Well locations are from the Pennsylvania Groundwater Information System (PaGWIS) as of February 2016.
- (2) One monitoring well was manually added based on a review of location descriptions for unmapped wells in the PaGWIS database (see orange dot).
- (3) The spring and agricultural well locations are based on information provided by Mr. Glen Whisler.
- (4) All displayed wells are within one mile of Miller Chemical.
- (5) Monitoring wells on the Miller Chemical property were installed in relation to the 2014 acquisition and were subsequently abandoned; no monitoring wells are currently present on the property.

Imagery Source: Esri Streaming Imagery





Sample Location Code

Sample labels represent "XX" in location code

- Visibly Affected Area (BA-VA-XX)
- Boundary (BA-BS-XX)
- Disturbed Area (BA-DA-XX)
- Dry Creek (BA-DC-XX)
- Background (BA-BACK-XX)

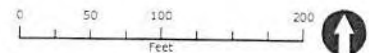
Visibly Affected Area

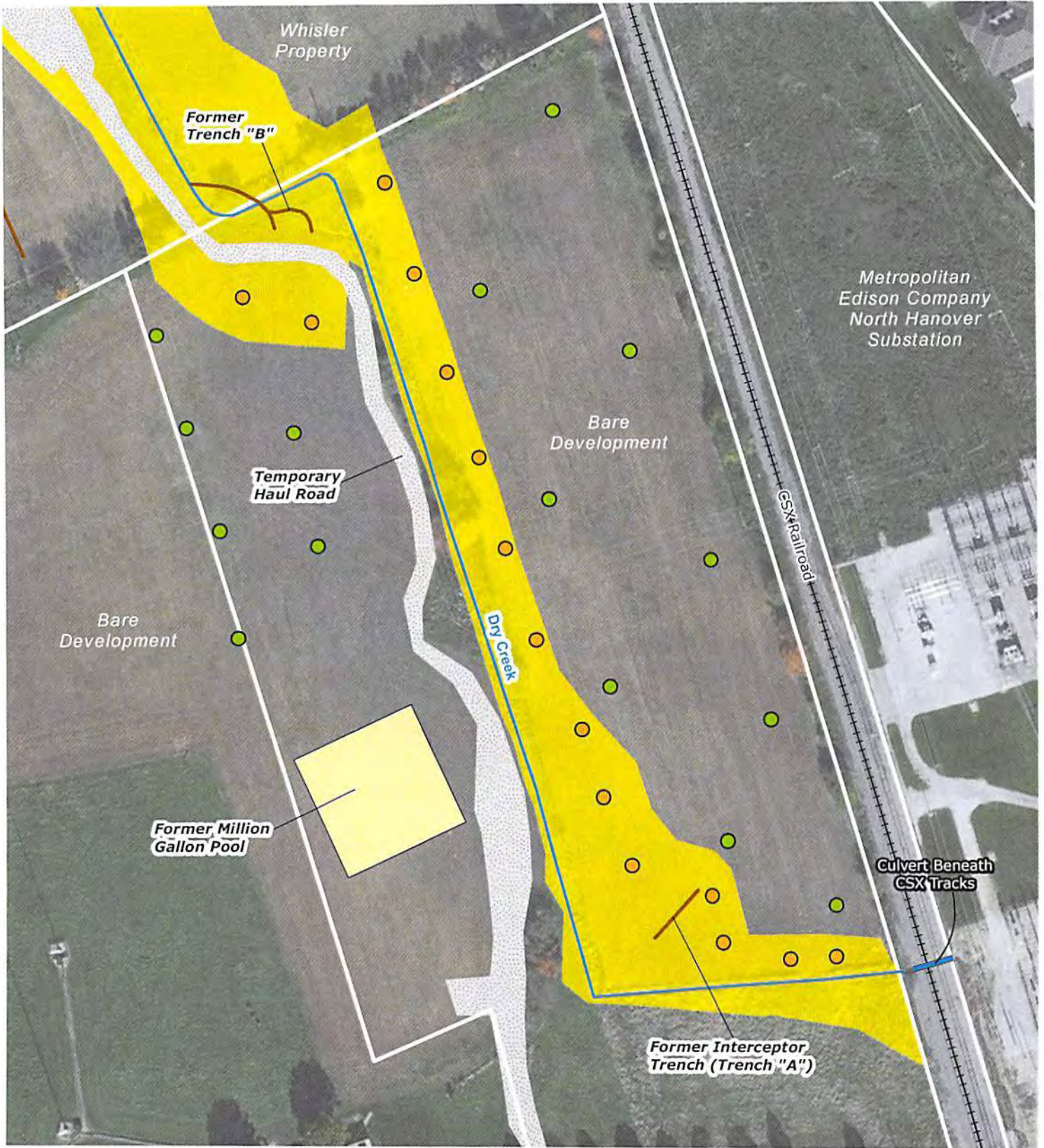
Background samples SS3-F1-C and SB3-AGR were collected prior to the Act 2 sampling campaign and are labeled above.

Notes:

- (1) Sampling locations are based on GPS coordinates collected in the field.
- (2) Dry Creek feature is approximate.
- (3) Location of the Visibly Affected Area, Haul Road, Former Trench "B", Former Interceptor Trench "A", and Former Million Gallon Pool are based on the 9/21/2015 survey conducted by GHI.

- (4) GHI's survey of the Visibly Affected Area was based on field markers placed by Ramboll Environ. A field marker in the vicinity of BA-BS-09 was missed by the surveyor. This sampling location is outside the Visibly Affected Area as observed by Ramboll Environ.

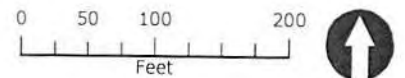


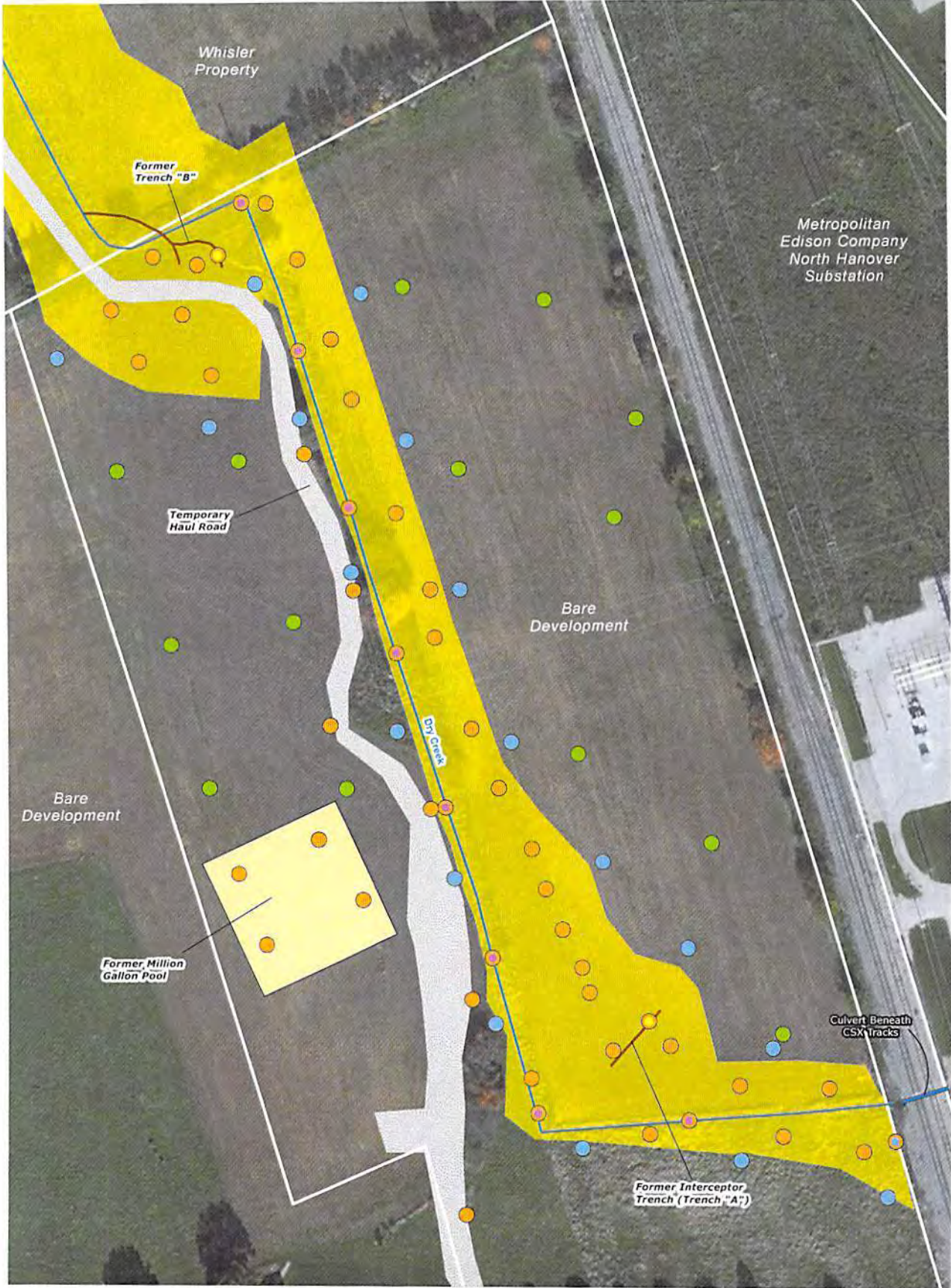


- Visibly Affected Area Composite Sub-Sample Location
- Unaffected Area Composite Sub-Sample Location
- Visibly Affected Area

Notes:
 (1) Sampling locations are based on GPS coordinates collected in the field.
 (2) Dry Creek feature is approximate.
 (3) Location of the Visibly Affected Area, Haul Road, Former Trench "B", Former Intercept Trench "A", and Former Million Gallon Pool are based on the 9/21/2015 survey conducted by GHI.

Imagery Source: Esri Streaming Imagery

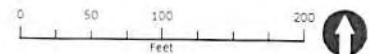


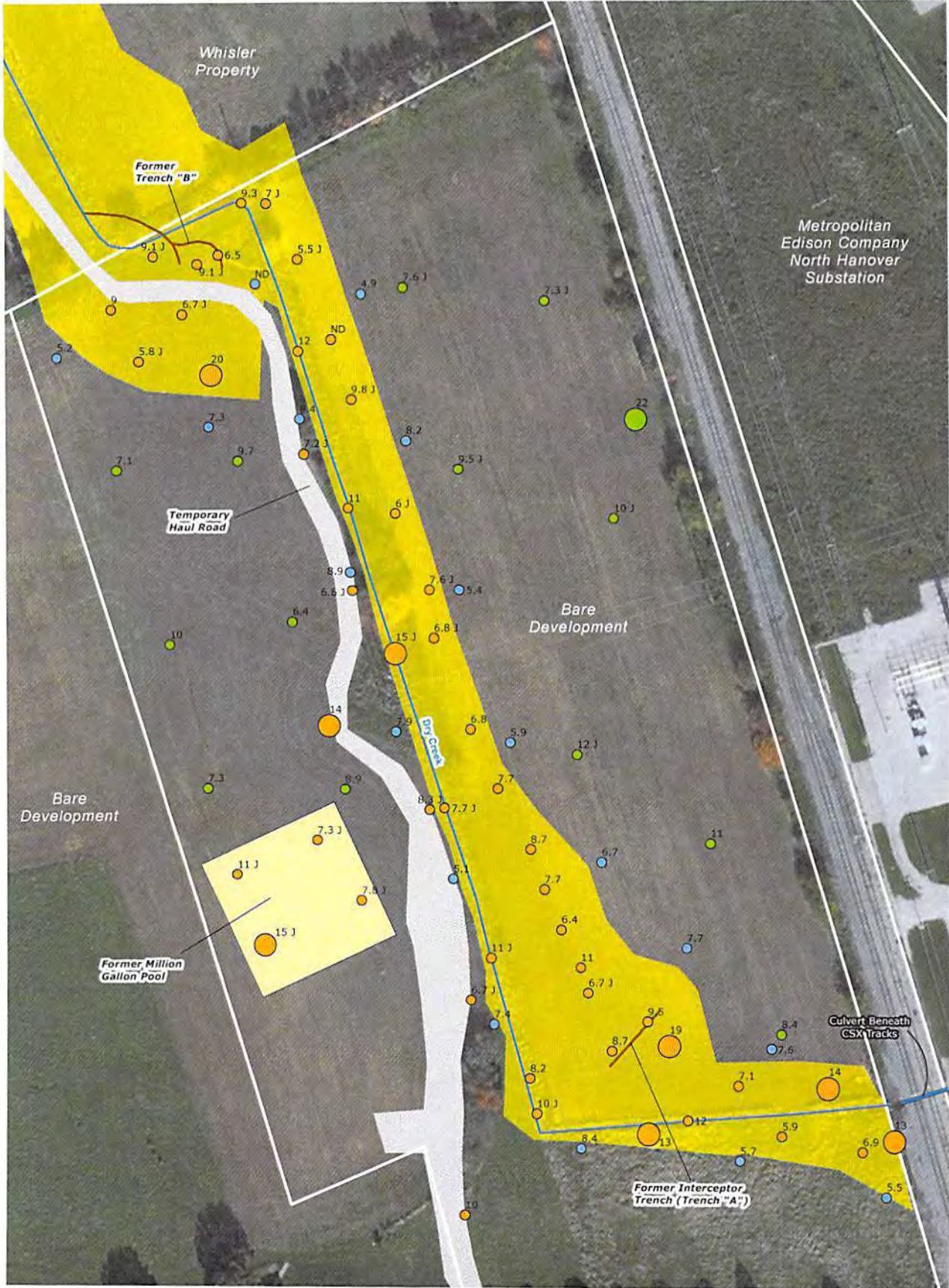


- | | |
|---|--|
| Visibly Affected Area Sample Analysis Group | Background Sample Analysis Group |
| ● Collected as Visibly Affected Area sample | ● Collected as Background sample |
| ● Collected as Disturbed Area sample | Visibly Affected Area |
| ● Collected as Dry Creek sample | |
| ● Collected as Boundary sample | |
| Boundary Sample Analysis Group | |
| ● Collected as Boundary sample | |

Notes:
 (1) Sampling locations are based on GPS coordinates collected in the field.
 (2) Dry Creek feature is approximate.
 (3) Location of the Visibly Affected Area, Haul Road, Former Trench "B", Former Interceptor Trench "A", and Former Million Gallon Pool are based on the 9/21/2015 survey conducted by GHI.

(4) GHI's survey of the Visibly Affected Area was based on field markers placed by Ramboll Environ. A field marker in the vicinity of BA-BS-09 was missed by the surveyor. This sampling location is outside the Visibly Affected Area as observed by Ramboll Environ.





Sample Results (mg/kg)
Color represents sample analysis group

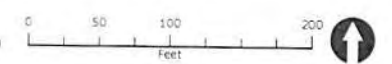
- Visibly Affected Area Analysis Group
- Boundary Analysis Group
- Background Analysis Group

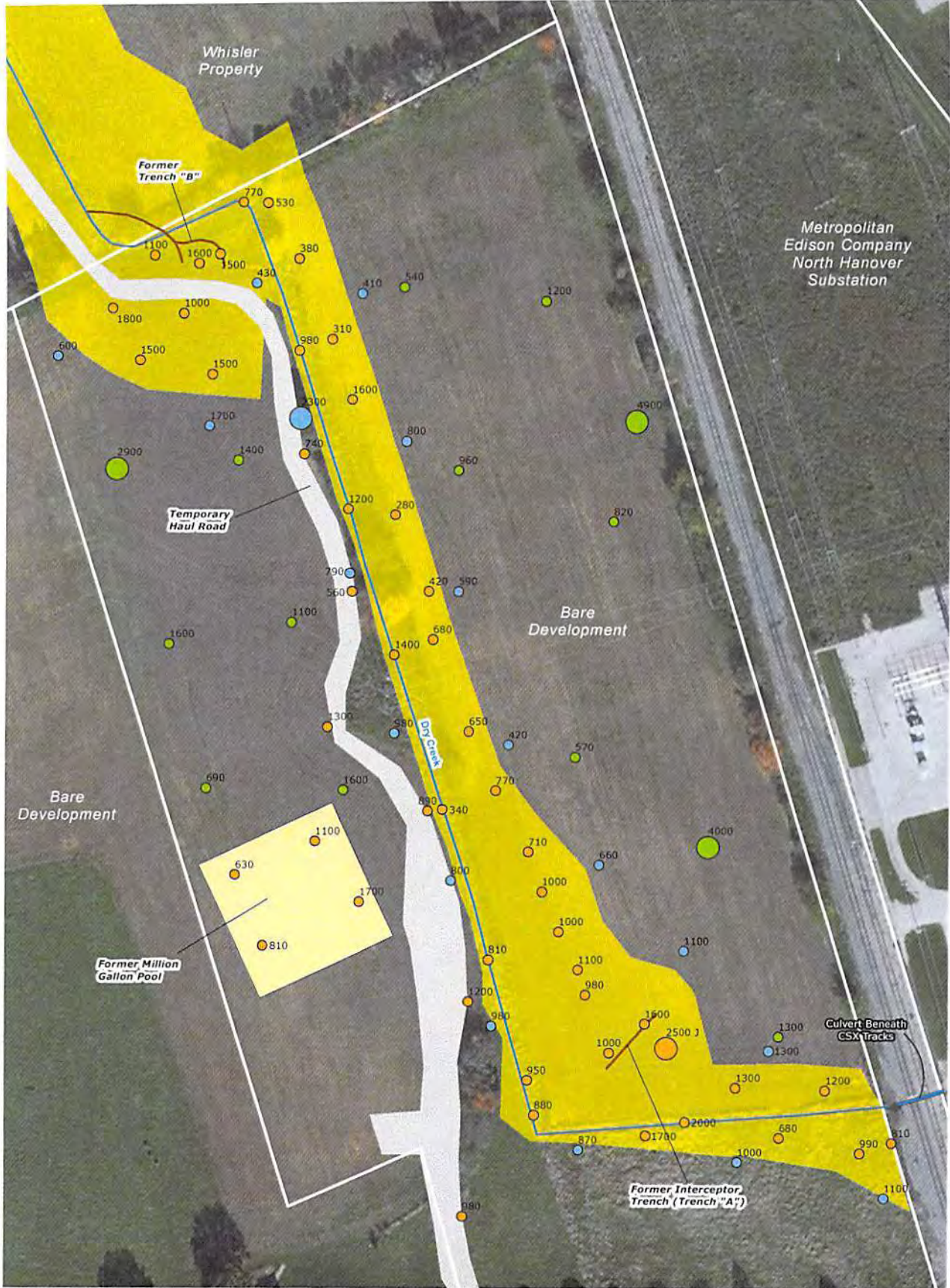
Criteria Comparison
Size represents exceedances

- Does not exceed applicable criteria
- Exceeds Residential MSC (12 mg/kg)
- No results exceed the Soil to Groundwater Value (29 mg/kg)

Notes:
(1) Sampling locations are based on GPS coordinates collected in the field.
(2) For sampling locations where samples were taken at multiple depths, the maximum concentration at the location is shown on this figure.
(3) Non-detects are labeled with ND; Results flagged with a "J" are estimated.
(4) Location of the Visibly Affected Area, Haul Road, Former Trench "B", Former Interceptor Trench "A", and Former Million Gallon Pool are based on the 9/21/2015 survey conducted by GHI.

(5) GHI's survey of the Visibly Affected Area was based on field markers placed by Ramboll Environ. A field marker in the vicinity of BA-BS-09 (see Figure 3-1) was missed by the surveyor. This sampling location is outside the Visibly Affected Area as observed by Ramboll Environ.
(6) Dry Creek feature is approximate.





Sample Results (mg/kg)

Color represents sample analysis group

- Visibly Affected Area Analysis Group
- Boundary Analysis Group
- Background Analysis Group

Criteria Comparison

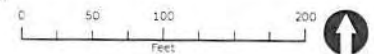
Size represents exceedances

- Does not exceed applicable criteria
- Exceeds Soil to Groundwater Value (2,000 mg/kg)
- Exceeds Soil to Groundwater Value (2,000 mg/kg) and Residential Value (10,000 mg/kg)

Notes:

- (1) Sampling locations are based on GPS coordinates collected in the field.
- (2) For sampling locations where samples were taken at multiple depths, the maximum concentration at the location is shown on this figure.
- (3) Results flagged with a "J" are estimated.
- (4) Location of the Visibly Affected Area, Haul Road, Former Trench "B", Former Interceptor Trench "A", and Former Million Gallon Pool are based on the 9/21/2015 survey conducted by GHI.

- (5) GHI's survey of the Visibly Affected Area was based on field markers placed by Ramboll Environ. A field marker in the vicinity of BA-B5-09 (see Figure 3-1) was missed by the surveyor. This sampling location is outside the Visibly Affected Area as observed by Ramboll Environ.
- (6) Dry Creek feature is approximate.



REMEDIAL INVESTIGATION AND FINAL REPORT

**APPENDIX A
NOTIFICATION DOCUMENTS**



For DEP Use Only

PF # _____

Rem ID # _____

NOTICE OF INTENT TO REMEDIATE

Act 1995-2 requires four general information items to be included in the NIR: the general location, listing of contaminants, intended use of property, and proposed remediation measures. In addition, indicate the standard(s) to be obtained (if known) and attach a scaled site map (if available).

Property Name Bare Development

Former Name(s) / AKA _____

Address / Location 275 Radio Road

City Hanover Zip Code 17331

Municipality(s) Hanover County(ies) Adams

Latitude 39 ° (deg). 49 ' (min) 14.50 " (sec) Longitude 77 ° (deg). 0 ' (min) 16.59 " (sec)

Horizontal Collection Method EMAP

Horizontal Reference Datum EMAP Reference Point Center of Bare Development Parcel

Wish to participate in the DEP/EPA MOA. Contact Troy Conrad at tconrad@state.pa.us for details.

EPA ID#, if known none identified

DEP ID#(s), if known none identified

(i.e., eFACTS site ID#, storage tank facility ID#, water quality permit #, watershed permit, air quality permit #, etc.)

Date Release Occurred (if known) June 8, 2015

Provide a brief description of the site contamination in plain language (e.g. fuel oil spill, historical chemical industrial area contamination), the names of any know primary contaminants to be addressed, and the intended future use of the property.

Identified impacts at the Bare Development property resulted from the migration of fire-fighting water during emergency response activities related to the June 8, 2015 fire at the Miller Chemical & Fertilizer, LLC (Miller Chemical) facility located at 120 Radio Road in Hanover. The fire water carried high concentrations of fertilizer constituents from the Miller Chemical site. Constituents of potential concern include metals and nutrients and as such, soil samples from background and visibly affected areas have been collected and analyzed for the presence of metals, nitrate, nitrite, total kjeldahl nitrogen, sulfate, and phosphorus. The intended future use of the property is agricultural. As a conservative measure, concentrations of constituents of potential concern were evaluated with respect to future unrestricted site use.

Provide a general description of proposed remediation measures.

No remediation measures are proposed at this property because measured concentrations of constituents of potential concern in site soil are below the Statewide Health Standards for unrestricted site use.

Remediation Standard(s) planned (if known at this time):

- | | | |
|---|--|--------------------------------------|
| <input type="checkbox"/> Unknown at this time | <input type="checkbox"/> Soil | <input type="checkbox"/> Groundwater |
| <input checked="" type="checkbox"/> Background
Contaminants: Co | <input checked="" type="checkbox"/> Soil | <input type="checkbox"/> Groundwater |
| <input type="checkbox"/> Statewide Health - Residential
Contaminants: | <input type="checkbox"/> Soil | <input type="checkbox"/> Groundwater |
| <input checked="" type="checkbox"/> Statewide Health – Non-Residential
Contaminants: aluminum, antimony, arsenic, barium, beryllium, boron, cadmium, calcium, total chromium, cobalt, copper, iron, lead, magnesium, manganese, mercury, molybdenum, nickel, potassium, selenium, silver, sodium, thallium, vanadium, zinc, nitrate, nitrite, total kjeldahl nitrogen, sulfate, and phosphorus | <input checked="" type="checkbox"/> Soil | <input type="checkbox"/> Groundwater |
| <input type="checkbox"/> Site Specific
Contaminants: | <input type="checkbox"/> Soil | <input type="checkbox"/> Groundwater |
| <input type="checkbox"/> Special Industrial Area*
Contaminants: | <input type="checkbox"/> Soil | <input type="checkbox"/> Groundwater |

*NOTE: Specific standard or Special Industrial Area require a 30-day municipal comment period

Remediator / Property Owner / Consultant. Complete the form below for each recipient obtaining a release of liability upon approval of the final report. Attach additional sheets as necessary.

Remediator		
Contact Person/Title <u>Tony Hartlaub/ VP Finance</u>	eFACTS Client ID* <u>553873</u>	
Relationship to Site <u>Remediator</u> (e.g. owner, remediator, participant in cleanup, consultant, etc.)	Client Type* <u>LLC</u>	
Phone Number <u>717-632-8921</u>	Email Address <u>Tonyhartlaub@millerchemical.com</u>	
Company Name <u>Miller Chemical & Fertilizer, LLC</u>	EIN or Federal ID # <u>46-5407027</u>	
Address (street, city, state, zip) <u>120 Radio Road, Hanover, PA 17332</u>		

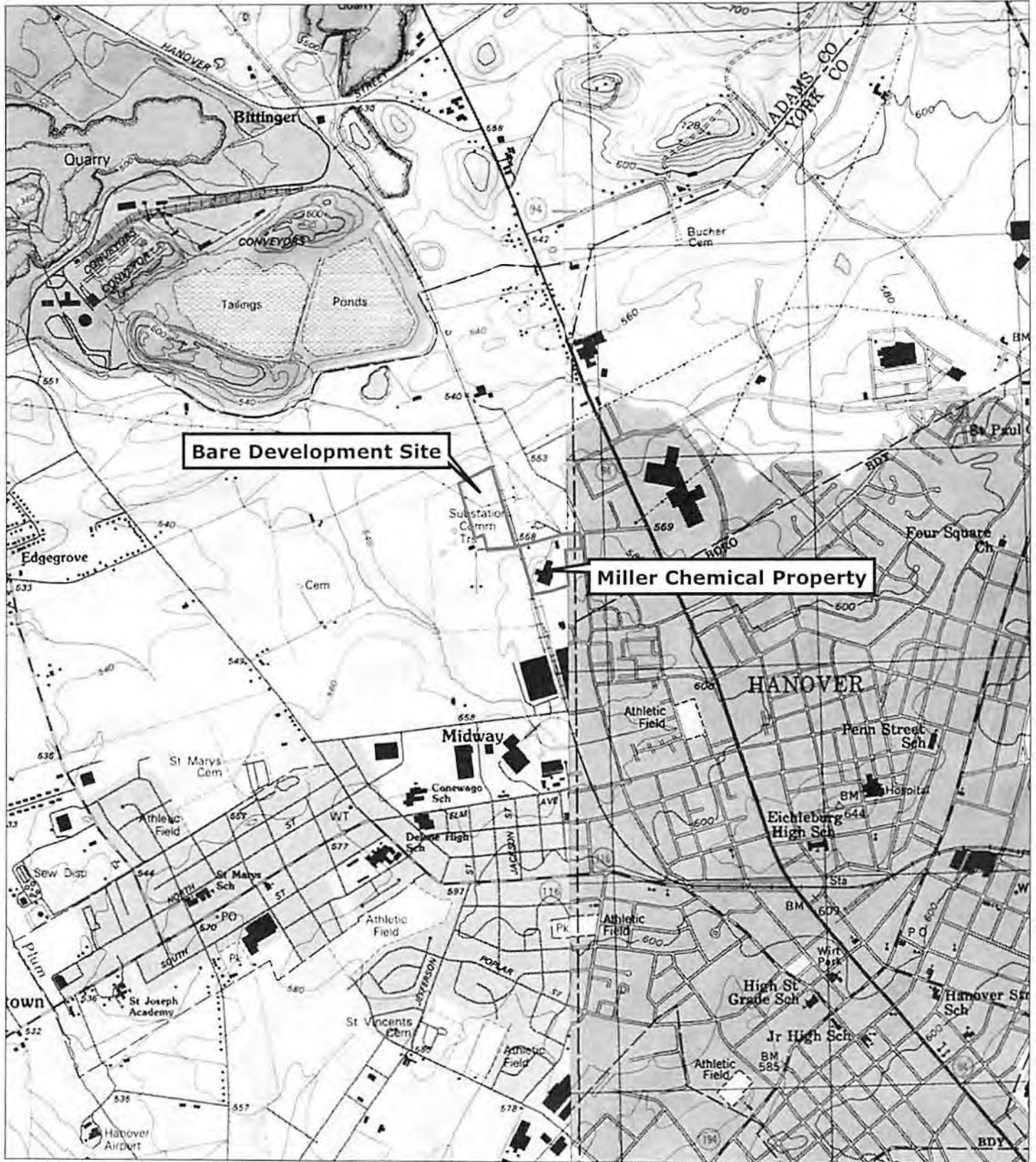
Property Owner		
Contact Person/Title <u>Barbara Carbaugh</u>	eFACTS Client ID* _____	
Relationship to Site <u>Owner</u> (e.g. owner, remediator, participant in cleanup, consultant, etc.)	Client Type* <u>Other</u>	
Phone Number <u>717-817-1374</u>	Email Address <u>bcarbaugh@thepeak985.com</u>	
Company Name <u>Bare Developmetn, L.P. & Radio Hanover, Inc.</u>	EIN or Federal ID # _____	
Address (street, city, state, zip) <u>PO Box 234, Hanover, PA 17331</u>		

Consultant		
Contact Person/Title <u>Sarah Stoneking</u>	eFACTS Client ID* _____	
Relationship to Site <u>Consultant</u> (e.g. owner, remediator, participant in cleanup, consultant, etc.)	Client Type* <u>Other</u>	
Phone Number <u>703-516-2407</u>	Email Address <u>sstoneking@ramboll.com</u>	
Company Name <u>Ramboll Environ US Corporation</u>	EIN or Federal ID # <u>52-1248616</u>	
Address (street, city, state, zip) <u>4350 North Fairfax Drive, Suite 300, Arlington, VA 22203</u>		

*Include eFACTS Client ID (if known) – "Client Types" below:		
Association/Organization	Limited Liability company	Partnership-General
Authority	Limited Liability Partnership	Partnership-Limited
County	Municipality	School District
Estate/Trust	Non-Pennsylvania Government	Sole Proprietorship
Federal Agency	Other (Non-Government)	State Agency
Individual	Pennsylvania Corporation	

Preparer of Notice of Intent to Remediate		
Name <u>Mark Nielsen</u>	Title <u>Principal</u>	
Phone Number <u>215-532-5602</u>	Email Address <u>mnielsen@ramboll.com</u>	

Company Name Ramboll Environ US Corporation	eFACTS Client ID
Address (street, city, state, zip) 1760 Market Street, Suite 1000, Philadelphia, PA 19103	



SCALE 1:24,000

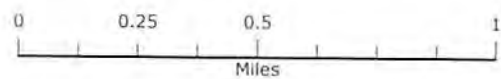


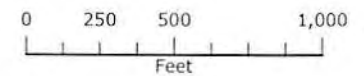
Figure 1-2
Affected Properties
Bare Development, Hanover, PA



- Miller Chemical Property
- Other Off-Site Properties
- Bare Development Property
- Visibly Affected Area

Notes:
 (1) Visibly affected area extended to Slagle's Run north of the Whisler Property.
 (2) Visibly affected area on the Miller Chemical property is not shown on this figure.

Imagery Source: Esri Streaming Imagery





April 28, 2016

Ms. Barbara Carbaugh
Bare Development LP & Radio Hanover
PO Box 234
Hanover, PA 17331

Re: Receipt of Notice of Intent to Remediate
Background, Site Specific and Statewide Health Standards
Bare Development / Miller Chemical Co Fire
eFACTS PF # 809791
275 Radio Road, Hanover, PA
Conewago Township, Adams County

Dear Ms. Carbaugh:

This letter acknowledges receipt of your Notice of Intent to Remediate (NIR) on April 19, 2016 pertaining to the subject property and submitted in accordance with the Land Recycling and Environmental Remediation Standards Act (Act 2). The procedures set forth in Act 2 must be followed in order for this site to qualify for the liability protection provided by the Act. The Department of Environmental Protection (DEP or Department) will not accept plans and reports until after the 30-day comment period following submission of the NIR ends.

The 30-day comment period following submission of the NIR allows the municipality the opportunity to request to be involved in the development of remediation and reuse plans for the property. If the municipality requests a public involvement plan, any comments and responses must be included in any subsequent reports. Remedial investigation reports, risk assessment reports, cleanup plans, and final reports submitted to the Department under the site-specific standard need to be accompanied by the required fees and documentation verifying compliance with the public notification requirements.

Additional technical and program information can be found at www.dep.pa.gov, under Businesses > Land > Land Recycling. Also, please refer to the Land Recycling Program checklists which are helpful in assuring reports are complete before submittal. The DEP uses the checklists to perform administrative and technical completeness reviews when plans and/or reports are submitted. It is strongly encouraged to include the appropriate completed checklist with your final report submission. Land Recycling checklists can be found at the website under 'Forms, Checklists & Notifications' link.

Please refer to the enclosed Standard Attachment for considerations of other programs which may be applicable to this property.

Ms. Barbara Carbaugh

2

April 28, 2016

Mr. Richard Kaiser, Jr. is the project manager assigned to your project and will be working with you towards the remediation of this property. Frequent contact is encouraged between your representatives and our staff. If you have any questions or need further clarifications of our procedures, please call Mr. Kaiser at 717.705.4851.

Sincerely,

A handwritten signature in cursive script, appearing to read "Kathleen G. Horvath".

Kathleen G. Horvath, P.G.
Land Recycling Chief
Environmental Cleanup and Brownfields Program

Enclosure: Standard Attachment

cc: Sarah Stoneking, Ramboll Environ US Corp.
Tony Hartlaub, Miller Chemical & Fertilizer, LLC
Adams County Conservation District
Conewago Township

kgh

My Profile Support Locations English Search for tracking number Sub



Shipping Tracking Manage Learn

FedEx Office

Shabnam Rai

FedEx Tracking

775987813267

Ship date:

Tue 3/29/2016

Sarah Stoneking
Suite 300
4350 North Fairfax Drive
Arlington, VA US 22203
703 201-2317

Actual delivery:

Wed 3/30/2016 2:20 pm

Conewago Township
Ms Barbara Krebs Township
Manager
541 Oxford Avenue
HANOVER, PA US 17331
717 637-0411

Delivered

Signed for by: S. SCHMIDT



Travel History

Date/Time	Activity	Location
- 3/30/2016 - Wednesday		
2:20 pm	Delivered	HANOVER, PA
8:33 am	On FedEx vehicle for delivery	YORK, PA
8:14 am	At local FedEx facility	YORK, PA
4:45 am	At destination sort facility	MICOLETOWN, PA
3:54 am	Departed FedEx location	NEWARK, NJ
- 3/29/2016 - Tuesday		
11:59 pm	Arrived at FedEx location	NEWARK, NJ
9:11 pm	Left FedEx origin facility	ALEXANDRIA, VA
6:51 pm	Picked up	ALEXANDRIA, VA
3:36 pm	Shipment information sent to FedEx	

Shipment Facts

Tracking number	775987813267	Service	FedEx Standard Overnight
Weight	0.5 lbs / 0.23 kgs	Delivery attempts	1
Delivered To	Receptionist/Front Desk	Total pieces	1
Total shipment weight	0.5 lbs / 0.23 kgs	Terms	Not Available
Shipper reference	0137782A Phase USOFF2	Packaging	FedEx Envelope
Special handling section	Deliver Weekday		



Search for tracking number Sub

Customer Focus

New Customer Center
Small Business Center
Service Guide
Customer Support

Company Information

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FedEx Custom Critical
FedEx Trade Networks
FedEx CrossBorder
FedEx SupplyChain
FedEx TechConnect

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United States | English

Proof of Publication
State of Pennsylvania

AD # 0001596647-01

The Evening Sun is the name of the newspaper(s) of general circulation published continuously for more than six months at its principal place of business, 37 Broadway Street, Hanover, PA.

The printed copy of the advertisement hereto attached is a true copy, exactly as printed and published, of an advertisement printed in the regular issues of the said The Evening Sun published on the following dates, viz:

Attach Copy of
Advertisement here

NEWSPAPER NOTIFICATION

Bare Development Property

Pursuant to the Land Recycling and Environmental Remediation Standards Act, the act of May 16, 1995, P.L. 4, No. 1995-2, notice is hereby given that Miller Chemical & Fertilizer, LLC (Miller Chemical) has submitted to the Pennsylvania Department of Environmental Protection a Notice of Intent to Remediate a site located at 275 Radio Road, Conewago Township, Adams County. This Notice of Intent to Remediate states that the site is an agricultural property owned by Bare Development L.P. and Radio Hanover. The site has been found to be impacted by fertilizer constituents mobilized by fire-fighting emergency response activities performed on June 8, 2015 at the Miller Chemical facility located at 170 Radio Road in Hanover. Runoff of the fire-fighting water carried fertilizer constituents from the Miller Chemical site, including metals and nutrients, which were suspected to have contaminated soil at the property owned by the Whitmoyers. Soils from background and visibly affected areas were sampled for metals and nutrients. The future use of the property is expected to remain in agricultural or other unrestricted use. Concentrations of constituents of potential concern in site soils are below the Statewide Health Standards established for residential site use or are not of concern given the results of a background and site-specific analysis (for those constituents without Statewide Health Standards). As such, Miller Chemical has not proposed remediation measures.

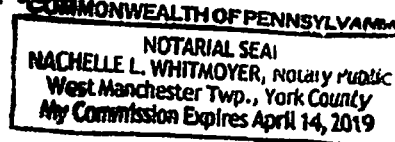
3/31/2016

COMMONWEALTH OF PENNSYLVANIA
COUNTY OF YORK

Before me, a Notary Public, personally came Pam Rodencal who being duly sworn deposes and says that she is the Legal Advertising Clerk of The Evening Sun and her personal knowledge of the publication of the advertisement mentioned in the foregoing statement as to the time, place and character of publications are true, and that the affiant is not interested in the subject matter of the above mentioned advertisement.

Sworn and subscribed to before me, on
this 31 day of March 2016

Nachelle L. Whitmoyer } *Pam Rodencal*
Notary Public



The charge for the following publication of above mentioned advertisement and the expense of the affidavit.

Advertisement Cost	\$147.20
Affidavit Fee	\$5.00
Total Cost	\$152.20

Proof of Publication State of Pennsylvania

AD # 0001597972-01

The Evening Sun is the name of the newspaper(s) of general circulation published continuously for more than six months at its principal place of business, 37 Broadway Street, Hanover, PA.

The printed copy of the advertisement hereto attached is a true copy, exactly as printed and published, of an advertisement printed in the regular issues of the said **The Evening Sun** published on the following dates, viz:

NEWSPAPER NOTIFICATION

Bare Development Property (Correction)

Pursuant to the Land Recycling and Environmental Remediation Standards Act, the act of May 19, 1995, P.L. 4, No. 1995-2, notice is hereby given that Miller Chemical & Fertilizer, LLC (Miller Chemical) has submitted to the Pennsylvania Department of Environmental Protection a Notice of Intent to Remediate a site located at 275 Radio Road, Conowingo Township, Adams County. This Notice of Intent to Remediate states that the site is an agricultural property owned by Bare Development L.P. and Radio Hanover. The site has been found to be impacted by fertilizer constituents mobilized by fire-fighting emergency response activities performed on June 8, 2015 at the Miller Chemical facility located at 170 Radio Road in Hanover. Runoff of the fire-fighting water carried fertilizer constituents from the Miller Chemical site, including metals and nutrients, which were suspected to have contaminated soil at the property owned by Bare Development L.P. and Radio Hanover. Soils from background and visibly affected areas were sampled for metals and nutrients. The future use of the property is expected to remain in agricultural or other unrestricted use. Concentrations of constituents of potential concern in site soils are below the Statewide Health Standards established for residential site use or are not of concern given the results of a background and site-specific analysis (for those constituents without Statewide Health Standards). As such, Miller Chemical has not proposed remediation measures.

Miller Chemical plans to use the site-specific standard at the site for fertilizer constituents for which Statewide Health Standards do not exist. The Act provides for a 30-day public comment period for site-specific standard remediations. The 30-day comment period is initiated with the publication of this notice. Until May 7, 2016, Conowingo Township may submit a request to Miller Chemical during this 30-day comment period to develop and implement a public involvement plan. Copies of those requests and of any comments should also be submitted to the Department of Environmental Protection at 809 Elmerton Avenue, Harrisburg, PA 17110-8200, Attn: Richard Kelsner.

4/7/2016

COMMONWEALTH OF PENNSYLVANIA COUNTY OF YORK

Before me, a Notary Public, personally came Pam Rodencal who being duly sworn deposes and says that she is the Legal Advertising Clerk of The Evening Sun and her personal knowledge of the publication of the advertisement mentioned in the foregoing statement as to the time, place and character of publications are true, and that the affiant is not interested in the subject matter of the above mentioned advertisement.

Sworn and subscribed to before me, on
this 7 day of April 2016

Nachelle R Whitmoyer } Pam Rodencal
Notary Public

COMMONWEALTH OF PENNSYLVANIA

NOTARIAL SEAL
NACHELLE L. WHITMOYER, Notary Public
West Manchester Twp., York County
My Commission Expires April 14, 2019

The charge for the following publication of above mentioned advertisement and the expense of the affidavit.

Advertisement Cost	\$147.20
Affidavit Fee	\$5.00
Total Cost	<u>\$152.20</u>

Ms. Barbara Krebs
Township Manager
Conewago Township
541 Oxford Avenue
Hanover, PA 17331

**RE: Notice of Intent to Remediate to Statewide Health, Background
and Site Specific Standards
Bare Development Property
275 Radio Road
Conewago Township
Adams County**

Dear Ms. Krebs,

The Land Recycling and Environmental Remediation Standards Act (Act 2) requires that a Notice of Intent to Remediate (NIR) a site be provided to the municipality in which the site is located. In accordance with this provision of Act 2, we are formally notifying you of our intent to remediate the subject site. A copy of the Notice of Intent to Remediate, which has been sent to the Department of Environmental Protection (DEP), is enclosed. This notice will also be published in the Pennsylvania Bulletin, and a summary of the notice will be placed in a local newspaper.

Publication of this notice in a local newspaper initiates the 30-day public and municipal comment period. During this time, your municipality may request to become involved in the development of remediation and reuse plans for the site. If the municipality wishes to become involved in this project, please send your comments to the Department of Environmental Protection at 909 Elmerton Avenue, Harrisburg, PA 17110-8200 to the attention of the case manager, Mr. Richard Kaiser.

Date March 29, 2016

Ramboll Environ
4350 North Fairfax Drive
Suite 300
Arlington, VA 22203
USA

T +1 703 516 2300
F +1 703 516 2345
www.ramboll-environ.com

Should you have any questions or comments regarding the proposed remediation, please feel free to contact me at (703) 516-2407.

Yours sincerely,



Sarah Stoneking
Senior Manager

D +1 703 516 2407
sstoneking@ramboll.com

REMEDIAL INVESTIGATION AND FINAL REPORT

**APPENDIX B
WETLAND MAP (JMT)**

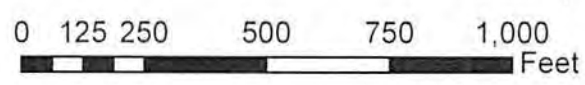
Miller Chemical Remediation Project

Figure 1. Wetland and Waterways Delineation Map



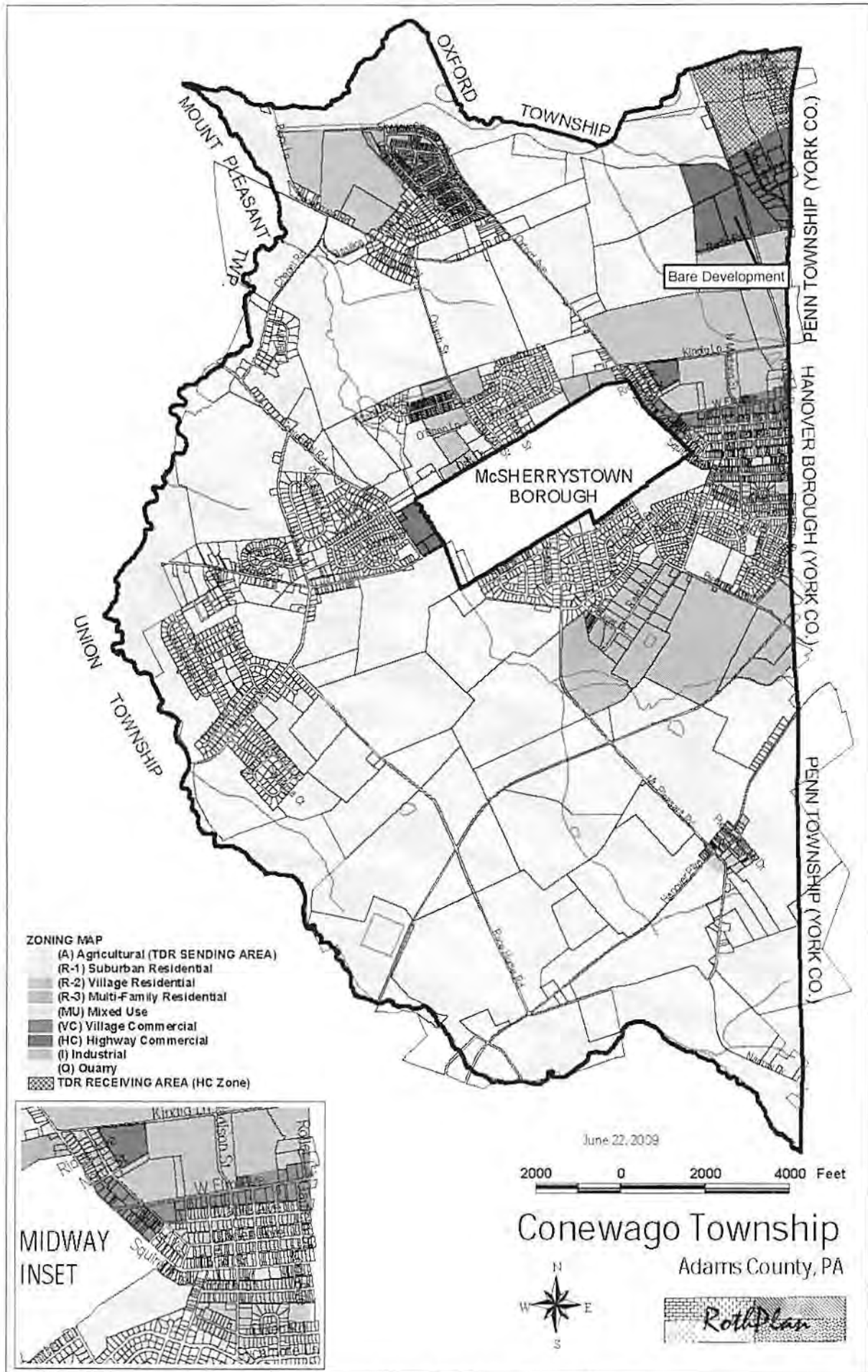
Legend

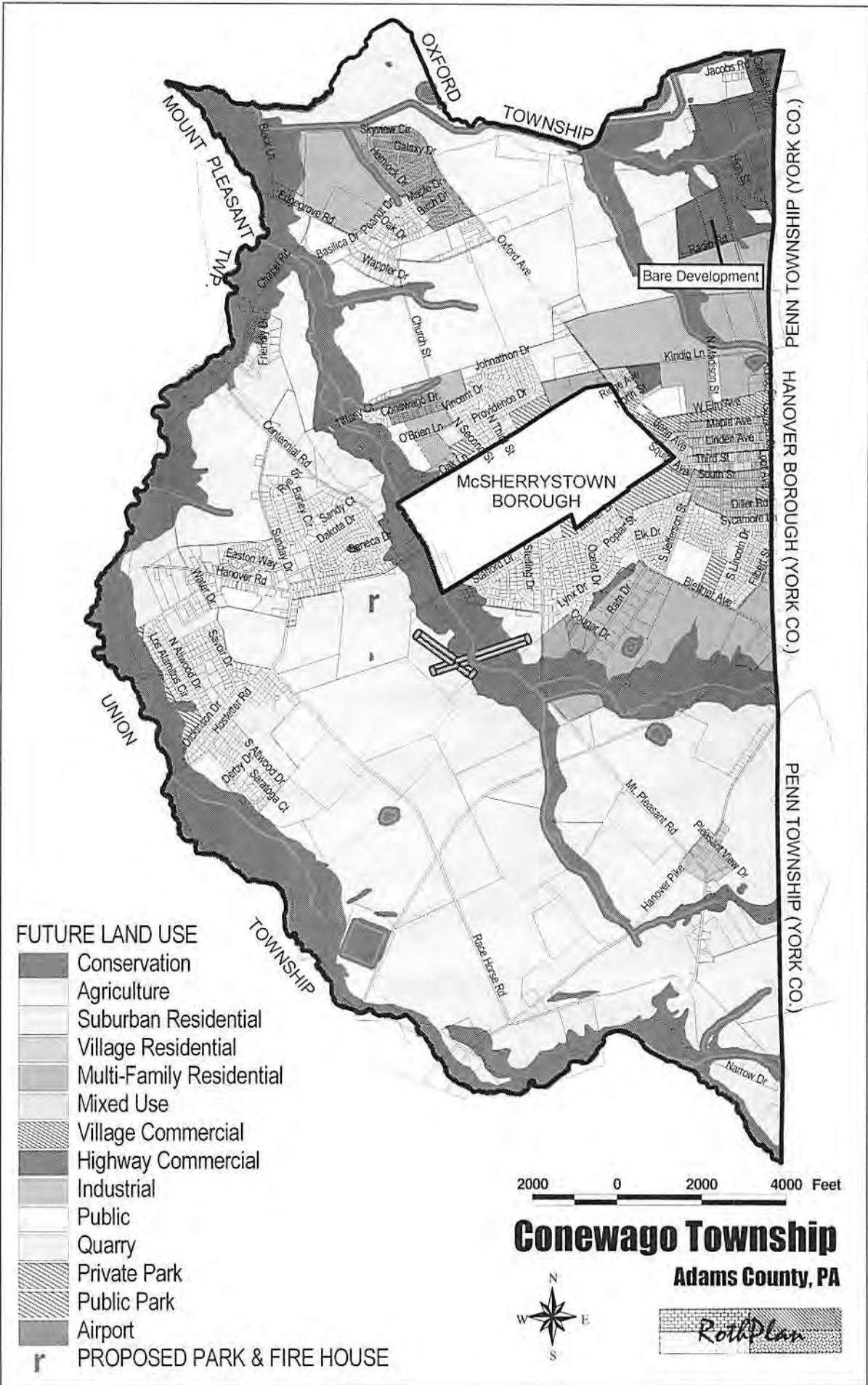
- ⊙ Data Points
- Streams
- ▨ Delineated Wetlands
- ▧ Non-Delineated Wetlands
- Action Area (Wetland Survey Area)
- Approximate Project Area Boundary


















REMEDIAL INVESTIGATION AND FINAL REPORT

**APPENDIX C
ZONING DOCUMENTS**





FUTURE LAND USE

-  Conservation
-  Agriculture
-  Suburban Residential
-  Village Residential
-  Multi-Family Residential
-  Mixed Use
-  Village Commercial
-  Highway Commercial
-  Industrial
-  Public
-  Quarry
-  Private Park
-  Public Park
-  Airport
-  PROPOSED PARK & FIRE HOUSE

2000 0 2000 4000 Feet

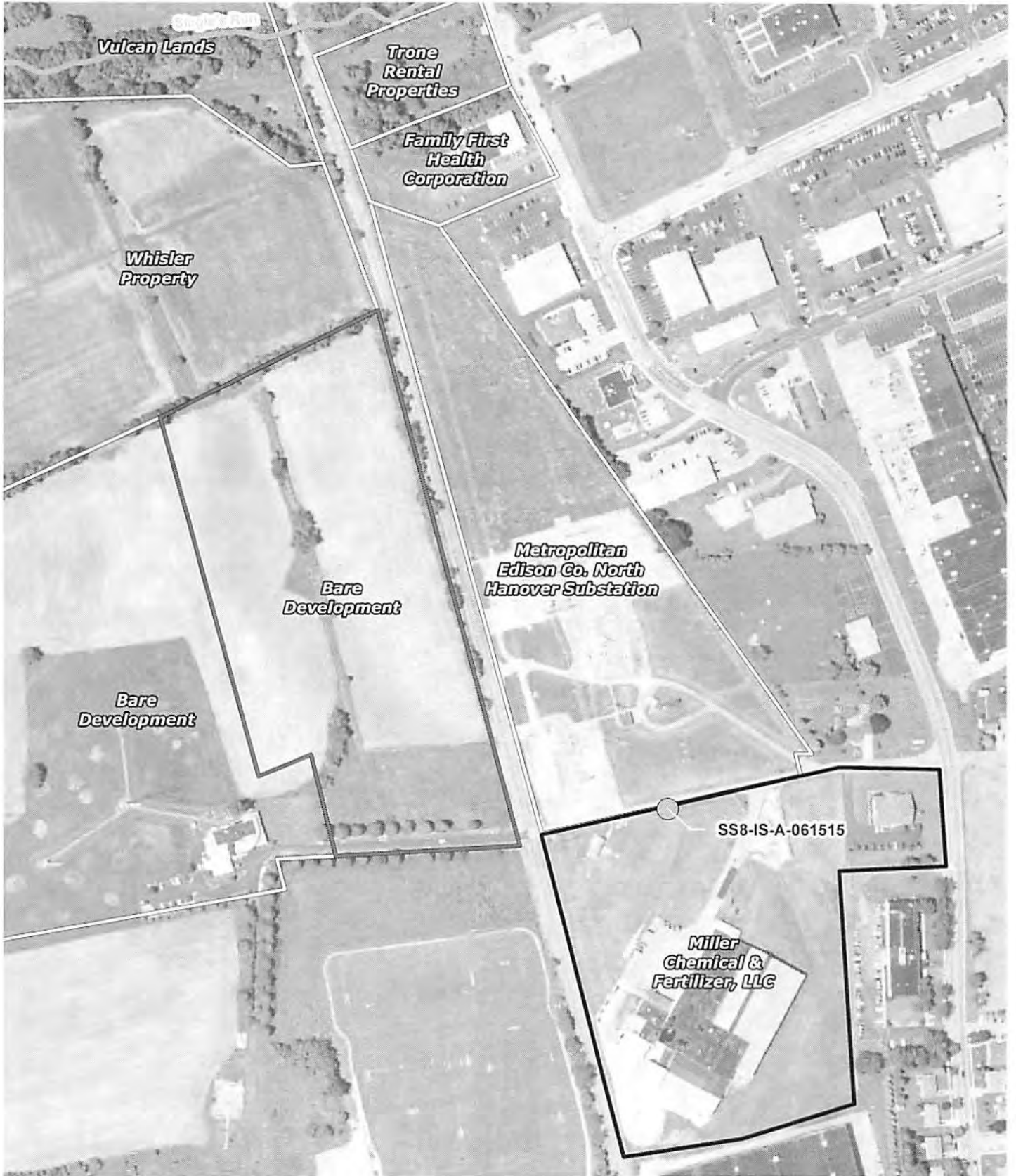
Conewago Township




Adams County, PA




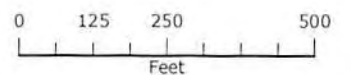
REMEDIAL INVESTIGATION AND FINAL REPORT

**APPENDIX D
MILLER SITE SOIL CHARACTERIZATION SAMPLE ANALYTICAL DATA
PACKAGE, DATA SUMMARY AND FIGURE**



-  Miller Chemical Property
-  Eastern Parcel of Bare Development Property
-  Other Off-Site Properties

 Soil Sampling Location



Appendix D
Summary of Detected Constituents in Heavily Affected Soil Sample
Miller Chemical & Fertilizer, Hanover, Pennsylvania

Location Ramboli Environ Sample ID Lab Sample ID(s) Collection Depth (ft bgs) Sampling Reason Sample Method Sample Date Comments	PADEP Residential Direct Contact Values (0-15ft)	PADEP Non- Residential Direct Contact Values (0-2ft)	PADEP Soil to Groundwater Values - Used Aquifer TDS <=2500 MG/L - Residential	15061601-008 / 15061603-008 0 - 0.2 Site Investigation Grab 6/15/2015
Water Quality Parameters				
Chemical Oxygen Demand [mg/L]				185000 (5)
pH [SU]				7.5
TCLP Volatile Organic Compounds (VOCs) [mg/L]				
				U
Total Organic Carbon				
Organic Carbon (total)				492000 (500)
Physical Parameters				
Moisture Content [%]				56
TCLP Pesticides [mg/L]				
				U
Total Pesticides				
Methoxychlor	1100	14000	630	1.2 (0.89)
TCLP RCRA Metals [mg/L]				
				U
Total Metals and Inorganic Constituents				
Aluminum	190000	190000		9800 (1600)
Antimony	88	1100	27	5.1 (4)
Arsenic	12	53	29	10 (0.8)
Barium	44000	190000	8200	160 (4)
Chromium (total)	190000	190000	190000	32 (4)
Cobalt	66	840	50	14 (4)
Copper	8100	100000	43000	1700 (80)
Iron	150000	190000		16000 (1600)
Lead	500	1000	450	33 (4)
Manganese	10000	130000	2000	2000 (80)
Nickel	4400	56000	650	11 (4)
Nitrate	350000		1000	2.4 (2.2)
Nitrite	22000		100	240 (2.2)
Total Kjeldahl Nitrogen				10900 (179)
Phosphorus (total)				7060 (1090)
Potassium				8900 (1600)
Sodium				2100 (80)
Sulfate				2200 (110)
Zinc	66000	190000	12000	2800 (320)
TCLP Herbicides [mg/L]				
				U

Notes:

- All concentrations are presented in milligrams per kilogram (mg/kg) except where otherwise noted.
- Sample SS8-IS-A-061515 was analyzed for the presence of 20 total metals, nitrate, nitrite, sulfate, total phosphate, total kjeldahl nitrogen, TCLP RCRA metals, TCLP VOCs, total and TCLP organochlorine pesticides, total and TCLP chlorinated herbicides, and total and TCLP organophosphorous compounds.
- Only compounds with at least one detection are shown.
- No detected concentrations exceed any of the presented PADEP Soil Values.
- The values for Chromium (total) are the values for Chromium III.
- Soil sample SS8-IS-A-061515 was collected from a heavily affected area of the on-site drainage ditch on the Miller Chemical property to aid in evaluating the presence or absence of chemical constituents in affected soils.

Abbreviations:

MG/L -- Milligrams per Liter.
RCRA -- Resource Conservation and Recovery Act.
TCLP -- Toxicity Characteristic Leaching Procedure.
TDS -- Total Dissolved Solids.
U -- Not Detected.
() -- Detection Limit.

FILE

January 11, 2017

Ms. Barbara Carbaugh
Bare Development LP & Radio Hanover
PO Box 234
Hanover, PA 17331

Re: Approval of Remedial Investigation and Final Report
Bare Development / Miller Chemical Company Fire
eFACTS PF #809791
275 Radio Road, Hanover, PA
Conewago Township, Adams County

Dear Ms. Carbaugh:

The Department of Environmental Protection (Department) reviewed October 2016 document titled "Remedial Investigation and Final Report" (report). Soil at the site was impacted by fertilizer related compounds resulting from firefighting efforts at the adjacent Miller Chemical & Fertilizer, LP site. The report was prepared by Ramboll Environ US Corp. and submitted to the Department in accordance with the Land Recycling and Environmental Remediation Standards Act (Act 2) and constitutes a final report as defined in Chapter 3 of Act 2. This report was reviewed by or under the supervision of a Pennsylvania licensed professional geologist.

The Department hereby approves this final report for the substances identified and remediated to an Act 2 standard within the site(s) specified. Chapter 5, Section 501 of Act 2, provides the liability protection where attainment of Act 2 cleanup standards is demonstrated. The cleanup liability protection provided by this chapter applies to the current and future owner or any other person who participated in the remediation; a person who develops or occupies the property; successor or assign of any person to whom liability protection applies; and a public utility to the extent the public utility performs activities on the identified property(ies).

This project attained the Residential Statewide Health and Site Specific Standards for soil (see the attached "*Conclusions*" Section from the report).

Please refer to the enclosed Standard Attachment for other Department program requirements for considerations which may be applicable to the referenced site.

Thank you for your cooperation in working with the Department in the remediation of this site. If you have any questions or need further information regarding this matter, please contact the James E. Rea, P.G. at 717.705.4850.

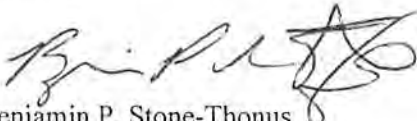
Any person aggrieved by this action may appeal, pursuant to Section 4 of the Environmental Hearing Board Act, 35 P.S. Section §7514, and the Administrative Agency Law, 2 Pa.C.S.

Chapter 5A, to the Environmental Hearing Board, Second Floor, Rachel Carson State Office Building, 400 Market Street, P.O. Box 8457, Harrisburg, PA 17105-8457, 717.787.3483. TDD users may contact the Board through the Pennsylvania Relay Service, 800.654.5984. Appeals must be filed with the Environmental Hearing Board within 30 days of receipt of written notice of this action unless the appropriate statute provides a different time period. Copies of the appeal form and the Board's rules of practice and procedure may be obtained from the Board. The appeal form and the Board's rules of practice and procedure are also available in braille or on audiotape from the Secretary to the Board at 717.787.3483. This paragraph does not, in and of itself, create any right of appeal beyond that permitted by applicable statutes and decisional law.

If you want to challenge this action, your appeal must reach the Board within 30 days. You do not need a lawyer to file an appeal with the Board.

Important legal rights are at stake, however, so you should show this document to a lawyer at once. If you cannot afford a lawyer, you may qualify for free pro bono representation. Call the Secretary to the Board (717.787.3483) for more information.

Sincerely,



Benjamin P. Stone-Thonus
Program Manager
Environmental Cleanup and Brownfields Program

Enclosures: Report Conclusions
Standard Attachment

cc: Sarah Stoneking, Ramboll Environ US Corp.
Tony Hartlaub, Miller Chemical & Fertilizer, LLC.
Adams County Conservation District
Conewago Township

jer



TO File

THROUGH ECB Program Manager *BJ*
Land Recycling Section Chief *LOH*

FROM James E. Rea, P.G. *JER*
DEP Project Manager

DATE January 10, 2017

RE Act 2 Technical Memo Summary
Remedial Investigation and Final Report – Approval
eFACTS PF # 809791
Bare Development / Miller Chemical Co Fire
275 Radio Road, Hanover, PA
Conewago Township, Adams County

The following is based solely on the information provided in the report(s) submitted to DEP. The information was reviewed, but not verified, by DEP, and represents the remediator(s)'s best professional judgment.

Property Owner Name: Barbara Carbaugh, Bare Development LP & Radio Hanover
PO Box 234, Hanover, PA 17331

Site Address: 275 Radio Road, Hanover, PA

Act 2 Standards Sought – Soil:

Residential Statewide Health (aluminum, antimony, arsenic, barium, beryllium, boron, cadmium, total chromium, cobalt, copper, iron, lead, manganese, mercury, molybdenum, nickel, selenium, silver, thallium, vanadium, zinc, nitrate, nitrite)

Site Specific (potassium, phosphorous, sulfate, magnesium, sodium, and calcium)

Property Size: approx. 32 acres.

Act 2 Site Size: approx. 3.1 acres.

Project Site History: The property is comprised of approximately 32 acres. The eastern half is used for agricultural purposes, was affected by the Miller Chemical firefighting efforts, and is the subject of this investigation. The "site" is approximately 3.1 acres and was affected by firewater runoff (see attached map from this RI/FR). The western half of the property was not affected and is currently occupied by a radio station building and tower.

Site Findings: Site soils were found to be impacted by arsenic, manganese, and cobalt at concentrations above the current MSCs, and demonstrated attainment using alternate methods. Numerous other COCs were identified at concentrations less than their respective MSCs. Several COCs that did not have MSCs were also detected and addressed.

Site Cleanup History: N/A

Discussion of Cleanup Involved and Demonstration of Attainment: The following information provides a summary of this investigation:

- Soil at this site was impacted as a result of events related a fire at the adjacent Miller Chemical & Fertilizer, LP property. Other adjacent properties were affected as well, but will be addressed separately.
- Emergency response measures included the installation of two interceptor trenches, placement of a gravel haul road, and installation of a one million gallon “pool” in an attempt to contain firefighting water coming onto, and moving across the site.
- Given the size of the affected area, a sampling plan entitled “*Off-site Act 2 Soil Sampling and Analysis Plan*” (SAP) was submitted to the Department in November 2015. The purpose was to provide a sampling approach for characterizing soils and sediment across the affected properties.
- Contaminants of concern (COC) analytical parameters were determined using analysis of firewater, a surface soil sample from the northern drainage ditch on the Miller Chemical site, and chemical inventory review. Pesticides, herbicides, VOCs/SVOCs, PCBs, and reactive cyanide and sulfide were ruled out as COCs by various means. **TAL metals (listed above); nitrate and nitrite; sulfate; and total phosphorus were retained as COCs.**
- Site soils were sampled in accordance with the SAP and include the following: (12) background samples (BA-BACK-01 to BA-BACK-12); (38) samples from the visibly affected area (BA-VA-01 to BA-VA-38); (19) delineation samples (BA-BS-01 to BA-BS-19); (8) samples from the dry creek (BA-DC-01 to BA-DC-08); (2) samples from the disturbed area (BA-DA-01 to BA-DA-02); and additional background samples SS3-F1-C and SB3-AGR. Samples from these various locations were a mix of composite and grab samples.
- *Firefighting water released off-site contained dyes and other fertilizer constituents that resulted in visible discoloration of the water and surficial soils over which the water traveled* (November 2012 SAP). This site deviates from the normal Act 2 approach because soils in the “visually affected” area were able to be “visually characterized.” Samples collected from the visually affected area were permitted to be used as “attainment samples.” Samples were also collected on the fringes of the visually affected area to delineate/confirm the extent of contamination.
- Analytical results are summarized in the attached Conclusion section from this RI/FR.
- An environmental covenant is not needed since COCs attained the Site Specific Standard by alternative methods (i.e., toxicity values, dietary reference intake values, etc.).

DEP Final Action: The requirements of the Residential Statewide Health Standard as well as the Site Specific Standard have been met for soil. The specific compounds attaining each standard are outlined in the attached “*Conclusions*” section from this approved RI/FR. An approval letter will be issued.

DEP Contact:	James E. Rea, P.G.	Phone: 717.705.4850
Site Contact:	Barbara Carbaugh Bare Development, L.P. & Radio Hanover	Phone: 717.817.1374
Site Consultant:	Sarah Stoneking Ramboll Environ US Corporation	Phone: 703.516.2407

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NOTICES

DEPARTMENT OF ENVIRONMENTAL PROTECTION

Applications, Actions and Special Notices

[47 Pa.B. 675]

[Saturday, February 4, 2017]

LAND RECYCLING AND ENVIRONMENTAL REMEDIATION

UNDER ACT 2, 1995

PREAMBLE 3

The Department has taken action on the following plans and reports under the Land Recycling and Environmental Remediation Standards Act (35 P.S. §§ 6026.101—6026.907).

Bare Development/Miller Chemical Co. Fire, 275 Radio Road, Hanover, PA 17331, Conewago Township, **Adams County**. Ramboll Environ US Corporation, 4350 North Fairfax Drive, Suite 300, Arlington, VA 22203, on behalf of Miller Chemical and Fertilizer, LLC, 120 Radio Road, Hanover, PA 17331, and Bare Development, L.P. & Radio Hanover, P.O. Box 234, Hanover, PA 17331 submitted a Remedial Investigation and Final Report concerning remediation of site soil contaminated with inorganics and fertilizer constituents. The Final Report demonstrated attainment of the Residential Statewide Health and Site Specific Standards, and was approved by the Department on January 11, 2017.

SITE 10
MILLER CHEMICAL & FERTILIZER CORP
120, 150, 170 RADIO ROAD

OFF-SITE ACT 2 SAMPLING PLAN

Prepared for:

Miller Chemical & Fertilizer, LLC
Hanover, Pennsylvania
and

Pennsylvania Department of Environmental Protection

Prepared by:

Ramboll Environ US Corporation
Arlington, Virginia & Princeton, New Jersey

Date

November 2015

Project Number

01-137782A

IA

Adams Co

Miller Chem &
Fertilizer LLC

MILLER CHEMICAL & FERTILIZER, LLC
170 RADIO ROAD
HANOVER, PENNSYLVANIA
OFF-SITE ACT 2 SOIL SAMPLING AND ANALYSIS
PLAN

AI
OFF-SITE ACT 2 SAMPLING PLAN

Revision **2**
Date **November 2, 2015**
Prepared by **Chris Bowles and Michael Potts**
Checked by **Sarah Stoneking**
Approved by **J. Mark Nielsen**
Description **Off-Site Act 2 Soil Sampling and Analysis Plan**

Ref 01-137782A

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APPENDICES

Appendix A: Standard Operating Procedures

1. INTRODUCTION

Ramboll Environ US Corporation (Ramboll Environ) has prepared this Off-Site Soil Sampling and Analysis Plan (SAP) for areas affected by the fire event which occurred on June 8, 2015 at the Miller Chemical & Fertilizer, LLC facility located at 170 Radio Road in Hanover, Pennsylvania (the "Miller site" or the "Miller facility") (Figure 1). This plan was prepared as discussed with the Pennsylvania Department of Environmental Protection (PADEP) to meet several needs, including:

- To document the approach to characterize soil quality on the off-site properties affected by fire water flow on June 8 and subsequent storm water flow;
- To establish background soil conditions at each affected parcel; and
- To document soil and sediment sampling procedures.

This plan describes the sampling activities that will be completed to evaluate what, if any, additional actions are warranted to address soil and sediment on the off-site affected properties pursuant to the Pennsylvania Land Recycling Program (Act 2). A separate SAP to evaluate groundwater will be submitted following a review of soil results.

1.1 Site Setting

The Miller site is located at 170 Radio Road in Hanover, Adams County, Pennsylvania and is approximately 13.23-acres in size. Miller Chemical & Fertilizer, LLC acquired the Miller site and the assets of the business in 2014. The Miller site was developed with an approximately 96,000-square foot main building, which was located in the center of the property. The main building, which housed production, storage, laboratory, packaging, office operations, and a small break room, was damaged in the fire; with the exception of a small section of the main building, this structure has been demolished. Other smaller structures on the site consist of an approximately 6,300-square foot office building and a 2,640-square foot maintenance building. These buildings remain standing and were not damaged during the fire. The areas surrounding the current and former buildings are landscaped with grass and other vegetation. A storm water retention pond is located northeast of the former main building and connects to a storm water ditch located along the northern edge of the Miller site.

1.2 June 8 Fire and Response

At approximately 3:30 am on Monday, June 8, 2015, emergency responders were alerted to a fire at the Miller facility. No one was inside the building at the time and no injuries occurred while fighting the fire. Firefighters applied a large volume of water to extinguish the fire, as well as firefighting foam believed to be Universal Gold Alcohol Resistant Aqueous Film Forming Foam. A heavy rainfall occurred during the fire. Despite efforts to contain firefighting water and rainwater in the Miller site's retention pond and a pit constructed on the northwestern portion of the Miller site during the fire, runoff from firefighting activities traveled across various parcels towards Slagle's Run, a creek located north of the facility that flows to the west. Slagle's Run discharges to the South Branch of Conewago Creek, which flows north.

Subsequent to the fire, fire water and storm water runoff generated at the Miller site was pumped into a number of above ground storage containers (*i.e.*, frac tanks) located on-site.

In the days after the fire, in an effort to control additional storm water runoff from reaching Slagle's Run, and as directed by PADEP, several trenches and pits were excavated within the adjacent agricultural fields near Slagle's Run; these pits have since been partially filled. In addition, a 1-million-gallon water holding tank (the "pool") was constructed on one agricultural parcel (the Bare Development parcel) in response to PADEP instructions to increase storm water runoff holding capacity. Water was pumped into the pool from the surrounding pits and drainage areas. A number of berms and other storm water diversions were also placed on the Miller site and on the agricultural parcels to reduce the flow of storm water from upgradient properties onto the Miller site and affected properties and to separate storm water from affected areas and unaffected areas.

Recent response activities include scraping of visibly-affected soil on Miller Property, the clean out of subsurface vaults at the Metropolitan Edison substation, and the cleanout of the culvert beneath the CSX rail tracks. Ramboll Environ submitted to PADEP, a memorandum describing the calculation of proposed storm water benchmarks that would permit the release of off-site storm water to Slagle Run. Based on recent storm water monitoring which has indicated improved storm water quality, storm water has been released to freely flow to Slagle Run. Since storm water is no longer being collected, the million gallon pool was demobilized and the area of the pool regraded. Ramboll Environ continues to monitor storm water quality within the Dry Creek and near the culvert leaving the Miller property.

1.3 Off-Site Affected Areas

This report discusses soil and sediment evaluation activities for the off-site affected properties. The off-site affected properties are as follows and are further described in detail in Section 2:

- The Metropolitan Edison Company (Met-Ed) electrical substation;
- The Bare Development agricultural parcel;
- The Lois E. Whisler agricultural parcel;
- The Family First Health Corporation commercial property¹; and
- The Vulcan Lands wooded parcel.

Visibly affected surface soils at the Miller site and on the off-site affected properties are shown in Figure 2.

1.4 Site Safety

Ramboll Environ's site-specific Health and Safety Plan (HASP) was prepared to address health and safety issues associated with environmental sampling. The sampling activities proposed in this plan will be completed in accordance with the requirements of the site-specific HASP.

¹ The Family First Health Corporation property was previously identified as the Trone Rental Property. The reference to the property herein has been modified at the request of the property owner.

1.5 Utility Clearance

Prior to beginning soil sampling activities, Ramboll Environ will obtain a public utility location through the Pennsylvania One Call system and conduct a private geophysical survey to identify subsurface utilities at the sampling locations. Identified subsurface utilities that lie near the sampling locations will be delineated and posted with mark out paint and/or survey flags. A private utility clearance has already been completed on the agricultural parcels; however, for the purposes of health and safety, an additional, limited subsurface utility clearance will be conducted prior to the start of invasive activities.

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2. OFF-SITE AFFECTED AREA SAMPLING

2.1 Permits and Approvals

Prior to conducting off-site sampling activities, Ramboll Environ will obtain approval to proceed with the sampling activities per the access agreements with each of the off-site property owners.

2.2 Survey of Visibly Affected Areas and Property Features

Firefighting water released off-site on June 8 contained dyes and other fertilizer constituents that resulted in visible discoloration of the water and surficial soils over which the water traveled. The boundaries of visibly affected surface soils were mapped using a handheld GPS system beginning eight days after the fire. Certain of the major site features have also been mapped using the same system. As part of this sampling plan, Ramboll Environ will survey and/or mark visibly affected areas, major site features, and the sample locations described herein. A topographic survey will also be conducted to document the topography of the site prior to further disturbance by heavy equipment. Since surface water flow paths were visibly identifiable and were first visually delineated in the days after the fire, this plan does not include a stepped approach to horizontal delineation sampling; instead, horizontal delineation samples will be collected from perimeter points located outside the mapped extent of surface water flow paths. If the sampling proposed herein is insufficient to delineate the horizontal extent of impact, Ramboll Environ will prepare an addendum to this SAP proposing additional sampling, as needed.

2.3 The Met-Ed Electrical Substation

Met-Ed owns and operates an electrical substation immediately to the north of the Miller Chemical Property. The substation normally receives storm water runoff from the Miller site through corrugated drainage pipe running northward underneath Radio Road, across the southwestern corner of the Met-Ed property, and toward a culvert running westward beneath the CSX rail line. These lengths of pipe were in poor condition prior to the fire and are not fully connected to one another, allowing storm water to pool in the low-lying southwestern corner of the Met-Ed station. In addition, during the June 8th firefighting activities, fire water flowed from the drainage ditch on the south side of Radio Road, across Radio Road and onto the Met-Ed property. As a result of the June 8th fire, approximately 56,000 square feet of the Met-Ed property were visibly affected by runoff of fertilizer chemicals and firefighting water. As shown on Figure 2, most of the runoff water migrated through the culvert beneath the CSX rail line to the Bare Development parcel. However, a limited volume of runoff water also flowed north along the drainage ditch adjacent to the railroad tracks.

Discussions with Met-Ed representatives have revealed the presence of an electrical grounding grid at a depth of approximately 8 – 12" below grade throughout the affected area, making vertical delineation of affected soils impractical. As such, Ramboll Environ has discussed with PADEP that sampling would only take place from within the upper 2 inches of soils throughout the property by the hand sampling methods outlined in Section 3. In addition, at some sample locations, between 4 -6 inches of stone is present. In these stone covered areas, the stone will be moved to facilitate soil sample collection, and the stone will be replaced following sample collection. As presented on Figure 3, a total of 21 soil samples will be collected from within and around the visibly affected areas and an additional twelve

background samples will be collected from locations throughout the remainder of the Met-Ed property.² The soil samples would be analyzed as discussed in Section 3. A tabular summary of proposed sampling for the Met Ed substation and other off-site properties is included as Table 1.

2.4 Bare Development Agricultural Parcel

The Bare Development property consists of an eastern and western parcel, the eastern being the parcel affected by runoff from the fire at the Miller Chemical site. This parcel totals approximately 15 acres and consists primarily of agricultural fields. A vegetated drainage ditch (known as the "Dry Creek") runs northward through the middle portion of the parcel toward Slagle's Run, and a wetland area occupies the southeastern portion of the parcel.

As shown on Figure 2, upon exiting the drainage pipe running under the railroad tracks from the Met-Ed substation, runoff water infiltrated a small portion of the wetland area, travelled overland through the agricultural field, and also entered the Dry Creek and flowed to the north. Some of the runoff travelled parallel with the Dry Creek, remaining in the agricultural field to the east, but it does not appear that a significant portion of the parcel west of the Dry Creek was affected, except in the northernmost section of the parcel, where the Dry Creek turns to the west prior to exiting the property. In total, an area of approximately 3 acres was visibly affected by runoff from the fire at the Miller site.

As shown on Figure 4, samples will be collected from twelve locations in visibly unaffected areas to the east and west of the Dry Creek to establish background conditions on the parcel. Soil samples will also be collected from visibly affected areas. Samples will be collected from approximately every 5,000 square feet of the visibly affected area. In addition, perimeter samples will be collected from approximately every 150 feet along the boundary of the visibly affected area, and samples will be collected from approximately every 150 feet along the Dry Creek.¹ Final sample locations will be biased as discussed in Section 3. Sampling depth intervals, sampling methods, analyses, and frequencies are also presented in Section 3.

Ramboll Environ notes that the former one-million gallon pool (pool) and haul road are located on the Bare Development Western Parcel outside of the visibly affected area. However, due to the disturbance of these areas during emergency response activities, samples will also be collected from these areas, as indicated on Figure 4.

2.5 Lois E. Whisler Agricultural Parcel

The Lois E. Whisler parcel is approximately 102 acres in size, and consists mainly of agricultural fields and wooded areas. A sanitary sewer line runs along the northern property boundary, and overhead power lines from the Met-Ed electrical substation run across the property further to the west. The manholes to the sanitary sewer line are raised above the surface by approximately 18 inches. The water that flowed in this area was not of sufficient depth to overtop the manhole cover and therefore flow into the sanitary sewer is not expected to have occurred. An approximately 4-acre area in the eastern portion of the parcel was affected by runoff from the fire at the Miller site, mainly in and around the Dry Creek that enters from the Bare Development parcel to the south. A smaller affected area

² Sampling locations shown in the figure are approximate and may be adjusted in the field.

runs parallel to the northern property boundary, where the ground surface begins to level off near the convergence with Slagle's Run.

As shown on Figure 5, samples will be collected from twelve locations in visibly unaffected areas to the east and west of the Dry Creek to establish background conditions on the parcel. Soil samples will also be collected from visibly affected areas. Samples will be collected from approximately every 5,000 square feet of the visibly affected area. In addition, perimeter samples will be collected from approximately every 150 feet along the boundary of the visibly affected area, and samples will be collected from approximately every 150 feet along the Dry Creek.² Final sample locations will be biased as discussed in Section 3. Sampling depth intervals, sampling methods, analyses, and frequencies are also presented in Section 3.

2.6 Family First Health Corporation Commercial Property

As shown on Figure 2, a small amount of runoff from firefighting activities at the Miller site travelled approximately 1,100 feet to the north along the railroad track drainage ditch and then flowed overland through a small portion of the Family First Health Corporation commercial property.

As shown on Figure 6, samples will be collected from twelve locations in visibly unaffected areas on the Family First Health Corporation parcel. In addition, samples will be collected from ten locations within visibly affected areas, including six locations along the boundary of the visibly affected area and four locations within the visibly affected area.³ Note that due to the small size of the affected area at this parcel relative to the other parcels, a different sample frequency is proposed for the Family First Health Corporation parcel. Final sample locations will be biased as discussed in Section 3. Sampling depth intervals, sampling methods, analyses, and frequencies are also presented in Section 3.

In addition, one sediment sample will be collected from the wooded wetland area located north of the Family First Health property where the fire water flow migrated toward Slagle's Run.

2.7 Vulcan Lands

As shown on Figure 5, samples will be collected from four locations to characterize conditions within the wooded area immediately south of Slagle's Run which received fire water runoff (defined as "Flow Path Locations" on Figure 5). Additionally, two sediment samples will be collected from Slagle's Run to characterize conditions at the runoff water entry points, and additional samples will be taken at four upstream (background) locations. Final sample locations will be biased as discussed in Section 3. Sample methods and analyses are also presented in Section 3.

³ Sampling locations shown in the figure are approximate and may change.

3. SAMPLE PROCEDURES AND ANALYSES

3.1 Soil and Sediment Sampling Methods

Soil samples will be collected using a combination of direct push drilling methods, stainless steel hand augers, and stainless steel trowels.⁴ Given the large aerial extent of visibly-affected soils, the shallow-most soil samples within the visibly-affected area will be collected as five-point composite soil samples to avoid missing small areas of soil that may exhibit greater concentrations. Composite samples will be collected by taking five equal volume subsamples, combining the subsamples in a stainless steel bowl or disposable aluminum pan, and mixing thoroughly prior to packaging in a laboratory-supplied container. Within the dry creek and the boundary samples, the five subsamples will be collected in an equally-spaced linear fashion with the center sample located at the mapped sample point. Within other visibly affected areas, the sub-samples will be collected from the mapped center location and compass points of a 10 foot diameter circle centered on the sample point. Large rocks or twigs will be removed prior to packaging these samples.⁵ Soil samples collected at depth (from the mapped center location) and sediment samples will be collected as discrete soil samples.

Samples will be labelled, packaged on ice, and delivered under chain-of-custody protocols to a Pennsylvania-certified laboratory. Locations of soil and sediment samples will be documented in the field using GPS equipment. In addition, surface conditions at each sample location will be photo documented and evidence of disturbance from emergency response activities will be noted.

3.2 Sampling Analysis

Ramboll Environ reviewed a list of chemicals and raw materials stored on-site at the time of the fire and also reviewed the site history to evaluate potential compounds of concern for the Miller Property. The preliminary list of compounds of concern (COCs) included pesticides, herbicides, volatile organic compounds (VOCs), metals, nitrate, nitrite, and total Kjeldahl nitrogen (TKN), phosphorus, sulfate, total organic carbon (TOC), chemical oxygen demand (COD), ammonia, and total organic halides (TOX). Based on the results of soil and fire water analyses and results for characterization samples collected to date, pesticides, herbicides, and VOCs were either not detected or were present at concentrations well below the Pennsylvania media specific concentrations (MSCs) for residential sites and for protection of groundwater resources. As such, those constituents were eliminated as constituents of concern. TOC and COD were collected in preliminary soil samples to better understand potential effects to Slagle's Run by overland storm water flow; further analysis of these non-chemical parameters is not necessary at this time. Similarly, total organic halides were evaluated for the purposes of potential soil characterization in the event that off-site disposal of soils might be required; given that no off-site disposal of soils is necessary at this time, analysis of TOX is not necessary at this time. The initial analyte list also included ammonia; ammonia has not been included in the Act 2 SAP analyte list because ammonia readily degrades in soil to other forms of nitrogen and is also quantified in the result for TKN which

⁴ Samples within the Met-Ed property will be collected using fiberglass tools.

⁵ Ramboll Environ notes that composite soil samples will not be analyzed for the presence of volatile organic compounds (VOCs) since VOCs have not been identified in preliminary soil or groundwater samples.

Includes organic nitrogen, ammonia, and the ammonium ion. Soil and sediment samples will be analyzed on a 10-business day turnaround time for the following parameters:

- Target Analyte List (TAL) Metals Including: aluminum, antimony, arsenic, barium, beryllium, cadmium, calcium, chromium, cobalt, copper, iron, lead, magnesium, manganese, mercury, nickel, potassium, selenium, silver, sodium, thallium, vanadium, and zinc plus boron and molybdenum by SW846-6020A;
- Total Kjeldahl nitrogen by Standard Method (SM)4500-NH3 C-1997;
- Nitrate by USEPA method 300.0;
- Nitrite by USEPA method 300.0;
- Sulfate by USEPA method 300.0; and
- Total phosphorous by USEPA method 365.1.

In addition, Ramboll Environ will collect additional soil volume from at least one representative location per property and from the dry ditch for soil grain-size analysis and total organic carbon.

3.3 Proposed Sample Locations

Table 1 details the quantity, depth, and type for sample collection, as described below.

Background Samples

As noted in Section 2, background soil samples will be collected from a minimum of twelve visibly unaffected locations at each off-site parcel and analyzed for the above constituents. With the exception of the Met Ed property, background soil samples will be collected from multiple depth intervals.⁶ Specifically, samples will be collected from 0 – 3 inches bgs, 6 – 12 inches bgs, 1 – 2 feet bgs (Table 1). On each off-site property, samples will also be collected at 4 – 5 feet bgs at three randomly selected background sampling locations. All background samples will be collected as discrete, grab samples.

Background sediment samples will be taken at four upstream locations within Slagle's Run and will be collected as discrete grab samples from 0 – 3 inches bgs. No background samples will be collected from the Vulcan Lands at this time; if contaminants are identified in soil on the Vulcan Lands parcel, Ramboll Environ may opt to collect background samples on that parcel to support further evaluation of soil conditions.

Met-Ed

Soil samples will be collected at a rate of approximately one sample per 5,000 square feet within the visibly affected areas as shown in Figure 3. Within each approximately 5,000 square foot area, one five point composite soil sample will be collected from a depth of 0 – 2

⁶ As discussed previously with PADEP, samples collected on the Met-Ed property will be collected only from 0 – 2 inches bgs due to the presence of the grounding grid.

Inches bgs (Table 1). Composite sampling locations will be biased toward more visibly affected soils or areas that experienced more substantial water flow.

In addition, soil samples will be taken from the boundary of the visibly affected areas at a rate of one sample per 150 linear feet. Boundary samples will also be collected as five-point composite samples collected from a depth of 0 – 2 Inches bgs and will be biased toward more visibly affected soils (Table 1).

Lois E. Whisler Parcel and Bare Development Agricultural Parcel

Soil samples will be collected at a rate of approximately one sample per 5,000 square feet within the visibly affected area, as shown in Figures 4 and 5. Within each approximately 5,000 square foot area, one five point composite soil sample will be collected from a depth of 0 – 3 inches bgs. Composite sampling locations will be biased toward more visibly affected soils or areas that experienced more substantial water flow. At approximately 33% of the sampling locations, deeper samples will also be collected as discrete grab samples from 1 – 2 feet bgs and 4 – 5 feet bgs (Table 1). Selection of sample points for collection of deeper samples will be biased toward locations that experienced greater water flow or pooling. In addition, on the Bare Development Agricultural Parcel, four locations will be sampled from locations beneath the million-gallon pool and six locations will be sampled along the Haul Road; these additional samples will be sampled following the methodology described above and are depicted on Figure 4.

In addition, soil samples will be taken from the boundary of the visibly affected areas at a rate of one sample per 150 linear feet. Boundary samples will also be collected as five-point composite soil samples collected from a depth of 0 – 3 Inches bgs and will be biased toward areas of more visibly affected soils. Boundary samples will be positioned outside of the previously identified area of impact, taking into account the margin of error on the original recorded location of the boundary using GPS methods.

Soil samples will also be collected from the base of the dry ditch that runs northward through the two agricultural parcels towards Slagle's Run. These samples will be collected every 150 linear feet along the ditch as five-point composite samples collected from a depth of 0 – 3 Inches bgs and will be biased toward more visibly affected soils and/or areas where runoff pooled following the firefighting activities. Ramboll Environ notes that in some areas along the Dry Creek on the Lois E. Whisler parcel, there are disturbed areas where water has pooled (e.g., the "Creek Pit"). In addition, within the Bare Development Agricultural Parcel there was a storm water Interceptor trench where water has pooled. These features have been backfilled as part of the initial restoration of the disturbed areas. Ramboll Environ plans to sample native soil at the base of these features as part of the sampling strategy. These borings will be installed within the backfilled pits/trenches and will be advanced to depth equivalent to the base of these features; a sample will be collected at the base of the backfilled pit/trench, and additional samples will be collected every 5 feet below ground surface. As described below, a minimum of four borings will be installed within the

horseshoe trench, a minimum of one boring will be installed within each of the Interceptor trenches, and a minimum of three borings will be installed in the area of the off-site pit⁷.

- The interceptor trenches on the Bare Development property and on the Whisler property, and the horse shoe trench were dug to depths of approximately 4 feet bgs. As such, samples will be collected at 0 to 3 Inches bgs; and 4.5 to 5 feet bgs. An additional soil sample collected from 10 to 10.5 feet bgs; this sample will be placed on hold at the laboratory for potential analysis, pending results for the shallower soil samples. Ramboll Environ notes that, It is possible that the 10 foot bgs Interval may be located within the saturated zone; If the water table is encountered during sample collection, the sample Interval will be adjusted to the 6" Interval immediately above the water table.
- Portions of the off-site creek pit were excavated to depths of up to 18 feet bgs. As such, samples will be collected at depths of 0 to 3 Inches bgs; 5 to 5.5 feet bgs; 10 to 10.5 feet bgs; 15 to 15.5 feet bgs and 20 to 20.5 feet bgs. The 0-3", 5 to 5.5', and undisturbed soil sample from each of these borings collected at the base of the backfilled excavation will be analyzed first. Samples collected from deeper intervals will be placed on hold for potential analysis, pending results for the sample collected from the undisturbed soils at the base of the pit. Ramboll Environ notes that, It is possible that soil samples below 10 feet bgs may be located within the saturated zone. If the water table is encountered during sample collection, the sample Interval will be adjusted to the 0-6 Interval immediately above the water table.

Family First Health Corporation

Four soil samples will be collected from the visibly affected area as shown in Figure 6. At each proposed soil sample location, one five-point composite soil sample will be collected from a depth of 0 – 3 Inches. At one sample location, deeper soil samples will also be collected as discrete grab samples from 1 – 2 feet bgs and 4 – 5 feet bgs (Table 1).

In addition, six soil samples will be taken from the boundary of the visibly affected area. Boundary samples will also be collected as five-point composite samples from a depth of 0 – 3 inches bgs (Table 1).

In addition, one soil/sediment sample will be collected from the wooded wetland area located north of the Family First Health property where the fire water flow migrated toward Slagle's Run. This sample will be collected as a discrete sample from a depth of 0 – 3 Inches.

Vulcan Lands Property

Soil samples will be collected at the four flow path locations within the wooded area immediately south of Slagle's Run. At each soil location, one five-point composite soil sample will be collected from a depth of 0 – 3 inches. Composite sample locations will be biased toward more visibly affected soils or areas that experienced more substantial water

⁷ These borings are in addition to the borings indicated on Figures 4 and 5.

flow. At two of these locations, deeper samples will also be collected as discrete grab samples from 1 – 2 feet bgs and 4 – 5 feet bgs (Table 1).

Additionally, two sediment samples will be collected from Slagle's Run in areas where fire water runoff water entered the creek. These samples will be collected as discrete grab samples from a depth of 0 – 3 inches.

3.4 Quality Assurance/Quality Control (QA/QC)

Chain-of-custody documents and field log books will be maintained for all samples. Sample locations will be recorded using a combination of GPS and traditional survey methods.

Samples will be collected using standardized field operating procedures. Samples will be collected into laboratory-provided containers, labeled, and shipped or delivered under chain-of-custody procedures to an appropriately qualified laboratory. To evaluate the repeatability of the sampling procedures, at least one duplicate sample per 20 samples will be collected during the sampling event.

Re-useable sampling and/or monitoring equipment will be decontaminated using appropriate procedures including a non-phosphate detergent wash, followed by a double de-ionized water rinse. One equipment rinse blank will be collected for each substantially different type of sampling equipment used (e.g., hand auger, trowel, etc.) to document the effectiveness of equipment decontamination methods. Laboratory-provided deionized water will be collected into laboratory provided containers by pouring the water over the sampling tools. The samples will be submitted to the laboratory using the same procedures as described in Section 3.2. Additionally, electronic monitoring equipment will be calibrated in accordance with manufacturer recommendations and standard field operating procedures.

The analytical laboratory will employ standard QA/QC practices including the analysis of internal laboratory duplicates, reagent blanks, method blanks, matrix spikes and matrix spike duplicates, surrogate spikes, laboratory control samples, and continuing calibrations.

All Act 2 data generated through field activities or by the laboratory operation shall be reduced and validated prior to reporting. No data shall be disseminated by the laboratory until it has been subjected to these procedures which are summarized in subsections below:

Field Data Reduction

Field data reduction procedures will be minimal in scope compared to those implemented in the laboratory setting. Only direct read instrumentation will be employed in the field. Readings collected in the field will be generated from direct read instruments following calibration per manufacturer's recommendations as outlined in the SOPs. Such data will be written into field logbooks immediately after measurements are taken. If errors are made, results will be legibly crossed out, initialed and dated by the field member, and corrected in a space adjacent to the original (erroneous) entry. Later, when the results forms required for this study are being filled out, the Project Manager will proof the forms to determine whether any transcription errors have been made by the field crew.

Data Validation

The data to be provided incorporates a rigorous level of quality control. All laboratory analytical methods will strictly follow USEPA approved protocols and quality control criteria. The data will be reviewed and validated prior to reporting.

All forms summarizing this analytical data will be checked. The overall completeness of the data package will also be evaluated. Completeness checks will be administered on all data to determine whether all necessary deliverables are present. Once it is confirmed that all required information has been assembled, one hundred percent of the data will then be validated. Data validation will include a review of all technical holding times; the instrument performance check sample results, initial & continuing calibration results, all blanks, surrogate spikes, matrix spikes/matrix spike duplicates and laboratory control sample results; internal standards; target compound identification and quantitation; and system performance checks.

Data not meeting the acceptable QA/QC limits will be flagged for further consideration.

OFF-SITE ACT 2 SOIL SAMPLING AND ANALYSIS PLAN

TABLES

TABLE 1: PROPOSED SAMPLE SUMMARY
Miller Chemical Fertilizer, LLC
Hanover, Pennsylvania

Met-Ed		
Sample Depth		0 - 2 "
Background Samples	⊕	12
Visibly Affected Area Samples ¹	○	12
Boundary Samples	■	9

Bare Development					
Sample Depth		0 - 3 "	6 - 12 "	1 - 2 '	4 - 5 '
Background Samples	⊕	12	12	12	3
Visibly Affected Area Samples (including interceptor trench) ¹	○	38	NA	13	13
Boundary Samples	■	19	NA	NA	NA
Dry Creek Samples	△	8	NA	NA	NA
PCB Samples	●	3	NA	NA	NA

In addition to the samples identified above, one soil sample will be collected from a boring installed within the former interceptor trench from a depth of 10 to 10.5 feet below ground surface (bgs); if this deeper interval is saturated, the sample will be adjusted to the 6" interval immediately above the water table.

Whisler Property					
Sample Depth		0 - 3 "	6 - 12 "	1 - 2 '	4 - 5 '
Background Samples	⊕	12	12	12	3
Visibly Affected Area Samples ¹	○	36	NA	12	12
Boundary Samples	■	20	NA	NA	NA
Dry Creek Samples	△	5	NA	NA	NA

In addition to the samples identified above, soil samples will additionally be collected from 1 boring within the former interceptor trench and 4 borings within the former horseshoe trench at depths of 0 to 3", 4.5 to 5' bgs, and 10 to 10.5' bgs; the samples from the deepest interval will be placed on hold for potential analysis. If the deepest soil interval is saturated, the sample depth will be adjusted to the 6" interval immediately above the water table. Three additional borings will be installed within the former off-site creek pit; samples will be collected from these borings at depths of 0 to 3" bgs, 5 to 5.5' bgs; 10 to 10.5' bgs; 15 to 15.5 feet bgs. If saturated soils are encountered prior to 15.5 feet bgs, the sample interval will be adjusted to the 6" interval immediately above the water table. If groundwater is not encountered in the upper 15.5 feet bgs, an additional unsaturated zone soil sample will be collected from 20 to 20.5 feet bgs, or from the 6" interval immediately above the water table.

Family First Health Corp					
Sample Depth		0 - 3 "	6 - 12 "	1 - 2 '	4 - 5 '
Background Samples	⊕	12	12	12	3
Visibly Affected Area Samples ¹	○	4	NA	1	1
Boundary Samples	■	6	NA	NA	NA
Flow Path Sample	⬠	1	NA	NA	NA

Vulcan					
Sample Depth		0 - 3 "	6 - 12 "	1 - 2 '	4 - 5 '
Flow Path Samples	⬠	4	NA	2	2
Downstream Samples	●	2	NA	NA	NA

Slagle's Run		
Sample Depth		0 - 3 "
Background Samples	NA	4

Notes:

¹ One sample collected per 5,000 square feet or lower within visibly affected areas.

Symbols shown reflect symbols used on Figures 3 to 6.

Sample depths shown in inches below ground surface (") and feet below ground surface (')

Bolded and highlighted orange sample numbers indicate the sample will be collected as a 5-point composite sample; non-bolded sample numbers indicate the sample will be collected as a discrete, grab sample.

All samples will be analyzed for TAL Metals (SW846-6020A), total Kjeldahl nitrogen (SM4500-NH3 C-1997), nitrate (USEPA 300.0), nitrite (USEPA 300.0), sulfate (USEPA 300.0), and total phosphorous (USEPA 365.1).

TAL = Target Analyte List (aluminum, antimony, arsenic, barium, beryllium, cadmium, calcium, chromium, cobalt, copper, iron, lead, magnesium, manganese, mercury, nickel, potassium, selenium, silver, sodium, thallium, vanadium, and zinc plus boron and molybdenum).

FIGURES

Figure 1
Miller Chemical and Fertilizer, LLC 1-Mile Radius
Hanover, PA



Imagery Source: Esri Streaming Imagery

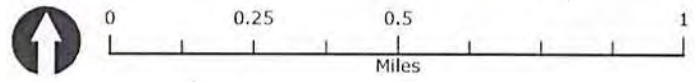


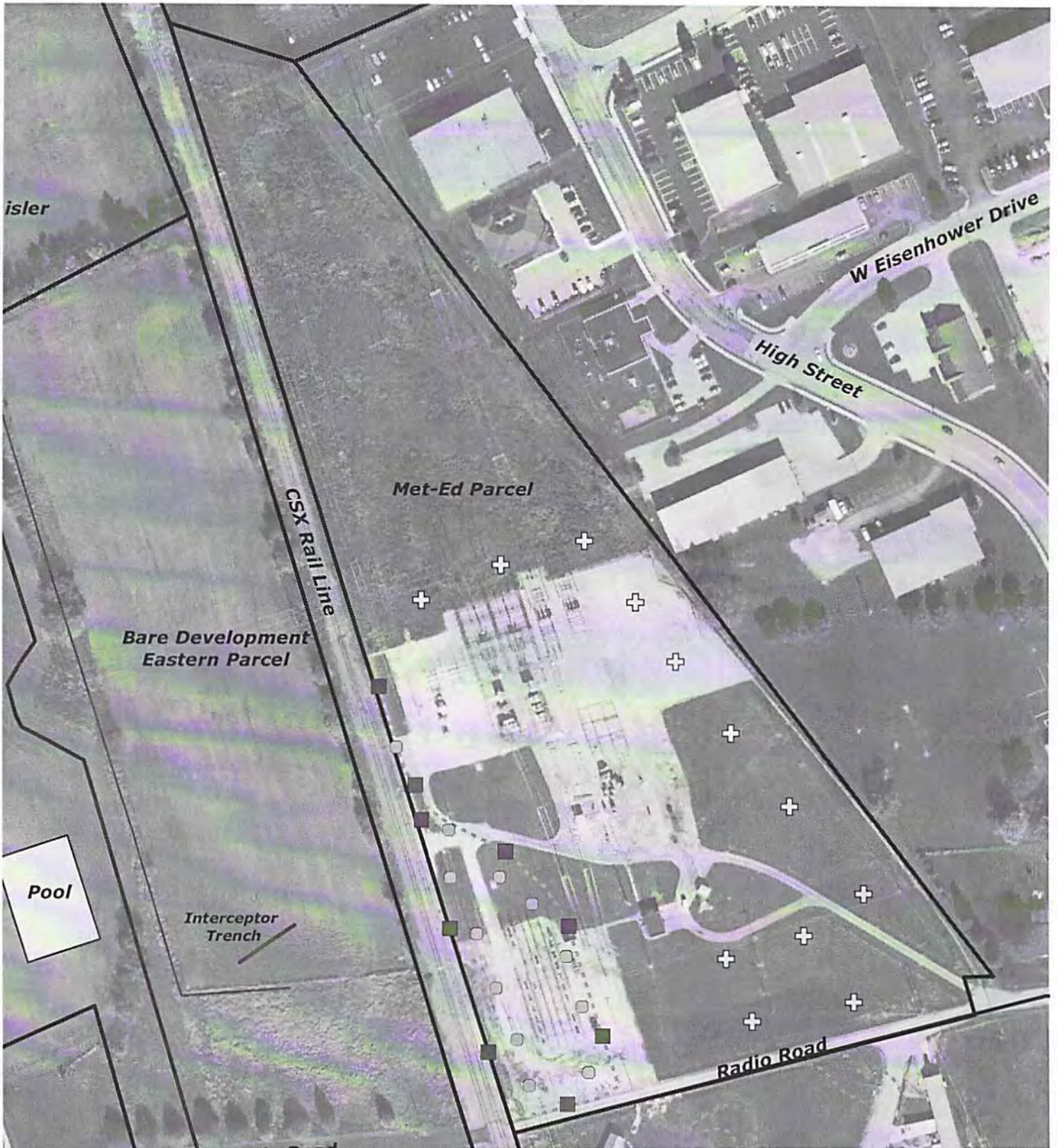
Figure 2
Visibly Affected Areas
Hanover, PA



Imagery Source: Esri Streaming Imagery

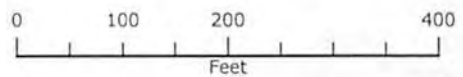


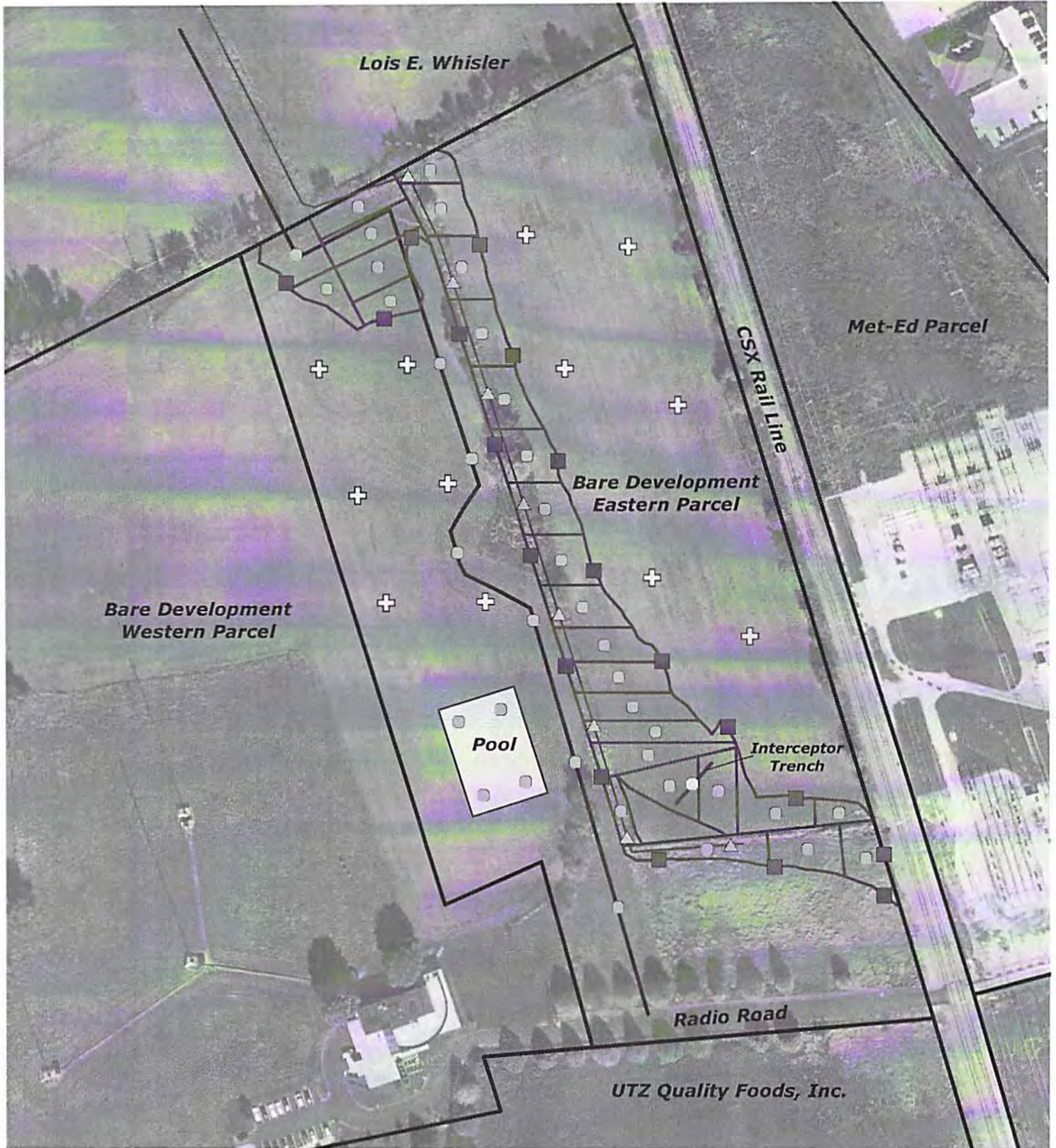
Figure 3
Affected Areas in Met-Ed Parcel
Hanover, PA



Notes: Locations of sampling are estimated and may be adjusted based on conditions encountered in the field.

- Visibly Affected Area Sample
- ⊕ Background Sample
- Boundary Sample
- Properties
- DryCreek
- Construction Roadway
- Affected Areas in other Parcels





- | | | | |
|---|------------------------------|---|---------------------------------|
| + | Background Sample | □ | Properties |
| ● | Visibly Affected Area Sample | □ | 5,000 Square Foot Cells |
| ○ | Trench/Pit Sample | ○ | Affected Areas in other Parcels |
| ■ | Boundary Sample | — | Dry Creek |
| ▲ | Dry Creek Sample | — | Construction Roadway |

Notes: Locations of sampling are estimated and may be adjusted based on conditions encountered in the field. Locations of mapped features are approximate.

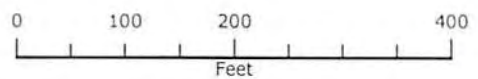
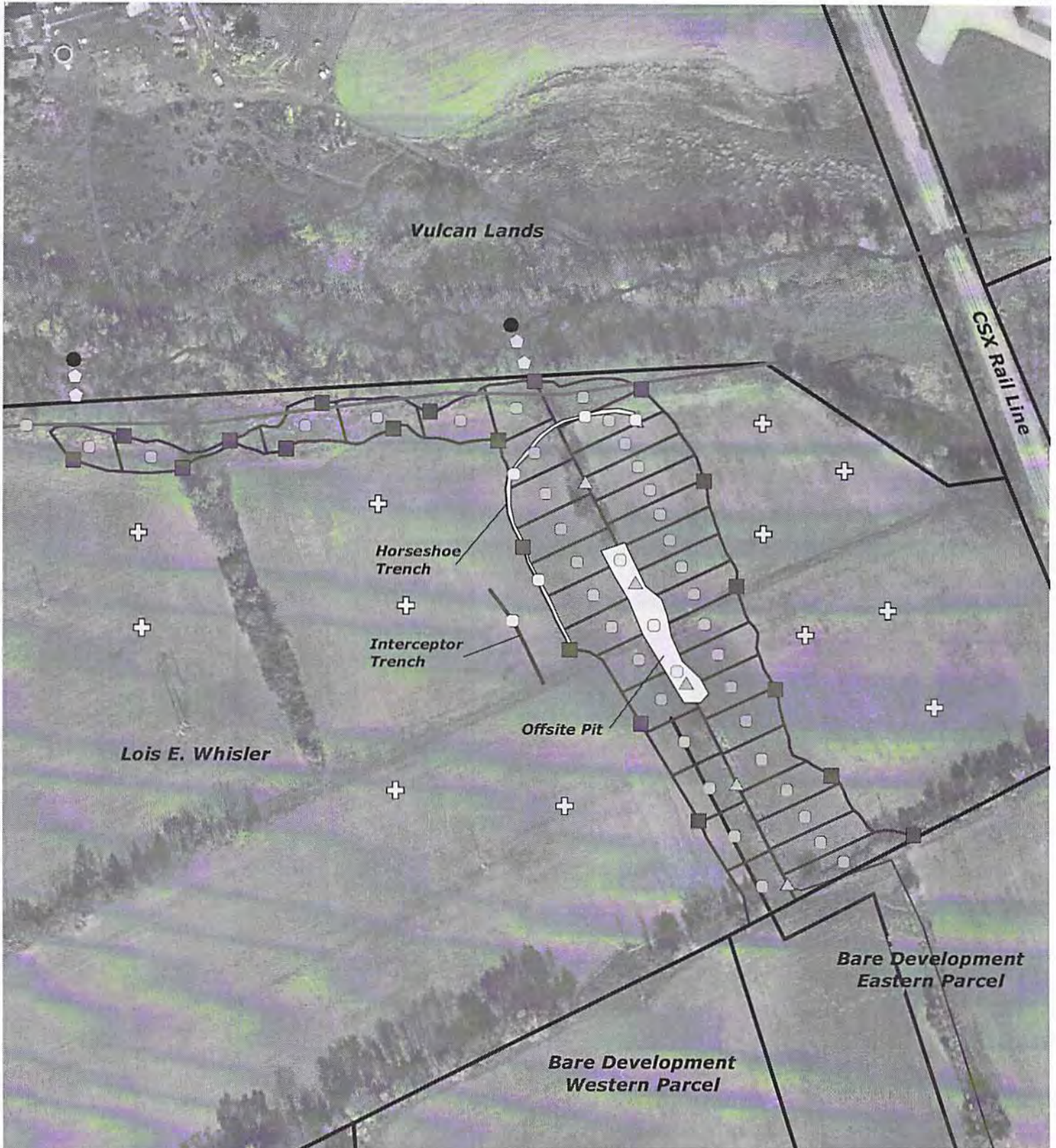
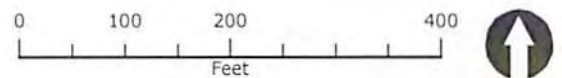


Figure 5
 Affected Areas in Lois E. Whisler Parcel
 Hanover, PA

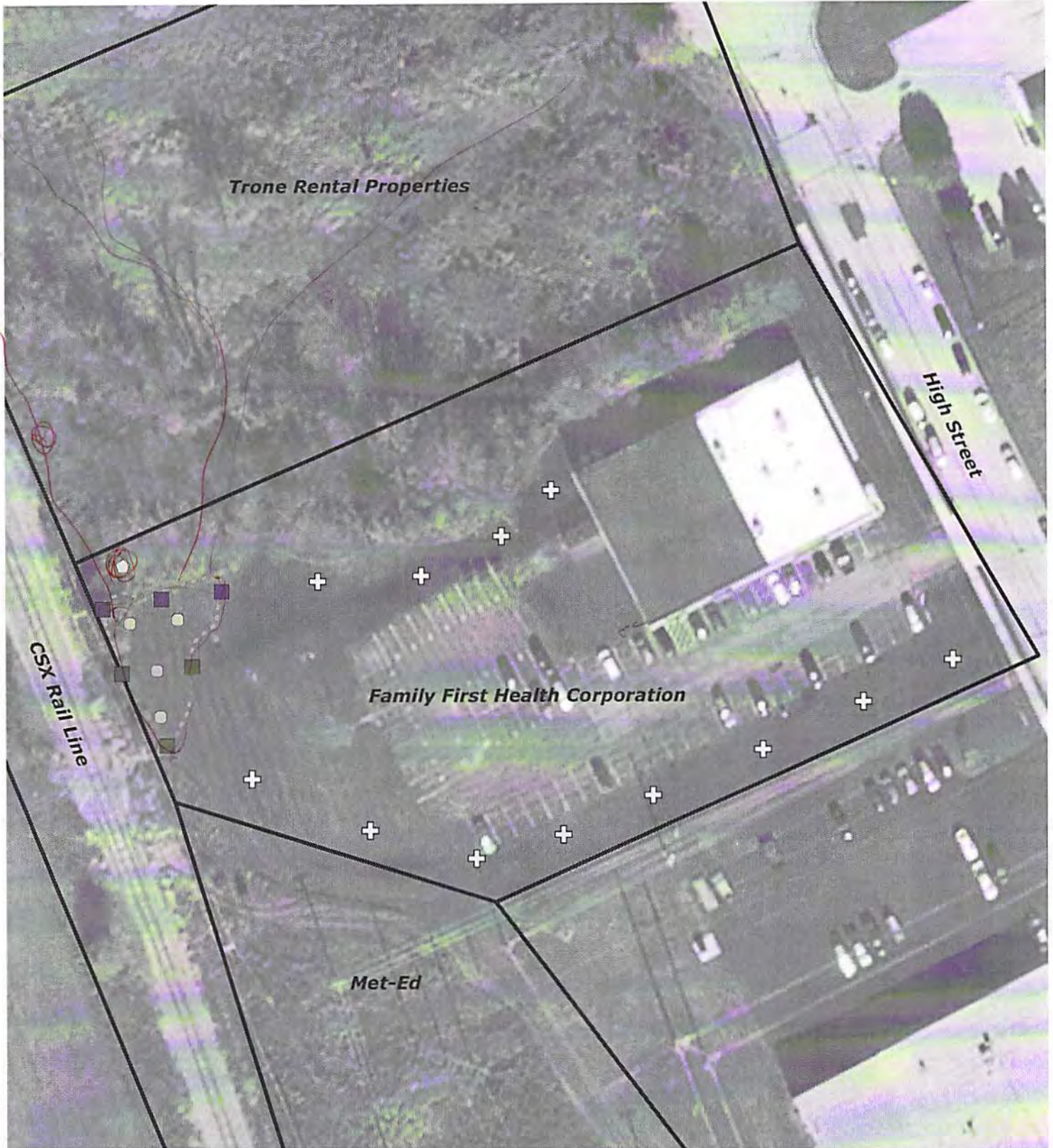


- | | | | |
|---|------------------------------|---|---------------------------------|
| ⊕ | Background Sample | □ | Properties |
| ○ | Visibly Affected Area Sample | □ | 5,000 Square Foot Cells |
| ○ | Trench/Pit Sample | ⊗ | Affected Areas in other Parcels |
| ■ | Boundary Sample | — | Slagle Run |
| ⬠ | Flow Path Sample | — | Dry Creek |
| △ | Dry Creek Sample | — | Sewer Line |
| ● | Downstream Sample | — | Construction Roadway |

Notes: Locations of sampling are estimated and may be adjusted based on conditions encountered in the field. Locations of mapped features are approximate.

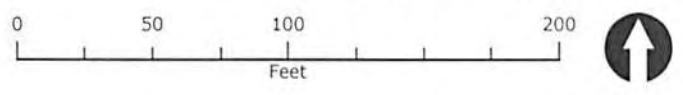


Imagery Source: Esri Streaming Imagery



- ⊕ Background Sample
- ◻ Property
- ◻ Visibly Affected Area Sample
- ◻ Affected Area
- ◻ Boundary Sample
- ◻ Flow Path Sample

Notes: Locations of sampling are estimated and may be adjusted based on conditions encountered in the field.



**Figure 7. Schedule for Off-Site Act 2 Soil Sampling
Miller Chemical, Hanover, Pennsylvania**

Task	Week 0	Week 1	Week 2	Week 3	Week 4	Week 5	Week 6	Week 7	Week 8	Week 9	Week 10	Week 11	Week 12	Week 13	Week 14	Week 15	Week 16
Approval of Off-Site Act 2 Soil Sampling and Analysis Plan	X																
Receipt of Permits & Authorizations	X																
Completion of Preliminary Restoration	X																
Pre-Mobilization Tasks (e.g. schedule subcontractors)		X															
Subsurface Locate			X														
Field Verification of Sample Locations			X														
Soil Sample Collection			X	X	X	X											
Soil Sample Analysis				X	X	X	X	X	X	X							
Data Tabulation						X	X	X	X	X	X	X					
Internal Data Validation							X	X	X	X	X	X	X				
Data Review/Analysis														X	X	X	X
Notes:																	
Schedule does not include holidays, weather delays, or other unforeseen delays.																	
Schedule above does not include preparation of written reports.																	

OFF-SITE ACT 2 SOIL SAMPLING AND ANALYSIS PLAN

APPENDICES

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SOP 001 DIRECT PUSH GEOPROBE PROCEDURE (INCLUDES LARGE BORE AND MACRO-CORE SAMPLER PROCEDURES)

DISCUSSION

This standard operating procedure provides general direction and guidance in the use of direct push drilling rigs. Direct push technology uses hydraulically-powered machines that utilize both static force and percussion to advance soil sampling equipment into the subsurface. If groundwater is present, resulting annular space allows one to obtain groundwater samples, though various methods (see SOPs for monitoring well installation, well sampling, etc.). The machines can be mounted on pickup trucks, skid loaders, tracked carriers, skid mounted and other vehicles.

EQUIPMENT LIST

- Geoprobe
- Large bore or macro-core sampler
- Disposable soil liners and soil traps
- Field notebook
- Heavy duty plastic sheeting or bags
- Utility knife with rip blade
- Tape measure or measuring stick
- Work table (optional)
- Permanent ink pen and marker
- PPE

PREPARATION

- 1) Before and after each use, thoroughly clean all parts of the soil sampling system according to specific project requirements. A clean, new liner is recommended for each use. Parts should also be inspected for wear or damage at this time.
- 2) Assemble sampler
 - a. Install a new O-ring into the O-ring groove on the stop-pin.
 - b. Seat the pre-flared end of the liner over the interior end of the cutting shoe. It should fit snugly.
 - c. Insert the liner into either end of the sample tube and screw the cutting shoe and liner into place. If excessive resistance is encountered, it may be necessary to use a cutting shoe wrench. Place the wrench on the ground (on plastic sheeting) and

position the sampler assembly with the shoe end down so that the recessed notch on the cutting shoe aligns with the pin in the socket of the wrench. Push down in the sample tube while turning it until the cutting shoe is completely tightened.

- d. Screw the piston rod into the piston tip. Insert the piston tip and rod into the sample tube from the end opposite the cutting shoe. Push and rotate the rod until the tip is seated completely into the cutting shoe.
- e. Thread the drive head onto the top end of the sample tube, aligning the piston rod through the center bore.
- f. Screw the reverse-threaded stop-pin into the top of the drive head and turn it counterclockwise with a wrench until securely tightened. Hold the drive head in place with another wrench while completing this task to assure that the drive head stays firmly attached to the sample tube. Note that a Macrocore® Combination Wrench will fit the drive head for 1.25-inch probe rods.

INSTRUCTIONS

Driving

- 1) Attach a drive cap to a one-foot probe rod and thread the rod into the assembled sampler. Position the assembly for driving into the subsurface.
- 2) Drive the assembly into the subsurface until the drive head on the sample tube is just above the ground surface.
- 3) Remove the drive cap and one-foot probe rod. Secure the drive head with a wrench and re-tighten the stop-pin with another wrench.
- 4) Attach a two-foot probe rod (with drive cap) to the tool string and continue driving the sampler into the ground. Attach additional probe rods (length is optional) in succession until the leading end of the sampler reaches the top of the desired sampling interval.

Retrieval

- 5) Remove the drive cap from the top probe rod and attach a pull cap. Lower the hammer assembly and close the hammer latch over the pull cap.
- 6) With the machine foot firmly on the ground, pull the tool string out of the hole.
- 7) Because the piston tip and rod have been displaced inside the sample tube, the piston rod now extends into the two-foot probe rod section. The probe cylinder will reach the top of its stroke before the sampler and two-foot probe rod are completely out of the ground if using a Geoprobe Model 4200, 4220, or 420U Soil probing Machine. In loose soils, the probe rod and sampler may be recovered as one piece by using the Foot Control on the probe machine to lift the sampler the remaining distance out of the hole.

- 8) If excessive resistance is encountered while attempting to lift the sampler and probe rod out of the hole using the Foot Control, unscrew the drive head from the sampler and remove it with the probe rod, the piston rod, and the piston tip. Replace the drive head onto the sampler and attach a pull cap to it. Lower the hammer assembly and close the hammer latch over the pull cap and pull the sampler the remaining distance out of the hole with the probe machine foot firmly on the ground.

Sample Recovery

- 9) Detach the two-foot probe rod if it has not been done previously.
- 10) Unscrew the cutting shoe using a shoe wrench if necessary. Pull the cutting shoe out with the liner attached. If the liner doesn't slide out readily with the cutting shoe, take off the drive head and push down on the side wall of the liner. The liner and sample should slide out easily.
- 11) Large bore clear plastic liners and Teflon® liners should slit open easily with a hold-blade utility knife for the samples to be analyzed or placed in appropriate containers.

ADDITIONAL CONSIDERATIONS

Large Bore Soil Sampler: The Large Bore (LB) Soil Sampler is used primarily as a discrete interval sampler; that is, for the recovery of a sample at a prescribed depth. In certain circumstances, it is also used for continuous coring.

Macro-Core Soil Sampler: The Macro-Core Sampler is most commonly used as an open-tube sampler. In this configuration, coring starts at the ground surface with a sampler that is open at the leading end. The sampler is driven into the subsurface and then pulled from the ground to retrieve the first soil core. In stable soils, an open-tube sampler is advanced back down the same hole to collect the next core.

SOP 002 MONITORING WELL AND BOREHOLE ABANDONMENT

DISCUSSION

Unsealed or improperly sealed wells may threaten public health and safety, and the quality of the groundwater resources. Therefore, the proper abandonment (decommissioning) of a well is a critical final step in its service life. Proper well abandonment accomplishes the following: 1) eliminates the physical hazard of the well (the hole in the ground), 2) eliminates a pathway for migration of contamination, and 3) prevents hydrologic changes in the aquifer system, such as the changes in hydraulic head and the mixing of water between aquifers. The proper decommissioning method will depend on both the reason for abandonment and the condition and construction details of the boring or well.

Effective abandonment depends on knowledge of the well construction, geology, and the hydrogeology. The importance of a full characterization increases as the complexity of the well construction, site geology, and the risk of aquifer contamination increases. Four principal complicating factors have been identified; they include:

- artesian conditions,
- multiple aquifers,
- cavernous rocks, and
- the threat or presence of contamination.

The recommended procedures for abandoning wells will be more rigorous with the presence of one or more complicating factors. The procedures may vary from a simple casing seal above aggregate to entirely grouting a well using a tremie pipe after existing casing has been ripped or perforated.

An abandoned, contaminated well often mixes contaminated groundwater with uncontaminated groundwater. Complete and uniform sealing of the well from the bottom to the surface is required. Therefore, proper well preparation must be done before the well is sealed with a proper sealant. Sealants are used in well abandonment to provide a watertight barrier to the migration of water in the well bore, in the annular spaces or in fractures and openings adjacent to the well bore. Sealants usually consist of Portland cement based grouts, "bentonite" clay, or combinations of these substances. Additives are frequently used to enhance or delay specific properties such as viscosity, setting time, shrinkage, or strength. Sealing mixtures should be formulated to minimize shrinkage and ensure compatibility with the chemistry of the groundwater in the well.

EQUIPMENT LIST

- Pre-determined sealant appropriate for monitoring well or borehole abandonment
- Tremie pipe and pump, if necessary
- Field notebook
- Permanent ink pen and marker
- PPE

PREPARATION

- 1) The well should be positively identified before initiating the abandonment. Field information should be compared with any existing information. Water levels and well depths can be measured with a well sounder or weighted tape measure. In critical situations, well construction details and hydrogeology can be determined with borehole geophysics or a downhole camera.
- 2) Discuss the scope of monitoring well and borehole abandonment with the contractor providing the abandonment services. Ensure that the proper sealant materials are present for monitoring well and borehole abandonment.

INSTRUCTIONS

- 1) Clear the borehole of obstructions such as pumps, pipes, wiring, or airlines.
- 2) To the extent possible, pull the casing when it will not jeopardize the integrity of the borehole. Before the casing is pulled, the well should be grouted to near the bottom of the casing. This will at least provide some seal if the well collapses after the casing is pulled. Damaged, poorly constructed or dilapidated wells may need to be over-drilled in order to apply proper abandonment techniques.
- 3) Mix grout in accordance with manufacturers specifications using clean water. Add grout to the well from the bottom up using a grout pump and a tremie pipe. This method insures the positive displacement of the water in the well, and will minimize dilution or separation of the grout. If aggregate (e.g., sand, crushed stone or similar material) is approved to be placed above sealant, a sufficient amount of curing time should pass before placing the aggregate above the seal.
- 4) Record all field activities and details of sealant materials used in the field book.

ADDITIONAL CONSIDERATIONS

Wells in Cavernous Rocks or with Large Voids: Problems can arise when filling wells that penetrate cavernous rock or large voids in the subsurface. Although such wells are usually

located in carbonate terrain, voids can also occur in other areas. Care must be taken to insure that aggregates and sealants are of a size and consistency to prevent their removal by water flowing in the void. Large voids or high flow velocities warrant placement of a bridge in competent rock over the void. Aggregate and sealants can then be placed above the bridge.

Multiple Aquifer Wells: The main goal in sealing wells that extend into more than one aquifer is to prevent the flow of groundwater from one aquifer to another. If no appreciable movement of water is encountered, and there is no threat of groundwater contamination, sealing with concrete, neat cement, grout, or alternating layers of these materials and aggregate will prove satisfactory. When groundwater velocities are high, the procedures for wells with artesian flow (see below) are recommended. If alternating plugs (or bridges) and aggregate layers are used, the plugs should be placed in known nonproductive horizons or, if locations of the nonproductive horizons are not known, at frequent intervals.

Flowing Wells: The sealing of artesian wells requires special attention. The flow of groundwater may be sufficient to make sealing by gravity placement of concrete, cement grout, neat cement, clay or sand impractical. In such wells, large stone aggregate (not more than 1/4 of the diameter of the hole), well packers (pneumatic or other), or wooden plugs will be needed to restrict the flow and thereby permit the gravity placement of sealing material above the zone where water is produced. If plugs are used, they should be several times longer than the diameter of the well to prevent tilting.

SOP 003 GENERAL SOIL DESCRIPTIONS AND CLASSIFICATIONS

DISCUSSION

Soil types may vary drastically at a site, and proper soil(s) identification can be essential to the completion of many projects. Monitoring well constructions and soil borings usually involve some sort of soil sampling. This sampling can be very useful toward determining potential contaminants, their concentrations, the extent of contaminant dispersion within the soil medium, likely routes of contaminant migration (including surface runoff), the threat to human health by ingestion (both directly as soil and/or uptake into food crops). Soil descriptions are also needed for the design of appropriate remedial strategies.

EQUIPMENT LIST

- Field notebook
- Permanent ink pen and marker
- Munsell color chart (as needed)
- PPE
- Grain-size charts (optional)

PREPARATION

Soils may be logged during soil boring or monitoring well installation and during surface soil or sediment sampling. Preparation for descriptions in each of these scenarios is described in their respective SOPs.

INSTRUCTIONS

- 1) All field samples should be described according to color, texture, type, and moisture condition and consistency or degree of compactness. The attached table is provided as an aid to making the proper soil identifications in the field.
- 2) Soil description should be recorded in the field logbook in accordance with the QAPP. In addition to the parameters listed above and those in the attached soil characteristics table, field personnel record the method of soil sampling and/or drilling methods used; sample depth, the recovery, total depth of the boring and reason for termination of the boring (e.g., per scope of work, refusal on bedrock, etc.), depth at which caving of the borehole occurs (if applicable); depth where water was encountered during soil boring (if applicable); depth of water at completion of soil boring; and difficulties encountered during the drilling process. Any observed indications of impacts such as discoloration, odors, or staining should also be

recorded. If field screening is being conducted, the results of field screening should also be conducted.

ADDITIONAL CONSIDERATIONS

In addition to the determination of potential contaminants in the soil matrix, selected samples may be analyzed for physical properties. This is often accomplished as an aid to engineering design. Such analyses are often for grain size, Atterberg limits, plasticity, in-situ permeability and moisture content. Proper description in the field can aid these laboratory determinations.

SOIL CHARACTERISTICS

COLOR	PARTICLE	SIZE (mm)	COMPOSITION	SHAPE/ SORTING	MODIFIERS	MOISTURE	CONSISTENCY	BLOWS per 6"	CHARACTERISTICS
Gray	Clay	< 0.002	Trace 1-10%	Well	Stratified	Dry	<u>CLAYS</u> Very Soft	2	Easily Squeezed
Brown	Silt	0.2 - 0.002	Little 11 - 25%	Poor	Laminated	Damp	Soft	2 - 4	Molded by light finger pressure.
Blueish	Sand	2.0 - 0.2	Some 26 - 40%	Flat	Fissured	Moist	Med. Stiff	4 - 8	Molded by strong finger pressure.
Yellowish	Gravel	20 - 2.0	And 41 - 50%	Elongated	Polished	Wet	Stiff	8 - 15	Can be indented by thumb.
Greenish	Cobbles	60 - 200		Angular	Blocky	Saturated	Very Stiff	15 - 30	Can be indented by thumbnail.
Reddish	Boulders	> 200		Subangular	Lensed		Hard	> 30	
Mottled				Subrounded	Weathered		<u>SANDS</u>		
Light				Rounded	Cemented		Very Loose	4	
Dark				Rough	Odor (Describe)		Loose	5 - 10	
				Smooth	Homogenous		Med. Dense	11 - 30	
					Heterogenous		Dense	31- 50	
					Plastic		Very Dense	> 50	

Soil Descriptions: Descriptions may include all or some of the items listed above. Order may be rearranged. Generally, the color, primary and secondary soil grain sizes, moisture content, and any odors, discoloration, or unusual features should be noted.

Example: Stiff, mottled grey-brown silty clay with trace of sand, damp, plastic, with slight petroleum-like odor.

SOP 004 GENERAL PROCEDURES FOR THE COLLECTION OF SURFACE SOIL SAMPLES WITH A SPADE AND A SCOOP

DISCUSSION

The simplest, most direct method of collecting shallow soil samples for subsequent analysis is with the use of a spade and scoop, a push core, or a hand auger.

EQUIPMENT LIST

- Pointed mason trowel (if needed)
- Laboratory-provided, pre-preserved sample containers
- Soil scoops, stainless steel trowels, hand augers, or push cores,
- Permanent ink pen and fine permanent (indelible) marker
- Cooler with ice (no blue ice or re-usable ice)
- Decontamination supplies (see SOP No. 007)
- Zip-top style sandwich bags
- Plastic garbage bags or plastic sheeting
- Folding or field-moveable table (optional)
- PPE
- Paper towels
- Photoionization detector (PID) if sampling for VOCs or TPH-GRO
- Field notebook

PREPARATION

- 1) Review the sampling plan or scope of work to determine the sampling strategy and to determine the exact equipment needed. Procure the appropriate number of sampling containers for each desired analyte group (e.g., volatile organic compounds, metals, etc.). Review hold times and plan travel and shipping times to the lab appropriately.
- 2) Identify the desired sample collection depth and sample types, and select the appropriate field technique for recovery of soil samples.
- 3) Ensure equipment is on-hand in sufficient quantities, and is in good working order. A cooler with capacity to hold all sample containers and sufficient ice is required; plan on using at least half of the cooler's capacity for ice.
- 4) Inspect sample containers for cracks and visually ensure that preservative is present in pre-preserved sample containers. Make sure that there is ice in the sample container cooler.

- 5) Label sample containers using laboratory-provided labels and indelible (permanent) ink. Sample labels should include spaces to record the site name, sample designation, sampler's initials, date and time of sample collection, the constituents to be analyzed, and preservative (if any).
- 6) Lay out decontamination equipment and ensure it is well clear of the sampling area. All re-useable sampling equipment should be decontaminated prior to use and between sampling locations (See SOP No. 007).
- 7) If samples are to be analyzed for the presence of volatile organic compounds (VOCs) or total petroleum hydrocarbons (TPH) gasoline range organics (GRO), review the additional analyte-specific sampling procedures identified at the end of this SOP.

INSTRUCTIONS

- 1) Carefully remove the top layer of soil to the desired sample depth with a clean spade.
- 2) Using a clean stainless steel scoop or trowel collect the desired quantity of soil.
- 3) Describe the soil samples or cores in accordance with SOP No. 003.
- 4) If soil samples are being collected for analysis of VOCs or TPH-GRO, follow the additional sampling procedures identified at the end of this SOP.
- 5) Put on a clean pair of gloves and collect soil samples into pre-labeled, laboratory provided containers. In general, sample containers should be completely filled and packed tight with soil. After packing the jar with soil, gently wipe the outside edge of the jar with a clean paper towel and screw the lid on tightly.
- 6) Record the time of sample collection on the sample container labels and double check other sample identification information.
- 7) Record the sample designation and location, time and date, depth interval, type of sample collection container(s), and laboratory analytes in the field notebook. The sample collection method should also be described briefly. Seal the sample jars inside of zip-top plastic bags and place the sample container into the sample cooler. Fill in sample information on the chain-of-custody form.
- 8) Complete all Chain-of-Custody documents and record in the field log book.
- 9) Decontaminate all equipment in accordance with SOP No. 007.

ADDITIONAL CONSIDERATIONS

Volatile Organic Compounds (VOCs) and Total Petroleum Hydrocarbons – Gasoline Range Organics (TPH-GRO) – Soil samples for analysis of VOCs will be collected using TerraCore® or EnCore® samplers in conjunction with USEPA method 5035. USEPA method 5035 requires the use of a disposable, fixed-volume soil grabber to collect soil into a series of

pre-preserved sample containers, sometimes known as a field-ready soil sampling kit. The sample containers typically include 40 milliliter volatile organic analysis (VOA) glass vials containing varying volumes of de-ionized (DI) water, methanol, and sodium bisulfate preservative and a small soil jar. Soil samples for analysis of VOCs should be collected quickly to prevent loss of volatiles. Whenever possible, soil samples for analysis of VOCs or TPH-GRO should be collected from undisturbed portions of the soil removed from the ground. If collecting soil samples for analysis of multiple analytes, collect soil for analysis of VOCs and/or TPH-GRO first.

A PID can be used to assess organic vapors in the field. Place a small amount of soil (representative of the sample interval) into a zip-top bag and seal. Without opening the bag, use your fingers to break up any clumps of soil. Allow the soil in the zip-top bag to rest for approximately 10 minutes. Poke a small hole through the side of the zip-top bag with the influent end of the PID or FID and collect organic vapor readings for approximately 5 to 10 seconds. Record the highest reading. Be careful that the tip of the PID or FID does not contact the soil or any condensate in the bag. Take care not to get particles of soil or condensation inside the influent tip of the PID; and allow soil to warm to approximately 70 degrees prior to collecting readings. It is recommended that this screening process is applied approximately every 2 feet along the vertical soil profile. The PID should be calibrated prior to use or any time that readings appear to be inconsistent or otherwise questionable with isobutylene gas and fresh air in accordance with the manufacturer's instructions.

To collect soil samples for VOC analysis using a TerraCore® kit, use the soil sampler included with the kit to collect soil into the disposable T-handle. Check to see that the soil has completely filled the disposable T-handle. Using a stainless steel spatula, scrape the soil even with the edge of the sampling device, hold the sampler over one of the sample collection vials, lift the plunger within large T-handle, turn plunger perpendicular to T-handle, and depress to expel the soil plug into the sample container. Immediately cap and seal the sample container. Repeat this procedure with each of the sample vials. If the soil fizzes upon contact with the preservative, make note of this on the chain-of-custody form. Fill the soil jar provided with the sample collection kit by packing soil tightly such that no air spaces are left, and completely filling the jar to the top edge. Seal the jar.

If the sampling plan calls for targeting the most impacted soil interval, using the PID readings to determine which soil sample(s) will be submitted to the laboratory for analysis. Remaining sample containers may be disposed with other investigation-derived wastes.

SOP 005 GENERAL PROCEDURES FOR THE COLLECTION OF DISCRETE SOIL SAMPLES

DISCUSSION

This standard operating procedure provides general direction and guidance in the collection of discrete soil samples for laboratory analysis. Soil samples may be collected using a variety of equipment including push cores, hand augers, split spoons, or other means. Soil samples may be collected from pre-determined depth intervals, or based on field observations, depending upon the purpose of the sampling. Target depth intervals should be determined prior to the start of sampling. Procedures for the collection of composite soil samples are provided in SOP No. 008.

EQUIPMENT LIST

- Laboratory-provided, pre-preserved sample containers
- Soil scoops, stainless steel trowels, hand augers, push cores, or drilling equipment
- Permanent ink pen and fine permanent (indelible) marker
- Cooler with ice (no blue ice or re-usable ice)
- Decontamination supplies (see SOP No. 007)
- Zip-top style sandwich bags
- Plastic garbage bags or plastic sheeting
- Folding or field-moveable table (optional)
- PPE
- Paper towels
- Photoionization detector (PID) if sampling for VOCs or TPH-GRO

PREPARATION

- 1) Review the sampling plan or scope of work to determine the sampling strategy and to determine the exact equipment needed. Procure the appropriate number of sampling containers for each desired analyte group (e.g., volatile organic compounds, metals, etc.). Review hold times and plan travel and shipping times to the lab appropriately.
- 2) Identify the desired sample collection depth and sample types, and select the appropriate field technique for recovery of soil samples.
- 3) Ensure equipment is on-hand in sufficient quantities, and is in good working order. A cooler with capacity to hold all sample containers and sufficient ice is required; plan on using at least half of the cooler's capacity for ice.

- 4) Inspect sample containers for cracks and visually ensure that preservative is present in pre-preserved sample containers. Make sure that there is ice in the sample container cooler.
- 5) Label sample containers using laboratory-provided labels and indelible (permanent) ink. Sample labels should include spaces to record the site name, sample designation, sampler's initials, date and time of sample collection, the constituents to be analyzed, and preservative (if any).
- 6) Lay out decontamination equipment and ensure it is well clear of the sampling area. All re-useable sampling equipment should be decontaminated prior to use and between sampling locations (See SOP No. 007).
- 7) If samples are to be analyzed for the presence of volatile organic compounds (VOCs) or total petroleum hydrocarbons (TPH) gasoline range organics (GRO), review the additional analyte-specific sampling procedures identified at the end of this SOP.

DISCRETE SOIL SAMPLE COLLECTION INSTRUCTIONS

- 1) Lay down plastic sheeting or plastic trash bags in the sample collection area to prevent surface soil from contacting sampling equipment and materials during the sample collection process. Clean plastic sheeting should be used for each new sample location. A folding table may also be used to improve the ergonomics associated with inspection of soil cores and collection of samples.
- 2) If continuous soil samples or soil cores are collected using direct push drilling, instruct the driller to cut the liner in half and lay the soil core on plastic sheeting placed on the ground or on a folding table to avoid cross-contamination. If samples are collected using a split spoon sampler, unscrew the nose cone of the sample and open the sampler on the clean plastic sheeting. If samples are collected using push cores or hand augers, gently empty the contents of the sampler onto the plastic sheeting. For soil samples collected from a test pit or excavation using a backhoe or similar equipment, collect soil for analysis directly from the center of the bucket, avoiding soil that has contacted the sampling equipment.
- 3) Describe the soil samples or cores in accordance with SOP No. 003.
- 4) If soil samples are being collected for analysis of VOCs or TPH-GRO, follow the additional sampling procedures identified at the end of this SOP.
- 5) Put on a clean pair of gloves and collect soil samples into pre-labeled, laboratory provided containers. In general, sample containers should be completely filled and packed tight with soil. After packing the jar with soil, gently wipe the outside edge of the jar with a clean paper towel and screw the lid on tightly.

- 6) Record the time of sample collection on the sample container labels and double check other sample identification information.
- 7) Record the sample designation and location, time and date, depth interval, type of sample collection container(s), and laboratory analytes in the field notebook. The sample collection method should also be described briefly. Seal the sample jars inside of zip-top plastic bags and place the sample container into the sample cooler. Fill in sample information on the chain-of-custody form.

ADDITIONAL CONSIDERATIONS

Volatile Organic Compounds (VOCs) and Total Petroleum Hydrocarbons – Gasoline Range Organics (TPH-GRO) – Soil samples for analysis of VOCs will be collected using TerraCore® or EnCore® samplers in conjunction with USEPA method 5035. USEPA method 5035 requires the use of a disposable, fixed-volume soil grabber to collect soil into a series of pre-preserved sample containers, sometimes known as a field-ready soil sampling kit. The sample containers typically include 40 milliliter volatile organic analysis (VOA) glass vials containing varying volumes of de-ionized (DI) water, methanol, and sodium bisulfate preservative and a small soil jar. Soil samples for analysis of VOCs should be collected quickly to prevent loss of volatiles. Whenever possible, soil samples for analysis of VOCs or TPH-GRO should be collected from undisturbed portions of the soil removed from the ground. If collecting soil samples for analysis of multiple analytes, collect soil for analysis of VOCs and/or TPH-GRO first.

A PID can be used to assess organic vapors in the field. Place a small amount of soil (representative of the sample interval) into a zip-top bag and seal. Without opening the bag, use your fingers to break up any clumps of soil. Allow the soil in the zip-top bag to rest for approximately 10 minutes. Poke a small hole through the side of the zip-top bag with the influent end of the PID or FID and collect organic vapor readings for approximately 5 to 10 seconds. Record the highest reading. Be careful that the tip of the PID or FID does not contact the soil or any condensate in the bag. Take care not to get particles of soil or condensation inside the influent tip of the PID; and allow soil to warm to approximately 70 degrees prior to collecting readings. It is recommended that this screening process is applied approximately every 2 feet along the vertical soil profile. The PID should be calibrated prior to use or any time that readings appear to be inconsistent or otherwise questionable with isobutylene gas and fresh air in accordance with the manufacturer's instructions.

To collect soil samples for VOC analysis using a TerraCore® kit, use the soil sampler included with the kit to collect soil into the disposable T-handle. Check to see that the soil has completely filled the disposable T-handle. Using a stainless steel spatula, scrape the soil even with the edge of the sampling device, hold the sampler over one of the sample collection vials, lift the plunger within large T-handle, turn plunger perpendicular to T-handle, and depress to

expel the soil plug into the sample container. Immediately cap and seal the sample container. Repeat this procedure with each of the sample vials. If the soil fizzes upon contact with the preservative, make note of this on the chain-of-custody form. Fill the soil jar provided with the sample collection kit by packing soil tightly such that no air spaces are left, and completely filling the jar to the top edge. Seal the jar.

If the sampling plan calls for targeting the most impacted soil interval, using the PID readings to determine which soil sample(s) will be submitted to the laboratory for analysis. Remaining sample containers may be disposed with other investigation-derived wastes.

SOP 006 GENERAL PROCEDURES FOR ASSEMBLING COMPOSITE SOIL OR SEDIMENT SAMPLES

DISCUSSION

This standard operating procedure provides general direction and guidance in the collection of composite soil or sediment samples for laboratory analysis. This method may also be used to collect composite sediment samples. Generally, composite soil samples are used to characterize a large area of soil, or used to characterize large volumes of soil prior to disposal. Collection of composite soil samples for analysis of volatile organic compounds (VOCs) or total petroleum hydrocarbons – gasoline range organics (TPH-GRO) is not recommended due to loss of volatiles.

EQUIPMENT LIST

- Laboratory-provided pre-preserved sample containers
- Soil scoops, stainless steel trowels, stainless steel bowls.
- Permanent ink pen and fine permanent (indelible) marker
- Cooler with ice (no blue ice or re-usable ice)
- Decontamination supplies
- Ziptop-style sandwich bags
- Plastic garbage bags or plastic sheeting
- PPE
- Paper towels

PREPARATION

- 1) Review the sampling plan or scope of work to determine the sampling strategy and the exact equipment needed. Procure the appropriate number of sampling containers for each desired analyte group (e.g., semi-volatile organic compounds, metals, etc.). Review hold times and plan travel and shipping times to the lab appropriately.
- 2) Identify the desired sample collection depth and sample types, and select the appropriate field technique for recovery of soil samples.
- 3) Ensure equipment is on-hand in sufficient quantities, and is in good working order. A cooler with capacity to hold all sample containers and sufficient ice is required; plan on using at least half of the cooler's capacity for ice.
- 4) Label sample containers with the sample ID, sampler's initials, analytes, date, and preservative. The sample collection time can be added following collection of the sample.

COMPOSITE SOIL SAMPLE COLLECTION INSTRUCTIONS

- 1) Spread plastic sheeting or a plastic garbage bag out to create a work area such that sampling equipment does not come into direct contact with the ground. All re-useable sampling equipment should be decontaminated prior to use and between samples in accordance with SOP No. 007.
- 2) Composite soil samples are generally created by thoroughly mixing 3 to 5 discrete soil samples. In general, the individual sub-samples which make up a composite soil sample should be collected according to the general soil or sediment sample collection procedures.
- 3) Each composite soil sample should be created using an equal number of subsamples collected in a consistent manner. For example, a single composite soil sample might be created by thoroughly mixing equal volume subsamples collected from a depth of 0 to 2 inches at each compass point of a 5-foot diameter circle centered on the sampling location.
- 4) To create the composite sample, add each of the equal-volume subsamples to a stainless steel bowl and mix thoroughly using a stainless steel spade or spatula. Remove any large sticks or stones, and be sure to crush any large clumps of soil.
- 5) Record a description of the soil in the field notebook.
- 6) Package the composite soil sample into an appropriate laboratory-provided container, cap the container tightly, record the sample time on the container label(s), and double check other information on the sample container(s). Seal the sample container inside of a zip-top bag and place inside of the sample cooler.
- 7) Record the sample location and designation, date and time, depth interval, type of container used and analyses to be conducted in the field notebook. Include a description of the sample collection technique. Fill in sample information on the chain-of-custody form.

SOP 007 EQUIPMENT CLEANING AND DECONTAMINATION

DISCUSSION

This decontamination procedure is to be used for re-useable sampling equipment constructed of glass, steel, stainless steel, plastic, or metal. Electronic field equipment, with the exception of interface probes or water level meters should be decontaminated according to manufacturer's instructions. Polyethylene or silicone tubing should not be re-used on multiple sample locations, but rather should be dedicated to a particular well or disposed following collection of a single sample.

EQUIPMENT LIST

- Clean buckets and spray bottles (or other clean containers)
- De-ionized, distilled, and tap water per the scope of work
- Non-phosphate detergent (i.e. Liquinox)
- Scrub brush or sponge
- PPE
- Paper towels
- Aluminum foil

INSTRUCTIONS

- 1) Using tap water and a stiff brush or cleaning sponge, remove gross soil or other material. Capture the wash water in a suitable container for proper disposal.
- 2) Wash the equipment with a stiff brush, non-phosphate detergent (such as Liquinox®), and tap water, capturing the wash water in a suitable container for proper disposal. Buckets or spray bottles may be used to pre-mix the detergent and tap water for ease of washing.
- 3) Rinse the equipment thoroughly with de-ionized water.
- 4) Rinse again with distilled water, de-ionized water, or organic-free water as appropriate, and air dry or dry with a clean paper towel.
- 5) If appropriate (e.g., for hand trowels), wrap the cleaned equipment in aluminum foil to keep it clean.
- 6) Record decontamination events in the field notebook, including the decontamination process and type of detergent used, and which equipment was decontaminated.

- 7) For large equipment, such as drilling equipment, steam cleaning may be appropriate. In this case, it may also be necessary to set up a decontamination pad to contain decontamination water.

ADDITIONAL CONSIDERATIONS

Sensitive Equipment - Many types of equipment, particularly groundwater sampling equipment, are sensitive to some types of detergent, and may be too delicate to decontaminate using a brush or sponge. Read manufacturer's directions for decontamination prior to attempting to decontaminate water quality meters and similar sensitive equipment.

SOP 008 WASTE HANDLING PROCEDURES

DISCUSSION

The objective of this standard operating procedure is to establish consistent methods to handle and manage all Investigation-Derived Waste (IDW), including:

- Hazardous and non-hazardous solid waste materials (e.g., soil cuttings, contaminated debris or equipment).
- Hazardous and non-hazardous liquid waste materials (e.g., purge water, rinse water from decontamination, product removal).
- Personal Protective Equipment (e.g., gloves, spent respirator cartridges, chemical resistant coveralls).

This SOP provides procedures and standards that are in addition to applicable regulatory requirements and industry standards.

EQUIPMENT LIST

- Containers for waste (e.g., 55-gallon drums) and material to cover waste to protect from weather (e.g., plastic covering)
- Equipment (i.e., pumps, generators, water/interface level indicators, safety monitoring equipment)
- Hazardous /non-hazardous waste drum labels (weatherproof)
- Permanent marking pens
- Inventory forms for project file
- Plastic garbage bags, zip lock storage bags, roll of plastic sheeting
- PPE

INSTRUCTIONS

Labeling

- 1) Containers used to store IDW must be properly labeled. Two general conditions exist: 1) from previous studies or on-site data, waste characteristics are known to be either hazardous or nonhazardous; or 2) waste characteristics are unknown until additional data are obtained.
- 2) Known hazardous, non-hazardous, and unknown wastes should not be mixed together in the same containers.

- 3) For situations where the waste characteristics are known, the waste containers should be packaged and labeled in accordance with state and federal regulations that may govern the labeling of waste.
- 4) The following information shall be placed on all non-hazardous waste labels:
 - a. Description of waste (i.e., purge water, soil cuttings);
 - b. Contact information (i.e., contact name and telephone number);
 - c. Date when the waste was first accumulated.
 - d. Specific location where waste was generated, if appropriate (e.g., boring ID, well ID, excavation ID).
- 5) The following information shall be placed on all hazardous waste labels:
 - a. Description of waste (i.e., purge water, soil cuttings);
 - b. Generator information (i.e., name, address, contact telephone number);
 - c. EPA identification number (supplied by on-site client representative);
 - d. Date when the waste was first accumulated.
 - e. Specific location where waste was generated, if appropriate (e.g., boring ID, well ID, excavation ID).
- 6) When the final characterization of a waste is unknown, a notification label should be placed on the drum with the words "waste characterization pending analysis" and the following information included on the label:
 - a. Description of waste (i.e., purge water, soil cuttings);
 - b. Contact information (i.e., contact name and telephone number);
 - c. Date when the waste was first accumulated.
 - d. Specific location where waste was generated, if appropriate (e.g., boring ID, well ID, excavation ID).
- 7) Once the waste has been characterized, the label should be changed as appropriate for a nonhazardous or hazardous waste.
- 8) Waste labels should be constructed of a weatherproof material and filled out with a permanent marker to prevent being washed off or becoming faded by sunlight. It is recommended that waste labels be placed on the side of the container, since the top is more subject to weathering. However, when multiple containers are accumulated together, it also may be helpful to include labels on the top of the containers to facilitate organization and disposal.

- 9) Each container of waste generated shall be recorded in the field notebook used by the person responsible for labeling the waste. After the waste is disposed of, either by transportation off-site or disposal on-site in an approved disposal area, an appropriate record shall be made in the same field notebook to document proper disposition of IDW.
 - a. Covers should be included on the containers and must be secured at all times and only open during filling activities. The containers shall be labeled in accordance with this SOP. An inventory containing the source, volume, and description of material put in the containers shall be logged on prescribed forms and kept in the project file.

Personal Protective Equipment (PPE)

- 10) PPE that is generated throughout investigation activities shall be placed in plastic garbage bags. If the solid or liquid waste that was being handled is characterized as hazardous waste, then the corresponding PPE should also be disposed as hazardous waste. If not, all PPE should be disposed as non-hazardous waste in the designated on-site landfill. Trash that is generated as part of field activities may be disposed of in the landfill as long as the trash was not exposed to hazardous media.

Waste Accumulated On-Site

- 11) Solid, liquid, or PPE waste generated during investigation activities that are classified as hazardous shall not be accumulated on-site longer than 90 days. All hazardous waste containers shall be stored in a secured storage area. The following requirements for the hazardous waste storage area must be implemented:
 - a. Proper hazardous waste signs shall be posted as required by any state or federal statutes that may govern the labeling of waste;
 - b. Secondary containment to contain spills;
 - c. Spill containment equipment must be available;
 - d. A fire extinguisher must be available;
 - e. Adequate aisle space for unobstructed movement of personnel.
- 12) Weekly storage area inspections shall be performed and documented to ensure compliance with these requirements. Throughout the project, an inventory shall be maintained to itemize the type and quantity of the waste generated.

Waste Disposal

- 13) Solid, liquid, and PPE waste will be characterized for disposal through the use of client knowledge, laboratory analytical data created from soil or groundwater samples gathered during the field activities, and/or composite samples from individual containers.

- 14) All waste generated during field activities will be stored, transported, and disposed of according to applicable state, federal, and local regulations. All wastes classified as hazardous will be disposed of at a licensed treatment storage and disposal facility or managed in other approved manners.
- 15) In general, waste disposal should be carefully coordinated with the facility receiving the waste. Facilities receiving waste have specific requirements that vary even for non-hazardous waste, so characterization should be conducted to support both applicable regulations and facility requirements.

Waste Transport

- 16) A certified hazardous waste hauler shall transport all wastes classified as hazardous. Typically, the facility receiving any waste can coordinate a hauler to transport the waste. Shipped hazardous waste shall be disposed of in accordance with all RCRA/USEPA requirements. All waste manifests or bills of lading will be signed either by the client or the client's designee, which can in special circumstances be the project manager if acting as an authorized agent for the client.

SOP 009 FIELD RECORDS

DISCUSSION

An important component of field investigations is the proper documentation of activities, observations, field measurements, calibration verification, etc. The following section is intended to give direction as to what the physical nature of a field record should be, suggestions for content and management and eventual disposition of records.

EQUIPMENT LIST

- Field notebook
- Permanent ink pen and marker
- Appropriate site maps or drawings.
- Watch, cell phone, or other time-keeping device

INSTRUCTIONS

For all field activities, you must

- 1) Field logbooks should be hard-bound, containing sequentially numbered pages and should be dedicated to the project.
- 2) Store the field logbook in the vehicle only when in the field; otherwise store it in the office.
- 3) Never keep personal records as opposed to "official" records.
- 4) Never give your field logbook to anyone (NOTE: You may, however, have to provide it and copies to regulatory representatives).
- 5) All entries should be made using non-erasable waterproof ink.
- 6) Once generated, field logbooks should not be discarded or replaced.
- 7) Pages should never be torn out of field logbooks.
- 8) All errors should be corrected by crossing out the mistake with a single line. The correction should then be dated and initialed by the person correcting the error.
- 9) All entries should be direct and succinct. Do not speculate.
- 10) One field logbook per site is preferred; however, several logbooks may be needed for each piece of field analytical equipment (e.g., pH, DO, HNu, CGI, conductivity) or field personnel.
- 11) Photocopy or scan each days log as a back-up.

Field Logbook Entry Requirements

Field Logbook Entries must include, when appropriate:

- 1) Date and time of entry
- 2) Weather conditions
- 3) Purpose and description of field activities
- 4) Name and address of field personnel and all other personnel on-site
- 5) Descriptions of any on-site meetings or field-related phone calls with the project manager
- 6) Descriptions of any conversations with regulatory personnel
- 7) Results of all field screening or field measurements
- 8) Results of any site inspections
- 9) For investigation-derived waste:
 - a. producer of waste and address (e.g., drum labels)
 - b. type of process producing waste
 - c. type of waste (sludge, soil, wastewater, locate sample site, photos, etc.)
 - d. waste components and concentrations
- 10) Sketch of site - use to make base maps, locate sample site, photos, etc.
- 11) For sample collection
 - a. Method of sample collection
 - b. Sample location and ID
 - c. Date and time of sample collection
 - d. Description of sample(s) including sample ID(s), depth of sample (if appropriate), number of samples collected, type of container, and analytes.
- 12) Results of field screening
- 13) Soil boring logs and soil/sediment descriptions
- 14) Well construction information
- 15) Site sketches, including references to maps or figures
- 16) Other pertinent field observations
- 17) Modifications or exceptions to the scope of work

- 18) Information regarding any health and safety incidents
- 19) Technical comments appropriate to the site activities
- 20) A description of all wastes generated at the site

SOP 010 CHAIN OF CUSTODY PROCEDURES

DISCUSSION

Possession of samples must be traceable from container storage, sample collection, transportation, and laboratory receipt to and through lab handling. To maintain and document sample possession, follow the Chain-of-Custody (COC) procedures summarized in this SOP.

A sample is under custody if:

- it is in your possession, or
- it is in your view, after being in your possession, or
- it was in your possession and you locked it up, or
- it is in a designated secure area.

EQUIPMENT LIST

- Chain-of-Custody (COC) for appropriate laboratory
- Ball point pen
- Sample cooler or other shipment container
- Chain of custody seals and labels
- Packing tape

PREPARATION

FIELD CUSTODY PROCEDURES

- 1) Obtain appropriate containers for the collection and transport of samples (e.g. from locked storeroom or laboratory).
- 2) The field sampler is personally responsible for the care and custody of the sample containers and samples until they are properly transferred or dispatched to the custody of another approved entity.
- 3) The field sampler is personally responsible for generating the COC form as samples are collected.
- 4) Sample labels/tags must be completed for each sample using waterproof ink, unless prohibited (notation required).

- 5) The lead investigator or field operations manager determines whether proper custody procedures were followed and if additional samples are required.
- 6) Organize all samples and be sure the samples collected are all present with the appropriate labels

INSTRUCTIONS

Transfer of Custody and Shipment

- 1) All samples are to be accompanied by COC record. All sections must be completed at the time of sample collection.
- 2) When transferring possession, individuals relinquishing and receiving will sign, date, and note the military time on the record.
- 3) The original COC form shall stay with the receiver and a copy (whenever possible) should be retained by the relinquisher.
- 4) Samples will be packaged properly for shipment and dispatched to the appropriate lab for analysis with a separate COC for each shipment. The containers may need to be sealed/locked in some cases (see Custody Seals). The method of shipment, courier name(s), and other pertinent information is entered in the "Remarks" section of the COC form.

Split Samples

- 5) Whenever samples are split with a source or government agency, a separate Receipt for Samples form shall be prepared for those samples and marked to indicate with whom the samples are being split. The person relinquishing the samples to the facility or agency should request the signature of a representative of the appropriate party acknowledging receipt of the samples. If a representative is unavailable or refuses to sign, this shall be noted in the "Received by" space of the COC form. When appropriate, as in the case where the representative is unavailable, the custody record shall contain a statement that the samples were delivered to the designated location at the designated time.

Laboratory Custody Procedures

- 6) A designated sample custodian shall accept custody of the shipped samples and verify that the information on the sample tags matches those on the COC records.
- 7) Pertinent information as to shipment, pickup, courier, etc., entered in the "Remarks" section.
- 8) The custodian should enter the sample tag data into a bound logbook per laboratory procedures.

- 14) All waste generated during field activities will be stored, transported, and disposed of according to applicable state, federal, and local regulations. All wastes classified as hazardous will be disposed of at a licensed treatment storage and disposal facility or managed in other approved manners.
- 15) In general, waste disposal should be carefully coordinated with the facility receiving the waste. Facilities receiving waste have specific requirements that vary even for non-hazardous waste, so characterization should be conducted to support both applicable regulations and facility requirements.

Waste Transport

- 16) A certified hazardous waste hauler shall transport all wastes classified as hazardous. Typically, the facility receiving any waste can coordinate a hauler to transport the waste. Shipped hazardous waste shall be disposed of in accordance with all RCRA/USEPA requirements. All waste manifests or bills of lading will be signed either by the client or the client's designee, which can in special circumstances be the project manager if acting as an authorized agent for the client.

SOP 009 FIELD RECORDS

DISCUSSION

An important component of field investigations is the proper documentation of activities, observations, field measurements, calibration verification, etc. The following section is intended to give direction as to what the physical nature of a field record should be, suggestions for content and management and eventual disposition of records.

EQUIPMENT LIST

- Field notebook
- Permanent ink pen and marker
- Appropriate site maps or drawings.
- Watch, cell phone, or other time-keeping device

INSTRUCTIONS

For all field activities, you must

- 1) Field logbooks should be hard-bound, containing sequentially numbered pages and should be dedicated to the project.
- 2) Store the field logbook in the vehicle only when in the field; otherwise store it in the office.
- 3) Never keep personal records as opposed to "official" records.
- 4) Never give your field logbook to anyone (NOTE: You may, however, have to provide it and copies to regulatory representatives).
- 5) All entries should be made using non-erasable waterproof ink.
- 6) Once generated, field logbooks should not be discarded or replaced.
- 7) Pages should never be torn out of field logbooks.
- 8) All errors should be corrected by crossing out the mistake with a single line. The correction should then be dated and initialed by the person correcting the error.
- 9) All entries should be direct and succinct. Do not speculate.
- 10) One field logbook per site is preferred; however, several logbooks may be needed for each piece of field analytical equipment (e.g., pH, DO, HNu, CGI, conductivity) or field personnel.
- 11) Photocopy or scan each days log as a back-up.

Field Logbook Entry Requirements

Field Logbook Entries must include, when appropriate:

- 1) Date and time of entry
- 2) Weather conditions
- 3) Purpose and description of field activities
- 4) Name and address of field personnel and all other personnel on-site
- 5) Descriptions of any on-site meetings or field-related phone calls with the project manager
- 6) Descriptions of any conversations with regulatory personnel
- 7) Results of all field screening or field measurements
- 8) Results of any site inspections
- 9) For investigation-derived waste:
 - a. producer of waste and address (e.g., drum labels)
 - b. type of process producing waste
 - c. type of waste (sludge, soil, wastewater, locate sample site, photos, etc.)
 - d. waste components and concentrations
- 10) Sketch of site - use to make base maps, locate sample site, photos, etc.
- 11) For sample collection
 - a. Method of sample collection
 - b. Sample location and ID
 - c. Date and time of sample collection
 - d. Description of sample(s) including sample ID(s), depth of sample (if appropriate), number of samples collected, type of container, and analytes.
- 12) Results of field screening
- 13) Soil boring logs and soil/sediment descriptions
- 14) Well construction information
- 15) Site sketches, including references to maps or figures
- 16) Other pertinent field observations
- 17) Modifications or exceptions to the scope of work

- 18) Information regarding any health and safety incidents
- 19) Technical comments appropriate to the site activities
- 20) A description of all wastes generated at the site

SOP 010 CHAIN OF CUSTODY PROCEDURES

DISCUSSION

Possession of samples must be traceable from container storage, sample collection, transportation, and laboratory receipt to and through lab handling. To maintain and document sample possession, follow the Chain-of-Custody (COC) procedures summarized in this SOP.

A sample is under custody if:

- it is in your possession, or
- it is in your view, after being in your possession, or
- it was in your possession and you locked it up, or
- it is in a designated secure area.

EQUIPMENT LIST

- Chain-of-Custody (COC) for appropriate laboratory
- Ball point pen
- Sample cooler or other shipment container
- Chain of custody seals and labels
- Packing tape

PREPARATION

FIELD CUSTODY PROCEDURES

- 1) Obtain appropriate containers for the collection and transport of samples (e.g. from locked storeroom or laboratory).
- 2) The field sampler is personally responsible for the care and custody of the sample containers and samples until they are properly transferred or dispatched to the custody of another approved entity.
- 3) The field sampler is personally responsible for generating the COC form as samples are collected.
- 4) Sample labels/tags must be completed for each sample using waterproof ink, unless prohibited (notation required).

- 5) The lead investigator or field operations manager determines whether proper custody procedures were followed and if additional samples are required.
- 6) Organize all samples and be sure the samples collected are all present with the appropriate labels

INSTRUCTIONS

Transfer of Custody and Shipment

- 1) All samples are to be accompanied by COC record. All sections must be completed at the time of sample collection.
- 2) When transferring possession, individuals relinquishing and receiving will sign, date, and note the military time on the record.
- 3) The original COC form shall stay with the receiver and a copy (whenever possible) should be retained by the relinquisher.
- 4) Samples will be packaged properly for shipment and dispatched to the appropriate lab for analysis with a separate COC for each shipment. The containers may need to be sealed/locked in some cases (see Custody Seals). The method of shipment, courier name(s), and other pertinent information is entered in the "Remarks" section of the COC form.

Split Samples

- 5) Whenever samples are split with a source or government agency, a separate Receipt for Samples form shall be prepared for those samples and marked to indicate with whom the samples are being split. The person relinquishing the samples to the facility or agency should request the signature of a representative of the appropriate party acknowledging receipt of the samples. If a representative is unavailable or refuses to sign, this shall be noted in the "Received by" space of the COC form. When appropriate, as in the case where the representative is unavailable, the custody record shall contain a statement that the samples were delivered to the designated location at the designated time.

Laboratory Custody Procedures

- 6) A designated sample custodian shall accept custody of the shipped samples and verify that the information on the sample tags matches those on the COC records.
- 7) Pertinent information as to shipment, pickup, courier, etc., entered in the "Remarks" section.
- 8) The custodian should enter the sample tag data into a bound logbook per laboratory procedures.

SOP 011 SAMPLE PACKAGING AND SHIPMENT

DISCUSSION

This standard operating procedure is intended to provide general guidance for the shipment of samples to the laboratory for analysis.

EQUIPMENT LIST

- PPE
- Permanent (indelible) ink pen and marker
- Plastic or metal hard-sided cooler(s)
- Bubble wrap
- Water-based, cubed ice
- Zip-top-style sandwich bags (closable)
- Plastic garbage bags
- Paper towels
- Clear packaging tape
- Chain of custody seals
- Shipping address

PREPARATION

- 1) Review the sampling plan or scope of work and note the number of samples required, their preservation requirements, hold times, and duration of sampling field event.
- 2) Ensure sufficient cooler capacity is on hand for sample shipment. In general, sufficient ice for the cooling of samples will use half of available cooler space; in extreme temperature, or if long transit times are anticipated, more ice will be needed. In general, overnight shipping is highly recommended for any samples requiring cold preservation. Certain types of samples (e.g., hexavalent chromium in water) may have extremely short hold times; for these samples, it is desirable to either drop off the samples at, or have the samples delivered by courier to a qualified laboratory immediately following sampling. Multiple shipments may be necessary if short hold times or a multi-day sampling event are anticipated.
- 3) Prior to mobilizing for the field event, check with the laboratory and/or project manager for constituent-specific or special considerations when packing and shipping samples.

- 9) Lab custodian will use the sample tag number or assign a unique number to each tag and assume that all samples are transferred to the proper analyst or stored in the appropriate secure area.
- 10) Lab personnel are responsible for the care and custody of the samples from the time they are received until the sample has been exhausted or returned to the custodian.
- 11) When analyses and necessary QA checks have been completed the unused portion of the sample must be disposed of properly. All identifying data sheets and lab records shall be retained as part of the permanent documentation. Samples will be retained until after analyses and QA checks are completed.

Custody Seals

- 12) Custody seals may be specified by the client and/or regulatory agency but are not a standard requirement. Possible methods are padlocks, serially numbered seals, unnumbered seals, and evidence tape. Where appropriate numbers should be cross-referenced between field notebook and COC form(s). If unnumbered or evidence tape, it should be signed and dated by the field sampler.
- 13) When samples are shipped, two or more seals are placed on each shipping container (such as a cooler), with at least one at the front and one at the back, located in a manner that would indicate if the container were opened in transit. Wide, clear tape should be placed over the seals to ensure that seals are not accidentally broken during shipment. Nylon packaging tape may be used providing that it does not completely cover the custody seal. Completely covering the seal with this tape may allow the label to be peeled off. Alternatively, evidence tape may be substituted for custody seals.
- 14) If samples are subject to interim storage before shipment, custody seals or evidence tape may be placed over the lid of the jar or across the opening of the storage box. Custody during shipping would be the same as described above. Evidence tape may also be used to seal the plastic bags or metal cans that are used to contain samples in the cooler or shipping container. Sealing individual sample containers assures that sample integrity will not be compromised if the outer container seals are accidentally broken.

SAMPLE PACKAGING AND SHIPPING INSTRUCTIONS FOR SAMPLES NOT REQUIRING COLD PRESERVATION

- 1) If samples do not require cold preservation, they do not require the addition of ice, and may be shipped in a cardboard box. The samples should be adequately protected by packaging with bubble wrap, crushed newspaper, or other appropriate material.
- 2) Complete the entire chain of custody form, double-checking sample identifiers, analytical requests, and contact information. Sign the chain of custody form and remove the duplicate copy (if applicable). Place chain of custody in a zip-top bag and place it inside of the box.
- 3) If applicable, sign the chain of custody seals and affix them across the box seals to ensure a tamper-proof seal.
- 4) Use clear packing tap or shipping tape to seal the box by wrapping completely around the box and across the seals. Depending upon the weight of the sample containers, it is recommended that the tape be completely wrapped around the box 2 to 3 times.
- 5) It is recommended that the sampler follow up with the laboratory to ensure that the samples arrived intact and on-time.

SAMPLE PACKAGING AND SHIPPING INSTRUCTIONS FOR SAMPLES REQUIRING COLD PRESERVATION

- 1) Line the cooler with bubble wrap, foam, or other similar material, including the bottom and sides of the cooler. Following the bubble wrap, line the cooler with a double layer of plastic garbage bags, openings facing up.
- 2) When using glass bottleware, wrap each bottle with bubble wrap or place inside the included foam container. Plastic bottleware does not require bubble wrap. It is recommended that clean nitrile gloves be worn when handling samples.
- 3) Soil jars should be sealed inside zip-top bags to prevent cross-contamination from melting ice or broken water containers.
- 4) Place a plastic garbage bag in the bottom of the cooler and fill with sufficient ice to fill the cooler about 1/3 of the way, twist the bag closed and secure with a twist tie or tape.
- 5) Place bottleware upright in the sample cooler on top of the layer of ice. Glass sample containers should be wrapped individually in bubble wrap or foam to prevent them from breaking. If there remains space between the sample containers and the sides of the cooler, add additional bubble wrap to ensure a tight fit.
- 6) Fill a second plastic garbage bag with ice and place on top of sample containers. Twist the bag closed and secure with a twist tie or tape. Add additional bubble wrap on top of the ice such that the cooler is packed tightly.
- 7) Complete the entire chain of custody form, double-checking sample identifiers, analytical requests, and contact information. Sign the chain of custody form and remove the duplicate copy (if applicable). Place chain of custody in a zip-top bag and place it on top of the trash bags in the cooler, or tape to the underside of the lid.
- 8) If applicable, sign the chain of custody seal and affix it across the seal between the cooler lid and the cooler body to ensure a tamper-proof seal.
- 9) Use clear packing tape or shipping tape to seal the cooler around the edge of the lid (where the lid of the cooler meets the body) and around the outside of the cooler to ensure the lid will not open during shipment; it is recommended that the tape be wrapped completely around the cooler (top to bottom) three times on each side.
- 10) If possible, label the cooler 'fragile' and with 'this end up' arrows to ensure proper handling by the shipping company or courier. Always ship samples on a 24-hour or less timetable to ensure prompt sample receiving by the laboratory. Ship within two hours of packing, if possible.
- 11) It is recommended that the sampler follow up with the laboratory to ensure that the samples arrived intact and on-time.

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Adams Co
Miller Chem & Fertilizer LLC

Prepared for:
Miller Chemical & Fertilizer, LLC
Hanover, Pennsylvania
and
Pennsylvania Department of Environmental Protection

Prepared by:
Ramboll Environ US Corporation
Arlington, Virginia & Princeton, New Jersey

Date
May 2016

Project Number
01-137782A

MILLER CHEMICAL & FERTILIZER, LLC
170 RADIO ROAD
HANOVER, PENNSYLVANIA
ACT 2 GROUNDWATER SAMPLING AND ANALYSIS
PLAN

ACT 2 GROUNDWATER SAMPLING AND ANALYSIS PLAN

Revision **0**
Date **5/31/2016**
Prepared by **Christopher Bowles**
Checked by **Sarah Stoneking**
Approved by **J. Mark Nielsen**
Description **Act 2 Groundwater Sampling and Analysis Plan**

Ref 01-137782A

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TABLES

Table 1: Appropriate Bottles and Hold Times for Analytical Methods

FIGURES

Figure 1-1: Miller Chemical and Fertilizer, LLC 1-Mile Radius

Figure 1-2: Visibly Affected Areas

Figure 2-1: Proposed Groundwater Monitoring Wells

APPENDICES

Appendix A: Standard Operating Procedures

1. INTRODUCTION

Ramboll Environ US Corporation (Ramboll Environ) has prepared this Act 2 Groundwater Sampling and Analysis Plan (SAP) to evaluate potential impacts to groundwater resulting from the fire event which occurred on June 8, 2015 at the Miller Chemical & Fertilizer, LLC (Miller Chemical) facility located at 170 Radio Road in Hanover, Pennsylvania (the "Miller site" or the "Miller facility") (Figure 1-1). This SAP was prepared as discussed with the Pennsylvania Department of Environmental Protection (PADEP) and in accordance with the Pennsylvania Land Recycling Program (Act 2) Guidance Manual (PADEP, 2002) to document the proposed approach for investigation and characterization of groundwater quality at the Miller site and at downgradient properties affected by the fire response activities. The objectives of the proposed groundwater investigation activities are to determine the presence or absence of groundwater impacts resulting from the fire and subsequent fire response activities and, if present, to characterize the nature and extent of groundwater impacts.

The activities proposed herein are intended to provide an initial site characterization of groundwater conditions. If additional groundwater investigation activities are determined to be necessary, Ramboll Environ will prepare an addendum to this SAP describing the proposed additional activities for submittal to PADEP. Soil impacts at individual off-site properties have been evaluated under a separate SAP, and Notices of Intent to Remediation (NIRs) for the soil impacts have been submitted for each individual off-site property.

1.1 Site Setting

The Miller Chemical facility is located at 120, 150, and 170 Radio Road in Hanover, Conewago Township, Adams County, Pennsylvania and is approximately 13-acres in size. The Miller Chemical property was first developed in the late 1930s as a fertilizer manufacturing facility and was operated by Union Fertilizer from the late 1930s until the mid-1940s as a fertilizer manufacturing facility. The property was acquired by Miller Chemical and Fertilizer Corporation in the mid-1940s and was operated by Miller Chemical and Fertilizer Corporation for fertilizer and pesticide formulation. By the early 1990s, the facility began shifting operations to fertilizer blending, and pesticide handling was limited to repackaging until 1995 when all pesticide handling operations ceased. Miller Chemical & Fertilizer, LLC acquired the Miller Chemical property and the assets of the business in 2014 and operated the facility for the formulation and packaging of fertilizers.

At the time of the fire, the Miller Chemical property was developed with an approximately 96,000-square foot main warehouse and manufacturing building, which was located in the center of the property (170 Radio Road), and three smaller buildings used for administrative activities (120 Radio Road), and for maintenance and document storage (150 Radio Road). The former main building was mostly destroyed during the fire, and construction of a new building, within the same footprint, is nearing completion.

The areas surrounding the current and former buildings are landscaped with grass and other vegetation. A storm water retention pond is located northeast of the former building and connects to a storm water ditch located along the northern edge of the Miller Chemical

property.¹ In addition, at the time of preparation of this SAP, a new storm water pond is undergoing construction in the northwest corner of the property. Ramboll Environ notes that groundwater sampling activities on-site will be conducted after substantial surface grading and site improvement activities are completed.

1.2 History of Events

At approximately 3:30 am on Monday, June 8, 2015, emergency responders were alerted to a fire at the Miller Chemical warehouse and manufacturing building. No one was inside the building at the time and no injuries occurred while fighting the fire. Firefighters applied a large volume of water to extinguish the fire, as well as firefighting foam confirmed to be Universal Gold Alcohol Resistant Aqueous Film Forming Foam. A heavy rainfall occurred during the fire. Despite efforts to contain firefighting water and rainwater in the Miller Chemical property's retention pond and a series of connected pits excavated on the northwestern portion of the Miller Chemical property during the fire, runoff from firefighting activities traveled across several off-site properties towards Slagle's Run north of the Miller Chemical property (Figure 1-2). The majority of the water flowed across the Miller Chemical property to a ditch running east-west along the north side of the Miller Chemical property, with a portion of the water flowing across the Miller Property to a ditch running south-north along the west side of the property. Water in both ditches flowed to the northwest corner of the Miller Chemical property and through a culvert beneath Radio Road into the southwest corner of the Metropolitan Edison Company (Met-Ed) North Hanover Substation property. During the early firefighting efforts, water also appears to have overtopped the drainage ditch on the Miller Chemical property and flowed across Radio Road onto the southwestern portion of the Met-Ed property. From the Met-Ed property, most water flowed through a corrugated metal drainage pipe beneath the CSX Transportation (CSX) rail tracks and into a wetland on the Bare Development Property to the west. The wetland on the Bare Development property drains into a dry ditch (referred to as the "dry creek"), which flows north across the Bare Development and Whisler properties and drains to Slagle's Run. A small portion of fire water flowed north along the east side of the CSX rail tracks to the Family First Health Corporation property.

Subsequent to the fire, surface water and storm water runoff generated at the Miller Chemical property was pumped into a number of above ground storage containers (i.e., frac tanks) located at the Miller Chemical property. In the days after the fire, in an effort to control additional storm water runoff from reaching Slagle's Run, several trenches and pits were excavated within the adjacent agricultural fields near Slagle's Run; these pits have since been filled. In addition, a 1-million-gallon water holding tank (the "pool") was constructed on the adjacent Bare Development parcel to increase storm water runoff holding capacity. Water was pumped into the pool from the surrounding pits and drainage areas. A number of berms and other storm water diversions were also placed on the Miller Chemical property and on the agricultural parcels to reduce the flow of storm water from upgradient properties onto the Miller Chemical property and affected properties and to separate storm water from visibly affected areas and unaffected areas.

¹ These observations are current as of May 2016. Ramboll Environ notes that reconstruction activities are ongoing at the Miller Chemical property, thus site conditions are changing daily. Substantial reconstruction activities will be completed prior to groundwater sampling.

1.3 Site and Surrounding Area Geology/Hydrogeology

The site is located within the southwestern portion of the Piedmont Lowland Section of the Piedmont Province. The Piedmont Lowland Section consists of valleys separated by broad, low hills (Sevon, 2000). The rock is complexly folded and faulted and dominantly consists of limestone and dolomite with some shale and sandstone. The Conestoga Limestone crops out within the site vicinity. This formation consists of thinly-bedded, dark-gray limestone with some shale. Underlying the limestone is black to dark-gray shale and limestone, which may be over 1,000 feet in thickness (Taylor & Royer, 1981).

Within the Piedmont Lowland Section of the Piedmont Province, shallow groundwater commonly follows topography, while deeper groundwater, within fractured bedrock, may exhibit more complex flow patterns. The median depth of drilled domestic water wells in Adam's County is 329 feet below ground surface. Depths to water within the Conestoga Limestone vary greatly; the median depth to groundwater for Adam's County is 20 feet below ground surface (Low et al., 2002). Dewatering activities associated with a limestone quarry located approximately 1.9 miles northwest of the Miller Chemical property reportedly results in radial flow of ground water towards the quarry basin (Low et al., 2002).

Based on observations made by Ramboll Environ during the Act 2 soil sampling activities in 2015, soils are generally characterized as a silty clay with trace to little sand and trace gravel. During the installation of several borings on the agricultural parcels, weathered bedrock was encountered at depths ranging from approximately 3 to 8 feet below ground surface. In some cases, a potential perched groundwater layer was encountered prior to refusal.

1.4 Groundwater Use

Potable water is provided to the Miller Chemical site and surrounding properties by Hanover Municipal Water Works, which obtains drinking water from intakes located at Sheppard Myers Dam, Lawrence B Sheppard Dam, and Kitzmiller Dam, and from a seasonal intake on Slagle's Run. To evaluate groundwater use at properties in the vicinity of the site, Ramboll Environ conducted a water well search in June 2015 that was subsequently updated in February 2016. The water well survey identified 15 withdrawal water wells (commercial, domestic, industrial, and/or agricultural) and 64 other types of wells (monitoring, observation, injection, mine, test, unused) within a 1-mile radius of the Miller Chemical property (Figure 2-1); the nearest domestic water well was identified approximately 2,000 feet east of the Miller Chemical property. In addition, a nearby land owner noted that a spring is located in the vicinity of a residence on the Whisler Property, approximately 2,600 feet west of the dry creek.

In the future, it is expected that the water will continue to be provided to the site and surrounding parcels by Hanover Municipal Water Works. However, Ramboll Environ did not identify local ordinances that would restrict the future installation of potable or non-potable wells at or in the vicinity of the site; as such, the future use of groundwater as a drinking water source cannot be ruled out.

2. PROPOSED SCOPE OF WORK

The proposed scope of work includes the installation of monitoring wells and the collection and analysis of groundwater samples from these newly installed shallow monitoring wells to support an evaluation of potential impacts to site and surrounding area groundwater resulting from the fire at the Miller Chemical site and fire response activities. Ramboll Environ standard operating procedures (SOPs) for field activities are included as Appendix A to this SAP, which are consistent with PADEP's *Groundwater Monitoring Guidance Manual* (PADEP, 2001).

2.1 Field Preparation and Planning

2.1.1 Site Safety

A site specific Health and Safety Plan (HASP) has been prepared to address health and safety issues associated with environmental sampling. The sampling activities proposed in this plan will be completed in accordance with the requirements of the site-specific HASP.

2.1.2 Utility Clearance

Prior to beginning groundwater monitoring well installation, Ramboll Environ will request a public utility mark out through the Pennsylvania One Call system and will also conduct a private geophysical survey to check for subsurface utilities at the proposed well locations. Identified subsurface utilities that lie near these locations will be delineated and posted with mark out paint and/or survey flags. A private utility clearance has already been completed on the Miller Chemical property, the Family First commercial property, and the agricultural parcels; however, for the purposes of health and safety, an additional subsurface utility clearance will be conducted prior to the start of invasive activities.

2.2 Proposed Monitoring Well Network

The monitoring well network proposed herein is designed to allow for determination of the shallow groundwater flow direction within the study area, evaluate shallow groundwater quality in areas most likely to have been affected by fertilizer constituents released as a result of the fire or subsequent fire response activities, and allow for determination of typical background concentrations of constituents of potential concern (see Section 3.3) in the vicinity of the study area. Following the collection of data, the data will be evaluated to determine whether additional monitoring wells are necessary to achieve the SAP objectives and meet the requirements of the Act 2 Program.

2.2.1 Downgradient Monitoring Wells

Miller Chemical proposes to install ten monitoring wells at and downgradient of the Miller site to evaluate shallow groundwater quality. The proposed locations of these monitoring wells are based on consideration of the estimated shallow groundwater flow direction, locations where the highest concentrations of fertilizer constituents were identified in soil, locations of pits and trenches dug as part of the fire response actions, subsurface and overhead utility locations, and access constraints.² The proposed downgradient monitoring well locations,

²The proposed monitoring wells are positioned along tree lines or edges of fields within the agricultural parcels, where feasible, to meet the objectives of the SAP while avoiding placement of monitoring wells in the active area of agricultural fields.

along with background well locations (discussed below) will also allow for confirmation of the shallow groundwater flow direction. The approximate, proposed locations for the ten downgradient monitoring wells are depicted on Figure 2-1.

2.2.2 Background Monitoring Wells

The identified constituents of potential concern (see Section 3.3) occur naturally and/or may be present regionally in groundwater due to surrounding agricultural land use. To evaluate background water quality conditions, Miller Chemical proposes to install six background wells in areas anticipated to be upgradient of, or cross gradient from, the Miller warehouse and production facility and visibly affected areas (presumed to be potential sources of any affected groundwater) (Figure 2-1).

2.3 Monitoring Well Installation and Construction

Work will be conducted in general accordance with PADEP's *Groundwater Monitoring Guidance Manual* (PADEP, 2001) and the SOPs included in Appendix A. Given the shallow bedrock encountered during soil sampling activities and observed in pits dug on the Miller Chemical and Whisler parcels, it is anticipated that monitoring wells will be installed into the shallow groundwater aquifer using a combination of hollow-stem auger and air rotary or sonic drilling methods.³ Monitoring wells will be constructed within a 6-inch diameter borehole using five to ten feet of two-inch diameter schedule 40 PVC 0.010-slot well screen and sufficient schedule 40 PVC riser to complete the wells. A sand filter pack will be installed to a depth at least two feet above the well screen, followed by a 2-foot thick bentonite seal, and placement of cement grout to within 12 to 18 inches of the ground surface. Depending upon the location, monitoring wells will be completed with either a steel flush mount casing or a high-visibility, stick up casing installed within a 24-inch square concrete pad. Wells will be outfitted with an expandable, locking well cap. Newly installed monitoring wells will be developed prior to sampling per the procedures described in Section 3.1.

2.4 Monitoring Well Survey

Following installation of groundwater wells, groundwater well locations will be surveyed and elevations for the top of casing and the ground surface will be recorded to the nearest 0.01 foot for each monitoring well. Horizontal accuracy will be recorded to the nearest 0.1 foot. The survey will be conducted horizontally in the Pennsylvania State Plane South (NAD83) geographic coordinate system and vertically to the NAVD88 datum. Surveying will be performed by a Pennsylvania licensed land surveyor.

2.5 Proposed Sampling Schedule

Groundwater characterization will be initiated following receipt of concurrence with the SAP by PADEP. Depending on weather conditions, site access, and other constraints, well installation and development is anticipated to require approximately 8 days to complete. Collection of one complete round of groundwater samples is anticipated to require approximately 4 days. Samples will be submitted to the laboratory for a standard, 10-business day analytical turnaround time, as further described in Section 3.

³ The shallow shale bedrock does not serve as a confining layer as the rock appears to be discontinuous and degraded in the vicinity of the site.

Miller Chemical will collect an initial four quarters of data, assuming that groundwater analytical results indicate impact to groundwater requiring further action. However, if data from the initial two sampling events do not indicate impacts to groundwater quality requiring further assessment, Miller Chemical will pursue a reduction in the number of required sampling events, with written approval from PADEP. In addition, based on groundwater results, a reduction in the number of wells sampled following evaluation of data collected during the first two sampling events may be requested. Miller Chemical understands, however, that, per PADEP's requirements for groundwater (§250.704), eight consecutive quarters of groundwater data may be necessary to demonstrate attainment of PA Act 2 standards if groundwater impacts are identified.

3. SAMPLE PROCEDURES AND ANALYSES

Proposed monitoring well installation, construction, and sampling procedures are described below. Standard operating procedures are included as Appendix A to this SAP.

3.1 Monitoring Well Development

No sooner than 48 hours after well installation, each new monitoring well will be developed. Wells will be developed using a submersible pump until groundwater is relatively clear or a minimum of 3 borehole volumes has been purged. Development water will be containerized in 55-gallon Department of Transportation (DOT) approved drums. Newly developed wells will be permitted to rest for 24 hours prior to sampling.

3.2 Groundwater Sampling Methods

Prior to sampling, the static water depth will be measured to determine the groundwater piezometric elevation. Each well will be purged in general accordance with USEPA low-flow sampling procedures. During purging, water quality parameters (temperature, pH, dissolved oxygen, oxidation-reduction potential, turbidity, specific conductivity) will be monitored until stabilization is documented per the SOP. Following purging, groundwater samples will be collected via polyethylene tubing with either a peristaltic or bladder pump. Groundwater samples will be collected directly into laboratory-provided sample containers (with preservative, as necessary), labeled, packaged on ice, and delivered under chain-of-custody protocols to a Pennsylvania-certified laboratory. Groundwater samples collected for analysis of metals will be field filtered using a disposable 0.45-micron filter.

3.3 Analyte Selection Process

Ramboll Environ conducted a review of available information from Miller Chemical and PADEP to evaluate potential analytes that could have been present in fire water flows, and to identify the list of potential COCs. This review began with an assessment of broad spectrum sampling data from affected soil and fire water and then extended to a review of Miller Chemical's chemical inventories and product composition information. More specifically, Ramboll Environ relied upon the following information sources:

- Analytical results for fire water samples collected on-site immediately following the fire and analyzed for an extensive analyte list (as described in further detail below);
- Analytical results for soil samples collected from the visually worst-affected areas of the Miller Chemical property shortly following the fire (e.g., the on-site drainage ditch) and analyzed for an extensive analyte list (as described in further detail below);
- Product and raw materials inventories review; and
- Data that PADEP collected immediately after the fire.

3.3.1 Fire Water Analysis

Environmental Products & Services of Vermont, Inc. (EPS), the emergency response contractor appointed by Adams County, collected a sample of fire water on June 9, 2015. The sample was submitted to Pace Analytical Services, Inc. in Greensburg, Pennsylvania for analysis of the parameters listed below, and certain additional waste characterization parameters, such as pH, flashpoint, etc.:

- Total phosphorus by Standard Method (SM) 4500-P E;
- TKN by USEPA Method 351.2;
- Nitrate (as N) by SM 4500-NO₃ F;
- Nitrite by Method SM 4500-NO₂ B;
- Metals including: antimony, arsenic, barium, beryllium, cadmium, chromium, copper, lead, nickel, selenium, silver, thallium, and zinc by USEPA Method 6010B;
- Mercury by USEPA Method 7470A;
- Toxicity characteristic leaching procedure (TCLP) pesticides by USEPA Method SW-846 8081A;
- Polychlorinated biphenyls (PCBs) by USEPA Method SW-846 8082;
- TCLP metals by USEPA Method SW-846 6010B;
- TCLP semi-volatile organic compounds (SVOCs) by USEPA Method SW-846 8270C;
- TCLP VOCs by USEPA Method SW-846 8260B;
- Reactive cyanide by USEPA Method SW-846 7.3.3.2;
- Reactive sulfide by USEPA Method SW-846 7.3.4.2; and
- TCLP herbicides by USEPA Method SW-8406 8151A (analyzed by Summit Environmental Technologies, Inc.).

Results for the fire water analysis were non-detect for leachable (TCLP) pesticides, PCBs, leachable (TCLP) SVOCs, leachable (TCLP) VOCs, reactive cyanide, and reactive sulfide. Certain of the metals were also non-detect. Detected constituents and parameters included total phosphorus, nitrogen (as TKN, nitrate, and nitrite), sulfate, certain metals, and select leachable (TCLP) metals including arsenic, chromium, and lead.

3.3.2 On-Site Surface Soil

On June 15, 2015, Ramboll Environ collected a surface soil sample from a heavily impacted drainage ditch along the northern boundary of Miller Chemical property. This sample was submitted for laboratory analysis of the following constituents:

- Total phosphorus (as P) by USEPA Method 365.1;
- Total Kjeldahl nitrogen (TKN) by Standard Method (SM) 4500-NH₃ C-1997;
- Nitrate (as N), nitrite (as N), and sulfate by USEPA Method 300.0;
- Target Analyte List (TAL) metals including: aluminum, antimony, arsenic, barium, beryllium, cadmium, chromium, cobalt, copper, iron, lead, manganese, mercury, nickel, potassium, selenium, silver, sodium, thallium, and zinc by USEPA Method SW-846 6020A;
- Organochlorine pesticides by USEPA Method SW-846 8081B;
- Chlorinated herbicides by USEPA Method SW-846 8151A;
- TCLP metals by USEPA Method SW-846 6020A;
- TCLP organochlorine pesticides by USEPA Method SW-846 8081B;

- TCLP chlorinated herbicides by USEPA Method SW-846 8151A;
- TCLP volatile organic compounds (VOCs) by USEPA Method SW-846 8260B;
- Organophosphorus compounds by USEPA Method SW-846 8141B; and
- TCLP organophosphorus compounds by USEPA Method SW-846 8141B.

Results for the soil sample were non-detect for chlorinated herbicides, leachable (TCLP) metals, leachable (TCLP) organochlorine pesticides, leachable (TCLP) organochlorine herbicides, leachable (TCLP) VOCs, and organophosphorus compounds. A single organochlorine pesticide (methoxychlor) was detected at a concentration of 1.2 milligrams per kilogram (mg/kg) in the soil sample. The measured concentration of methoxychlor is well below the Statewide Health Standards of 630 mg/kg for protection of groundwater and 1,100 mg/kg for direct contact at residential properties. Ramboll Environ also notes that methoxychlor was not detected in subsequent, additional soil characterization samples collected from the Miller Chemical property. Remaining detected parameters included total phosphorus, nitrogen (as TKN, nitrate, and nitrite), sulfate, and certain metals.

3.3.3 Chemical Inventory Review

As part of the chemical inventory review, Ramboll Environ reviewed product and raw materials inventories provided by Miller Chemical (including estimates of the amount of material present on the Miller Chemical property at the time of the fire and, for certain materials, estimates of the amount of material recovered after the fire). Ramboll Environ also interviewed representatives of Miller Chemical regarding chemical use and reviewed safety data sheets (SDSs) and other publicly available information (e.g., product labels) regarding the composition of materials listed on the inventories.

More specifically, Ramboll Environ reviewed chemical composition information listed on SDSs and labels provided by Miller Chemical or available through Miller Chemical-specific online portals. Ramboll Environ also reviewed other publicly available SDS repositories not associated with Miller Chemical to identify SDSs associated with Miller Chemical. Given the overall number of chemicals present on-site and the range in quantities, more detailed chemical composition review was conducted for products present at the time of the fire in quantities in excess of 75,000 pounds (this quantity was selected based on an estimate of the volume of firewater that flowed off the Miller Chemical property and potential resulting average contaminant concentrations). The chemical composition review was focused on identifying additional analytes of potential concern.

3.3.4 Selection of Analytes of Potential Concern

Based on the results for analyses of on-site soil and fire water, the review of Miller's chemical use and inventory, and review of data collected by PADEP, Ramboll Environ ruled out the following constituents of potential concern:

- Pesticides - No pesticides other than methoxychlor were detected in the samples described above and Miller Chemical did not store or use pesticides on-site at the time of the fire. Methoxychlor was identified in only a single soil sample and was not detected in fire water, surface water, or in samples collected during subsequent characterization of visibly-affected soils. As such, pesticides are not retained as constituents of concern for the purposes of this Act 2 investigation.

- Herbicides – No herbicides were detected in the samples described above and Miller Chemical did not store or use herbicides at the site at the time of the fire. As such, herbicides are ruled out as a constituent of concern associated with the fire.
- VOCs/SVOCs – Neither VOCs nor SVOCs were detected in the characterization samples described above. It is likely that volatile compounds within materials stored at the site were consumed by the fire. Ramboll Environ did not identify materials in the chemical and raw material inventory containing appreciable SVOCs.
- PCBs – PCBs were not detected in the characterization samples and Miller Chemical did not use or store PCBs at the Miller Chemical facility. As such, PCBs are not retained as a constituent of concern for this Act 2 investigation.
- Reactive cyanide and sulfide – Neither reactive cyanide nor sulfide were detected in the characterization samples discussed above. Further, these compounds are not anticipated based on chemical inventory information. As such, these compounds are ruled out as constituents of potential concern for this Act 2 investigation.

The following analytes were retained as constituents of potential concern:

- TAL metals (aluminum, antimony, arsenic, barium, beryllium, cadmium, calcium, chromium, cobalt, copper, iron, lead, magnesium, manganese, mercury, nickel, potassium, selenium, silver, sodium, thallium, vanadium, and zinc) plus molybdenum and boron;
- Nitrogen compounds;
- Sulfate; and
- Total phosphorus.

3.4 Groundwater Analysis

Based on the analyte selection process described above, groundwater samples will be analyzed on a 10-business day turnaround time for the following parameters:

- Target Analyte List (TAL) Metals including: aluminum, antimony, arsenic, barium, beryllium, cadmium, chromium, cobalt, copper, iron, lead, magnesium, manganese, mercury, nickel, potassium, selenium, silver, sodium, thallium, vanadium, and zinc plus boron, calcium, and molybdenum by SW846-6020A (sample will be field filtered with a 0.45-micron filter);
- Nitrate by USEPA method 300.0;
- Nitrite by USEPA method 300.0;
- Ammonia by SM4500-NH3F;
- Sulfate by USEPA method 300.0; and
- Total phosphorous by SM4500-PE-2011.

In addition, to verify the use of appropriate groundwater MSCs, groundwater samples will also be analyzed for total dissolved solids by SM 2540C-2011.

3.5 Quality Assurance/Quality Control (QA/QC)

Chain-of-custody documents, field log books, and well construction logs will be maintained for all field/sampling activities.

Samples will be collected using standardized field operating procedures (see Appendix A). Samples will be collected into laboratory-provided containers, labeled, and shipped or delivered under chain-of-custody procedures to an appropriately qualified laboratory. To evaluate the repeatability of the sampling procedures, at least one replicate sample per 20 samples will be collected during the sampling event. All samples will be collected into laboratory-provided containers and will be submitted to the laboratory and analyzed within the analytical method's hold time as listed below in Table 1.

Analyte	Bottle	Preservative	Hold Time
TAL metals plus B, Ca, Mo	250 ml plastic	Nitric Acid (HNO ₃)	6 months
Ammonia (nitrogen)	250 ml plastic	Sulfuric Acid (H ₂ SO ₄)	28 days
Nitrate, Nitrite, Sulfate	250 ml plastic	Unpreserved	48 hours
Total phosphorus	250 ml plastic	Sulfuric Acid (H ₂ SO ₄)	28 days
Total dissolved solids	1 L plastic	Unpreserved	7 days

Re-useable sampling and/or monitoring equipment will be decontaminated using appropriate procedures including a non-phosphate detergent wash, followed by a double de-ionized water rinse. One equipment rinse blank will be collected per sampling event for each substantially different type of sampling equipment used (e.g., depth to water meter, bladder pump) to document the effectiveness of equipment decontamination methods. Laboratory-provided deionized water will be collected into laboratory provided containers by pouring the water over the instrument. In addition, one field blank will be collected per sampling event by pumping laboratory-provided deionized water through the polyethylene tubing and pump into laboratory provided containers and another field blank will be collected by pouring laboratory-provided deionized water into laboratory provided containers. The samples will be submitted to the laboratory for the analyses described in Section 3.4. Additionally, electronic monitoring equipment will be calibrated in accordance with manufacturer recommendations.

The analytical laboratory will employ standard QA/QC practices including the analysis of internal laboratory duplicates, reagent blanks, method blanks, matrix spikes and matrix spike duplicates, laboratory control samples, and continuing calibrations as required by the analytical methods and according to the laboratory's Quality Assurance Manual.

All Act 2 data generated by the laboratory will be reduced and validated prior to reporting. No data shall be reported until it has been subjected to these procedures, which are summarized in subsections below:

Field Data Reduction

Field data reduction procedures will be minimal in scope compared to those implemented in the laboratory setting. Only direct read instrumentation will be

employed in the field. Readings collected in the field will be generated from direct read instruments following calibration per manufacturer's recommendations as outlined in the SOPs. Such data will be written into field logbooks immediately after measurements are taken. Tabulated field data will be proofed to determine whether any transcription errors have been made prior to reporting.

Data Validation

The data to be provided incorporates a rigorous level of quality control. Laboratory analytical methods will follow USEPA approved protocols and quality control criteria. The data will be reviewed and validated prior to reporting.

Forms summarizing analytical data will be checked. The overall completeness of the data package will also be evaluated. Completeness checks will be administered on data to determine whether all necessary deliverables are present. Once it is confirmed that all required information has been assembled, one hundred percent of the data will then be validated. Data validation will include a review of all technical holding times; the instrument performance check sample results, initial & continuing calibration results, blanks, matrix spikes/matrix spike duplicates and laboratory control sample results; internal standards; target compound identification and quantitation; and system performance checks.

Data not meeting the acceptable QA/QC limits will be flagged for further evaluation.

4. REFERENCES

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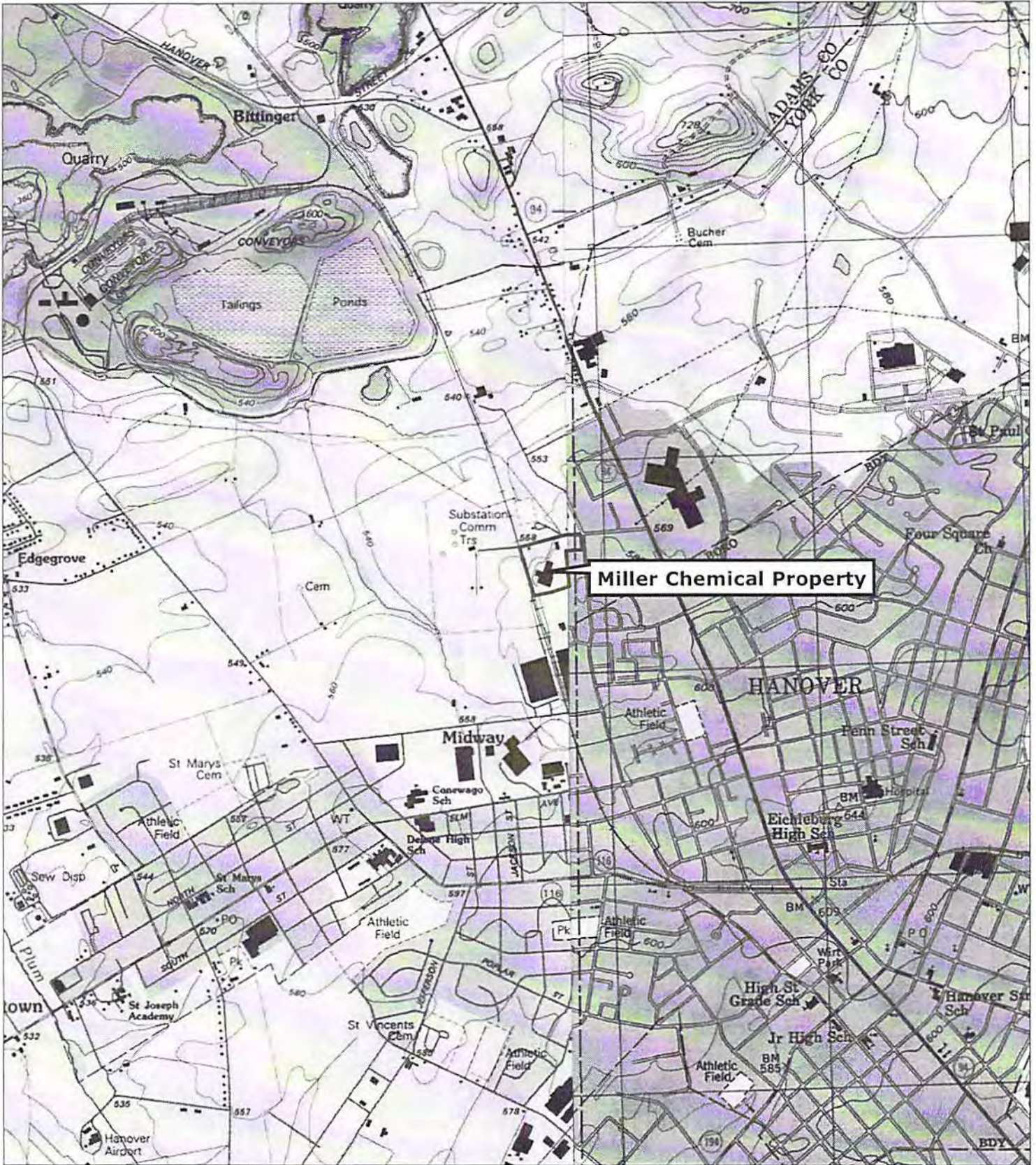
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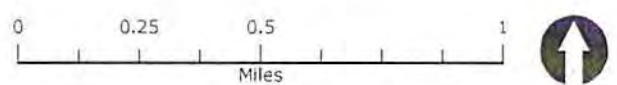
OFF-SITE ACT 2 SOIL SAMPLING AND ANALYSIS PLAN

FIGURES



Miller Chemical Property

SCALE 1:24,000



Source: USGS 7.5 minute (topographic) quadrangles Hanover and McSherrystown, Pennsylvania



- Miller Chemical Property
- Other Off-Site Properties
- Visibly Affected Area

Imagery Source: Esri Streaming Imagery

Notes:

(1) Location of the visibly affected area is based on the 8/28/2015 and 9/21/2015 surveys conducted by GHI and on GPS measurements collected by Ramboll Environ Staff. North of the Whisler Property, the location of the visibly affected area is based on field observations.

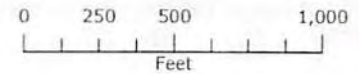


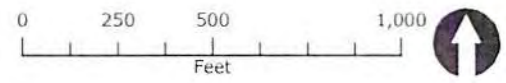
Figure 2-1
Proposed Groundwater Monitoring Wells
 Miller Chemical & Fertilizer, LLC, Hanover, PA



- ⊕ Proposed Downgradient Monitoring Well
- Proposed Background Monitoring Well
- Visibly Affected Area

Notes:
 (1) The proposed monitoring well locations are approximate; final locations may be adjusted based on conditions encountered in the field and/or sub-surface utility conflicts.
 (2) Location of the visibly affected area is based on the 8/28/2015 and 9/21/2015 surveys conducted by GHI and on GPS measurements collected by Ramboll Environ Staff. North of the Whisler Property, the location of the visibly affected area is based on field observations

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OFF-SITE ACT 2 SOIL SAMPLING AND ANALYSIS PLAN

APPENDICES

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SOP 002 SHALLOW MONITORING WELL/PIEZOMETER INSTALLATION

DISCUSSION

Monitoring wells and piezometers are typically installed to assist with acquiring groundwater samples that are representative of in-situ conditions; to measure or otherwise evaluate the properties of a water-bearing unit; or to assist with remediation of subsurface media. Hollow stem augers (HSAs) are designed to create a stable, open, vertical borehole of large enough diameter to insure that a monitoring well/piezometer can be installed as designed while minimizing the impact on the zone(s) being monitored. Due to potential cross-contamination, drilling procedures (such as hollow stem auguring) that do not introduce water or other liquids into the borehole should be utilized whenever possible.

GENERAL DISCUSSION OF DRILLING METHODS

Groundwater well installation requires the drilling of a borehole in which to set the well. Boreholes can be advanced using a variety of drilling techniques, but each has limitations and is generally best suited for specific applications. Selection of the drilling method employed for well installation will depend on the physical nature of the subsurface materials at the site (e.g., unconsolidated materials or consolidated materials, subsurface lithology), the depth to groundwater and depth of the well, as well as the nature of the drilling site in general (e.g., access constraints). The following is a general description of three common drilling methods for installation of wells in unconsolidated formations and a description of some limitations for each method¹.

- *Hollow Stem Augers.* Drilling using hollow-stem augers (HSA) relies on continuous auger flights with a cutting head at the lowermost end. The augers are rotated and advanced downward by the drill rig, which results in the soil cuttings being carried up to the surface by the auger flights. The augers act as a temporary casing for the borehole, preventing borehole wall material from collapsing into the open borehole. Small diameter drill rods with samplers (e.g., split spoons or Shelby tubes) can be used for sampling of soils below the continuous flight of augers. HSA drilling is typically used in unconsolidated materials, but could be used to drill into the top of weathered bedrock. While HSA boreholes can be advanced to depths of 150 feet or greater in certain soils, the diameter of the borehole and hydrogeologic/geologic conditions will ultimately determine drilling depths.
- *Sonic Drilling.* Sonic drilling relies on a combination of rotation, vibration and pushing to advance concentric hollow drill stems by significantly reducing the friction between the sampling equipment and the surrounding soils. The drill head includes the mechanism necessary for rotary motion as well as a high frequency oscillator. Typically, an inner core barrel is initially advanced and a casing is then installed over the core barrel to protect the integrity of the borehole during sample retrieval. During drilling, the drill bit is vibrating up and down, as well being rotated and pushed. The vibration causes soil

particles immediately around the drilling assembly to lose its structure, making soils in the unsaturated fluidize and soils in the saturated zone to behave like a slurry. In bedrock, the drill bit causes fractures at the rock face. Sonic drilling can be effectively used in unconsolidated soils, poorly consolidated materials (e.g., running sands, areas of coarse materials that may bind augers) and consolidated rock. Sonic drilling can typically be used to advance borehole diameters as large as 12 inches to depths of 250 feet. In comparison with other drilling methods, sonic drilling generates minimal soil cuttings and can reduce smearing of formation materials on the borehole walls. Since sonic drilling requires continuous recovery of cores, its main limitation is the lower production with increased sample depth, as each core must be retrieved before a subsequent interval is sampled.

- ***Air Rotary Drilling.*** Air rotary drilling relies on air pressure to remove soil cuttings. Drilling is accomplished by a roller-cone bit or down-hole percussion hammer, with pressurized air delivered to the roller-cone bit or down-hole percussion hammer through the drill pipe. Cuttings are mobilized by the air circulation and returned to the surface typically through dual-wall well casing. Cuttings are channeled at the surface through a diverter to a cyclone, where the cuttings are able to drop into drums or a roll-off type waste container. Pressurized air helps cool down the drill bit. Air rotary drilling is generally recommended for consolidated rock because of borehole wall stability issues or for strata where boulders or large obstructions are anticipated. Where unconsolidated materials overlie a consolidated formation, surface casings through the unconsolidated materials are typically employed to avoid short-circuiting of the air flow. When using air rotary drilling, precautions should be exercised to minimize and control the release of solid particles by the air drilling action and/or the air stream volatilizing or dispersing contaminants at the surface. To minimize dust generation, a fine water mist may be introduced at the cyclone. Alternately, a shroud is placed over the borehole and sometimes water is added when drilling above the water table to limit the generation of dust.
- ***Mud Rotary Drilling.*** Mud rotary drilling relies on a formulated mud slurry (e.g., bentonite) as a drilling fluid to lubricate the drill bit, stabilize the borehole wall, remove soil cuttings, and prevent or limit flow of groundwater or sand into the borehole. As the drill is rotated and advanced downward, drilling mud is pumped through the cutting head to the base of the borehole. As fresh mud is pumped, mud within the borehole circulates back to the surface through the annular space between the borehole and drilling rods, where it may move through some combination of a baffled tank, across a screened shaker table, or pit to allow cuttings to settle and cuttings-reduced mud to be re-circulated. The outflow of this pit feeds a suction pit, where the drilling fluid can be mixed with fresh mud, as necessary, and reintroduced to the borehole. Formation logging during mud rotary drilling is accomplished by monitoring rig chatter, observing sediment output at the shaker table, and/or by frequent sieving of the mud return. While a split spoon or Shelby tube could be used for sampling of soils using this method, the recirculation of mud must be halted and the drill string tripped out and retooled for the sampler to collect the samples. Mud rotary drilling is suitable for poorly consolidated material where running sands or areas of coarse materials that may bind augers are encountered, or where very deep boreholes are required. It should be noted that the mud circulated during mud rotary drilling could adversely affect the hydraulic properties of the filter pack, the quality of water samples, and hydrogeologic properties of the formation in the vicinity of the well. To mitigate these potential adverse effects, a dispersing agent may be used and/or more intense well development efforts are typically required.

EQUIPMENT LIST

- Drill rig with appropriate equipment
- Pre-selected well construction materials
 - Riser pipe of pre-selected material type (PVC, stainless steel, etc.) and diameter
 - Screen of pre-selected material type, diameter, slot size, and length
 - Appropriate filter medium
 - Appropriate sealant materials
 - Man-hole or stick-up well cover
 - Concrete for well pad installation
- Field notebook
- Flexible tape measure (at least 10 feet longer than the deepest boring)
- Permanent ink pen and marker
- PPE and field screening equipment
- Electronic water level indicator
- Trash bags
- Drums for containerization of investigation-derived wastes and labeling materials.

PREPARATION

- 1) Determine anticipated well/piezometer construction material, depth, screen length, screen slot size, and appropriate filter material and size.
- 2) Obtain well permits as necessary.
- 3) Discuss scope of monitoring well/piezometer installation with driller and driller's assistant to ensure they have the appropriate well installation materials.
- 4) Clear planned boring locations for the presence of subsurface utilities.

INSTRUCTIONS

- 1) Driller will drill down to pre-determined well depth; measure depth of the borehole to confirm that target depth has been reached; if appropriate, measure depth to water to confirm sufficient water column.
- 2) A split spoon or continuous sampler may be used to collect soil or bedrock samples in advance of the augers.
- 3) Once at pre-determined monitoring well/piezometer depth, verify the proper well screen and casing assembly. Use pre-selected pipe material appropriate for the intended purpose. Polyvinyl chloride (PVC) pipe is the most common and least expensive monitoring well/piezometer material in use today. However, it may not be appropriate in

every circumstance. For example, PVC pipe degrades in the presence of chlorinated organic compounds. In such circumstance, stainless steel pipe may be more appropriate.

- 4) Ensure that diameter of the pipe being used is appropriate for the intended use. Most monitoring wells and piezometers are constructed of two-inch diameter pipe. However, if the well/piezometer may be used for remediation, a larger diameter pipe may be more appropriate to accommodate a larger diameter pump. A general rule of thumb is that the hollow stem auger interior diameter should be at least two-inches larger than the diameter of pipe. For example, use a minimum 4.25-inch inside diameter hollow stem augers for two-inch diameter pipe, 6.25-inch inside diameter hollow-stem augers for four-inch diameter pipe, etc.
- 5) Use pre-determined screen length and slot size appropriate for the formation to be monitored and intended use. For groundwater monitoring purposes, screen length should typically not exceed ten feet. However, for remediation purposes a screen may be selected which extends the entire length of a groundwater bearing unit.
- 6) Being careful not to introduce possible contaminants to the well/piezometer materials, remove the screen and riser from its packaging, or decontaminate the pipe just prior to placement within the augers.
- 7) Attach a foot or plug to the bottom of the well screen (as appropriate), and attach subsequent sections of riser pipe to bring the well/piezometer to the surface. Threaded pipe is almost always used for environmental sampling/monitoring - as opposed to solvent welded joints. The well screen and riser sections may be screwed together as the piping is lowered into the well for ease. Ensure that the pipe is centered within the augers. Spacers (known as "centralizers") designed for this purpose may be used provided that are made from appropriate materials (i.e., they will not degrade or otherwise interfere with the intended monitoring purpose).
- 8) Once the pipe is in place, install the filter medium around the screen as the augers are withdrawn. Be sure to always keep some filter medium in the augers to prevent the formation from collapsing around the pipe but not so much as to bridge or bind within the augers. At a minimum, the filter medium should be brought to a level one to two feet in elevation above the slotted portion of the screen.
- 9) Record the depth below ground surface and quantity filter medium used.
- 10) Above the filter medium, install an inert material to seal the borehole to the ground surface and isolate the screened interval from the remainder of the formation. Typically, the inert material consists of a bentonite or bentonite/cement slurry introduced to the borehole via a tremie pipe. The tremie pipe ensures that the remainder of the borehole is sealed from the top of the filter medium up. Try to ensure that some head of the seal material remains within the augers as they are withdrawn to prevent the formation from collapsing. Bring the sealing material to within three feet of the ground surface. For the purposes of this

project, two to three feet of bentonite will be used as a primary sealant and a bentonite/cement slurry will be used to complete the well to within 2 to 3 feet below ground surface (bgs).

- 11) Record the depth below ground surface and quantity of sealing material used.
- 12) Remove the augers from the borehole and fill the annular space with concrete to within approximately 6 inches bgs. Above the ground surface prepare a concrete pad sized in accordance with project specifications and slope it gently away from the well/piezometer.
- 13) Set a protective casing (either flush mount or "stick-up").
- 14) If a "stick-up" protective casing is used, drill a weep hole approximately one-inch above the concrete pad and fill the annular space within the protective casing with sand or other inert material to a depth approximately three inches below the top of the riser pipe.
- 15) Place a cap on the riser pipe and lock the protective casing.
- 16) Record all data in field log book.

SOP 003 WELL DEVELOPMENT

DISCUSSION

Well development refers to the process of clearing the well and formation around the screen of fine-grained materials such as fine sands, silts, and clays, produced during drilling or naturally occurring in the formation. Well development is conducted to create an effective filter pack, allowing for establishment of a good hydraulic connection between the well and the formation so as to allow water to flow more freely to the well.

Typical well development methods include bailing, overpumping, mechanical surging, air-lift surging, and water jetting. The appropriate well development method is selected on the basis of well design, well depths, lithology, and other project requirements. The simplest method of removing fines from water-bearing formations is by a process of overpumping during which water is removed from the well at a higher rate than used for normal service of the well (e.g., purging prior to sampling). Effective development should cause reversals of flow through the well screen so as to agitate the sediment, remove the finer fraction from the well pack, and to rearrange the well pack. This FGD focuses on the most common well development method—mechanical surging with bailing and pumping to force water into and out of the well screen interval by operating a plunger up and down in the casing, similar to a piston in a cylinder.

Although this SOP provides guidelines for well development using mechanical surging with bailing and pumping, other well development methods may be more appropriate for specific site conditions or types of wells (e.g., bedrock wells, multiple nested wells installed within a single borehole, artesian wells, deep water production wells with more than one screened interval, and wells with the potential presence of a Non-Aqueous Phase Liquid (NAPL)) or may be specified by state-specific or regulatory program-specific guidelines, requirements or procedures. In general, well development procedures that include adding water or other fluids to the well and have the potential to impact groundwater quality are not recommended. Sometimes, depending upon well type depth and lithology, a combination of different methods may be needed.

Site-specific and state/regulatory requirements, for well development should be reviewed by the Ramboll Environ Principal-in-Charge / Project Director (PIC) and Project Manager (PM) and any additional requirements defined in a project-specific Work Plan, and/or sampling plan. It should be emphasized that these guidelines are not meant to be project-specific work plans but rather a general reference for developing project specific requirements.

EQUIPMENT LIST

- Surge block and cable, bailer or Waterra® inertial lift development valve and tubing (or similar).
- Appropriate pump, power source, and polyethylene tubing.
- Electronic water level meter or interface probe.
- Turbidity meter, multiprobe water quality meter, and flow through cell (if development is based on turbidity readings).

- Decontamination equipment.
- 55-gallon drums or other appropriate containers for purge/development water and appropriate labeling materials.
- Sample containers (if collecting IDW characterization samples).
- Plastic sheeting or trash bags.
- Well keys.
- Well design information.
- Field notebook and all-weather pens.
- Tools for opening wells (ratchet, screw driver).
- Calculator.

PREPARATION

- 1) Review well construction records to understand well construction and depth.
- 2) Personnel should evaluate whether there are state-specific requirements for well development that must be met.

INSTRUCTIONS

- 1) During the well development process Ramboll Environ personnel should record all equipment and materials used including times and quantities. Observations and field data should be recorded in the field notebook in accordance with FGD 1.01 (Field Notes and Records). Ramboll Environ personnel should record any problems encountered and communicate with the PM or PIC. Initial records should include:
 - ✓ Well designation;
 - ✓ Date of well installation;
 - ✓ Well diameter, well depth, screen depth and length, and height of well casing above or below ground surface;
 - ✓ Date of development and start and end times of development;
 - ✓ Calculation of the well volume (see equation below), including source of well construction information (e.g., well record, field measurement);
 - ✓ Details in the equipment used for well development (i.e., type and size/capacity of pump, description of surge equipment, such as surge block, bailer, Waterra® or pump); and
 - ✓ Name of well developer and drilling company (if applicable).
- 2) Verify the correct well has been located based on well tag/identifier on the outer casing.
- 3) Unlock and open the protective steel casing or well box.
- 4) Unlock and remove the inner casing cap (or water-tight locking cap on the well casing in the case of a flush mounted well) and, when required, use the field screening equipment (refer to field screening equipment FGDs) to measure organic vapor/gas concentrations in the well box. Record all field measurements in the field notebook in accordance with FGD 1.01 (Field Notes and Records).

- 5) If appropriate based on surface conditions, polyethylene plastic sheeting should be placed around the well casing.
- 6) Measure and record in the field notebook the depth to water and total well depth before development using an electronic water level indicator or interface probe (if NAPL is expected to be present) (refer to FGD 6.04, Groundwater and Free Product Level Measurements) and calculate the well volume in gallons (V_w) using the following equation:

$$V_w = 7.48(\pi(d_w^2/4)h_w)$$

Where,

d_w is the well diameter (feet)

h_w is the height of water in the well (feet)

In general, the volume of a 2-inch diameter well is 0.16 gallons per foot and the volume of a 4-inch diameter well is 0.65 gal/ft.

- 7) Well development should begin by assembling the equipment for well development and withdrawing at least two well volumes of water from the well and storing it into 55-gallon steel drums or other appropriate waste containers (refer to FGD 15.01, Waste Handling). During the initial water withdrawal, water level drawdown in the well and purge/water removal rate should be measured and recorded in the project field book. However, if the well runs dry during the initial well volume removal, if initial water level monitoring indicates that the well will run dry, or existing nearby wells in the same formation have been identified as running dry during development or purging, the well development activities should be temporarily halted and the Ramboll Environ oversight personnel should contact the PIC and/or PM to discuss alternate well development procedures.
- 8) The entire screened interval should be developed from the top of the well screen down, dividing the screened interval into sections (typically 3 to 5 feet) as necessary. This will prevent the buildup of fine grained materials on the surge block, which in turn could bind the surge block to the well casing.
- 9) Following initial water withdrawal, the well should then be surged by lowering the surge block or other surge device (Waterra®) to the top of the well screen and manually pumping the surge block with a stroke of less than 3 feet. The pulling and pushing action on the surge block will force water into and out of the well screen, thereby removing any drilling or formation fine grained materials from the well screen and suspending them in the development water. After surging, the surge block should be removed and development water removed using the pump and tubing. A bailer may be used prior to pumping to remove water with high turbidity in order to avoid damage to pumping equipment. Turbidity and other water quality parameters (e.g., conductivity, temperature, and pH) should be measured during removal of the development water to evaluate the geochemical characteristics of the purge water. Alternatively, if allowed by the well configuration, a low-capacity pump can be installed above the surge block to

simultaneously surge and discharge, thereby ensuring a gradient is maintained towards the well.

- 10) The above surging and removal action is performed at depths corresponding to the entire screened interval until drilling or formation fine grained materials are no longer produced or until turbidity has decreased and other water quality parameters (e.g., conductivity, temperature, and pH) have stabilized. Typically, well development should proceed until monitored parameters (especially turbidity) have stabilized or a total of five well volumes of water have been removed. The stabilization metrics should be defined in the Work Plan/sampling plan. The surging and removal action sequence may be repeated at higher extraction rates to achieve the desired well development. Some wells may be incapable of achieving non-turbid water quality and well development should be suspended after a reasonable well development effort has been undertaken and results have been communicated to the PIC and/or PM.
- 11) Ramboll Environ personnel should describe in the field notebook the details of the well surging process (e.g., equipment used, depths surged, surge depth increments, and speed, length and frequency rates.) Ramboll Environ personnel should record the drawdown in the well, the purge rate during each pumping cycle, and the water quality parameters per well volume removed. In addition, Ramboll Environ personnel should provide descriptions of the physical character of removed water, including changes in clarity, color, particulate matter, and odor.
- 12) The following guidelines improve the effectiveness of well surging:
- 13) The manual surging rate should initially be gentle, with gradual increases during the development process (i.e., increases in rate with depth of surging). The manual surging rate is controlled by the speed, length and frequency of the pushing and pulling action.
- 14) The energy of surging is gradually increased at each depth of surging until drilling or formation fine grained materials are no longer produced from surging at that depth.
- 15) The depth of surging is incrementally increased from top to bottom of the well screen.
- 16) Measure and record in the field notebook the depth to water, drawdown and total well depth after each removal of development water and at the completion of development using an electronic water level indicator (refer to FGD 6.04, Groundwater and Free Product Level Measurements).
- 17) Measure the purge rates during each cycle and record in the field notebook.
- 18) If the well runs dry during development or if it is suspected that the well will run dry, the well development activities should be temporarily halted and Ramboll Environ oversight personnel should contact the PIC and/or PM to discuss alternate well development procedures. In some cases, well recharge may span from hours to more than a day.
- 19) Record in the field notebook the total amount of water removed during well development and the rationale for terminating the development of the well (e.g., water quality parameters stabilized, five well volumes removed, well ran dry)
- 20) All equipment shall be decontaminated upon completion of well development (refer to FGD 14.01, Sampling Equipment Decontamination) and dedicated equipment (e.g., non-

reusable tubing) should be removed and managed as investigation-derived waste (refer to FGD 15.01, Waste Handling).

SOP 004 MONITORING WELL AND BOREHOLE ABANDONMENT

DISCUSSION

Unsealed or improperly sealed wells may threaten public health and safety, and the quality of the groundwater resources. Therefore, the proper abandonment (decommissioning) of a well is a critical final step in its service life. Proper well abandonment accomplishes the following: 1) eliminates the physical hazard of the well (the hole in the ground), 2) eliminates a pathway for migration of contamination, and 3) prevents hydrologic changes in the aquifer system, such as the changes in hydraulic head and the mixing of water between aquifers. The proper decommissioning method will depend on both the reason for abandonment and the condition and construction details of the boring or well.

Effective abandonment depends on knowledge of the well construction, geology, and the hydrogeology. The importance of a full characterization increases as the complexity of the well construction, site geology, and the risk of aquifer contamination increases. Four principal complicating factors have been identified; they include:

- artesian conditions,
- multiple aquifers,
- cavernous rocks, and
- the threat or presence of contamination.

The recommended procedures for abandoning wells will be more rigorous with the presence of one or more complicating factors. The procedures may vary from a simple casing seal above aggregate to entirely grouting a well using a tremie pipe after existing casing has been ripped or perforated.

An abandoned, contaminated well often mixes contaminated groundwater with uncontaminated groundwater. Complete and uniform sealing of the well from the bottom to the surface is required. Therefore, proper well preparation must be done before the well is sealed with a proper sealant. Sealants are used in well abandonment to provide a watertight barrier to the migration of water in the well bore, in the annular spaces or in fractures and openings adjacent to the well bore. Sealants usually consist of Portland cement based grouts, "bentonite" clay, or combinations of these substances. Additives are frequently used to enhance or delay specific properties such as viscosity, setting time, shrinkage, or strength. Sealing mixtures should be formulated to minimize shrinkage and ensure compatibility with the chemistry of the groundwater in the well.

EQUIPMENT LIST

- Pre-determined sealant appropriate for monitoring well or borehole abandonment
- Tremie pipe and pump, if necessary

- Field notebook
- Permanent ink pen and marker
- PPE

PREPARATION

- 1) The well should be positively identified before initiating the abandonment. Field information should be compared with any existing information. Water levels and well depths can be measured with a well sounder or weighted tape measure. In critical situations, well construction details and hydrogeology can be determined with borehole geophysics or a downhole camera.
- 2) Discuss the scope of monitoring well and borehole abandonment with the contractor providing the abandonment services. Ensure that the proper sealant materials are present for monitoring well and borehole abandonment.

INSTRUCTIONS

- 1) Clear the borehole of obstructions such as pumps, pipes, wiring, or airlines.
- 2) To the extent possible, pull the casing when it will not jeopardize the integrity of the borehole. Before the casing is pulled, the well should be grouted to near the bottom of the casing. This will at least provide some seal if the well collapses after the casing is pulled. Damaged, poorly constructed or dilapidated wells may need to be over-drilled in order to apply proper abandonment techniques.
- 3) Mix grout in accordance with manufacturers specifications using clean water. Add grout to the well from the bottom up using a grout pump and a tremie pipe. This method insures the positive displacement of the water in the well, and will minimize dilution or separation of the grout. If aggregate (e.g., sand, crushed stone or similar material) is approved to be placed above sealant, a sufficient amount of curing time should pass before placing the aggregate above the seal.
- 4) Record all field activities and details of sealant materials used in the field book.

ADDITIONAL CONSIDERATIONS

Wells in Cavernous Rocks or with Large Voids: Problems can arise when filling wells that penetrate cavernous rock or large voids in the subsurface. Although such wells are usually located in carbonate terrain, voids can also occur in other areas. Care must be taken to insure that aggregates and sealants are of a size and consistency to prevent their removal by water flowing in the void. Large voids or high flow velocities warrant placement of a bridge in competent rock over the void. Aggregate and sealants can then be placed above the bridge.

Multiple Aquifer Wells: The main goal in sealing wells that extend into more than one aquifer is to prevent the flow of groundwater from one aquifer to another. If no appreciable movement of water is encountered, and there is no threat of groundwater contamination, sealing with concrete, neat cement, grout, or alternating layers of these materials and aggregate will prove satisfactory. When groundwater velocities are high, the procedures for wells with artesian flow (see below) are recommended. If alternating plugs (or bridges) and aggregate layers are used, the plugs should be placed in known nonproductive horizons or, if locations of the nonproductive horizons are not known, at frequent intervals.

Flowing Wells: The sealing of artesian wells requires special attention. The flow of groundwater may be sufficient to make sealing by gravity placement of concrete, cement grout, neat cement, clay or sand impractical. In such wells, large stone aggregate (not more than 1/4 of the diameter of the hole), well packers (pneumatic or other), or wooden plugs will be needed to restrict the flow and thereby permit the gravity placement of sealing material above the zone where water is produced. If plugs are used, they should be several times longer than the diameter of the well to prevent tilting.

SOP 005 GENERAL SOIL DESCRIPTIONS AND CLASSIFICATIONS

DISCUSSION

Soil types may vary drastically at a site, and proper soil(s) identification can be essential to the completion of many projects. Monitoring well constructions and soil borings usually involve some sort of soil sampling. This sampling can be very useful toward determining potential contaminants, their concentrations, the extent of contaminant dispersion within the soil medium, likely routes of contaminant migration (including surface runoff), the threat to human health by ingestion (both directly as soil and/or uptake into food crops). Soil descriptions are also needed for the design of appropriate remedial strategies.

EQUIPMENT LIST

- Field notebook
- Permanent ink pen and marker
- Munsell color chart (as needed)
- PPE
- Grain-size charts (optional)

PREPARATION

Soils may be logged during soil boring or monitoring well installation and during surface soil or sediment sampling. Preparation for descriptions in each of these scenarios is described in their respective SOPs.

INSTRUCTIONS

- 1) All field samples should be described according to color, texture, type, and moisture condition and consistency or degree of compactness. The attached table is provided as an aid to making the proper soil identifications in the field.
- 2) Soil description should be recorded in the field logbook in accordance with the QAPP. In addition to the parameters listed above and those in the attached soil characteristics table, field personnel record the method of soil sampling and/or drilling methods used; sample depth, the recovery, total depth of the boring and reason for termination of the boring (e.g., per scope of work, refusal on bedrock, etc.), depth at which caving of the borehole occurs (if applicable); depth where water was encountered during soil boring (if applicable); depth of water at completion of soil boring; and difficulties encountered during the drilling process. Any observed indications of impacts such as discoloration, odors, or staining should also be

recorded. If field screening is being conducted, the results of field screening should also be conducted.

ADDITIONAL CONSIDERATIONS

In addition to the determination of potential contaminants in the soil matrix, selected samples may be analyzed for physical properties. This is often accomplished as an aid to engineering design. Such analyses are often for grain size, Atterberg limits, plasticity, in-situ permeability and moisture content. Proper description in the field can aid these laboratory determinations.

SOIL CHARACTERISTICS

COLOR	PARTICLE	SIZE (mm)	COMPOSITION	SHAPE/ SORTING	MODIFIERS	MOISTURE	CONSISTENCY	BLOWS per 6"	CHARACTERISTICS
Gray	Clay	< 0.002	Trace 1-10%	Well	Stratified	Dry	<u>CLAYS</u> Very Soft	2	Easily Squeezed
Brown	Silt	0.2 - 0.002	Little 11 - 25%	Poor	Laminated	Damp	Soft	2 - 4	Molded by light finger pressure.
Blueish	Sand	2.0 - 0.2	Some 26 - 40%	Flat	Fissured	Moist	Med. Stiff	4 - 8	Molded by strong finger pressure.
Yellowish	Gravel	20 - 2.0	And 41 - 50%	Elongated	Polished	Wet	Stiff	8 - 15	Can be indented by thumb.
Greenish	Cobbles	60 - 200		Angular	Blocky	Saturated	Very Stiff	15 - 30	Can be indented by thumbnail.
Reddish	Boulders	> 200		Subangular	Lensed		Hard	> 30	
Mottled				Subrounded	Weathered		<u>SANDS</u>		
Light				Rounded	Cemented		Very Loose	4	
Dark				Rough	Odor (Describe)		Loose	5 - 10	
				Smooth	Homogenous		Med. Dense	11 - 30	
					Heterogeneous		Dense	31- 50	
					Plastic		Very Dense	> 50	

Soil Descriptions: Descriptions may include all or some of the items listed above. Order may be rearranged. Generally, the color, primary and secondary soil grain sizes, moisture content, and any odors, discoloration, or unusual features should be noted.

Example: Stiff, mottled grey-brown silty clay with trace of sand, damp, plastic, with slight petroleum-like odor.

SOP 010 MEASURING STATIC WATER DEPTH AND CHECKING FOR IMMISCIBLE LAYERS WITH AN INTERFACE METER

DISCUSSION

The static water depth within a well must be measured in order to determine the horizontal groundwater flow direction. The water level indicator is one instrument which is recommended for this purpose because of its minimal potential for equipment contamination and simplicity of use. To monitor for the presence of immiscible layers or non-aqueous phase liquids (NAPL) in groundwater monitoring wells, an interface meter is recommended because of its accuracy and simplicity of use. The electronic interface probe can also be used to determine the static water depth, and should be used if separate phase liquid may be present in the well. Both methods are described in this SOP.

Sounders usually consist of a conductivity cell at the end of a graduated wire, and a battery powered buzzer. When the cell contacts the water, the increased conductivity completes the circuit and allows current to flow through the wire to the alarm buzzer. The depth to water can then be read from graduations on the wire or the wire can be measured directly.

A typical interface meter consists of a conductivity probe at the end of a graduated tape and a battery powered buzzer. An infrared circuit detects the presence of a liquid. A conductivity circuit differentiates between conductive liquid (water) and non-conductive liquid (product).

EQUIPMENT LIST

- Electronic water level meter or interface probe
- Field notebook and waterproof pen
- Appropriate tools (and keys) to open wells
- Figure showing well locations and identifiers
- Plastic garbage bags or sheeting
- Decontamination supplies (see SOP No. 014)
- PPE

PROCEDURES FOR COLLECTION OF DEPTH TO WATER MEASUREMENTS USING A WATER LEVEL INDICATOR

- 1) Read the instructions that accompany the specific water level meter that is being used to collect measurements.
- 2) Open all monitoring wells and allow them to equilibrate.
- 3) When collecting depth to water measurements, it is recommended that measurements first

be collected at the least-impacted wells and progress to more heavily impacted wells.

- 4) Turn the power on, turn the volume up (if the meter has a volume control) and depress the test button to confirm that the meter is working. If the alarm fails to sound when the test button is depressed, replace the battery(ies).
- 5) After the instrument has been turned on and proven to be in good working condition, locate the point on the well casing where the top of casing elevation was surveyed (note: ideally, the location on the well casing where the survey measurement was collected should be identified by making a small notch in the PVC well casing or by marking with a permanent (indelible) marker).
- 6) Lower the probe slowly into the well. The alarm will sound as soon as the conductivity cell in the probe comes into contact with the water.
- 7) Once the alarm sounds, slowly raise the probe until the alarm stops, and then slowly lower the probe until the alarm sounds again.
- 8) Measure the static water depth (i.e., the distance from the top of the well casing to the surface of the water) to the nearest 0.01 foot or 1 millimeter (mm) by reading the graduations on the polypropylene tape of the water level meter. Record the measurement in the field log book.
- 9) Remove the probe from the well, turn the probe off, and decontaminate in accordance with SOP No. 014 before collecting measurements from the next well. Return probe to holder.

PROCEDURES FOR THE USE OF THE ELECTRONIC INTERFACE PROBE

- 1) Read the instructions that accompany the specific interface probe that is being used to collect measurements.
- 2) Open all monitoring wells and allow them to equilibrate.
- 3) When collecting depth to water or depth to NAPL measurements, it is recommended that measurements first be collected at the least-impacted wells and progress to more heavily impacted wells.
- 4) Turn the meter on. Locate the point on the well casing where the top of casing elevation was surveyed (note: Ideally, the location on the well casing where the survey measurement was collected should be identified by making a small notch in the PVC well casing or by marking with a permanent (indelible) marker). Some meters may have a volume control knob – if this is the case, turn the volume all the way up and hit the test button (the meter should sound when the test button is depressed).
- 5) Lower probe slowly into the well.
- 6) For most meters, an intermittent (rapidly beeping) tone will occur when water is

encountered; a solid tone will activate when product is encountered. If a very thin layer of NAPL is present on the water surface, the duration of the solid tone may be very brief. A guide for what the interface meter sound identifies (water or product), is usually printed on the side of the meter or included with the instructions.

- 7) Once liquid is encountered, raise and lower the probe gently to determine the exact upper level of any non-conductive floating product. Read the level of the air/product interface from the marked tape and record to the nearest 0.01 foot or 1 millimeter (mm).
- 8) To read the product/water interface, lower the probe into the water until the solid tone changes to an intermittent beeping tone. Shake the probe slightly to clear product from the conductivity sensor. Raise the probe slowly until the steady tone activates. Read the level directly from the tape and record to the nearest 0.01 foot or 1 mm.
- 9) To determine the thickness of the product, subtract the reading in step 6 from the reading in step 7.
- 10) To determine if any sinking product is in the well, continue lowering the probe slowly. If the steady tone comes on, gently raise and lower the tape to locate the interface between the water and the product (i.e., the interface between the beeping and solid tones). Note the depth and record it to the nearest 0.01 foot or 1 mm.
- 11) Continue lowering the probe slowly until the tape slackens when the well bottom is reached. Read the level directly from the tape and record the depth to the nearest 0.01 foot or 1 mm for the bottom of well. Do not drop the probe to the bottom of the well because damage to the probe tip may result. (Note: depending on the particular probe being used, the reading collected during this step may need to be adjusted upward to compensate for the difference between the measurement point and the bottom of the probe – see manufacturer's instructions).
- 12) Remove the probe from the well, turn the probe off, and decontaminate the tape and probe in accordance with SOP No. 014. Return the probe to the holder.

SOP 011 GENERAL PROCEDURES FOR LOW FLOW PURGING AND SAMPLING OF GROUNDWATER

DISCUSSION

The low flow (micro-purge) sampling of groundwater monitoring wells sampling is the preferred sample collection method for groundwater.

EQUIPMENT LIST

- Pump (dedicated, bladder or centrifugal)¹
- Extra bladders for pump if bladder pump is used
- Sufficient tubing for each well if dedicated tubing is not present in the wells
- Power source for pump (typically, a car battery)
- Electronic water level meter or interface probe
- Water quality meter with flow-through cell
- Container to collect purge water
- Pre-preserved sample containers
- Permanent, indelible ink pens
- Cooler with ice or ice packs
- Appropriate tools (and keys) to open wells
- Decontamination supplies (see SOP No. 014)
- Knife
- Plastic garbage bags
- PPE

PREPARATION

- 1) Depth to water/product measurements should be collected prior to the collection of groundwater samples for laboratory analysis (see SOP No. 010). Groundwater samples should not be collected from wells containing non-aqueous phase liquids (NAPL), except for the purposes of characterizing the NAPL.
- 2) All re-useable sampling equipment should be decontaminated prior to use and between wells (See SOP No. 014).

¹ A peristaltic pump may be used if no samples are being collected for analysis of total metals and the depth to water is not greater than 25 feet (7.5 to 8 meters) below the top of the well casing; if the depth to groundwater is greater than 25 feet (7.5 to 8 meters), a bladder pump should be used.

- 3) Field personnel should also review instructions provided by the equipment manufacturers for all field equipment. Calibrate the water quality meter, following the manufacturer's instructions.
- 4) Inspect sample containers for cracks and visually ensure that preservative is present in pre-preserved sample containers. Make sure that there is ice (or ice packs) in the sample container cooler.
- 5) Label sample containers using laboratory-provided labels and indelible (permanent) ink. Sample labels should include the site name, well identifier, date and time of sample collection, the constituents to be analyzed, and the preservative (if any).

GROUNDWATER SAMPLING INSTRUCTIONS

- 1) Lay out plastic sheeting or plastic trash bags on the ground in the area where you will be sampling such that field equipment and sample containers do not come into contact with the bare ground surface. (Note: It is recommended that sampling first be conducted at the least impacted wells then progress to more heavily impacted wells).
- 2) If using a portable (rather than dedicated) pump, connect tubing to the pump and lower the pump as slowly as possible into the well to a depth located at the approximate midpoint of the screened interval. Connect the pump, flow through cell with water quality meter, and power source. Run tubing from the effluent of the flow through meter to the purge water container and secure in place.
- 3) Lower an electronic water level meter or interface probe into the well and anchor the cord to the meter. Start the pump and lower the pumping rate to the minimum operating rate. Lower the water level meter to a depth 0.1 inch (3 mm) below the water table and anchor the meter in place.
- 4) Drawdown of the water table should not exceed 0.1 inch (3 mm) during the purging process, although during initial pump start-up, drawdown may temporarily exceed this before recovery. If drawdown exceeds 0.1-inch (0.3 mm), attempt to decrease the pumping rate slightly. A depth gauge must be used during purging to take continual water level readings. The pumping rate may be increased slightly if 0.1-inch (3 mm) drawdown is not exceeded. This procedure should result in pumping rates in the range of 100 mL/min to 1 L/min, depending upon the permeability of the soils.
- 5) Note the time and record water quality parameters, including pH, temperature, specific conductivity, oxidation-reduction potential (ORP), dissolved oxygen (DO), and turbidity. Record these parameters every 3 to 5 minutes during the purge process. All measurements except turbidity must be made using a multi-probe water quality meter with an in-line flow through cell.

- 6) Continue purging the well until three consecutive sets of water quality parameter measurements stabilize within $\pm 10\%$ for specific conductivity, turbidity, and ORP; $\pm 10\%$ or 0.2 mg/L for DO; and ± 0.2 units for pH. Note that if sample analysis includes VOCs, stabilization of DO and ORP is of utmost importance; if sampling for metals, stabilization of turbidity is of utmost importance.
- 7) If a monitoring well is drawn down to dryness during purging, allow the water level to recover and collect samples without further purging.
- 8) Once the water quality parameters stabilize, turn off the pump, disconnect the flow-through cell, turn the pump back on, and collect groundwater samples directly into the laboratory supplied sample containers. The tubing should not come into contact with the container. For those analytes where containers with preservatives are needed, avoid overfilling containers in order to prevent the preservative from being washed out. Analyte-specific sampling considerations are summarized below.
- 9) Cap bottles tightly immediately following sample collection and place samples into the cooler. Bottles should be wrapped with bubble wrap and placed upright in the cooler (not on their side). Additional instructions for packaging and shipping coolers are provided in SOP No. 018.

ADDITIONAL CONSIDERATIONS

Volatile Organic Compounds (VOCs) or Total Petroleum Hydrocarbons (TPH) – Gasoline-Range Organics (GRO) - When collecting samples for analysis of VOCs or TPH-GRO, fill the sample container very close to the top of the vial. Fill the sample container cap with water from the well and slowly pour into the sample container to top off the vial. Use the cap to very gently scrape off any air bubbles. Gently screw on the cap. Invert the vial, gently tap on the side, and look for air bubbles. If air bubbles are apparent, open the vial carefully, collect a little additional water into the cap, and repeat the steps above. If the vial still has air bubbles, the sample container should be thrown away and the sample re-collected using a new container.

Dissolved Metals – When collecting groundwater samples for analysis of dissolved metals, the samples should be filtered in the field using a 0.45 micron filter; filters can often be obtained from the analytical laboratory when sample containers are ordered. The preferred method is using an in-line filter between the pumping device and sample container. After checking the 0.45 micron filter for flow direction, affix the filter to the output end of the pump after the final set of water quality readings is collected and prior to collection of ground water for metals analysis. Turn the pump back on, hold the sample container and fill the appropriate sample container. This method can be used when sampling using a peristaltic or bladder type pump. If analysis of total rather than dissolved metals is desired, samples should not be filtered. Note that filtered and unfiltered groundwater samples preservation requirements.

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Biologic Oxygen Demand (BOD) and Chemical Oxygen Demand (COD) – No additional considerations are required when collecting samples for analysis of BOD or COD.

Polycyclic Aromatic Hydrocarbons (PAHs) – No additional considerations are required when collecting samples for analysis of PAHs.

Total Petroleum Hydrocarbons (TPH) - Diesel Range Organics (DRO) - No additional considerations are required when collecting samples for analysis of TPH-DRO.

SOP 014 EQUIPMENT CLEANING AND DECONTAMINATION

DISCUSSION

This decontamination procedure is to be used for re-useable sampling equipment constructed of glass, steel, stainless steel, plastic, or metal. Electronic field equipment, with the exception of interface probes or water level meters should be decontaminated according to manufacturer's instructions. Polyethylene or silicone tubing should not be re-used on multiple sample locations, but rather should be dedicated to a particular well or disposed following collection of a single sample.

EQUIPMENT LIST

- Clean buckets and spray bottles (or other clean containers)
- De-ionized, distilled, and tap water per the scope of work
- Non-phosphate detergent (i.e. Liquinox)
- Scrub brush or sponge
- PPE
- Paper towels
- Aluminum foil

INSTRUCTIONS

- 1) Using tap water and a stiff brush or cleaning sponge, remove gross soil or other material. Capture the wash water in a suitable container for proper disposal.
- 2) Wash the equipment with a stiff brush, non-phosphate detergent (such as Liquinox®), and tap water, capturing the wash water in a suitable container for proper disposal. Buckets or spray bottles may be used to pre-mix the detergent and tap water for ease of washing.
- 3) Rinse the equipment thoroughly with de-ionized water.
- 4) Rinse again with distilled water, de-ionized water, or organic-free water as appropriate, and air dry or dry with a clean paper towel.
- 5) If appropriate (e.g., for hand trowels), wrap the cleaned equipment in aluminum foil to keep it clean.
- 6) Record decontamination events in the field notebook, including the decontamination process and type of detergent used, and which equipment was decontaminated.

- 7) For large equipment, such as drilling equipment, steam cleaning may be appropriate. In this case, it may also be necessary to set up a decontamination pad to contain decontamination water.

ADDITIONAL CONSIDERATIONS

Sensitive Equipment - Many types of equipment, particularly groundwater sampling equipment, are sensitive to some types of detergent, and may be too delicate to decontaminate using a brush or sponge. Read manufacturer's directions for decontamination prior to attempting to decontaminate water quality meters and similar sensitive equipment.

SOP 015 WASTE HANDLING PROCEDURES

DISCUSSION

The objective of this standard operating procedure is to establish consistent methods to handle and manage all Investigation-Derived Waste (IDW), including:

- Hazardous and non-hazardous solid waste materials (e.g., soil cuttings, contaminated debris or equipment).
- Hazardous and non-hazardous liquid waste materials (e.g., purge water, rinse water from decontamination, product removal).
- Personal Protective Equipment (e.g., gloves, spent respirator cartridges, chemical resistant coveralls).

This SOP provides procedures and standards that are in addition to applicable regulatory requirements and industry standards.

EQUIPMENT LIST

- Containers for waste (e.g., 55-gallon drums) and material to cover waste to protect from weather (e.g., plastic covering)
- Equipment (i.e., pumps, generators, water/interface level indicators, safety monitoring equipment)
- Hazardous /non-hazardous waste drum labels (weatherproof)
- Permanent marking pens
- Inventory forms for project file
- Plastic garbage bags, zip lock storage bags, roll of plastic sheeting
- PPE

INSTRUCTIONS

Labeling

- 1) Containers used to store IDW must be properly labeled. Two general conditions exist: 1) from previous studies or on-site data, waste characteristics are known to be either hazardous or nonhazardous; or 2) waste characteristics are unknown until additional data are obtained.
- 2) Known hazardous, non-hazardous, and unknown wastes should not be mixed together in the same containers.

- 3) For situations where the waste characteristics are known, the waste containers should be packaged and labeled in accordance with state and federal regulations that may govern the labeling of waste.
- 4) The following information shall be placed on all non-hazardous waste labels:
 - a. Description of waste (i.e., purge water, soil cuttings);
 - b. Contact information (i.e., contact name and telephone number);
 - c. Date when the waste was first accumulated.
 - d. Specific location where waste was generated, if appropriate (e.g., boring ID, well ID, excavation ID).
- 5) The following information shall be placed on all hazardous waste labels:
 - a. Description of waste (i.e., purge water, soil cuttings);
 - b. Generator information (i.e., name, address, contact telephone number);
 - c. EPA identification number (supplied by on-site client representative);
 - d. Date when the waste was first accumulated.
 - e. Specific location where waste was generated, if appropriate (e.g., boring ID, well ID, excavation ID).
- 6) When the final characterization of a waste is unknown, a notification label should be placed on the drum with the words "waste characterization pending analysis" and the following information included on the label:
 - a. Description of waste (i.e., purge water, soil cuttings);
 - b. Contact information (i.e., contact name and telephone number);
 - c. Date when the waste was first accumulated.
 - d. Specific location where waste was generated, if appropriate (e.g., boring ID, well ID, excavation ID).
- 7) Once the waste has been characterized, the label should be changed as appropriate for a nonhazardous or hazardous waste.
- 8) Waste labels should be constructed of a weatherproof material and filled out with a permanent marker to prevent being washed off or becoming faded by sunlight. It is recommended that waste labels be placed on the side of the container, since the top is more subject to weathering. However, when multiple containers are accumulated together, it also may be helpful to include labels on the top of the containers to facilitate organization and disposal.

- 9) Each container of waste generated shall be recorded in the field notebook used by the person responsible for labeling the waste. After the waste is disposed of, either by transportation off-site or disposal on-site in an approved disposal area, an appropriate record shall be made in the same field notebook to document proper disposition of IDW.
 - a. Covers should be included on the containers and must be secured at all times and only open during filling activities. The containers shall be labeled in accordance with this SOP. An inventory containing the source, volume, and description of material put in the containers shall be logged on prescribed forms and kept in the project file.

Personal Protective Equipment (PPE)

- 10) PPE that is generated throughout investigation activities shall be placed in plastic garbage bags. If the solid or liquid waste that was being handled is characterized as hazardous waste, then the corresponding PPE should also be disposed as hazardous waste. If not, all PPE should be disposed as non-hazardous waste in the designated on-site landfill. Trash that is generated as part of field activities may be disposed of in the landfill as long as the trash was not exposed to hazardous media.

Waste Accumulated On-Site

- 11) Solid, liquid, or PPE waste generated during investigation activities that are classified as hazardous shall not be accumulated on-site longer than 90 days. All hazardous waste containers shall be stored in a secured storage area. The following requirements for the hazardous waste storage area must be implemented:
 - a. Proper hazardous waste signs shall be posted as required by any state or federal statutes that may govern the labeling of waste;
 - b. Secondary containment to contain spills;
 - c. Spill containment equipment must be available;
 - d. A fire extinguisher must be available;
 - e. Adequate aisle space for unobstructed movement of personnel.
- 12) Weekly storage area inspections shall be performed and documented to ensure compliance with these requirements. Throughout the project, an inventory shall be maintained to itemize the type and quantity of the waste generated.

Waste Disposal

- 13) Solid, liquid, and PPE waste will be characterized for disposal through the use of client knowledge, laboratory analytical data created from soil or groundwater samples gathered during the field activities, and/or composite samples from individual containers.

- 14) All waste generated during field activities will be stored, transported, and disposed of according to applicable state, federal, and local regulations. All wastes classified as hazardous will be disposed of at a licensed treatment storage and disposal facility or managed in other approved manners.
- 15) In general, waste disposal should be carefully coordinated with the facility receiving the waste. Facilities receiving waste have specific requirements that vary even for non-hazardous waste, so characterization should be conducted to support both applicable regulations and facility requirements.

Waste Transport

- 16) A certified hazardous waste hauler shall transport all wastes classified as hazardous. Typically, the facility receiving any waste can coordinate a hauler to transport the waste. Shipped hazardous waste shall be disposed of in accordance with all RCRA/USEPA requirements. All waste manifests or bills of lading will be signed either by the client or the client's designee, which can in special circumstances be the project manager if acting as an authorized agent for the client.

SOP 016 FIELD RECORDS

DISCUSSION

An important component of field investigations is the proper documentation of activities, observations, field measurements, calibration verification, etc. The following section is intended to give direction as to what the physical nature of a field record should be, suggestions for content and management and eventual disposition of records.

EQUIPMENT LIST

- Field notebook
- Permanent ink pen and marker
- Appropriate site maps or drawings.
- Watch, cell phone, or other time-keeping device

INSTRUCTIONS

For all field activities, you must

- 1) Field logbooks should be hard-bound, containing sequentially numbered pages and should be dedicated to the project.
- 2) Store the field logbook in the vehicle only when in the field; otherwise store it in the office.
- 3) Never keep personal records as opposed to "official" records.
- 4) Never give your field logbook to anyone (NOTE: You may, however, have to provide it and copies to regulatory representatives).
- 5) All entries should be made using non-erasable waterproof ink.
- 6) Once generated, field logbooks should not be discarded or replaced.
- 7) Pages should never be torn out of field logbooks.
- 8) All errors should be corrected by crossing out the mistake with a single line. The correction should then be dated and initialed by the person correcting the error.
- 9) All entries should be direct and succinct. Do not speculate.
- 10) One field logbook per site is preferred; however, several logbooks may be needed for each piece of field analytical equipment (e.g., pH, DO, HNu, CGI, conductivity) or field personnel.
- 11) Photocopy or scan each days log as a back-up.

Field Logbook Entry Requirements

Field Logbook Entries must include, when appropriate:

- 1) Date and time of entry
- 2) Weather conditions
- 3) Purpose and description of field activities
- 4) Name and address of field personnel and all other personnel on-site
- 5) Descriptions of any on-site meetings or field-related phone calls with the project manager
- 6) Descriptions of any conversations with regulatory personnel
- 7) Results of all field screening or field measurements
- 8) Results of any site inspections
- 9) For investigation-derived waste:
 - a. producer of waste and address (e.g., drum labels)
 - b. type of process producing waste
 - c. type of waste (sludge, soil, wastewater, locate sample site, photos, etc.)
 - d. waste components and concentrations
- 10) Sketch of site - use to make base maps, locate sample site, photos, etc.
- 11) For sample collection
 - a. Method of sample collection
 - b. Sample location and ID
 - c. Date and time of sample collection
 - d. Description of sample(s) including sample ID(s), depth of sample (if appropriate), number of samples collected, type of container, and analytes.
- 12) Results of field screening
- 13) Soil boring logs and soil/sediment descriptions
- 14) Well construction information
- 15) Site sketches, including references to maps or figures
- 16) Other pertinent field observations
- 17) Modifications or exceptions to the scope of work

- 18) Information regarding any health and safety incidents
- 19) Technical comments appropriate to the site activities
- 20) A description of all wastes generated at the site

SOP 017 CHAIN OF CUSTODY PROCEDURES

DISCUSSION

Possession of samples must be traceable from container storage, sample collection, transportation, and laboratory receipt to and through lab handling. To maintain and document sample possession, follow the Chain-of-Custody (COC) procedures summarized in this SOP.

A sample is under custody if:

- it is in your possession, or
- it is in your view, after being in your possession, or
- it was in your possession and you locked it up, or
- it is in a designated secure area.

EQUIPMENT LIST

- Chain-of-Custody (COC) for appropriate laboratory
- Ball point pen
- Sample cooler or other shipment container
- Chain of custody seals and labels
- Packing tape

PREPARATION

FIELD CUSTODY PROCEDURES

- 1) Obtain appropriate containers for the collection and transport of samples (e.g. from locked storeroom or laboratory).
- 2) The field sampler is personally responsible for the care and custody of the sample containers and samples until they are properly transferred or dispatched to the custody of another approved entity.
- 3) The field sampler is personally responsible for generating the COC form as samples are collected.
- 4) Sample labels/tags must be completed for each sample using waterproof ink, unless prohibited (notation required).

- 5) The lead investigator or field operations manager determines whether proper custody procedures were followed and if additional samples are required.
- 6) Organize all samples and be sure the samples collected are all present with the appropriate labels

INSTRUCTIONS

Transfer of Custody and Shipment

- 1) All samples are to be accompanied by COC record. All sections must be completed at the time of sample collection.
- 2) When transferring possession, individuals relinquishing and receiving will sign, date, and note the military time on the record.
- 3) The original COC form shall stay with the receiver and a copy (whenever possible) should be retained by the relinquisher.
- 4) Samples will be packaged properly for shipment and dispatched to the appropriate lab for analysis with a separate COC for each shipment. The containers may need to be sealed/locked in some cases (see Custody Seals). The method of shipment, courier name(s), and other pertinent information is entered in the "Remarks" section of the COC form.

Split Samples

- 5) Whenever samples are split with a source or government agency, a separate Receipt for Samples form shall be prepared for those samples and marked to indicate with whom the samples are being split. The person relinquishing the samples to the facility or agency should request the signature of a representative of the appropriate party acknowledging receipt of the samples. If a representative is unavailable or refuses to sign, this shall be noted in the "Received by" space of the COC form. When appropriate, as in the case where the representative is unavailable, the custody record shall contain a statement that the samples were delivered to the designated location at the designated time.

Laboratory Custody Procedures

- 6) A designated sample custodian shall accept custody of the shipped samples and verify that the information on the sample tags matches those on the COC records.
- 7) Pertinent information as to shipment, pickup, courier, etc., entered in the "Remarks" section.
- 8) The custodian should enter the sample tag data into a bound logbook per laboratory procedures.

- 9) Lab custodian will use the sample tag number or assign a unique number to each tag and assume that all samples are transferred to the proper analyst or stored in the appropriate secure area.
- 10) Lab personnel are responsible for the care and custody of the samples from the time they are received until the sample has been exhausted or returned to the custodian.
- 11) When analyses and necessary QA checks have been completed the unused portion of the sample must be disposed of properly. All identifying data sheets and lab records shall be retained as part of the permanent documentation. Samples will be retained until after analyses and QA checks are completed.

Custody Seals

- 12) Custody seals may be specified by the client and/or regulatory agency but are not a standard requirement. Possible methods are padlocks, serially numbered seals, unnumbered seals, and evidence tape. Where appropriate numbers should be cross-referenced between field notebook and COC form(s). If unnumbered or evidence tape, it should be signed and dated by the field sampler.
- 13) When samples are shipped, two or more seals are placed on each shipping container (such as a cooler), with at least one at the front and one at the back, located in a manner that would indicate if the container were opened in transit. Wide, clear tape should be placed over the seals to ensure that seals are not accidentally broken during shipment. Nylon packaging tape may be used providing that it does not completely cover the custody seal. Completely covering the seal with this tape may allow the label to be peeled off. Alternatively, evidence tape may be substituted for custody seals.
- 14) If samples are subject to interim storage before shipment, custody seals or evidence tape may be placed over the lid of the jar or across the opening of the storage box. Custody during shipping would be the same as described above. Evidence tape may also be used to seal the plastic bags or metal cans that are used to contain samples in the cooler or shipping container. Sealing individual sample containers assures that sample integrity will not be compromised if the outer container seals are accidentally broken.

SOP 018 SAMPLE PACKAGING AND SHIPMENT

DISCUSSION

This standard operating procedure is intended to provide general guidance for the shipment of samples to the laboratory for analysis.

EQUIPMENT LIST

- PPE
- Permanent (indelible) ink pen and marker
- Plastic or metal hard-sided cooler(s)
- Bubble wrap
- Water-based, cubed ice
- Zip-top-style sandwich bags (closable)
- Plastic garbage bags
- Paper towels
- Clear packaging tape
- Chain of custody seals
- Shipping address

PREPARATION

- 1) Review the sampling plan or scope of work and note the number of samples required, their preservation requirements, hold times, and duration of sampling field event.
- 2) Ensure sufficient cooler capacity is on hand for sample shipment. In general, sufficient ice for the cooling of samples will use half of available cooler space; in extreme temperature, or if long transit times are anticipated, more ice will be needed. In general, overnight shipping is highly recommended for any samples requiring cold preservation. Certain types of samples (e.g., hexavalent chromium in water) may have extremely short hold times; for these samples, it is desirable to either drop off the samples at, or have the samples delivered by courier to a qualified laboratory immediately following sampling. Multiple shipments may be necessary if short hold times or a multi-day sampling event are anticipated.
- 3) Prior to mobilizing for the field event, check with the laboratory and/or project manager for constituent-specific or special considerations when packing and shipping samples.

SAMPLE PACKAGING AND SHIPPING INSTRUCTIONS FOR SAMPLES REQUIRING COLD PRESERVATION

- 1) Line the cooler with bubble wrap, foam, or other similar material, including the bottom and sides of the cooler. Following the bubble wrap, line the cooler with a double layer of plastic garbage bags, openings facing up.
- 2) When using glass bottleware, wrap each bottle with bubble wrap or place inside the included foam container. Plastic bottleware does not require bubble wrap. It is recommended that clean nitrile gloves be worn when handling samples.
- 3) Soil jars should be sealed inside zip-top bags to prevent cross-contamination from melting ice or broken water containers.
- 4) Place a plastic garbage bag in the bottom of the cooler and fill with sufficient ice to fill the cooler about 1/3 of the way, twist the bag closed and secure with a twist tie or tape.
- 5) Place bottleware upright in the sample cooler on top of the layer of ice. Glass sample containers should be wrapped individually in bubble wrap or foam to prevent them from breaking. If there remains space between the sample containers and the sides of the cooler, add additional bubble wrap to ensure a tight fit.
- 6) Fill a second plastic garbage bag with ice and place on top of sample containers. Twist the bag closed and secure with a twist tie or tape. Add additional bubble wrap on top of the ice such that the cooler is packed tightly.
- 7) Complete the entire chain of custody form, double-checking sample identifiers, analytical requests, and contact information. Sign the chain of custody form and remove the duplicate copy (if applicable). Place chain of custody in a zip-top bag and place it on top of the trash bags in the cooler, or tape to the underside of the lid.
- 8) If applicable, sign the chain of custody seal and affix it across the seal between the cooler lid and the cooler body to ensure a tamper-proof seal.
- 9) Use clear packing tape or shipping tape to seal the cooler around the edge of the lid (where the lid of the cooler meets the body) and around the outside of the cooler to ensure the lid will not open during shipment; it is recommended that the tape be wrapped completely around the cooler (top to bottom) three times on each side.
- 10) If possible, label the cooler 'fragile' and with 'this end up' arrows to ensure proper handling by the shipping company or courier. Always ship samples on a 24-hour or less timetable to ensure prompt sample receiving by the laboratory. Ship within two hours of packing, if possible.
- 11) It is recommended that the sampler follow up with the laboratory to ensure that the samples arrived intact and on-time.

SAMPLE PACKAGING AND SHIPPING INSTRUCTIONS FOR SAMPLES NOT REQUIRING COLD PRESERVATION

- 1) If samples do not require cold preservation, they do not require the addition of ice, and may be shipped in a cardboard box. The samples should be adequately protected by packaging with bubble wrap, crushed newspaper, or other appropriate material.
- 2) Complete the entire chain of custody form, double-checking sample identifiers, analytical requests, and contact information. Sign the chain of custody form and remove the duplicate copy (if applicable). Place chain of custody in a zip-top bag and place it inside of the box.
- 3) If applicable, sign the chain of custody seals and affix them across the box seals to ensure a tamper-proof seal.
- 4) Use clear packing tap or shipping tape to seal the box by wrapping completely around the box and across the seals. Depending upon the weight of the sample containers, it is recommended that the tape be completely wrapped around the box 2 to 3 times.
- 5) It is recommended that the sampler follow up with the laboratory to ensure that the samples arrived intact and on-time.

June 20, 2017

Mr. Tony Hartlaub, VP Finance
Miller Chemical & Fertilizer LLC
120 Radio Road
Hanover, PA 17332

Re: Receipt of Notice of Intent to Remediate
Combination of Background, Site Specific and Statewide Health Standards
Miller Chemical & Fertilizer LLC Fire
eFACTS PF # 819375
120, 150 & 170 Radio Road, Hanover, PA
Conewago Township, Adams County

Dear Mr. Hartlaub:

This letter acknowledges receipt of your Notice of Intent to Remediate (NIR) on June 16, 2017 pertaining to the subject property and submitted in accordance with the Land Recycling and Environmental Remediation Standards Act (Act 2). The procedures set forth in Act 2 must be followed in order for this site to qualify for the liability protection provided by the Act. The Department of Environmental Protection (DEP or Department) will not accept plans and reports until after the 30-day comment period following submission of the NIR ends.

The 30-day comment period following submission of the NIR allows the municipality the opportunity to request to be involved in the development of remediation and reuse plans for the property. If the municipality requests a public involvement plan, any comments and responses must be included in any subsequent reports. Remedial investigation reports, risk assessment reports, cleanup plans, and final reports submitted to the Department under the site-specific standard need to be accompanied by the required fees and documentation verifying compliance with the public notification requirements.

Additional technical and program information can be found at www.dep.pa.gov, under Businesses > Land > Land Recycling. Also, please refer to the Land Recycling Program checklists which are helpful in assuring reports are complete before submittal. The DEP uses the checklists to perform administrative and technical completeness reviews when plans and/or reports are submitted. It is strongly encouraged to include the appropriate completed checklist with your final report submission. Land Recycling checklists can be found at the website under 'Forms, Checklists & Notifications' link.

Please refer to the enclosed Standard Attachment for considerations of other programs which may be applicable to this property.

Mr. James Rea, P.G., is the project manager assigned to your project and will be working with you towards the remediation of this property. Frequent contact is encouraged between your representatives and our staff. If you have any questions or need further clarifications of our procedures, please call Mr. Rea at 717.705.4850.

Sincerely,



Kathleen G. Horvath, P.G.
Land Recycling Chief
Environmental Cleanup and Brownfields Program

Enclosure: Standard Attachment

cc: Sarah Stoneking, Ramboll Environ US Corp.
Adams County Conservation District
Conewago Township

kgH



NOTICE OF INTENT TO REMEDIATE

Act 1995-2 requires four general information items to be included in the NIR: the general location, listing of contaminants, intended use of property, and proposed remediation measures. In addition, indicate the standard(s) to be obtained (if known) and attach a scaled site map (if available).

Property Name Miller Chemical & Fertilizer, LLC property

Former Name(s) / AKA Miller Chemical property

Address / Location 120, 150 and 170 Radio Road

City Hanover

Zip Code 17331

Municipality(s) Conewago Township

County(ies) Adams

Latitude 39 ° (deg). 49 ' (min) 9 " (sec) Longitude -77 ° (deg). 0 ' (min) 3 " (sec)

Horizontal Collection Method Pennsylvania Department of Environmental Protection eMapPA

Horizontal Reference Datum NAD83

Reference Point Entrance to Miller Chemical Facility

Wish to participate in the DEP/EPA MOA. Contact the Land Recycling Program Manager at landrecycling@pa.gov for details.

EPA ID#, if known none identified

DEP ID#(s), if known 170 Radio Road - Facility ID: 553873 (active); 120 Radio Road - Facility ID: 480011 (inactive)
(i.e., eFACTS site ID#, storage tank facility ID#, water quality permit #, watershed permit, air quality permit #, etc.)

Date Release Occurred (if known) June 8, 2015

Provide a brief description of the site contamination in plain language (e.g. fuel oil spill, historical chemical industrial area contamination), the names of any know primary contaminants to be addressed, and the intended future use of the property.

Identified impacts at the Miller Chemical property resulted from the release of fertilizer constituents during a fire and subsequent emergency fire-fighting response efforts that occurred on June 8, 2015 fire at the Miller Chemical & Fertilizer, LLC (Miller Chemical) facility. Constituents of potential concern include metals and nutrients and, as such, soil samples from disturbed areas and background areas have been collected and analyzed for the presence of metals and nutrients. Concentrations of constituents of potential concern were evaluated with respect to non-residential site use.

Provide a general description of proposed remediation measures.

No remediation measures are proposed at this property because measured concentrations of constituents of potential concern in site soil are below the Statewide Health Standard for non-residential site use, the Background Standard, or the Site-Specific Standard. The results of the ecological evaluation indicated that no species of concern are present on or near the site and no significant impacts to habitats of concern on or near the site were identified at the time of the evaluation. Therefore, no further ecological evaluation is warranted.

Remediation Standard(s) planned (if known at this time):

- | | | |
|---|-------------------------------|--------------------------------------|
| <input type="checkbox"/> Unknown at this time | <input type="checkbox"/> Soil | <input type="checkbox"/> Groundwater |
| <input checked="" type="checkbox"/> Background
Contaminants: Manganese | <input type="checkbox"/> Soil | <input type="checkbox"/> Groundwater |
| <input type="checkbox"/> Statewide Health - Residential
Contaminants: | <input type="checkbox"/> Soil | <input type="checkbox"/> Groundwater |
| <input checked="" type="checkbox"/> Statewide Health - Non-Residential
Contaminants: Aluminum, antimony, arsenic, barium, beryllium, boron, cadmium, chromium, cobalt, copper, iron, lead, mercury, molybdenum, nickel, nitrate, nitrite, selenium, silver, thallium, vanadium, and zinc | <input type="checkbox"/> Soil | <input type="checkbox"/> Groundwater |
| <input checked="" type="checkbox"/> Site Specific
Contaminants: Calcium, magnesium, phosphorous, potassium, sodium, sulfate | <input type="checkbox"/> Soil | <input type="checkbox"/> Groundwater |
| <input type="checkbox"/> Special Industrial Area*
Contaminants: | <input type="checkbox"/> Soil | <input type="checkbox"/> Groundwater |

*NOTE: Specific standard or Special Industrial Area require a 30-day municipal comment period

Remediator / Property Owner / Consultant. Complete the form below for each recipient obtaining a release of liability upon approval of the final report. Attach additional sheets as necessary.

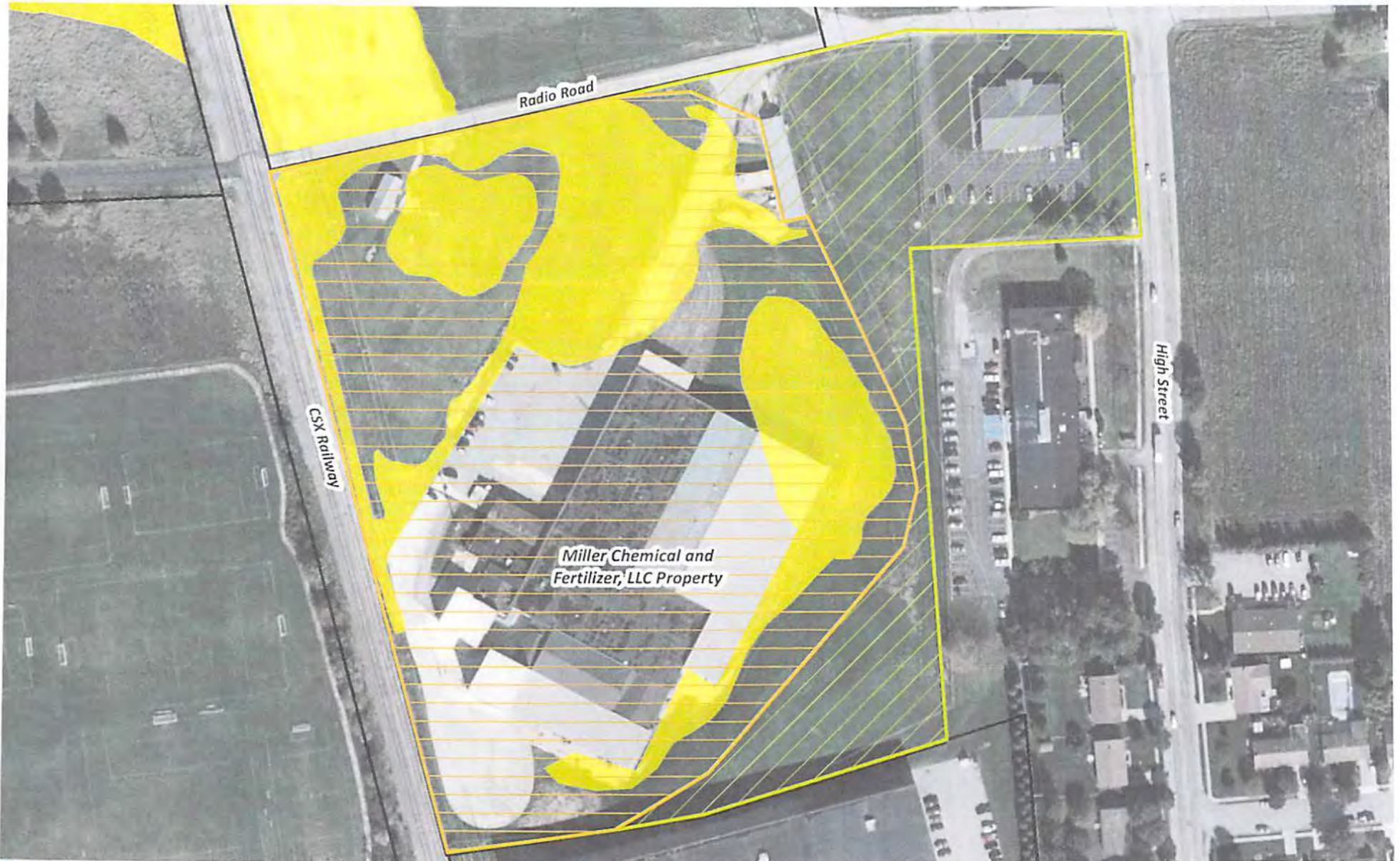
Remediator		
Contact Person/Title <u>Tony Hartlaub/ VP Finance</u>	eFACTS Client ID* <u>553073 320516</u>	
Relationship to Site <u>Remediator</u> (e.g. owner, remediator, participant in cleanup, consultant, etc.)	Client Type* <u>LLC</u>	
Phone Number <u>717-632-8921</u>	Email Address <u>Tonyhartlaub@millerchemical.com</u>	
Company Name <u>Miller Chemical & Fertilizer, LLC</u>	EIN or Federal ID # <u>46-5407027</u>	
Address (street, city, state, zip) <u>120 Radio Road, Hanover, PA 17332</u>		




Property Owner		
Contact Person/Title <u>Tony Hartlaub/ VP Finance</u>	eFACTS Client ID* <u>553073</u>	
Relationship to Site <u>Remediator</u> (e.g. owner, remediator, participant in cleanup, consultant, etc.)	Client Type* <u>LLC</u>	
Phone Number <u>717-632-8921</u>	Email Address <u>Tonyhartlaub@millerchemical.com</u>	
Company Name <u>Miller Chemical & Fertilizer, LLC</u>	EIN or Federal ID # <u>46-5407027</u>	
Address (street, city, state, zip) <u>120 Radio Road, Hanover, PA 17332</u>		

Consultant		
Contact Person/Title <u>Sarah Stoneking</u>	eFACTS Client ID* <u>274925 327099</u>	
Relationship to Site <u>Consultant</u> (e.g. owner, remediator, participant in cleanup, consultant, etc.)	Client Type* <u>Other (Non Government)</u>	
Phone Number <u>703-516-2407</u>	Email Address <u>sstoneking@ramboll.com</u>	
Company Name <u>Ramboll Environ US Corporation</u>	EIN or Federal ID # <u>52-1248616</u>	
Address (street, city, state, zip) <u>4350 North Fairfax Drive, Suite 300, Arlington, VA 22203</u>		

*Include eFACTS Client ID (if known) - "Client Types" below:		
Association/Organization	Limited Liability company	Partnership-General
Authority	Limited Liability Partnership	Partnership-Limited
County	Municipality	School District
Estate/Trust	Non-Pennsylvania Government	Sole Proprietorship
Federal Agency	Other (Non-Government)	State Agency
Individual	Pennsylvania Corporation	

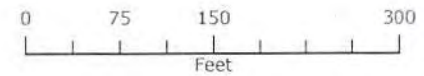
Preparer of Notice of Intent to Remediate		
Name <u>Mark Nielsen</u>	Title <u>Principal</u>	
Phone Number <u>215-532-5602</u>	Email Address <u>mnielsen@ramboll.com</u>	
Company Name <u>Ramboll Environ US Corporation</u>	eFACTS Client ID <u>274925</u>	
Address (street, city, state, zip) <u>1760 Market Street, Suite 1000, Philadelphia, PA 19103</u>		



-  Disturbed Area
-  Background Area
-  Visibly Affected Area

Note:

Location of the visibly affected area is based on the 8/28/2015 and 9/21/2015 surveys conducted by GHI and on GPS measurements collected by Ramboll Environ staff.



Ms. Barbara Krebs
Township Manager
Conewago Township
541 Oxford Avenue
Hanover, PA 17331

**RE: Notice of Intent to Remediate to Statewide Health, Background,
and Site Specific Standards
Miller Chemical & Fertilizer, LLC Property
120, 150, and 170 Radio Road
Conewago Township
Adams County**

Dear Ms. Krebs:

The Land Recycling and Environmental Remediation Standards Act (Act 2) requires that a Notice of Intent to Remediate (NIR) a site be provided to the municipality in which the site is located. In accordance with this provision of Act 2, we are formally notifying you of our intent to remediate the subject site. A copy of the Notice of Intent to Remediate, which has been sent to the Department of Environmental Protection (DEP), is enclosed. This notice will also be published in the Pennsylvania Bulletin, and a summary of the notice will be placed in a local newspaper.

Publication of this notice in a local newspaper initiates the 30-day public and municipal comment period. During this time, your municipality may request to become involved in the development of remediation and reuse plans for the site. If the municipality wishes to become involved in this project, please send your comments to the Department of Environmental Protection at 909 Elmerton Avenue, Harrisburg, PA 17110-8200 to the attention of the case manager, Mr. James Rea, P.G.

Should you have any questions or comments regarding the proposed remediation, please contact me at (703) 516-2407, or sstoneking@ramboll.com.

Yours sincerely,



Sarah Stoneking
Senior Manager

D +1 703 516 2407
sstoneking@ramboll.com

Date May 30, 2017

Ramboll Environ
4350 North Fairfax Drive
Suite 300
Arlington, VA 22203
USA

T +1 703 516 2300
F +1 703 516 2345
www.ramboll-environ.com

Attachment A
Notice of Intent to Remediate

The following information is provided to you for your information and to assist you in understanding the proposed remedial action. The information is based on the results of the investigation and the proposed remedial action. The information is provided to you for your information and to assist you in understanding the proposed remedial action.

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Former Name(s) / AKA Miller Chemical property

Address / Location 120, 150 and 170 Radio Road

City Hanover Zip Code 17331

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Horizontal Reference Datum NAD83 Reference Point Entrance to Miller Chemical Facility

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EPA ID#, if known none identified

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Provide a general description of proposed remediation measures.

No remediation measures are proposed at this property because measured concentrations of constituents of potential concern in site soil are below the Statewide Health Standard for non-residential site use, the Background Standard, or the Site-Specific Standard. The results of the ecological evaluation indicated that no species of concern are present on or near the site and no significant impacts to habitats of concern on or near the site were identified at the time of the evaluation. Therefore, no further ecological evaluation is warranted.

Remediation Standard(s) planned (if known at this time):

- | | | |
|---|-------------------------------|--------------------------------------|
| <input type="checkbox"/> Unknown at this time | <input type="checkbox"/> Soil | <input type="checkbox"/> Groundwater |
| <input checked="" type="checkbox"/> Background
Contaminants: Manganese | <input type="checkbox"/> Soil | <input type="checkbox"/> Groundwater |
| <input type="checkbox"/> Statewide Health - Residential
Contaminants: | <input type="checkbox"/> Soil | <input type="checkbox"/> Groundwater |
| <input checked="" type="checkbox"/> Statewide Health – Non-Residential
Contaminants: Aluminum, antimony, arsenic, barium, beryllium, boron, cadmium, chromium, cobalt, copper, iron, lead, mercury, molybdenum, nickel, nitrate, nitrite, selenium, silver, thallium, vanadium, and zinc | <input type="checkbox"/> Soil | <input type="checkbox"/> Groundwater |
| <input checked="" type="checkbox"/> Site Specific
Contaminants: Calcium, magnesium, phosphorous, potassium, sodium, sulfate | <input type="checkbox"/> Soil | <input type="checkbox"/> Groundwater |
| <input type="checkbox"/> Special Industrial Area*
Contaminants: | <input type="checkbox"/> Soil | <input type="checkbox"/> Groundwater |

*NOTE: Specific standard or Special Industrial Area require a 30-day municipal comment period

Remediator / Property Owner / Consultant. Complete the form below for each recipient obtaining a release of liability upon approval of the final report. Attach additional sheets as necessary.

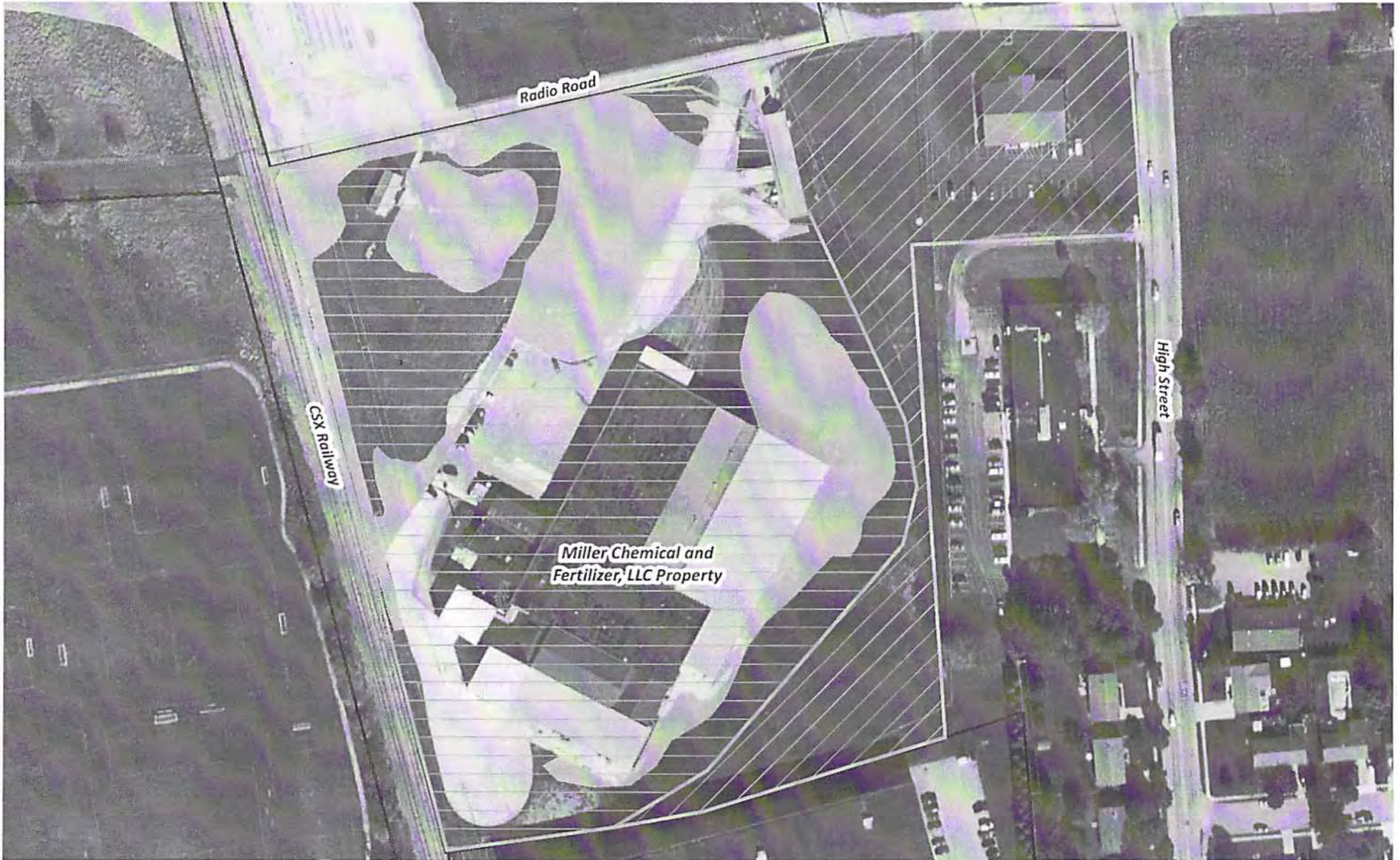
Remediator		
Contact Person/Title <u>Tony Hartlaub/ VP Finance</u>	eFACTS Client ID* <u>553873</u>	
Relationship to Site <u>Remediator</u> (e.g. owner, remediator, participant in cleanup, consultant, etc.)	Client Type* <u>LLC</u>	
Phone Number <u>717-632-8921</u>	Email Address <u>Tonyhartlaub@millerchemical.com</u>	
Company Name <u>Miller Chemical & Fertilizer, LLC</u>	EIN or Federal ID # <u>46-5407027</u>	
Address (street, city, state, zip) <u>120 Radio Road, Hanover, PA 17332</u>		

Property Owner		
Contact Person/Title <u>Tony Hartlaub/ VP Finance</u>	eFACTS Client ID* <u>553873</u>	
Relationship to Site <u>Remediator</u> (e.g. owner, remediator, participant in cleanup, consultant, etc.)	Client Type* <u>LLC</u>	
Phone Number <u>717-632-8921</u>	Email Address <u>Tonyhartlaub@millerchemical.com</u>	
Company Name <u>Miller Chemical & Fertilizer, LLC</u>	EIN or Federal ID # <u>46-5407027</u>	
Address (street, city, state, zip) <u>120 Radio Road, Hanover, PA 17332</u>		

Consultant		
Contact Person/Title <u>Sarah Stoneking</u>	eFACTS Client ID* <u>274925</u>	
Relationship to Site <u>Consultant</u> (e.g. owner, remediator, participant in cleanup, consultant, etc.)	Client Type* <u>Other (Non Government)</u>	
Phone Number <u>703-516-2407</u>	Email Address <u>sstoneking@ramboll.com</u>	
Company Name <u>Ramboll Environ US Corporation</u>	EIN or Federal ID # <u>52-1248616</u>	
Address (street, city, state, zip) <u>4350 North Fairfax Drive, Suite 300, Arlington, VA 22203</u>		

*Include eFACTS Client ID (if known) – "Client Types" below:		
Association/Organization	Limited Liability company	Partnership-General
Authority	Limited Liability Partnership	Partnership-Limited
County	Municipality	School District
Estate/Trust	Non-Pennsylvania Government	Sole Proprietorship
Federal Agency	Other (Non-Government)	State Agency
Individual	Pennsylvania Corporation	

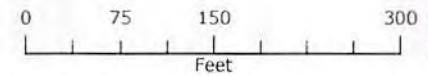
Preparer of Notice of Intent to Remediate		
Name <u>Mark Nielsen</u>	Title <u>Principal</u>	
Phone Number <u>215-532-5602</u>	Email Address <u>mnielsen@ramboll.com</u>	
Company Name <u>Ramboll Environ US Corporation</u>	eFACTS Client ID <u>274925</u>	
Address (street, city, state, zip) <u>1760 Market Street, Suite 1000, Philadelphia, PA 19103</u>		



- Disturbed Area
- Background Area
- Visibly Affected Area

Note:

Location of the visibly affected area is based on the 8/28/2015 and 9/21/2015 surveys conducted by GHI and on GPS measurements collected by Ramboll Environ staff.





June 2, 2017

Dear Customer:

The following is the proof-of-delivery for tracking number **779269307298**.

Delivery Information:

Status:	Delivered	Delivered to:	Receptionist/Front Desk
Signed for by:	H.TYLER	Delivery location:	541 OXFORD AVE HANOVER, PA 17331
Service type:	FedEx 2Day	Delivery date:	Jun 2, 2017 13:54
Special Handling:	Deliver Weekday		



Shipping Information:

Tracking number:	779269307298	Ship date:	May 31, 2017
		Weight:	0.5 lbs/0.2 kg

Recipient:
Barbara Krebs
Conewago Township
541 Oxford Avenue
HANOVER, PA 17331 US

Shipper:
ANNIE KOHAN
RAMBOLL ENVIRON
4350 N. FAIRFAX DRIVE
STE. 300
ARLINGTON, VA 22203 US
0137782A

Reference

Thank you for choosing FedEx.

Proof of Publication State of Pennsylvania

Ad # 0001675946-01

The **Evening Sun** is the name of the newspaper(s) of general circulation published continuously for more than six months at its principal place of business, 37 Broadway Street, Hanover, PA.

The printed copy of the advertisement hereto attached is a true copy, exactly as printed and published, of an advertisement printed in the regular issues of the said **The Evening Sun** published on the following dates, viz:

06/04/2017

COMMONWEALTH OF PENNSYLVANIA COUNTY OF YORK

Before me, a Notary Public, personally came Pam Rodencal who being duly sworn deposes and says that she is the Legal Advertising Clerk of The Evening Sun and her personal knowledge of the publication of the advertisement mentioned in the foregoing statement as to the time, place and character of publications are true, and that the affiant is not interested in the subject matter of the above mentioned advertisement.

Sworn and subscribed to before me, on
this 4 day of June 2017

Nachelle L. Whitmoyer

Notary Public

Pam Rodencal

COMMONWEALTH OF PENNSYLVANIA

NOTARIAL SEAL
NACHELLE L. WHITMOYER, Notary Public
West Manchester Twp., York County
My Commission Expires April 14, 2019

The charge for the following publication of above mentioned advertisement and the expense of the affidavit.

Advertisement Cost	\$139.94
Affidavit Fee	\$5.00
Total Cost	<u>\$144.94</u>

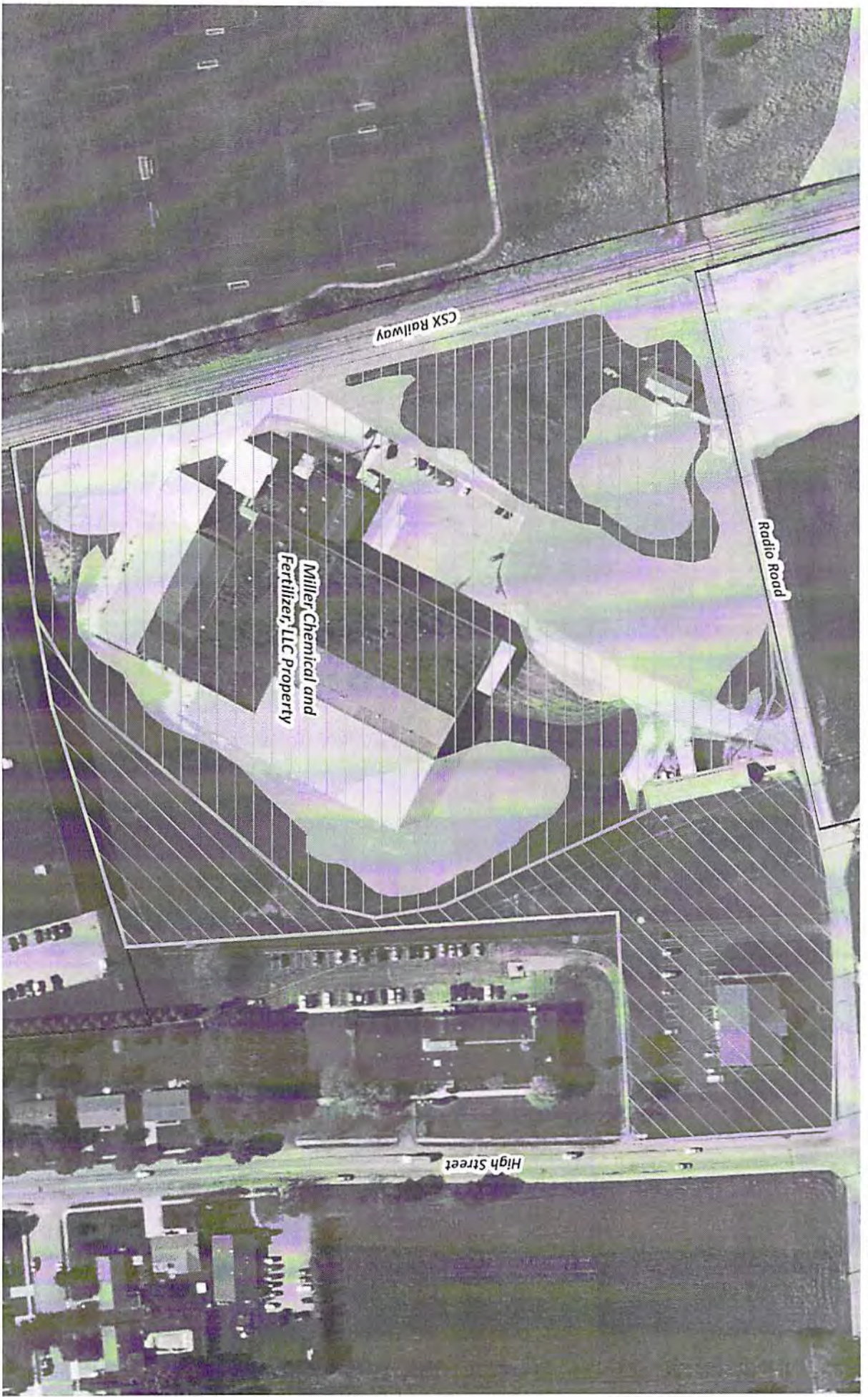
PUBLIC NOTICE




Miller Chemical & Fertilizer, LLC Property

Pursuant to the Land Recycling and Environmental Remediation Standards Act, the act of May 19, 1985, P.L. 4, No. 1985-2, notice is hereby given that Miller Chemical & Fertilizer, LLC (Miller Chemical) has submitted to the Pennsylvania Department of Environmental Protection a Notice of Intent to Remediate a site located at 120, 150, and 170 Radio Road, Hanover, Conewago Township, Adams County. This Notice of Intent to Remediate states that the site is a non-residential property owned by Miller Chemical. The site has been found to be impacted by fertilizer constituents mobilized by fire-fighting emergency response activities performed on June 8, 2015, at the Miller Chemical facility. Runoff of the fire-fighting water carried fertilizer constituents including metals and nutrients, which were suspected to have contaminated soil at the Miller Chemical property. Soils from background and disturbed areas were sampled for metals and nutrients. The future use of the property is expected to remain non-residential. Concentrations of constituents of potential concern in site soils are below the Statewide Health Standards established for non-residential site use, the Background Standard, or are not of concern given the results of a site-specific analysis (for these constituents without Statewide Health Standards). As such, Miller Chemical has not proposed remediation measures.

Miller Chemical plans to use the site-specific standard at the site for fertilizer constituents for which Statewide Health Standards do not exist. The Act provides for a 30-day public comment period for site-specific standard remediation. The 30-day comment period is initiated with the publication of this notice. Until July 8, 2017, Conewago Township may submit a request to Miller Chemical during this 30-day comment period to develop and implement a public involvement plan. Copies of these requests and of any comments should also be submitted to the Department of Environmental Protection at 908 Emerson Avenue, Harrisburg, PA 17110-8200; Attn: James E. Roe, P.G.

Figure 1
Site Layout
Miller Chemical Property, Hanover, PA



-  Disturbed Area
-  Background Area
-  Visibly Affected Area

Note:
Location of the visibly affected area is based on the 8/28/2015 and 9/21/2015 surveys conducted by GH1 and on GPS measurements collected by Ramboll Environ staff.



July 28, 2017

FILE

Mr. Tony Hartlaub
Miller Chemical & Fertilizer, LLC
120 Radio Road
Hanover, PA 17332

Re: Receipt of Remedial Investigation and Final Report
Miller Chemical and Fertilizer, LLC
eFACTS PF # 819375
120, 150 and 170 Radio Road, Hanover, PA
Conewago Township, Adams County

Dear Mr. Hartlaub:

This letter acknowledges receipt of your Remedial Investigation and Final Report on July 27, 2017 pertaining to the subject property and submitted in accordance with the Land Recycling and Environmental Remediation Standards Act (Act 2). The Notice of Intent to Remediate submitted previously and this Final Report indicate that you sought to remediate this site to meet the Site-Specific Standard.

The Department of Environmental Protection (Department) has 90 days from receipt of a submission to review the Report. You will receive a letter advising you of the Department's action. If you have any questions or need further clarification of our procedures, please call Jim Rea at 717.705.4850.

Sincerely,



Kathleen G. Horvath, P.G.
Land Recycling Chief

cc: Sarah Stoneking, Ramboll Environ US Corp.
Adams County Conservation District
Conewago Township

emn

Jim

NOTICES

DEPARTMENT OF ENVIRONMENTAL PROTECTION

Applications, Actions and Special Notices

[47 Pa.B. 3995]
[Saturday, July 22, 2017]

UNDER ACT 2, 1995 PREAMBLE 3

The Department has taken action on the following plans and reports under the Land Recycling and Environmental Remediation Standards Act (35 P.S. §§ 6026.101—6026.907).

Miller Chemical & Fertilizer, LLC, 120, 150 and 170 Radio Road, Hanover, PA 17331, Conewago Township, **Adams County**. Ramboll Environ US Corporation, 4350 North Fairfax Drive, Suite 300, Arlington, VA 22203, on behalf of Miller Chemical & Fertilizer, LLC, 120 Radio Road, Hanover, PA 17332, submitted a Remedial Investigation and Final Report concerning remediation of site soil contaminated with fertilizer run-off. The combined Report was administratively incomplete and was disapproved by the Department on June 27, 2017.

9/18/17 (18)

DEPARTMENT OF ENVIRONMENTAL PROTECTION

UNDER ACT 2, 1995 PREAMBLE 3

[47 Pa.B. 5795]
[Saturday, November 18, 2017]

Miller Chemical & Fertilizer, LLC, 120, 150 and 170 Radio Road, Hanover, PA 17331, Conewago Township, **Adams County**. Ramboll Environ US Corporation, 4350 North Fairfax Drive, Suite 300, Arlington, VA 22203, on behalf of Miller Chemical & Fertilizer, LLC, 120 Radio Road, Hanover, PA 17332, submitted a Remedial Investigation and Final Report concerning remediation of site soil contaminated with fertilizer run-off. The Final Report demonstrated attainment of the Background, Nonresidential Statewide Health and Site-Specific Standards, and was approved by the Department on October 25, 2017.

Jim

NOTICES

DEPARTMENT OF ENVIRONMENTAL PROTECTION

Applications, Actions and Special Notices

[47 Pa.B. 3747]
[Saturday, July 8, 2017]

UNDER ACT 2, 1995 PREAMBLE 1

Acknowledgment of Notices of Intent to Remediate Submitted under the Land Recycling and Environmental Remediation Standards Act (35 P.S. §§ 6026.101—6026.907)

Miller Chemical & Fertilizer LLC Fire, 120, 150 and 170 Radio Road, Hanover, PA 17331, Conewago Township, **Adams County**. Ramboll Environ US Corporation, 4350 North Fairfax Drive, Suite 300, Arlington, VA 22203, on behalf of Miller Chemical & Fertilizer, LLC, 120 Radio Road, Hanover, PA 17332, submitted a Notice of Intent to Remediate site soil contaminated with inorganics and fertilizers. The site will be remediated to a combination of Background, Site-Specific, and Non-Residential Statewide Health Standards. Future use of the site is to remain non-residential. The Notice of Intent to Remediate was published in *The Evening Sun* on June 4, 2017.

18

For DEP Use Only
PF # _____
Rem ID # _____

FINAL REPORT SUMMARY

The Final Report Summary (FRS) is a brief report consisting of set of data required in addition to the Act 2 Final Report. The summary is used in part as a reference to the Final Report Approval Letter which conveys liability relief to the remediator and other applicable persons. It is of value long after the remediation to be used by the public and Department in understanding key information about the site and remediation.

This use is increased by the fact that it will ultimately be merged into the Department's eFACTS system, which allows the public to have the ease of computer access to environmental information at sites. For more information, see www.ahs.dep.pa.gov/eFACTSWeb/default.aspx. Finally, the summary will be used by the Department to help to better assess the status and the level of success of the program. In the past, numbers of sites remediated has been tracked. With the inclusion of this summary information, progress can be tracked in many specific ways, including identification of individual chemical constituents, and the mass treated, removed or managed safely in place.

Identification

Property Name Miller Chemical and Fertilizer, LLC

Property Descriptor Fertilizer Production and Packaging Facility

Address / Location

Address 120, 150 and 170 Radio Road

City Hanover

Zip Code 17332

Municipality(s) Conewago Township

County(ies) Adams

Latitude 39 ° (deg). 49 ' (min) 10 " (sec) Longitude -77 ° (deg). 0 ' (min) 21 " (sec)

Horizontal Collection Method Pennsylvania Department of Environmental Protection eMapPA

Horizontal Reference Datum NAD83

Reference Point Entrance to Facility

Property Specifics

Size of Property 13-acres

Number of Sites 1

Combined acreage of sites 13-acres

Remediation

Standards attained or special industrial area attainment. (Check all that apply. Can use multiple.)

Background Statewide Health Site-Specific Special Industrial Area

Proposed future property use - scenario for which the attainment of Statewide Health standard is demonstrated

Residential Non-residential

List of contaminants

Soils

Chemical Name	CAS Number	Mass Contaminant Treated or Removed (lbs.)	Mass Contaminant Managed on Site (lbs.)
Aluminum	7429-90-5	0	0
Antimony	7440-36-0	0	0
Arsenic	7440-38-2	0	0
Barium	7440-39-3	0	0
Beryllium	7440-41-7	0	0
Boron	7440-42-8	0	0
Cadmium	7440-43-9	0	0
Calcium	7440-70-2	0	0
Chromium (total)	7440-47-3	0	0
Cobalt	7440-48-4	0	0
Copper	7440-50-8	0	0

Iron	7439-89-6	0	0
Lead	7439-92-1	0	0
Magnesium	7439-95-4	0	0
Manganese	7439-96-5	0	0
Mercury	9439-97-6	0	0
Molybdenum	7439-98-7	0	0
Nickel	7439-98-7	0	0
Nitrate	14797-65-0	0	0
Nitrite	14797-55-8	0	0
Phosphorous	7723-14-0	0	0
Potassium	7440-09-7	0	0
Selenium	7782-49-2	0	0
Silver	7440-22-4	0	0
Sodium	7440-23-5	0	0
Sulfate	14808-79-8	0	0
Thallium	7440-28-0	0	0
Vanadium	7440-62-2	0	0
Zinc	7440-66-6	0	0

Groundwater

Chemical Name	CAS Number	Mass Contaminant Treated or Removed (lbs.)	Mass Contaminant Managed on Site (lbs.)

Remediation

Number of sampling rounds for groundwater attainment: NA

Special Features

Non-use aquifer approval date: _____

Area-wide background approval date: _____

Amount of waste removed other than soil or groundwater (cubic yards): _____

Municipal ordinance prohibiting groundwater use:

Not Applicable

Post remediation care plan:

Not Applicable

Other Programs

- Key Site
- Multi-site Agreement; Date: _____
- Enterprise Zone
- Keystone Opportunity Zone

Administrative

- Municipality request for public involvement plan

Deed notification

- Deed acknowledgment:

- Environmental covenant:

Cleanup cost (\$): _____

Jobs created/saved: _____

Narrative: Provide property history and description, site characterization findings, site description, summary of remediation, summary of attainment demonstration, description of pathway elimination, engineering and institutional controls, and benefits of land reuse, when applicable.

Emergency response actions associated with a June 8, 2015 fire at the Miller Chemical facility, resulted in the migration of fertilizer constituents in fire water runoff, which flowed across an approximately 3.3-acre portion of the Miller Chemical property. On behalf of Miller Chemical, Ramboll Environ investigated the nature and extent of soil impacts at the Miller Chemical property. Soils were analyzed for potential contaminants of concern, including metals and other fertilizer constituents. Results of the soil sample analysis indicate that only arsenic and manganese were detected at concentrations exceeding Non-Residential MSCs in disturbed area soils. Consistent with 25 Pa. Code §250.707 (b)(1)(ii), the 95% UCL on the mean arsenic concentrations for the disturbed area soils were evaluated and determined to be less than the Non-Residential MSCs. In addition, manganese concentrations in disturbed area soils were found to be less than background concentrations. As such, the arsenic and manganese concentrations in soil at the Miller Chemical property are in attainment of the Act 2 standards. Ramboll Environ also conducted a human health evaluation to assess the potential significance of detected constituents with no established SHSs. Based on the results of the evaluation, the detected concentrations of these constituents (calcium, magnesium, phosphorus, potassium, sodium, and sulfate) in soil at the Miller Chemical

property do not represent a human health concern.

Finally, conduct of an ecological screening assessment in accordance with PADEP guidance did not identify species of concern on or adjacent to the site, and no significant impacts to habitats of concern on or near the site were identified. Therefore, no further ecological evaluation is required.

Based on the results of the attainment assessment, Relief of Liability is being sought for the following compounds in soil under the Non-Residential Statewide Health Standard:

- Aluminum, antimony, arsenic, barium, beryllium, boron, cadmium, chromium, cobalt, copper, iron, lead, mercury, molybdenum, nickel, selenium, silver, thallium, vanadium, and zinc
- Nitrate and nitrite

Relief of Liability is being sought for the following constituent under the Background Standard:

- Manganese

Relief of Liability is also being sought for the following constituents, for which SHS have not been developed, under the Site-Specific Standard:

- Calcium
- Magnesium
- Phosphorous
- Potassium
- Sodium
- Sulfate

Remediator / Property Owner / Consultant. Complete the form below for each recipient obtaining a release of liability upon approval of the final report. Attach additional sheets as necessary.

Remediator

Contact Person/Title Tony Hartlaub/VP Finance eFACTS Client ID* 320516
 Relationship to Site Remediator/Owner Representative Client Type* LLC
 (e.g. owner, remediator, participant in cleanup, consultant, etc.)
 Phone Number 717-632-8921 Email Address Tonyhartlaub@millerchemical.com
 Company Name Miller Chemical & Fertilizer, LLC EIN or Federal ID # 46-5407027
 Street Address 120 Radio Road
 City Hanover State PA Zip Code 17332

Property Owner

Contact Person/Title Same as above eFACTS Client ID* _____
 Relationship to Site _____ Client Type* _____
 (e.g. owner, remediator, participant in cleanup, consultant, etc.)
 Phone Number _____ Email Address _____
 Company Name _____ EIN or Federal ID # _____
 Street Address _____
 City _____ State _____ Zip Code _____

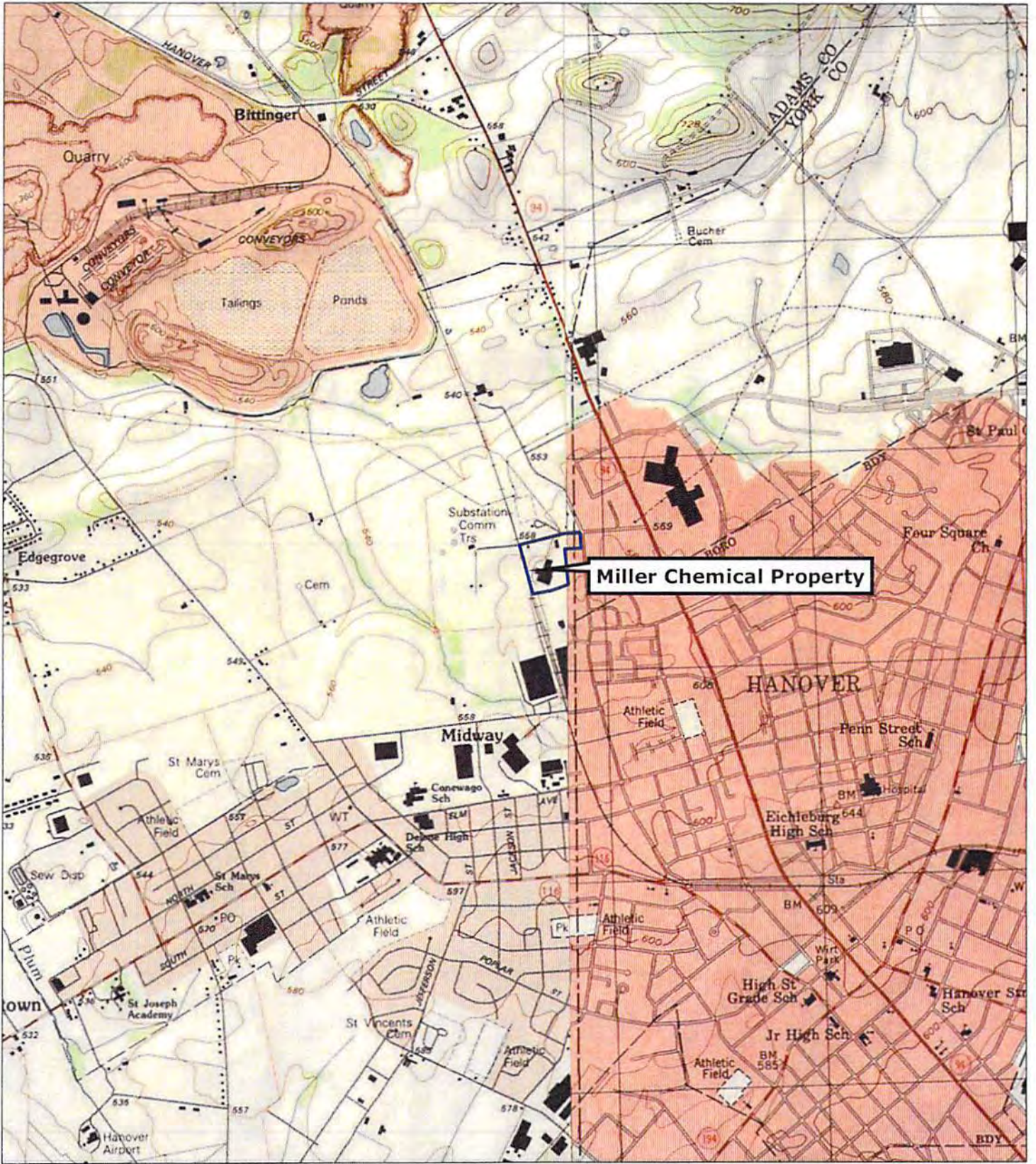
Consultant

Contact Person/Title Sarah Stoneking/Senior Project Manager eFACTS Client ID* 274925
 Relationship to Site Consultant Client Type* Other (Non-Government)
 (e.g. owner, remediator, participant in cleanup, consultant, etc.)
 Phone Number 703-516-2407 Email Address sstoneking@ramboll.com
 Company Name Ramboll Environ US Corporation EIN or Federal ID # 52-1248616
 Street Address 4350 North Fairfax Drive, Suite 300
 City Arlington State VA Zip Code 22203

*Include eFACTS Client ID (if known) – "Client Types" below:

Association/Organization	Limited Liability Company	Partnership-General
Authority	Limited Liability Partnership	Partnership-Limited
County	Municipality	School District
Estate/Trust	Non-Pennsylvania Government	Sole Proprietorship
Federal Agency	Other (Non-Government)	State Agency
Individual	Pennsylvania Corporation	

Attachments: In addition to the data entered in this FRS, the Department requests scanned image(s) of a map view of the site indicating, at a minimum, the boundaries of the "site" relative to the locations of the adjacent property boundaries. The location of the site (as defined by Act 2) is that which will receive the liability relief conveyed by Act 2, Chapter 5. The maps may portray other features but should clearly show the Act 2 site boundaries. You may also attach other applicable image files or attachments. These files should be in Adobe Acrobat (*.pdf), GIF (*.gif) or JPEG file interchange format (*.jpg).



SCALE 1:24,000

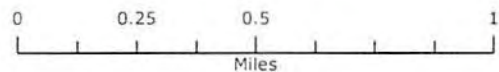
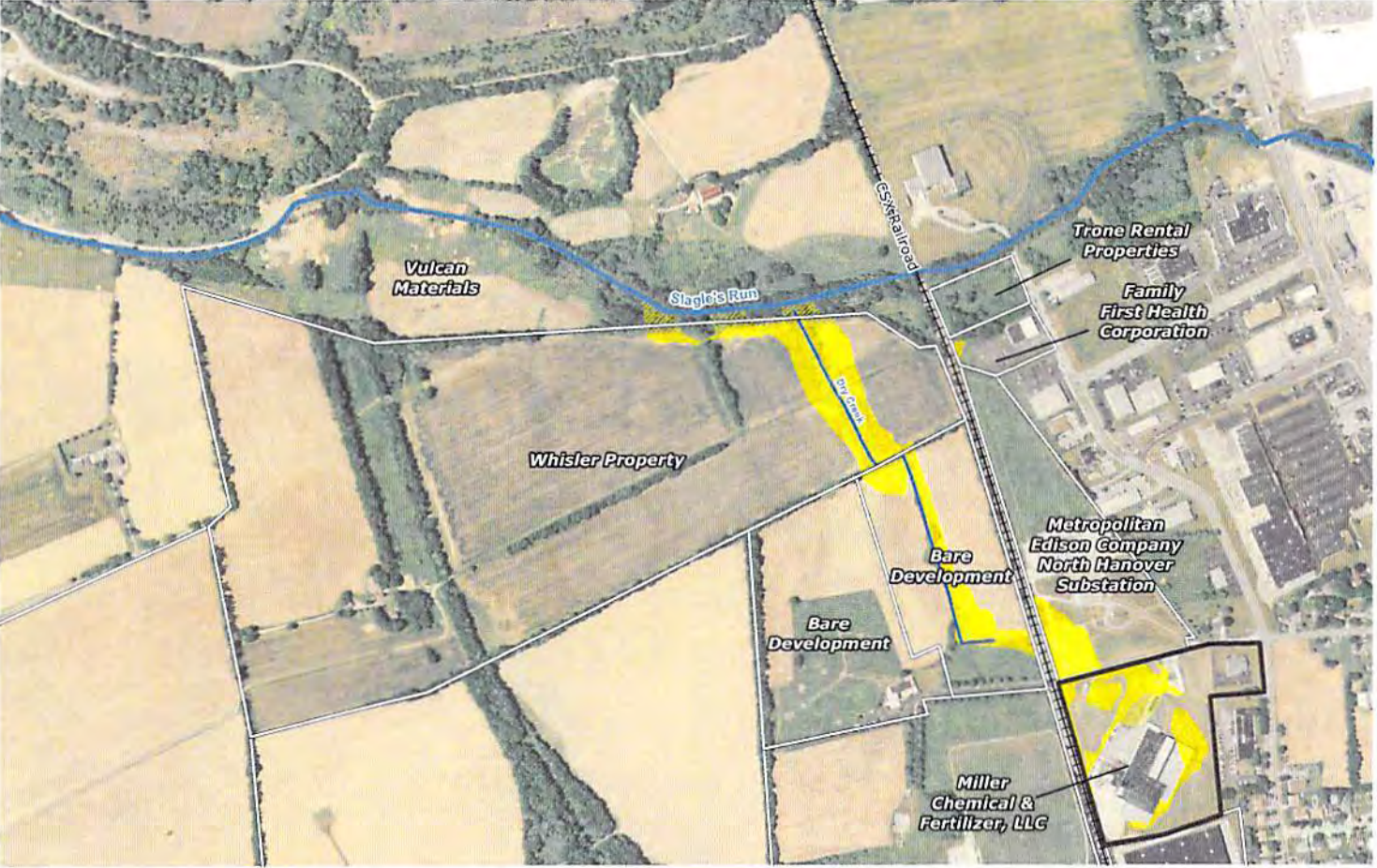




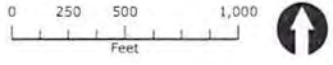


Figure 1-2
Affected Properties
 Miller Chemical Property, Hanover, PA



-  Miller Chemical Property
-  Visibly Affected Area
-  Other Off-Site Properties
-  Estimated Affected Area

Notes:
 (1) Location of the visibly affected area is based on the 8/28/2015 and 9/21/2015 surveys conducted by GH1 and on GPS measurements collected by Ramboll Environ Staff. The estimated affected area was not mapped with the GPS because the boundaries of the impacts were not readily discernible or not safely accessible. The estimated area shown on the map is based on visual observations.
 (2) Dry Creek feature is approximate.



NEWSPAPER NOTIFICATION

Miller Chemical and Fertilizer, LLC Property

Notice is hereby given that Miller Chemical and Fertilizer, LLC (Miller Chemical) has submitted a Remedial Investigation and Final Report to the Pennsylvania Department of Environmental Protection, South-Central Regional Office, to demonstrate attainment of the Background Standard, Statewide Health Standard, and Site-Specific Standard for the Miller Chemical and Fertilizer, LLC property located at 120, 150 and 170 Radio Road, Conewago Township, Adams County. Miller Chemical has indicated attainment of the Background Standard, Non-Residential Statewide Health Standard, and Site-Specific Standard established under the Land Recycling and Environmental Remediation Standards Act.

This notice is made under the provision of the Land Recycling and Environmental Remediation Standards Act, the Act of May 19, 1995, P.L. #4, No. 2.

Proof of Publication
State of Pennsylvania

AD # 0001682441-01

The Evening Sun is the name of the newspaper(s) of general circulation published continuously for more than six months at its principal place of business, 37 Broadway Street, Hanover, PA.

The printed copy of the advertisement hereto attached is a true copy, exactly as printed and published, of an advertisement printed in the regular issues of the said The Evening Sun published on the following dates, viz:

7/13/2017

PUBLIC NOTICE

**Miller Chemical and Fertilizer,
LLC Property**

Notice is hereby given that Miller Chemical and Fertilizer, LLC (Miller Chemical) has submitted a Remedial Investigation and Final Report to the Pennsylvania Department of Environmental Protection, South-Central Regional Office, to demonstrate attainment of the Background Standard, Statewide Health Standard, and Site-Specific Standard for the Miller Chemical and Fertilizer, LLC property located at 120, 150 and 170 Radio Road, Conewago Township, Adams County. Miller Chemical has indicated attainment of the Background Standard, Non-Residential Statewide Health Standard, and Site-Specific Standard established under the Land Recycling and Environmental Remediation Standards Act.

This notice is made under the provision of the Land Recycling and Environmental Remediation Standards Act, the Act of May 19, 1995, P.L. #4, No. 2.

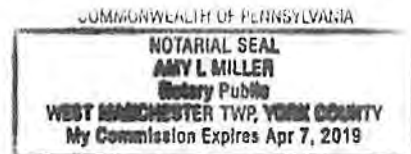
**COMMONWEALTH OF PENNSYLVANIA
COUNTY OF YORK**

Before me, a Notary Public, personally came Sherry Bobby who being duly sworn deposes and says that she is the Legal Advertising Clerk of The Evening Sun and her personal knowledge of the publication of the advertisement mentioned in the foregoing statement as to the time, place and character of publications are true, and that the affiant is not interested in the subject matter of the above mentioned advertisement.

Sworn and subscribed to before me, on
this 13 day of July 2017

Amy L. Miller }
Notary Public

Sherry Bobby



The charge for the following publication of above mentioned advertisement and the expense of the affidavit.

Advertisement Cost	\$73.18
Affidavit Fee	\$5.00
Total Cost	\$78.18

Ms. Barbara Krebs
Township Manager
Conewago Township
541 Oxford Avenue
Hanover, PA 17331

**RE: Notice of Remedial Investigation and Final Report Submission for
Background Standard, Statewide Health Standard, and Site-Specific
Standard
Miller Chemical and Fertilizer, LLC
120, 150 and 170 Radio Road, Hanover, Conewago Township, Adams
County**

Dear Ms. Krebs:

Notice is hereby given that Miller Chemical and Fertilizer, LLC has submitted a Remedial Investigation and Final Report to the Department of Environmental Protection for the Miller Chemical and Fertilizer, LLC property located at 120, 150 and 170 Radio Road, Hanover, Conewago Township, Adams County. The Remedial Investigation and Final Report indicates attainment of the Background Standard, Non-Residential Statewide Health Standard and Site-Specific Standard established under the Land Recycling and Environmental Remediation Standards Act.

This notice is made under the provision of the Land Recycling and Environmental Standards Act, the Act of May 19, 1995, P.L. #4, No. 2.

Please contact Sarah Stoneking at 703-516-2407 or sstoneking@ramboll.com if you should have any questions regarding this notice.

Yours sincerely,


Sarah Stoneking
Senior Manager


J. Mark Nielsen, P.E.
Principal

Date July 11, 2017

Ramboll Environ
4350 North Fairfax Drive
Suite 300
Arlington, VA 22203
USA

T +1 703 516 2300
F +1 703 516 2345
www.ramboll-environ.com



July 26, 2017

Dear Customer:

The following is the proof-of-delivery for tracking number **779603701736**.

Delivery Information:

Status:	Delivered	Delivered to:	Receptionist/Front Desk
Signed for by:	A.PARR	Delivery location:	541 OXFORD AVE HANOVER, PA 17331
Service type:	FedEx Priority Overnight	Delivery date:	Jul 12, 2017 10:02
Special Handling:	Deliver Weekday Adult Signature Required		

Shipping Information:

Tracking number:	779603701736	Ship date:	Jul 11, 2017
		Weight:	0.5 lbs/0.2 kg

Recipient:
Barbara Krebs
Conewago Township
541 Oxford Avenue
HANOVER, PA 17331 US

Shipper:
ANNIE KOHAN
ENVIRON CORPORATION
4350 N. FAIRFAX DRIVE
STE. 300
ARLINGTON, VA 22203 US
0137782B (ON)

Reference

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DEAR JIM

Please find attached finalized report text, tables, and figures for the Remedial Investigation and Final Report, Miller Chemical Property, 120, 150 and 170 Radio Road, Hanover, Pennsylvania, which incorporates the redline edits submitted to PADEP via electronic mail on Wednesday, October 18, 2017 and accepted by PADEP on Wednesday, October 25, 2017. Please replace the following sections of the draft report with the attached pages, which include:

Date: October 27, 2017

- Report text;
- Tables; and
- Figures.

There are no changes to the tables and figures; however, they are included here for completeness.

Yours sincerely,



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Prepared for:
Miller Chemical & Fertilizer, LLC
Hanover, Pennsylvania

Prepared By:
Ramboll Environ US Corporation
Arlington, Virginia
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Date
October 2017

Project Number
01-37782A

REMEDIAL INVESTIGATION AND FINAL REPORT

MILLER CHEMICAL PROPERTY

120, 150 AND 170 RADIO ROAD, HANOVER, PENNSYLVANIA

REMEDIAL INVESTIGATION AND FINAL REPORT

Revision **01**
Date **October 2017**
Prepared by **Meghan Irving**
Checked by **Sarah Stoneking, Bill Kraft, Jason Miller**
Approved by **J. Mark Nielsen**
Description **Remedial Investigation and Final Report
Miller Chemical Property
120, 150 and 70 Radio Road, Hanover, Pennsylvania**

Ref **01-377782A**

REMEDIAL INVESTIGATION AND FINAL REPORT

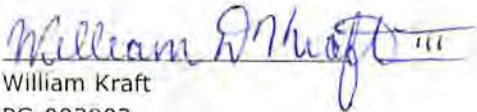
Pursuant to the requirements of the Pennsylvania Land Recycling and Environmental Remediation Standards Act (Act 2), adopted August 16, 1997, which state that:

Interpretation of geologic and hydrogeologic data shall be prepared by a professional geologist licensed in this Commonwealth

I hereby attest that, as a Professional Geologist licensed in the Commonwealth of Pennsylvania, I am familiar with, and have reviewed and/or prepared the interpretation of the geology and hydrogeology presented in the attached report entitled:

Remedial Investigation and Final Report, Miller Chemical and Fertilizer, LLC Property, 120, 150 and 170 Radio Road, Hanover, Pennsylvania dated October 2017.

Based on the available data represented in the report, I believe that the geologic and hydrogeologic interpretations made herein are reasonable and accurate.



William Kraft

PG-003902

Expires September 30, 2019



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1. INTRODUCTION

On behalf of Miller Chemical & Fertilizer, LLC (Miller Chemical), Ramboll Environ US Corporation (Ramboll Environ) has prepared this Remedial Investigation (RI) and Final Report for the property owned by Miller Chemical located at 120, 150 and 170 Radio Road in Hanover, Conewago Township, Adams County, Pennsylvania ("Miller Chemical property" or "the site") (Figure 1-1). This RI and Final Report presents the results of investigation activities conducted to evaluate potential impacts relating to the release of fertilizer constituents during a fire and subsequent emergency fire-fighting response efforts that occurred at the Miller Chemical facility on June 8, 2015. Section 1 of this report provides information relating to the Miller Chemical operations and the fire event. Section 2 of this report provides background information relating to the Miller Chemical property operations and setting, and surrounding area geology, hydrogeology, and meteorology. Section 3 contains a discussion of emergency response measures that have occurred on the Miller Chemical property. A summary of the soil investigation activities conducted in accordance with the *On-Site Soil Sampling Memorandum, Miller Chemical & Fertilizer, LLC* (Ramboll Environ, October 2016; "On-Site SAP"), modifications to the SAP, and the analyte selection process are described in Section 4 of this report. Section 5 presents the soil sampling results, and Section 6 contains a demonstration of attainment of applicable soil standards. Section 7 of this report presents the conclusions of the ecological risk review. Section 8 provides a summary of conclusions.

The investigation activities described herein were conducted pursuant to the requirements of the Land Recycling and Environmental Standards Act (Act 2) as set forth in Title 25, Chapter 250 regulations, promulgated by the Pennsylvania Department of Environmental Protection (PADEP). The purpose of this report is to demonstrate attainment of Act 2 standards for compounds evaluated in soil at the Miller Chemical property and qualification for a Relief of Liability pursuant to Act 2. This report also applies a site-specific approach to evaluate constituents for which no media specific concentrations (MSCs) have been published by PADEP.

A Notice of Intent to Remediate (NIR) for the Miller Chemical property was submitted to PADEP on June 16, 2017. A copy of the NIR was also submitted to the local municipality (Conewago Township) and a legal notification was published in the Hanover Evening Sun. The NIR indicates that chemicals of concern (COCs) will be addressed under a combination of the Statewide Health Standard (SHS) for non-residential site use, the background approach, or a site-specific approach (for constituents for which no MSCs have been developed). Copies of notification documents are included in Appendix A.

Emergency fire-fighting response activities also affected other properties. Separate NIRs have been submitted to demonstrate attainment for COCs evaluated in soil at other affected properties; in addition, demonstration of attainment with Act 2 standards for groundwater will be submitted under a separate NIR and will be evaluated holistically across all potentially affected properties.

1.1 Miller Chemical Information

The Miller Chemical facility is located at 120, 150, and 170 Radio Road in Hanover, Conewago Township, Adams County, Pennsylvania and is approximately 13-acres in size.

The Miller Chemical property was first developed in the late 1930s as a fertilizer manufacturing facility and was operated by Union Fertilizer from the late 1930s until the mid-1940s as a fertilizer manufacturing facility. The property was acquired by Miller Chemical and Fertilizer Corporation in the mid-1940s and was operated by Miller Chemical and Fertilizer Corporation for fertilizer and pesticide formulation. By the early 1990s, the facility began shifting operations to fertilizer blending, and pesticide handling was limited to repackaging until 1995 when all pesticide handling operations ceased. Miller Chemical & Fertilizer, LLC acquired the Miller Chemical property and the assets of the business in 2014 and operated the facility for the formulation and packing of fertilizers.

At the time of the fire, the Miller Chemical property was developed with an approximately 96,000-square foot main (production and warehouse) building, which was located in the center of the property (170 Radio Road), and three smaller buildings used for administrative activities (120 Radio Road), and for maintenance and document storage (150 Radio Road). A storm water retention pond was located northeast of the former building and connected to a storm water ditch located along the northern edge of the Miller Chemical property. Although the main building was mostly destroyed during the fire, construction of a new building within the same footprint was completed in July 2016.

The areas surrounding the current and former buildings are landscaped with grass and other vegetation. In addition, a newly constructed storm water pond is present in the northwest portion of the site.

1.2 History of Events

At approximately 3:30 am on Monday, June 8, 2015, emergency responders were alerted to a fire at the Miller Chemical production and warehouse building. No one was inside the main building at the time and no injuries occurred while fighting the fire. Firefighters applied a large volume of water to extinguish the fire, as well as firefighting foam confirmed to be Universal Gold Alcohol Resistant Aqueous Film Forming Foam. A heavy rainfall occurred during the fire. Despite efforts to contain firefighting water and rainwater in the Miller Chemical property's retention pond and a series of connected pits excavated on the northwestern portion of the Miller Chemical property during the fire, runoff from firefighting activities traveled across neighboring properties towards Slagle's Run north of the Miller Chemical property (Figure 1-2). The majority of the fire water flowed across the Miller Chemical property to a ditch running east-west along the north side of the Miller Chemical property, with a portion of the water flowing across the Miller Chemical property to a ditch running south-north along the west side of the property. Water in both ditches flowed to the northwest corner of the Miller Chemical property and through a culvert beneath Radio Road and onto the southwest corner of the Metropolitan Edison (Met-Ed) property. During the early firefighting efforts, water also appeared to have overtopped the drainage ditch on the Miller Chemical property and flowed across Radio Road onto the southwestern portion of the Met-Ed property. From the Met-Ed property, most of this water flowed through a corrugated metal drainage pipe beneath the CSX Transportation (CSX) rail tracks and onto the Bare Development property to the west, eventually discharging to Slagle's Run after crossing the Whisler property. A small portion of the fire water flowed north along the east side of the CSX rail tracks to the Family First Health Corporation property. Approximately 3.3 acres of the Miller Chemical property were visibly affected by the fire water.

Subsequent to the fire, water and storm water runoff generated at the Miller Chemical property was pumped into a number of above ground storage containers (i.e., frac tanks) located at the Miller Chemical property. In an effort to control additional storm water runoff from reaching Slagle's Run in the days after the fire, several trenches and pits were excavated within the adjacent agricultural fields near Slagle's Run; these pits have since been filled. In addition, a one-million-gallon water holding tank (the "pool") was constructed on the Bare Development parcel to increase storm water runoff holding capacity. Water was pumped into the pool from the surrounding pits and drainage areas. A number of berms and other storm water diversions were also placed on the Miller Chemical property and on the agricultural parcels to reduce the flow of storm water from upgradient properties onto the Miller Chemical property and affected properties and to separate storm water from affected areas and unaffected areas.

2. SITE SETTING

2.1 Site Description

The Miller Chemical property is located at 120, 150 and 170 Radio Road in Hanover, Conewago Township, Adams County, Pennsylvania and comprises approximately 13.1 acres. The location of the site is shown on the United States Geological Survey (USGS) topographic map for the McSherrytown quadrangle (Figure 1-1). As described in Section 1.1, the Miller Chemical property is comprised of an approximately 96,000 square foot warehouse and several storage and administrative structures. The site is currently used for fertilizer blending and repackaging.

The visibly-affected area of the Miller Chemical property includes an area encompassing approximately 3.3 acres located primarily southeast and northwest of the warehouse building footprint (Figure 1-2).

2.2 Site History

The Miller Chemical property site history information was based on a review of historical aerial photographs, topographic maps, and discussions with the Miller Chemical property representatives. A detailed site history is described in Section 1.1.

2.3 Climate

Hanover, Pennsylvania has an average annual temperature of 53 degrees Fahrenheit, average annual humidity of 72%, and averages approximately 39 inches of precipitation annually.¹ Approximately half of the annual precipitation returns to the atmosphere through evapotranspiration. The amount of precipitation that recharges to groundwater in this region of Pennsylvania typically averages approximately 30% of the total precipitation amount, with the rest flowing into surface water bodies (Reese & Risser, 2010). This suggests that approximately 11.7 inches of precipitation reaches groundwater per year; although factors such as soil type, precipitation rates, ratio of pervious to impervious surfaces, and the slope of the ground will impact the infiltration rate.

2.4 Topography

Topography at the site is generally characterized by a gentle slope to the northwest. Surface elevations range from approximately 577 feet above mean sea level (AMSL) in the southeast corner of the Miller Chemical property to approximately 554 feet AMSL in the northwest corner of the site.

2.5 Site and Surrounding Area Geology/Hydrogeology

The site is located within the southwestern portion of the Piedmont Lowland Section of the Piedmont Province. The Piedmont Lowland Section consists of karst valleys separated by broad, low hills (Sevon, 2000). The rock is complexly folded and faulted and dominantly consists of limestone and dolomite with some shale and sandstone. The Conestoga Limestone crops out within the site vicinity. This formation dominantly consists of thinly-

¹ <http://www.usclimatedata.com/climate/hanover/pennsylvania/united-states/uspa0672>;
<http://www.wunderground.com/personal-weather-station/dashboard?ID=KPAHANOV9>.

bedded, dark-gray limestone with some shale. Underlying the limestone is a black to dark-gray shale and limestone, which may be over 1,000 feet in thickness (Taylor & Royer, 1981).

According to the United States Department of Agriculture (USDA) Natural Resources Conservation Service (NRCS) Web Soil Survey, the natural surface soils within the vicinity of the site are primarily identified as the Conestoga silt loam, which is characterized as well drained, and the Clarksburg silt loam, which is characterized as moderately well drained.² The Dunning silty clay loam, which is characterized as very poorly drained, is located in the northwest corner of the site in a smaller percentage than the Conestoga silt loam and the Clarksburg silt loam.

2.6 Current and Future On-site Land Use

As discussed in Section 1.1, the Miller Chemical property is used for fertilizer blending and repackaging. The Miller Chemical property is currently zoned for industrial land use by Conewago Township.³ The Conewago Township Comprehensive Plan (the "Comprehensive Plan;" 2008)⁴ identifies a future land use with industrial and conservations purposes, although no use restrictions are noted. Zoning documents are provided in Appendix B.

2.7 Current and Future Surrounding Land Use

The Miller Chemical property is bounded to the west, south and east by the UTZ Quality Foods, Inc. property except for a small portion of the eastern side of the property bordered by High Street (see Figure 1-2). The property is bordered by Radio Road to the north. Just north of Radio Road across from the Miller Chemical property is the Met-Ed property beyond which is the Family First Health Corporation (Family First) property. The Family First property is developed with an adult and pediatric medical and dental care facility; the Met-Ed property is developed as an electrical substation and is improved with high-voltage transformers and a power distribution grid. The Met-Ed and Family First properties are bounded to the west by the CSX rail line. Beyond the CSX rail line, west of the Met-Ed property lies the Bare Development property, which is used for agricultural purposes with a radio station located on the western portion of the property. The Whisler property, located north of the Bare Development property, is used for agricultural purposes with several residences located on the western portion of the property. A dry ditch (the "dry creek") runs south to north through the Bare Development and Whisler properties, approximately parallel to the CSX rail line, eventually discharging to Slagle's Run. Vulcan Materials Company (Vulcan Materials) owns the property to the north between the Whisler property and Slagle's Run; this portion of the Vulcan property is undeveloped woodland. Slagle's Run runs east to west across the Vulcan Materials property. The Comprehensive Plan⁴ calls for Miller Chemical Property to remain zoned as industrial land use. The properties north, south, and east will remain as they are currently zoned; however, certain areas of each property may be designated as conservation zones.

2.8 Groundwater Use

To evaluate groundwater use at properties in the vicinity of the site, Ramboll Environ conducted a water well search in June 2015 that was subsequently updated in February

² <http://websoilsurvey.nrcs.usda.gov>

³ <http://www.conewagotwp.org/departments/zoning-codes/>.

⁴ <http://www.conewagotwp.org/departments/zoning-codes/comprehensive-plan/>.

2016⁵. The water well survey identified 15 withdrawal water wells (commercial, domestic, industrial, and/or agricultural) and 64 other types of wells (monitoring, observation, injection, mine, test, and/or unused) within a one-mile radius of the Miller Chemical property (see Figure 2-1); the nearest domestic water well was identified approximately 1,900 feet east of the Miller Chemical property. In addition, representatives for the Whisler property noted that a spring and an agricultural use well are located in the vicinity of the residence on the Whisler property, approximately 2,600 feet west of the dry creek. Representatives of Vulcan Materials indicated that a water test well was installed on the Vulcan Materials property north of Slagle's Run by the Borough of Hanover, but was never connected to the water supply and never put into use.

With the exception of the spring and agricultural well located on the Whisler property, no potable water wells were identified within a one-mile radius of the Miller Chemical Property in the downgradient direction (north to northwest). In the future, while it is expected that water will continue to be provided to surrounding parcels by Hanover Municipal Works, Ramboll Environ did not identify local ordinances that would restrict the future installation of potable or non-potable wells at or in the vicinity of the site; as such, the future use of groundwater as a drinking source cannot be ruled out.

As previously indicated, potential groundwater effects related to the fire at the Miller Chemical property are being assessed separately.

⁵ Mapping does not include the groundwater monitoring wells recently installed by Miller Chemical Act 2 investigation.

3. EMERGENCY RESPONSE MEASURES

As part of the emergency response to the fire, certain emergency response activities occurred on-site prior to the preparation of the Act 2 report and are discussed in further detail below:

3.1 Collection Pits

As part of the emergency response, a series of on-site pits, eventually connected into one pit (referred to as the "on-site pit") was excavated on the northwestern portion of the property to contain stormwater flowing across the site. The on-site pit was excavated to depths of up to approximately 18 to 20 ft. Soil that was excavated during the construction of the on-site pit was stockpiled on-site and was used later to fill in this pit.

3.2 Soil Excavation

In July through October 2015, visibly-affected surface soils were excavated from the Miller Chemical property and disposed off-site. Soils were excavated from ten areas, some of which were contiguous. Based on the depth of visibly-affected soils, three to twelve inches of soil was excavated from much of the 3.3-acre visibly-affected portion of the site. Conewago Enterprises (Conewago) performed the soil excavation on behalf of Miller. Excavated soils were transported to Modern Landfill in York, Pennsylvania for disposal as non-hazardous waste. In addition, in November and December 2015, and March 2016, soil was excavated from within the building footprint for construction purposes during the reconstruction of the Miller Chemical warehouse and manufacturing building. Soils were also excavated around portions of the new building perimeter for installation of the foundation footers and from a portion of the area of the new on-site retention pond. In total, approximately 13,000 cubic yards of soil were excavated and disposed off-site at Modern Landfill.

Finally, on May 11 and 12, 2016 approximately 450 tons of additional soils were excavated from the northwest portion of the site for the construction of the new on-site stormwater retention pond. Excavated soils were disposed at Modern Landfill.

4. SOIL CHARACTERIZATION SCOPE OF WORK

On-site soil sampling was conducted to characterize the nature and extent of on-site soils impacted by fire response activities. In designing the sampling plan, Ramboll Environ considered that a significant portion of on-site soils were disturbed as a result of both fire response activities and the subsequent site restoration and reconstruction; these activities included:

- excavation and subsequent backfilling of an on-site fire water/stormwater control pit
- filling in the old stormwater pond
- excavation of visibly-affected shallow soils with subsequent backfill of these areas
- building reconstruction activities including excavation of soils for footer installation⁶
- construction of the new storm water pond,
- re-grading of some areas of the site

Therefore, for soil characterization purposes, the site was divided into a background/undisturbed area and a disturbed area (See Figure 4-1). Within each area a grid-based approach was used to locate sampling locations intended to gather data uniformly across each area. Within the disturbed area, soil sample locations were positioned to the extent possible with bias toward areas that were affected by releases during the fire but not consisting of clean fill material placed during subsequent restoration and reconstruction activities.

Soil sampling was conducted in accordance with the On-Site SAP (Appendix C), with only minor adjustments of sample locations due to the presence of overhead power lines, the newly constructed stormwater pond, and areas of standing water, and the following scope of work modification:

- Borings were advanced up to 18 ft bgs, except at five (5) locations (DA-06, DA-13, DA-18, DA-19 and DA-20); these locations could not be sampled using direct push drilling methods because of accessibility issues resulting from the presence of overhead or subsurface utility lines. In these locations, soil samples were collected using a hand auger. Hand auger refusal was encountered at six feet bgs, therefore samples were only collected from the 0-2 ft and 4-6 ft intervals for these locations.

4.1 Pre-Mobilization Activities

Pre-mobilization activities included a preliminary meeting with representatives of the Miller Chemical property, preparation of a site Health and Safety Plan (HASP), mark-out of public subsurface utilities by the Pennsylvania One-Call service, and field mapping of the visibly-affected areas.

4.2 Act 2 Soil Sample Collection

Ramboll Environ conducted the Act 2 soil sampling activities from December 5 to December 8, 2016. Soil sampling activities included the collection of soil samples from twelve background sample locations (BA-01 to BA-12) and twenty-two disturbed area sample

⁶ The new on-site building was re-constructed in the footprint of the prior building.

locations (DA-01 to DA-22). The sampling locations are depicted on Figure 4-1. In addition, samples were collected from each depth interval for grain-size analysis from one sample location, DA-12. Ramboll Environ also collected five duplicate soil samples, with at least one duplicate sample from each depth interval and two equipment rinse blanks for quality assurance purposes.

All Act 2 soil samples were collected in accordance with the SAP and the sampling methods and sequences described in the *Miller Chemical & Fertilizer, LLC, 170 Radio Road Hanover, Pennsylvania Off-Site Act 2 Soil Sampling and Analysis Plan* (Ramboll Environ, 2015) as summarized briefly below.

Background Samples (BA-01 to BA-12)

Background soil samples were collected using direct push drilling from twelve (12) visibly unaffected locations on the Miller Chemical property. Soil samples were collected from 0 to 2 feet bgs, 4 to 6 feet bgs, and from the interval 2 feet above groundwater or refusal, whichever was encountered first. In addition two duplicate samples were taken at background sample locations. One from the 0 to 2 ft interval, and one from the 4 to 6 ft interval. Including duplicates, a total of thirty-eight (38) samples were collected.

Disturbed Areas (DA-01 to DA-22)

Disturbed area soil samples were collected using direct push drilling from twenty-two (22) locations within the disturbed area of the Miller Chemical property. Soil samples were collected from 0 to 2 feet bgs, 4 to 6 feet bgs, and from the interval 2 feet above groundwater or refusal, whichever was encountered first. In addition six duplicate samples were taken at disturbed area sample locations, two from each of the depth intervals. Three samples were collected for grain-size analysis from location DA-12. One sample was collected at each depth interval. Including duplicates, a total of sixty-seven (67) samples were collected for chemical analyses; three samples collected from one location were additionally submitted to the laboratory for grain-size analysis.

Soil samples were packaged in laboratory-provided containers, labelled, placed on ice, and delivered under chain-of-custody protocols to Phase Separation Science, Inc. (PSS) and ALS for laboratory analysis. These laboratories are Pennsylvania certified for the constituents that were analyzed (listed below in Section 4.4).

4.3 Act 2 Analyte Selection Process

Ramboll Environ conducted a review of available information from Miller Chemical and PADEP to evaluate potential analytes that could have been present in fire water flows, and to identify the list of potential COCs. This review began with an assessment of broad spectrum sampling data from affected soil and fire water and then extended to a review of Miller Chemical's chemical inventories and product composition information. More specifically, Ramboll Environ relied upon the following information sources:

- Analytical results for fire water samples collected on-site immediately following the fire and analyzed for an extensive analyte list (as described in further detail below);

- Analytical results for soil samples collected from the visibly worst-affected areas of the Miller Chemical property shortly following the fire (e.g., the on-site drainage ditch) and analyzed for an extensive analyte list (as described in further below);
- Product and raw materials inventories review; and
- Data that PADEP collected immediately after the fire.

4.3.1 Fire Water Analysis

Environmental Products & Services of Vermont, Inc. (EPS), the emergency response contractor appointed by Adams County, collected a sample of fire water on June 9, 2015. The sample was submitted to Pace Analytical Services, Inc. in Greensburg, Pennsylvania for analysis of the parameters listed below, and certain additional waste characterization parameters, such as pH, flashpoint, etc.:

- Total phosphorus by Standard Method (SM) 4500-P E;
- TKN by USEPA Method 351.2;
- Nitrate (as N) by SM 4500-NO3 F;
- Nitrite by Method SM 4500-NO2 B;
- Metals including: antimony, arsenic, barium, beryllium, cadmium, chromium (total), copper, lead, nickel, selenium, silver, thallium, and zinc by USEPA Method 6010B;
- Mercury by USEPA Method 7470A;
- Polychlorinated biphenyls (PCBs) by USEPA Method SW-846 8082;
- Reactive cyanide by USEPA Method SW-846 7.3.3.2; and
- Reactive sulfide by USEPA Method SW-846 7.3.4.2.
- Toxicity characteristic leaching procedure (TCLP) pesticides by USEPA Method SW-846 8081A;
- TCLP herbicides by USEPA Method SW-846 8151A (analyzed by Summit Environmental Technologies, Inc.);
- TCLP metals by USEPA Method-846 6010B;
- TCLP semi-volatile organic compounds (SVOCs) by USEPA Method SW-846 9270C;
- TCLP volatile organic compounds (VOCs) by USEPA Method SW-846 9260B;

Results for the fire water analysis were non-detect for leachable (TCLP) pesticides, PCBs, leachable (TCLP) SVOCs, leachable (TCLP) VOCs, reactive cyanide, and reactive sulfide. Certain of the metals were also non-detect. Detected constituents and parameters include total phosphorus, TKN, nitrate, nitrite, sulfate, certain metals, and select leachable (TCLP) metals including arsenic, chromium (total), and lead⁷.

⁷ Based on information provided to PADEP indicating that Miller Chemical did not use or store chemicals or raw materials containing hexavalent chromium, the Department verbally agreed that testing for total chromium and application of the trivalent chromium MSC would be appropriate for this site.

4.3.2 Miller-Site Surface Soil

On June 15, 2015, Ramboll Environ collected a surface soil sample (SS8-IS-061515) from the heavily impacted drainage ditch along the northern boundary of the Miller Chemical property. This sample was submitted for laboratory analysis of the following constituents:

- Total phosphorus (as P) by USEPA Method 365.1;
- TKN by Standard Method (SM) 4500-NH3 C-1997;
- Nitrate (as N), nitrite (as N), and sulfate by USEPA Method 300.0;
- Target Analyte List (TAL) metals including: aluminum, antimony, arsenic, barium, beryllium, cadmium, chromium (total), cobalt, copper, iron, lead, manganese, mercury, nickel, potassium, selenium, silver, sodium, thallium, and zinc by USEPA Method SW-846 6020A;
- Organochlorine pesticides by USEPA Method SW-846 8081B;
- Chlorinated herbicides by USEPA Method SW-846 8151A;
- Organophosphorus compounds by USEPA Method SW-846 8141B; and
- TCLP metals by USEPA Method SW-846 6020A;
- TCLP organochlorine pesticides by USEPA Method SW-846 8081B;
- TCLP chlorinated herbicides by USEPA Method SW-846 8151A;
- TCLP VOCs by USEPA Method SW-846 8260B;
- TCLP organophosphorus compounds by USEPA Method SW-846 8141B.

Results for the soil sample were non-detect for chlorinated herbicides, leachable (TCLP) metals, leachable (TCLP) organochlorine pesticides, leachable (TCLP) organochlorine herbicides, leachable (TCLP) VOCs, and organophosphorus compounds; a map showing the approximate sample location, a data summary of detected constituents, and the complete laboratory analytical data report are included as Appendix D.⁸ A single organochlorine pesticide (methoxychlor) was detected at a concentration of 1.2 milligrams per kilogram (mg/kg) in the soil sample. The measured concentration of methoxychlor is well below the Statewide Health Standards of 630 mg/kg for protection of groundwater and 1,100 mg/kg for direct contact at residential properties. Ramboll Environ also notes that methoxychlor was not detected in subsequent, additional soil characterization samples collected from the Miller Chemical property. Remaining detected parameters included total phosphorus, TKN, nitrate, nitrite, sulfate, and certain metals.

4.3.3 Chemical Inventory Review

As part of the chemical inventory review, Ramboll Environ reviewed product and raw materials inventories provided by Miller Chemical (including estimates of the amount of material present on the Miller Chemical property at the time of the fire and, for certain materials, estimates of the amount of material recovered after the fire). Ramboll Environ also interviewed representatives of Miller Chemical regarding chemical use and reviewed

⁸ Ramboll Environ notes that the laboratory analytical report included results for samples collected from other properties and media, which are not pertinent to the evaluation discussed in Section 4.4; data for these samples has been redacted from the analytical data report provided in Appendix D.

safety data sheets (SDSs) and other publicly available information (e.g., product labels) regarding the composite of materials listed on the inventories.

More specifically, Ramboll Environ reviewed chemical composition information listed on the SDSs and labels provided by Miller Chemical or available through Miller Chemical-specific online portals. Ramboll Environ also reviewed other publicly available SDS repositories not associated with Miller Chemical to identify SDSs associated with Miller Chemical. Given the overall number of chemicals present on-site and the range in quantities, more detailed chemical composition review was conducted for products present at the time of the fire in quantities in excess of 75,000 pounds (this quantity was selected based on an estimate of the volume of firewater that flowed off the Miller Chemical property and potential resulting average contaminant concentrations). The chemical composition review was focused on identifying additional analytes of potential concern.

4.3.4 Selection of Analytes of Potential Concern

Based on the results for analyses of on-site soil and fire water and the review of Miller Chemical's chemical use and inventory, Ramboll Environ ruled out the following constituents of concern:

- Pesticides – No pesticides other than methoxychlor were detected in the samples described above and Miller Chemical did not store or use pesticides on-site at the time of the fire. Methoxychlor was identified in only a single soil sample and was not detected in fire water, surface water, or in samples collected during subsequent characterization of visibly-affected soils. As such, pesticides were not retained as constituents of concern for the purposes of the Act 2 investigation.
- Herbicides – No herbicides were detected in the samples described above and Miller Chemical did not store or use herbicides at the site at the time of the fire. As such, herbicides were ruled out as a constituent of concern associated with the fire.
- VOCs/SVOCs – Neither VOCs nor SVOCs were detected in the characterization samples described above. It is likely that volatile organic compounds within materials stored at the site were consumed by the fire. Ramboll Environ did not identify materials in the chemical and raw material inventory containing appreciable SVOCs.
- PCBs – PCBs were not detected in the characterization samples and Miller Chemical did not use or store PCBs at the Miller Chemical facility. As such, PCBs were not retained as a constituent of concern for the Act 2 investigation.
- Reactive cyanide and sulfide – Neither reactive cyanide nor sulfide were detected in the characterization samples discussed above. Further these compounds are not anticipated based on chemical inventory information. As such, these compounds were ruled out as constituents of potential concern for the Act 2 investigation.

The following analytes were retained as potential constituents of concern:

- TAL metals (aluminum, antimony, arsenic, barium, beryllium, cadmium, calcium, total chromium, cobalt, copper, iron, lead, manganese, mercury, nickel, potassium, selenium, silver, sodium, thallium, vanadium, and zinc) plus molybdenum and boron;
- TKN, nitrate, and nitrite;

- Sulfate; and
- Total phosphorus.

4.4 Soil Sample Analysis

Based on the analyte selection process described above, Act 2 soil samples were analyzed for the presence of the following compounds, in accordance with the SAP:

- Target Analyte List (TAL) metals including: aluminum, antimony, arsenic, barium, beryllium, cadmium, calcium, total chromium, cobalt, copper, iron, lead, magnesium, manganese, mercury, nickel, potassium, selenium, silver, sodium, thallium, vanadium, and zinc plus molybdenum and boron by SW846-6020A (submitted to PSS);
- TKN by Standard Method (SM) 4500-NH3 C-1997 (submitted to ALS);
- Nitrate (as N) by USEPA method 300.0 (submitted to ALS);
- Nitrite (as N) by USEPA method 300.0 (submitted to ALS);
- Sulfate by USEPA method 300.0 (submitted to ALS); and
- Total phosphorous (as P) by USEPA method 365.1 (submitted to ALS).

In addition, samples were collected from each depth interval from one sample location and submitted to Schnabel Engineering, Inc. for grain-size analysis.

4.5 Quality Assurance/Quality Control

Chain-of-custody documents and field log books were maintained for all samples. Sample locations were recorded using a Trimble GeoXH GPS or a field GPS.

To evaluate the repeatability of the sampling procedures, one duplicate sample per 20 samples was collected during the sampling event, resulting in the collection and analysis of five duplicate soil samples.

Re-useable sampling equipment was decontaminated using appropriate procedures including a non-phosphate detergent wash, followed by a double de-ionized water rinse. Two equipment rinse blanks were collected from decontaminated sampling equipment to document the effectiveness of equipment decontamination methods. One equipment blank was collected for a core liner, and one was collected for the hand auger. Laboratory-provided deionized water was poured over the sampling equipment into laboratory provided containers. The samples were submitted to the laboratory for the constituents identified in Section 4.4.

The analytical laboratory employed standard QA/QC practices including the analysis of internal laboratory duplicates, reagent blanks, method blanks, matrix spikes and matrix spike duplicates, surrogate spikes, laboratory control samples, and continuing calibrations. Analytical data was reviewed and validated prior to reporting. Results of the data validation are further discussed in Section 4.6.

Forms summarizing the analytical data were checked and the overall completeness of the data packages was evaluated. Completeness checks were administered on all data to determine whether all necessary deliverables were present. Data validation included a

complete review of all technical holding times; the instrument performance check sample results, initial & continuing calibration results, blanks, surrogate spikes, matrix spikes/matrix spike duplicates and laboratory control sample results; internal standards; target compound identification and quantitation; and system performance checks.

4.6 Data Usability

Ramboll Environ reviewed and validated all analytical data prior to reporting. Based on Ramboll Environ's evaluation, the analytical data included in this data set are usable as qualified. Data evaluated for this report were qualified for preparation blank contamination, metals CCV recoveries, metals interference standards, metals serial dilutions, field duplicates, phosphorus and moisture content laboratory duplicates, and when concentrations were estimated at levels between the method detection limit and reporting limit. A complete description of data validation is provided in Appendix E.

5. SITE CHARACTERIZATION RESULTS

Results of soil characterization activities on the Miller Chemical property are presented in this section. Soils on other affected parcels are being addressed under separate NIRs and reports. Groundwater is being addressed for all affected parcels under a separate NIR.

5.1 Field Observations

Surface soils at the Miller Chemical property were generally described as yellowish brown to dark brown clay with little to some silt and little to trace coarse sand. Subsurface soils (depths greater than 2 feet bgs) were generally described as a yellowish brown to brown clay with little to some silt underlain by a shale bedrock layer. Three representative soil samples from location DA-12 (one from 0 to 2 feet bgs, one from 4 to 6 feet bgs and one from 10 to 12 feet bgs) were submitted to the laboratory for grain size analysis. Grain size analysis indicated silty clay for the 0 to 2 feet bgs interval, and clay loam for the 4 to 6 feet and 10 to 12 feet bgs intervals; grain-size analytical data sheets are included as Appendix F.

Saturated soils were encountered at the time of drilling at depths between 10.5 feet bgs to 18 feet bgs at several background area sample locations (BA-12, BA-08, BA-10, BA-09, DA-05, BA-04, BA-03), and several disturbed area sample locations (DA-02, DA-03, DA-05, DA-06, DA-10, DA-11).

5.2 Soil Sampling Results

A summary of detected constituents in site soil samples is provided in Table 5-1; soil sample locations are shown on Figure 4-1. Copies of the full laboratory analytical data packages are included in Appendix G. Detected constituents include 19 metals (aluminum, arsenic, barium, beryllium, boron, calcium, chromium (total), cobalt, copper, iron, lead, magnesium, manganese, mercury, nickel, potassium, sodium, vanadium, and zinc), nitrate, nitrite, TKN, sulfate and phosphorus (total). Antimony, cadmium, molybdenum, selenium, silver, and thallium were not detected in soil samples collected from the Miller Chemical property.

In order to help support a determination as to whether adequate sampling had been performed to characterize the nature and extent of potential soil contamination, and to evaluate whether further action to evaluate or address soils is necessary, detected soil concentrations were compared to the following applicable PADEP SHS:

- Nonresidential direct contact within the upper two feet of soil (Nonresidential Direct Contact value),
- Non-Residential Direct Contact (2-15 ft) values (applicable to soils at depths of two to fifteen feet below ground surface [bgs]), and

- Migration from soil to groundwater (Soil-to-GW)⁹ Nonresidential pathways.¹⁰
- Calculated Soil to Groundwater Values for nitrate and nitrite. Soil to groundwater numeric values for inorganic chemicals as specified by Pa. Code §250.308 can be selected using two methods. Ramboll Environ applied the first method, which selects, "a value which is 100 times the applicable MSC for groundwater identified in §250.304(c) or (d) (relating to MSCs for groundwater), expressed as milligrams per kilogram of soil." For nitrate and nitrite the applicable MSCs for groundwater identified in §250.304(c) are maximum contaminant levels (MCLs) established by the USEPA. The MCLs for nitrate and nitrite are 10 milligrams per liter (mg/L) and 1 mg/L, respectively. Multiplying these concentrations by 100 yields soil to groundwater values for nitrate and nitrite of 1,000 mg/kg and 100 mg/kg, respectively.

In Table 5-2, maximum concentrations of detected constituents in soil are compared to Nonresidential Direct Contact values and the Soil-to-GW values; the lower of these values is defined as the medium-specific concentration (MSC). The maximum detected concentrations of constituents in soil are below the MSCs with the exception of arsenic and manganese, which are discussed below. In addition, constituents for which PADEP has not established MSCs are also discussed below.

5.2.1 Constituents Exceeding MSCs

Arsenic and manganese were the only constituents detected above applicable MSCs and are further described below.

Arsenic

Arsenic was detected in 2 of the 105 soil samples at concentrations greater than the Non-Residential Direct Contact (0-2 ft) value of 61 mg/kg (see locations shown on Figure 5-1). In addition, arsenic was detected in 3 of the 105 soil samples at concentrations greater than the Soil-to-GW value of 29 mg/kg (see locations shown on Figure 5-2). No arsenic concentrations exceeded the Non-Residential Direct Contact (2-15 ft) value of 190,000 mg/kg.

Manganese

Measured concentrations of manganese in site soils (up to 2,600 mg/kg) did not exceed the Non-Residential Direct Contact (0-2 ft) value (150,000 mg/kg) or the Non-Residential Direct Contact (2-15 ft) values (190,000). Manganese was detected in 4 of the 105 soil samples at concentrations greater than the Soil-to-GW value of 2,000 mg/kg (see locations shown on Figure 5-3).

Given the nature and extent of the arsenic and manganese concentrations, no additional sampling is necessary in order to evaluate the extent of these constituents in soil. The presence of arsenic and manganese in soil at concentrations exceeding the MSCs was further

⁹ For residential use aquifer with TDS \leq 2,500 milligrams per liter (mg/L).

¹⁰ Soil-to-groundwater values for aluminum, calcium, copper, iron, magnesium, phosphorus, potassium, sodium, and sulfate were not derived since these chemicals are either not toxic to humans at relevant concentrations or only have secondary MCLs. The term "relevant concentration" is intended to clarify that the reason soil-to-groundwater values were not derived is that toxicity effects from exposure to these constituents occurs at high concentrations that are not representative of typical exposure levels.

evaluated using procedures set forth under the Act 2 program as discussed in Section 6 of this report.

5.2.2 Constituents with no PADEP MSCs

The concentrations of constituents without PADEP criteria (calcium, magnesium, phosphorus, potassium, sodium, and sulfate) are comparable to the concentrations detected on the Bare Development and Whisler Properties. These analytes were identified at the following maximum concentrations and locations on the Miller Chemical property: calcium (120,000 mg/kg; DA-15), magnesium (31,000 mg/kg; DA-02), phosphorus (9,250 mg/kg; DA-14), potassium (2,900 mg/kg; DA-19), sodium (920 mg/kg; DA-09) and sulfate (1,200 mg/kg; DA-15). The detected concentrations of these constituents are discussed further in Section 6.2 of this report.

6. DEMONSTRATION OF ATTAINMENT

Sections 6.1 and 6.2 provides the demonstration of attainment of the Act 2 standards for soil for arsenic and manganese concentrations, respectively, which were detected in certain samples above the applicable MSCs. The results of a limited human health evaluation for the constituents that do not have established MSCs is provided in Section 6.3. Section 6.4 provides a summary of the evaluation performed to assess the potential significance of storm water runoff from the Miller Chemical property.

6.1 Arsenic – Demonstration of Attainment of SHS

Arsenic concentrations in the visibly-affected soil area were further evaluated by calculating 95% UCL on the mean concentrations for the distinct area of impact consistent with 25 Pa. Code §250.707 (b)(1)(ii), and comparing the resultant mean concentration with the Non-Residential SHS values including the Non-Residential Direct Contact value (0-2 feet) and the Soil-to-GW value. Sampling data for soil samples collected from the 0 to 2 foot bgs interval within the disturbed area were included in the UCL calculation for comparison to the Non-residential Direct Contact value (0-2 feet). Sampling data for all disturbed area soil samples were included in the UCL calculation for comparison to the Soil-to-GW value.

Non-Residential Direct Contact (0-2 feet)

The resulting 95% UCL value for the soil samples collected from 0 to 2 feet bgs within the disturbed area is 30.1 mg/kg, which is below the Non-Residential Direct Contact (0-2 ft) value of 61 mg/kg for arsenic (see Table H-1 in Appendix H). Therefore, measured concentrations of arsenic in the upper two feet of soil meet the Non-Residential Direct Contact SHS for arsenic.

Soil-to-GW

The resulting 95% UCL value for all disturbed area soil samples is 16 mg/kg, which is below the Soil-to-GW value of 29 mg/kg for arsenic (see Table H-2 in Appendix H). Therefore, measured concentrations of arsenic in disturbed area site soils meet the Soil-to-GW value for arsenic.

Based on the above analysis, no further action is necessary to evaluate or address measured concentrations of arsenic in on-site soils.

6.2 Manganese – Demonstration of Attainment of Background Standard

Manganese concentrations in the disturbed area are below the Non-Residential Direct Contact values, but several concentrations exceed the Soil-to-Groundwater values; manganese was detected in 3 of the 105 soil samples at concentrations greater than the Soil-to-GW value (2,000 mg/kg). Therefore, manganese concentrations in the disturbed area soil samples were further evaluated by comparing measured concentrations of manganese in disturbed area soil samples to the maximum background concentration of manganese as permitted under PA Code Section 250.707(a)(1)(i). The highest detection of manganese (3,300 mg/kg) was measured in a background sample (ON-BA-05) collected from 9.5 to 11.5 feet below the ground surface. Because the measured concentrations of manganese in the

disturbed area soils are below the maximum background soil concentration for manganese, the measured concentrations of manganese in disturbed area soils are in attainment of the Act 2 Background Standard, and no further action is necessary to evaluate or address measured concentrations of manganese in site soil.

6.3 Assessment of Constituents Without PADEP MSCs

As discussed above, six constituents were detected in site soils but do not have established MSCs (calcium, magnesium, phosphorus, potassium, sodium, and sulfate). Therefore, Ramboll Environ investigated toxicity values for these constituents from USEPA's hierarchy of sources (USEPA 2003b), as follows:

1. Integrated Risk Information System (IRIS);
2. Provisional Peer Reviewed Toxicity Values (PPRTV); and
3. Other Toxicity Values.

Ramboll Environ also reviewed information published by other USEPA and non-USEPA sources (e.g., Agency for Toxic Substances and Disease Registry (ATSDR) and National Institute for Occupational Health and Safety (NIOSH)) for possible human health toxicity values. However, no toxicity data were identified from these sources for the constituents listed above. Due to a lack of toxicity data for these constituents, MSCs cannot be calculated as the supporting data necessary to calculate MSCs could not be identified.

The predominant health concern within the scientific literature and among government agencies for these constituents is related to inadequate intake as they are (or contain) essential human nutrients and minerals. As a conservative measure, Ramboll Environ conducted additional analysis to evaluate whether an ingestion risk to humans exists, as this would be expected to be the primary route of exposure.

6.3.1 Approach and Methods

To evaluate potential risk associated with ingestion of soil and in the absence of MSCs, Ramboll Environ compared ingestion of these constituents from soil in the disturbed area to the respective Dietary Reference Intake (DRI) value for each constituent as recommended by the Food and Nutrition Board of the Institute of Medicine (IOM), the National Academy of Science, and other authoritative bodies. For purposes of this analysis, Ramboll Environ first compared the standard non-residential soil ingestion rate of 50 mg/day adopted by PADEP (25 Pa. Code §250.306) to the DRI values for each constituent. Ramboll Environ also calculated the amount of soil that would need to be ingested to exceed the DRIs discussed below, based on maximum detected concentrations of constituents in surface soil at the site¹¹. This approach is described further below.

¹¹ An approach similar to that taken in this analysis was conducted by the Texas Natural Resource Conservation Commission (now known as the Texas Commission on Environmental Quality) to determine whether certain chemicals (including five of the nutrients discussed here: calcium, magnesium, potassium, sodium, and phosphorus) should be considered chemicals of potential concern for soil remediation. The Commission concluded that where DRI values were significantly higher than the soil ingestion rates, any concentration of these chemicals (even if the soil were 100% of the constituent) would not be expected to be a health concern (TNRCC 2001).

6.3.1.1 Description of DRIs

DRI values vary by age and gender. Therefore, values for children (beginning at age one) were used in this analysis since this is typically the most sensitive group with the lowest recommended DRI values as well the highest potential for soil ingestion. DRI values include the following (NIH 2016):

- Recommended Daily Allowance (RDA): average goal intake sufficient to meet the nutrient requirements of nearly all (97%-98%) healthy people in a group.
- Adequate Intake (AI): average goal intake established when evidence is insufficient to develop an RDA, but is set at a level assumed to ensure nutritional adequacy.
- Tolerable Upper Intake Levels (UL): maximum level of daily nutrient intake that is likely to pose no risk of adverse effects.

DRI values for the constituents evaluated as part of this analysis are provided in Table 6-1. Ramboll Environ notes that a DRI value for sulfate has not been established by IOM. However, the World Health Organization (WHO) established that the average daily intake of sulfate from all sources (drinking water, air, and food), with food being the primary source, is 500 mg/day. Therefore this value was used for the purposes of this analysis (WHO 2003; WHO 2004); mild adverse effects have been reported for sulfate intake levels of 1,500 mg/day (IOM 2005).

6.3.2 Results and Discussion

6.3.2.1 Analysis using the PADEP Standard Non-Residential Ingestion Rate of 50 mg/day

As a first step in evaluating potential soil ingestion, the typical non-residential soil ingestion rate established by PADEP (50 mg/kg) was compared with the lowest of the DRI values for each constituent (Table 6-1). This analysis conservatively assumes that the soil consists solely of the constituent of concern (i.e., 1,000,000 mg/kg). For all six constituents (calcium, magnesium, phosphorus, potassium, sodium, and sulfate), the PADEP non-residential soil ingestion rate is below the lowest DRI value. For example, the RDA or AI for calcium for a child is 700 mg/day as compared to the PADEP non-residential soil ingestion rate of 50 mg/day (25 Pa. Code §250.306); as such, a person ingesting the standard daily amount of soil could not ingest the recommended daily amount of calcium from soil, regardless of the concentration of calcium in soil.

This analysis indicates that surface soil concentrations of calcium, magnesium, phosphorus, potassium, sodium, and sulfate at the Miller Chemical property do not present a human health concern.

6.4 Surface Water/Storm Water

As discussed above, storm water from the Miller Chemical property flows across several off-site properties and/or collects in the dry creek and eventually flows into Slagle's Run.

Following the fire, Miller Chemical began collecting storm water runoff from the Miller Chemical property and affected off-site properties and disposing of the water at approved facilities. During this time, fertilizer constituent concentrations were monitored in the collected storm water and within the dry creek, Slagle's Run, South Branch Conewago Creek,

and Conewago Creek to evaluate potential impacts resulting from flow of storm water over visibly affected soils.

Ramboll Environ calculated site specific benchmarks for surface water using PADEP's PENTOX model. The storm water benchmarks, which were designed to be protective of human health and aquatic life in Slagle's Run, were presented to PADEP in a memorandum dated September 3, 2015 and were subsequently approved. Fertilizer constituent concentrations in surface water and collected storm water declined over time. Upon confirmation that concentrations were below these benchmarks, on September 21, 2015 PADEP granted Miller Chemical's request to permit storm water running over the off-site affected properties to be released to Slagle's Run along its original flow path. Following additional sampling on October 2, 2015, PADEP also granted a follow-up request to release storm water running off the Miller Chemical Property along its original flow path. Storm water has been allowed to flow freely from the off-site affected properties and the Miller Chemical site since October 1, 2015 and October 9, 2015, respectively. Continued monitoring of surface water quality has documented that measured concentrations of fertilizer constituents in surface water within Slagle's Run remain below the benchmarks.

Based on the results of storm water and surface water monitoring, storm water runoff over visibly affected soils on the Miller Chemical property is not identified as a concern, and no further action is necessary to address overland flow of storm water to Slagle's Run.

6.5 Vapor Intrusion

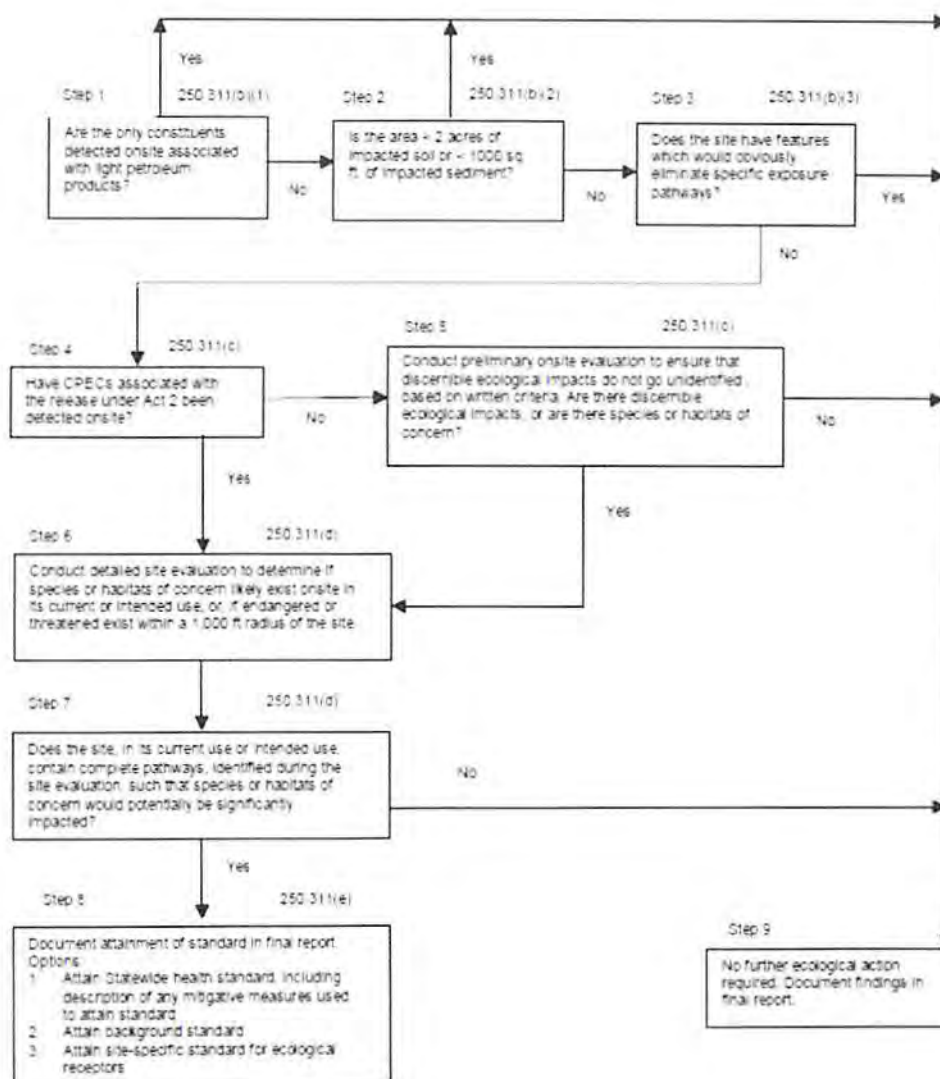
As discussed in Section 4.4, constituents of concern relating to the fire and fire response activities at the Miller Chemical site do not include volatile compounds. As such, vapor intrusion is not a pathway of concern on the Miller Chemical site.¹²

¹² Mercury was detected at low concentrations in site soil (up to 0.37 mg/kg). PADEP has not established a vapor intrusion screening level for mercury. According to PADEP's 2017 Land Recycling Program Technical Guidance Manual for Vapor Intrusion into Buildings from Groundwater and Soil under Act 2, the generic soil-to-groundwater numeric values are considered appropriate for VI screening because soil contamination that is unable to impact aquifers in excess of groundwater MSCs is also unlikely to pose an excess inhalation risk. Furthermore, VI sources associated with contaminated soil are typically not directly beneath buildings and they do not have an infinite lateral extent, making the assumptions of the model for calculated soil screening values conservative. The maximum detected concentration of mercury is less than the generic soil-to-groundwater numeric value for mercury from Chapter 250 of 10 mg/kg. Therefore, the presence of low level concentrations of mercury is not significant for the vapor intrusion pathway.

7. ECOLOGICAL RISK EVALUATION

The following section describes the ecological screening evaluation that was performed for the site in accordance with PA Statewide Health Standards of the PA Code (§250.311) and Section II.B of the PADEP Technical Guidance Manual (TGM). The regulatory framework for conducting an ecological screening evaluation under the Statewide Health Standards is summarized by the ecological screening flow chart Figure II-10 of the TGM provided below. The PADEP's Statewide Health Standard ecological screening process is comprised of nine steps that are consistent with USEPA's ecological risk assessment guidelines for contaminated sites (U.S. EPA, 1997).

Figure II-10
Ecological Screening Flow Chart



Following the screening process outlined on Figure II-10, the ecological evaluation of the site required completion of Steps 1 through 4 and Steps 6, 7 and 9 as discussed below. Note that Step 5 is only applicable when CPECs are not detected on the site. Step 8 is only applicable when the need for further ecological evaluation cannot be eliminated based on Steps 1 through 7. Although this report also applies a Site-Specific approach to evaluate those constituents for which no MSCs have been developed, none are considered Constituents of Potential Ecological Concern (CPECs) as identified in Appendix A, Table 8 of the PA Code, and therefore do not require site-specific ecological evaluation.

Step 1 – Presence of Light Petroleum Product Constituents

Site Constituents of concern are not light petroleum products constituents.

Step 2 – Site Size

The area of visibly affected soil on the site is greater than two acres. Specifically the total impacted area is approximately 3.3 acres.

Step 3 – Obvious Pathway Elimination

The site is developed with an approximately 96,000-square foot main (production and warehouse) building, which was located in the center of the property (170 Radio Road), and three smaller buildings used for administrative activities (120 Radio Road), and for maintenance and document storage (150 Radio Road). Portions of the site are paved and remaining areas are landscaped with grass and other vegetation. Therefore, parts of the site have features that would obviously eliminate specific potential exposure pathways.

Step 4 – Presence of Constituents of Potential Ecological Concern

The results of soil sampling performed at the site indicate that CPECs, as per Appendix A Table 8 of the PA Code, associated with the release have been detected on the site.

Step 5 – Preliminary On-site Evaluation

Step 5 is not applicable because CPECs have been detected on the site.

Step 6 – Detailed On-site Evaluation

The detailed site evaluation consisted of a determination of whether species or habitats of concern exist on-site or if endangered or threatened species exist within 2,500¹³ feet of the site, and whether or not there is a complete pathway, identified during the site evaluation, such that species or habitats of concern would potentially be significantly impacted. Ramboll Environ conducted an assessment of potential ecological receptors at the site to determine if the potential for impact to species and or habitats of concern was present. This evaluation was based on the following:

- A search of PADEP's Pennsylvania Natural Diversity Inventory (PNDI) database.
- Off-site reconnaissance on agricultural and commercial parcels that were visibly affected by fire water runoff conducted on September 9, 2015 as part of a bog turtle

¹³ Step 6 of Table II-10, indicates an evaluation for threatened and endangered species within a 1,000 foot radius of the site should be performed, which appears to be a typographical error, as the text of TGM and PA Code 250.311(d) indicate a 2,500 search radius should be used.

(Glyptemys muhlenbergii) survey by Johnson, Mirmiran, and Thompson (JMT) qualified ecologists.

The PNDI search performed for the site indicated that no threatened and endangered species and or special concern species and resources are present. In addition, no known impact was identified and no further review is required. The results of the PNDI search is provided as Appendix I.

The results of the on-site and off-site reconnaissance are summarized below.

On-Site

The site consists primarily of buildings and paved areas, with surrounding areas landscaped with grass and other vegetation. A storm water retention pond is present in the northwest corner of the site. There are no habitats of concern warranting further evaluation located on-site.

Off-Site

North of the site, across Radio Road, are the Metropolitan Edison Electrical Power substation, a railroad, and the Bare Development property, which is developed with a radio station and agricultural fields used for growing soybeans. Further north are the Whisler agricultural parcel, a narrow area of undeveloped, wooded land owned by Vulcan Materials, and the Family First and Trone rentals properties, beyond which, is Slagle's Run. Stormwater from the on-site retention pond flows through a culvert beneath Radio Road, across the corner of the Metropolitan Edison property, through a culvert running west, beneath the railroad track, and into the dry creek. JMT concluded that a narrow corridor of land adjacent the dry creek and a small, low-lying area at the southeast corner of the Bare Development parcel qualify as wetlands. The dry creek vegetation is dominated by reed canarygrass (*Phalaris arundinacea*) and also includes arrow-leaf tearthumb (*Persicaria sagittata*), and black cherry (*Prunus serotina*) scattered throughout. JMT concluded that the wetlands present on the off-site visibly affected parcels are not exceptional value wetlands and do not contain potential bog turtle habitat (Appendix J). Although the wetland dry ditch provides only marginal ecological habitat, as a conservative measure it was carried forward as a habitat of concern warranting further evaluation under Step 7 below.

Approximately 1,700 feet from the affected on-site area, there is a palustrine forested wetland to the east-northeast of the agricultural parcels on an undeveloped parcel owned by the Trone Rental Properties. This wetland feature contains standing water and drains into the Slagle's Run tributary. The palustrine forested wetland is dominated by reed canarygrass (*Phalaris arundinacea*), arrow-leaf tearthumb, jewelweed (*Impatiens capensis*), and common reed (*Phragmites australis*). Additional vegetation overserved included soft rush (*Juncus effusus*), sedges (*Carex sp.*), goldenrod (*Solidago sp.*), box elder (*Acer negundo*), and black walnut. This palustrine forested wetland is identified as potential habitat for bog turtle, however, no sightings were observed during the assessment.

During the field survey, JMT did not observe the presence of any threatened or endangered species or any species of special concern.

Step 7 – Identification of Completed Exposure Pathways

As discussed under Step 6 above, no threatened and endangered species and/or special concern species and resources are present on or near the site. As a conservative evaluation, Ramboll Environ evaluated the potential for CPECs to hypothetically migrate from the site to potentially ecologically sensitive areas (e.g., the wetland to the northeast of the site). As presented on Figure 1-2, the visibly affected area extended up to Slagle's Run. As discussed in Appendix J, no bog turtle habitat was identified within the affected area. In addition, the potential bog turtle habitat identified to the east-northeast of the site on the Trone Rental Properties lies upstream of the confluence of the dry creek with Slagle's Run. Therefore, CPECs are not expected to migrate from the site to the off-site wetland on the Trone Rental Properties parcel. In addition, significant ecological impacts from migration of fire water to the dry ditch were not observed (i.e., not greater than 50% change in the diversity and extent of habitat).¹⁴

Step 8 – Attainment of Standard and Mitigative Measures

Based on the findings for Steps 1 through 7, the site is eliminated from further ecological evaluation. Therefore, Step 8 is not applicable.

Step 9 – Final Report – No Further Ecological Evaluation Required

The results of the ecological evaluation indicate that no species of concern are present on or near the site and no significant impacts to habitats of concern on or near the site were identified at the time of the evaluation. Therefore, no further ecological evaluation is required¹⁵.

¹⁴ Portions of the dry creek were disturbed during the emergency response action. Restoration of these areas was conducted under jurisdiction of the USACE.

¹⁵ Ramboll Environ notes that, potential ecological impacts to Slagle's Run are being further evaluated under the Act 2 investigation for the Vulcan Materials property located along Slagle's Run.

8. CONCLUSION

Emergency response actions associated with a June 8, 2015 fire at the Miller Chemical facility, resulted in the migration of fertilizer constituents in fire water runoff, which flowed across an approximately 3.3-acre portion of the Miller Chemical property. On behalf of Miller Chemical, Ramboll Environ investigated the nature and extent of soil impacts at the Miller Chemical property. Soils were analyzed for a broad suite of potential contaminants of concern, including metals and other fertilizer constituents. Results of the soil sample analysis indicate that only arsenic and manganese were detected at concentrations exceeding Non-Residential MSCs in disturbed area soils.

Consistent with 25 Pa. Code §250.707 (b)(1)(ii), the 95% UCL on the mean arsenic concentrations for the disturbed area soils were evaluated and determined to be less than the Non-Residential MSCs. In addition, manganese concentrations in disturbed area soils were found to be less than background concentrations. As such, the arsenic and manganese concentrations in soil at the Miller Chemical property are in attainment of the Act 2 standards.

Ramboll Environ also conducted a human health evaluation to assess the potential significance of detected constituents with no established SHSs. Based on the results of the evaluation, the detected concentrations of these constituents (calcium, magnesium, phosphorus, potassium, sodium, and sulfate) in soil at the Miller Chemical property do not represent a human health concern.

Finally, conduct of an ecological screening assessment in accordance with PADEP guidance did not identify species of concern on or adjacent to the site, and no significant impacts to habitats of concern on or near the site were identified. Therefore, no further ecological evaluation is required.

Based on the results of the attainment assessment, Relief of Liability is being sought for the following compounds in soil under the Non-Residential Statewide Health Standard:

- Aluminum, antimony, arsenic, barium, beryllium, boron, cadmium, chromium, cobalt, copper, iron, lead, mercury, molybdenum, nickel, selenium, silver, thallium, vanadium, and zinc
- Nitrate and nitrite

Relief of Liability is being sought for the following constituent under the Background Standard:

- Manganese

Relief of Liability is also being sought for the following constituents, for which SHS have not been developed, under the Site-Specific Standard:

- Calcium
- Magnesium
- Phosphorous

- Potassium
- Sodium
- Sulfate

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REMEDIAL INVESTIGATION AND FINAL REPORT

TABLES

TABLE S-1
Summary of Soil Sampling Results
Miller Chemical & Fertilizer, Hanover, Pennsylvania

Location	PADEP Non-Residential Direct Contact Values			DA-01 Disturbed Area	DA-01 Disturbed Area	DA-01 Disturbed Area	DA-02 Disturbed Area	DA-02 Disturbed Area
Location Type	PADEP Non-Residential Direct Contact Values (0-2ft)	PADEP Non-Residential Direct Contact Values (2-15ft)	PADEP Non-Residential Soil To Groundwater Values	ON-DA-S-01-0-2-120616 16120702-013 / 2193804013 0 - 2 Grab 12/6/2016	ON-DA-S-01-4-6-120616 16120702-014 / 2193804014 4 - 6 Grab 12/6/2016	ON-DA-S-01-12-14-120616 16120702-015 / 2193804015 12 - 14 Grab 12/6/2016	ON-DA-S-02-0-2-120616 16120702-016 / 2193804016 0 - 2 Grab 12/6/2016	ON-DA-S-02-4-6-120616 16120702-017 / 2193804017 4 - 6 Grab 12/6/2016
Field Sample ID	Lab Sample IDs	Collection Depth (ft bgs)	Sample Method	Sample Date	Comments			
INORG								
Aluminum	190000	190000		37000 (2900)	27000 (6200)	31000 (3100)	21000 (5100)	35000 (5800)
Arsenic	61	190000	29	6.5 (0.57)	10 (0.62)	5.4 (0.62)	<u>35 (0.51)</u>	13 (0.58)
Barium	190000	190000	8200	82 (2.9)	79 (3.1)	41 (3.1)	110 (2.5)	66 (2.9)
Beryllium	11	190000	320	1.4 J (2.9)	U (3.1)	U (3.1)	U (2.5)	U (2.9)
Boron	190000	190000	1900	U (11)	U (12)	U (12)	U (10)	U (12)
Calcium				1200 (57)	1200 (62)	3300 (3100)	61000 (5100)	700 (58)
Chromium (total)	190000	190000	190000	25 (2.9)	14 (3.1)	27 (3.1)	26 (2.5)	24 (2.9)
Cobalt	960	190000	160	14 (2.9)	12 (3.1)	15 (3.1)	15 (2.5)	14 (2.9)
Copper	120000	190000		26 (2.9)	21 (3.1)	20 (3.1)	30 (2.5)	26 (2.9)
Iron	190000	190000		60000 (2900)	63000 (6200)	56000 (3100)	32000 (5100)	58000 (5800)
Lead	1000	190000	450	13 (2.9)	19 (3.1)	15 (3.1)	24 (2.5)	17 (2.9)
Magnesium				10000 (2900)	2100 (310)	24000 (3100)	31000 (5100)	2100 (290)
Manganese	150000	190000	2000	460 (140)	<u>2400 (310)</u>	670 (150)	650 (250)	170 (2.9)
Mercury	510	190000	10	0.073 J (0.11)	U (0.12)	U (0.12)	0.23 (0.1)	0.058 J (0.12)
Nickel	64000	190000	650	35 (2.9)	27 (3.1)	41 (3.1)	19 (2.5)	25 (2.9)
Nitrate			1000	U (1.3)	U (1.4)	U (1.4)	3.6 (1.2)	7.8 (1.2)
Nitrite	280000	280000	100	U (1.3)	U (1.4)	U (1.4)	1.5 (1.2)	U (1.2)
Total Kjeldahl Nitrogen				407 (97.5)	500 (106)	655 (103)	1490 (86.2)	802 (94.5)
Total Kjeldahl Nitrogen, Moist				314 (75)	359 (75.8)	486 (76.1)	1280 (74.3)	643 (75.8)
Phosphorus (total)				196 (64)	544 (65.7)	549 (12.3)	1020 J (58.5)	239 (11.7)
Potassium				790 (57)	570 (62)	420 (62)	1300 (51)	1300 (58)
Sodium				110 (57)	41 J (62)	33 J (62)	67 (51)	U (58)
Sulfate				100 (65)	73 (68)	U (71)	180 (62)	330 (62)
Vanadium	220	190000	820	22 (2.9)	17 (3.1)	16 (3.1)	27 (2.5)	27 (2.9)
Zinc	190000	190000	12000	87 J (11)	49 J (12)	120 J (12)	88 J (10)	76 J (12)

Notes:

- All concentrations are presented in milligrams per kilogram (mg/kg).
- Only compounds with at least one detection are shown.
- Concentrations that exceed the PADEP Non-Residential Direct Contact Values (0-2ft) are grey-shaded.
- No concentrations exceed the PADEP Non-Residential Direct Contact Values (2-15ft).
- Concentrations that exceed the PADEP Non-Residential Soil To Groundwater Values are underlined.
- The values for chromium III are used to evaluate chromium (total).
- Blank cells in columns with criteria indicate that no value has been established.

Abbreviations:

- U -- Not Detected.
 J -- Estimated Concentration.
 UJ -- Not Detected, Reporting Limit is Estimated Value.
 () -- Reporting Limit.
 -- -- Not Analyzed.

TABLE 5-1
Summary of Soil Sampling Results
Miller Chemical & Fertilizer, Hanover, Pennsylvania

Location Location Type Field Sample ID Lab Sample IDs Collection Depth (ft bgs) Sample Method Sample Date Comments	PADEP Non-Residential Direct Contact Values (0-2ft)	PADEP Non-Residential Direct Contact Values (2-15ft)	PADEP Non-Residential Soil To Groundwater Values	DA-02 Disturbed Area ON-DA-S-02-16-18-120616 16120702-018 / 2193804018 16 - 18 Grab 12/6/2016	DA-03 Disturbed Area ON-DA-S-03-0-2-120616 16120702-019 / 2193804019 0 - 2 Grab 12/6/2016	DA-03 Disturbed Area ON-DA-S-03-4-6-120616 16120702-020 / 2193804020 4 - 6 Grab 12/6/2016	DA-03 Disturbed Area ON-DA-S-03-11.3-13.3-120616 16120702-021 / 2193804021 11.3 - 13.3 Grab 12/6/2016	DA-03 Disturbed Area ON-DUP3-120616 16120702-034 / 2193804034 11.3 - 13.3 Grab 12/6/2016 Field Duplicate
INORG								
Aluminum	190000	190000		17000 (3300)	28000 (5600)	22000 (6200)	16000 J (5900)	27000 J (6400)
Arsenic	61	190000	29	16 (0.66)	9.5 (0.56)	18 (0.62)	4.2 (0.59)	5 (0.64)
Barium	190000	190000	8200	56 (3.3)	120 (2.8)	72 (3.1)	41 (3)	53 (3.2)
Beryllium	11	190000	320	2.4 J (3.3)	U (2.8)	2.8 J (3.1)	U (3)	U (3.2)
Boron	190000	190000	1900	U (13)	U (11)	U (12)	U (12)	U (13)
Calcium				1100 (66)	35000 (5600)	200 (62)	160 J (59)	310 J (64)
Chromium (total)	190000	190000	190000	8.8 (3.3)	30 (2.8)	19 (3.1)	9.7 J (3)	20 J (3.2)
Cobalt	960	190000	160	25 (3.3)	20 (2.8)	27 (3.1)	18 (3)	22 (3.2)
Copper	120000	190000		38 (3.3)	28 (2.8)	32 (3.1)	18 (3)	22 (3.2)
Iron	190000	190000		70000 (3300)	39000 (5600)	69000 (6200)	40000 (1200)	47000 (1300)
Lead	1000	190000	450	20 (3.3)	22 (2.8)	21 (3.1)	15 (3)	16 (3.2)
Magnesium				4300 (3300)	11000 (5600)	2500 (1200)	6800 J (1200)	15000 J (1300)
Manganese	150000	190000	2000	1600 (170)	1100 (280)	1500 (160)	670 (59)	580 (64)
Mercury	510	190000	10	U (0.13)	0.058 J (0.11)	0.14 (0.12)	U (0.12)	0.077 J (0.13)
Nickel	64000	190000	650	43 (3.3)	25 (2.8)	40 (3.1)	33 (3)	47 (3.2)
Nitrate			1000	4.4 (1.4)	2.4 (1.2)	U (1.3)	U (1.5)	1.8 (1.6)
Nitrite	280000	280000	100	U (1.4)	U (1.2)	U (1.3)	U (1.5)	U (1.6)
Total Kjeldahl Nitrogen				756 (101)	985 (92.9)	764 (102)	345 J (107)	960 J (113)
Total Kjeldahl Nitrogen, Moist				556 (74.6)	783 (73.9)	557 (74.6)	243 J (75.4)	627 J (73.9)
Phosphorus (total)				1040 (62.9)	656 (59.7)	591 (12.8)	476 (13.1)	372 (15.3)
Potassium				530 (66)	1400 (56)	400 (62)	360 (59)	500 (64)
Sodium				U (66)	71 (56)	U (62)	U (59)	U (64)
Sulfate				130 (70)	210 (61)	200 (67)	U (74)	U (81)
Vanadium	220	190000	820	25 (3.3)	37 (2.8)	41 (3.1)	8.2 (3)	11 (3.2)
Zinc	190000	190000	12000	110 J (13)	82 J (11)	130 (12)	87 (12)	130 (13)

Notes:

- All concentrations are presented in milligrams per kilogram (mg/kg).
- Only compounds with at least one detection are shown.
- Concentrations that exceed the PADEP Non-Residential Direct Contact Values (0-2ft) are grey-shaded.
- No concentrations exceed the PADEP Non-Residential Direct Contact Values (2-15ft).
- Concentrations that exceed the PADEP Non-Residential Soil To Groundwater Values are underlined.
- The values for chromium III are used to evaluate chromium (total).
- Blank cells in columns with criteria indicate that no value has been established.

Abbreviations:

- U -- Not Detected.
 J -- Estimated Concentration.
 UJ -- Not Detected, Reporting Limit Is Estimated Value.
 () -- Reporting Limit.
 -- -- Not Analyzed.

TABLE 5-1
Summary of Soil Sampling Results
Miller Chemical & Fertilizer, Hanover, Pennsylvania

Location	DA-04			DA-04			DA-05		
Location Type	Disturbed Area			Disturbed Area			Disturbed Area		
Field Sample ID	PADEP Non-Residential	PADEP Non-Residential	PADEP Non-Residential	ON-DA-S-04-0-2-120616	ON-DA-S-04-4-6-120616	ON-DA-S-04-9-11-120616	ON-DA-S-05-0-2-120616	ON-DA-S-05-4-6-120616	ON-DA-S-05-4-6-120616
Lab Sample IDs	Direct Contact	Direct Contact	Soil To Groundwater Values	16120702-022 / 2193804022	16120702-023 / 2193804023	16120702-024 / 2193804024	16120702-025 / 2193804025	16120702-026 / 2193804026	16120702-026 / 2193804026
Collection Depth (ft bgs)	0 - 2ft)	0 - 2ft)	0 - 2ft)	0 - 2	4 - 6	9 - 11	0 - 2	4 - 6	4 - 6
Sample Method	Values (0-2ft)	Values (2-15ft)	Values	Grab	Grab	Grab	Grab	Grab	Grab
Sample Date				12/6/2016	12/6/2016	12/6/2016	12/6/2016	12/6/2016	12/6/2016
Comments									
INORG									
Aluminum	190000	190000		26000 (6000)	35000 (5900)	20000 (6500)	35000 (5500)	17000 (6000)	
Arsenic	61	190000	29	6.4 (0.6)	7.5 (0.59)	5.9 (0.65)	9.2 (0.55)	5.5 (0.6)	
Barium	190000	190000	8200	77 (3)	64 (2.9)	30 (3.2)	110 (2.8)	35 (3)	
Beryllium	11	190000	320	U (3)	1.9 J (2.9)	U (3.2)	U (2.8)	U (3)	
Boron	190000	190000	1900	U (12)	U (12)	U (13)	U (11)	U (12)	
Calcium				2500 (60)	2000 (59)	2600 (65)	4400 (1100)	1100 (60)	
Chromium (total)	190000	190000	190000	19 (3)	23 (2.9)	18 (3.2)	27 (2.8)	16 (3)	
Cobalt	960	190000	160	17 (3)	18 (2.9)	17 (3.2)	17 (2.8)	16 (3)	
Copper	120000	190000		25 (3)	21 (2.9)	17 (3.2)	31 (2.8)	21 (3)	
Iron	190000	190000		47000 (1200)	58000 (1200)	50000 (1300)	50000 (5500)	43000 (1200)	
Lead	1000	190000	450	18 (3)	20 (2.9)	21 (3.2)	24 (2.8)	14 (3)	
Magnesium				2800 (1200)	14000 (2900)	15000 (1300)	5300 (1100)	12000 (1200)	
Manganese	150000	190000	2000	470 (60)	530 (59)	680 (65)	800 (55)	990 (60)	
Mercury	510	190000	10	0.097 J (0.12)	0.11 J (0.12)	0.089 J (0.13)	0.13 (0.11)	U (0.12)	
Nickel	64000	190000	650	26 (3)	39 (2.9)	38 (3.2)	28 (2.8)	33 (3)	
Nitrate			1000	3.5 (1.4)	8.8 (1.4)	U (1.5)	6.2 (1.3)	1.7 (1.4)	
Nitrite	280000	280000	100	U (1.4)	U (1.4)	U (1.5)	U (1.3)	U (1.4)	
Total Kjeldahl Nitrogen				606 (96.4)	778 (103)	811 (106)	1140 (95)	557 (102)	
Total Kjeldahl Nitrogen, Moist				469 (74.6)	555 (73.5)	571 (74.6)	905 (75.4)	400 (73.5)	
Phosphorus (total)				302 (12.7)	458 (12.8)	831 J (65)	1070 (58.1)	771 (67)	
Potassium				900 (60)	830 (59)	740 (65)	1400 (55)	470 (60)	
Sodium				39 J (60)	29 J (59)	U (65)	30 J (55)	U (60)	
Sulfate				170 (68)	96 (68)	U (76)	U (63)	U (71)	
Vanadium	220	190000	820	21 (3)	20 (2.9)	12 (3.2)	33 (2.8)	14 (3)	
Zinc	190000	190000	12000	55 (12)	82 (12)	77 (13)	71 (11)	58 (12)	

Notes:

- All concentrations are presented in milligrams per kilogram (mg/kg).
- Only compounds with at least one detection are shown.
- Concentrations that exceed the PADEP Non-Residential Direct Contact Values (0-2ft) are grey-shaded.
- No concentrations exceed the PADEP Non-Residential Direct Contact Values (2-15ft).
- Concentrations that exceed the PADEP Non-Residential Soil To Groundwater Values are underlined.
- The values for chromium III are used to evaluate chromium (total).
- Blank cells in columns with criteria indicate that no value has been established.

Abbreviations:

- U -- Not Detected.
 J -- Estimated Concentration.
 UJ -- Not Detected, Reporting Limit Is Estimated Value.
 () -- Reporting Limit.
 -- -- Not Analyzed.

5/8/2017

TABLE 5-1
Summary of Soil Sampling Results
Miller Chemical & Fertilizer, Hanover, Pennsylvania

Location	DA-05	DA-06	DA-06	DA-07	DA-07
Location Type	Disturbed Area	Disturbed Area	Disturbed Area	Disturbed Area	Disturbed Area
Field Sample ID	ON-DA-S-05-12.1-14.1-120616	ON-DA-S-06-0-2-120816	ON-DA-S-06-4-6-120816	ON-DA-S-07-0-2-120616	ON-DA-S-07-4-6-120616
Lab Sample IDs	16120702-027 / 2193804027	16120825-001 / 2194917001	16120825-002 / 2194917002	16120702-028 / 2193804028	16120702-029 / 2193804029
Collection Depth (ft bgs)	12.1 - 14.1	0 - 2	4 - 6	0 - 2	4 - 6
Sample Method	Grab	Grab	Grab	Grab	Grab
Sample Date	12/6/2016	12/8/2016	12/8/2016	12/6/2016	12/6/2016
Comments					
INORG					
Aluminum	190000	190000	19000 (5900)	26000 (2400)	40000 (2800)
Arsenic	61	190000	29	4.9 (0.59)	85 J (0.49)
Barium	190000	190000	8200	32 (2.9)	180 (2.4)
Beryllium	11	190000	320	U (2.9)	U (2.4)
Boron	190000	190000	1900	U (12)	5.7 J (9.8)
Calcium				2500 (59)	20000 (2400)
Chromium (total)	190000	190000	190000	22 (2.9)	32 J (2.4)
Cobalt	960	190000	160	16 (2.9)	18 J (2.4)
Copper	120000	190000		23 (2.9)	47 J (2.4)
Iron	190000	190000		40000 (1200)	31000 (2400)
Lead	1000	190000	450	14 (2.9)	38 J (2.4)
Magnesium				22000 (1200)	10000 (2400)
Manganese	150000	190000	2000	440 (59)	1300 (120)
Mercury	510	190000	10	U (0.12)	0.37 J (0.098)
Nickel	64000	190000	650	35 (2.9)	20 (2.4)
Nitrate			1000	U (1.4)	1.6 (1.2)
Nitrite	280000	280000	100	U (1.4)	U (1.2)
Total Kjeldahl Nitrogen				685 (96.6)	1690 (89.5)
Total Kjeldahl Nitrogen, Moist				532 (75)	1420 (75.4)
Phosphorus (total)				920 (61.8)	956 (58)
Potassium				670 (59)	1700 (49)
Sodium				U (59)	250 (49)
Sulfate				U (67)	U (59)
Vanadium	220	190000	820	17 (2.9)	33 J (2.4)
Zinc	190000	190000	12000	66 (12)	160 J (9.8)

Notes:

- All concentrations are presented in milligrams per kilogram (mg/kg).
- Only compounds with at least one detection are shown.
- Concentrations that exceed the PADEP Non-Residential Direct Contact Values (0-2ft) are grey-shaded.
- No concentrations exceed the PADEP Non-Residential Direct Contact Values (2-15ft).
- Concentrations that exceed the PADEP Non-Residential Soil To Groundwater Values are underlined.
- The values for chromium III are used to evaluate chromium (total).
- Blank cells in columns with criteria indicate that no value has been established.

Abbreviations:

- U -- Not Detected.
- J -- Estimated Concentration.
- UJ -- Not Detected, Reporting Limit is Estimated Value.
- () -- Reporting Limit.
- Not Analyzed.

TABLE 5-1
Summary of Soil Sampling Results
Miller Chemical & Fertilizer, Hanover, Pennsylvania

Location Location Type Field Sample ID Lab Sample IDs Collection Depth (ft bgs) Sample Method Sample Date Comments	PADEP Non-Residential Direct Contact Values (0-2ft)	PADEP Non-Residential Direct Contact Values (2-15ft)	PADEP Non-Residential Soil To Groundwater Values	DA-07 Disturbed Area ON-DA-S-07-8.5-10.5-120616 16120702-030 / 2193804030 8.5 - 10.5 Grab 12/6/2016	DA-08 Disturbed Area ON-DA-S-08-0-2-120716 16120804-001 / 2194239001 0 - 2 Grab 12/7/2016	DA-08 Disturbed Area ON-DA-S-08-4-6-120716 16120804-002 / 2194239002 4 - 6 Grab 12/7/2016	DA-08 Disturbed Area ON-DA-S-08-8-10-120716 16120804-003 / 2194239003 8 - 10 Grab 12/7/2016	DA-09 Disturbed Area ON-DA-S-09-0-2-120716 16120804-004 / 2194239004 0 - 2 Grab 12/7/2016
INORG								
Aluminum	190000	190000		29000 (7000)	29000 (5800)	36000 (2700)	29000 (2600)	23000 (5700)
Arsenic	61	190000	29	7.1 (0.7)	9.4 (0.58)	6.9 (0.55)	8.7 (0.51)	8.4 (0.57)
Barium	190000	190000	8200	50 (3.5)	96 (2.9)	88 (2.7)	70 (2.6)	84 (2.9)
Beryllium	11	190000	320	U (3.5)	U (2.9)	1.4 J (2.7)	1.5 J (2.6)	U (2.9)
Boron	190000	190000	1900	U (14)	U (12)	U (11)	U (10)	U (11)
Calcium				6200 (1400)	35000 (5800)	1900 (55)	1900 (51)	1200 (57)
Chromium (total)	190000	190000	190000	23 (3.5)	31 (2.9)	31 (2.7)	29 (2.6)	39 (2.9)
Cobalt	960	190000	160	15 (3.5)	16 (2.9)	11 (2.7)	24 (2.6)	22 (2.9)
Copper	120000	190000		42 (3.5)	27 (2.9)	18 (2.7)	20 (2.6)	22 (2.9)
Iron	190000	190000		51000 (1400)	45000 (5800)	51000 (2700)	60000 (2600)	38000 (5700)
Lead	1000	190000	450	20 (3.5)	26 (2.9)	15 (2.7)	25 (2.6)	21 (2.9)
Magnesium				12000 (1400)	11000 (5800)	5200 (2700)	3500 (2600)	1500 (57)
Manganese	150000	190000	2000	890 (70)	1100 (290)	440 (140)	1200 (130)	250 (2.9)
Mercury	510	190000	10	0.079 J (0.14)	0.081 J (0.12)	0.079 J (0.11)	0.081 J (0.1)	0.073 J (0.11)
Nickel	64000	190000	650	44 (3.5)	23 (2.9)	28 (2.7)	23 (2.6)	23 (2.9)
Nitrate			1000	3.6 (1.4)	2.4 (1.2)	2.4 (1.3)	1.5 (1.3)	6.4 (1.2)
Nitrite	280000	280000	100	U (1.4)	U (1.2)	U (1.3)	U (1.3)	U (1.2)
Total Kjeldahl Nitrogen				413 (105)	1910 (91.5)	807 (94.6)	809 (95.6)	963 (91.7)
Total Kjeldahl Nitrogen, Moist				296 (75)	1570 (75)	637 (74.6)	631 (74.6)	776 (73.9)
Phosphorus (total)				899 (69.5)	4220 (596)	124 (11.7)	95.6 (12.2)	96.7 (12.3)
Potassium				740 (70)	1800 (58)	910 (55)	600 (51)	1400 (57)
Sodium				U (70)	140 (58)	39 J (55)	33 J (51)	920 J (110)
Sulfate				U (72)	240 (62)	U (64)	U (63)	130 (60)
Vanadium	220	190000	820	22 (3.5)	39 (2.9)	29 (2.7)	31 (2.6)	43 (2.9)
Zinc	190000	190000	12000	100 (14)	81 (12)	54 (11)	53 (10)	48 (11)

Notes:

- All concentrations are presented in milligrams per kilogram (mg/kg).
- Only compounds with at least one detection are shown.
- Concentrations that exceed the PADEP Non-Residential Direct Contact Values (0-2ft) are grey-shaded.
- No concentrations exceed the PADEP Non-Residential Direct Contact Values (2-15ft).
- Concentrations that exceed the PADEP Non-Residential Soil To Groundwater Values are underlined.
- The values for chromium III are used to evaluate chromium (total).
- Blank cells in columns with criteria indicate that no value has been established.

Abbreviations:

- U -- Not Detected.
 J -- Estimated Concentration.
 UJ -- Not Detected, Reporting Limit Is Estimated Value.
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 -- -- Not Analyzed.

5/8/2017

TABLE 5-1
Summary of Soil Sampling Results
Miller Chemical & Fertilizer, Hanover, Pennsylvania

Location	DA-09	DA-09	DA-10	DA-10	DA-10
Location Type	Disturbed Area	Disturbed Area	Disturbed Area	Disturbed Area	Disturbed Area
Field Sample ID	DN-DA-S-09-4-6-120716	ON-DA-S-09-12-14-120716	ON-DA-S-10-0-2-120716	DN-DA-S-10-4-6-120716	DN-DA-S-10-10-12-120716
Lab Sample IDs	16120804-005 / 2194239005	16120804-006 / 2194239006	16120804-007 / 2194239007	16120804-008 / 2194239008	16120804-009 / 2194239009
Collection Depth (ft bgs)	4 - 6	12 - 14	0 - 2	4 - 6	10 - 12
Sample Method	Grab	Grab	Grab	Grab	Grab
Sample Date	12/7/2016	12/7/2016	12/7/2016	12/7/2016	12/7/2016
Comments					
INORG					
Aluminum	190000	190000	37000 (3200)	31000 (2700)	35000 (2800)
Arsenic	61	190000	29 5.5 (0.65)	28000 (3100) 3.9 (0.62)	5.1 (0.56)
Barium	190000	190000	8200 110 (3.2)	100 (2.7) 39 (3.1)	58 (2.8)
Beryllium	11	190000	320 U (3.2)	U (3.1)	U (2.8)
Boron	190000	190000	1900 U (13)	U (12)	U (11)
Calcium			6100 (3200)	U (11)	U (11)
Chromium (total)	190000	190000	190000 24 (3.2)	4700 (3100) 17 (3.1)	1200 (54) 23 (2.7)
Cobalt	960	190000	160 14 (3.2)	17 (3.1)	18 (2.7)
Copper	120000	190000	24 (3.2)	18 (3.1)	24 (2.7)
Iron	190000	190000	48000 (3200)	49000 (3100)	45000 (2700)
Lead	1000	190000	450 15 (3.2)	18 (3.1)	18 (2.7)
Magnesium			6400 (3200)	28000 (3100)	10000 (2700)
Manganese	150000	190000	2000 550 (160)	370 (160)	230 (140)
Mercury	510	190000	10 0.072 J (0.13)	U (0.12)	U (0.058)
Nickel	64000	190000	650 31 (3.2)	38 (3.1)	34 (2.7)
Nitrate			1000 2.3 (1.3)	U (1.4)	U (1.4)
Nitrite	280000	280000	100 U (1.3)	U (1.4)	U (1.4)
Total Kjeldahl Nitrogen			627 (102)	569 (105)	997 (99.7)
Total Kjeldahl Nitrogen, Moist			460 (74.6)	402 (74.3)	750 (75)
Phosphorus (total)			213 (13.4)	1490 (136)	82.7 (12.7)
Potassium			960 (65)	690 (62)	820 (54)
Sodium			90 (65)	U (62)	67 (54)
Sulfate			U (67)	U (71)	U (68)
Vanadium	220	190000	820 29 (3.2)	19 (3.1)	22 (2.7)
Zinc	190000	190000	12000 70 (13)	95 (12)	89 J (11)

Notes:

- All concentrations are presented in milligrams per kilogram (mg/kg).
- Only compounds with at least one detection are shown.
- Concentrations that exceed the PADEP Non-Residential Direct Contact Values (0-2ft) are grey-shaded.
- No concentrations exceed the PADEP Non-Residential Direct Contact Values (2-15ft).
- Concentrations that exceed the PADEP Non-Residential Soil To Groundwater Values are underlined.
- The values for chromium III are used to evaluate chromium (total).
- Blank cells in columns with criteria indicate that no value has been established.

Abbreviations:

- U -- Not Detected.
- J -- Estimated Concentration.
- UJ -- Not Detected, Reporting Limit is Estimated Value.
- () -- Reporting Limit.
- -- Not Analyzed.

TABLE 5-1
Summary of Soil Sampling Results
Miller Chemical & Fertilizer, Hanover, Pennsylvania

Location Location Type Field Sample ID Lab Sample IDs Collection Depth (ft bgs) Sample Method Sample Date Comments	PADEP Non-Residential Direct Contact Values (0-2ft)	PADEP Non-Residential Direct Contact Values (2-15ft)	PADEP Non-Residential Soil To Groundwater Values	DA-11 Disturbed Area ON-DA-S-11-0-2-120716 16120804-010 / 2194239010 0 - 2 Grab 12/7/2016	DA-11 Disturbed Area ON-DA-S-11-4-6-120716 16120804-011 / 2194239011 4 - 6 Grab 12/7/2016	DA-11 Disturbed Area ON-DA-S-11-9.5-11.5-120716 16120804-012 / 2194239012 9.5 - 11.5 Grab 12/7/2016	DA-12 Disturbed Area ON-DA-S-12-0-2-120716 16120804-013 / 2194239013 0 - 2 Grab 12/7/2016	DA-12 Disturbed Area ON-DUP4-120716 16120804-034 / 2194239034 0 - 2 Grab 12/7/2016
INORG								Field Duplicate
Aluminum	190000	190000		39000 (2800)	41000 (2800)	38000 (2900)	30000 (2400)	27000 (2400)
Arsenic	61	190000	29	8.3 (0.56)	5.8 (0.56)	6.8 (0.59)	6.7 (0.47)	5.4 (0.47)
Barium	190000	190000	8200	130 (2.8)	94 (2.8)	53 (2.9)	130 (2.4)	96 (2.4)
Beryllium	11	190000	320	U (2.8)	U (2.8)	1.6 J (2.9)	1.3 J (2.4)	U (2.4)
Boron	190000	190000	1900	U (11)	U (11)	U (12)	U (9.4)	U (9.4)
Calcium				2000 (56)	1800 (56)	2200 (59)	1200 (47)	1200 (240)
Chromium (total)	190000	190000	190000	38 (2.8)	32 (2.8)	41 (2.9)	32 (2.4)	35 (2.4)
Cobalt	960	190000	160	21 (2.8)	10 (2.8)	17 (2.9)	10 (2.4)	17 (2.4)
Copper	120000	190000		14 (2.8)	19 (2.8)	29 (2.9)	14 (2.4)	12 (2.4)
Iron	190000	190000		51000 (2800)	61000 (2800)	56000 (2900)	39000 (2400)	34000 (2400)
Lead	1000	190000	450	23 (2.8)	17 (2.8)	21 (2.9)	17 (2.4)	19 (2.4)
Magnesium				3900 (2800)	1800 (56)	22000 (2900)	1500 (47)	1500 (240)
Manganese	150000	190000	2000	1700 (140)	130 (28)	800 (150)	620 (120)	870 (120)
Mercury	510	190000	10	U (0.076)	U (0.099)	U (0.073)	U (0.064)	0.06 J (0.094)
Nickel	64000	190000	650	25 (2.8)	33 (2.8)	45 (2.9)	18 (2.4)	18 (2.4)
Nitrate			1000	U (1.2)	U (1.3)	U (1.3)	U (1.2)	U (1.2)
Nitrite	280000	280000	100	U (1.2)	U (1.3)	U (1.3)	U (1.2)	U (1.2)
Total Kjeldahl Nitrogen				684 (90.9)	1160 (97)	1130 (99.5)	870 (88.5)	609 (90.2)
Total Kjeldahl Nitrogen, Moist				561 (74.6)	891 J (74.3)	842 (73.9)	730 (74.3)	509 (75.4)
Phosphorus (total)				59.1 (11.4)	131 (12.8)	299 (13.4)	79.9 (11.8)	66.8 (11.4)
Potassium				1700 (56)	790 (56)	770 (59)	1200 (47)	1200 (240)
Sodium				30 J (56)	34 J (56)	37 J (59)	31 J (47)	26 J (47)
Sulfate				U (59)	U (66)	U (64)	66 (60)	U (60)
Vanadium	220	190000	820	51 (2.8)	29 (2.8)	22 (2.9)	40 (2.4)	38 (2.4)
Zinc	190000	190000	12000	50 J (11)	56 J (11)	94 J (12)	74 J (9.4)	41 J (9.4)

Notes:

- All concentrations are presented in milligrams per kilogram (mg/kg).
- Only compounds with at least one detection are shown.
- Concentrations that exceed the PADEP Non-Residential Direct Contact Values (0-2ft) are grey-shaded.
- No concentrations exceed the PADEP Non-Residential Direct Contact Values (2-15ft).
- Concentrations that exceed the PADEP Non-Residential Soil To Groundwater Values are underlined.
- The values for chromium III are used to evaluate chromium (total).
- Blank cells in columns with criteria indicate that no value has been established.

Abbreviations:

- U -- Not Detected.
 J -- Estimated Concentration.
 UJ -- Not Detected, Reporting Limit is Estimated Value.
 () -- Reporting Limit.
 -- -- Not Analyzed.

TABLE 5-1
Summary of Soil Sampling Results
Miller Chemical & Fertilizer, Hanover, Pennsylvania

Location Location Type Field Sample ID Lab Sample IDs Collection Depth (ft bgs) Sample Method Sample Date Comments	PADEP Non-Residential Direct Contact Values (0-2ft)	PADEP Non-Residential Direct Contact Values (2-15ft)	PADEP Non-Residential Soil To Groundwater Values	DA-12 Disturbed Area ON-GR1-12-120716 16120804-036 0 - 2 Grab 12/7/2016 Field Duplicate	DA-12 Disturbed Area ON-DA-S-12-4-6-120716 16120804-014 / 2194239014 4 - 6 Grab 12/7/2016	DA-12 Disturbed Area ON-GR2-12-120716 16120804-037 4 - 6 Grab 12/7/2016 Field Duplicate	DA-12 Disturbed Area ON-DA-S-12-10-12-120716 16120804-015 / 2194239015 10 - 12 Grab 12/7/2016	DA-12 Disturbed Area ON-GR3-12-120716 16120804-038 10 - 12 Grab 12/7/2016 Field Duplicate
INORG								
Aluminum	190000	190000		30000 (2700)	41000 (2400)	41000 (2800)	46000 (2800)	38000 (2500)
Arsenic	61	190000	29	12 (0.54)	6.1 (0.48)	4.4 (0.57)	6.9 (0.57)	6.9 (0.5)
Barium	190000	190000	8200	77 (2.7)	71 (2.4)	66 (2.8)	78 (2.8)	53 (2.5)
Beryllium	11	190000	320	U (2.7)	1.4 J (2.4)	1.7 J (2.8)	1.7 J (2.8)	1.8 J (2.5)
Boron	190000	190000	1900	U (11)	U (9.6)	U (11)	U (11)	U (10)
Calcium				1500 (270)	1700 (48)	2000 (280)	2000 (57)	2100 (250)
Chromium (total)	190000	190000	190000	44 (2.7)	30 (2.4)	38 (2.8)	31 (2.8)	28 (2.5)
Cobalt	960	190000	160	19 (2.7)	9.6 (2.4)	7.7 (2.8)	20 (2.8)	15 (2.5)
Copper	120000	190000		15 (2.7)	25 (2.4)	24 (2.8)	27 (2.8)	26 (2.5)
Iron	190000	190000		48000 (2700)	65000 (2400)	48000 (2800)	65000 (2800)	51000 (2500)
Lead	1000	190000	450	20 (2.7)	13 (2.4)	15 (2.8)	17 (2.8)	14 (2.5)
Magnesium				1500 (270)	5000 J (2400)	12000 J (2800)	17000 (2800)	16000 (2500)
Manganese	150000	190000	2000	530 (130)	180 (120)	120 (2.8)	960 J (140)	250 J (120)
Mercury	510	190000	10	0.058 J (0.11)	U (0.1)	U (0.11)	U (0.079)	0.053 J (0.1)
Nickel	64000	190000	650	17 (2.7)	31 (2.4)	30 (2.8)	40 (2.8)	36 (2.5)
Nitrate			1000	2.1 (1.2)	U (1.3)	U (1.3)	U (1.4)	U (1.3)
Nitrite	280000	280000	100	U (1.2)	U (1.3)	U (1.3)	U (1.4)	U (1.3)
Total Kjeldahl Nitrogen				--	985 (98.5)	--	1210 (101)	--
Total Kjeldahl Nitrogen, Moist				--	746 (74.6)	--	879 (73.9)	--
Phosphorus (total)				--	149 (13)	--	436 (13.3)	--
Potassium				1400 (270)	840 (48)	1100 (280)	1000 (57)	1000 (250)
Sodium				36 J (54)	42 J (48)	U (57)	47 J (57)	U (50)
Sulfate				U (59)	U (67)	U (64)	U (69)	U (67)
Vanadium	220	190000	820	52 (2.7)	28 (2.4)	29 (2.8)	29 (2.8)	25 (2.5)
Zinc	190000	190000	12000	41 J (11)	74 J (9.6)	80 J (11)	99 J (11)	84 J (10)

Notes:

- All concentrations are presented in milligrams per kilogram (mg/kg).
- Only compounds with at least one detection are shown.
- Concentrations that exceed the PADEP Non-Residential Direct Contact Values (0-2ft) are grey-shaded.
- No concentrations exceed the PADEP Non-Residential Direct Contact Values (2-15ft).
- Concentrations that exceed the PADEP Non-Residential Soil To Groundwater Values are underlined.
- The values for chromium III are used to evaluate chromium (total).
- Blank cells in columns with criteria indicate that no value has been established.

Abbreviations:

- U -- Not Detected.
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TABLE 5-1
Summary of Soil Sampling Results
Miller Chemical & Fertilizer, Hanover, Pennsylvania

Location	DA-13	DA-13	DA-14	DA-14	DA-14
Location Type	Disturbed Area	Disturbed Area	Disturbed Area	Disturbed Area	Disturbed Area
Field Sample ID	ON-DA-S-13-0-2-120816	ON-DA-S-13-4-6-120816	ON-DA-S-14-0-2-120716	ON-DA-S-14-4-6-120716	ON-DA-S-14-7-9-120716
Lab Sample IDs	16120825-003 / 2194917003	16120825-004 / 2194917004	16120804-016 / 2194239016	16120804-017 / 2194239017	16120804-018 / 2194239018
Collection Depth (ft bgs)	0 - 2	4 - 6	0 - 2	4 - 6	7 - 9
Sample Method	Grab	Grab	Grab	Grab	Grab
Sample Date	12/8/2016	12/8/2016	12/7/2016	12/7/2016	12/7/2016
Comments					
INORG					
Aluminum	190000	190000	29000 (2400)	29000 (2700)	29000 (2800)
Arsenic	61	190000	29	11 (0.55)	8 (0.55)
Barium	190000	190000	8200	91 (2.7)	110 (2.8)
Beryllium	11	190000	320	1.5 J (2.7)	U (2.8)
Boron	190000	190000	1900	U (9.7)	U (11)
Calcium			1900 (48)	1800 (55)	40000 (2800)
Chromium (total)	190000	190000	190000	31 (2.4)	46 (2.7)
Cobalt	960	190000	160	15 (2.4)	27 (2.7)
Copper	120000	190000	24 (2.4)	23 (2.7)	21 (2.8)
Iron	190000	190000	45000 (2400)	54000 (2700)	38000 (2800)
Lead	1000	190000	450	22 (2.4)	19 (2.8)
Magnesium			3000 (2400)	6200 (2700)	14000 (2800)
Manganese	150000	190000	2000	460 (120)	870 (140)
Mercury	510	190000	10	U (0.049)	U (0.077)
Nickel	64000	190000	650	21 (2.4)	29 (2.7)
Nitrate			1000	1.5 (1.3)	U (1.2)
Nitrite	280000	280000	100	U (1.3)	U (1.2)
Total Kjeldahl Nitrogen			1720 (94.3)	958 (93.9)	1170 (88.1)
Total Kjeldahl Nitrogen, Moist			1360 (74.6)	765 (75)	983 (73.9)
Phosphorus (total)			1280 (63.4)	297 (62)	981 (112)
Potassium			1800 (48)	1100 (55)	1700 (55)
Sodium			51 (48)	39 J (55)	200 (55)
Sulfate			U (65)	U (59)	1100 (60)
Vanadium	220	190000	820	47 (2.4)	45 (2.8)
Zinc	190000	190000	12000	63 J (9.7)	57 J (11)

Notes:

- All concentrations are presented in milligrams per kilogram (mg/kg).
- Only compounds with at least one detection are shown.
- Concentrations that exceed the PADEP Non-Residential Direct Contact Values (0-2ft) are grey-shaded.
- No concentrations exceed the PADEP Non-Residential Direct Contact Values (2-15ft).
- Concentrations that exceed the PADEP Non-Residential Soil To Groundwater Values are underlined.
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- Blank cells in columns with criteria indicate that no value has been established.

Abbreviations:

- U -- Not Detected.
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- UJ -- Not Detected, Reporting Limit is Estimated Value.
- () -- Reporting Limit.
- -- Not Analyzed.

TABLE 5-1
Summary of Soil Sampling Results
Miller Chemical & Fertilizer, Hanover, Pennsylvania

Location Location Type Field Sample ID Lab Sample IDs Collection Depth (ft bgs) Sample Method Sample Date Comments	PADEP Non-Residential Direct Contact Values (0-2ft)	PADEP Non-Residential Direct Contact Values (2-15ft)	PADEP Non-Residential Soil To Groundwater Values	DA-15 Disturbed Area ON-DA-S-15-0-2-120716 16120804-019 / 2194239019 0 - 2 Grab 12/7/2016	DA-15 Disturbed Area ON-DA-S-15-4-6-120716 16120804-020 / 2194239020 4 - 6 Grab 12/7/2016	DA-15 Disturbed Area ON-DA-S-15-12.5-14.5-120716 16120804-021 / 2194239021 12.5 - 14.5 Grab 12/7/2016	DA-16 Disturbed Area ON-DA-S-16-0-2-120716 16120804-022 / 2194239022 0 - 2 Grab 12/7/2016	DA-16 Disturbed Area ON-DA-S-16-4-6-120716 16120804-023 / 2194239023 4 - 6 Grab 12/7/2016
INORG								
Aluminum	190000	190000		20000 (5000)	38000 (4300)	25000 (2500)	19000 (3000)	26000 (3000)
Arsenic	61	190000	29	14 (0.5)	7 (0.43)	2.7 (0.49)	6.2 (0.6)	11 (0.6)
Barium	190000	190000	8200	75 (2.5)	99 (2.2)	41 (2.5)	230 (3)	110 (3)
Beryllium	11	190000	320	U (2.5)	1.1 J (2.2)	1.6 J (2.5)	UJ (3)	1.8 J (3)
Boron	190000	190000	1900	U (10)	U (8.6)	U (9.9)	UJ (12)	U (12)
Calcium				120000 (5000)	1600 (43)	1800 (49)	4400 J (3000)	4500 (3000)
Chromium (total)	190000	190000	190000	21 (2.5)	32 (2.2)	17 (2.5)	26 J (3)	38 (3)
Cobalt	960	190000	160	9.8 (2.5)	9.2 (2.2)	11 (2.5)	13 J (3)	24 (3)
Copper	120000	190000		17 (2.5)	23 (2.2)	30 (2.5)	10 J (3)	18 (3)
Iron	190000	190000		30000 (5000)	55000 (4300)	27000 (2500)	24000 (3000)	74000 (3000)
Lead	1000	190000	450	15 (2.5)	17 (2.2)	15 (2.5)	23 J (3)	27 (3)
Magnesium				11000 (5000)	1300 (43)	4100 (2500)	2200 (60)	5100 (3000)
Manganese	150000	190000	2000	570 (250)	41 (2.2)	100 (12)	2600 (150)	550 (150)
Mercury	510	190000	10	U (0.066)	U (0.072)	U (0.064)	0.066 J (0.12)	U (0.12)
Nickel	64000	190000	650	16 (2.5)	23 (2.2)	30 (2.5)	16 J (3)	27 (3)
Nitrate			1000	1.9 (1.1)	U (1.3)	U (1.4)	U (1.2)	U (1.2)
Nitrite	280000	280000	100	U (1.1)	U (1.3)	U (1.4)	U (1.2)	U (1.2)
Total Kjeldahl Nitrogen				767 (89.6)	1020 (95.4)	843 (105)	1410 (92.2)	550 (88.6)
Total Kjeldahl Nitrogen, Moist				636 (74.3)	803 (75)	596 (73.9)	1150 (75)	456 (73.5)
Phosphorus (total)				523 (11.9)	2570 (590)	803 J (68.2)	291 (12.3)	102 (11.4)
Potassium				1300 (50)	1200 (43)	810 (49)	1700 (60)	770 (60)
Sodium				92 (50)	140 (43)	U (49)	120 (60)	38 J (60)
Sulfate				200 (57)	890 (63)	1200 (70)	U (62)	U (62)
Vanadium	220	190000	820	26 (2.5)	36 (2.2)	16 (2.5)	40 (3)	47 (3)
Zinc	190000	190000	12000	62 J (10)	44 J (8.6)	67 J (9.9)	43 J (12)	53 J (12)

Notes:

- All concentrations are presented in milligrams per kilogram (mg/kg).
- Only compounds with at least one detection are shown.
- Concentrations that exceed the PADEP Non-Residential Direct Contact Values (0-2ft) are grey-shaded.
- No concentrations exceed the PADEP Non-Residential Direct Contact Values (2-15ft).
- Concentrations that exceed the PADEP Non-Residential Soil To Groundwater Values are underlined.
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- Blank cells in columns with criteria indicate that no value has been established.

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TABLE 5-1
Summary of Soil Sampling Results
Miller Chemical & Fertilizer, Hanover, Pennsylvania

Location Location Type Field Sample ID Lab Sample IDs Collection Depth (ft bgs) Sample Method Sample Date Comments	PADEP Non-Residential Direct Contact Values (0-2ft)	PADEP Non-Residential Direct Contact Values (2-15ft)	PADEP Non-Residential Soil To Groundwater Values	ON-DA-S-16-8.3-10.3-120716 16120804-024 / 2194239024 8.3 - 10.3 Grab 12/7/2016	DA-16 Disturbed Area ON-DA-S-17-0-2-120716 16120804-025 / 2194239025 0 - 2 Grab 12/7/2016	DA-17 Disturbed Area ON-DA-S-17-4-6-120716 16120804-026 / 2194239026 4 - 6 Grab 12/7/2016	DA-17 Disturbed Area ON-DA-S-17-7.5-9.5-120716 16120804-027 / 2194239027 7.5 - 9.5 Grab 12/7/2016	DA-18 Disturbed Area ON-DA-S-18-0-2-120816 16120825-007 / 2194917007 0 - 2 Grab 12/8/2016
INORG								
Aluminum	190000	190000		29000 (2300)	21000 (2400)	38000 (2600)	33000 (2500)	33000 (2500)
Arsenic	61	190000	29	5.2 (0.46)	9.4 (0.47)	16 (0.51)	2.8 (0.51)	5.6 (0.51)
Barium	190000	190000	8200	76 (2.3)	120 (2.4)	170 (2.6)	100 (2.5)	91 (2.5)
Beryllium	1.1	190000	320	U (2.3)	1.3 J (2.4)	2.9 (2.6)	1.6 J (2.5)	1.3 J (2.5)
Boron	190000	190000	1900	U (9.2)	U (9.4)	U (10)	U (10)	U (10)
Calcium				4600 (2300)	4200 (2400)	4300 (2600)	19000 (2500)	6200 (2500)
Chromium (total)	190000	190000	190000	30 (2.3)	42 (2.4)	39 (2.6)	50 (2.5)	36 (2.5)
Cobalt	960	190000	160	15 (2.3)	18 (2.4)	35 (2.6)	6.8 (2.5)	10 (2.5)
Copper	120000	190000		27 (2.3)	25 (2.4)	26 (2.6)	22 (2.5)	17 (2.5)
Iron	190000	190000		44000 (2300)	37000 (2400)	65000 (2600)	35000 (2500)	39000 (2500)
Lead	1000	190000	450	13 (2.3)	26 (2.4)	24 (2.6)	12 (2.5)	15 (2.5)
Magnesium				21000 (2300)	2700 (2400)	3100 (2600)	10000 (2500)	7500 (2500)
Manganese	150000	190000	2000	1200 (110)	560 (120)	<u>2100 (130)</u>	100 (5.1)	640 (130)
Mercury	510	190000	10	0.064 J (0.092)	0.073 J (0.094)	0.09 J (0.1)	0.08 J (0.1)	U (0.063)
Nickel	64000	190000	650	33 (2.3)	20 (2.4)	35 (2.6)	28 (2.5)	25 (2.5)
Nitrate			1000	U (1.3)	3.9 (1.3)	U (1.3)	U (1.4)	3.9 (1.3)
Nitrite	280000	280000	100	U (1.3)	U (1.3)	U (1.3)	U (1.4)	U (1.3)
Total Kjeldahl Nitrogen				396 (95.2)	U (93)	656 (96.5)	637 (101)	2060 (97.7)
Total Kjeldahl Nitrogen, Moist				315 (75.8)	U (75.8)	507 (74.6)	469 (74.6)	1580 (75)
Phosphorus (total)				683 (60.2)	299 (11.9)	160 (12.2)	358 (12.6)	1680 (64.6)
Potassium				740 (46)	1700 (470)	840 (100)	1200 (510)	2000 (50)
Sodium				35 J (46)	43 J (47)	52 (51)	63 (51)	64 (50)
Sulfate				U (66)	U (66)	U (65)	U (71)	94 (63)
Vanadium	220	190000	820	25 (2.3)	49 (2.4)	45 (2.6)	32 (2.5)	33 (2.5)
Zinc	190000	190000	12000	70 J (9.2)	58 J (9.4)	50 J (10)	63 J (10)	63 J (10)

Notes:

- All concentrations are presented in milligrams per kilogram (mg/kg).
- Only compounds with at least one detection are shown.
- Concentrations that exceed the PADEP Non-Residential Direct Contact Values (0-2ft) are grey-shaded.
- No concentrations exceed the PADEP Non-Residential Direct Contact Values (2-15ft).
- Concentrations that exceed the PADEP Non-Residential Soil To Groundwater Values are underlined.
- The values for chromium III are used to evaluate chromium (total).
- Blank cells in columns with criteria indicate that no value has been established.

Abbreviations:

- U -- Not Detected.
- J -- Estimated Concentration.
- UJ -- Not Detected, Reporting Limit Is Estimated Value.
- () -- Reporting Limit.
- -- Not Analyzed.

TABLE S-1
Summary of Soil Sampling Results
Miller Chemical & Fertilizer, Hanover, Pennsylvania

Location	DA-18	DA-19	DA-19	DA-20	DA-20
Location Type	Disturbed Area	Disturbed Area	Disturbed Area	Disturbed Area	Disturbed Area
Field Sample ID	ON-DA-S-18-4-6-120816	ON-DA-S-19-0-2-120816	ON-DA-S-19-4-6-120816	ON-DA-S-20-0-2-120816	ON-DA-S-20-4-6-120816
Lab Sample IDs	16120825-008 / 2194917008	16120825-009 / 2194917009	16120825-010 / 2194917010	16120825-005 / 2194917005	16120825-006 / 2194917006
Collection Depth (ft bgs)	4 - 6	0 - 2	4 - 6	0 - 2	4 - 6
Sample Method	Grab	Grab	Grab	Grab	Grab
Sample Date	12/8/2016	12/8/2016	12/8/2016	12/8/2016	12/8/2016
Comments					
INORG					
Aluminum	190000	190000	36000 (2500)	32000 (3100)	47000 (3400)
Arsenic	61	190000	29	4 (0.51)	5.9 (0.62)
Barium	190000	190000	8200	60 (2.5)	81 (3.1)
Beryllium	11	190000	320	1.6 J (2.5)	U (3.1)
Boron	190000	190000	1900	UJ (10)	UJ (12)
Calcium			3800 (2500)	690 (62)	7400 (3400)
Chromium (total)	190000	190000	190000	33 (2.5)	29 (3.1)
Cobalt	960	190000	160	18 (2.5)	15 (3.1)
Copper	120000	190000		36 (2.5)	23 (3.1)
Iron	190000	190000		81000 (2500)	34000 (3100)
Lead	1000	190000	450	18 (2.5)	15 (3.1)
Magnesium			19000 (2500)	7400 (3100)	14000 (3400)
Manganese	150000	190000	2000	130 (13)	61 (3.1)
Mercury	510	190000	10	U (0.056)	U (0.068)
Nickel	64000	190000	650	45 (2.5)	29 (3.1)
Nitrate			1000	U (1.4)	2.3 (1.3)
Nitrite	280000	280000	100	U (1.4)	U (1.3)
Total Kjeldahl Nitrogen				999 (98)	1440 (94.8)
Total Kjeldahl Nitrogen, Moist				757 (74.3)	1120 (73.5)
Phosphorus (total)				129 (63.4)	75.6 (62)
Potassium				1100 (51)	2700 (62)
Sodium				51 (51)	37 J (62)
Sulfate				U (69)	380 (63)
Vanadium	220	190000	820	17 (2.5)	34 (3.1)
Zinc	190000	190000	12000	110 J (10)	57 J (12)

Notes:

- All concentrations are presented in milligrams per kilogram (mg/kg).
- Only compounds with at least one detection are shown.
- Concentrations that exceed the PADEP Non-Residential Direct Contact Values (0-2ft) are grey-shaded.
- No concentrations exceed the PADEP Non-Residential Direct Contact Values (2-15ft).
- Concentrations that exceed the PADEP Non-Residential Soil To Groundwater Values are underlined.
- The values for chromium III are used to evaluate chromium (total).
- Blank cells in columns with criteria indicate that no value has been established.

Abbreviations:

- U -- Not Detected.
- J -- Estimated Concentration.
- UJ -- Not Detected, Reporting Limit Is Estimated Value.
- () -- Reporting Limit.
- -- Not Analyzed.

5/8/2017

**TABLE 5-1
Summary of Soil Sampling Results
Miller Chemical & Fertilizer, Manover, Pennsylvania**

Location Location Type Field Sample ID Lab Sample IDs Collection Depth (ft bgs) Sample Method Sample Date Comments	PADEP Non-Residential Direct Contact Values (0-2ft)	PADEP Non-Residential Direct Contact Values (2-15ft)	PADEP Non-Residential Soil To Groundwater Values	DA-21 Disturbed Area ON-DA-S-21-0-2-120716 16120804-031 / 2194239031 0 - 2 Grab 12/7/2016	DA-21 Disturbed Area ON-DA-S-21-4-6-120716 16120804-032 / 2194239032 4 - 6 Grab 12/7/2016	DA-21 Disturbed Area ON-DA-S-21-8-10-120716 16120804-033 / 2194239033 8 - 10 Grab 12/7/2016	DA-22 Disturbed Area ON-DA-S-22-0-2-120716 16120804-028 / 2194239028 0 - 2 Grab 12/7/2016	DA-22 Disturbed Area ON-DA-S-22-4-6-120716 16120804-029 / 2194239029 4 - 6 Grab 12/7/2016
INORG								
Aluminum	190000	190000		26000 (2300)	37000 (2600)	32000 (3200)	23000 (3000)	36000 (2400)
Arsenic	61	190000	29	24 (0.45)	U (0.51)	6.5 (0.64)	6.2 (0.59)	3 (0.48)
Barium	190000	190000	8200	140 (2.3)	89 (2.6)	68 (3.2)	120 (3)	72 (2.4)
Beryllium	11	190000	320	1.4 J (2.3)	1.5 J (2.6)	1.7 J (3.2)	1.5 J (3)	1.3 J (2.4)
Boron	190000	190000	1900	6.4 J (9.1)	U (10)	U (13)	U (12)	U (9.6)
Calcium				5500 (2300)	4100 (2600)	3000 (130)	3900 (3000)	47000 J (2400)
Chromium (total)	190000	190000	190000	40 (2.3)	38 (2.6)	38 (3.2)	50 (3)	39 (2.4)
Cobalt	960	190000	160	12 (2.3)	U (2.6)	17 (3.2)	12 (3)	17 (2.4)
Copper	120000	190000		15 (2.3)	U (2.6)	26 (3.2)	14 (3)	20 (2.4)
Iron	190000	190000		35000 (2300)	47000 (2600)	47000 (3200)	31000 (3000)	41000 (2400)
Lead	1000	190000	450	22 (2.3)	14 (2.6)	23 (3.2)	17 (3)	13 (2.4)
Magnesium				3700 (2300)	15000 (2600)	8100 (3200)	3600 (3000)	16000 (2400)
Manganese	150000	190000	2000	590 (110)	230 (130)	480 (160)	210 (15)	330 (120)
Mercury	510	190000	10	0.05 J (0.091)	0.054 J (0.1)	U (0.13)	0.073 J (0.12)	0.073 J (0.096)
Nickel	64000	190000	650	18 (2.3)	U (2.6)	30 (3.2)	24 (3)	31 (2.4)
Nitrate			1000	2.8 (1.3)	U (1.2)	U (1.4)	U (1.2)	U (1.2)
Nitrite	280000	280000	100	U (1.3)	U (1.2)	U (1.4)	U (1.2)	U (1.2)
Total Kjeldahl Nitrogen				692 (93.5)	698 (93.9)	1140 (103)	854 (96.3)	704 (94.4)
Total Kjeldahl Nitrogen, Moist				561 (75.8)	552 (74.3)	817 (74.3)	669 (75.4)	560 (75)
Phosphorus (total)				762 (58.9)	344 (11.6)	435 (13.4)	128 (12.3)	364 (65.7)
Potassium				2100 (450)	1200 (260)	820 (130)	1500 (300)	920 (240)
Sodium				140 (45)	50 J (51)	U (64)	620 (300)	200 (48)
Sulfate				U (63)	U (61)	U (72)	U (62)	U (62)
Vanadium	220	190000	820	48 (2.3)	26 (2.6)	29 (3.2)	53 (3)	30 (2.4)
Zinc	190000	190000	12000	68 J (9.1)	U (10)	67 J (13)	55 J (12)	67 J (9.6)

Notes:

- All concentrations are presented in milligrams per kilogram (mg/kg).
- Only compounds with at least one detection are shown.
- Concentrations that exceed the PADEP Non-Residential Direct Contact Values (0-2ft) are grey-shaded.
- No concentrations exceed the PADEP Non-Residential Direct Contact Values (2-15ft).
- Concentrations that exceed the PADEP Non-Residential Soil To Groundwater Values are underlined.
- The values for chromium III are used to evaluate chromium (total).
- Blank cells in columns with criteria indicate that no value has been established.

Abbreviations:

- U -- Not Detected.
- J -- Estimated Concentration.
- UJ -- Not Detected, Reporting Limit is Estimated Value.
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- -- Not Analyzed.

TABLE 5-1
Summary of Soil Sampling Results
Miller Chemical & Fertilizer, Manover, Pennsylvania

Location	DA-22	DA-22	BA-01	BA-01	BA-01
Location Type	Disturbed Area	Disturbed Area	Background	Background	Background
Field Sample ID	ON-DUPS-120716	ON-DA-S-22-9-11-120716	ON-BA-S-01-0-2-120616	ON-BA-S-01-4-6-120616	ON-DUP2-120616
Lab Sample IDs	16120804-035 / 2194239035	16120804-030 / 2194239030	16120702-010 / 2193804010	16120702-011 / 2193804011	16120702-033 / 2193804033
Collection Depth (ft bgs)	4 - 6	9 - 11	0 - 2	4 - 6	4 - 6
Sample Method	Grab	Grab	Grab	Grab	Grab
Sample Date	12/7/2016	12/7/2016	12/6/2016	12/6/2016	12/6/2016
Comments	Field Duplicate	Field Duplicate	Field Duplicate	Field Duplicate	Field Duplicate
INORG					
Aluminum	190000	190000	42000 (2500)	24000 (2700)	38000 (2700)
Arsenic	61	190000	29	5.3 (0.51)	6.2 (0.54)
Barium	190000	190000	8200	78 (2.5)	47 (2.7)
Beryllium	11	190000	320	2.1 (2.5)	2.1 J (2.7)
Boron	190000	190000	1900	U (10)	U (11)
Calcium				14000 J (2500)	4100 (2700)
Chromium (total)	190000	190000	190000	43 (2.5)	35 (2.7)
Cobalt	960	190000	160	14 (2.5)	13 (2.7)
Copper	120000	190000		26 (2.5)	26 (2.7)
Iron	190000	190000		47000 (2500)	68000 (2700)
Lead	1000	190000	450	20 (2.5)	15 (2.7)
Magnesium				12000 (2500)	4800 (2700)
Manganese	150000	190000	2000	400 (130)	260 (130)
Mercury	510	190000	10	0.051 J (0.1)	0.12 (0.11)
Nickel	64000	190000	650	32 (2.5)	29 (2.7)
Nitrate			1000	U (1.2)	U (1.3)
Nitrite	280000	280000	100	U (1.2)	U (1.3)
Total Kjeldahl Nitrogen				647 (93.2)	672 (101)
Total Kjeldahl Nitrogen, Moist				521 (75)	498 (75)
Phosphorus (total)				301 (12.1)	677 (65.4)
Potassium				930 (100)	990 (270)
Sodium				210 (100)	38 J (54)
Sulfate				U (62)	U (66)
Vanadium	220	190000	820	43 (2.5)	31 (2.7)
Zinc	190000	190000	12000	70 J (10)	73 J (11)
					72 J (11)
					100 J (11)
					110 (11)

Notes:

- All concentrations are presented in milligrams per kilogram (mg/kg).
- Only compounds with at least one detection are shown.
- Concentrations that exceed the PADEP Non-Residential Direct Contact Values (0-2ft) are grey-shaded.
- No concentrations exceed the PADEP Non-Residential Direct Contact Values (2-15ft).
- Concentrations that exceed the PADEP Non-Residential Soil To Groundwater Values are underlined.
- The values for chromium III are used to evaluate chromium (total).
- Blank cells in columns with criteria indicate that no value has been established.

Abbreviations:

- U -- Not Detected.
 J -- Estimated Concentration.
 UJ -- Not Detected, Reporting Limit is Estimated Value.
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 -- -- Not Analyzed.

TABLE S-1
Summary of Soil Sampling Results
Miller Chemical & Fertilizer, Hanover, Pennsylvania

Location	BA-01	BA-02	BA-02	BA-02	BA-03
Location Type	Background	Background	Background	Background	Background
Field Sample ID	ON-BA-S-01-7-9-120616	ON-BA-S-02-0-2-120616	ON-BA-S-02-4-6-120616	ON-BA-S-02-10-12-120616	ON-BA-S-03-0-2-120616
Lab Sample IDs	16120702-012 / 2193804012	16120702-007 / 2193804007	16120702-008 / 2193804008	16120702-009 / 2193804009	16120702-004 / 2193804004
Collection Depth (ft bgs)	7 - 9	0 - 2	4 - 6	10 - 12	0 - 2
Sample Method	Grab	Grab	Grab	Grab	Grab
Sample Date	12/6/2016	12/6/2016	12/6/2016	12/6/2016	12/6/2016
Comments					
INORG					
Aluminum	190000	190000	29000 (6500)	40000 (2800)	28000 (5100)
Arsenic	61	190000	29	8.4 (0.65)	5.5 (0.51)
Barium	190000	190000	8200	74 (3.2)	42 (2.5)
Beryllium	11	190000	320	U (3.2)	U (2.8)
Boron	190000	190000	1900	U (13)	U (11)
Calcium				1900 (65)	740 (56)
Chromium (total)	190000	190000	190000	15 (3.2)	25 (2.8)
Cobalt	960	190000	160	18 (3.2)	15 (2.8)
Copper	120000	190000		25 (3.2)	29 (2.8)
Iron	190000	190000		54000 (6500)	52000 (2800)
Lead	1000	190000	450	14 (3.2)	19 (2.8)
Magnesium				13000 (6500)	5000 (2800)
Manganese	150000	190000	2000	1000 (320)	210 (2.8)
Mercury	510	190000	10	U (0.13)	0.081 J (0.11)
Nickel	64000	190000	650	44 (3.2)	31 (2.8)
Nitrate			1000	U (1.4)	U (1.2)
Nitrite	280000	280000	100	U (1.4)	U (1.1)
Total Kjeldahl Nitrogen				377 (89.9)	701 (92.4)
Total Kjeldahl Nitrogen, Moist				320 (76.1)	569 (75)
Phosphorus (total)				248 (55.1)	318 (59.5)
Potassium				720 (65)	1300 (56)
Sodium				U (65)	U (56)
Sulfate				U (69)	60 (60)
Vanadium	220	190000	820	13 (3.2)	31 (2.8)
Zinc	190000	190000	12000	87 J (13)	68 J (11)
					91 J (10)
					81 J (12)
					39000 (5900)
					7.2 (0.59)
					35 (3)
					U (3)
					U (12)
					2200 (60)
					21 (3)
					15 (3)
					26 (3)
					45000 (5100)
					13 (2.5)
					14 (3)
					19000 (6000)
					680 (300)
					U (0.12)
					33 (3)
					U (1.4)
					U (1.4)
					555 (89.5)
					389 (94)
					306 (73.9)
					617 (62.9)
					134 (59.5)
					690 (60)
					U (60)
					U (69)
					11 (3)
					41 (2.9)
					52 J (12)

Notes:

- All concentrations are presented in milligrams per kilogram (mg/kg).
- Only compounds with at least one detection are shown.
- Concentrations that exceed the PADEP Non-Residential Direct Contact Values (0-2ft) are grey-shaded.
- No concentrations exceed the PADEP Non-Residential Direct Contact Values (2-15ft).
- Concentrations that exceed the PADEP Non-Residential Soil To Groundwater Values are underlined.
- The values for chromium III are used to evaluate chromium (total).
- Blank cells in columns with criteria indicate that no value has been established.

Abbreviations:

- U -- Not Detected.
- J -- Estimated Concentration.
- UJ -- Not Detected, Reporting Limit Is Estimated Value.
- () -- Reporting Limit.
- -- Not Analyzed.

TABLE 5-1
Summary of Soil Sampling Results
Miller Chemical & Fertilizer, Hanover, Pennsylvania

Location	PADEP Non-Residential			PADEP Non-Residential	BA-03	BA-03	BA-03	BA-04	BA-04
Location Type	Non-Residential	Non-Residential	Non-Residential	Non-Residential	Background	Background	Background	Background	Background
Field Sample ID	Direct	Direct	Direct	Direct	ON-BA-S-03-4-6-120616	ON-DUP1-120616	ON-BA-S-03-11-13-120616	ON-BA-S-04-0-2-120616	ON-BA-S-04-4-6-120616
Lab Sample IDs	Contact Values (0-2ft)	Contact Values (2-15ft)	Contact Values (2-15ft)	Contact Values (2-15ft)	16120702-005 / 2193804005	16120702-032 / 2193804032	16120702-006 / 2193804006	16120702-001 / 2193804001	16120702-002 / 2193804002
Collection Depth (ft bgs)				Soil To Groundwater Values	4 - 6	0 - 2	11 - 13	0 - 2	4 - 6
Sample Method					Grab	Grab	Grab	Grab	Grab
Sample Date					12/6/2016	12/6/2016	12/6/2016	12/6/2016	12/6/2016
Comments						Field Duplicate			
INORG									
Aluminum	190000	190000			36000 (5800)	39000 (6100)	32000 (6300)	27000 (2700)	30000 (2900)
Arsenic	61	190000	29		8.7 (0.58)	7.5 (0.61)	6.1 (0.63)	8.1 (0.54)	6.4 (0.59)
Barium	190000	190000	8200		52 (2.9)	92 (3)	44 (3.1)	91 (2.7)	70 (2.9)
Beryllium	11	190000	320		2 J (2.9)	U (3)	U (3.1)	U (2.7)	1.6 J (2.9)
Boron	190000	190000	1900		U (12)	U (12)	U (13)	U (11)	U (12)
Calcium					280 (58)	880 (61)	1600 (63)	1100 (54)	1000 (59)
Chromium (total)	190000	190000	190000		18 (2.9)	34 (3)	21 (3.1)	43 (2.7)	24 (2.9)
Cobalt	960	190000	160		13 (2.9)	11 (3)	9.9 (3.1)	13 J (2.7)	9.7 (2.9)
Copper	120000	190000			24 (2.9)	27 (3)	22 (3.1)	26 J (2.7)	23 (2.9)
Iron	190000	190000			64000 (5800)	55000 (1200)	54000 (6300)	38000 (2700)	60000 (2900)
Lead	1000	190000	450		18 (2.9)	15 (3)	14 (3.1)	16 (2.7)	17 (2.9)
Magnesium					10000 (5800)	2000 (61)	15000 (6300)	2000 (270)	5700 (2900)
Manganese	150000	190000	2000		770 (290)	250 (61)	730 (310)	290 (140)	370 (150)
Mercury	510	190000	10		0.1 J (0.12)	0.097 J (0.12)	0.07 J (0.13)	0.087 J (0.11)	0.09 J (0.12)
Nickel	64000	190000	650		32 (2.9)	26 (3)	30 (3.1)	22 (2.7)	28 (2.9)
Nitrate			1000		U (1.3)	3.1 (1.3)	U (1.5)	U (1.2)	U (1.4)
Nitrite	280000	280000	100		U (1.3)	U (1.3)	U (1.5)	U (1.2)	U (1.4)
Total Kjeldahl Nitrogen					481 (101)	587 (92)	628 (114)	416 (90.1)	788 (99.6)
Total Kjeldahl Nitrogen, Moist					362 (75.8)	474 J (74.3)	417 (75.8)	343 (74.3)	584 (73.9)
Phosphorus (total)					365 (61.4)	181 (11.8)	786 (71.5)	101 (56.9)	87.7 (12.6)
Potassium					640 (58)	1800 (61)	900 (63)	1600 (54)	920 (59)
Sodium					U (58)	U (61)	U (63)	35 J (54)	U (59)
Sulfate					U (67)	U (65)	U (75)	U (58)	U (70)
Vanadium	220	190000	820		24 (2.9)	42 (3)	20 (3.1)	50 (2.7)	23 (2.9)
Zinc	190000	190000	12000		87 J (12)	58 (12)	75 J (13)	41 J (11)	63 J (12)

Notes:

- All concentrations are presented in milligrams per kilogram (mg/kg).
- Only compounds with at least one detection are shown.
- Concentrations that exceed the PADEP Non-Residential Direct Contact Values (0-2ft) are grey-shaded.
- No concentrations exceed the PADEP Non-Residential Direct Contact Values (2-15ft).
- Concentrations that exceed the PADEP Non-Residential Soil To Groundwater Values are underlined.
- The values for chromium III are used to evaluate chromium (total).
- Blank cells in columns with criteria indicate that no value has been established.

Abbreviations:

- U -- Not Detected.
- J -- Estimated Concentration.
- UJ -- Not Detected, Reporting Limit is Estimated Value.
- () -- Reporting Limit.
- -- Not Analyzed.

TABLE 5-1
Summary of Soil Sampling Results
Miller Chemical & Fertilizer, Hanover, Pennsylvania

Location	BA-04	BA-05	BA-05	BA-05	BA-06
Location Type	Background	Background	Background	Background	Background
Field Sample ID	ON-BA-S-04-10-12-120616	ON-BA-S-05-0-2-120516	ON-BA-S-05-4-6-120516	ON-BA-S-05-9.5-11.5-120516	ON-BA-S-06-0-2-120516
Lab Sample IDs	16120702-003 / 2193804003	16120601-022 / 2193420022	16120601-023 / 2193420023	16120601-024 / 2193420024	16120601-019 / 2193420019
Collection Depth (ft bgs)	10 - 12	0 - 2	4 - 6	9.5 - 11.5	0 - 2
Sample Method	Grab	Grab	Grab	Grab	Grab
Sample Date	12/6/2016	12/5/2016	12/5/2016	12/5/2016	12/5/2016
Comments					
INORG					
Aluminum	190000	190000	31000 (3300)	44000 (2200)	28000 (2700)
Arsenic	61	190000	29	6.7 (0.65)	5.8 (0.43)
Barium	190000	190000	8200	55 (3.3)	76 (2.4)
Beryllium	11	190000	320	U (3.3)	1.2 J (2.2)
Boron	190000	190000	1900	U (13)	U (8.7)
Calcium				2200 (65)	3700 (2200)
Chromium (total)	190000	190000	190000	26 (3.3)	51 (2.2)
Cobalt	960	190000	160	10 (3.3)	11 (2.2)
Copper	120000	190000		23 (3.3)	19 (2.2)
Iron	190000	190000		53000 (3300)	51000 (2200)
Lead	1000	190000	450	16 (3.3)	16 (2.2)
Magnesium				10000 (3300)	5800 J (2200)
Manganese	150000	190000	2000	270 (3.3)	630 J (110)
Mercury	510	190000	10	0.075 J (0.13)	U (0.061)
Nickel	64000	190000	650	34 (3.3)	28 (2.2)
Nitrate			1000	1.5 (1.4)	U (1.2)
Nitrite	280000	280000	100	U (1.4)	U (1.2)
Total Kjeldahl Nitrogen				632 (104)	798 (94.4)
Total Kjeldahl Nitrogen, Moist				455 (74.6)	625 (73.9)
Phosphorus (total)				431 (63.7)	86.7 (12.3)
Potassium				900 (65)	1200 (43)
Sodium				U (65)	120 (43)
Sulfate				U (67)	U (62)
Vanadium	220	190000	820	22 (3.3)	49 (2.2)
Zinc	190000	190000	12000	71 J (13)	44 J (8.7)
					62 J (9.5)
					58 J (11)

Notes:

- All concentrations are presented in milligrams per kilogram (mg/kg).
- Only compounds with at least one detection are shown.
- Concentrations that exceed the PADEP Non-Residential Direct Contact Values (0-2ft) are grey-shaded.
- No concentrations exceed the PADEP Non-Residential Direct Contact Values (2-15ft).
- Concentrations that exceed the PADEP Non-Residential Soil To Groundwater Values are underlined.
- The values for chromium III are used to evaluate chromium (total).
- Blank cells in columns with criteria indicate that no value has been established.

Abbreviations:

- U -- Not Detected.
 J -- Estimated Concentration.
 UJ -- Not Detected, Reporting Limit Is Estimated Value.
 () -- Reporting Limit.
 -- -- Not Analyzed.

5/8/2017

TABLE 5-1
Summary of Soil Sampling Results
Miller Chemical & Fertilizer, Hanover, Pennsylvania

Location	PADEP Non-Residential		PADEP Non-Residential	ON-BA-S-06-4-6-120516	ON-BA-S-06-6-8-120516	ON-BA-S-07-0-2-120516	ON-BA-S-07-4-6-120516	ON-BA-S-07-8-10-120516
Location Type	Direct	Direct	Soil To Groundwater	Background	Background	Background	Background	Background
Field Sample ID	Values (0-2ft)	Values (2-15ft)	Values	16120601-020 / 2193420020	16120601-021 / 2193420021	16120601-010 / 2193420010	16120601-011 / 2193420011	16120601-012 / 2193420012
Lab Sample IDs	4 - 6	4 - 6	4 - 6	4 - 6	6 - 8	0 - 2	4 - 6	8 - 10
Collection Depth (ft bgs)	Grab	Grab	Grab	Grab	Grab	Grab	Grab	Grab
Sample Method	12/5/2016	12/5/2016	12/5/2016	12/5/2016	12/5/2016	12/5/2016	12/5/2016	12/5/2016
Sample Date								
Comments								
INORG								
Aluminum	190000	190000		43000 (3100)	49000 (3200)	28000 (5000)	26000 (1100)	41000 (2900)
Arsenic	61	190000	29	5.7 (0.63)	4.6 (0.65)	8 (0.5)	8.5 (0.55)	5.4 (0.58)
Barium	190000	190000	8200	110 (3.1)	110 (3.2)	160 (2.5)	130 (2.8)	91 (2.9)
Beryllium	11	190000	320	U (3.1)	U (3.2)	U (2.5)	U (2.8)	1.6 J (2.9)
Boron	190000	190000	1900	U (13)	U (13)	U (10)	U (11)	U (12)
Calcium				2000 (63)	3000 (65)	8500 (5000)	4200 (1100)	7100 (2900)
Chromium (total)	190000	190000	190000	39 (3.1)	41 (3.2)	56 (2.5)	58 (2.8)	36 (2.9)
Cobalt	960	190000	160	8.2 (3.1)	10 (3.2)	24 (2.5)	18 (2.8)	13 (2.9)
Copper	120000	190000		21 (3.1)	22 (3.2)	27 (2.5)	19 (2.8)	24 (2.9)
Iron	190000	190000		52000 (3100)	53000 (3200)	50000 (5000)	42000 (1100)	43000 (2900)
Lead	1000	190000	450	15 (3.1)	14 (3.2)	45 (2.5)	39 (2.8)	22 (2.9)
Magnesium				5700 J (3100)	18000 J (3200)	6100 (5000)	2300 (55)	12000 (2900)
Manganese	150000	190000	2000	250 J (160)	810 J (160)	1500 J (250)	680 J (55)	140 J (2.9)
Mercury	510	190000	10	U (0.089)	U (0.067)	U (0.1)	0.063 J (0.11)	U (0.12)
Nickel	64000	190000	650	27 (3.1)	35 (3.2)	22 (2.5)	19 (2.8)	37 (2.9)
Nitrate			1000	U (1.2)	U (1.3)	1.7 (1.3)	U (1.2)	U (1.4)
Nitrite	280000	280000	100	U (1.2)	U (1.3)	U (1.3)	U (1.2)	U (1.4)
Total Kjeldahl Nitrogen				723 (95.2)	824 (104)	859 (91.4)	572 (98)	658 (100)
Total Kjeldahl Nitrogen, Moist				570 (75)	595 (75)	705 (75)	436 (74.6)	484 (73.9)
Phosphorus (total)				196 (11.8)	537 (67.1)	208 (61.3)	54.6 (12.3)	144 (12.8)
Potassium				1100 (63)	1600 (65)	900 (50)	1200 (55)	1000 (58)
Sodium				120 (63)	240 (65)	730 (50)	360 (55)	100 (58)
Sulfate				U (62)	U (66)	U (64)	U (62)	U (69)
Vanadium	220	190000	820	35 (3.1)	40 (3.2)	58 (2.5)	59 (2.8)	39 (2.9)
Zinc	190000	190000	12000	460 J (13)	2000 J (650)	49 J (10)	43 J (11)	73 J (12)

- Notes:**
- All concentrations are presented in milligrams per kilogram (mg/kg).
 - Only compounds with at least one detection are shown.
 - Concentrations that exceed the PADEP Non-Residential Direct Contact Values (0-2ft) are grey-shaded.
 - No concentrations exceed the PADEP Non-Residential Direct Contact Values (2-15ft).
 - Concentrations that exceed the PADEP Non-Residential Soil To Groundwater Values are underlined.
 - The values for chromium III are used to evaluate chromium (total).
 - Blank cells in columns with criteria indicate that no value has been established.

- Abbreviations:**
- U -- Not Detected.
 - J -- Estimated Concentration.
 - UJ -- Not Detected, Reporting Limit is Estimated Value.
 - () -- Reporting Limit.
 - -- Not Analyzed.

5/8/2017

TABLE 5-1
Summary of Soil Sampling Results
Miller Chemical & Fertilizer, Hanover, Pennsylvania

Location	PADEP Non-Residential			PADEP Non-Residential	BA-08	BA-08	BA-08	BA-09	BA-09
Location Type	Non-Residential	Non-Residential	Non-Residential	Soil To Groundwater	Background	Background	Background	Background	Background
Field Sample ID	Direct Contact Values (0-2ft)	Direct Contact Values (2-15ft)	Direct Contact Values (2-15ft)	Values	ON-BA-S-08-0-2-120516 16120601-007 / 2193420007	ON-BA-S-08-4-6-120516 16120601-008 / 2193420008	ON-BA-S-08-11.5-13.5-120516 16120601-009 / 2193420009	ON-BA-S-09-0-2-120516 16120601-016 / 2193420016	ON-BA-S-09-4-6-120516 16120601-017 / 2193420017
Lab Sample IDs									
Collection Depth (ft bgs)					0 - 2	4 - 6	11.5 - 13.5	0 - 2	4 - 6
Sample Method					Grab	Grab	Grab	Grab	Grab
Sample Date					12/5/2016	12/5/2016	12/5/2016	12/5/2016	12/5/2016
Comments									
INORG									
Aluminum	190000	190000			23000 (5600)	27000 (4900)	43000 (5900)	31000 J (4800)	36000 (6300)
Arsenic	61	190000	29		9 (0.56)	13 (0.49)	5.6 (0.59)	6.6 J (0.48)	5 (0.63)
Barium	190000	190000	8200		110 (2.8)	100 (2.5)	99 (2.9)	94 (2.4)	72 (3.1)
Beryllium	11	190000	320		U (2.8)	1.3 J (2.5)	U (2.9)	U (2.4)	1.7 J (3.1)
Boron	190000	190000	1900		U (11)	U (9.9)	U (12)	U (9.6)	U (13)
Calcium					7500 (1100)	1700 (49)	5000 (1200)	2400 J (48)	2600 (63)
Chromium (total)	190000	190000	190000		32 (2.8)	68 (2.5)	46 (2.9)	30 J (2.4)	35 (3.1)
Cobalt	960	190000	160		21 (2.8)	19 (2.5)	13 (2.9)	14 J (2.4)	9.5 (3.1)
Copper	120000	190000			16 (2.8)	9.1 (2.5)	25 (2.9)	19 J (2.4)	28 (3.1)
Iron	190000	190000			36000 (5600)	71000 (4900)	49000 (5900)	46000 J (4800)	64000 (6300)
Lead	1000	190000	450		56 (2.8)	28 (2.5)	17 (2.9)	21 J (2.4)	24 (3.1)
Magnesium					5200 (1100)	1100 (49)	14000 (5900)	2400 J (48)	2300 J (63)
Manganese	150000	190000	2000		1400 J (280)	430 J (250)	980 J (290)	990 J (240)	240 J (31)
Mercury	510	190000	10		U (0.11)	U (0.099)	U (0.12)	U (0.066)	U (0.075)
Nickel	64000	190000	650		18 (2.8)	14 (2.5)	39 (2.9)	18 J (2.4)	29 (3.1)
Nitrate			1000		1.2 (1.2)	U (1.2)	U (1.4)	U (1.1)	U (1.2)
Nitrite	280000	280000	100		U (1.2)	U (1.2)	U (1.4)	U (1.1)	U (1.2)
Total Kjeldahl Nitrogen					906 (91.7)	387 (90.3)	474 (102)	403 (85.5)	617 (97.6)
Total Kjeldahl Nitrogen, Moist					748 (75.8)	320 (74.6)	350 (75)	350 (74.3)	474 (75)
Phosphorus (total)					386 (11.7)	20.2 (11.1)	654 (62.7)	242 (11.2)	188 (12.3)
Potassium					1100 (56)	720 (49)	890 (59)	1100 (48)	630 (63)
Sodium					670 (56)	390 (49)	340 (59)	35 J (48)	U (63)
Sulfate					U (58)	U (61)	U (68)	U (57)	U (62)
Vanadium	220	190000	820		44 (2.8)	80 (2.5)	36 (2.9)	34 J (2.4)	35 (3.1)
Zinc	190000	190000	12000		53 J (11)	34 J (9.9)	69 J (12)	51 J (9.6)	44 J (13)

Notes:

- All concentrations are presented in milligrams per kilogram (mg/kg).
- Only compounds with at least one detection are shown.
- Concentrations that exceed the PADEP Non-Residential Direct Contact Values (0-2ft) are grey-shaded.
- No concentrations exceed the PADEP Non-Residential Direct Contact Values (2-15ft).
- Concentrations that exceed the PADEP Non-Residential Soil To Groundwater Values are underlined.
- The values for chromium III are used to evaluate chromium (total).
- Blank cells in columns with criteria indicate that no value has been established.

Abbreviations:

- U -- Not Detected.
- J -- Estimated Concentration.
- UJ -- Not Detected, Reporting Limit is Estimated Value.
- () -- Reporting Limit.
- -- Not Analyzed.

TABLE 5-1
Summary of Soil Sampling Results
Miller Chemical & Fertilizer, Hanover, Pennsylvania

Location	BA-09	BA-10	BA-10	BA-10	BA-11
Location Type	Background	Background	Background	Background	Background
Field Sample ID	ON-BA-S-09-8.8-10.8-120516	ON-BA-S-10-0-2-120516	ON-BA-S-10-4-6-120516	ON-BA-S-10-14-16-120516	ON-BA-S-11-0-2-120516
Lab Sample IDs	16120601-018 / 2193420018	16120601-013 / 2193420013	16120601-014 / 2193420014	16120601-015 / 2193420015	16120601-001 / 2193420001
Collection Depth (ft bgs)	8.8 - 10.8	0 - 2	4 - 6	14 - 16	0 - 2
Sample Method	Grab	Grab	Grab	Grab	Grab
Sample Date	12/5/2016	12/5/2016	12/5/2016	12/5/2016	12/5/2016
Comments					
INORG					
Aluminum	190000	190000	41000 (6200)	19000 (5400)	37000 (3100)
Arsenic	61	190000	29	5.7 (0.62)	5.7 (0.62)
Barium	190000	190000	8200	61 (3.1)	79 (2.7)
Beryllium	11	190000	320	U (3.1)	U (2.7)
Boron	190000	190000	1900	U (12)	U (11)
Calcium			8500 (620)	1900 (54)	12000 (3100)
Chromium (total)	190000	190000	190000	31 (3.1)	33 (3.1)
Cobalt	960	190000	160	7.3 (3.1)	6.7 (2.7)
Copper	120000	190000		20 (3.1)	13 (2.7)
Iron	190000	190000		55000 (6200)	28000 (5400)
Lead	1000	190000	450	12 (3.1)	15 (2.7)
Magnesium			14000 J (620)	1100 (54)	3000 (62)
Manganese	150000	190000	2000	210 J (31)	210 J (2.7)
Mercury	510	190000	10	U (0.079)	U (0.11)
Nickel	64000	190000	650	32 (3.1)	17 (2.7)
Nitrate			1000	U (1.5)	2 (1.1)
Nitrite	280000	280000	100	U (1.5)	U (1.1)
Total Kjeldahl Nitrogen				585 (107)	590 (85)
Total Kjeldahl Nitrogen, Moist				411 (75)	515 (74.3)
Phosphorus (total)				618 (13.4)	125 (11.4)
Potassium				850 (62)	1000 (54)
Sodium				39 J (62)	61 (54)
Sulfate				U (74)	U (56)
Vanadium	220	190000	820	27 (3.1)	42 (2.7)
Zinc	190000	190000	12000	78 J (12)	25 J (11)

Notes:

- All concentrations are presented in milligrams per kilogram (mg/kg).
- Only compounds with at least one detection are shown.
- Concentrations that exceed the PADEP Non-Residential Direct Contact Values (0-2ft) are grey-shaded.
- No concentrations exceed the PADEP Non-Residential Direct Contact Values (2-15ft).
- Concentrations that exceed the PADEP Non-Residential Soil To Groundwater Values are underlined.
- The values for chromium III are used to evaluate chromium (total).
- Blank cells in columns with criteria indicate that no value has been established.

Abbreviations:

- U -- Not Detected.
- J -- Estimated Concentration.
- UJ -- Not Detected, Reporting Limit is Estimated Value.
- () -- Reporting Limit.
- -- Not Analyzed.

TABLE 5-1
Summary of Soil Sampling Results
Miller Chemical & Fertilizer, Hanover, Pennsylvania

Location Location Type Field Sample ID Lab Sample IDs Collection Depth (ft bgs) Sample Method Sample Date Comments	PADEP Non-Residential Direct Contact Values (0-2ft)	PADEP Non-Residential Direct Contact Values (2-15ft)	PADEP Non-Residential Soil To Groundwater Values	BA-11 Background ON-BA-S-11-4-6-120516 16120601-002 / 2193420002 4 - 6 Grab 12/5/2016	BA-11 Background ON-BA-S-11-7.5-9.5-120516 16120601-003 / 2193420003 7.5 - 9.5 Grab 12/5/2016	BA-12 Background ON-BA-S-12-0-2-120516 16120601-004 / 2193420004 0 - 2 Grab 12/5/2016	BA-12 Background ON-BA-S-12-4-6-120516 16120601-005 / 2193420005 4 - 6 Grab 12/5/2016	BA-12 Background ON-BA-S-12-9.5-11.5-120516 16120601-006 / 2193420006 9.5 - 11.5 Grab 12/5/2016
INORG								
Aluminum	190000	190000		86000 (5500)	74000 (5800)	33000 (5200)	46000 (6300)	35000 (3000)
Arsenic	61	190000	29	2.9 (0.55)	2.8 (0.58)	6.4 (0.52)	6.4 (0.63)	8 (0.6)
Barium	190000	190000	8200	480 (55)	450 (58)	88 (2.6)	77 (3.1)	74 (3)
Beryllium	11	190000	320	U (2.8)	U (2.9)	U (2.6)	1.7 J (3.1)	2 J (3)
Boron	190000	190000	1900	U (11)	U (12)	U (11)	U (13)	U (12)
Calcium				4900 (1100)	6700 (1200)	1900 (52)	1700 (63)	1600 (60)
Chromium (total)	190000	190000	190000	120 (2.8)	130 (2.9)	33 (2.6)	55 (3.1)	30 (3)
Cobalt	960	190000	160	29 (2.8)	26 (2.9)	7.3 (2.6)	11 (3.1)	17 (3)
Copper	120000	190000		76 (2.8)	67 (2.9)	18 (2.6)	30 (3.1)	29 (3)
Iron	190000	190000		85000 (5500)	80000 (5800)	47000 (5200)	51000 (6300)	53000 (3000)
Lead	1000	190000	450	8.4 (2.8)	10 (2.9)	17 (2.6)	14 (3.1)	19 (3)
Magnesium				12000 (5500)	14000 (5800)	1300 (52)	6700 (6300)	2000 (60)
Manganese	150000	190000	2000	1500 J (280)	1200 J (290)	130 J (2.6)	160 J (3.1)	660 J (150)
Mercury	510	190000	10	0.064 J (0.11)	0.068 J (0.12)	U (0.11)	0.094 J (0.13)	0.061 J (0.12)
Nickel	64000	190000	650	75 (2.8)	56 (2.9)	16 (2.6)	34 (3.1)	32 (3)
Nitrate			1000	U (1.4)	U (1.4)	1.6 (1.3)	1.6 (1.3)	U (1.3)
Nitrite			100	U (1.4)	U (1.4)	U (1.3)	U (1.3)	U (1.3)
Total Kjeldahl Nitrogen				304 (101)	255 (94.5)	846 (93.1)	669 (94.3)	1010 (102)
Total Kjeldahl Nitrogen, Moist				224 (74.6)	200 (74.3)	681 (75)	533 (75)	752 (75.8)
Phosphorus (total)				81.9 (12.7)	94.9 (11.9)	84 (11.5)	87.4 (12.2)	215 (12.5)
Potassium				510 (55)	650 (58)	1100 (52)	820 (63)	750 (60)
Sodium				83 (55)	290 (58)	34 J (52)	35 J (63)	34 J (60)
Sulfate				76 (72)	U (71)	U (65)	U (63)	U (67)
Vanadium	220	190000	820	130 (2.8)	130 (2.9)	44 (2.6)	38 (3.1)	34 (3)
Zinc	190000	190000	12000	32 J (11)	35 J (12)	34 J (11)	56 J (13)	56 J (12)

Notes:

- All concentrations are presented in milligrams per kilogram (mg/kg).
- Only compounds with at least one detection are shown.
- Concentrations that exceed the PADEP Non-Residential Direct Contact Values (0-2ft) are grey-shaded.
- No concentrations exceed the PADEP Non-Residential Direct Contact Values (2-15ft).
- Concentrations that exceed the PADEP Non-Residential Soil To Groundwater Values are underlined.
- The values for chromium III are used to evaluate chromium (total).
- Blank cells in columns with criteria indicate that no value has been established.

Abbreviations:

- U -- Not Detected.
- J -- Estimated Concentration.
- UJ -- Not Detected, Reporting Limit is Estimated Value.
- () -- Reporting Limit.
- -- Not Analyzed.

TABLE 5-2
Soil Screening Summary (Comparison of Maximum Detected Concentrations to PA Criteria)
Miller Chemical & Fertilizer, Hanover, Pennsylvania

Location Type	Chem Group	Chemical	CASRN	Analyzed	Detected	Max Detected (mg/kg)	PADEP Nonresidential Direct Contact (0-2 ft) Values (mg/kg)	Ratio of Max Detect to PADEP Nonresidential Direct Contact (0-2 ft) Values	PADEP Nonresidential Direct Contact (2-15 ft) Values (mg/kg)	Ratio of Max Detect to PADEP Nonresidential Direct Contact (2-15 ft) Values	PADEP Soil to Groundwater Values - Non-Residential (mg/kg)	Ratio of Max Detect to PADEP Soil to Groundwater Values - Non-Residential	PADEP Non-Residential MSCs (mg/kg)	Ratio of Max Detect to PADEP Non-Residential MSCs
Disturbed Area	INORG	Aluminum	7429-90-5	67	67	4.70E+04	1.9E+05	2.5E-01	1.9E+05	2.5E-01			1.9E+05	2.5E-01
Disturbed Area	INORG	Arsenic	7440-38-2	67	66	8.50E+01	6.1E+01	1.4E+00	1.9E+05	4.5E-04	2.9E+01	2.9E+00	2.9E+01	2.9E+00
Disturbed Area	INORG	Barium	7440-39-3	67	67	2.30E+02	1.9E+05	1.2E-03	1.9E+05	1.2E-03	8.2E+03	2.8E-02	8.2E+03	2.8E-02
Disturbed Area	INORG	Beryllium	7440-41-7	67	33	2.90E+00	1.1E+01	2.6E-01	1.9E+05	1.5E-05	3.2E+02	9.1E-03	1.1E+01	2.6E-01
Disturbed Area	INORG	Boron	7440-42-8	67	4	6.60E+00	1.9E+05	3.5E-05	1.9E+05	3.5E-05	1.9E+03	3.5E-03	1.9E+03	3.5E-03
Disturbed Area	INORG	Calcium	7440-70-2	67	67	1.20E+05								
Disturbed Area	INORG	Chromium (total)	7440-47-3	67	67	5.70E+01	1.9E+05	3.0E-04	1.9E+05	3.0E-04	1.9E+05	3.0E-04	1.9E+05	3.0E-04
Disturbed Area	INORG	Cobalt	7440-48-4	67	66	3.50E+01	9.6E+02	3.6E-02	1.9E+05	1.8E-04	1.6E+02	2.2E-01	1.6E+02	2.2E-01
Disturbed Area	INORG	Copper	7440-50-8	67	66	4.70E+01	1.2E+05	3.9E-04	1.9E+05	2.5E-04			1.2E+05	3.9E-04
Disturbed Area	INORG	Iron	7439-89-6	67	67	8.10E+04	1.9E+05	4.3E-01	1.9E+05	4.3E-01			1.9E+05	4.3E-01
Disturbed Area	INORG	Lead	7439-92-1	67	67	4.80E+01	1.0E+03	4.8E-02	1.9E+05	2.5E-04	4.5E+02	1.1E-01	4.5E+02	1.1E-01
Disturbed Area	INORG	Magnesium	7439-95-4	67	67	3.10E+04								
Disturbed Area	INORG	Manganese	7439-96-5	67	67	2.60E+03	1.5E+05	1.7E-02	1.9E+05	1.4E-02	2.0E+03	1.3E+00	2.0E+03	1.3E+00
Disturbed Area	INORG	Mercury	7439-97-6	67	32	3.70E-01	5.1E+02	7.3E-04	1.9E+05	1.9E-06	1.0E+01	3.7E-02	1.0E+01	3.7E-02
Disturbed Area	INORG	Nickel	7440-02-0	67	66	4.70E+01	6.4E+04	7.3E-04	1.9E+05	2.5E-04	6.5E+02	7.2E-02	6.5E+02	7.2E-02
Disturbed Area	INORG	Nitrate	14797-55-8	67	30	2.80E+01					1.0E+03	2.8E-02		
Disturbed Area	INORG	Nitrite	14797-65-0	67	5	7.50E+00	2.8E+05	2.7E-05	2.8E+05	2.7E-05	1.0E+02	7.5E-02	1.0E+02	7.5E-02
Disturbed Area	INORG	Kjeldahl nitrogen (total)	C-021	64	63	3.34E+03								
Disturbed Area	INORG	Phosphorus (total)	7723-14-0	64	64	9.25E+03								
Disturbed Area	INORG	Potassium	7440-09-7	67	67	2.90E+03								
Disturbed Area	INORG	Sodium	7440-23-5	67	53	9.20E+02								
Disturbed Area	INORG	Sulfate	14808-79-8	67	22	1.20E+03								
Disturbed Area	INORG	Vanadium	7440-62-2	67	67	6.10E+01	2.2E+02	2.8E-01	1.9E+05	3.2E-04	8.2E+02	7.4E-02	2.2E+02	2.8E-01
Disturbed Area	INORG	Zinc	7440-66-6	67	65	1.60E+02	1.9E+05	8.4E-04	1.9E+05	8.4E-04	1.2E+04	1.3E-02	1.2E+04	1.3E-02
Background	INORG	Aluminum	7429-90-5	38	38	8.60E+04	1.9E+05	4.5E-01	1.9E+05	4.5E-01			1.9E+05	4.5E-01
Background	INORG	Arsenic	7440-38-2	38	38	1.90E+02	6.1E+01	3.1E+00	1.9E+05	1.0E-03	2.9E+01	6.6E+00	2.9E+01	6.6E+00
Background	INORG	Barium	7440-39-3	38	38	4.80E+02	1.9E+05	2.5E-03	1.9E+05	2.5E-03	8.2E+03	5.9E-02	8.2E+03	5.9E-02
Background	INORG	Beryllium	7440-41-7	38	11	2.00E+00	1.1E+01	1.8E-01	1.9E+05	1.1E-05	3.2E+02	6.3E-03	1.1E+01	1.8E-01
Background	INORG	Calcium	7440-70-2	38	38	1.20E+04								
Background	INORG	Chromium (total)	7440-47-3	38	38	1.30E+02	1.9E+05	6.8E-04	1.9E+05	6.8E-04	1.9E+05	6.8E-04	1.9E+05	6.8E-04
Background	INORG	Cobalt	7440-48-4	38	38	2.90E+01	9.6E+02	3.0E-02	1.9E+05	1.5E-04	1.6E+02	1.8E-01	1.6E+02	1.8E-01
Background	INORG	Copper	7440-50-8	38	38	2.40E+02	1.2E+05	2.0E-03	1.9E+05	1.3E-03			1.2E+05	2.0E-03
Background	INORG	Iron	7439-89-6	38	38	8.50E+04	1.9E+05	4.5E-01	1.9E+05	4.5E-01			1.9E+05	4.5E-01
Background	INORG	Lead	7439-92-1	38	38	6.60E+01	1.0E+03	6.6E-02	1.9E+05	3.5E-04	4.5E+02	1.5E-01	4.5E+02	1.5E-01
Background	INORG	Magnesium	7439-95-4	38	38	1.90E+04								
Background	INORG	Manganese	7439-96-5	38	38	3.30E+03	1.5E+05	2.2E-02	1.9E+05	1.7E-02	2.0E+03	1.7E+00	2.0E+03	1.7E+00
Background	INORG	Mercury	7439-97-6	38	16	1.10E-01	5.1E+02	2.2E-04	1.9E+05	5.8E-07	1.0E+01	1.1E-02	1.0E+01	1.1E-02
Background	INORG	Nickel	7440-02-0	38	38	7.50E+01	6.4E+04	1.2E-03	1.9E+05	3.9E-04	6.5E+02	1.2E-01	6.5E+02	1.2E-01
Background	INORG	Nitrate	14797-55-8	38	7	3.10E+00					1.0E+03	3.1E-03		
Background	INORG	Kjeldahl nitrogen (total)	C-021	38	38	1.80E+03								
Background	INORG	Phosphorus (total)	7723-14-0	38	38	4.08E+03								
Background	INORG	Potassium	7440-09-7	38	38	1.80E+03								
Background	INORG	Sodium	7440-23-5	38	24	7.30E+02								

TABLE 5-2
Soil Screening Summary (Comparison of Maximum Detected Concentrations to PA Criteria)
Miller Chemical & Fertilizer, Hanover, Pennsylvania

Location Type	Chem Group	Chemical	CASRN	Analyzed	Detected	Max Detected (mg/kg)	PADEP Nonresidential Direct Contact (0-2 ft) Values (mg/kg)	Ratio of Max Detect to PADEP Nonresidential Direct Contact (0-2 ft) Values	PADEP Nonresidential Direct Contact (2-15 ft) Values (mg/kg)	Ratio of Max Detect to PADEP Nonresidential Direct Contact (2-15 ft) Values	PADEP Soil to Groundwater Values - Non-Residential (mg/kg)	Ratio of Max Detect to PADEP Soil to Groundwater Values - Non-Residential	PADEP Non-Residential MSCs (mg/kg)	Ratio of Max Detect to PADEP Non-Residential MSCs
Background	INORG	Sulfate	14808-79-8	38	2	7.60E+01								
Background	INORG	Vanadium	7440-62-2	38	38	1.30E+02	2.2E+02	5.9E-01	1.9E+05	6.8E-04	8.2E+02	1.6E-01	2.2E+02	5.9E-01
Background	INORG	Zinc	7440-66-6	38	38	2.00E+03	1.9E+05	1.1E-02	1.9E+05	1.1E-02	1.2E+04	1.7E-01	1.2E+04	1.7E-01

Notes:

Only constituents detected in each area are shown.

Results are provided in milligrams per kilogram (mg/kg).

Ratios of concentration to the criteria greater than 1 are shaded in bold.

Chem Group - chemical group.

TDS - Total Dissolved Solids.

MSC - Medium Specific Concentration.

The PADEP Soil to Groundwater Value for a Non-Residential Used Aquifer with TDS <= 2500, per PADEP guidance, is the maximum of the generic non-residential value and 100 x the Groundwater value.

The PADEP Soil to Groundwater values for Nitrate and Nitrite are 100 x the Federal maximum contaminant level (MCL).

The Chromium (total) values for PADEP are the values for Chromium III.

Blank cells in columns with criteria indicate that no value has been established.

The sample count for the disturbed area includes 6 field duplicates. The sample count for the background area includes 2 field duplicates.

TABLE 6-1

**Limited Human Health Evaluation Results
Miller Chemical Property, Hanover, Pennsylvania**

Elements / Compounds	Soil Concentration (mg/kg)	Dietary Reference Intakes (DRI's)				Soil Ingestion Rate ² (mg/day) - PADEP Non-Residential	Soil ingestion needed to meet minimum RDA / AI / UL value (mg)	Milligrams element/100 mg soil
		RDA / AI ¹ (mg/day) (Adult)	UL ¹ (mg/day) (Adult)	RDA / AI ¹ (mg/day) (Child)	UL ¹ (mg/day) (Child)			
Calcium	120,000	1,000	2,000	700	2,500	50	5,833	12
Magnesium	31,000	310	350	80	65	50	2,097	3.1
Phosphorus	9,250	700	3,000	460	3,000	50	49,730	0.93
Potassium	2,900	4,700	None	3,000	None	50	1,034,483	0.29
Sodium	920	1,200	2,300	1,000	1,500	50	1,086,957	0.09
Sulfate ³	1,200	500	None	None	None	50	416,667	0.12

¹Selected RDA / AI / UL values were those for the most sensitive groups of adults and children. All values are RDAs except for Potassium and Sodium (AIs).

RDA (Recommended Dietary Allowance): goal intake set to meet needs of almost all (97-98%) individuals in a group

AI (Adequate Intake): goal intake believed to cover the needs of all individuals in the group, but lack of data to prevent being able to specify with confidence the percentage of individuals covered by this intake

UL (Tolerable Upper Intake Level): maximum level of daily nutrient intake that is likely to pose no risk of adverse effects

Source: Food and Nutrition Board, Institute of Medicine, National Academies: Dietary Reference Intakes.

https://ods.od.nih.gov/Health_information/Dietary_Reference_Intakes.aspx

²Soil Ingestion rates include exposure to soil and indoor and outdoor settled dust, and account for both ingestion and inhalation (for adults and children).

Source: PADEP Non-Residential

³Average daily intake of sulfate from all sources is used in this table (500 mg), with food being the major source. RDA/AI for sulfate is not available because recommended intake for protein and sulfur amino acids should provide adequate sulfate for synthesis of sulfur-containing compounds. No UL was set because odor and off taste usually limit intake from drinking water. Diarrhea was observed in areas where water supply had high levels. Laxative effect has been observed in piglets and humans at 1000-1200 mg/L. No health-based guideline has been proposed, though it is recommended that health authorities be notified of sources of drinking water that contain sulfate concentrations in excess of 500 mg/L.

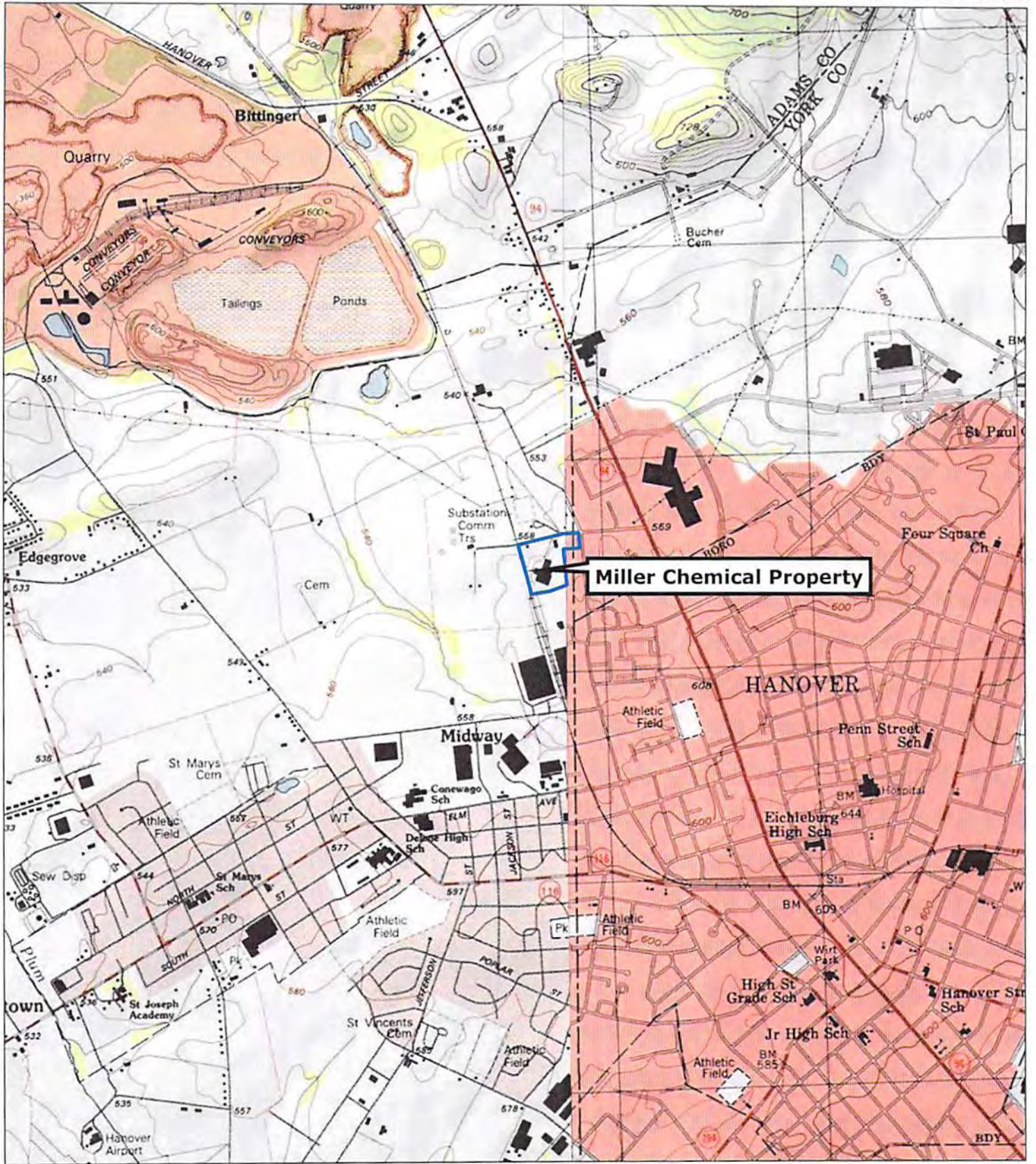
Sources: Food and Nutrition Board, Institute of Medicine, National Academies: Dietary Reference Intakes.

https://ods.od.nih.gov/Health_information/Dietary_Reference_Intakes.aspx

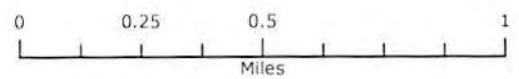
WHO (2003). Chemical fact sheet in WHO Guidelines for Drinking-water Quality.

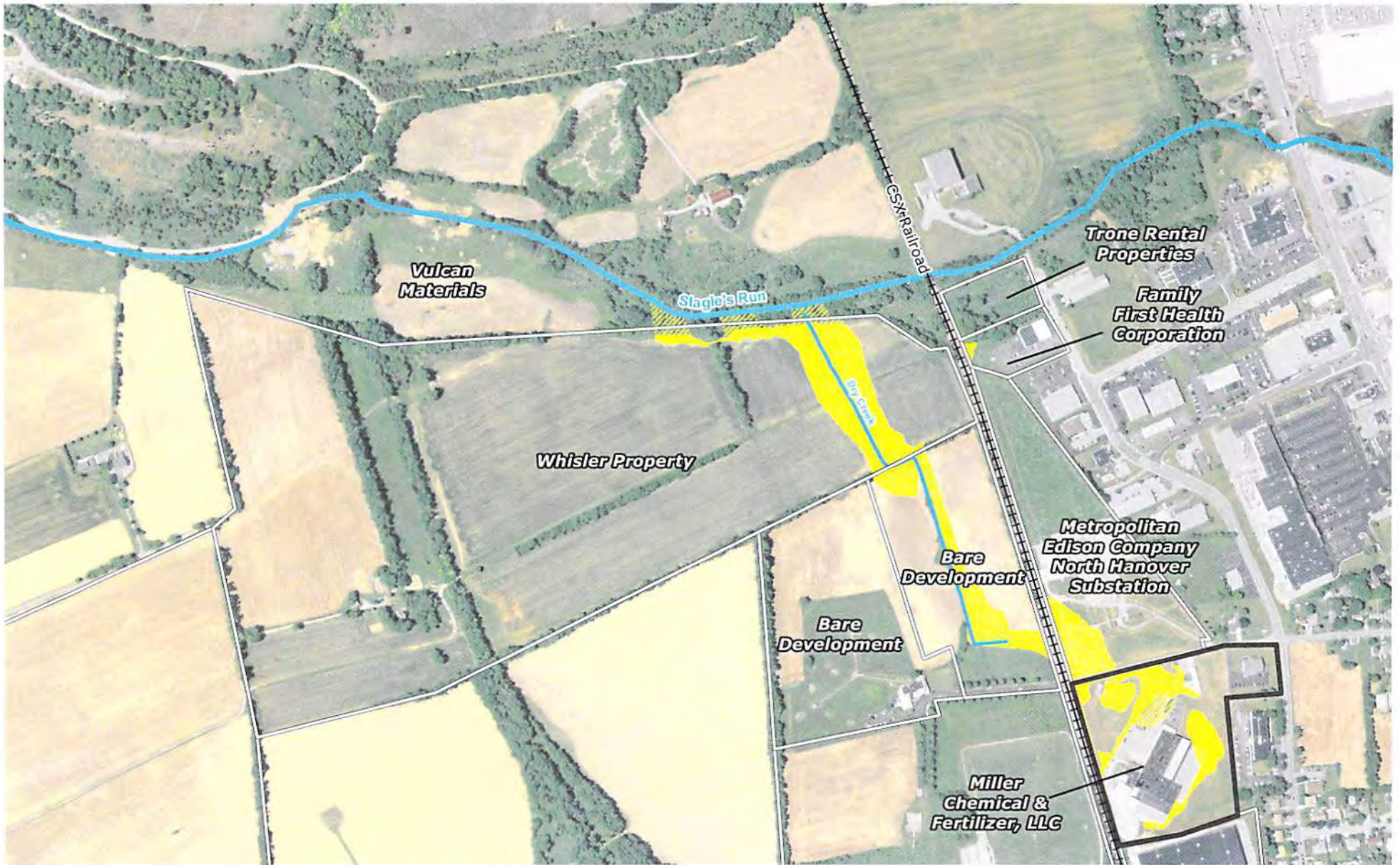
http://www.who.int/water_sanitation_health/dwq/chemicals/sulfate/en/

FIGURES



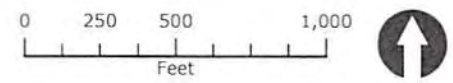
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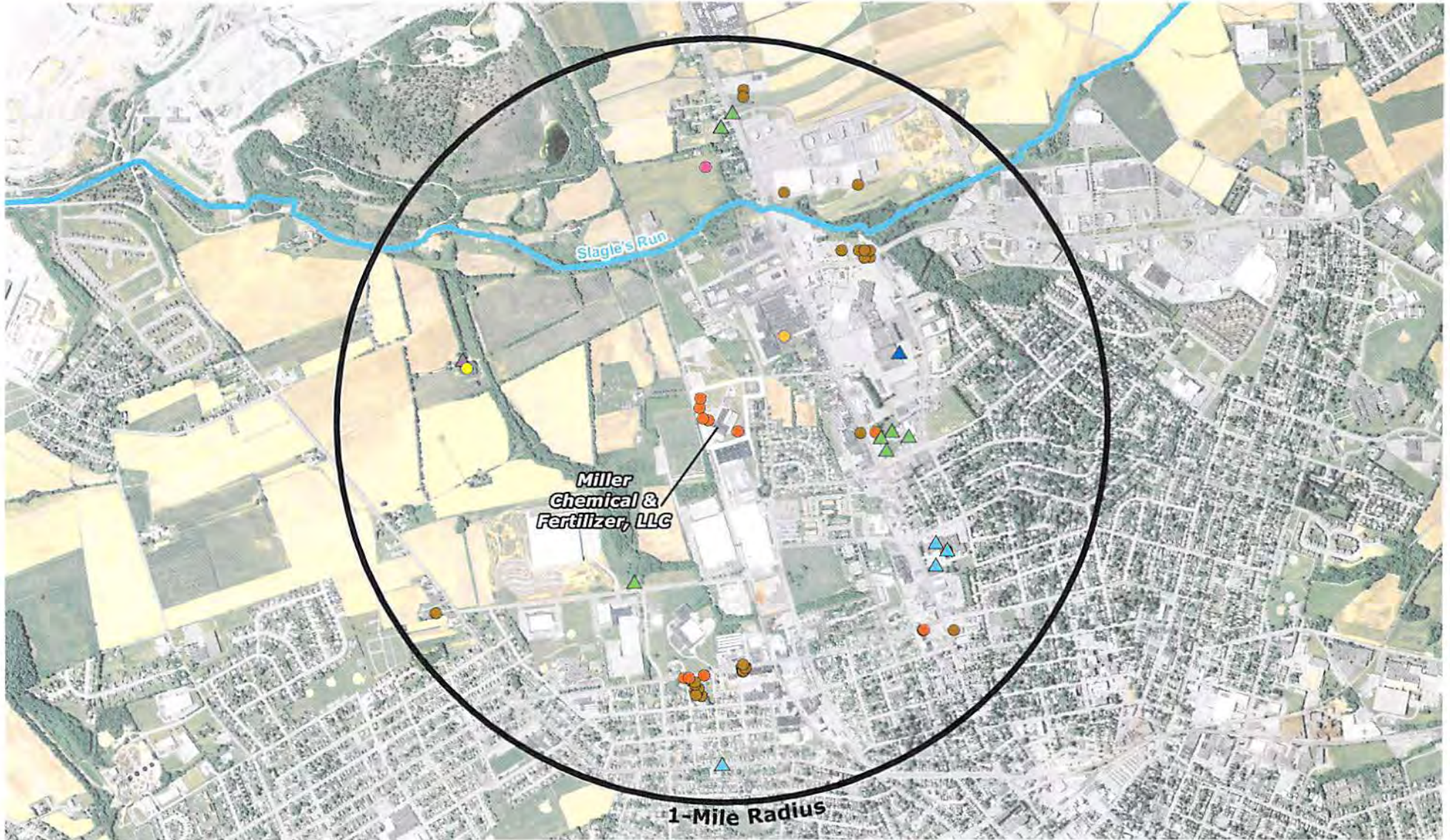




- Miller Chemical Property
- Other Off-Site Properties
- Visibly Affected Area
- Estimated Affected Area

Notes:
 (1) Location of the visibly affected area is based on the 8/28/2015 and 9/21/2015 surveys conducted by GHI and on GPS measurements collected by Ramboll Environ Staff. The estimated affected area was not mapped with the GPS because the boundaries of the impacts were not readily discernible or not safely accessible. The estimated area shown on the map is based on visual observations.
 (2) Dry Creek feature is approximate.





Groundwater Well Usage

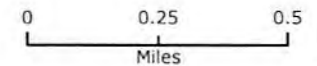
- ▲ Withdrawal - Commercial
- ▲ Withdrawal - Domestic
- ▲ Withdrawal - Industrial
- ▲ Withdrawal - Agricultural Approx. Location
- Spring - Approx. Location

- Monitoring
- Monitoring - Approx. Location
- Vulcan Property Well - Approx. Location
- Unknown, Unused, Test, Observation, Injection, Mine, or Geothermal

Notes:

- (1) Well locations are from the Pennsylvania Groundwater Information System (PaGWIS) as of February 2016.
- (2) One monitoring well was manually added based on a review of location descriptions for unmapped wells in the PaGWIS database (see orange dot).
- (3) The spring and agricultural well locations are based on information provided by Mr. Glen Whisler.
- (4) All displayed wells are within one mile of Miller Chemical.
- (5) Monitoring wells depicted on the Miller Chemical property were installed in relation to the 2014 acquisition and were subsequently abandoned.

- (6) Wells depicted on this figure do not include groundwater monitoring wells recently installed as part of the Act II groundwater investigation.
- (7) Representatives of Vulcan Materials indicated that a public water supply well was installed in the northeast corner of the Vulcan property by the Borough of Hanover, but that they well was never connected and has not been put into use.





Sample Location Code

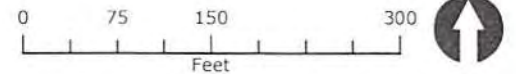
Sample labels represent "XX" in location code

- Background (ON-BA-XX)
- Disturbed Area (ON-DA-XX)

- Disturbed Area
- Background Area
- Visibly Affected Area

Notes:

- (1) Sampling locations are based on GPS coordinates collected in the field.
- (2) Location of the visibly affected area is based on the 8/28/2015 and 9/21/2015 surveys conducted by GHI and on GPS measurements collected by Ramboll Environ staff.





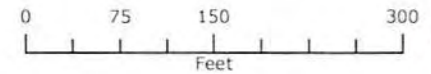
Notes:

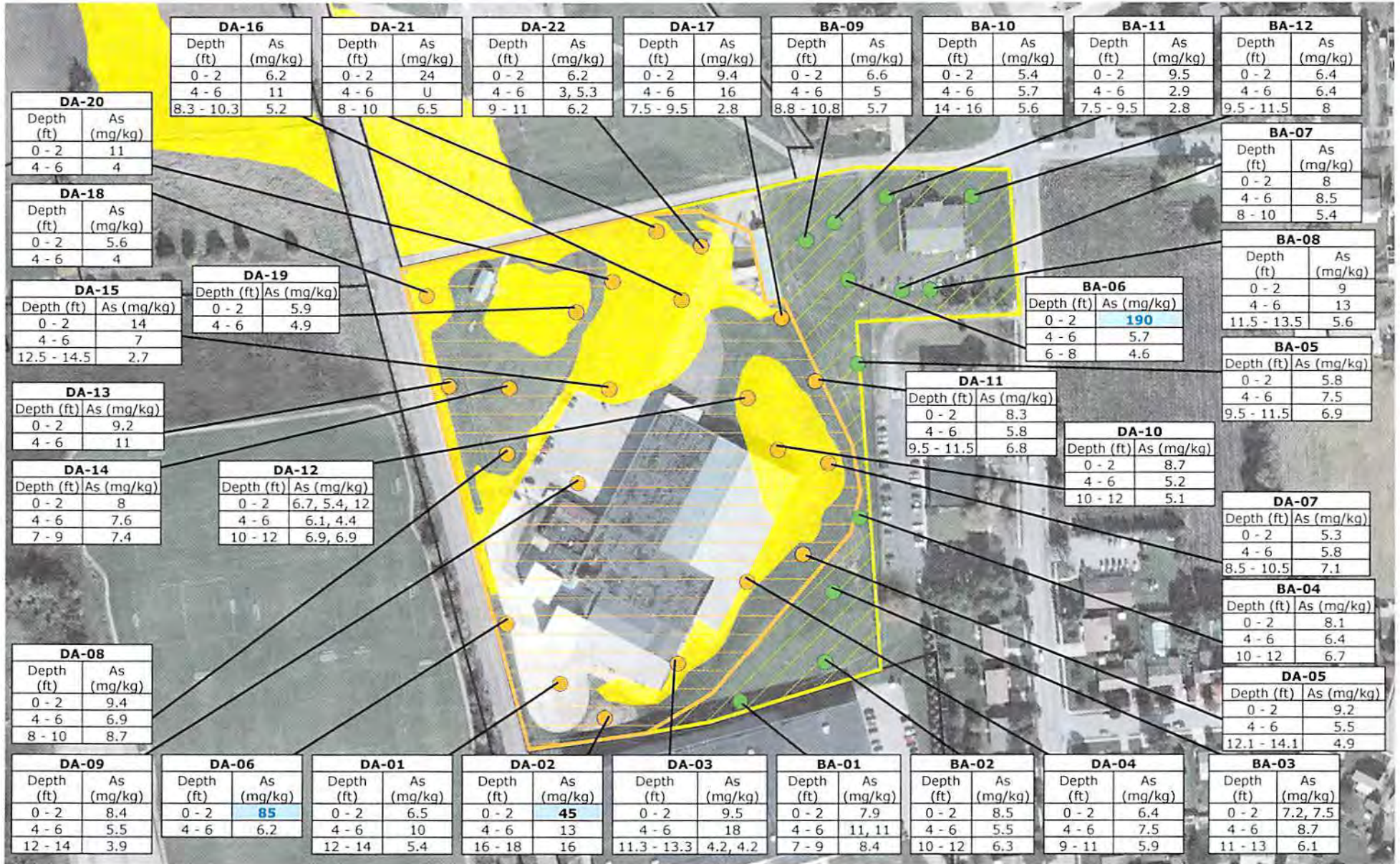
- (1) All measurements are presented in milligrams per kilogram (mg/kg).
- (2) Concentrations that exceed the PADEP Non-Residential Direct Contact Value (0-2 ft) for arsenic of 61 mg/kg are shown in blue with a blue halo.
- (3) Locations with duplicate results show multiple values separated by a comma.
- (4) Sampling locations are based on GPS coordinates collected in the field.
- (5) Location of the visibly affected area is based on the 8/28/2015 and 9/21/2015 surveys conducted by GHI and on GPS measurements collected by Ramboll Environ staff.

Sample Locations

- Background
- Disturbed Area

- ▭ Disturbed Area
- ▭ Background Area
- ▭ Visibly Affected Area



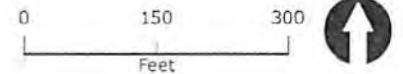


Notes:

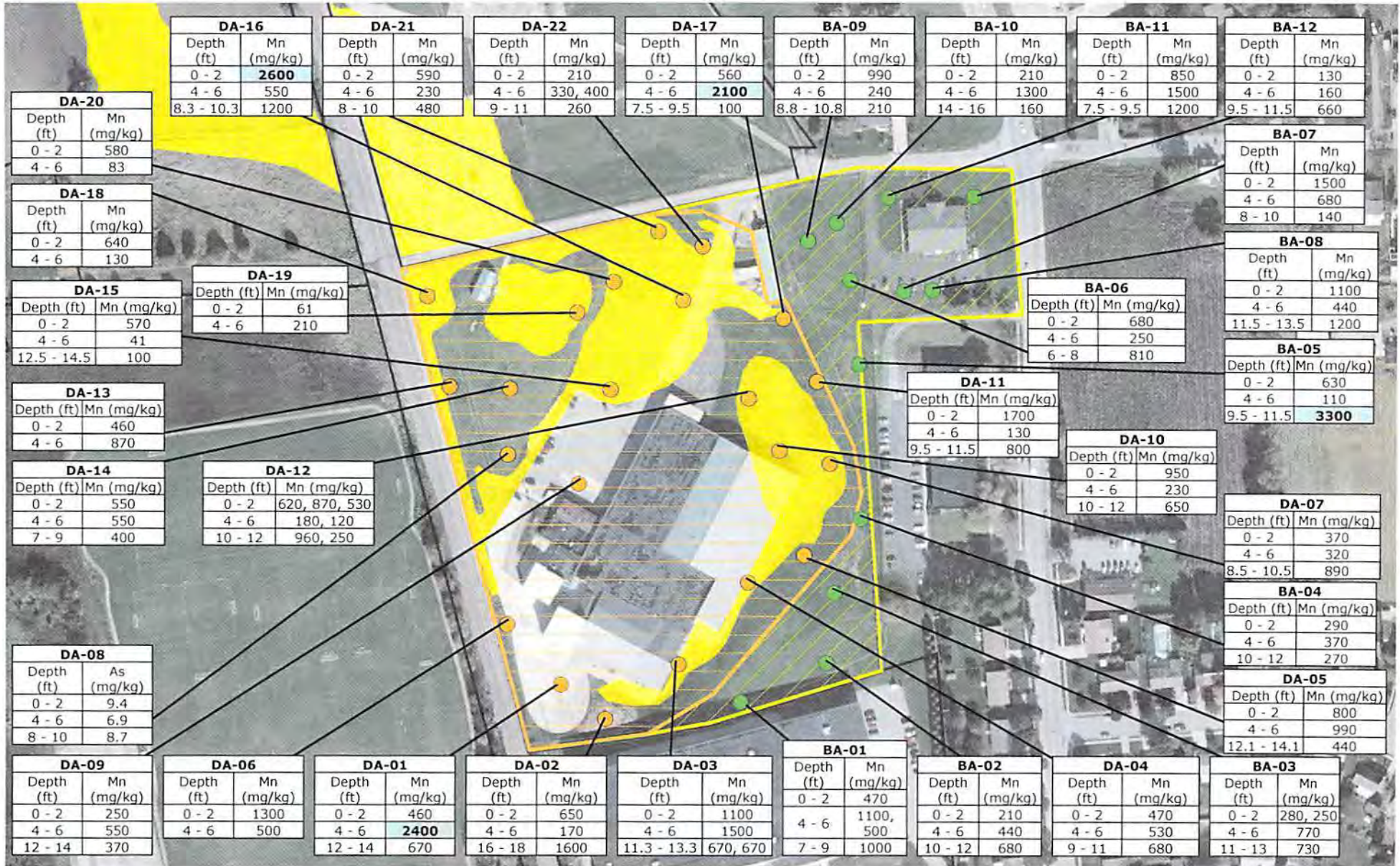
- (1) Concentrations that exceed the PADEP Non-Residential Direct Contact Value (0-2 ft) of 61 mg/kg are blue.
- (2) No concentrations exceed the PADEP Non-Residential Direct Contact Value (2-15 ft).
- (3) Concentrations that exceed the PADEP Non-Residential Soil to Groundwater Value of 29 mg/kg are bold and shaded blue.
- (4) Locations with duplicate results show multiple values separated by a comma.
- (5) "U" indicates a non-detected result.
- (6) Sampling locations are based on GPS coordinates collected in the field.
- (7) Location of the visibly affected area is based on the 8/28/2015 and 9/21/2015 surveys conducted by GHI and on GPS measurements collected by Ramboll Environ staff.

Sample Locations

- Background
- Disturbed Area
- Disturbed Area
- Background Area
- Visibly Affected Area



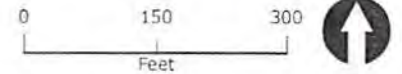
Imagery Source: Esri Streaming Imagery



- Notes:
- (1) No concentrations exceed the PADEP Non-Residential Direct Contact Value (0-2 ft).
 - (2) No concentrations exceed the PADEP Non-Residential Direct Contact Value (2-15 ft).
 - (3) Concentrations that exceed the PADEP Non-Residential Soil to Groundwater Value (2,000 mg/kg) are **bold** and shaded blue.
 - (4) Locations with duplicate results show multiple values separated by a comma.
 - (5) Sampling locations are based on GPS coordinates collected in the field.
 - (6) Location of the visibly affected area is based on the 8/28/2015 and 9/21/2015 surveys conducted by GHI and on GPS measurements collected by Ramboll Environ staff.

Sample Locations

- Background
- Disturbed Area
- Disturbed Area
- Background Area
- Visibly Affected Area



Imagery Source: Esri Streaming Imagery

SITE 11
METROPOLITAN EDISON CO
135 RADIO ROAD

NOTICES

DEPARTMENT OF ENVIRONMENTAL PROTECTION

Applications, Actions and Special Notices

[46 Pa.B. 3270]

[Saturday, June 25, 2016]

LAND RECYCLING AND ENVIRONMENTAL REMEDIATION

UNDER ACT 2, 1995

PREAMBLE 2

The following plans and reports were submitted under the Land Recycling and Environmental Remediation Standards Act (35 P.S. §§ 6026.101—6026.907).

Metropolitan Edison Company North Hanover Substation, Radio Road West of High Street, Hanover, PA 17332, Hanover Borough, Adams County. Ramboll Environmental, 4350 North Fairfax Drive, Suite 300, Arlington, VA 22203, on behalf of Miller Chemical & Fertilizer, LLC, 120 Radio Road, Hanover, PA 17332, and FirstEnergy Corporation, P.O. Box 16001, Reading, PA 19612, submitted a Final Report concerning remediation of site soils contaminated with inorganics as a result of fire-fighting activities. The Report is intended to document remediation of the site to meet the Residential Statewide Health Standard.

Rick

NOTICES

DEPARTMENT OF ENVIRONMENTAL PROTECTION

Applications, Actions and Special Notices

[46 Pa.B. 5110]

[Saturday, August 20, 2016]

UNDER ACT 2, 1995

PREAMBLE 3

The Department has taken action on the following plans and reports under the Land Recycling and Environmental Remediation Standards Act (35 P.S. §§ 6026.101—6026.907).

Metropolitan Edison Company North Hanover Substation, Radio Road West of High Street, Hanover, PA 17332, Conewago Township, **Adams County**. Ramboll Environmental, 4350 North Fairfax Drive, Suite 300, Arlington, VA 22203, on behalf of Miller Chemical & Fertilizer, LLC, 120 Radio Road, Hanover, PA 17332, and FirstEnergy Corporation, P.O. Box 16001, Reading, PA 19612, submitted a Final Report concerning remediation of site soils contaminated with inorganics as a result of fire-fighting activities. The Final Report did not demonstrate attainment of the Residential Statewide Health Standard, and was disapproved by the Department on August 1, 2016.

Rick

NOTICES

DEPARTMENT OF ENVIRONMENTAL PROTECTION

Applications, Actions and Special Notices

[46 Pa.B. 2191]
[Saturday, April 30, 2016]

UNDER ACT 2, 1995 PREAMBLE 1

Acknowledgment of Notices of Intent to Remediate Submitted under the Land Recycling and Environmental Remediation Standards Act (35 P.S. §§ 6026.101— 6026.907)

Metropolitan Edison Company North Hanover Substation, Radio Road west of High Street, Hanover, PA 17332, Hanover Borough, **Adams County**. Ramboll Environmental, 4350 North Fairfax Drive, Suite 300, Arlington, VA 22203, on behalf of Miller Chemical & Fertilizer, LLC, 120 Radio Road, Hanover, PA 17332, and FirstEnergy Corporation, P.O. Box 16001, Reading, PA 19612, submitted a Notice of Intent to Remediate site soils contaminated with fertilizer and inorganics as a result of fire-fighting activities. The site will be remediated to the Resident Statewide Health Standard and remain a substation. The Notice of Intent to Remediate was published in *The Evening Sun* on March 24, 2016.



MEMO

TO File

THROUGH ECB Program Manager *PK*
Land Recycling Section Chief *KGH*

FROM James E. Rea, P.G. *JAK*
DEP Project Manager

DATE November 30, 2016

RE Act 2 Technical Memo Summary
Statewide Health Standard – Final Report Approval
eFACTS PF # 809371
Metropolitan Edison Company North Hanover Substation
Radio Road west of High Street, Hanover, PA
Conewago Township, Adams County

The following is based solely on the information provided in the report(s) submitted to DEP. The information was reviewed, but not verified, by DEP, and represents the remediator(s)'s best professional judgment.

Property Owner Name: Mr. Jason Speicher, Senior Environmental Scientist
FirstEnergy Corporation, P.O. Box 16001, Reading, PA 19612

Site Address: Radio Road west of High Street, Hanover, PA 17331

Act 2 Standard Sought: Non-Residential Statewide Health Standard for Soils

Property Size: 13 acres **Act 2 Site Size:** 13 acres

Project Site History: This site has been and will continue to be used as an electrical substation.

Site Findings: Emergency response activities associated with extinguishing a fire at the neighboring Miller Chemical & Fertilizer, LLC facility resulted in the contamination of site soils with fertilizer constituents in water runoff.

Site Cleanup History: N/A

Discussion of Cleanup Involved and Demonstration of Attainment: The report states visibly impacted soils were excavated from the east side of the CSX right-of-way; potentially impacted soil was removed from the entrance/exit of the culvert beneath the CSX railroad; vaults running below the electrical substation were flushed to remove any remaining contamination.

Site soils were sampled for fertilizer constituents determined to have been transported onsite in fire extinguishing water runoff from the firefighting activities at the Miller Chemical & Fertilizer, LLC facility. Only one exceedance of arsenic was found onsite. The 95% UCL method was used to demonstrate attainment of the Non-Residential Statewide Health Standard for arsenic in site soils. All other concentrations of the constituents of concern met the Non-Residential Statewide Health Standard.

Visibly impacted soils were covered with sod or geotextile fabric and stone following soil sampling activities. An excavated drainage swale was restored with riprap and stone.

DEP Final Action: This project attained the Non-Residential Statewide Health Standard for the following compounds in soils: aluminum, antimony, arsenic, barium, beryllium, cadmium, chromium, cobalt, copper, iron, lead, manganese, mercury, molybdenum, nickel, potassium, selenium, silver, sodium, thallium, zinc, nitrogen, nitrate, and nitrite, sulfate, and phosphorus.

An approval letter will be issued.

DEP Contact:	James E. Rea, P.G.	Phone: 717-7057-4850
Site Contact:	Jason A. Speicher, FirstEnergy Corp	Phone: 610-921-6935
Site Consultant:	Sarah Stoneking, Ramboll Environ US Corp	Phone: 703-516-2407

jer

FILE

December 1, 2016

Mr. Jason Speicher
Senior Environmental Scientist
FirstEnergy Corporation
P.O. Box 16001
Reading, PA 19612

Re: Approval of Final Report
Metropolitan Edison Company North Hanover Substation
eFACTS PF #809371
Radio Road west of High Street, Hanover, PA
Conewago Township, Adams County

Dear Mr. Speicher:

The Department of Environmental Protection (Department) reviewed the September 2016 document titled "Final Report" (report). Soils at the site were impacted as a result of firefighting activities associated with a fire at the adjacent Miller Chemical & Fertilizer, LLC property. The report was prepared by Ramboll Environ US Corporation and submitted to the Department in accordance with the Land Recycling and Environmental Remediation Standards Act (Act 2) and constitutes a final report as defined in Chapter 3 of Act 2. This report was reviewed by or under the supervision of a Pennsylvania licensed professional geologist.

The Department hereby approves this final report for the substances identified and remediated to an Act 2 standard within the site(s) specified. Chapter 5, Section 501 of Act 2, provides the liability protection where attainment of Act 2 cleanup standards is demonstrated. The cleanup liability protection provided by this chapter applies to the current and future owner or any other person who participated in the remediation; a person who develops or occupies the property; successor or assign of any person to whom liability protection applies; and a public utility to the extent the public utility performs activities on the identified property(ies).

This project attained the Non-Residential Statewide Health Standard for Inorganics in soils.

Please refer to the enclosed Standard Attachment for other Department program requirements for considerations which may be applicable to the referenced site.

Thank you for your cooperation in working with the Department in the remediation of this site. If you have any questions or need further information regarding this matter, please contact the project manager, James E. Rea, P.G. at 717.705.4850.

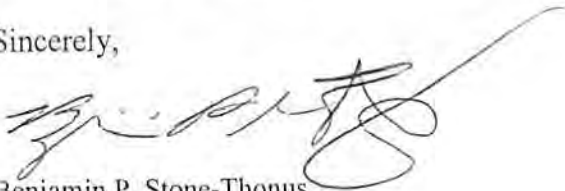
December 1, 2016

Any person aggrieved by this action may appeal, pursuant to Section 4 of the Environmental Hearing Board Act, 35 P.S. Section §7514, and the Administrative Agency Law, 2 Pa.C.S. Chapter 5A, to the Environmental Hearing Board, Second Floor, Rachel Carson State Office Building, 400 Market Street, P.O. Box 8457, Harrisburg, PA 17105-8457, 717.787.3483. TDD users may contact the Board through the Pennsylvania Relay Service, 800.654.5984. Appeals must be filed with the Environmental Hearing Board within 30 days of receipt of written notice of this action unless the appropriate statute provides a different time period. Copies of the appeal form and the Board's rules of practice and procedure may be obtained from the Board. The appeal form and the Board's rules of practice and procedure are also available in braille or on audiotape from the Secretary to the Board at 717.787.3483. This paragraph does not, in and of itself, create any right of appeal beyond that permitted by applicable statutes and decisional law.

If you want to challenge this action, your appeal must reach the Board within 30 days. You do not need a lawyer to file an appeal with the Board.

Important legal rights are at stake, however, so you should show this document to a lawyer at once. If you cannot afford a lawyer, you may qualify for free pro bono representation. Call the Secretary to the Board (717.787.3483) for more information.

Sincerely,



Benjamin P. Stone-Thonus
Program Manager
Environmental Cleanup and Brownfields Program

Enclosure: Standard Attachment

cc: Sarah Stoneking, Ramboll Environ US Corporation
Tony Hartlaub, Miller Chemical & Fertilizer, LLC
Adams County Conservation District
Conewago Township

jer

August 1, 2016

CERTIFIED MAIL NO. 9171 9690 0935 0023 3523 36

FILE

Mr. Jason Speicher
Senior Environmental Scientist
FirstEnergy Corporation
P.O. Box 16001
Reading, PA 19612

Re: Letter of Technical Deficiency – Remedial Investigation and Final Report
Metropolitan Edison Company North Hanover Substation
eFACTS PF # 809371
Radio Road west of High Street, Hanover, PA
Conewago Township, Adams County

Dear Mr. Speicher:

The Department of Environmental Protection (Department) has reviewed the May 2016 document titled “Remedial Investigation and Final Report” (report) for the property referenced above. The report was prepared by Ramboll Environ and submitted to the Department in accordance with the Land Recycling and Environmental Remediation Standards Act (Act 2). This report was reviewed by or under the supervision of a Pennsylvania licensed professional geologist.

The procedures and regulations set forth in Act 2 must be followed in order for your site to qualify for the liability protection provided by the Act. Upon initial review, the Department finds the submission is technically deficient and the following items are needed to complete your submission:

1. A discussion of vapor intrusion is required (250.312).
2. Site characterization was not properly discussed (250.204).
3. Improper use of the 95% UCL method (250.707).
4. It should be discussed that Conewago Township’s Comprehensive Plan calls for some of the land to the northwest of the site to be changed to agricultural use.
5. All references to a “release” of liability should be changed to “relief” of liability.
6. Within the conclusion, please include a list of specific compounds for which relief of liability is sought in each media, along with the specific standard sought.
7. Please discuss within the text the quantity of vault rinse water that was collected and disposed of (250.204).
8. Section 4.3 only discusses cleaning the entrance and exit to the culvert under the CSX railroad. Please clarify if the entire culvert was cleaned.

9. Regarding impacted soils from the CSX right-of-way:
 - a. The quantity of soil that was disposed of and the analytical characterization report findings should be discussed within the text.
 - b. The report states visibly impacted soils were excavated from the west side of the CSX right-of-way; however, Figure 4-1 shows soils were excavated from the east side.
10. Include the missing pages from the PSS analytical reports for the CSX right-of-way (250.204).
11. Please tabulate the soil disposal data (250.204).
12. Soil disposal samples were held for one full day and then dropped off at the lab at 8 degrees Celsius. Please justify the validity of these disposal samples.
13. Much of the laboratory data is tabulated with inappropriate qualifiers. Please revise.
14. Justify the validity of the estimated lab analytical results that equal MSC values.
15. Incorrect cobalt values were given on Tables 5-1 and 5-2 for the Non-Residential Soil to GW MSCs-Used Aquifer-TDS \leq 2500. This will change the Ratio of Max Detect to PADEP Soil to Groundwater MSCs-Used Aquifer-TDS \leq 2500 as calculated on Table 5-2. See Chapter 250, Table 4 B.
16. Specific Direct Contact or Soil to Groundwater values should be described as "values" and not "MSCs." The MSC is the lower of the Direct Contact and Soil to Groundwater values.
17. Please show the calculations used to derive Soil-to-Groundwater MSCs for nitrate and nitrite (250.308).

Please address the above summarized technical deficiencies within 60 days. If the deficiencies noted above are corrected within 60 days, it will not be necessary to resubmit report review fees, resend the municipal notice, or republish the public notice. *Please include a copy of this correspondence with any submitted correction to confirm to Department staff that an administrative completeness check is not necessary. If the report is not corrected within 60 days from the date of this letter any report submission will require the appropriate fees and proofs of municipal and public notices.*

We look forward to assisting you in the remediation of this property and encourage you to contact us throughout this process. If you have any questions or need further information regarding this matter, please call Richard L. Kaiser, Jr. at 717.705.4851.

Any person aggrieved by this action may appeal, pursuant to Section 4 of the Environmental Hearing Board Act, 35 P.S. Section §7514, and the Administrative Agency Law, 2 Pa.C.S. Chapter 5A, to the Environmental Hearing Board, Second Floor, Rachel Carson State Office Building, 400 Market Street, P.O. Box 8457, Harrisburg, PA 17105-8457, 717.787.3483. TDD users may contact the Board through the Pennsylvania Relay Service, 800.654.5984. Appeals must be filed with the Environmental Hearing Board within 30 days of receipt of written notice of this action unless the appropriate statute provides a different time period. Copies of the appeal form and the Board's rules of practice and procedure may be obtained from the Board. The appeal form and the Board's rules of practice and procedure are also available in braille or on audiotape from the Secretary to the Board at 717.787.3483. This paragraph does not, in and of itself, create any right of appeal beyond that permitted by applicable statutes and decisional law.

Mr. Jason Speicher

3

August 1, 2016

If you want to challenge this action, your appeal must reach the Board within 30 days. You do not need a lawyer to file an appeal with the Board.

Important legal rights are at stake, however, so you should show this document to a lawyer at once. If you cannot afford a lawyer, you may qualify for free pro bono representation. Call the Secretary to the Board (717.787.3483) for more information.

Sincerely,

A handwritten signature in black ink, appearing to read "Kathleen G. Horvath". The signature is fluid and cursive, with the first name being the most prominent.

Kathleen G. Horvath, P.G.
Acting Program Manager
Environmental Cleanup and Brownfields Program

cc: Sarah Stoneking, Ramboll Environ US Corporation
Mark Nielsen, Ramboll Environ US Corporation
Tony Hartlaub, Miller Chemical & Fertilizer LLC

rlk



MEMO

TO File

THROUGH ECB Acting Program Manager *HGH*
Land Recycling Section Chief

FROM Richard L. Kaiser, Jr. *RLK*
DEP Project Manager

DATE July 29, 2016

RE Act 2 Technical Memo Summary
Remedial Investigation and Final Report –Technical Deficiency
eFACTS PF # 809371
Metropolitan Edison Company North Hanover Substation
Radio Road west of High Street, Hanover, PA
Conewago Township, Adams County

The following is based solely on the information provided in the report(s) submitted to DEP. The information was reviewed, but not verified, by DEP, and represents the remediator(s)'s best professional judgment.

Property Owner Name: Mr. Jason Speicher, Senior Environmental Scientist
FirstEnergy Corporation, P.O. Box 16001, Reading, PA 19612

Site Address: Radio Road west of High Street, Hanover, PA 17331

Act 2 Standard Sought: Non-Residential Statewide Health Standard for site soils.

Property Size: 13 acres **Act 2 Site Size:** 13 acres

Project Site History: This site has been and will continue to be used as an electrical substation.

Site Findings: Emergency response activities associated with extinguishing a fire at the neighboring Miller Chemical & Fertilizer, LLC facility resulted in the contamination of site soils with fertilizer constituents in water runoff.

Site Cleanup History: N/A

Discussion of Cleanup Involved and Demonstration of Attainment: The report states visibly impacted soils were excavated from the west side of the CSX right-of-way; however, Figure 4-1 shows soils were excavated from the east side. Vaults running below the electrical substation were flushed to remove any remaining contamination.

Site soils were sampled for fertilizer constituents determined to have been transported onsite in fire extinguishing water runoff from the firefighting activities at the Miller Chemical &

Fertilizer, LLC facility. Only one exceedance of arsenic was found onsite. The 95% UCL method was used to demonstrate attainment of the Non-Residential Statewide Health Standard for arsenic in site soils. All other concentrations of the constituents of concern met the Non-Residential Statewide Health Standard.

Visibly impacted soils were covered with sod or geotextile fabric and stone following soil sampling activities. An excavated drainage swale was restored with riprap and stone.

DEP Final Action: A Technical Deficiency Letter will be issued due to the following:

1. Failure to discuss vapor intrusion.
2. Composite samples cannot be used for characterization.
3. Demonstration of attainment through statistical methods cannot be performed on biased samples. Biased sampling is for petroleum compounds only and must meet the no exceedance rule.
4. Failure to explain that Conewago Township's Comprehensive Plan calls for some of the land to the northwest of the site to be changed to agricultural.
5. All references to a "release" of liability should be changed to "relief" of liability.
6. A specific list of all compounds for which relief of liability is sought in each media and for which standard should be included in the conclusion.
7. The quantity of vault rinse water collected and disposed should be mentioned in the text.
8. Section 4.3 discusses cleaning the entrance and exit to the culvert under the CSX railroad. Clarification should be given if the entire culvert was cleaned.
9. Regarding impacted soils from the CSX right-of-way:
 - a. The quantity of soil that was disposed of and the analytical characterization report findings should be discussed within the text.
 - b. The report states visibly impacted soils were excavated from the west side of the CSX right-of-way; however, Figure 4-1 shows soils were excavated from the east side.
10. Pages are missing from the PSS analytical reports for the CSX right-of-way.
11. Soil disposal data has not been tabulated.
12. Soil disposal samples were submitted to the lab at 8 degrees Celsius and were not dropped off at the lab for one full day. No justification is given to the validity of the samples.
13. Much of the lab analytical data is tabulated with inappropriate qualifiers.
14. Estimated lab analytical results that equal MSC values.
15. Incorrect cobalt values on Tables 5-1 and 5-2 for the Soil to GW MSCs-Used Aquifer-TDS<=2500. This will change the Ratio of Max Detect to PADEP Soil to Groundwater MSCs-Used Aquifer - TDS <= 2500 as calculated on Table 5-2.
16. Specific Direct Contact or Soil to Groundwater values should be described as "values" and not "MSCs." The MSC is the lower of the Direct Contact and Soil to Groundwater values.
17. Failure to properly use the 95% UCL method as discussed in 250.707.
18. Failure to show the calculations used to derive the Soil-to-Groundwater MSCs for nitrate and nitrite.

DEP Contact:	Richard L. Kaiser, Jr.	Phone:	717-705-4851
Site Contact:	Jason A. Speicher	Phone:	610-921-6935
Site Consultant:	Sarah Stoneking, Ramboll Environ US Corp.	Phone:	703-516-2407

rlk

June 9, 2016

FILE

Mr. Jason Speicher
Senior Environmental Scientist
FirstEnergy Corporation
P.O. Box 16001
Reading, PA 19612

Re: Receipt of Final Report
Metropolitan Edison Company North Hanover Substation
eFACTS PF# 809371
Radio Road west of High Street, Hanover, PA
Conewago Township, Adams County

Dear Mr. Speicher:

This letter acknowledges receipt of your Final Report on June 6, 2016 pertaining to the subject property and submitted in accordance with the Land Recycling and Environmental Remediation Standards Act (Act 2). This Final Report indicates that you sought to remediate this site to meet the Statewide Health Standard.

Act 2 requires the Department of Environmental Protection (Department) to review and respond to your Final Report within 60 days of the receipt date. You will receive a letter advising you of the Department's action on your Final Report submission. If you have any questions or need further clarification of our procedures, please call Mr. Richard Kaiser at 717.705.4851.

Sincerely,



Kathleen G. Horvath, P.G.
Land Recycling Chief
Environmental Cleanup and Brownfields Program

cc: Sarah Stoneking, Ramboll Environ US Corporation
Tony Hartlaub, Miller Chemical & Fertilizer, LLC
Adams County Conservation District
Conewago Township

emn

13



Land Recycling Program Transmittal Sheet for Plan/Report Submission

Instructions: Please provide all requested information in each of the four sections. This transmittal sheet shall accompany any plan/report submitted to the Department under the Land Recycling Program. Proper completion of the Transmittal Sheet will assist Department review and may avoid a finding of plan/report deficiency. The Facility ID number can be obtained from the Department's Environmental Cleanup Program in the region where the site is located.

Section 1 - Site Identification

PF 809371

eFACTS Facility ID Site ID: 815138

Site Name Metropolitan Edison Company North Hanover Substation

Site Address Radio Road west of High Street

Municipality and County Conewago Township; Adams County

Section 2 - Remediation Standard . . Plan/Report . . Fees

Identify the remediation standard being pursued and the type of plan/report being submitted. Please note required Department fees follow each type of plan/report.

Check the relevant standard and the type of plan/report being submitted.

- Background Standard Final Report (\$250 fee)
- Statewide Health Standard Final Report (\$250 fee)
- Site-Specific Standard
- Remedial Investigation Report (\$250 fee)
- Work Plan (no fee)
- Risk Assessment Report (\$250 fee)
- Baseline Environmental Report (no fee)
- Cleanup Plan (\$250 fee)
- Final Report (\$500 fee)

Ensure your check covers all required fees and is made payable to the Commonwealth of Pennsylvania.

Section 3 - Municipal/Public Notice Confirmation

There are two stages in the Land Recycling Program where municipal and public notices are required. Read the information associated with each stage. You will be asked to confirm that information establishing your compliance with these notification requirements has been included with this submission.

- Check here if you are planning to meet the Background or Statewide Health Standard and your Final Report has been submitted within 90 days of the release.

Indicate date of release here _____

No further completion of this section is required if your Final Report for these two standards conforms to the 90 day time frame.

Stage 1 - Notice of Intent to Remediate (NIR)

- Check here to confirm you have included proof that a copy of your NIR was provided to each municipality where your site is located. Proof will be a copy of your cover letter and a copy of a signed certified mail receipt slip from the municipality.
- Check here to confirm a copy of a proof of publication document from a newspaper serving the area of your site has been included with this submission.
- Check here to indicate that a Site-Specific Standard or a Special Industrial Area is involved and a municipal request was received for development of a public involvement plan. The plan/report submission shall include municipality and public comments, which were submitted, and your responses to those comments.

Stage 2 - Cleanup Plan/Report Submission

6/1/2016 Place date here that each municipality was notified of any plan or report submitted under any of the three remediation standards.

Hanover Evening Sun 6/2/2016 Place the newspaper name and date that your notice of your plan/report submission was published.

Section 4 - Project Contact

On the lines below, place the name, company, and business phone number of the individuals who can be contacted regarding this submission:

<u>Sarah Stoneking, Ramboll Environ US Corporation</u>	<u>703-516-2407</u>
<u>Mark Nielsen, Ramboll Environ US Corporation</u>	<u>215-523-5602</u>
<u>Tony Hartlaub, Miller Chemical & Fertilizer, LLC</u>	<u>717-632-8921</u>

FILE

April 11, 2016

Mr. Jason Speicher
Senior Environmental Scientist
FirstEnergy Corporation
P.O. Box 16001
Reading, PA 19612

Re: Receipt of Notice of Intent to Remediate
Statewide Health Standard
Metropolitan Edison company North Hanover Substation
eFACTS PF# 809371
Radio Road west of High Street, Hanover, PA
Conewago Township, Adams County

Dear Mr. Speicher:

This letter acknowledges receipt of your Notice of Intent to Remediate (NIR) on April 5, 2016, pertaining to the subject property and submitted in accordance with the Land Recycling and Environmental Remediation Standards Act (Act 2). The procedures set forth in Act 2 must be followed in order for this site to qualify for the liability protection provided by the Act. If in the future you choose to select either the site-specific standard or choose to use the special industrial area provisions in Subchapter E of the Chapter 250 regulations, you will need to resubmit the NIR and follow the requirements relating to public involvement plan coordination with the local municipality. Please contact this office if you need advice on these requirements.

A final report, accompanied by the required fee, should be submitted to the Department of Environmental Protection (DEP or Department) upon completion of remediation. Include documentation verifying compliance with the public notification requirements.

Additional technical and program information can be found at www.dep.pa.gov, under Businesses > Land > Land Recycling. Also, please refer to the Land Recycling Program checklists which are helpful in assuring reports are complete before submittal. The DEP uses the checklists to perform administrative and technical completeness reviews when plans and/or reports are submitted. It is strongly encouraged to include the appropriate completed checklist with your final report submission. Land Recycling checklists can be found at the website under 'Forms, Checklists & Notifications' link.

Please refer to the enclosed Standard Attachment for considerations of other programs which may be applicable to this property.

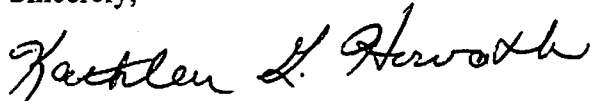
Mr. Jason Speicher

- 2 -

April 11, 2016

Mr. Richard Kaiser is the project manager assigned to your project and will be working with you towards the remediation of this property. Frequent contact is encouraged between your representatives and our staff. If you have any questions or need further clarifications of our procedures, please call Mr. Kaiser at 717.705.4851.

Sincerely,

A handwritten signature in black ink that reads "Kathleen G. Horvath". The signature is written in a cursive style with a large initial 'K'.

Kathleen G. Horvath, P.G.
Land Recycling Chief
Environmental Cleanup and Brownfields Program

Enclosure: Standard Attachment

cc: Sarah Stoneking, Ramboll Environ US Corporation
Tony Hartlaub, Miller Chemical & Fertilizer, LLC
Adams County Conservation District
Conewago Township

emn



For DEP Use Only
PF # 809371
Rem ID # _____

Soils

PO = Kaiser
Site - 815138

NOTICE OF INTENT TO REMEDIATE

Act 1995-2 requires four general information items to be included in the NIR: the general location, listing of contaminants, intended use of property, and proposed remediation measures. In addition, indicate the standard(s) to be obtained (if known) and attach a scaled site map (if available).

Property Name Metropolitan Edison Company North Hanover Substation

Former Name(s) / AKA Met-Ed

Address / Location Radio Road west of High Street

City Hanover Zip Code 17331

Municipality(s) Hanover County(ies) Adams

Latitude 39 ° (deg). 49 ' (min) 10 " (sec) Longitude -77 ° (deg). 0 ' (min) _____ " (sec)

Horizontal Collection Method EMAP 12.0756

Horizontal Reference Datum EMAP Reference Point Entrance to facility

Wish to participate in the DEP/EPA MOA. Contact Troy Conrad at tconrad@state.pa.us for details.

EPA ID#, if known none identified

DEP ID#(s), if known none identified

(i.e., eFACTS site ID#, storage tank facility ID#, water quality permit #, watershed permit, air quality permit #, etc.)

Date Release Occurred (if known) June 8, 2015

Provide a brief description of the site contamination in plain language (e.g. fuel oil spill, historical chemical industrial area contamination), the names of any know primary contaminants to be addressed, and the intended future use of the property.

Identified impacts at the Met-Ed substation resulted from the migration of fire-fighting water during emergency response activities related to the June 8, 2015 fire at the Miller Chemical & Fertilizer, LLC (Miller Chemical) facility located at 170 Radio Road in Hanover. The fire water carried fertilizer constituents from the Miller Chemical site. Constituents of potential concern include metals and nutrients and as such, soil samples from background and impacted areas have been collected and analyzed for the presence of aluminum, antimony, arsenic, barium, beryllium, cadmium, total chromium, cobalt, copper, iron, lead, manganese, mercury, molybdenum, nickel, potassium, selenium, silver, sodium, thallium, zinc, nitrate, nitrite, total kjeldahl nitrogen, sulfate, and phosphorus. The intended future use of the property is an electrical power substation. Metropolitan Edison entered into an access agreement with Miller Chemical that provides for remediation of the site to levels consistent with future non-residential use only.

Provide a general description of proposed remediation measures.

Interim response actions were conducted at the Met-Ed property prior to the conduct of soil sampling activities. Interim response actions included the clean-out of subsurface conduit runs beneath the electrical power distribution system; cleanout of the stormwater culvert running from the Met-Ed substation west beneath the rail line, to the Bare Development property; and the placement of gravel and sod on visibly affected areas of the Met-Ed property to mitigate aesthetic impacts and to limit transport of any remaining contaminants with stormwater. No future remediation at this property is proposed based on comparison of soil sampling results to Statewide Health standards in accordance with PADEP Act 2 regulations.

Remediation Standard(s) planned (if known at this time):

- | | | |
|---|--|--------------------------------------|
| <input type="checkbox"/> Unknown at this time | <input type="checkbox"/> Soil | <input type="checkbox"/> Groundwater |
| <input type="checkbox"/> Background Contaminants: | <input type="checkbox"/> Soil | <input type="checkbox"/> Groundwater |
| <input type="checkbox"/> Statewide Health - Residential Contaminants: | <input type="checkbox"/> Soil | <input type="checkbox"/> Groundwater |
| <input checked="" type="checkbox"/> Statewide Health - Non-Residential Contaminants: aluminum, antimony, arsenic, barium, beryllium, cadmium, total chromium, cobalt, copper, iron, lead, manganese, mercury, molybdenum, nickel, potassium, selenium, silver, sodium, thallium, zinc, nitrate, nitrite, total kjeldahl nitrogen, sulfate, and phosphorus | <input checked="" type="checkbox"/> Soil | <input type="checkbox"/> Groundwater |
| <input type="checkbox"/> Site Specific Contaminants: | <input type="checkbox"/> Soil | <input type="checkbox"/> Groundwater |
| <input type="checkbox"/> Special Industrial Area* Contaminants: | <input type="checkbox"/> Soil | <input type="checkbox"/> Groundwater |

*NOTE: Specific standard or Special Industrial Area require a 30-day municipal comment period
 Remediator / Property Owner / Consultant. Complete the form below for each recipient obtaining a release of liability upon approval of the final report. Attach additional sheets as necessary.

Remediator

Contact Person/Title Tony Hartlaub / VP Finance eFACTS Client ID* 320574
 Relationship to Site Remediator Client Type* LLC
 (e.g. owner, remediator, participant in cleanup, consultant, etc.)

Phone Number 717-632-8921 Email Address Tonyhartlaub@millerchemical.com

Company Name Miller Chemical & Fertilizer, LLC EIN or Federal ID # 46-5407027

Address (street, city, state, zip) 120 Radio Road, Hanover, PA 17332

Property Owner

Contact Person/Title Jason A. Speicher eFACTS Client ID* Handwritten: 327101
 Relationship to Site Senior Environmental Scientist Client Type* Other
 (e.g. owner, remediator, participant in cleanup, consultant, etc.)

Phone Number 610-921-6935 Email Address jspeicher@firstenergycorp.com

Company Name FirstEnergy Corp. EIN or Federal ID # 23-0870160

Address (street, city, state, zip) P.O. Box 16001, Reading, PA 19612

Consultant

Contact Person/Title Sarah Stoneking eFACTS Client ID* 327099
 Relationship to Site Consultant Client Type* Other (Non Government)
 (e.g. owner, remediator, participant in cleanup, consultant, etc.)

Phone Number 703-516-2407 Email Address sstoneking@ramboll.com

Company Name Ramboll Environ US Corporation EIN or Federal ID # 52-1248616

Address (street, city, state, zip) 4350 North Fairfax Drive, Suite 300, Arlington, VA 22203

*Include eFACTS Client ID (if known) - "Client Types" below:

Association/Organization	Limited Liability company	Partnership-General
Authority	Limited Liability Partnership	Partnership-Limited
County	Municipality	School District
Estate/Trust	Non-Pennsylvania Government	Sole Proprietorship
Federal Agency	Other (Non-Government)	State Agency
Individual	Pennsylvania Corporation	

Preparer of Notice of Intent to Remediate

Name Mark Nielsen Title Principal

Phone Number 609-243-9859 Email Address mnielsen@ramboll.com

Company Name Ramboll Environ US Corporation eFACTS Client ID 274925

Address (street, city, state, zip) 1760 Market Street, Suite 1000, Philadelphia, PA 19103

Ms. Barbara Krebs
Township Manager
Conewago Township
541 Oxford Avenue
Hanover, PA 17331

**RE: Notice of Intent to Remediate to Statewide Health Standards
Metropolitan Edison Company North Hanover Substation
Radio Road, west of High Street
Conewago Township
Adams County**

Dear Ms. Krebs,

The Land Recycling and Environmental Remediation Standards Act (Act 2) requires that a Notice of Intent to Remediate (NIR) a site be provided to the municipality in which the site is located. In accordance with this provision of Act 2, we are formally notifying you of our intent to remediate the subject site. A copy of the Notice of Intent to Remediate, which has been sent to the Department of Environmental Protection (DEP), is enclosed. This notice will also be published in the Pennsylvania Bulletin, and a summary of the notice will be placed in a local newspaper.

Should you have any questions or comments regarding the proposed remediation, please contact me at (703) 516-2407, or ssstoneking@ramboll.com.

Yours sincerely,



Sarah Stoneking
Senior Manager

D +1 703 516 2407
ssstoneking@ramboll.com

Date March 18, 2016

Ramboll Environ
4350 North Fairfax Drive
Suite 300
Arlington, VA 22203
USA

T +1 703 516 2300
F +1 703 516 2345
www.ramboll-environ.com

**Attachment A
Notice of Intent to Remediate**

[The following text is extremely faint and largely illegible. It appears to be a formal notice or report, possibly containing details about a remediation project, including dates, locations, and specific actions to be taken. The text is organized into several paragraphs and possibly includes a list or table of items, but the individual words and numbers are too light to transcribe accurately.]



March 30, 2016

Dear Customer:

The following is the proof-of-delivery for tracking number 775912090530.

Delivery Information:

Status:	Delivered	Delivered to:	Receptionist/Front Desk
Signed for by:	A.SCHMIDT	Delivery location:	541 OXFORD AVE HANOVER, PA 17331
Service type:	FedEx Standard Overnight	Delivery date:	Mar 21, 2016 13:35
Special Handling:	Deliver Weekday Adult Signature Required		

Shipping Information:

Tracking number:	775912090530	Ship date:	Mar 18, 2016
		Weight:	0.5 lbs/0.2 kg

Recipient:
Ms. Barbara Krebs, Township Manager
Conewago Township
541 Oxford Avenue
HANOVER, PA 17331 US

Shipper:
Sarah Stoneking
4350 North Fairfax Drive
Suite 300
Arlington, VA 22203 US
0137782A Phase USOFF2

Reference

Thank you for choosing FedEx.

Pat. New Oxford, PA 17350

Judith A. Dayhoff, Executor

EXECUTRICES' NOTICE

Estate of Leroy D. Little, 681/4 Leroy David Little, late of Penn Township, York County PA deceased.

Letters Testamentary on said estate having been granted to the undersigned, all persons indebted thereto are requested to make immediate payment to the undersigned and those having claims or demands against the same without delay for settlement to the undersigned attorney for the estate.

Normal Leisher 1034 Awn Street Hanover, PA 17331
Nancy Payne 216 East Third Street Media, PA 19063
Cicilie & Cicilie Attorneys by the Estate 602 Broadway Hanover, PA 17331 717-637-9799

LETTERS TESTAMENTARY

Estate of Esther S. Blocher aka Esther M. Blocher, deceased, wife of West Manheim Township, York County, PA. Letters Testamentary on the Last Will and Testament of said decedent having been granted to the undersigned, all persons indebted thereto are requested to make immediate payment, and those having claims or demands against the same, will present them without delay for settlement to the undersigned residing at:

Ce-Executors: Howy B Grove 26 Wilson Springs Rd Hanover, PA 17331 Jay B. Blocher 455 Burnett Rd Hanover, PA 17331
Attorney: Keith R. Norenmaker, Esquire Guthrie, Norenmaker, Yungst & Hart LLP 40 York Street, Hanover, PA 17331 (717) 632-5315

Co-Executors: Ned H. Goldbrecht 72 Pleasant View Dr Hanover, PA 17331

Karen M. Tome 1789 Main St East Bronte, PA 17830

Attorney: James I. Yungst, Esquire Norenmaker, Yungst & Hart 40 York Street Hanover, PA 17331 (717) 632-5315

LETTERS TESTAMENTARY

Estate of Hertha D. Hertha aka Hertha Della Hertha, deceased, late of Oxford Township, Adams County, PA. Letters Testamentary on the Last Will and Testament of said decedent having been granted to the undersigned, all persons indebted thereto are requested to make immediate payment, and those having claims or demands against the same, will present them without delay for settlement to the undersigned residing at:

Co-Executors: Eldred G. Slaughter and Janice Slaughter 2212 Churchville Ave Staunton, VA 24401
Attorney: Matthew L. Guthrie, Esquire Guthrie, Norenmaker, Yungst & Hart 40 York Street Hanover, PA 17331 (717) 632-5315

LETTERS TESTAMENTARY

Notice is hereby given that the Register of Wills of York County, Pennsylvania, has granted Letters Testamentary to Mrs. Daphn M. Becker for the Estate of Margaret E. Huttnagle, late of Penn Township, York County, Pennsylvania. Any persons indebted thereto are requested to make immediate payment and those leaving claims or demands against the same should present them in writing without delay for settlement to Mrs. Daphn M. Becker, 15 Highland Avenue, Hanover, Pennsylvania 17331.

Becker & Strauszbaugh, P.C. Arthur J. Becker, Jr., Esquire Attorneys for the Estate of Margaret E. Huttnagle

Secretary CONEWAGO VALLEY SCHOOL DISTRICT New Oxford, PA 17350

NEWSPAPER NOTIFICATION Family First Health

Pursuant to the Land Recycling and Environmental Remediation Standards Act, the act of May 19, 1995, P.L. 4, No. 1985-2, notice is hereby given that Miller Chemical & Fertilizer, LLC (Miller Chemical) has submitted to the Pennsylvania Department of Environmental Protection a Notice of Intent to Remediate a site located at 1230 High Street, Conowingo Township, Adams County. This Notice of Intent to Remediate states that the site is commercial property operated by Family First Health Corporation. The site has been found to be impacted by fertilizer constituents mobilized by fire-fighting activity. An exposure assessment performed on June 8, 2015 at the Miller Chemical facility located at 120 Radio Road in Hanover, Penn of the fire-fighting water contained fertilizer constituents from the Miller Chemical site, including metals and nutrients, which were suspected to have contaminated soil at the property owned by Family First Health Corporation. Soils from background and nearby affected areas were sampled for metals and nutrients. The future use of the property is expected to remain in commercial use. Concentrations of constituents of potential concern in site soils are below the State-wide Health Standards established for residential site use. As such, Miller Chemical has not proposed remediation measures.

NEWSPAPER NOTIFICATION Metropolitan Edison

Pursuant to the Land Recycling and Environmental Remediation Standards Act, the act of May 19, 1995, P.L. 4, No. 1985-2, notice is hereby given that Miller Chemical & Fertilizer, LLC (Miller Chemical) has submitted to the Pennsylvania Department of Environmental Protection a Notice of Intent to Remediate an electrical substation site located at Radio Road, west of High Street, Conowingo Township, Adams County. This Notice of Intent to Remediate states that the site is operated by the Metropolitan Edison Company North Hanover Substation, an electrical power substation, which may have been impacted by chemicals mobilized by fire-fighting activity. An exposure assessment performed on June 8, 2015 at the Miller Chemical facility located at 120 Radio Road in Hanover, Penn of the fire-fighting water carried fertilizer constituents from the Miller Chemical site, including metals and nutrients, which were suspected to have contaminated soil at the property owned by Metropolitan Edison Company. Soils from background and nearby affected areas were sampled for metals and nutrients. Concentrations of constituents of potential concern in site soils are below the Statewide Health Standards for non-residential site use. The future use of the property will be non-residential. As such, Miller Chemical has not proposed remediation measures.

REQUEST FOR PROPOSAL

You are invited to respond for Conowingo Valley School District Request for Proposal for Estate Year 19 (2016-2017) Category 2 District for federal connections. Proposals will be received by the Board of Directors of the Conowingo Valley School District at the Administration Office, 130 Berlin Road, New Oxford, PA 17350, around noon, prevailing time, April 21, 2016. RFP specifications may be obtained from the Technology Coordinator, Conowingo Valley School District, 130 Berlin Road, New Oxford, PA 17350, by telephone at 717-662-2157 ext. 1025 or by logging onto the USFC EPC system and searching for Estate Form 470 Application Number 180037597.

One complete hard copy must be delivered to the Conowingo Valley School District, at 130 Berlin Road, New Oxford, PA 17350 on or before

OPINIONS

Perk up with informative news articles on dining, entertainment and more when you subscribe to The Evening Sun!

Subscribe online at subscribe.eveningsun.com or Call 717.633.4509 for home delivery!

THE

Proof of Publication
State of Pennsylvania

AD # 0001594611-01

The Evening Sun is the name of the newspaper(s) of general circulation published continuously for more than six months at its principal place of business, 37 Broadway Street, Hanover, PA.

The printed copy of the advertisement hereto attached is a true copy, exactly as printed and published, of an advertisement printed in the regular issues of the said The Evening Sun published on the following dates, viz:

Attach Copy of
Advertisement here

NEWSPAPER NOTIFICATION
Metropolitan Edison

Pursuant to the Land Recycling and Environmental Remediation Standards Act, the act of May 19, 1995, P.L. 4, No. 1995-2, notice is hereby given that Miller Chemical & Fertilizer, LLC (Miller Chemical) has submitted to the Pennsylvania Department of Environmental Protection a Notice of Intent to Remediate an electrical substation site located at Radio Road, west of High Street, Conowingo Township, Adams County. This Notice of Intent to Remediate states that the site is operated as the Metropolitan Edison Company North Hanover Substation, an electrical power substation, which may have been impacted by chemicals mobilized by fire-fighting, emergency response activities performed on June 9, 2015 at the Miller Chemical facility located at 120 Radio Road in Hanover. Runoff of the fire-fighting water carried fertilizer constituents from the Miller Chemical site, including metals and nutrients, which were suspected to have contaminated soil at the property owned by Metropolitan Edison Company. Soils from background and visibly affected areas were sampled for metals and nutrients. Concentrations of constituents of potential concern in site soils are below the Statewide Health Standards for non-residential site use. The future use of the property will be non-residential. As such, Miller Chemical has not proposed remediation measures.

3/24/2016

COMMONWEALTH OF PENNSYLVANIA
COUNTY OF YORK

Before me, a Notary Public, personally came Pam Rodencal who being duly sworn deposes and says that she is the Legal Advertising Clerk of The Evening Sun and her personal knowledge of the publication of the advertisement mentioned in the foregoing statement as to the time, place and character of publications are true, and that the affiant is not interested in the subject matter of the above mentioned advertisement.

Sworn and subscribed to before me, on
this 24 day of March 2016

Nachelle L. Whitmoyer

Pam Rodencal

Notary Public

COMMONWEALTH OF PENNSYLVANIA

NOTARIAL SEAL
NACHELLE L. WHITMOYER, Notary Public
West Manchester Twp., York County
My Commission Expires April 14, 2019

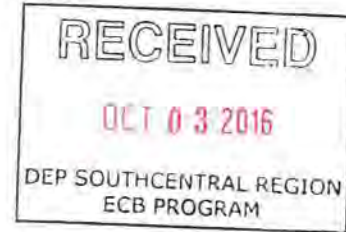
The charge for the following publication of above mentioned advertisement and the expense of the affidavit.

Advertisement Cost	\$91.54
Affidavit Fee	\$5.00
Total Cost	\$96.54

Statewide Health Standard Checklist

Notice of Intent to Remediate

1. Site name and location information, including latitude and longitude
2. Description of site and intended future use of property
3. Contact information
 - a. Remediator
 - b. Owner
 - c. Consultant
4. Site map



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Final Report

1. Transmittal Sheet
2. Notification
 - a. Proof of publication of NIR newspaper notice
 - b. Proof of submission of NIR to municipality
 - c. Proof of publication of final report newspaper notice
 - d. Proof of submission of final report to municipality
 - e. Fees
3. Final Report Summary per on-line format
4. Final Report
 - a. Site name and location information, including municipality, county, and latitude and longitude
 - b. Site Characterization
 - i. Ecological Screen
 - ii. Vapor Screen
 - c. Fate and Transport Modeling
 - d. Remediation
 - e. List of contaminants
 - f. Attainment demonstration
 - i. Residential or Non-residential
 - ii. Non-use aquifer
 - iii. Groundwater
 - iv. Soils
 - v. If applicable
 - (1) Surface water requirements
 - (2) Air Quality requirements
 - g. Narrative of site and remediation
 - i. History of site and land use
 - ii. Use of regulated substances on site
 - iii. Remediation performed
 - iv. Volume of contaminants remediated

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- h. Post remediation care plan
- i. Contact information
 - i. Remediator
 - ii. Owner
 - iii. Consultant
- j. Attachments, including
 - i. Analytical results
 - ii. As applicable:
 - (1) Tables
 - (2) Maps and
 - (3) Figures
- k. Signatures

Preparer Name Christopher Bowles

Preparer Signature 

Date 9/30/2016

18



Land Recycling Program Transmittal Sheet for Plan/Report Submission

Instructions: Please provide all requested information in each of the four sections. This transmittal sheet shall accompany any plan/report submitted to the Department under the Land Recycling Program. Proper completion of the Transmittal Sheet will assist Department review and may avoid a finding of plan/report deficiency. The Facility ID number can be obtained from the Department's Environmental Cleanup Program in the region where the site is located.

Section 1 - Site Identification

eFACTS Facility ID Site ID: 815138

Site Name Metropolitan Edison Company North Hanover Substation

Site Address Radio Road west of High Street

Municipality and County Conewago Township; Adams County

Section 2 - Remediation Standard . . Plan/Report . . Fees

Identify the remediation standard being pursued and the type of plan/report being submitted. Please note required Department fees follow each type of plan/report.

Check the relevant standard and the type of plan/report being submitted.

- | | |
|--|---|
| <input type="checkbox"/> Background Standard
Final Report (\$250 fee) | <input checked="" type="checkbox"/> Statewide Health Standard
Final Report (\$250 fee) |
| <input type="checkbox"/> Site-Specific Standard | <input type="checkbox"/> Special Industrial Area |
| <input type="checkbox"/> Remedial Investigation Report
(\$250 fee) | <input type="checkbox"/> Work Plan
(no fee) |
| <input type="checkbox"/> Risk Assessment Report
(\$250 fee) | <input type="checkbox"/> Baseline Environmental Report
(no fee) |
| <input type="checkbox"/> Cleanup Plan (\$250 fee) | |
| <input type="checkbox"/> Final Report (\$500 fee) | |

Ensure your check covers all required fees and is made payable to the **Commonwealth of Pennsylvania**.

Section 3 - Municipal/Public Notice Confirmation

There are two stages in the Land Recycling Program where municipal and public notices are required. Read the information associated with each stage. You will be asked to confirm that information establishing your compliance with these notification requirements has been included with this submission.

- Check here if you are planning to meet the Background or Statewide Health Standard and your Final Report has been submitted within 90 days of the release.

Indicate date of release here _____

No further completion of this section is required if your Final Report for these two standards conforms to the 90 day time frame.

Stage 1 - Notice of Intent to Remediate (NIR)

- Check here to confirm you have included proof that a copy of your NIR was provided to each municipality where your site is located. Proof will be a copy of your cover letter and a copy of a signed certified mail receipt slip from the municipality.
- Check here to confirm a copy of a proof of publication document from a newspaper serving the area of your site has been included with this submission.
- Check here to indicate that a Site-Specific Standard or a Special Industrial Area is involved and a municipal request was received for development of a public involvement plan. The plan/report submission shall include municipality and public comments, which were submitted, and your responses to those comments.

Stage 2 - Cleanup Plan/Report Submission

6/1/2016 Place date here that each municipality was notified of any plan or report submitted under any of the three remediation standards.

Hanover Evening Sun 6/2/2016 Place the newspaper name and date that your notice of your plan/report submission was published.

Section 4 - Project Contact

On the lines below, place the name, company, and business phone number of the individuals who can be contacted regarding this submission:

<u>Sarah Stoneking, Ramboll Environ US Corporation</u>	<u>703-516-2407</u>
<u>Mark Nielsen, Ramboll Environ US Corporation</u>	<u>215-523-5602</u>
<u>Tony Hartlaub, Miller Chemical & Fertilizer, LLC</u>	<u>717-632-8921</u>

FILE

October 12, 2016

Mr. Jason Speicher
Senior Environmental Scientist
FirstEnergy Corporation
P.O. Box 16001
Reading, PA 19612

Re: Receipt of Final Report
Metropolitan Edison Company North Hanover Substation
eFACTS PF# 809371
Radio Road west of High Street, Hanover, PA
Conewago Township, Adams County

Dear Mr. Speicher:

This letter acknowledges receipt of your Final Report on October 3, 2016 pertaining to the subject property and submitted in accordance with the Land Recycling and Environmental Remediation Standards Act (Act 2). The Notice of Intent to Remediate and this Final Report indicate that you sought to remediate this site to meet the Residential Statewide Health Standard.

Act 2 requires the Department of Environmental Protection (Department) to review and respond to your Final Report within 60 days of the receipt date. You will receive a letter advising you of the Department's action on your Final Report submission. If you have any questions or need further clarification of our procedures, please call Mr. James Rea at 717.705.4850.

Sincerely,



Kathleen G. Horvath, P.G.
Land Recycling Chief
Environmental Cleanup and Brownfields Program

cc: Sarah Stoneking, Ramboll Environ US Corporation
Tony Hartlaub, Miller Chemical & Fertilizer, LLC
Adams County Conservation District
Conewago Township

emn

August 1, 2016

CERTIFIED MAIL NO. 9171 9690 0935 0023 3523 36

Mr. Jason Speicher
Senior Environmental Scientist
FirstEnergy Corporation
P.O. Box 16001
Reading, PA 19612

Re: Letter of Technical Deficiency – Remedial Investigation and Final Report
Metropolitan Edison Company North Hanover Substation
eFACTS PF # 809371
Radio Road west of High Street, Hanover, PA
Conewago Township, Adams County

Dear Mr. Speicher:

The Department of Environmental Protection (Department) has reviewed the May 2016 document titled “Remedial Investigation and Final Report” (report) for the property referenced above. The report was prepared by Ramboll Environ and submitted to the Department in accordance with the Land Recycling and Environmental Remediation Standards Act (Act 2). This report was reviewed by or under the supervision of a Pennsylvania licensed professional geologist.

The procedures and regulations set forth in Act 2 must be followed in order for your site to qualify for the liability protection provided by the Act. Upon initial review, the Department finds the submission is technically deficient and the following items are needed to complete your submission:

1. A discussion of vapor intrusion is required (250.312).
2. Site characterization was not properly discussed (250.204).
3. Improper use of the 95% UCL method (250.707).
4. It should be discussed that Conewago Township’s Comprehensive Plan calls for some of the land to the northwest of the site to be changed to agricultural use.
5. All references to a “release” of liability should be changed to “relief” of liability.
6. Within the conclusion, please include a list of specific compounds for which relief of liability is sought in each media, along with the specific standard sought.
7. Please discuss within the text the quantity of vault rinse water that was collected and disposed of (250.204).
8. Section 4.3 only discusses cleaning the entrance and exit to the culvert under the CSX railroad. Please clarify if the entire culvert was cleaned.

9. Regarding impacted soils from the CSX right-of-way:
 - a. The quantity of soil that was disposed of and the analytical characterization report findings should be discussed within the text.
 - b. The report states visibly impacted soils were excavated from the west side of the CSX right-of-way; however, Figure 4-1 shows soils were excavated from the east side.
10. Include the missing pages from the PSS analytical reports for the CSX right-of-way (250.204).
11. Please tabulate the soil disposal data (250.204).
12. Soil disposal samples were held for one full day and then dropped off at the lab at 8 degrees Celsius. Please justify the validity of these disposal samples.
13. Much of the laboratory data is tabulated with inappropriate qualifiers. Please revise.
14. Justify the validity of the estimated lab analytical results that equal MSC values.
15. Incorrect cobalt values were given on Tables 5-1 and 5-2 for the Non-Residential Soil to GW MSCs-Used Aquifer-TDS \leq 2500. This will change the Ratio of Max Detect to PADEP Soil to Groundwater MSCs-Used Aquifer-TDS \leq 2500 as calculated on Table 5-2. See Chapter 250, Table 4 B.
16. Specific Direct Contact or Soil to Groundwater values should be described as "values" and not "MSCs." The MSC is the lower of the Direct Contact and Soil to Groundwater values.
17. Please show the calculations used to derive Soil-to-Groundwater MSCs for nitrate and nitrite (250.308).

Please address the above summarized technical deficiencies within 60 days. If the deficiencies noted above are corrected within 60 days, it will not be necessary to resubmit report review fees, resend the municipal notice, or republish the public notice. *Please include a copy of this correspondence with any submitted correction to confirm to Department staff that an administrative completeness check is not necessary. If the report is not corrected within 60 days from the date of this letter any report submission will require the appropriate fees and proofs of municipal and public notices.*

We look forward to assisting you in the remediation of this property and encourage you to contact us throughout this process. If you have any questions or need further information regarding this matter, please call Richard L. Kaiser, Jr. at 717.705.4851.

Any person aggrieved by this action may appeal, pursuant to Section 4 of the Environmental Hearing Board Act, 35 P.S. Section §7514, and the Administrative Agency Law, 2 Pa.C.S. Chapter 5A, to the Environmental Hearing Board, Second Floor, Rachel Carson State Office Building, 400 Market Street, P.O. Box 8457, Harrisburg, PA 17105-8457, 717.787.3483. TDD users may contact the Board through the Pennsylvania Relay Service, 800.654.5984. Appeals must be filed with the Environmental Hearing Board within 30 days of receipt of written notice of this action unless the appropriate statute provides a different time period. Copies of the appeal form and the Board's rules of practice and procedure may be obtained from the Board. The appeal form and the Board's rules of practice and procedure are also available in braille or on audiotape from the Secretary to the Board at 717.787.3483. This paragraph does not, in and of itself, create any right of appeal beyond that permitted by applicable statutes and decisional law.

gim 18

NOTICES

DEPARTMENT OF ENVIRONMENTAL PROTECTION

Applications, Actions and Special Notices

[46 Pa.B. 6874]

[Saturday, October 29, 2016]

UNDER ACT 2, 1995

PREAMBLE 2

The following plans and reports were submitted under the Land Recycling and Environmental Remediation Standards Act (35 P.S. §§ 6026.101—6026.907).

Metropolitan Edison Company North Hanover Substation. Radio Road West of High Street, Hanover, PA 17332, Conewago Township, **Adams County**. Ramboll Environmental, 4350 North Fairfax Drive, Suite 300, Arlington, VA 22203, on behalf of Miller Chemical & Fertilizer, LLC, 120 Radio Road, Hanover, PA 17332, and FirstEnergy Corporation, P.O. Box 16001, Reading, PA 19612, submitted a Final Report concerning remediation of site soils contaminated with inorganics as a result of fire-fighting activities. The report is intended to document remediation of the site to meet the Residential Statewide Health Standard.

1B

RECEIVED
DEC 02 2016
DEP SOUTHCENTRAL REGION
ECB PROGRAM

Prepared for:
Miller Chemical & Fertilizer, LLC
Hanover, Pennsylvania

Prepared By:
Ramboll Environ US Corporation
Arlington, Virginia
Princeton, New Jersey

Date
December 2016

Project Number
01-137782A

FINAL REPORT
METROPOLITAN EDISON COMPANY NORTH
HANOVER SUBSTATION, RADIO ROAD, HANOVER,
PENNSYLVANIA



COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF ENVIRONMENTAL PROTECTION
BUREAU OF ENVIRONMENTAL CLEANUP AND BROWNFIELDS
LAND RECYCLING PROGRAM



Land Recycling Program
Transmittal Sheet for Plan/Report Submission

Instructions: Please provide all requested information in each of the four sections. This transmittal sheet shall accompany any plan/report submitted to the Department under the Land Recycling Program. Proper completion of the Transmittal Sheet will assist Department review and may avoid a finding of plan/report deficiency. The Facility ID number can be obtained from the Department's Environmental Cleanup Program in the region where the site is located.

Section 1 - Site Identification

eFACTS Facility ID Site ID: 815138

Site Name Metropolitan Edison Company North Hanover Substation

Site Address Radio Road west of High Street

Municipality and County Conewago Township; Adams County

Section 2 - Remediation Standard . . Plan/Report . . Fees

Identify the remediation standard being pursued and the type of plan/report being submitted. Please note required Department fees follow each type of plan/report.

Check the relevant standard and the type of plan/report being submitted.

- | | |
|--|---|
| <input type="checkbox"/> Background Standard
Final Report (\$250 fee) | <input checked="" type="checkbox"/> Statewide Health Standard
Final Report (\$250 fee) |
| <input type="checkbox"/> Site-Specific Standard | <input type="checkbox"/> Special Industrial Area |
| <input type="checkbox"/> Remedial Investigation Report
(\$250 fee) | <input type="checkbox"/> Work Plan
(no fee) |
| <input type="checkbox"/> Risk Assessment Report
(\$250 fee) | <input type="checkbox"/> Baseline Environmental Report
(no fee) |
| <input type="checkbox"/> Cleanup Plan (\$250 fee) | |
| <input type="checkbox"/> Final Report (\$500 fee) | |

Ensure your check covers all required fees and is made payable to the **Commonwealth of Pennsylvania**.

Section 3 - Municipal/Public Notice Confirmation

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- Check here if you are planning to meet the Background or Statewide Health Standard and your Final Report has been submitted within 90 days of the release.

Indicate date of release here _____

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Stage 1 - Notice of Intent to Remediate (NIR)

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- Check here to confirm a copy of a proof of publication document from a newspaper serving the area of your site has been included with this submission.
- Check here to indicate that a Site-Specific Standard or a Special Industrial Area is involved and a municipal request was received for development of a public involvement plan. The plan/report submission shall include municipality and public comments, which were submitted, and your responses to those comments.

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6/1/2016 _____ Place date here that each municipality was notified of any plan or report submitted under any of the three remediation standards.

Hanover Evening Sun _____ 6/2/2016 _____ Place the newspaper name and date that your notice of your plan/report submission was published.

Section 4 - Project Contact

On the lines below, place the name, company, and business phone number of the individuals who can be contacted regarding this submission:

<u>Sarah Stoneking, Ramboll Environ US Corporation</u>	<u>703-516-2407</u>
<u>Mark Nielsen, Ramboll Environ US Corporation</u>	<u>215-523-5602</u>
<u>Tony Hartlaub, Miller Chemical & Fertilizer, LLC</u>	<u>717-632-8921</u>



For DEP Use Only

PF # _____

Rem ID # _____

FINAL REPORT SUMMARY

The Final Report Summary (FRS) is a brief report consisting of set of data required in addition to the Act 2 Final Report. The summary is used in part as a reference to the Final Report Approval Letter which conveys liability relief to the remediator and other applicable persons. It is of value long after the remediation to be used by the public and Department in understanding key information about the site and remediation.

This use is increased by the fact that it will ultimately be merged into the Department's eFACTS system, which allows the public to have the ease of computer access to environmental information at sites. For more information, see www.ahs.dep.pa.gov/eFACTSWeb/default.aspx. Finally, the summary will be used by the Department to help to better assess the status and the level of success of the program. In the past, numbers of sites remediated has been tracked. With the inclusion of this summary information, progress can be tracked in many specific ways, including identification of individual chemical constituents, and the mass treated, removed or managed safely in place.

Identification

Property Name Metropolitan Edison Company North Hanover Substation

Property Descriptor An active electrical substation with high-voltage transformers.

Address / Location

Address Radio Road west of High Street

City Hanover

Zip Code 17331

Municipality(s) Conewago Township

County(ies) Adams

Latitude 39 ° (deg). 49 ' (min) 10 " (sec) Longitude -77 ° (deg). 0 ' (min) 1 " (sec)

Horizontal Collection Method EMAP

Horizontal Reference Datum EMAP

Reference Point Entrance to facility

Property Specifics

Size of Property ~13 acres

Number of Sites 1

Combined acreage of sites ~13 acres

Remediation

Standards attained or special industrial area attainment. (Check all that apply. Can use multiple.)

Background Statewide Health Site-Specific Special Industrial Area

Proposed future property use - scenario for which the attainment of Statewide Health standard is demonstrated

Residential Non-residential

List of contaminants

Soils

Chemical Name	CAS Number	Mass Contaminant Treated or Removed (lbs.)	Mass Contaminant Managed on Site (lbs.)
Aluminum	7429-90-5	0	0
Antimony	7440-36-0	0	0
Arsenic	7440-38-2	0	0
Barium	7440-39-3	0	0
Beryllium	7440-41-7	0	0
Cadmium	7440-43-9	0	0
Chromium (total)	7440-47-3	0	0
Cobalt	7440-48-4	0	0
Copper	7440-50-8	0	0
Iron	7439-89-6	0	0
Lead	7439-92-1	0	0

Manganese	7439-96-5	0	0
Mercury	7439-97-6	0	0
Molybdenum	7439-98-7	0	0
Nickel	7440-02-0	0	0
Nitrate	14797-55-8	0	0
Nitrite	14797-65-0	0	0
Potassium	7440-09-7	0	0
Selenium	7782-49-2	0	0
Silver	7440-28-0	0	0
Sodium	7440-23-5	0	0
Thallium	7440-28-0	0	0
Zinc	7440-66-6	0	0

Groundwater

Chemical Name	CAS Number	Mass Contaminant Treated or Removed (lbs.)	Mass Contaminant Managed on Site (lbs.)

Remediation

Number of sampling rounds for groundwater attainment: NA

Special Features

Non-use aquifer approval date: _____

Area-wide background approval date: _____

Amount of waste removed other than soil or groundwater (cubic yards): 7040 pounds (approximately 850 gallons) of rinse water from clean-out of subsurface conduit vaults.

Municipal ordinance prohibiting groundwater use:

Not applicable

Post remediation care plan:

Not applicable

Other Programs

- Key Site
- Multi-site Agreement; Date: _____
- Enterprise Zone
- Keystone Opportunity Zone

Administrative

- Municipality request for public involvement plan

Deed notification

- Deed acknowledgment:

Not applicable

- Environmental covenant:

Not applicable

Cleanup cost (\$): _____

Jobs created/saved: _____

Narrative: Provide property history and description, site characterization findings, site description, summary of remediation, summary of attainment demonstration, description of pathway elimination, engineering and institutional controls, and benefits of land reuse, when applicable.

Emergency response actions associated with a fire at the Miller Chemical & Fertilizer, LLC (Miller Chemical) facility located south of the Metropolitan Edison Company North Hanover Substation (Met-Ed or the "site") property on June 8, 2015 resulted in the migration of fertilizer constituents in fire water runoff, which flowed across an approximately 1.4-acre portion of the site. The site is located along the northern side of Radio Road in Hanover, Conewago Township, Adams County, Pennsylvania and is approximately 13 acres in size. Met-Ed operates an electrical substation and the site is improved with high-voltage transformers and a power distribution bus grid located in the central and southwestern areas, respectively, and a one story structure that occupies approximately 650 square feet located in the south-central area.

Interim response actions were conducted at the Met-Ed property prior to the conduct of soil sampling activities. Interim response actions included the clean-out of subsurface conduit runs beneath the electrical power distribution system and the placement of gravel and sod on visibly affected areas of the Met-Ed property to mitigate aesthetic impacts and to limit transport of any remaining contaminants with stormwater.

On behalf of Miller Chemical, Ramboll Environ investigated the nature and extent of soil impacts at the Met-Ed property. Soils were analyzed for a broad suite of potential contaminants of concern, including metals and other fertilizer constituents. Results of the soil sample analyses indicate that only arsenic was detected at a concentration exceeding the Pennsylvania non-residential MSC. Consistent with 25 Pa. Code §250.707 (b)(1)(ii), Ramboll Environ further evaluated arsenic concentrations within visibly affected soils by calculating a 95% UCL on the mean. The calculated 95% UCL on the mean arsenic concentration (26 mg/kg) is less than the non-residential MSC (29 mg/kg). As such, soils within the affected area of the Met-Ed parcel are in attainment of the SHS, assuming the site use remains non-residential. Therefore, no further action is necessary.

Based on the above, Relief of Liability is being sought for the following compounds in soil at the Met-Ed property under the non-residential Statewide Health Standard:

- Aluminum, antimony, arsenic, barium, beryllium, cadmium, chromium, cobalt, copper, iron, lead, manganese, mercury, molybdenum, nickel, potassium, selenium, silver, sodium, thallium, and zinc;
- Nitrate and nitrite

Remediator / Property Owner / Consultant. Complete the form below for each recipient obtaining a release of liability upon approval of the final report. Attach additional sheets as necessary.

Remediator

Contact Person/Title Tony Hartlaub/ VP Finance eFACTS Client ID* 320516
 Relationship to Site Remediator Client Type* LLC
 (e.g. owner, remediator, participant in cleanup, consultant, etc.)
 Phone Number 717-632-8921 Email Address Tonyhartlaub@millerchemical.com
 Company Name Miller Chemical & Fertilizer, LLC EIN or Federal ID # 46-5407027
 Street Address 120 Radio Road
 City Hanover State PA Zip Code 17332

Property Owner

Contact Person/Title Jason A. Speicher eFACTS Client ID* _____
 Relationship to Site Owner Representative Client Type* Other
 (e.g. owner, remediator, participant in cleanup, consultant, etc.)
 Phone Number 610-921-6935 Email Address jspeicher@firstenergycorp.com
 Company Name FirstEnergy Corp. EIN or Federal ID # 23-0870160
 Street Address P.O. Box 16001
 City Reading State PA Zip Code 19612

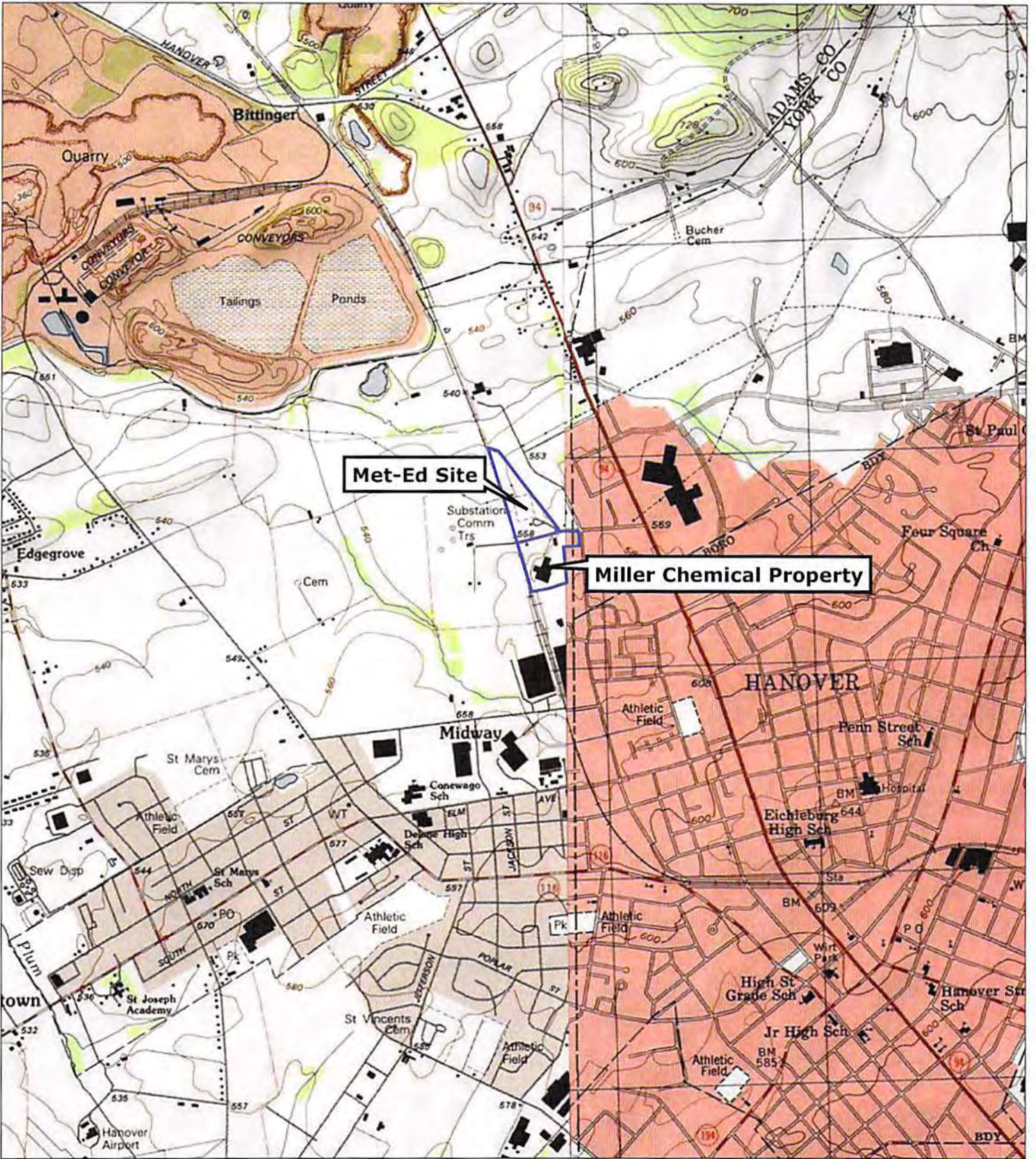
Consultant

Contact Person/Title Sarah Stoneking eFACTS Client ID* 274925
 Relationship to Site Consultant Client Type* Other (Non Government)
 (e.g. owner, remediator, participant in cleanup, consultant, etc.)
 Phone Number 703-516-2407 Email Address sstoneking@ramboll.com
 Company Name Ramboll Environ US Corporation EIN or Federal ID # 52-1248616
 Street Address 4350 North Fairfax Drive, Suite 300
 City Arlington State VA Zip Code 22203

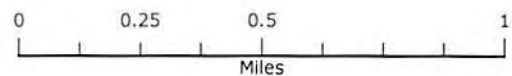
*Include eFACTS Client ID (If known) – "Client Types" below:

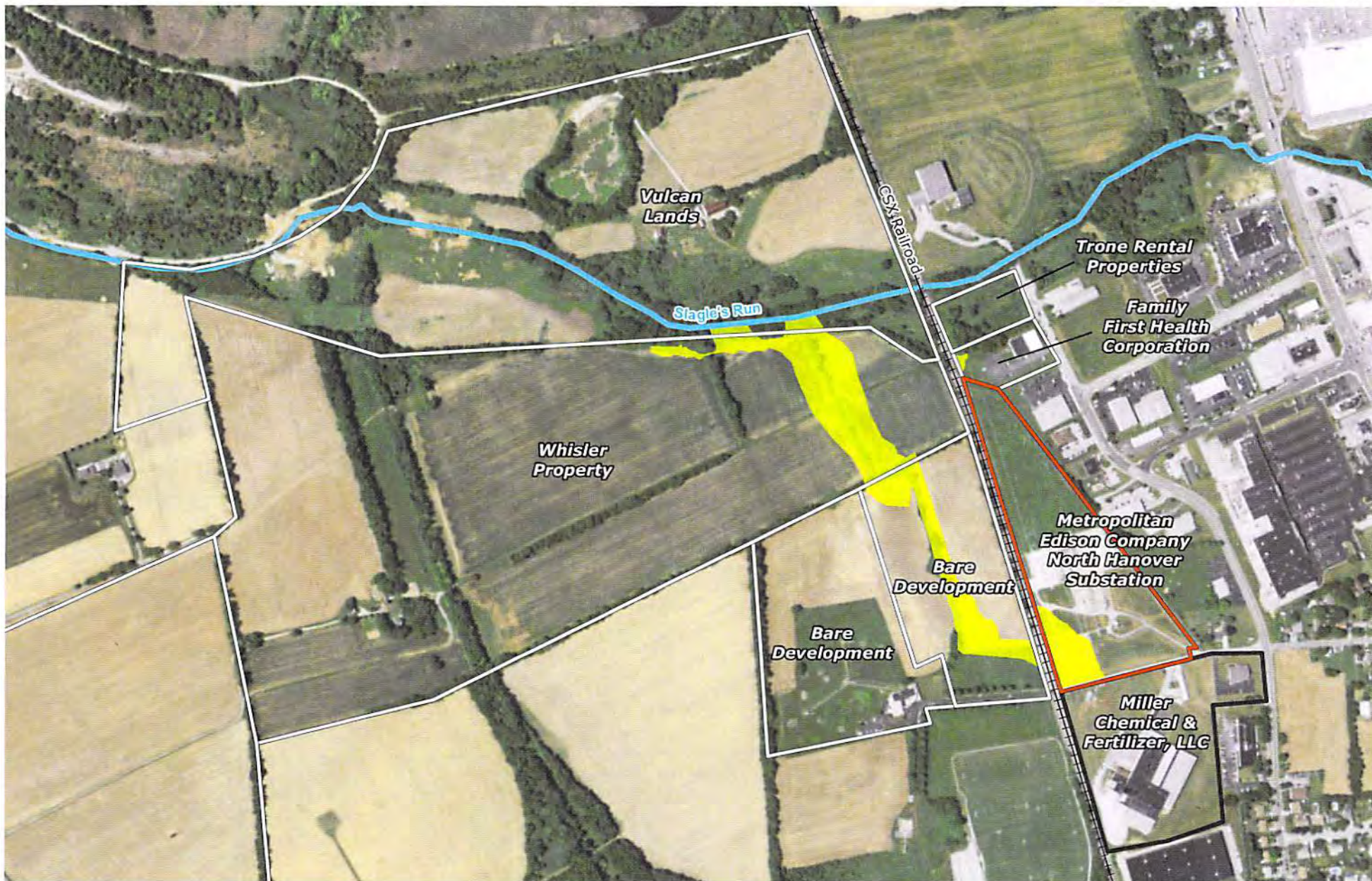
Association/Organization	Limited Liability Company	Partnership-General
Authority	Limited Liability Partnership	Partnership-Limited
County	Municipality	School District
Estate/Trust	Non-Pennsylvania Government	Sole Proprietorship
Federal Agency	Other (Non-Government)	State Agency
Individual	Pennsylvania Corporation	

Attachments: In addition to the data entered in this FRS, the Department requests scanned image(s) of a map view of the site indicating, at a minimum, the boundaries of the "site" relative to the locations of the adjacent property boundaries. The location of the site (as defined by Act 2) is that which will receive the liability relief conveyed by Act 2, Chapter 5. The maps may portray other features but should clearly show the Act 2 site boundaries. You may also attach other applicable image files or attachments. These files should be in Adobe Acrobat (*.pdf), GIF (*.gif) or JPEG file interchange format (*.jpg).



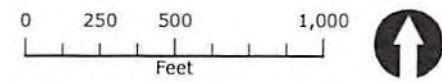
SCALE 1:24,000





- Miller Chemical Property
- Other Off-Site Properties
- Met-Ed Property
- Visibly Affected Area

Notes:
 (1) Location of the visibly affected area is based on the 8/28/2015 and 9/21/2015 surveys conducted by GHI and on GPS measurements collected by Ramboll Environ Staff. North of the Whisler Property, the location of the visibly affected area is based on field observations.
 (2) Visibly affected area on the Miller Chemical property is not shown on this figure.



FINAL REPORT

Revision **1.1**
Date **December 1, 2016**
Prepared by **Kevin Long and Christopher Bowles**
Checked by **Sarah Stoneking**
Approved by **J. Mark Nielsen**
Description **Final Report**
Metropolitan Edison Company North Hanover Substation
Radio Road, Hanover, Pennsylvania

Ref **01-137782A**

FINAL REPORT

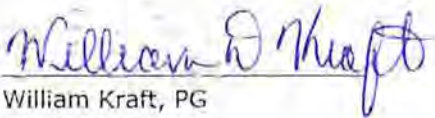
Pursuant to the requirements of the Pennsylvania Land Recycling and Environmental Remediation Standards Act (Act 2), adopted August 16, 1997, which state that:

Interpretation of geologic and hydrogeologic data shall be prepared by a professional geologist licensed in this Commonwealth

I hereby attest that, as a Professional Geologist licensed in the Commonwealth of Pennsylvania, I am familiar with, and have reviewed and/or prepared the interpretation of the geology and hydrogeology presented in the attached report entitled:

Final Report, Metropolitan Edison Company North Hanover Substation, Radio Road, Hanover, Pennsylvania, dated December 2016.

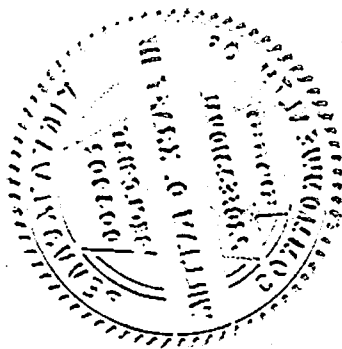
Based on the available data represented in the report, I believe that the geologic and hydrogeologic interpretations made herein are reasonable and accurate.



William Kraft, PG

PG-003902

Expires September 30, 2017



Handwritten signature or mark, possibly 'J. M. ...'.

[Faint, illegible typed text, likely a letter or report body.]

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Appendix B: Zoning Documents
Appendix C: Waste Disposal Documentation – Conduit Vault Clean-Out
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1. INTRODUCTION

On behalf of Miller Chemical & Fertilizer, LLC (Miller Chemical), Ramboll Environ US Corporation (Ramboll Environ) has prepared this Final Report for the Metropolitan Edison Company North Hanover Substation owned by Metropolitan Edison (Met-Ed) and located along Radio Road in Hanover, Conewago Township, Adams County, Pennsylvania (Figure 1-1). This RI and Final Report presents the results of investigation activities conducted to evaluate potential impacts relating to the mobilization of fertilizer constituents from the Miller Chemical property by fire water during and subsequent to emergency fire-fighting response efforts at the Miller Chemical facility on June 8, 2015. Sections 1.1 and 1.2 of this report provide information relating to the Miller Chemical operations and the fire. Section 2 of this report provides background information relating to the Met-Ed parcel operations and setting, and surrounding area geology, hydrogeology, and meteorology. A summary of the soil investigation activities and modifications to the *Miller Chemical & Fertilizer, LLC, 170 Radio Road, Hanover, Pennsylvania Off-Site Act 2 Soil Sampling and Analysis Plan* (the "SAP") are described in Section 3 of this report. Section 4 contains a discussion of restoration activities that have occurred on the Met-Ed site as part of the emergency response to the fire. Section 5 presents the soil sampling results and Section 6 contains a demonstration of attainment of applicable soil standards. Section 7 of this report presents the conclusions of the ecological risk review. Section 8 provides a summary of conclusions.

The investigation activities described herein were conducted pursuant to the requirements of the Land Recycling and Environmental Standards Act (Act 2) as set forth in Title 25, Chapter 250 regulations, promulgated by the Pennsylvania Department of Environmental Protection (PADEP). The purpose of this report is to demonstrate attainment of Statewide Health Standards (SHS) for compounds evaluated in soil at the Met-Ed site and qualification for a Relief of Liability pursuant to Act 2.

A Notice of Intent to Remediate (NIR) was submitted to PADEP on March 30, 2016. A copy of the NIR was also submitted to the local municipality (Conewago Township) and a legal notification was published in the Hanover Evening Sun. The NIR states that chemicals of concern (COCs) will be addressed under the SHS under the assumption that the parcel will remain in use for commercial (non-residential) purposes. Copies of notification documents are included in Appendix A.

Emergency fire-fighting response activities also affected other properties. Separate NIRs will be submitted to demonstrate attainment for COCs evaluated in soil at other affected properties; in addition, as discussed with, and agreed upon by PADEP, demonstration of attainment with Act 2 standards for groundwater will be submitted under a separate NIR and will be evaluated holistically across all affected parcels.

1.1 Miller Chemical Information

The Miller Chemical facility is located at 120, 150, and 170 Radio Road in Hanover, Conewago Township, Adams County, Pennsylvania and is approximately 13-acres in size. The Miller Chemical property was first developed in the late 1930s as a fertilizer manufacturing facility and was operated by Union Fertilizer from the late 1930s until the mid-1940s as a fertilizer manufacturing facility. The property was acquired by Miller Chemical and Fertilizer Corporation in the mid-1940s and was operated by Miller Chemical

and Fertilizer Corporation for fertilizer and pesticide formulation. By the early 1990s, the facility began shifting operations to fertilizer blending, and pesticide handling was limited to repackaging until 1995 when all pesticide handling operations ceased. Miller Chemical & Fertilizer, LLC acquired the Miller Chemical property and the assets of the business in 2014 and operated the facility for the formulation and packaging of fertilizers.

At the time of the fire, the Miller Chemical property was developed with an approximately 96,000-square foot main (production and warehouse) building, which was located in the center of the property (170 Radio Road), and three smaller buildings used for administrative activities (120 Radio Road), and for maintenance and document storage (150 Radio Road).

The areas surrounding the current and former buildings are landscaped with grass and other vegetation; re-construction activities are ongoing at the Miller Chemical property. A storm water retention pond is located northeast of the former building and connects to a storm water ditch located along the northern edge of the Miller Chemical property.¹

1.2 History of Events

At approximately 3:30 am on Monday, June 8, 2015, emergency responders were alerted to a fire at the Miller Chemical production and warehouse facility located south of the Met-Ed site. No one was inside the building at the time and no injuries occurred while fighting the fire. Firefighters applied a large volume of water to extinguish the fire, as well as firefighting foam believed to be Universal Gold Alcohol Resistant Aqueous Film Forming Foam. A heavy rainfall occurred during the fire. Despite efforts to contain firefighting water and rainwater in the Miller Chemical property's retention pond and a series of connected pits excavated on the northwestern portion of the Miller Chemical property during the fire, runoff from firefighting activities traveled across various parcels, including Met-Ed, towards Slagle's Run north of the Miller Chemical property (Figure 1-2). More specifically, the majority of the fire water flowed across the Miller Chemical property to a ditch running east-west along the north side of the Miller Chemical property, with a portion of the water flowing across the Miller Chemical property to a ditch running south-north along the west side of the property. Water in both ditches flowed to the northwest corner of the Miller Chemical property and through a culvert beneath Radio Road into the southwest corner of the Met-Ed property. During the early firefighting efforts, water also appears to have overtopped the drainage ditch on the Miller Chemical property and flowed across Radio Road onto the southwestern portion of the Met-Ed property. Approximately 1.4 acres of the Met-Ed site were visibly affected by the fire water. From the Met-Ed property, most of this water flowed through a corrugated metal drainage pipe beneath the CSX Transportation (CSX) rail tracks and onto the Bare Development property to the west, eventually discharging to Slagle's Run after crossing the Whisler property. A small portion of fire water flowed north along the east side of the CSX rail tracks to the Family First Health Corporation property.

Subsequent to the fire, water and storm water runoff generated at the Miller Chemical property was pumped into a number of above ground storage containers (i.e., frac tanks) located at the Miller Chemical property. In an effort to control additional storm water runoff from reaching Slagle's Run in the days after the fire, several trenches and pits were

¹ These observations are current as of May 2016. Ramboll Environ notes that reconstruction activities are ongoing at the Miller Chemical property, thus site conditions are changing daily.

excavated within the adjacent agricultural fields near Slagle's Run; these pits have since been filled. In addition, a 1-million-gallon water holding tank (the "pool") was constructed on the adjacent Bare Development parcel to increase storm water runoff holding capacity. Water was pumped into the pool from the surrounding pits and drainage areas. A number of berms and other storm water diversions were also placed on the Miller Chemical property and on the agricultural parcels to reduce the flow of storm water from upgradient properties onto the Miller Chemical property and affected properties and to separate storm water from affected areas and unaffected areas.

2. SITE SETTING

2.1 Site Description

The Metropolitan Edison Company North Hanover Substation (the "site") is located along the northern side of Radio Road in Hanover, Conewago Township, Adams County, Pennsylvania and comprises approximately 13 acres. The location of the site is shown on the United States Geological Survey (USGS) topographic map for the McSherrytown quadrangle (Figure 1-1). Met-Ed operates an electrical substation and the site is improved with high-voltage transformers and a power distribution bus grid located in the central and southwestern areas, respectively, and a one story structure that occupies approximately 650 square feet located in the south-central area. The site is accessed from Radio Road at the southeastern site boundary. The access road is surfaced with asphalt and leads to an asphalt-paved parking area adjacent to the small structure. Maintenance roads and areas surrounding the transformers and distribution grid are covered with gravel; remaining areas within the fenced site are landscaped with grass. An undeveloped field, which is owned by Met-Ed, is located north of the fenced site.

The affected area of the Met-Ed site includes the electrical power distribution bus grid, which is underlain by a series of vaults through which subsurface cables run from the transformer area to the bus grid. The area beneath the bus grid is surfaced with gravel. In addition, an electrical grounding grid is present at a depth of approximately 8 to 12 inches below grade throughout the affected area.

2.2 Site History

Based on a review of a historical aerial photographs and topographic maps and on discussions with Met-Ed personnel, the site appears to have been developed for use as an electrical substation as early as 1937. Based on Ramboll Environ's review, it does not appear that the site has been used for any other industrial or commercial purpose.

2.3 Climate

Hanover, Pennsylvania has an average annual temperature of 53 degrees Fahrenheit, average annual humidity of 72%, and averages approximately 39 inches of precipitation annually.² Approximately half of the annual precipitation returns to the atmosphere through evapotranspiration. The amount of precipitation that recharges to groundwater in this region of Pennsylvania typically averages approximately 30% of the total precipitation amount, with the rest flowing into surface water bodies (Reese & Risser, 2010). This suggests that approximately 11.7 inches of precipitation reaches groundwater per year; although factors such as soil type, precipitation rates, ratio of pervious to impervious surfaces, and the slope of the ground will impact the infiltration rate.

2.4 Topography

Topography at the site is generally characterized by a gentle slope to the northwest. Surface elevations range from approximately 560 feet above mean sea level (AMSL) in the southeast corner of the Met-Ed site to 540 feet AMSL in the northwest corner of the site. The Met-Ed

² <http://www.usclimatedata.com/climate/hanover/pennsylvania/united-states/uspa0672;>

[http://www.wunderground.com/personal-weather-station/dashboard?ID=KPAHANOV9,](http://www.wunderground.com/personal-weather-station/dashboard?ID=KPAHANOV9)

site is bounded on the west side by the CSX rail line, which is situated on an approximately 4 foot high berm. As such, storm water at the Met-Ed property generally flows through the storm water pipe beneath the CSX rail line to the west or northward along the CSX rail line. More generally, within the surrounding area, storm water typically flows north and west.

2.5 Site and Surrounding Area Geology/Hydrogeology

The site is located within the southwestern portion of the Piedmont Lowland Section of the Piedmont Province. The Piedmont Lowland Section consists of karst valleys separated by broad, low hills (Sevon, 2000). The rock is complexly folded and faulted and dominantly consists of limestone and dolomite with some shale and sandstone. The Conestoga Limestone crops out within the site vicinity. This formation dominantly consists of thinly-bedded, dark-gray limestone with some shale. Underlying the limestone is black to dark-gray shale and limestone, which may be over 1,000 feet in thickness (Taylor & Royer, 1981).

According to the United States Department of Agriculture (USDA) Natural Resources Conservation Service (NRCS) Web Soil Survey, the natural surface soils within the vicinity of the site are primarily identified as the Conestoga silt loam, which is characterized as well drained.³ A smaller portion of the site (along the western boundary) contains the Dunning silty clay loam, which is characterized as very poorly drained.

A drainage swale, which receives storm water flow from the Miller Chemical property via a culvert under Radio Road, runs northward approximately 220 feet from the southwest corner of the Met-Ed property to a corrugated metal pipe which directs water west beneath the CSX tracks into a wetland located on the Bare Development property. The wetland drains into a dry ditch (referred to as the "dry creek"), which eventually drains to Siagle's Run, a tributary of the South Branch of Conewago Creek, after crossing the Whisler parcel.

2.6 Current and Future On-site Land Use

As discussed in Section 2.1, Met-Ed operates an electrical substation on the site and the parcel is improved with high-voltage transformers and a power distribution bus grid. An undeveloped field occupies the northern portion of the parcel. The site is currently zoned for commercial land use (i.e., Highway Commercial) by Conewago Township.⁴ The Conewago Township Comprehensive Plan (the "Comprehensive Plan;" 2008)⁵ calls for the parcel to remain in use for commercial purposes. The Comprehensive Plan notes that portions of the parcel may be designated as conservation zone. Based on conversations with Met-Ed, Met-Ed characterizes the substation as critical infrastructure and the anticipated future use is as an electrical substation. As such, future non-commercial/industrial land use is not reasonably expected on this parcel. Zoning documents are provided in Appendix B.

2.7 Current and Future Surrounding Land Use

The Met-Ed site is bounded to the west by the CSX rail line, beyond which is the property owned by Bare Development and by the Whisler family. The Bare Development and Whisler properties are primarily agricultural land with some wetland areas. A radio station is located

³ <http://websoilsurvey.nrcs.usda.gov>

⁴ <http://www.conewagotwp.org/departments/zoning-codes/>.

⁵ <http://www.conewagotwp.org/departments/zoning-codes/comprehensive-plan/>.

further west. The properties immediately to the north are currently used for commercial purposes. The Met-Ed property is bounded to the east by a school and to the southeast by a single residence. The site is bounded to the south by Radio Road, beyond which, is the Miller Chemical property. These land uses are generally consistent with Conewago Township's current zoning which notes properties to the north and east as being zoned for a combination of commercial and industrial purposes, properties west of the site for a combination of agricultural and commercial use, properties to the northwest for agricultural and woodlands use, while properties to the south are zoned for industrial purposes. The Comprehensive Plan calls for the future land use of parcels surrounding the Met-Ed parcel to remain similar to current land use with the exception of portions of the land north, west, and south of the Met-Ed parcel which may be designated in the future as conservation zones or land to the northwest, which may be designated as agricultural land.

2.8 Groundwater Use

To evaluate groundwater use at properties in the vicinity of the site, Ramboll Environ conducted a water well search in June 2015 that was subsequently updated in February 2016. The water well survey identified 15 withdrawal water wells (commercial, domestic, industrial, and/or agricultural) and 64 wells used for other purposes (monitoring, observation, injection, mine, test, unused) within a 1-mile radius of the Miller Chemical property (Figure 2-1); the nearest domestic water well was identified approximately 2,100 feet southeast of the Met-Ed site. In addition, a nearby land owner noted that a spring is located in the vicinity of a residence on the Whisler Property, approximately 2,600 feet west of the dry creek.

Groundwater is not currently used at the site. With the exception of the spring located at the residence on the Whisler property (approximately 2,600 feet northwest), no drinking water supply wells or springs were identified within a one mile radius in the presumed downgradient direction (i.e., to the north or northwest). In the future, while it is expected that the water will continue to be provided to the site and surrounding parcels by Hanover Municipal Water Works, Ramboll Environ did not identify local ordinances that would restrict the future installation of potable or non-potable wells at or in vicinity of the site; as such, the future use of groundwater as a drinking water source cannot be ruled out.

Potential groundwater effects related to the fire at the Miller Chemical property will be assessed separately.

3. SOIL CHARACTERIZATION SCOPE OF WORK

Ramboll Environ conducted soil sampling activities as described in the SAP, which at the request of Miller Chemical, was reviewed and approved by PADEP November 3, 2015, and subsequently revised to respond to additional off-site property owner comments. The sampling activities were conducted in accordance with the approved SAP with the following modification:

- Four boundary samples (MET-PER-06, MET-PER-07, MET-PER-08, and MET-PER-09) were collected within the visibly affected area along the western and southwestern boundary of site, adjacent to the fence line separating the site from the CSX right-of-way and Radio Road. These boundary samples were treated as visibly affected area samples for data evaluation purposes (see Section 5).
- Ramboll Environ collected samples from Met-Ed prior to the inclusion of boron, calcium, magnesium, and vanadium, to the analyte list. As such, these constituents were not analyzed in samples collected on the Met-Ed property.⁶

3.1 Pre-Mobilization Activities

Pre-mobilization activities included a preliminary meeting with representatives of Met-Ed, preparation of a site Health and Safety Plan (HASP), mark-out of public subsurface utilities by the Pennsylvania One-Call service, participation in electrical safety training, preparation of a topographic survey by a licensed land surveyor, and field mapping of the visibly-affected areas.

3.2 Soil Sample Collection

Ramboll Environ conducted the soil sampling activities on September 9, 2015 and September 10, 2015. Soil sampling activities included the collection of a total of twelve background soil samples (MET-BACK-01 to MET-BACK-12), twelve visibly affected area samples (MET-BASE-01 to MET-BASE-12), and nine delineation (or boundary) samples (MET-PER-01 to MET-PER-09). As noted above, four of these boundary samples were collected along the property boundary but within visibly affected areas. The sampling locations are depicted on Figure 3-1. Ramboll Environ also collected two duplicate soil samples and one equipment rinse blank for quality assurance purposes.

Soil samples were collected from a depth of 0 to 2 inches below ground surface (bgs) using fiberglass trowels. Collection of deeper samples was not conducted since the Met-Ed property is underlain by a grounding grid that is necessary for safe operation of the substation. In addition, tools that facilitate the collection of subsurface soil samples could not be safely deployed beneath or in close proximity to the electrical power distribution bus grid. Ramboll Environ discussed with Met-Ed options that might allow for collection of samples at greater depth (e.g., whether electrical power could temporarily be diverted from the substation to facilitate sampling at slightly greater depth using hand tools), but representatives of Met-Ed indicated that this was not a viable option. Ramboll Environ

⁶ Ramboll Environ notes that boron and vanadium were not detected at concentrations of concern (i.e., above applicable Pennsylvania Act 2 standards) on other parcels affected by fire water flows; there are no applicable Pennsylvania Act 2 standards for calcium and magnesium concentrations in soil.

subsequently discussed this limitation with PADEP and obtained concurrence that site conditions do not allow for the collection of at-depth samples at the Met-Ed property.

Background samples were collected as discrete, grab samples from unaffected locations of the Met-Ed site. Visibly affected area samples and boundary samples were collected as five point composite samples. As discussed with PADEP as part of sample planning, locations for visibly affected area samples were biased toward more visibly affected soils or areas that experienced more substantial water flow.

Soil samples were packaged in laboratory-provided containers, labelled, placed on ice, and delivered under chain-of-custody protocols to Phase Separation Science, Inc. (PSS) and ALS for laboratory analysis. These laboratories are Pennsylvania certified for the constituents that were analyzed (listed below in Section 3.4).

3.3 Analyte Selection Process

Ramboll Environ conducted a review of available information from Miller Chemical and PADEP to evaluate potential analytes that could have been present in fire water flows, and to identify the list of potential COCs. This review began with an assessment of broad spectrum sampling data from affected soil and fire water and then extended to a review of Miller Chemical's chemical inventories and product composition information. More specifically, Ramboll Environ relied upon the following information sources:

- Analytical results for fire water samples collected on-site immediately following the fire and analyzed for an extensive analyte list (as described in Section 3.3.1);
- Analytical results for soil samples collected from the visually worst-affected areas of the Miller Chemical property shortly following the fire (e.g., the on-site drainage ditch) and analyzed for an extensive analyte list (as described in Section 3.3.1);
- Product and raw materials inventories review; and
- Consideration of data that PADEP collected immediately after the fire.

3.3.1 Fire Water Analysis

Environmental Products & Services of Vermont, Inc. (EPS), the emergency response contractor appointed by Adams County, collected a sample of fire water on June 9, 2015. The sample was submitted to Pace Analytical Services, Inc. in Greensburg, Pennsylvania for analysis of the parameters listed below, and certain additional waste characterization parameters, such as pH, flashpoint, etc.:

- Total phosphorus by Standard Method (SM) 4500-P E;
- TKN by USEPA Method 351.2;
- Nitrate (as N) by SM 4500-NO₃ F;
- Nitrite by Method SM 4500-NO₂ B;
- Metals including: antimony, arsenic, barium, beryllium, cadmium, chromium (total), copper, lead, nickel, selenium, silver, thallium, and zinc by USEPA Method 6010B;
- Mercury by USEPA Method 7470A;

- Toxicity characteristic leaching procedure (TCLP) pesticides by USEPA Method SW-846 8081A;
- Polychlorinated biphenyls (PCBs) by USEPA Method SW-846 8082;
- TCLP metals by USEPA Method SW-846 6010B;
- TCLP semi-volatile organic compounds (SVOCs) by USEPA Method SW-846 8270C;
- TCLP VOCs by USEPA Method SW-846 8260B;
- Reactive cyanide by USEPA Method SW-846 7.3.3.2;
- Reactive sulfide by USEPA Method SW-846 7.3.4.2; and
- TCLP herbicides by USEPA Method SW-8406 8151A (analyzed by Summit Environmental Technologies, Inc.).

Results for the fire water analysis were non-detect for leachable (TCLP) pesticides, PCBs, leachable (TCLP) SVOCs, leachable (TCLP) VOCs, reactive cyanide, and reactive sulfide. Certain of the metals were also non-detect. Detected constituents and parameters included total phosphorus, TKN, nitrate, nitrite, sulfate, certain metals, and select leachable (TCLP) metals including arsenic, chromium (total), and lead.

3.3.2 On-Site Surface Soil

On June 15, 2015, Ramboll Environ collected a surface soil sample from a heavily impacted drainage ditch along the northern boundary of Miller Chemical property. This sample was submitted for laboratory analysis of the following constituents:

- Total phosphorus (as P) by USEPA Method 365.1;
- Total Kjeldahl nitrogen (TKN) by Standard Method (SM) 4500-NH3 C-1997;
- Nitrate (as N), nitrite (as N), and sulfate by USEPA Method 300.0;
- Target Analyte List (TAL) metals including: aluminum, antimony, arsenic, barium, beryllium, cadmium, chromium (total), cobalt, copper, iron, lead, manganese, mercury, nickel, potassium, selenium, silver, sodium, thallium, and zinc by USEPA Method SW-846 6020A;
- Organochlorine pesticides by USEPA Method SW-846 8081B;
- Chlorinated herbicides by USEPA Method SW-846 8151A;
- TCLP metals by USEPA Method SW-846 6020A;
- TCLP organochlorine pesticides by USEPA Method SW-846 8081B;
- TCLP chlorinated herbicides by USEPA Method SW-846 8151A;
- TCLP volatile organic compounds (VOCs) by USEPA Method SW-846 8260B;
- Organophosphorus compounds by USEPA Method SW-846 8141B; and
- TCLP organophosphorus compounds by USEPA Method SW-846 8141B.

Results for the soil sample were non-detect for chlorinated herbicides, leachable (TCLP) metals, leachable (TCLP) organochlorine pesticides, leachable (TCLP) organochlorine herbicides, leachable (TCLP) VOCs, and organophosphorus compounds. A single

organochlorine pesticide (methoxychlor) was detected at a concentration of 1.2 milligrams per kilogram (mg/kg) in the soil sample. The measured concentration of methoxychlor is well below the Statewide Health Standards of 630 mg/kg for protection of groundwater and 1,100 mg/kg for direct contact at residential properties. Ramboll Environ also notes that methoxychlor was not detected in subsequent, additional soil characterization samples collected from the Miller Chemical property. Remaining detected parameters included total phosphorus, TKN, nitrate, nitrite, sulfate, and certain metals.

3.3.3 Chemical Inventory Review

As part of the chemical inventory review, Ramboll Environ reviewed product and raw materials inventories provided by Miller Chemical (including estimates of the amount of material present on the Miller Chemical property at the time of the fire and, for certain materials, estimates of the amount of material recovered after the fire). Ramboll Environ also interviewed representatives of Miller Chemical regarding chemical use and reviewed safety data sheets (SDSs) and other publicly available information (e.g., product labels) regarding the composition of materials listed on the inventories.

More specifically, Ramboll Environ reviewed chemical composition information listed on SDSs and labels provided by Miller Chemical or available through Miller Chemical-specific online portals. Ramboll Environ also reviewed other publicly available SDS repositories not associated with Miller Chemical to identify SDSs associated with Miller Chemical. Given the overall number of chemicals present on-site and the range in quantities, more detailed chemical composition review was conducted for products present at the time of the fire in quantities in excess of 75,000 pounds (this quantity was selected based on an estimate of the volume of firewater that flowed off the Miller Chemical property and potential resulting average contaminant concentrations). The chemical composition review was focused on identifying additional analytes of potential concern.

3.3.4 Selection of Analytes of Potential Concern

Based on the results for analyses of on-site soil and fire water, the review of Miller's chemical use and inventory, Ramboll Environ ruled out the following constituents of concern:

- Pesticides - No pesticides other than methoxychlor were detected in the samples described above and Miller Chemical did not store or use pesticides on-site at the time of the fire. Methoxychlor was identified in only a single soil sample and was not detected in fire water, surface water, or in samples collected during subsequent characterization of visibly-affected soils. As such, pesticides were not retained as constituents of concern for the purposes of the Act 2 investigation.
- Herbicides - No herbicides were detected in the samples described above and Miller Chemical did not store or use herbicides at the site at the time of the fire. As such, herbicides were ruled out as a constituent of concern associated with the fire.
- VOCs/SVOCs - Neither VOCs nor SVOCs were detected in the characterization samples described above. It is likely that volatile compounds within materials stored at the site were consumed by the fire. Ramboll Environ did not identify materials in the chemical and raw material inventory containing appreciable SVOCs.
- PCBs - PCBs were not detected in the characterization samples and Miller Chemical did not use or store PCBs at the Miller Chemical facility. As such, PCBs were not retained as a constituent of concern for the Act 2 investigation.

- Reactive cyanide and sulfide – Neither reactive cyanide nor sulfide were detected in the characterization samples discussed above. Further, these compounds are not anticipated based on chemical inventory information. As such, these compounds were ruled out as constituents of potential concern for the Act 2 investigation.

The following analytes were retained as potential constituents of concern:

- TAL metals (aluminum, antimony, arsenic, barium, beryllium, cadmium, total chromium, cobalt, copper, iron, lead, manganese, mercury, nickel, potassium, selenium, silver, sodium, thallium, and zinc) plus molybdenum;
- Total Kjeldahl nitrogen, nitrate, and nitrite;
- Sulfate; and
- Total phosphorus⁷.

3.4 Off-Site Act 2 Soil Sample Analysis

Based on the analyte selection process described above, soil samples were analyzed for the presence of the following compounds, in accordance with the SAP:

- Aluminum, antimony, arsenic, barium, beryllium, cadmium, total chromium, cobalt, copper, iron, lead, manganese, mercury, nickel, potassium, selenium, silver, sodium, thallium, zinc plus molybdenum by SW-846 6020A (submitted to PSS)⁸;
- Total Kjeldahl nitrogen by Standard Method (SM) 4500-NH₃ C-1997 (submitted to ALS);
- Nitrate (as N) by United States Environmental Protection Agency (USEPA) method 300.0 (submitted to ALS);
- Nitrite (as N) by USEPA method 300.0 (submitted to ALS);
- Sulfate by USEPA method 300.0 (submitted to ALS); and
- Total phosphorus (as P) by USEPA method 365.1 (submitted to ALS).

In addition, one representative soil sample was collected and submitted to Schnabel Engineering, Inc. for soil grain-size analysis.

3.5 Quality Assurance/Quality Control

Chain-of-custody documents and field log books were maintained for all samples. Sample locations were recorded using both a Trimble GeoXH GPS and traditional survey methods.

To evaluate the repeatability of the sampling procedures, one duplicate sample per 20 samples was collected during the sampling event, resulting in the collection and analysis of two duplicate soil samples.

⁷ Ramboll Environ notes that no MSCs have been developed for TKN, sulfate or phosphorous and toxicity data to support the calculation of MSCs for these constituents was not identified. Nevertheless, these constituents were analyzed to support the investigation of the presence of impacts associated with fertilizer products.

⁸ Ramboll Environ collected samples from the Met-Ed property prior to the inclusion of calcium, magnesium, vanadium, and boron to the analyte list. As such, these constituents were not analyzed in samples collected on the Met-Ed property.

To evaluate the repeatability of the sampling procedures, one duplicate sample per 20 samples was collected during the sampling event, resulting in the collection and analysis of two duplicate soil samples.

Re-useable sampling equipment was decontaminated using appropriate procedures including a non-phosphate detergent wash, followed by a double de-ionized water rinse. One equipment rinse blank was collected from a decontaminated fiberglass trowel to document the effectiveness of equipment decontamination methods. Laboratory-provided deionized water was poured over the trowel into laboratory provided containers. The sample was submitted to the laboratory for the constituents identified in Section 3.4.

The analytical laboratory employed standard QA/QC practices including the analysis of internal laboratory duplicates, reagent blanks, method blanks, matrix spikes and matrix spike duplicates, surrogate spikes, laboratory control samples, and continuing calibrations. Analytical data was reviewed and validated prior to reporting by Laboratory Data Consultants, Inc. (LDC).

Forms summarizing the analytical data were checked and the overall completeness of the data packages was evaluated. Completeness checks were administered on all data to determine whether all necessary deliverables were present. Data validation included a complete review of all technical holding times; the instrument performance check sample results, initial & continuing calibration results, blanks, surrogate spikes, matrix spikes/matrix spike duplicates and laboratory control sample results; internal standards; target compound identification and quantitation; and system performance checks.

3.5.1 CSX Waste Characterization Sample

One soil characterization sample for material cleaned from the culvert running from the Met-Ed property beneath the CSX railroad tracks and from the exit of the culvert was received at the analytical laboratory at a temperature of 8 degrees Celsius. The soil sample was collected on the afternoon of August 11, 2015 and delivered to the analytical laboratory the following day (within 24 hours of sample collection). Given the time of collection on August 11, the sample could not be delivered to the analytical lab prior to closing that day. Ramboll Environ delivered the sample to the laboratory on the following day at the earliest possible time, following the collection of additional samples on August 12, 2015. Ice in the cooler was replaced on August 12 to maintain the sample at the required temperature. The analytical data report indicates that the temperature of the cooler was above the standard 6 degree Celsius temperature (i.e., at 8 degrees Celsius) but that ice was present in the cooler. Contaminants of concern are metals and fertilizer constituents (i.e., nitrogen, phosphorous). These constituents either do not degrade or transform with increased temperature or do not degrade or transform at a rate sufficient to affect the analytical results at a temperature of 8 degrees Celsius. Thus, it is not anticipated that the slightly higher-than-optimal sample temperature of 8 degrees Celsius versus 6 degrees Celsius upon arrival at the analytical lab would have adversely affected the results for the constituents of concern. As such, the results are considered valid.

3.5.2 Estimated Results Equivalent to MSC Values

Results for manganese reported for samples MET-BACK-02-20150909 and MET-BASE-10-20150910 are equal to the Soil-to-Groundwater medium specific value of 2,000 milligrams

per kilogram (for residential used aquifer with TDS \leq 2,500 milligrams per liter). These two results were qualified "J" as estimated during data validation because the recovery for manganese in the inductively coupled plasma (ICP) interference check standard (ICS) associated with the samples was 121%, which exceeds the method control limit of 120%. Per the *National Functional Guidelines* (USEPA, 2010), results associated with ICS above 120% are qualified J as estimated for a potential high bias. In this case the actual percent recovery was 121%, just above the control limit; therefore, it is not expected that these results would be significantly biased. Further, the associated bias would be high if realized. Therefore, if the results reflect a high bias, then the actual sample concentration would be lower than, rather than equal to, the screening criteria. These data have been validated for use in characterizing the site relative to MSCs.

4. INTERIM RESTORATION MEASURES

As part of the emergency response to the fire, certain restoration activities occurred prior to the preparation of this report. These measures are described in further detail below and include:

- Clean-out of electrical conduit vaults;
- Placement of gravel and sod in impacted areas; and
- Clean-out of the culvert underneath the adjacent CSX rail line.

4.1 Electrical Conduit Vault Clean-out

During the fire-fighting efforts, fire water flowed onto the Met-Ed parcel and beneath the electrical power distribution bus grid. A series of sub-surface electrical conduit vaults are present beneath the bus grid, and fire water infiltrated into the vaults. To address concerns regarding the potential for the fire water to degrade the electrical conduits, the vaults were cleaned. On August 28th, 2015, Veolia North America (Veolia; Met-Ed's contractor) vacuumed remaining fluid from the vaults and subsequently pressure washed the vault walls and conduit lines. Ramboll Environ observed and documented the activities in a field notebook. Wash water that did not infiltrate into the ground was pumped out of the vaults by Lewis Environmental (Veolia's subcontractor) and transferred into 275-gallon totes. The rinse water was characterized to determine appropriate disposal options and was disposed of off-site by representatives of Met-Ed.⁹ Four 275-gallon totes (approximately 1,100 gallons) of water were collected for off-site disposal. The disposal documentation is included as Appendix C to this report.

4.2 Placement of Gravel and Sod Cover

To restore the site surface to pre-existing conditions, Stewart and Tate, Inc. (Stewart and Tate; Met-Ed's contractor) covered the majority of the visibly affected area with gravel and sod between October 21, 2015 and November 6, 2015. Ramboll Environ observed and documented these activities. The restoration plan was designed in cooperation with representatives of Met-Ed. Specifically, the drainage swale located along the western boundary of the site, adjacent to the CSX railroad, was re-graded and four inch rip rap stone (4R stone) was placed inside the swale (Figure 4-1). Four inches of clean washed, ¾" crushed quarry stone (2B stone) was placed in the majority of the visibly affected area previously covered in gravel. In a small area immediately north of the power distribution bus, a geotextile fabric was placed on top of the impacted area and then covered in #2B stone to accommodate small vehicular traffic. Areas north of the distribution bus, which were previously covered in grass, received additional topsoil and were subsequently covered in sod. The area immediately beneath the power distribution bus grid was left untouched.

4.3 Railroad Culvert Clean-out

To address potential residual fertilizer impacts within the culvert running from the Met-Ed property beneath the CSX railroad and discharging to the wetland on the west side of the

⁹ Because the vault clean-out activities were conducted by Met-Ed contractors, Ramboll Environ does not have access to waste characterization documentation, but a copy of an invoice relating to the water disposal has been provided.

CSX tracks, the entrance and exit to the culvert were cleaned out. The clean-out was facilitated by CSX personnel under the direction of WCD, and observed by Ramboll Environ on August 11, 2015. The culvert was visually inspected; no soil accumulation was observed within the interior of the culvert. In addition, visibly impacted soil within the CSX right-of-way on the west side of the CSX tracks was scraped and #4R stone was placed at the outfall.¹⁰

The scraped soil was removed, staged on the Miller Chemical property, characterized for appropriate disposal, and subsequently disposed at the Modern Landfill; the disposal documentation and analytical characterization report are included as Appendix D to this report. A tabular summary of the pre-disposal soil characterization results is also included in Appendix D. Material excavated from the culvert was analyzed for a full suite of waste disposal characterization parameters including pH, flashpoint, total organic carbon, leachable volatile organic compounds (VOCs), semi-volatile organic compounds (SVOCs), pesticides, herbicides, and target analyte list metals as well as for polychlorinated biphenyls (PCBs), nitrate, ammonia, and phosphorous. A total of 2.82 tons of soil was disposed off-site. Based on the results of the pre-disposal waste characterization testing, the material was disposed as non-hazardous waste.

¹⁰ The soil removal was conducted by CSX with oversight by WCD. The approximate extent of soil removal is depicted on Figure 3-1.

5. SITE CHARACTERIZATION RESULTS

As discussed above, soils on other affected parcels are being addressed under separate NIRs and reports. Groundwater will be addressed holistically for all affected parcels under a separate NIR and report.

5.1 Field Observations

Surface cover within visibly-affected areas of the Met-Ed parcel consisted of gravel and grass. One representative soil sample was collected from within the visibly affected area of the site at location MET-BASE-10 for analysis of soil grain size. Based on field observations and the results of the soil grain size analysis, shallow soils at the site are generally described as a dark gray clay with fine to coarse sand. Soil grain size analytical data sheets are included as Appendix E to this report.

5.2 Soil Sampling Results

A summary of detected constituents in site soil samples is provided in Table 5-1; soil sample locations are depicted on Figure 3-1. Copies of the full laboratory analytical data packages are included in Appendix F. The complete data validation package is included in Appendix G. Detected constituents include 18 metals (aluminum, arsenic, barium, beryllium, cadmium, chromium, cobalt, copper, iron, lead, manganese, mercury, molybdenum, nickel, potassium, sodium, thallium, and zinc), nitrate, nitrite, total Kjeldahl nitrogen, sulfate, and phosphorus. Antimony, selenium, and silver were not detected in soil samples collected from the Met-Ed property.

In order to help guide the RI field investigation and help to support a determination as to whether adequate sampling had been performed to characterize the nature and extent of potential soil contamination, detected soil concentrations were compared to the following applicable PADEP Statewide Health values:

- The value for non-residential direct contact within the upper two feet of soil (Non-Residential), and
- The value for migration from soil to groundwater (Soil-to-Groundwater)¹¹ pathways.¹²
- The Soil to Groundwater values for nitrate and nitrite were calculated consistent with 25 Pa. Code §250.308(a)(1) for nitrate and nitrite by selecting a "value which is 100 times the applicable MSC for groundwater identified in §250.304 (c) or (d) (relating to MSCs for groundwater), expressed as milligrams per kilogram of soil." For nitrate and nitrite, the applicable MSCs for groundwater identified in §250.304(c) are the Federal maximum contaminant levels (MCLs) established by the USEPA, of 10 milligrams per liter (mg/L) and 1 mg/L, respectively. Multiplication of these values by 100 results in Soil to

¹¹ For residential used aquifer with TDS ≤ 2,500 milligrams per liter (mg/L).

¹² Soil-to-Groundwater MSCs were developed consistent with 25 Pa. Code §250.308(a)(1) for nitrate and nitrite using the Federal maximum contaminant levels (MCLs) of 10 micrograms per liter (µg/L) and 1 µg/L, respectively, as target groundwater concentrations, since Pennsylvania has not developed groundwater MSCs for these chemicals. Soil-to-groundwater MSCs for aluminum, iron, phosphorus, potassium, sodium, and sulfate were not derived since these chemicals are either not toxic to humans at relevant concentrations or only have secondary MCLs.

Groundwater values of 1,000 mg/kg and 100 mg/kg, respectively for nitrate and nitrite in soil as shown below:

$$\text{Nitrate: } 10 \text{ mg/L} \times 100 = 1,000 \text{ (mg/kg)}$$

$$\text{Nitrite: } 1 \text{ mg/L} \times 100 = 100 \text{ (mg/kg)}$$

Maximum concentrations of detected constituents in soil were compared to the values for Non-Residential Direct Contact and Soil-to-Groundwater migration (Table 5-2). The medium specific concentration (MSC) is the lower of the Non-Residential Direct Contact value and the Soil-to-Groundwater value. The maximum detected concentrations of constituents in soil are below the applicable MSCs with the exception of arsenic, which was detected in visibly affected area samples¹³ at concentrations greater than the Non-Residential Direct Contact and Soil-to-Groundwater values. The only sampling location with an arsenic concentration greater than the Non-Residential Direct Contact value (53 mg/kg) and Soil-to-Groundwater value (29 mg/kg) is visibly affected area location MET-BASE-08, where arsenic was measured at an estimated concentration of 100 mg/kg.

As presented on Figure 5-1, the nature and extent of arsenic concentrations in soil was adequately characterized for assessment relative to Act 2 requirements. As such, no additional sampling is necessary in order to evaluate the potential significance of current and future receptor exposures to soil or to determine if remedial action would be warranted. The presence of arsenic in surface soil at concentrations exceeding the MSC was further evaluated using procedures set forth under the Act 2 program as discussed in Section 6 of this report.

¹³ Ramboll Environ notes that four of the boundary samples (MET-PER-06, MET-PER-07, MET-PER-08, and MET-PER-09) were collected from within the visibly affected area along the western and southern boundaries of the site, adjacent to the fence line; these four samples were treated as visibly affected area samples for data evaluation purposes.

6. DEMONSTRATION OF ATTAINMENT

Section 6.1 provides details and information necessary to demonstrate attainment of the SHS for arsenic in soil. Section 6.2 provides a summary of the evaluation performed regarding the potential significance of storm water runoff from the Met-Ed parcel.

6.1 Site Soil

As discussed in Section 5.2, the maximum detected concentrations of all constituents are below the MSCs, with the exception of arsenic, which was detected in one sampling location within the visibly affected area (i.e., MET-BASE-08) at a concentration greater than the Non-Residential Direct Contact and Soil-to-GW values of 53 mg/kg and 29 mg/kg (the lower of these two values is the MSC, or 29 mg/kg).

Arsenic concentrations in visibly affected area soils were further evaluated by calculating a 95% upper confidence limit (UCL) on the mean arsenic concentration for the distinct area of contamination consistent with 25 Pa. Code §250.707 (b)(1)(ii). Sampling data for locations observed to fall within the visibly affected area were included in the UCL calculation. This included boundary samples that were collected from within the visibly affected area along the western and southern boundaries of the site, adjacent to the fence line (i.e., MET-PER-06, MET-PER-07, MET-PER-08, and MET-PER-09). The UCL calculation was performed using USEPA's ProUCL software. The resulting 95% UCL on the mean for arsenic is 26 mg/kg, which is less than the MSC of 29 mg/kg.

As a sensitivity analysis, the UCL on the mean arsenic concentration for the distinct area of contamination was also calculated including sampling data for all locations that fall within the visibly affected area as well as those locations at the boundary of the visibly affected area. The resulting UCL on the mean for arsenic is 22 mg/kg, which is also less than the MSC of 29 mg/kg.

The results of these UCL calculations are provided in Appendix H.

This evaluation of arsenic concentrations in site soil, and the associated sensitivity analysis demonstrate that arsenic concentrations in shallow soil at the Met-Ed parcel within the distinct area of contamination (i.e., the visibly affected area) are in attainment of the SHS under the assumption that the parcel will remain in use for commercial/industrial (non-residential) purposes.

6.2 Surface Water/Storm Water

No permanent surface water bodies are present at the Met-Ed site. Storm water at the Met-Ed site primarily flows through the culvert, beneath the CSX rail line, onto the Bare Development property, and eventually discharges to Slagle's Run after flowing through the dry creek, northward, across the Whisler property.

Following the fire, Miller Chemical began collecting storm water runoff from the Miller Chemical property and affected off-site properties and disposing of the water at approved facilities. During this time, Ramboll Environ monitored fertilizer constituent concentrations in the collected storm water and also conducted routine sampling of the dry creek, Slagle's

Run, South Branch Conewago Creek, and Conewago Creek to evaluate potential impacts resulting from flow of storm water over visibly affected soils.

Ramboll Environ also calculated site specific benchmarks for surface water using PADEP's PENTOX model. The storm water benchmarks, which were designed to be protective of human health and aquatic life in Slagle's Run, were presented to PADEP in a memorandum dated September 3, 2015 and were subsequently approved (PADEP, 2015a). Fertilizer constituent concentrations in surface water and collected storm water declined over time, and upon confirmation that concentrations were below these benchmarks, PADEP granted Miller Chemical's request to permit storm water running over the off-site affected properties to be released to Slagle's Run along its original flow path. Following additional sampling on October 2, 2015, PADEP also agreed with Ramboll Environ that storm water running off the Miller Chemical Property could be released along its original flow path (PADEP, 2015b). Storm water has been allowed to flow freely from the off-site affected properties and the Miller Chemical site since October 1, 2015 and October 9, 2015, respectively, and measured concentrations of fertilizer constituents in surface water within Slagle's Run remain below the benchmarks.

Based on the results of storm water and surface water monitoring, storm water runoff over visibly affected soils on the Met-Ed site is not a concern and no further action is necessary to address overland flow of storm water to Slagle's Run.

6.3 Vapor Intrusion

As discussed in Section 3.3, constituents of concern relating to the fire and fire response activities at the Miller Chemical site do not include volatile compounds. As such, vapor intrusion is not a pathway of concern on the Met-Ed site.

7. ECOLOGICAL SCREENING ASSESSMENT

An area of visibly affected soil measuring approximately 1.4 acres has been identified at the Met-Ed site. In accordance with PA Code and the PADEP Technical Guidance Manual for ecological evaluations of sites remediated to the SHS (§250.311), no further ecological evaluation is required for the site because the area of soil impacts is less than two acres. However, Ramboll Environ conducted an assessment of potential ecological receptors at the site to determine if the potential for impact to species and or habitats of concern was present. The results of the Pennsylvania Natural Diversity Inventory (PNDI) search indicated that species and or habitats of concern are not present on or near the site; a copy of the PNDI search results is included as Appendix I. Based on the size of the visibly affected area and the results of the PNDI search, no further ecological risk evaluation is warranted for the site.

8. CONCLUSION

Emergency response actions associated with a fire at the Miller Chemical facility located south of the Met-Ed property on June 8, 2015 resulted in the migration of fertilizer constituents in fire water runoff, which flowed across an approximately 1.4-acre portion of the Met-Ed property. On behalf of Miller Chemical, Ramboll Environ investigated the nature and extent of soil impacts at the Met-Ed property. Soils were analyzed for a broad suite of potential contaminants of concern, including metals and other fertilizer constituents. Results of the soil sample analyses indicate that only arsenic was detected at a concentration exceeding the applicable Pennsylvania MSC. Consistent with 25 Pa. Code §250.707 (b)(1)(ii), Ramboll Environ further evaluated arsenic concentrations within visibly affected soils by calculating a 95% UCL on the mean. The calculated 95% UCL on the mean arsenic concentration (26 mg/kg) is less than the MSC (29 mg/kg). As such, soils within the affected area of the Met-Ed parcel are in attainment of the SHS, assuming the site use remains non-residential. Therefore, no further action is necessary.

Based on the above, Relief of Liability is being sought for the following compounds in soil at the Met-Ed property under the non-residential Statewide Health Standard:

- Aluminum, antimony, arsenic, barium, beryllium, cadmium, chromium, cobalt, copper, iron, lead, manganese, mercury, molybdenum, nickel, potassium, selenium, silver, sodium, thallium, and zinc;
- Nitrate and nitrite.

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TABLES

TABLE 5-1
Soil Sampling Results
Metropolitan Edison Company North Hanover Substation
Miller Chemical & Fertilizer, Hanover, Pennsylvania

Location Location Type Field Sample ID	Non-Residential Direct Contact Values (0-2ft)	Soil to GW Values - Used Aquifer - TDS <= 2500 - Non Residential	MET-BACK-01 Background MET-BACK-01-20150909 15091028-022 / 15091104-022 0 - 2 Grab 9/9/2015	MET-BACK-02 Background MET-BACK-02-20150909 15091028-023 / 15091104-023 0 - 2 Grab 9/9/2015	MET-BACK-03 Background MET-BACK-03-20150909 15091028-024 / 15091104-024 0 - 2 Grab 9/9/2015	MET-BACK-04 Background MET-BACK-04-20150909 15091028-001 / 15091104-001 0 - 2 Grab 9/9/2015
Lab Sample ID(s) Collection Depth (Inches bgs) Sample Method Sample Date Comments						
INORG						
Aluminum	190000		24000 (5300)	21000 (4900)	24000 (4600)	690 (49)
Arsenic	53	29	13 J (0.53)	10 J (0.49)	6.9 J (0.46)	2.4 J (0.49)
Barium	190000	8200	160 (2.7)	170 (2.4)	100 (2.3)	11 (2.5)
Beryllium	5600	320	U (2.7)	U (2.4)	U (2.3)	U (2.5)
Cadmium	1400	38	U (2.7)	U (2.4)	U (2.3)	U (2.5)
Chromium (total)	190000	190000	43 (2.7)	30 (2.4)	33 (2.3)	4.6 (2.5)
Cobalt	840	140	21 (2.7)	20 (2.4)	13 (2.3)	1.4 J (2.5)
Copper	100000	43000	17 J (2.7)	11 J (2.4)	13 J (2.3)	3 J (2.5)
Iron	190000		36000 J (5300)	29000 J (4900)	36000 J (4600)	4100 (490)
Lead	1000	450	35 (2.7)	37 (2.4)	25 (2.3)	16 J (2.5)
Manganese	130000	2000	1600 J (270)	2000 J (240)	750 J (230)	210 J (2.5)
Mercury	450	10	0.085 J (0.11)	U (0.098)	0.076 J (0.092)	U (0.098)
Molybdenum	14000	650	UJ (5.3)	UJ (4.9)	UJ (4.6)	U (4.9)
Nickel	56000	650	16 (2.7)	14 (2.4)	15 (2.3)	2 J (2.5)
Nitrate		1000	4.3 J (11.2)	1.4 J (11.6)	U (11.1)	0.62 J (10.4)
Nitrite	280000	100	U (2.2)	U (2.3)	U (2.2)	U (2.1)
Nitrogen			4390 J (84.5)	3580 (87.2)	3300 (83.2)	74 J (79.6)
Phosphorus (total)			618 (57.9)	505 (55.9)	461 (55.7)	198 J (53.2)
Potassium			1700 (53)	950 (49)	1200 (46)	270 J (49)
Sodium			UJ (34)	UJ (38)	UJ (54)	U (87)
Sulfate			5.6 J (112)	5.1 J (116)	6.9 J (111)	3.7 J (104)
Thallium	200	14	U (2.1)	U (2)	U (1.8)	U (2)
Zinc	190000	12000	140 J (11)	190 J (9.8)	62 J (9.2)	UJ (27)

Notes:

- All concentrations are presented in milligrams per kilogram (mg/kg).
- Only compounds with at least one detection are shown.
- Concentrations greater than the Non-Res. Direct Contact Values (0-2ft) are grey-shaded.
- Concentrations greater than the Soil-to-GW Values are double underlined.
- The MSCs for chromium III are used to evaluate chromium (total).
- The Soil to Groundwater values for nitrate and nitrite are 100x the Federal maximum contaminant level (MCL).
- Blank cells in columns with criteria indicate that no value has been established.

Abbreviations:

MSC - Medium specific criteria
U -- Not Detected.
J -- Estimated Concentration.
TDS -- Total Dissolved Solids.
() -- Reporting Limit.

**TABLE 5-1
Soil Sampling Results
Metropolitan Edison Company North Hanover Substation
Miller Chemical & Fertilizer, Hanover, Pennsylvania**

Location Location Type Field Sample ID	Non-Residential Direct Contact Values (0-2ft)	Soil to GW Values - Used Aquifer - TDS ≤ 2500 - Non Residential	MET-BACK-05 Background MET-BACK-05-20150909 15091028-002 / 15091104-002 0 - 2 Grab 9/9/2015	MET-BACK-06 Background MET-BACK-06-20150909 15091028-003 / 15091104-003 0 - 2 Grab 9/9/2015	MET-BACK-07 Background MET-BACK-07-20150909 15091028-004 / 15091104-004 0 - 2 Grab 9/9/2015	MET-BACK-08 Background MET-BACK-08-20150909 15091028-005 / 15091104-005 0 - 2 Grab 9/9/2015
Lab Sample ID(s) Collection Depth (Inches bgs) Sample Method Sample Date Comments						
INORG						
Aluminum	190000		1100 (45)	23000 (5600)	24000 (5300)	22000 (5600)
Arsenic	53	29	2.5 J (0.45)	7.6 J (0.56)	6.7 J (0.53)	7.3 J (0.56)
Barium	190000	8200	15 (2.3)	180 (2.8)	160 (2.6)	150 (2.8)
Beryllium	5600	320	U (2.3)	U (2.8)	U (2.6)	U (2.8)
Cadmium	1400	38	U (2.3)	U (2.8)	U (2.6)	U (2.8)
Chromium (total)	190000	190000	2.7 (2.3)	29 (2.8)	36 (2.6)	28 (2.8)
Cobalt	840	140	1.2 J (2.3)	17 (2.8)	17 (2.6)	14 (2.8)
Copper	100000	43000	3.4 J (2.3)	15 J (2.8)	14 J (2.6)	12 J (2.8)
Iron	190000		4300 (450)	28000 (5600)	29000 (5300)	28000 (5600)
Lead	1000	450	18 J (2.3)	33 J (2.8)	33 J (2.6)	32 J (2.8)
Manganese	130000	2000	330 J (23)	1700 J (280)	1200 J (260)	1100 J (280)
Mercury	450	10	U (0.09)	0.078 J (0.11)	0.06 J (0.11)	U (0.11)
Molybdenum	14000	650	U (4.5)	U (5.6)	U (5.3)	U (5.6)
Nickel	56000	650	1.7 J (2.3)	13 (2.8)	17 (2.6)	12 (2.8)
Nitrate		1000	2.2 J (10.2)	1.6 J (11.5)	2.7 J (11.2)	1.1 J (11.2)
Nitrite	280000	100	U (2)	U (2.3)	U (2.2)	U (2.2)
Nitrogen			155 (77.2)	4130 (87)	3730 (84.5)	3710 (83)
Phosphorus (total)			209 (50.8)	535 (286)	538 (283)	337 (270)
Potassium			250 J (45)	1500 J (56)	1400 J (53)	1400 J (56)
Sodium			UJ (90)	UJ (34)	U (53)	U (56)
Sulfate			4.9 J (102)	U (115)	6 J (112)	U (112)
Thallium	200	14	U (1.8)	U (2.3)	U (2.1)	U (2.3)
Zinc	190000	12000	UJ (32)	54 J (11)	51 J (11)	49 J (11)

Notes:

- All concentrations are presented in milligrams per kilogram (mg/kg).
- Only compounds with at least one detection are shown.
- Concentrations greater than the Non-Res. Direct Contact Values (0-2ft) are grey-shaded.
- Concentrations greater than the Soil-to-GW Values are double underlined.
- The MSCs for chromium III are used to evaluate chromium (total).
- The Soil to Groundwater values for nitrate and nitrite are 100x the Federal maximum contaminant level (MCL).
- Blank cells in columns with criteria indicate that no value has been established.

Abbreviations:

MSC - Medium specific criteria
 U -- Not Detected.
 J -- Estimated Concentration.
 TDS -- Total Dissolved Solids.
 () -- Reporting Limit.

**TABLE 5-1
Soil Sampling Results
Metropolitan Edison Company North Hanover Substation
Miller Chemical & Fertilizer, Hanover, Pennsylvania**

Location Location Type Field Sample ID	MET-BACK-09 Background	MET-BACK-10 Background	MET-BACK-11 Background	MET-BACK-12 Background
Lab Sample ID(s) Collection Depth (Inches bgs) Sample Method Sample Date Comments	MET-BACK-09-20150909 15091028-007 / 15091104-007	MET-BACK-10-20150909 15091028-008 / 15091104-008	MET-BACK-11-20150909 15091028-009 / 15091104-009	MET-BACK-12-20150909 15091028-006 / 15091104-006
Non-Residential Direct Contact Values (0-2ft)	Soil to GW Values - Used Aquifer - TDS <= 2500 - Non Residential	0 - 2 Grab	0 - 2 Grab	0 - 2 Grab
	9/9/2015	9/9/2015	9/9/2015	9/9/2015
INORG				
Aluminum	190000	20000 (4600)	20000 (5100)	28000 (4600)
Arsenic	53	29	5.4 J (0.46)	4.8 J (0.51)
Barium	190000	8200	110 (2.3)	120 (2.5)
Beryllium	5600	320	U (2.3)	U (2.5)
Cadmium	1400	38	U (2.3)	U (2.5)
Chromium (total)	190000	190000	22 (2.3)	23 (2.5)
Cobalt	840	140	7.8 (2.3)	9 (2.5)
Copper	100000	43000	12 J (2.3)	12 J (2.5)
Iron	190000	23000 (4600)	21000 (5100)	26000 (4600)
Lead	1000	450	26 J (2.3)	31 J (2.5)
Manganese	130000	2000	470 J (230)	600 J (250)
Mercury	450	10	0.048 J (0.093)	0.053 J (0.1)
Molybdenum	14000	650	U (4.6)	U (5.1)
Nickel	56000	650	10 (2.3)	11 (2.5)
Nitrate	1000	1000	U (11.2)	1.3 J (11.2)
Nitrite	280000	100	U (2.2)	U (2.2)
Nitrogen			3350 (83.5)	3860 (85.1)
Phosphorus (total)			375 (274)	384 (281)
Potassium			1200 J (46)	1400 J (51)
Sodium			U (46)	U (51)
Sulfate			4.3 J (112)	6.5 J (112)
Thallium	200	14	U (1.9)	U (2)
Zinc	190000	12000	45 J (9.3)	50 J (10)
				49 J (9.1)
				51 J (12)

Notes:

- All concentrations are presented in milligrams per kilogram (mg/kg).
- Only compounds with at least one detection are shown.
- Concentrations greater than the Non-Res. Direct Contact Values (0-2ft) are grey-shaded.
- Concentrations greater than the Soil-to-GW Values are double underlined.
- The MSCs for chromium III are used to evaluate chromium (total).
- The Soil to Groundwater values for nitrate and nitrite are 100x the Federal maximum contaminant level (MCL).
- Blank cells in columns with criteria indicate that no value has been established.

Abbreviations:

MSC - Medium specific criteria
 U -- Not Detected.
 J -- Estimated Concentration.
 TDS -- Total Dissolved Solids.
 () -- Reporting Limit.

TABLE S-1
Soil Sampling Results
Metropolitan Edison Company North Hanover Substation
Miller Chemical & Fertilizer, Hanover, Pennsylvania

Location Location Type Field Sample ID	Non-Residential Direct Contact Values (0-2ft)	Soil to GW Values - Used Aquifer - TDS <= 2500 - Non Residential	MET-BASE-01 Visibly Affected MET-BASE-01-20150909 15091028-012 / 15091104-012 0 - 2 Composite 9/9/2015	MET-BASE-02 Visibly Affected MET-BASE-02-20150909 15091028-014 / 15091104-014 0 - 2 Composite 9/9/2015	MET-BASE-03 Visibly Affected MET-BASE-03-20150909 15091028-015 / 15091104-015 0 - 2 Composite 9/9/2015	MET-BASE-04 Visibly Affected MET-BASE-04-20150909 15091028-017 / 15091104-017 0 - 2 Composite 9/9/2015
Lab Sample ID(s) Collection Depth (Inches bgs) Sample Method Sample Date Comments						
INORG						
Aluminum	190000		3300 (440)	4900 (3900)	30000 (6400)	29000 (5800)
Arsenic	53	29	2.1 J (0.44)	5.6 J (0.39)	6.7 J (0.64)	11 J (0.58)
Barium	190000	8200	46 (2.2)	25 (2)	120 (3.2)	98 (2.9)
Beryllium	5600	320	U (2.2)	U (2)	U (3.2)	U (2.9)
Cadmium	1400	38	U (2.2)	U (2)	U (3.2)	U (2.9)
Chromium (total)	190000	190000	6 (2.2)	5.8 (2)	28 (3.2)	56 (2.9)
Cobalt	840	140	3.4 (2.2)	2.1 (2)	8.1 (3.2)	12 (2.9)
Copper	100000	43000	6.5 J (2.2)	25 J (2)	72 J (3.2)	32 J (2.9)
Iron	190000		6600 (440)	8900 (3900)	35000 (6400)	66000 (5800)
Lead	1000	450	19 J (2.2)	11 J (2)	14 J (3.2)	20 J (2.9)
Manganese	130000	2000	220 J (2.2)	260 J (200)	580 J (320)	570 J (290)
Mercury	450	10	U (0.088)	U (0.079)	U (0.13)	U (0.12)
Molybdenum	14000	650	U (4.4)	U (3.9)	3.6 J (6.4)	U (5.8)
Nickel	56000	650	4.9 (2.2)	4.1 (2)	17 (3.2)	14 (2.9)
Nitrate	1000	1000	1.9 J (10.4)	U (10.7)	U (14.6)	87.2 (11.8)
Nitrite	280000	100	U (2.1)	U (2.1)	U (2.9)	U (2.4)
Nitrogen			526 (79.3)	1740 (80.4)	4120 (111)	3530 (89.4)
Phosphorus (total)			U (263)	546 (273)	4660 (342)	711 (305)
Potassium			360 J (44)	540 J (39)	3000 J (64)	2200 J (58)
Sodium			U (44)	U (94)	U (130)	U (58)
Sulfate			U (104)	5.3 J (107)	42.7 J (146)	17.9 J (118)
Thallium	200	14	U (1.8)	U (1.6)	U (2.5)	U (2.3)
Zinc	190000	12000	140 J (8.8)	42 J (7.9)	150 J (13)	46 J (12)

Notes:

- All concentrations are presented in milligrams per kilogram (mg/kg).
- Only compounds with at least one detection are shown.
- Concentrations greater than the Non-Res. Direct Contact Values (0-2ft) are grey-shaded.
- Concentrations greater than the Soil-to-GW Values are double underlined.
- The MSCs for chromium III are used to evaluate chromium (total).
- The Soil to Groundwater values for nitrate and nitrite are 100x the Federal maximum contaminant level (MCL).
- Blank cells in columns with criteria indicate that no value has been established.

Abbreviations:

MSC - Medium specific criteria
U -- Not Detected.
J -- Estimated Concentration.
TDS -- Total Dissolved Solids.
() -- Reporting Limit.

TABLE 5-1
Soil Sampling Results
Metropolitan Edison Company North Hanover Substation
Miller Chemical & Fertilizer, Hanover, Pennsylvania

Location Location Type Field Sample ID	Non-Residential Direct Contact Values (0-2ft)	Soil to GW Values - Used Aquifer - TDS <= 2500 - Non Residential	MET-BASE-04 Visibly Affected DUP-1-20150909 15091028-018 / 15091104-018 0 - 2 Composite 9/9/2015 Field Duplicate	MET-BASE-05 Visibly Affected MET-BASE-05-20150909 15091028-020 / 15091104-020 0 - 2 Composite 9/9/2015	MET-BASE-06 Visibly Affected MET-BASE-06-20150909 15091028-019 / 15091104-019 0 - 2 Composite 9/9/2015	MET-BASE-07 Visibly Affected MET-BASE-07-20150909 15091028-021 / 15091104-021 0 - 2 Composite 9/9/2015
Lab Sample ID(s) Collection Depth (Inches bgs) Sample Method Sample Date Comments						
INORG						
Aluminum	190000		29000 (5100)	32000 (6900)	20000 (7000)	18000 (5100)
Arsenic	53	29	9.5 J (0.51)	14 J (0.69)	6.4 J (0.7)	16 J (0.51)
Barium	190000	8200	98 (2.6)	130 (3.4)	110 (3.5)	140 (2.5)
Beryllium	5600	320	U (2.6)	U (3.4)	U (3.5)	U (2.5)
Cadmium	1400	38	U (2.6)	U (3.4)	U (3.5)	U (2.5)
Chromium (total)	190000	190000	41 (2.6)	42 (3.4)	21 (3.5)	27 (2.5)
Cobalt	840	140	10 (2.6)	9.9 (3.4)	9.2 (3.5)	12 (2.5)
Copper	100000	43000	29 J (2.6)	220 J (3.4)	57 J (3.5)	190 J (2.5)
Iron	190000		54000 (5100)	44000 (6900)	22000 (7000)	34000 J (5100)
Lead	1000	450	15 J (2.6)	22 J (3.4)	56 J (3.5)	37 (2.5)
Manganese	130000	2000	460 J (260)	570 J (340)	470 J (350)	900 J (250)
Mercury	450	10	U (0.1)	U (0.14)	U (0.14)	0.056 J (0.1)
Molybdenum	14000	650	U (5.1)	U (6.9)	U (7)	3.8 J (5.1)
Nickel	56000	650	13 (2.6)	18 (3.4)	10 (3.5)	14 (2.5)
Nitrate		1000	103 (11.6)	135 (13.6)	26.1 (12.9)	28.1 (10.5)
Nitrite	280000	100	U (2.3)	U (2.7)	U (2.6)	U (2.1)
Nitrogen			2720 (86.5)	6580 (102)	4990 (98.3)	2700 (78.9)
Phosphorus (total)			877 (277)	3290 (69)	1920 (65.9)	14700 (536)
Potassium			2200 J (51)	4100 J (690)	2100 J (70)	2300 (51)
Sodium			U (51)	380 J (69)	UJ (160)	UJ (170)
Sulfate			19.2 J (116)	381 (136)	94.1 J (129)	146 (105)
Thallium	200	14	U (2)	U (2.7)	U (2.8)	U (2)
Zinc	190000	12000	44 J (10)	300 J (14)	150 J (14)	390 J (10)

Notes:

- All concentrations are presented in milligrams per kilogram (mg/kg).
- Only compounds with at least one detection are shown.
- Concentrations greater than the Non-Res. Direct Contact Values (0-2ft) are grey-shaded.
- Concentrations greater than the Soil-to-GW Values are double underlined.
- The MSCs for chromium III are used to evaluate chromium (total).
- The Soil to Groundwater values for nitrate and nitrite are 100x the Federal maximum contaminant level (MCL).
- Blank cells in columns with criteria indicate that no value has been established.

Abbreviations:

MSC - Medium specific criteria
U -- Not Detected.
J -- Estimated Concentration.
TDS -- Total Dissolved Solids.
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**TABLE 5-1
Soil Sampling Results
Metropolitan Edison Company North Hanover Substation
Miller Chemical & Fertilizer, Hanover, Pennsylvania**

Location Location Type Field Sample ID	MET-BASE-08 Visibly Affected MET-BASE-08-20150910 15091030-010 / 15091104-035	MET-BASE-09 Visibly Affected MET-BASE-09-20150910 15091030-004 / 15091104-029	MET-BASE-10 Visibly Affected MET-BASE-10-20150910 15091030-009 / 15091104-034	MET-BASE-11 Visibly Affected MET-BASE-11-20150910 15091030-006 / 15091104-031		
Lab Sample ID(s) Collection Depth (inches bgs) Sample Method Sample Date Comments	Non-Residential Direct Contact Values (0-2ft)	Soil to GW Values - Used Aquifer - TDS <= 2500 - Non Residential	0 - 2 Composite 9/10/2015	0 - 2 Composite 9/10/2015	0 - 2 Composite 9/10/2015	0 - 2 Composite 9/10/2015
INORG						
Aluminum	190000		21000 (5800)	28000 (5400)	31000 (5100)	27000 (6100)
Arsenic	53	29	<u>100 J (0.58)</u>	7.6 J (0.54)	12 J (0.51)	8.3 J (0.61)
Barium	190000	8200	160 (2.9)	170 (2.7)	230 (2.6)	190 (3)
Beryllium	5600	320	U (2.9)	U (2.7)	1.5 J (2.6)	U (3)
Cadmium	1400	38	2.4 J (2.9)	U (2.7)	U (2.6)	U (3)
Chromium (total)	190000	190000	24 (2.9)	28 (2.7)	36 (2.6)	29 (3)
Cobalt	840	140	9.7 (2.9)	12 (2.7)	16 (2.6)	16 (3)
Copper	100000	43000	160 J (2.9)	28 J (2.7)	25 J (2.6)	27 J (3)
Iron	190000		21000 J (5800)	25000 J (5400)	34000 J (5100)	29000 J (6100)
Lead	1000	450	140 (2.9)	37 J (2.7)	37 (2.6)	41 (3)
Manganese	130000	2000	640 J (290)	510 J (270)	2000 J (260)	1000 J (300)
Mercury	450	10	0.063 J (0.12)	0.077 J (0.11)	0.052 J (0.1)	0.11 J (0.12)
Molybdenum	14000	650	UJ (5.8)	UJ (5.4)	UJ (5.1)	UJ (6.1)
Nickel	56000	650	18 (2.9)	22 (2.7)	20 (2.6)	21 (3)
Nitrate		1000	5.3 J (13.2)	33.9 (13.2)	1.7 J (12.3)	4.3 J (12.8)
Nitrite	280000	100	1.6 J (2.6)	U (2.6)	1.2 J (2.5)	1.3 J (2.6)
Nitrogen			1400 (98.1)	1800 (99.4)	1720 (93.2)	1720 (97.7)
Phosphorus (total)			495 J (125)	1180 (130)	572 (115)	737 (120)
Potassium			1400 (58)	1900 (54)	2100 (51)	1900 (61)
Sodium			UJ (74)	UJ (110)	UJ (82)	UJ (95)
Sulfate			10.8 J (132)	106 J (132)	47.5 J (123)	51.4 J (128)
Thallium	200	14	1.4 J (2.3)	U (2.2)	U (2)	U (2.4)
Zinc	190000	12000	520 J (12)	150 J (11)	74 J (10)	95 J (12)

Notes:

- All concentrations are presented in milligrams per kilogram (mg/kg).
- Only compounds with at least one detection are shown.
- Concentrations greater than the Non-Res. Direct Contact Values (0-2ft) are grey-shaded.
- Concentrations greater than the Soil-to-GW Values are double underlined.
- The MSCs for chromium III are used to evaluate chromium (total).
- The Soil to Groundwater values for nitrate and nitrite are 100x the Federal maximum contaminant level (MCL).
- Blank cells in columns with criteria indicate that no value has been established.

Abbreviations:

MSC - Medium specific criteria
 U -- Not Detected.
 J -- Estimated Concentration.
 TDS -- Total Dissolved Solids.
 () -- Reporting Limit.

**TABLE 5-1
Soil Sampling Results
Metropolitan Edison Company North Hanover Substation
Miller Chemical & Fertilizer, Hanover, Pennsylvania**

Location Location Type Field Sample ID	Non-Residential Direct Contact Values (0-2ft)	Soil to GW Values - Used Aquifer - TDS <= 2500 - Non Residential	MET-BASE-12 Visibly Affected MET-BASE-12-20150910 15091030-008 / 15091104-033 0 - 2 Composite 9/10/2015	MET-PER-06 Visibly Affected MET-PER-06-20150910 15091030-007 / 15091104-032 0 - 2 Composite 9/10/2015	MET-PER-07 Visibly Affected MET-PER-07-20150910 15091030-003 / 15091104-028 0 - 2 Composite 9/10/2015	MET-PER-07 Visibly Affected DUP-2-20150910 15091030-005 / 15091104-030 0 - 2 Composite 9/10/2015 Field Duplicate
Lab Sample ID(s) Collection Depth (Inches bgs) Sample Method Sample Date Comments						
INORG						
Aluminum	190000		29000 (5700)	23000 (5900)	26000 (6300)	21000 (6800)
Arsenic	53	29	5.4 J (0.57)	10 J (0.59)	21 J (0.63)	17 J (0.68)
Barium	190000	8200	160 (2.8)	160 (3)	300 (3.2)	210 (3.4)
Beryllium	5600	320	U (2.8)	U (3)	U (3.2)	U (3.4)
Cadmium	1400	38	U (2.8)	U (3)	2.2 J (3.2)	U (3.4)
Chromium (total)	190000	190000	33 (2.8)	29 (3)	48 (3.2)	35 (3.4)
Cobalt	840	140	12 (2.8)	12 (3)	15 (3.2)	12 (3.4)
Copper	100000	43000	21 J (2.8)	36 J (3)	170 J (3.2)	120 J (3.4)
Iron	190000		24000 J (5700)	25000 J (5900)	37000 J (6300)	29000 J (6800)
Lead	1000	450	37 (2.8)	47 (3)	110 (3.2)	75 J (3.4)
Manganese	130000	2000	390 J (280)	620 J (300)	1500 J (320)	950 J (340)
Mercury	450	10	0.077 J (0.11)	0.099 J (0.12)	0.13 J (0.13)	0.095 J (0.14)
Molybdenum	14000	650	U (5.7)	U (5.9)	3.2 J (6.3)	U (6.8)
Nickel	56000	650	19 (2.8)	20 (3)	27 (3.2)	20 (3.4)
Nitrate		1000	3.2 J (12.1)	44.9 (13.1)	85.1 (14.5)	75.2 (13.3)
Nitrite	280000	100	U (2.4)	U (2.6)	U (2.9)	U (2.7)
Nitrogen			1710 (90.5)	1600 (98.7)	2570 (108)	2630 (102)
Phosphorus (total)			818 (114)	705 (124)	10000 (748)	11100 (651)
Potassium			1900 (57)	1900 (59)	2600 (63)	2100 (68)
Sodium			U (120)	U (120)	U (280)	U (260)
Sulfate			50.2 J (121)	50.9 J (131)	343 J (145)	211 J (133)
Thallium	200	14	U (2.3)	U (2.4)	U (2.5)	U (2.7)
Zinc	190000	12000	120 J (11)	180 J (12)	960 J (130)	580 J (14)

Notes:

- All concentrations are presented in milligrams per kilogram (mg/kg).
- Only compounds with at least one detection are shown.
- Concentrations greater than the Non-Res. Direct Contact Values (0-2ft) are grey-shaded.
- Concentrations greater than the Soil-to-GW Values are double underlined.
- The MSCs for chromium III are used to evaluate chromium (total).
- The Soil to Groundwater values for nitrate and nitrite are 100x the Federal maximum contaminant level (MCL).
- Blank cells in columns with criteria indicate that no value has been established.

Abbreviations:

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 U -- Not Detected.
 J -- Estimated Concentration.
 TDS -- Total Dissolved Solids.
 () -- Reporting Limit.

**TABLE 5-1
Soil Sampling Results
Metropolitan Edison Company North Hanover Substation
Miller Chemical & Fertilizer, Hanover, Pennsylvania**

Location Location Type Field Sample ID	Non-Residential Direct Contact Values (0-2ft)	Soil to GW Values - Used Aquifer - TDS <= 2500 - Non Residential	MET-PER-08 Visibly Affected MET-PER-08-20150910 15091030-002 / 15091104-027 0 - 2 Composite 9/10/2015	MET-PER-09 Visibly Affected MET-PER-09-20150910 15091030-001 / 15091104-026 0 - 2 Composite 9/10/2015	MET-PER-01 Boundary MET-PER-01-20150909 15091028-011 / 15091104-011 0 - 2 Composite 9/9/2015	MET-PER-02 Boundary MET-PER-02-20150909 15091028-013 / 15091104-013 0 - 2 Composite 9/9/2015
Lab Sample ID(s) Collection Depth (Inches bgs) Sample Method Sample Date Comments						
INORG						
Aluminum	190000		26000 (5300)	6200 (4300)	23000 (5300)	17000 (5200)
Arsenic	53	29	9.6 J (0.53)	22 J (0.43)	21 J (0.53)	10 J (0.52)
Barium	190000	8200	150 (2.7)	650 (220)	180 (2.7)	140 (2.6)
Beryllium	5600	320	U (2.7)	U (2.2)	U (2.7)	U (2.6)
Cadmium	1400	38	U (2.7)	U (2.2)	U (2.7)	U (2.6)
Chromium (total)	190000	190000	29 (2.7)	11 (2.2)	28 (2.7)	20 (2.6)
Cobalt	840	140	13 (2.7)	4.7 (2.2)	17 (2.7)	14 (2.6)
Copper	100000	43000	130 J (2.7)	130 J (2.2)	18 J (2.7)	16 J (2.6)
Iron	190000		33000 J (5300)	11000 J (4300)	31000 (5300)	22000 (5200)
Lead	1000	450	25 (2.7)	20 (2.2)	38 J (2.7)	41 J (2.6)
Manganese	130000	2000	540 J (270)	450 J (220)	1300 J (270)	1500 J (260)
Mercury	450	10	U (0.11)	U (0.087)	0.068 J (0.11)	0.054 J (0.1)
Molybdenum	14000	650	2.9 J (5.3)	UJ (4.3)	U (5.3)	U (5.2)
Nickel	56000	650	18 (2.7)	4.8 (2.2)	14 (2.7)	11 (2.6)
Nitrate		1000	484 (63.1)	20.7 (10.5)	1.9 J (11.6)	1.8 J (11.1)
Nitrite	280000	100	U (2.5)	1.3 J (2.1)	U (2.3)	1.3 J (2.2)
Nitrogen			2650 (95.5)	796 (79.8)	3900 (86.2)	3400 (84)
Phosphorus (total)			2710 (120)	309 (102)	U (434)	U (373)
Potassium			3600 (530)	640 (43)	1500 J (53)	1100 J (52)
Sodium			400 J (53)	UJ (87)	U (53)	U (52)
Sulfate			1340 (126)	9.8 J (105)	U (116)	6.7 J (111)
Thallium	200	14	U (2.1)	U (1.7)	U (2.1)	U (2.1)
Zinc	190000	12000	500 J (11)	1600 J (870)	240 J (11)	140 J (10)

Notes:

- All concentrations are presented in milligrams per kilogram (mg/kg).
- Only compounds with at least one detection are shown.
- Concentrations greater than the Non-Res. Direct Contact Values (0-2ft) are grey-shaded.
- Concentrations greater than the Soil-to-GW Values are double underlined.
- The MSCs for chromium III are used to evaluate chromium (total).
- The Soil to Groundwater values for nitrate and nitrite are 100x the Federal maximum contaminant level (MCL).
- Blank cells in columns with criteria indicate that no value has been established.

Abbreviations:

MSC - Medium specific criteria
 U -- Not Detected.
 J -- Estimated Concentration.
 TDS -- Total Dissolved Solids.
 () -- Reporting Limit.

**TABLE 5-1
Soil Sampling Results
Metropolitan Edison Company North Hanover Substation
Miller Chemical & Fertilizer, Hanover, Pennsylvania**

Location Location Type Field Sample ID	Non-Residential Direct Contact Values (0-2ft)	Soil to GW Values - Used Aquifer - TDS <= 2500 - Non Residential	MET-PER-03 Boundary MET-PER-03-20150909 15091028-016 / 15091104-016 0 - 2 Composite 9/9/2015	MET-PER-04 Boundary MET-PER-04-20150910 15091030-011 / 15091104-036 0 - 2 Composite 9/10/2015	MET-PER-05 Boundary MET-PER-05-20150909 15091028-010 / 15091104-010 0 - 2 Composite 9/9/2015
Lab Sample ID(s) Collection Depth (Inches bgs) Sample Method Sample Date Comments					
INORG					
Aluminum	190000		21000 (5700)	22000 (5700)	29000 (6600)
Arsenic	53	29	6.8 J (0.57)	17 J (0.57)	6.2 J (0.66)
Barium	190000	8200	120 (2.8)	120 (2.8)	170 (3.3)
Beryllium	5600	320	U (2.8)	U (2.8)	U (3.3)
Cadmium	1400	38	U (2.8)	U (2.8)	U (3.3)
Chromium (total)	190000	190000	32 (2.8)	27 (2.8)	34 (3.3)
Cobalt	840	140	14 (2.8)	12 (2.8)	10 (3.3)
Copper	100000	43000	9.9 J (2.8)	13 J (2.8)	29 J (3.3)
Iron	190000		28000 (5700)	32000 J (5700)	27000 (6600)
Lead	1000	450	29 J (2.8)	44 (2.8)	40 J (3.3)
Manganese	130000	2000	900 J (280)	520 J (280)	740 J (330)
Mercury	450	10	U (0.11)	U (0.11)	U (0.13)
Molybdenum	14000	650	U (5.7)	UJ (5.7)	U (6.6)
Nickel	56000	650	11 (2.8)	12 (2.8)	17 (3.3)
Nitrate		1000	2.1 J (11.4)	0.89 J (11.2)	3.5 J (13.5)
Nitrite	280000	100	U (2.3)	1.3 J (2.2)	U (2.7)
Nitrogen			3430 (86.2)	1650 (85.3)	5510 (99.9)
Phosphorus (total)			U (335)	239 (108)	842 (355)
Potassium			1300 J (57)	1000 (57)	2300 J (66)
Sodium			U (57)	UJ (51)	UJ (88)
Sulfate			3.9 J (114)	7.8 J (112)	58.1 J (135)
Thallium	200	14	U (2.3)	U (2.3)	U (2.7)
Zinc	190000	12000	44 J (11)	67 J (11)	95 J (13)

Notes:

- All concentrations are presented in milligrams per kilogram (mg/kg).
- Only compounds with at least one detection are shown.
- Concentrations greater than the Non-Res. Direct Contact Values (0-2ft) are grey-shaded.
- Concentrations greater than the Soil-to-GW Values are double underlined.
- The MSCs for chromium III are used to evaluate chromium (total).
- The Soil to Groundwater values for nitrate and nitrite are 100x the Federal maximum contaminant level (MCL).
- Blank cells in columns with criteria indicate that no value has been established.

Abbreviations:

MSC - Medium specific criteria
 U -- Not Detected.
 J -- Estimated Concentration.
 TDS -- Total Dissolved Solids.
 () -- Reporting Limit.

**Table 5-2: Soil Screening Summary (Comparison of Maximum Detected Concentrations to PA MSCs)
Metropolitan Edison Company North Hanover Substation, Miller Chemical & Fertilizer, Hanover, Pennsylvania**

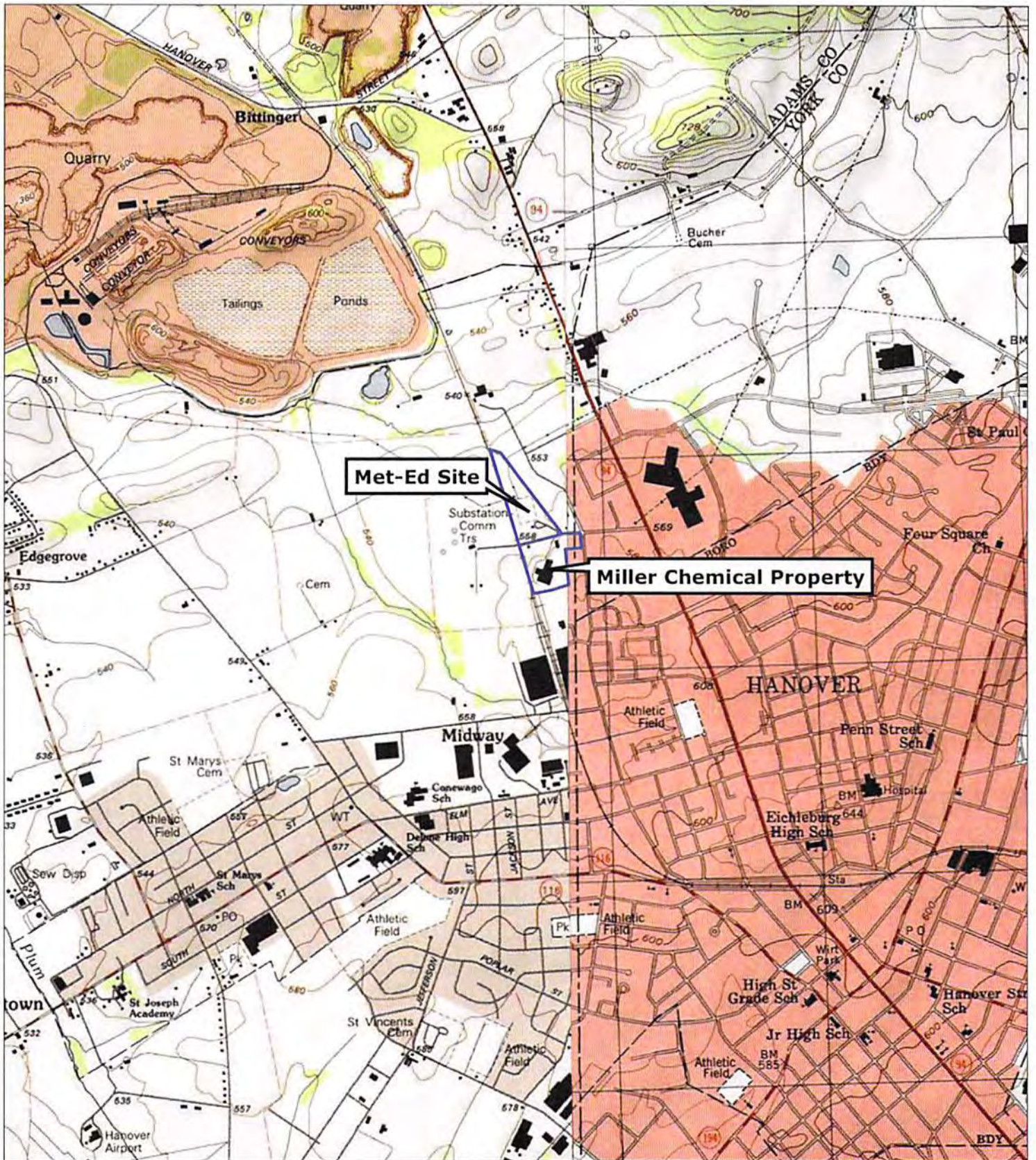
Site	Area	Location Type	Chem Group	Chemical	CASRN	Analyzed	Detected	Max Detected (mg/kg)	PADEP Nonresidential Direct Contact (0-2 ft) Values	Ratio of Max Detect to PADEP Nonresidential Direct Contact (0-2 ft) Values	PADEP Soil to Groundwater Values - Used Aquifer - TDS <= 2500 - Non Residential (mg/kg)	Ratio of Max Detect to PADEP Soil to Groundwater Values - Used Aquifer - TDS <= 2500 - Non Residential
Off-Site	MetEd	Visibly Affected	INORG	Aluminum	7429-90-5	18	18	3.20E+04	1.9E+05	1.7E-01		
Off-Site	MetEd	Visibly Affected	INORG	Arsenic	7440-38-2	18	18	1.00E+02	5.3E+01	1.9E+00	2.9E+01	3.4E+00
Off-Site	MetEd	Visibly Affected	INORG	Barium	7440-39-3	18	18	6.50E+02	1.9E+05	3.4E-03	8.2E+03	7.9E-02
Off-Site	MetEd	Visibly Affected	INORG	Beryllium	7440-41-7	18	1	1.50E+00	5.6E+03	2.7E-04	3.2E+02	4.7E-03
Off-Site	MetEd	Visibly Affected	INORG	Cadmium	7440-43-9	18	2	2.40E+00	1.4E+03	1.7E-03	3.8E+01	6.3E-02
Off-Site	MetEd	Visibly Affected	INORG	Chromium (total)	7440-47-3	18	18	5.60E+01	1.9E+05	2.9E-04	1.9E+05	2.9E-04
Off-Site	MetEd	Visibly Affected	INORG	Cobalt	7440-48-4	18	18	1.60E+01	8.4E+02	1.9E-02	1.4E+02	1.1E-01
Off-Site	MetEd	Visibly Affected	INORG	Copper	7440-50-8	18	18	2.20E+02	1.0E+05	2.2E-03	4.3E+04	5.1E-03
Off-Site	MetEd	Visibly Affected	INORG	Iron	7439-89-6	18	18	6.60E+04	1.9E+05	3.5E-01		
Off-Site	MetEd	Visibly Affected	INORG	Lead	7439-92-1	18	18	1.40E+02	1.0E+03	1.4E-01	4.5E+02	3.1E-01
Off-Site	MetEd	Visibly Affected	INORG	Manganese	7439-96-5	18	18	2.00E+03	1.3E+05	1.5E-02	2.0E+03	1.0E+00
Off-Site	MetEd	Visibly Affected	INORG	Mercury	7439-97-6	18	9	1.30E-01	4.5E+02	2.9E-04	1.0E+01	1.3E-02
Off-Site	MetEd	Visibly Affected	INORG	Molybdenum	7439-98-7	18	4	3.80E+00	1.4E+04	2.7E-04	6.5E+02	5.8E-03
Off-Site	MetEd	Visibly Affected	INORG	Nickel	7440-02-0	18	18	2.70E+01	5.6E+04	4.8E-04	6.5E+02	4.2E-02
Off-Site	MetEd	Visibly Affected	INORG	Nitrate	14797-55-8	18	16	4.84E+02			1.0E+03	4.8E-01
Off-Site	MetEd	Visibly Affected	INORG	Nitrite	14797-65-0	18	4	1.60E+00	2.8E+05	5.7E-06	1.0E+02	1.6E-02
Off-Site	MetEd	Visibly Affected	INORG	Total Kjeldahl Nitrogen	7727-37-9	18	18	6.58E+03				
Off-Site	MetEd	Visibly Affected	INORG	Phosphorus (total)	7723-14-0	18	17	1.47E+04				
Off-Site	MetEd	Visibly Affected	INORG	Potassium	7440-09-7	18	18	4.10E+03				
Off-Site	MetEd	Visibly Affected	INORG	Sulfate	14808-79-8	18	17	1.34E+03				
Off-Site	MetEd	Visibly Affected	INORG	Sodium	7440-23-5	18	2	4.00E+02				
Off-Site	MetEd	Visibly Affected	INORG	Thallium	7440-28-0	18	1	1.40E+00	2.0E+02	7.0E-03	1.4E+01	1.0E-01
Off-Site	MetEd	Visibly Affected	INORG	Zinc	7440-66-6	18	18	1.60E+03	1.9E+05	8.4E-03	1.2E+04	1.3E-01
Off-Site	MetEd	Boundary	INORG	Aluminum	7429-90-5	5	5	2.90E+04	1.9E+05	1.5E-01		
Off-Site	MetEd	Boundary	INORG	Arsenic	7440-38-2	5	5	2.10E+01	5.3E+01	4.0E-01	2.9E+01	7.2E-01
Off-Site	MetEd	Boundary	INORG	Barium	7440-39-3	5	5	1.80E+02	1.9E+05	9.5E-04	8.2E+03	2.2E-02
Off-Site	MetEd	Boundary	INORG	Chromium (total)	7440-47-3	5	5	3.40E+01	1.9E+05	1.8E-04	1.9E+05	1.8E-04
Off-Site	MetEd	Boundary	INORG	Cobalt	7440-48-4	5	5	1.70E+01	8.4E+02	2.0E-02	1.4E+02	1.2E-01
Off-Site	MetEd	Boundary	INORG	Copper	7440-50-8	5	5	2.90E+01	1.0E+05	2.9E-04	4.3E+04	6.7E-04
Off-Site	MetEd	Boundary	INORG	Iron	7439-89-6	5	5	3.20E+04	1.9E+05	1.7E-01		
Off-Site	MetEd	Boundary	INORG	Lead	7439-92-1	5	5	4.40E+01	1.0E+03	4.4E-02	4.5E+02	9.8E-02
Off-Site	MetEd	Boundary	INORG	Manganese	7439-96-5	5	5	1.50E+03	1.3E+05	1.2E-02	2.0E+03	7.5E-01
Off-Site	MetEd	Boundary	INORG	Mercury	7439-97-6	5	2	6.80E-02	4.5E+02	1.5E-04	1.0E+01	6.8E-03
Off-Site	MetEd	Boundary	INORG	Nickel	7440-02-0	5	5	1.70E+01	5.6E+04	3.0E-04	6.5E+02	2.6E-02
Off-Site	MetEd	Boundary	INORG	Nitrate	14797-55-8	5	5	3.50E+00			1.0E+03	3.5E-03
Off-Site	MetEd	Boundary	INORG	Nitrite	14797-65-0	5	2	1.30E+00	2.8E+05	4.6E-06	1.0E+02	1.3E-02
Off-Site	MetEd	Boundary	INORG	Total Kjeldahl Nitrogen	7727-37-9	5	5	5.51E+03				
Off-Site	MetEd	Boundary	INORG	Phosphorus (total)	7723-14-0	5	2	8.42E+02				
Off-Site	MetEd	Boundary	INORG	Potassium	7440-09-7	5	5	2.30E+03				
Off-Site	MetEd	Boundary	INORG	Sulfate	14808-79-8	5	4	5.81E+01				
Off-Site	MetEd	Boundary	INORG	Zinc	7440-66-6	5	5	2.40E+02	1.9E+05	1.3E-03	1.2E+04	2.0E-02
Off-Site	MetEd	Background	INORG	Aluminum	7429-90-5	12	12	2.80E+04	1.9E+05	1.5E-01		
Off-Site	MetEd	Background	INORG	Arsenic	7440-38-2	12	12	1.30E+01	5.3E+01	2.5E-01	2.9E+01	4.5E-01
Off-Site	MetEd	Background	INORG	Barium	7440-39-3	12	12	1.80E+02	1.9E+05	9.5E-04	8.2E+03	2.2E-02
Off-Site	MetEd	Background	INORG	Chromium (total)	7440-47-3	12	12	4.30E+01	1.9E+05	2.3E-04	1.9E+05	2.3E-04
Off-Site	MetEd	Background	INORG	Cobalt	7440-48-4	12	12	2.10E+01	8.4E+02	2.5E-02	1.4E+02	1.5E-01
Off-Site	MetEd	Background	INORG	Copper	7440-50-8	12	12	2.50E+01	1.0E+05	2.5E-04	4.3E+04	5.8E-04
Off-Site	MetEd	Background	INORG	Iron	7439-89-6	12	12	3.60E+04	1.9E+05	1.9E-01		
Off-Site	MetEd	Background	INORG	Lead	7439-92-1	12	12	3.70E+01	1.0E+03	3.7E-02	4.5E+02	8.2E-02
Off-Site	MetEd	Background	INORG	Manganese	7439-96-5	12	12	2.00E+03	1.3E+05	1.5E-02	2.0E+03	1.0E+00
Off-Site	MetEd	Background	INORG	Mercury	7439-97-6	12	8	8.50E-02	4.5E+02	1.9E-04	1.0E+01	8.5E-03
Off-Site	MetEd	Background	INORG	Nickel	7440-02-0	12	12	1.70E+01	5.6E+04	3.0E-04	6.5E+02	2.6E-02

**Table 5-2: Soil Screening Summary (Comparison of Maximum Detected Concentrations to PA MSCs)
Metropolitan Edison Company North Hanover Substation, Miller Chemical & Fertilizer, Hanover, Pennsylvania**

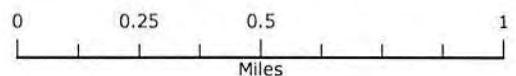
Site	Area	Location Type	Chem Group	Chemical	CASRN	Analyzed	Detected	Max Detected (mg/kg)	PADEP Nonresidential Direct Contact (0-2 ft) Values (mg/kg)	Ratio of Max Detect to PADEP Nonresidential Direct Contact (0-2 ft) Values	PADEP Soil to Groundwater Values - Used Aquifer - TDS <= 2500 - Non Residential (mg/kg)	Ratio of Max Detect to PADEP Soil to Groundwater Values - Used Aquifer - TDS <= 2500 - Non Residential
Off-Site	MetEd	Background	INORG	Nitrate	14797-55-8	12	10	4.30E+00			1.0E+03	4.3E-03
Off-Site	MetEd	Background	INORG	Total Kjeldahl Nitrogen	7727-37-9	12	12	4.72E+03				
Off-Site	MetEd	Background	INORG	Phosphorus (total)	7723-14-0	12	12	6.18E+02				
Off-Site	MetEd	Background	INORG	Potassium	7440-09-7	12	12	1.80E+03				
Off-Site	MetEd	Background	INORG	Sulfate	14808-79-8	12	10	1.11E+01				
Off-Site	MetEd	Background	INORG	Zinc	7440-66-6	12	10	1.90E+02	1.9E+05	1.0E-03	1.2E+04	1.6E-02
Notes:												
Only constituents detected in each area are shown.												
Results are provided in milligrams per kilogram (mg/kg).												
Ratios of concentration to the criteria greater than 1 are shaded in bold.												
Chem Group - chemical group.												
MSC - Medium Specific Criteria.												
The PADEP Soil to Groundwater value for a Residential Used Aquifer with TDS <= 2500, per PADEP guidance, is the maximum of the generic residential value and 100 x the groundwater value.												
The PADEP Soil to Groundwater values for Nitrate and Nitrite are 100x the Federal MCL.												
The values for Chromium III are used to evaluate Chromium (total).												
The sample count for visibly affected area samples includes two duplicates.												
Blank cells indicate that no value has been established.												

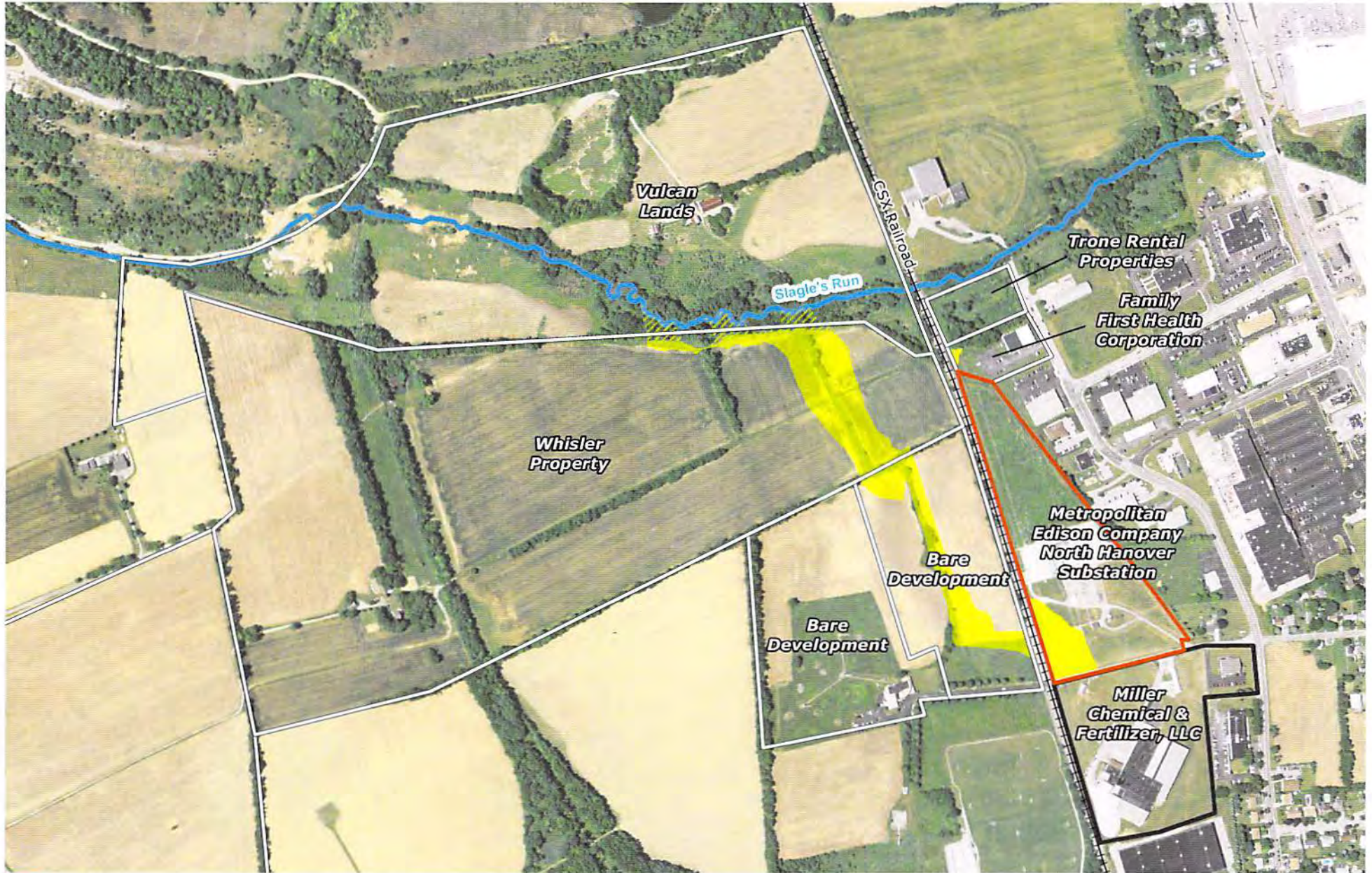
FINAL REPORT

FIGURES



SCALE 1:24,000



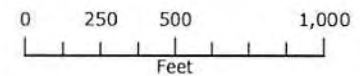


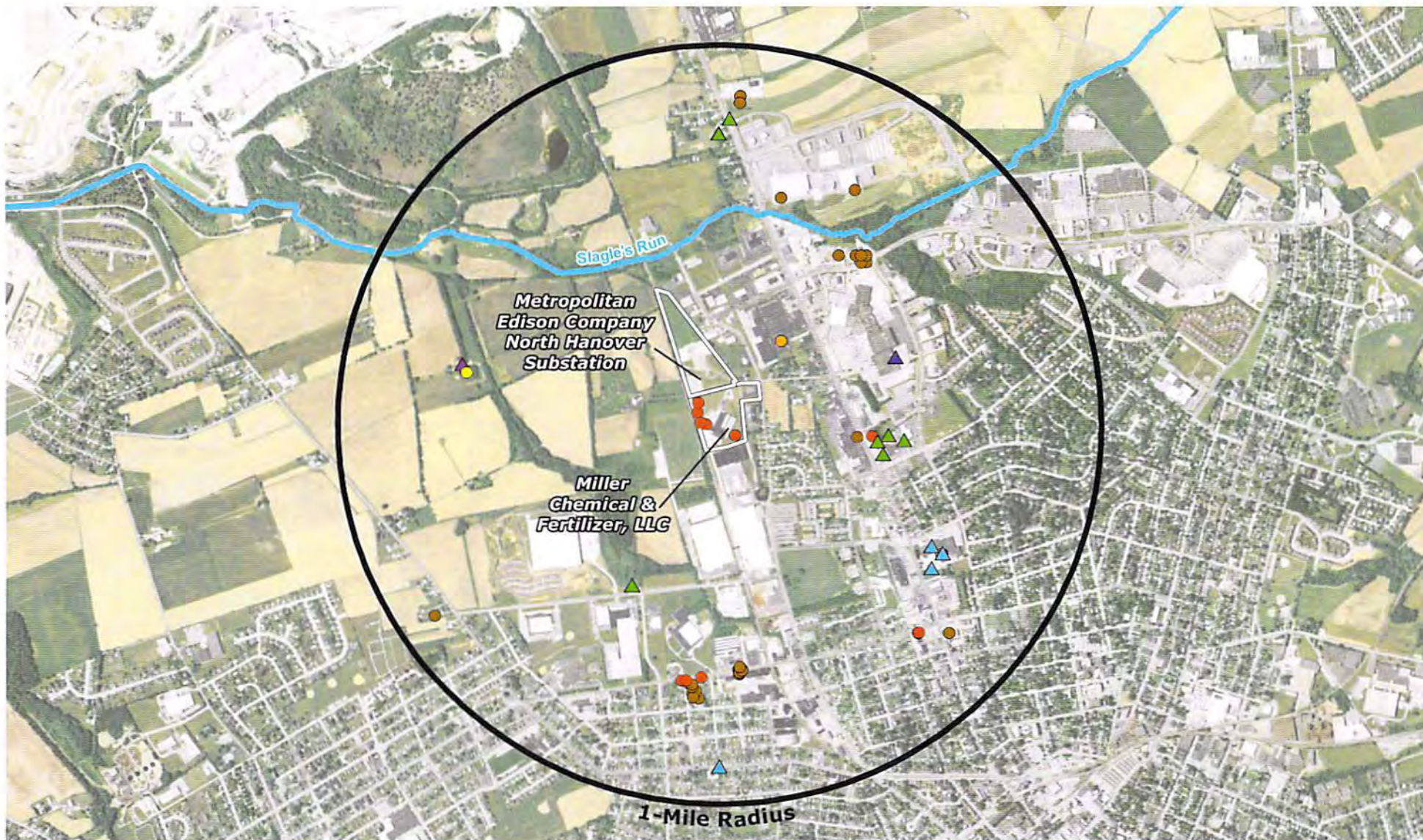
- Met-Ed Property
- Miller Chemical Property
- Other Off-Site Properties
- Visibly Affected Area

Imagery Source: Esri Streaming Imagery

Notes:

- (1) Location of the visibly affected area is based on the 8/28/2015 and 9/21/2015 surveys conducted by GHI and on GPS measurements collected by Ramboll Environ staff. The estimated affected area (yellow hatching) was not mapped with the GPS because the boundaries of the impacts were not readily discernible or not safely accessible. The estimated area shown on the map is based on visual observations.
- (2) Visibly affected area on the Miller Chemical property is not shown on this figure.





Groundwater Well Usage

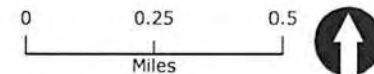
- ▲ Withdrawal - Commercial
- ▲ Withdrawal - Domestic
- ▲ Withdrawal - Industrial
- ▲ Withdrawal - Agricultural
- Approx. Location

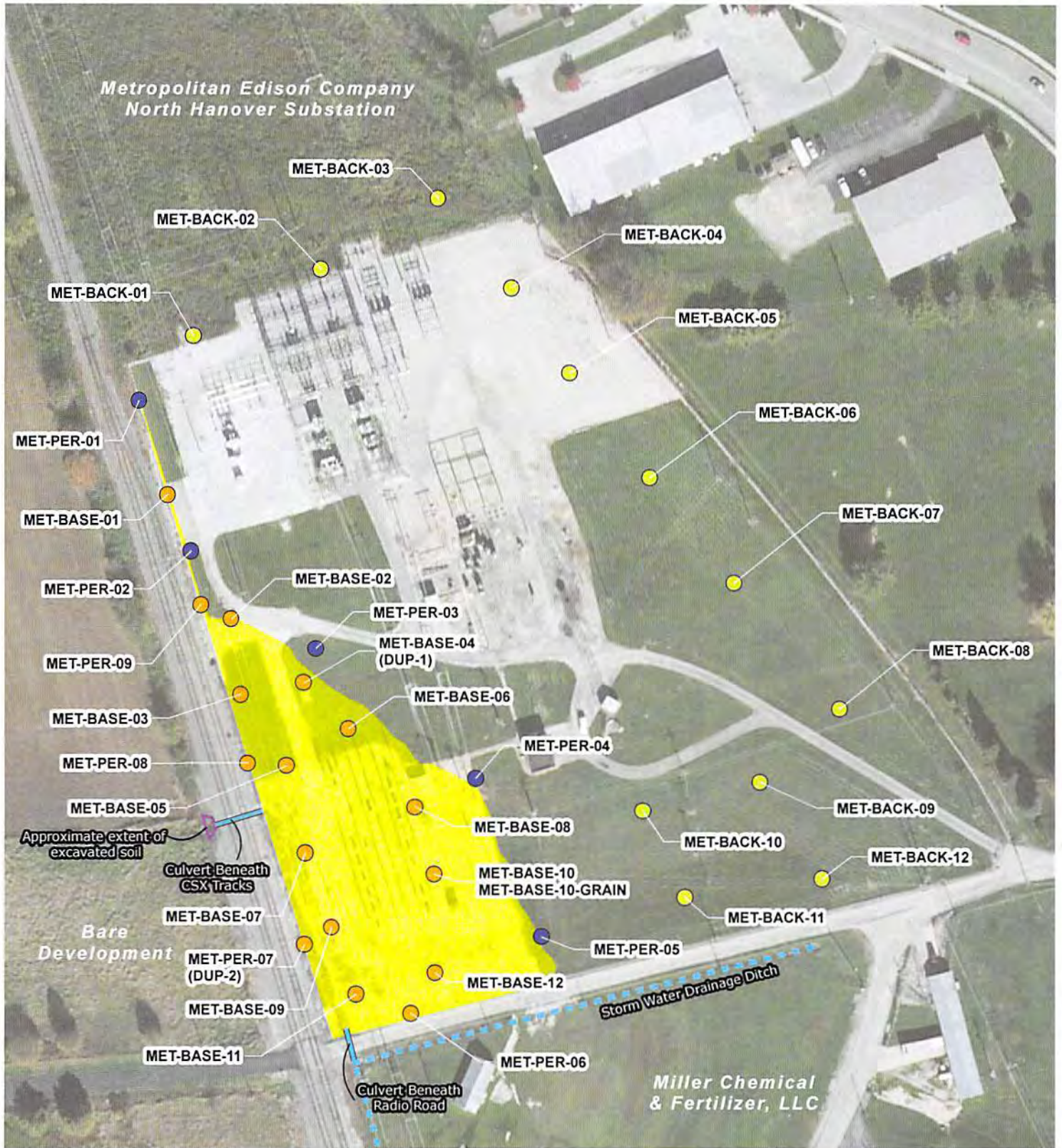
- Spring - Approx. Location
- Monitoring
- Monitoring - Approx. Location
- Unknown, Unused, Test, Observation, Injection, Mine, or Geothermal

Notes:

- (1) Well locations are from the Pennsylvania Groundwater Information System (PaGWIS) as of February 2016.
- (2) One monitoring well was manually added based on a review of location descriptions for unmapped wells in the PaGWIS database (see orange dot).
- (3) The spring and agricultural well locations are based on information provided by Mr. Glen Whisler.
- (4) All displayed wells are within one mile of Miller Chemical.
- (5) Monitoring wells on the Miller Chemical property were installed in relation to the 2014 acquisition and were subsequently abandoned; no monitoring wells are currently present on the property.

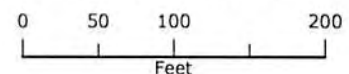
Imagery Source: Esri Streaming Imagery

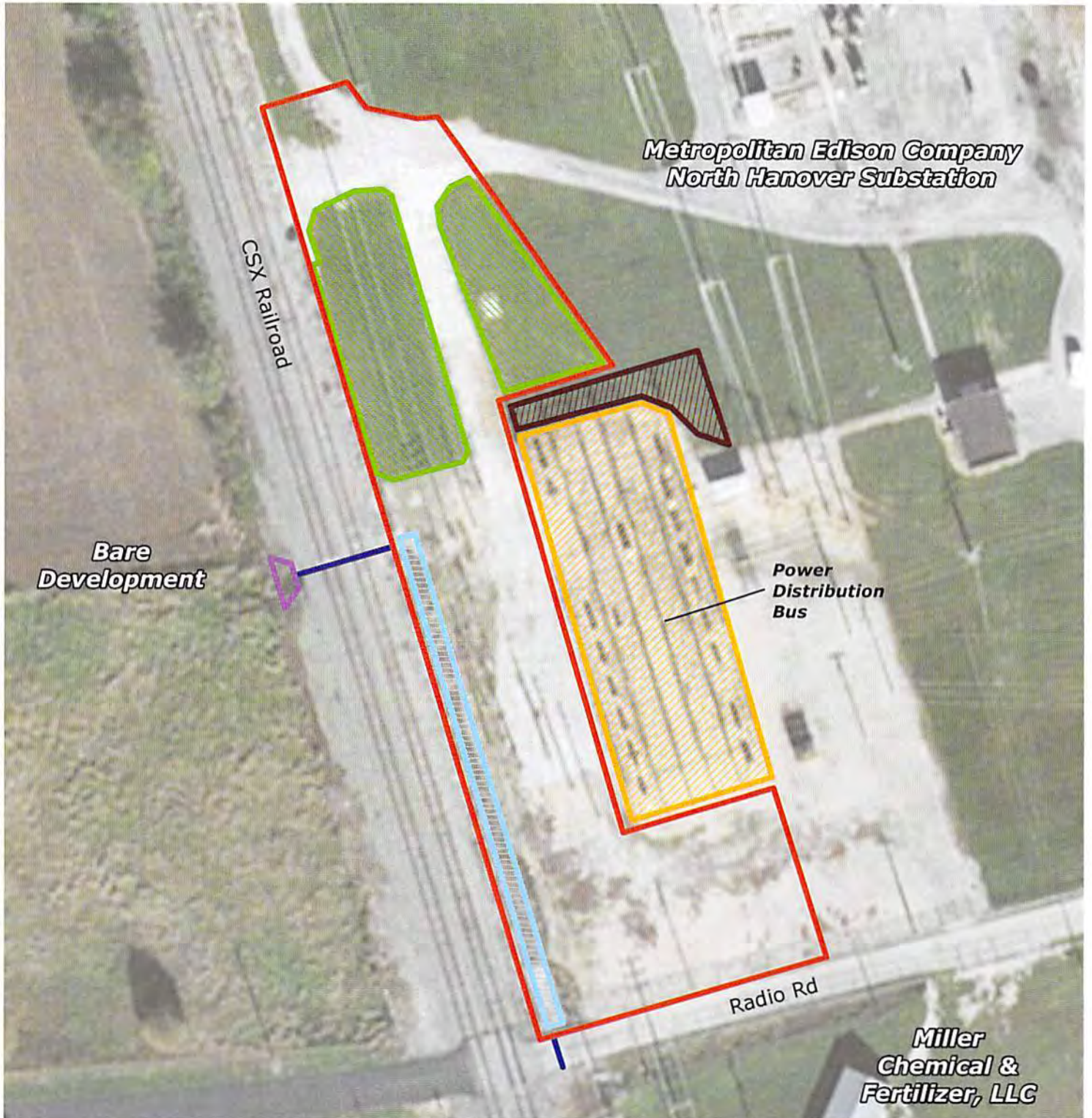




- Visibly Affected Area Sample
- Boundary Sample
- Background Sample
- Visibly Affected Area

Notes:
 (1) Location of the visibly affected area is based on the 8/28/2015 survey conducted by GHI. Sample locations based on Trimble GeoXH GPS and 8/28/2015 survey conducted by GHI.
 (2) MET-PER-06, -07, -08, and -09 were collected along the boundary of the property and were also located inside the visibly affected area.

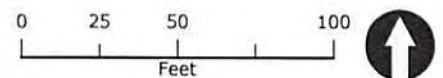


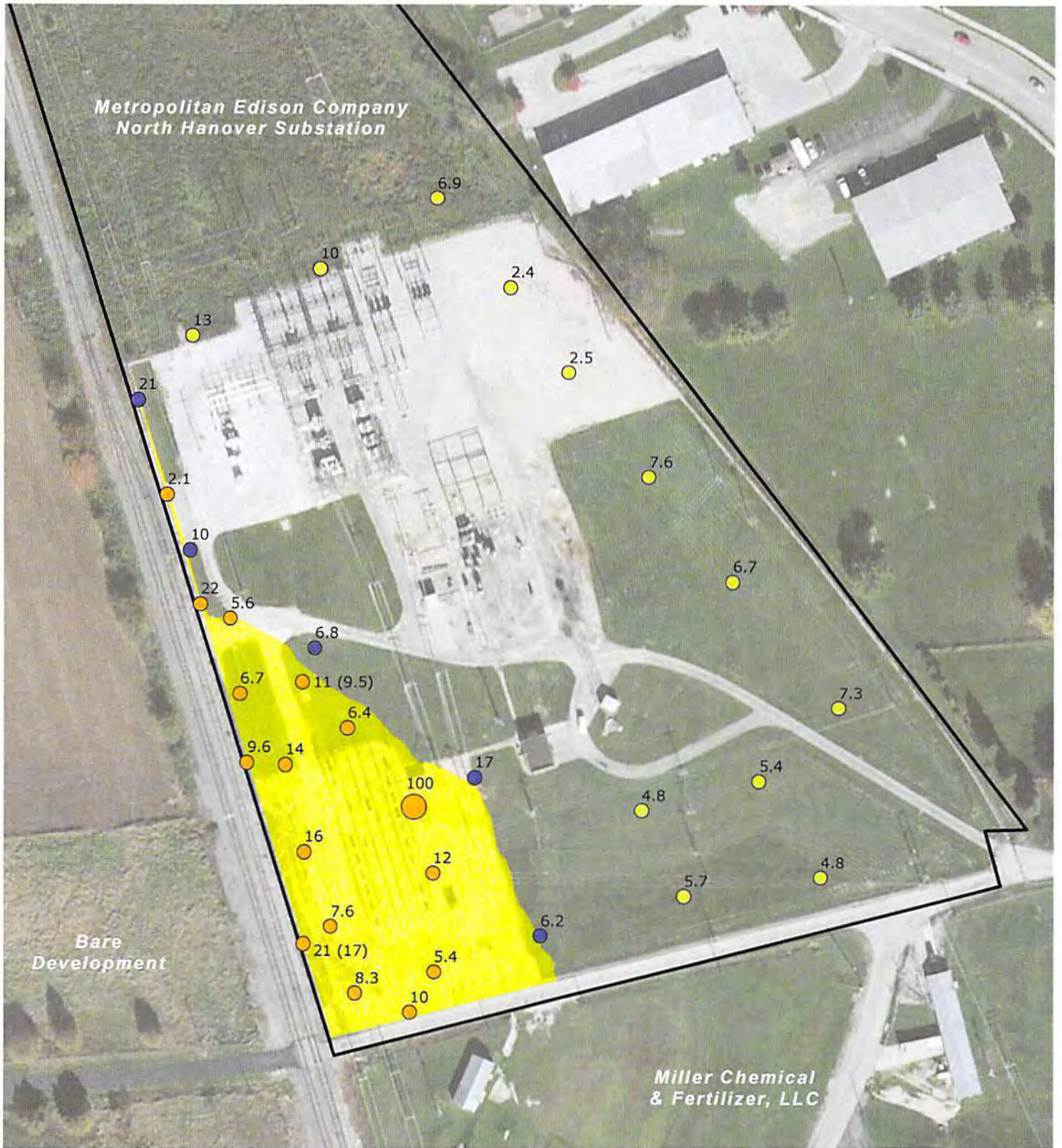


Area Descriptions

-  Area 1 - Mildly graded for positive drainage to swale, then received 4" of 2B stone
-  Area 2 - No change
-  Area 3 - Received a geo-fabric material and 4" of 2B stone on top, vibratory compacted for small vehicular traffic
-  Area 4 - Received topsoil then sod as ground cover
-  Area 5 - Received minor re-grading and 4" rip-rap stone in the swale
-  Area 6 - Existing corrugated metal pipe for stormwater conveyance
-  Area 7 - Approximate area of excavated soil

Imagery Source: Esri Streaming Imagery





Sample Results (mg/kg)

Color represents sample type

- Visibly Affected Area Sample
- Boundary Sample
- Background Sample

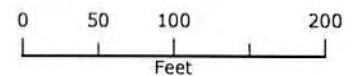
MSC Comparison

Size represents exceedances

- Does not Exceed
- Exceeds MSC

Notes:

- (1) Location of the visibly affected area (yellow shaded area) is based on the 8/28/2015 survey conducted by GHI. Sample locations based on Trimble GeoXH GPS and 8/28/2015 survey conducted by GHI.
- (2) Duplicate results are in parenthesis.



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APPENDIX A
NOTIFICATION DOCUMENTS



For DEP Use Only
PF # _____
Rem ID # _____

NOTICE OF INTENT TO REMEDIATE

Act 1995-2 requires four general information items to be included in the NIR: the general location, listing of contaminants, intended use of property, and proposed remediation measures. In addition, indicate the standard(s) to be obtained (if known) and attach a scaled site map (if available).

Property Name Metropolitan Edison Company North Hanover Substation

Former Name(s) / AKA Met-Ed

Address / Location Radio Road west of High Street

City Hanover Zip Code 17331

Municipality(s) Hanover County(ies) Adams

Latitude 39 ° (deg). 49 ' (min) 10 " (sec) Longitude -77 ° (deg). 0 ' (min) 1 " (sec)

Horizontal Collection Method EMAP

Horizontal Reference Datum EMAP Reference Point Entrance to facility

Wish to participate in the DEP/EPA MOA. Contact Troy Conrad at tconrad@state.pa.us for details.

EPA ID#, if known none identified

DEP ID#(s), if known none identified
 (i.e., eFACTS site ID#, storage tank facility ID#, water quality permit #, watershed permit, air quality permit #, etc.)

Date Release Occurred (if known) June 8, 2015

Provide a brief description of the site contamination in plain language (e.g. fuel oil spill, historical chemical industrial area contamination), the names of any know primary contaminants to be addressed, and the intended future use of the property.

Identified impacts at the Met-Ed substation resulted from the migration of fire-fighting water during emergency response activities related to the June 8, 2015 fire at the Miller Chemical & Fertilizer, LLC (Miller Chemical) facility located at 170 Radio Road in Hanover. The fire water carried fertilizer constituents from the Miller Chemical site. Constituents of potential concern include metals and nutrients and as such, soil samples from background and impacted areas have been collected and analyzed for the presence of aluminum, antimony, arsenic, barium, beryllium, cadmium, total chromium, cobalt, copper, iron, lead, manganese, mercury, molybdenum, nickel, potassium, selenium, silver, sodium, thallium, zinc, nitrate, nitrite, total kjeldahl nitrogen, sulfate, and phosphorus. The intended future use of the property is an electrical power substation. Metropolitan Edison entered into an access agreement with Miller Chemical that provides for remediation of the site to levels consistent with future non-residential use only.

Provide a general description of proposed remediation measures.

Interim response actions were conducted at the Met-Ed property prior to the conduct of soil sampling activities. Interim response actions included the clean-out of subsurface conduit runs beneath the electrical power distribution system; cleanout of the stormwater culvert running from the Met-Ed substation west beneath the rail line, to the Bare Development property; and the placement of gravel and sod on visibly affected areas of the Met-Ed property to mitigate aesthetic impacts and to limit transport of any remaining contaminants with stormwater. No future remediation at this property is proposed based on comparison of soil sampling results to Statewide Health standards in accordance with PADEP Act 2 regulations.

Remediation Standard(s) planned (if known at this time):

- | | | |
|---|--|--------------------------------------|
| <input type="checkbox"/> Unknown at this time | <input type="checkbox"/> Soil | <input type="checkbox"/> Groundwater |
| <input type="checkbox"/> Background Contaminants: | <input type="checkbox"/> Soil | <input type="checkbox"/> Groundwater |
| <input type="checkbox"/> Statewide Health - Residential Contaminants: | <input type="checkbox"/> Soil | <input type="checkbox"/> Groundwater |
| <input checked="" type="checkbox"/> Statewide Health – Non-Residential Contaminants: aluminum, antimony, arsenic, barium, beryllium, cadmium, total chromium, cobalt, copper, iron, lead, manganese, mercury, molybdenum, nickel, potassium, selenium, silver, sodium, thallium, zinc, nitrate, nitrite, total kjeldahl nitrogen, sulfate, and phosphorus | <input checked="" type="checkbox"/> Soil | <input type="checkbox"/> Groundwater |
| <input type="checkbox"/> Site Specific Contaminants: | <input type="checkbox"/> Soil | <input type="checkbox"/> Groundwater |
| <input type="checkbox"/> Special Industrial Area* Contaminants: | <input type="checkbox"/> Soil | <input type="checkbox"/> Groundwater |

*NOTE: Specific standard or Special Industrial Area require a 30-day municipal comment period

Remediator / Property Owner / Consultant. Complete the form below for each recipient obtaining a release of liability upon approval of the final report. Attach additional sheets as necessary.

Remediator		
Contact Person/Title <u>Tony Hartlaub/ VP Finance</u>	eFACTS Client ID* <u>553873</u>	
Relationship to Site <u>Remediator</u> (e.g. owner, remediator, participant in cleanup, consultant, etc.)	Client Type* <u>LLC</u>	
Phone Number <u>717-632-8921</u>	Email Address <u>Tonyhartlaub@millerchemical.com</u>	
Company Name <u>Miller Chemical & Fertilizer, LLC</u>	EIN or Federal ID # <u>46-5407027</u>	
Address (street, city, state, zip) <u>120 Radio Road, Hanover, PA 17332</u>		

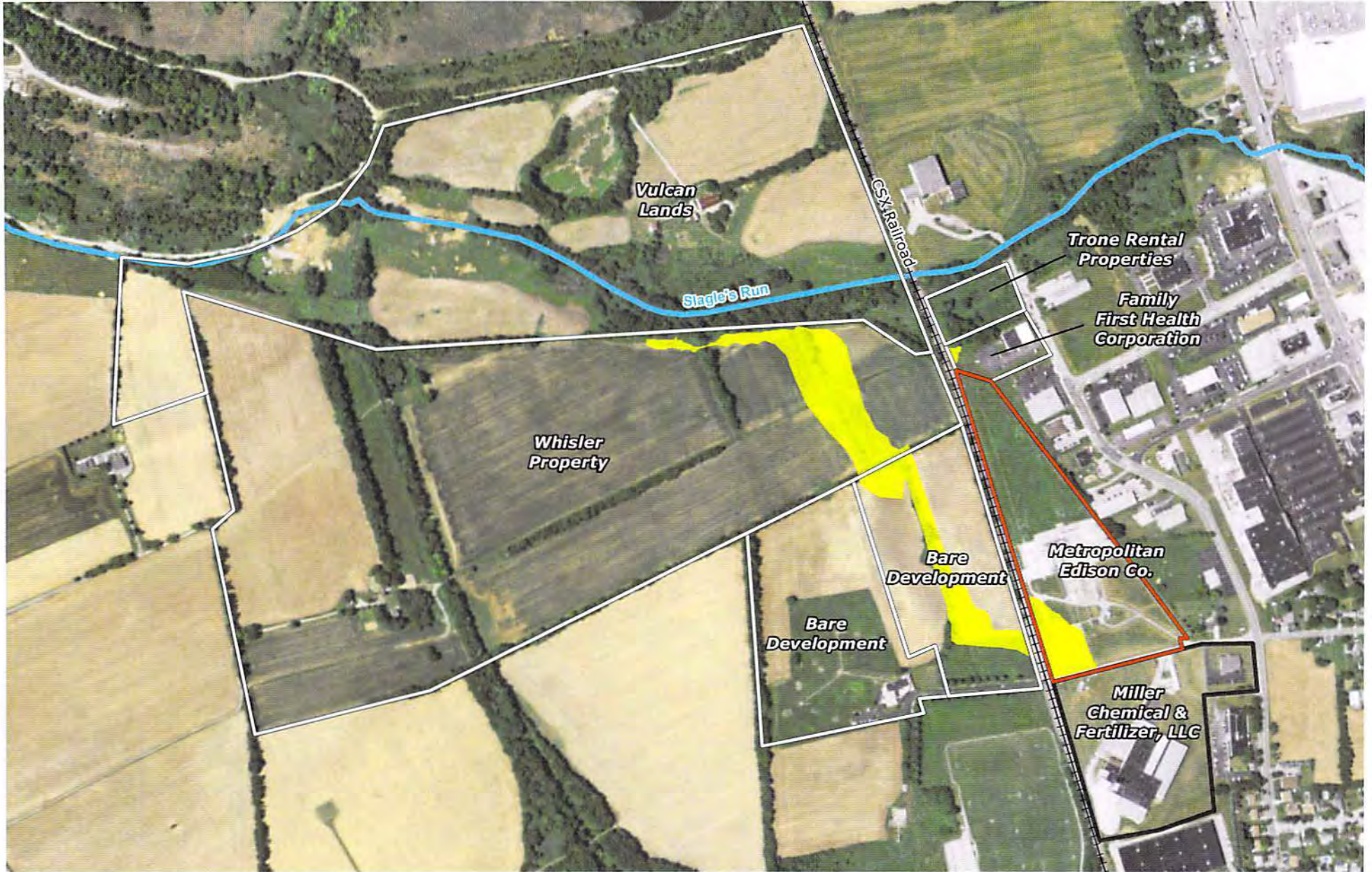
Property Owner		
Contact Person/Title <u>Jason A. Speicher</u>	eFACTS Client ID* _____	
Relationship to Site <u>Senior Environmental Scientist</u> (e.g. owner, remediator, participant in cleanup, consultant, etc.)	Client Type* <u>Other</u>	
Phone Number <u>610-921-6935</u>	Email Address <u>jspeicher@firstenergycorp.com</u>	
Company Name <u>FirstEnergy Corp.</u>	EIN or Federal ID # <u>23-0870160</u>	
Address (street, city, state, zip) <u>P.O. Box 16001, Reading, PA 19612</u>		

Consultant		
Contact Person/Title <u>Sarah Stoneking</u>	eFACTS Client ID* <u>274925</u>	
Relationship to Site <u>Consultant</u> (e.g. owner, remediator, participant in cleanup, consultant, etc.)	Client Type* <u>Other (Non Government)</u>	
Phone Number <u>703-516-2407</u>	Email Address <u>sstoneking@ramboll.com</u>	
Company Name <u>Ramboll Environ US Corporation</u>	EIN or Federal ID # <u>52-1248616</u>	
Address (street, city, state, zip) <u>4350 North Fairfax Drive, Suite 300, Arlington, VA 22203</u>		

*Include eFACTS Client ID (if known) – "Client Types" below:		
Association/Organization	Limited Liability company	Partnership-General
Authority	Limited Liability Partnership	Partnership-Limited
County	Municipality	School District
Estate/Trust	Non-Pennsylvania Government	Sole Proprietorship
Federal Agency	Other (Non-Government)	State Agency
Individual	Pennsylvania Corporation	

Preparer of Notice of Intent to Remediate		
Name <u>Mark Nielsen</u>	Title <u>Principal</u>	
Phone Number <u>609-243-9859</u>	Email Address <u>mnielsen@ramboll.com</u>	
Company Name <u>Ramboll Environ US Corporation</u>	eFACTS Client ID <u>274925</u>	

Address (street, city, state, zip) 1760 Market Street, Suite 1000, Philadelphia, PA 19103

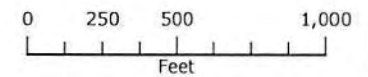


- Miller Chemical Property
- Other Off-Site Properties
- Met-Ed Property
- Visibly Affected Area

Imagery Source: Esri Streaming Imagery

Notes:

- (1) Visibly affected area extended to Slagle's Run north of the Whisler Property.
- (2) Visibly affected area on the Miller Chemical property is not shown on this figure.





April 11, 2016

Mr. Jason Speicher
Senior Environmental Scientist
FirstEnergy Corporation
P.O. Box 16001
Reading, PA 19612

Re: Receipt of Notice of Intent to Remediate
Statewide Health Standard
Metropolitan Edison company North Hanover Substation
eFACTS PF# 809371
Radio Road west of High Street, Hanover, PA
Conewago Township, Adams County

Dear Mr. Speicher:

This letter acknowledges receipt of your Notice of Intent to Remediate (NIR) on April 5, 2016, pertaining to the subject property and submitted in accordance with the Land Recycling and Environmental Remediation Standards Act (Act 2). The procedures set forth in Act 2 must be followed in order for this site to qualify for the liability protection provided by the Act. If in the future you choose to select either the site-specific standard or choose to use the special industrial area provisions in Subchapter E of the Chapter 250 regulations, you will need to resubmit the NIR and follow the requirements relating to public involvement plan coordination with the local municipality. Please contact this office if you need advice on these requirements.

A final report, accompanied by the required fee, should be submitted to the Department of Environmental Protection (DEP or Department) upon completion of remediation. Include documentation verifying compliance with the public notification requirements.

Additional technical and program information can be found at www.dep.pa.gov, under Businesses > Land > Land Recycling. Also, please refer to the Land Recycling Program checklists which are helpful in assuring reports are complete before submittal. The DEP uses the checklists to perform administrative and technical completeness reviews when plans and/or reports are submitted. It is strongly encouraged to include the appropriate completed checklist with your final report submission. Land Recycling checklists can be found at the website under 'Forms, Checklists & Notifications' link.

Please refer to the enclosed Standard Attachment for considerations of other programs which may be applicable to this property.

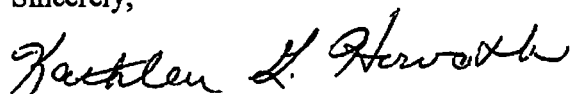
Mr. Jason Speicher

- 2 -

April 11, 2016

Mr. Richard Kaiser is the project manager assigned to your project and will be working with you towards the remediation of this property. Frequent contact is encouraged between your representatives and our staff. If you have any questions or need further clarifications of our procedures, please call Mr. Kaiser at 717.705.4851.

Sincerely,



Kathleen G. Horvath, P.G.
Land Recycling Chief
Environmental Cleanup and Brownfields Program

Enclosure: Standard Attachment

cc: Sarah Stoneking, Ramboll Environ US Corporation
Tony Hartlaub, Miller Chemical & Fertilizer, LLC
Adams County Conservation District
Conewago Township

emn



March 30, 2016

Dear Customer:

The following is the proof-of-delivery for tracking number **775912090530**.

Delivery Information:

Status:	Delivered	Delivered to:	Receptionist/Front Desk
Signed for by:	A.SCHMIDT	Delivery location:	541 OXFORD AVE HANOVER, PA 17331
Service type:	FedEx Standard Overnight	Delivery date:	Mar 21, 2016 13:35
Special Handling:	Deliver Weekday Adult Signature Required		



Shipping Information:

Tracking number:	775912090530	Ship date:	Mar 18, 2016
		Weight:	0.5 lbs/0.2 kg

Recipient:
Ms. Barbara Krebs, Township Manager
Conewago Township
541 Oxford Avenue
HANOVER, PA 17331 US

Shipper:
Sarah Stoneking
4350 North Fairfax Drive
Suite 300
Arlington, VA 22203 US
0137782A Phase USOFF2

Reference

Thank you for choosing FedEx.

Proof of Publication
State of Pennsylvania

AD # 0001594611-01

The Evening Sun is the name of the newspaper(s) of general circulation published continuously for more than six months at its principal place of business, 37 Broadway Street, Hanover, PA.

The printed copy of the advertisement hereto attached is a true copy, exactly as printed and published, of an advertisement printed in the regular issues of the said The Evening Sun published on the following dates, viz:

Attach Copy of
Advertisement here

3/24/2016

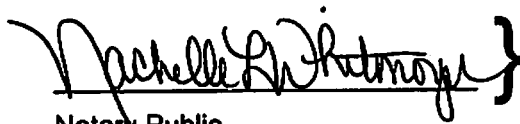
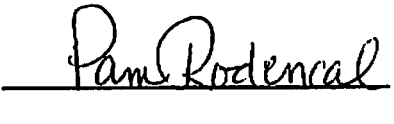
NEWSPAPER NOTIFICATION
Metropolitan Edison

Pursuant to the Land Recycling and Environmental Remediation Standards Act, the act of May 19, 1995, P.L. 4, No. 1995-2, notice is hereby given that Miller Chemical & Fertilizer, LLC (Miller Chemical) has submitted to the Pennsylvania Department of Environmental Protection a Notice of Intent to Remediate an electrical substation site located at Radio Road, west of High Street, Conewago Township, Adams County. This Notice of Intent to Remediate states that the site is operated as the Metropolitan Edison Company North Hanover Substation, an electrical power substation, which may have been impacted by chemicals mobilized by fire-fighting emergency response activities performed on June 8, 2015 at the Miller Chemical facility located at 120 Radio Road in Hanover. Runoff of the fire-fighting water carried fertilizer constituents from the Miller Chemical site, including metals and nutrients, which were suspected to have contaminated soil at the property owned by Metropolitan Edison Company. Soils from background and visibly affected areas were sampled for metals and nutrients. Concentrations of constituents of potential concern in site soils are below the Statewide Health Standards for non-residential site use. The future use of the property will be non-residential. As such, Miller Chemical has not proposed remediation measures.

COMMONWEALTH OF PENNSYLVANIA
COUNTY OF YORK

Before me, a Notary Public, personally came Pam Rodencal who being duly sworn deposes and says that she is the Legal Advertising Clerk of The Evening Sun and her personal knowledge of the publication of the advertisement mentioned in the foregoing statement as to the time, place and character of publications are true, and that the affiant is not interested in the subject matter of the above mentioned advertisement.

Sworn and subscribed to before me, on
this 24 day of March 2016

 } 

Notary Public

COMMONWEALTH OF PENNSYLVANIA

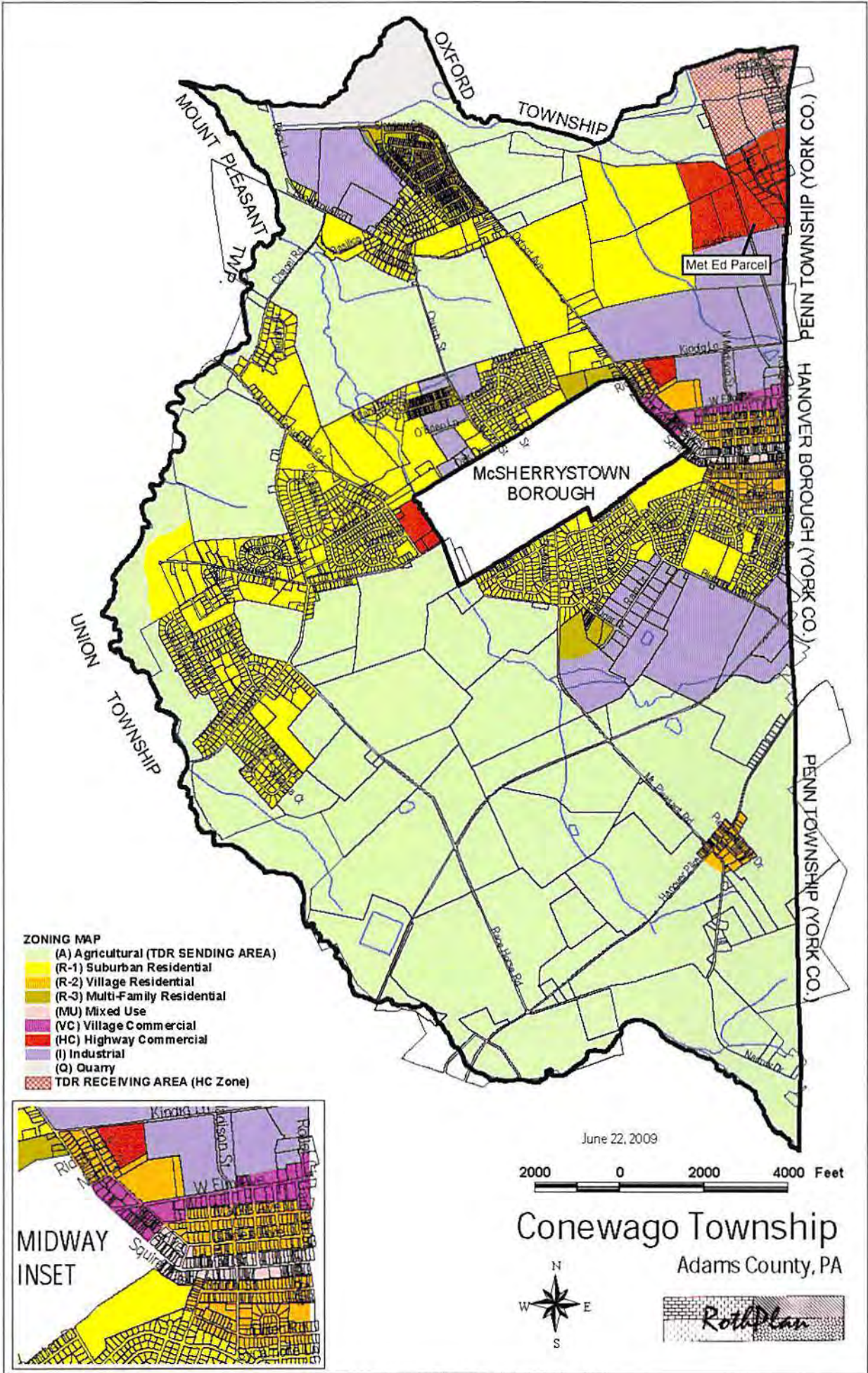
NOTARIAL SEAL
NACHELLE L. WHITMOYER, Notary Public
West Manchester Twp., York County
My Commission Expires April 14, 2019

The charge for the following publication of above mentioned advertisement and the expense of the affidavit.

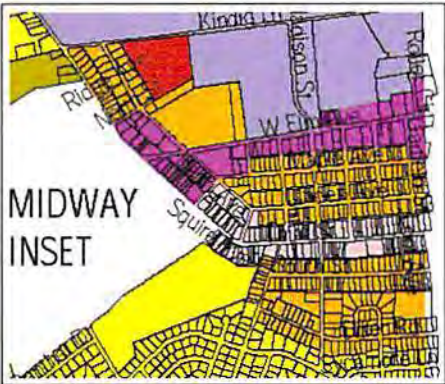
Advertisement Cost	\$91.54
Affidavit Fee	\$5.00
Total Cost	<u>\$96.54</u>

FINAL REPORT

**APPENDIX B
ZONING DOCUMENTS**



- ZONING MAP**
- (A) Agricultural (TDR SENDING AREA)
 - (R-1) Suburban Residential
 - (R-2) Village Residential
 - (R-3) Multi-Family Residential
 - (MU) Mixed Use
 - (VC) Village Commercial
 - (HC) Highway Commercial
 - (I) Industrial
 - (Q) Quarry
 - TDR RECEIVING AREA (HC Zone)

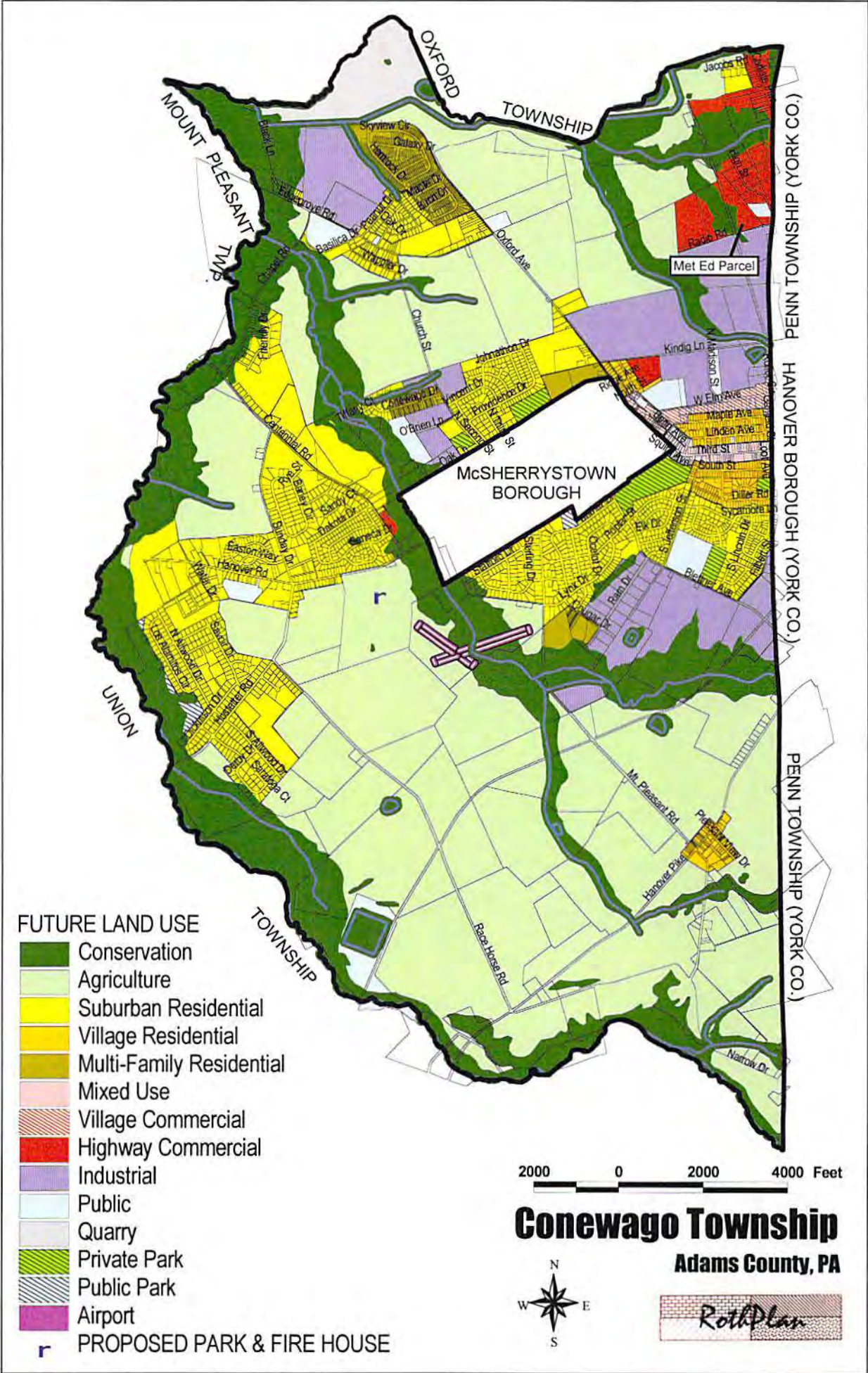


June 22, 2009

2000 0 2000 4000 Feet

Conewago Township
Adams County, PA





- FUTURE LAND USE**
- Conservation
 - Agriculture
 - Suburban Residential
 - Village Residential
 - Multi-Family Residential
 - Mixed Use
 - Village Commercial
 - Highway Commercial
 - Industrial
 - Public
 - Quarry
 - Private Park
 - Public Park
 - Airport
 - PROPOSED PARK & FIRE HOUSE

2000 0 2000 4000 Feet

Conewago Township
Adams County, PA



FINAL REPORT

**APPENDIX C
WASTE DISPOSAL DOCUMENTATION – CONDUIT VAULT CLEAN-OUT**

CUSTOMER INVOICE	
INVOICE DATE	INVOICE NUMBER
08/13/2015	519386239
Net 30 Days	

For Billing Inquiries
 Call DAVID MINNIG at 1 (717) 764-8677

Customer No. 450931

BILL TO: FIRST ENERGY
 PO BOX 16001
 2800 POTTSVILLE PIKE
 READING, PA 19640
 TONY GOBER

Generator No. 357560

JOB SITE: METROPOLITAN EDISON CO.
 HANOVER OFFICE
 11 BARNHART DRIVE
 HANOVER, PA 17331
 EARL DEATRICH

MANIFEST NUMBERS:
 A MISC2325933

CUSTOMER P.O. NUMBER	SERVICE DATE RANGE				TERR.
55108085-004	08/11/2015				P66
DESCRIPTION	UOM	QTY	UNIT PRICE	EXTENSION	
Material TOTE-275 GALLON	EACH	4.00	\$179.00	\$716.00	
Manpwr. MATERIAL DROP-OFF CHARGE	EACH	1.00@1.00	\$250.00	\$250.00	
TOTAL				\$966.00	

Veolia ES Technical Solutions LLC is permitted for and has capacity to accept waste listed above in container quantities.
 ALL PAST DUE AMOUNTS WILL BEAR INTEREST AT 1.5% PER MONTH OR THE MAXIMUM RATE ALLOWED BY LAW, WHICHEVER IS LESS.

CUSTOMER COPY

PLEASE REMIT TO: PO BOX 73709, CHICAGO, IL 60673-7709

FINAL REPORT

APPENDIX D
WASTE DISPOSAL DOCUMENTATION – CSX CULVERT

TABLE D-1
Summary of Waste Characterization Sampling Results
Miller Chemical & Fertilizer, Hanover, Pennsylvania

Location	USEPA	TCLP Reg	CSX-WC-1
Field Sample ID	Haz	Limit	CSX-WC-1-081115
Lab Sample ID	Waste		15081221-004 /
Sample Date	Code		15081222-004
Comments			8/11/2015
WCHAR			
Flashpoint [deg F]			205 (70)
VOC (TCLP) [MG/L]			U
SVOC (TCLP) [MG/L]			U
PHYS			
Organic Carbon (total)			114000 (500)
Moisture Content [%]			34
pH [SU]			7.3
PEST (TCLP) [MG/L]			U
PCB			U
INORG (TCLP) [MG/L]			
Aluminum			0.7 J (1)
Copper			0.015 (0.01)
Manganese			1.6 (0.01)
Potassium			17 (1)
Zinc			0.35 (0.2)
INORG			
Ammonia			401 (11.5)
Phosphorus (total)			5620 (1540)
HERB (TCLP) [MG/L]			U

Notes:

- 1 All concentrations are presented in milligrams per kilogram (mg/kg) except where otherwise noted.
- 2 Only compounds with at least one detection are shown.
- 3 None of the concentrations exceeded the toxicity characteristic leaching procedure (TCLP) regulatory limit.

Abbreviations:

- U -- Not Detected.
- J -- Estimated Concentration.
- () -- Detection Limit.

MODERN LANDFILL 4400 Mount Pisgah Rd York, PA 17402 --		SITE 01 Cell 55N 107W 36.3 24.7 WEIGHMASTER IN - Tammy Y. OUT - Kay M. Ticket 1041843
CUSTOMER 333359 Miller Chemical & Fertilizer, LLC 120 Radio Road Hanover, PA 17331 38191514443	SCALEHOUSE COPY LICENSE: VIN TYPE: DUMP TRUCK	DATE IN 9/14/15 7:42 am DATE OUT 9/14/15 8:05 am VEHICLE 144DT80 CONTAINER REFERENCE 2260000/SWAD INVOICE BILL OF LADING TAMMY 75926
SCALE IN GROSS WEIGHT 32,900 NET TONS 2.82 SCALE OUT TARE WEIGHT 27,260 NET WEIGHT 5,640 INBOUND VEHICLE DESC: WH0290 CONEWAGO CONTAINER DESC		

QTY.	UNIT.		DESCRIPTION	RATE.	EXTENSION.	TAX.	TOTAL
20.00	YD		TRACKING QTY				
2.82	TN		SW-CONT SOIL				ADAMS

DRIVER: WEIGHMASTER

NET AMOUNT
TENDERED
CHANGE
CHECK

MODERN LANDFILL 4400 Mount Pisgah Rd York, PA 17402 --		SITE 01 CELL 24.7 36.3 55N 107W WEIGHMASTER IN - Tammy Y. OUT - Kay M. Ticket 1041843
CUSTOMER 333359 Miller Chemical & Fertilizer, LLC 120 Radio Road Hanover, PA 17331 38191514443	CUSTOMER COPY LICENSE: VIN TYPE: DUMP TRUCK	DATE IN 9/14/15 7:42 am DATE OUT 9/14/15 8:05 am VEHICLE 144DT80 CONTAINER REFERENCE 2260000/SWAD INVOICE BILL OF LADING TAMMY 75926
SCALE IN GROSS WEIGHT 32,900 NET TONS 2.82 SCALE OUT TARE WEIGHT 27,260 NET WEIGHT 5,640 INBOUND VEHICLE DESC: WH0290 CONEWAGO CONTAINER DESC		

QTY.	UNIT.		DESCRIPTION	RATE.	EXTENSION.	TAX.	TOTAL
20.00	YD		TRACKING QTY				
2.82	TN		SW-CONT SOIL				ADAMS

DRIVER: WEIGHMASTER

NET AMOUNT
TENDERED
CHANGE
CHECK



NON-HAZARDOUS SPECIAL WASTE & ASBESTOS MANIFEST

2260000

If waste is asbestos waste, complete Sections I, II, III and IV
If waste is **NOT** asbestos waste, complete Sections I, II and III

I. GENERATOR (Generator completes Ia-r)

e. Generator's US EPA ID Number		b. Manifest Document Number		c. Page 1 of		
d. Generator's Name and Location: <i>M. General</i>			e. Generator's Mailing Address: <i>170 Radio Road, Herndon, VA 20181</i>			
f. Phone: <i>703-652-5921</i>			g. Phone: <i>703-652-5921</i>			
If owner of the generating facility differs from the generator, provide:						
h. Owner's Name:			i. Owner's Phone No.:			
j. Waste Profile #	k. Exp. Date	l. Waste Shipping Name and Description	m. Containers		n. Total Quantity	o. Unit Wt/Vol
			No.	Type		
1514443						

GENERATOR'S CERTIFICATION: I hereby certify that the above named material is not a hazardous waste as defined by 40 CFR 261 or any applicable state law, has been properly described, classified and packaged, and is in proper condition for transportation according to applicable regulations; AND, if this waste is a treatment residue of a previously restricted hazardous waste subject to the Land Disposal Restrictions, I certify and warrant that the waste has been treated in accordance with the requirements of 40 CFR 268 and is no longer a hazardous waste as defined by 40 CFR 261.

p. Generator Authorized Agent Name (Print)	q. Signature	r. Date
		9/14/15

II. TRANSPORTER (Generator completes IIa-b and Transporter completes IIc-e)

a. Transporter's Name and Address: <i>Lowry's Express</i>		
b. Phone: <i>703-652-5921</i>		
c. Driver Name (Print)	d. Signature	e. Date
<i>Randy Beck</i>		9-14-15

III. DESTINATION (Generator complete IIIa-c and Destination Site completes III d-g)

a. Disposal Facility and Site Address: <i>MARATHON</i>	c. US EPA Number <i>PA 01013</i>	d. Discrepancy Indication Space:
b. I hereby certify that the above named material has been accepted and to the best of my knowledge the foregoing is true and accurate.		

e. Name of Authorized Agent (Print)	f. Signature	g. Date
<i>T. Beck</i>		9/14/15

IV. ASBESTOS (Generator completes IVa-f and Operator complete IVg-i)

a. Operator's Name and Address:	c. Responsible Agency Name and Address:
b. Phone:	d. Phone:

e. Special Handling Instructions and Additional Information:

f. Friable Non-Friable Both % Friable % Non-Friable

OPERATOR'S CERTIFICATION: I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations.

g. Operator's Name and Title (Print)	h. Signature	i. Date

*Operator refers to the company which owns, leases, operates, controls, or supervises the facility being demolished or renovated, or the demolition or renovation operation or both

SITE 12
CSX HANOVER SUBDIVISION LINE

**NO PADEP SOUTHCENTRAL REGIONAL OFFICE FILES WERE
AVAILABLE TO REVIEW FOR THIS FACILITY**

SITE 13
LOIS E. WHISLER PROPERTY
539 OXFORD AVENUE



FILE

1B

April 28, 2016

Mr. Glendon Whisler
100 Chancellor's Ridge Court
Cary, NC 27513

Re: Receipt of Notice of Intent to Remediate
Site Specific and Statewide Health Standards
Lois E. Whisler Property / Miller Chemical Co Fire
eFACTS PF # 809798
539 Oxford Avenue, Hanover, PA
Conewago Township, Adams County

Dear Mr. Whisler:

This letter acknowledges receipt of your Notice of Intent to Remediate (NIR) on April 19, 2016 pertaining to the subject property and submitted in accordance with the Land Recycling and Environmental Remediation Standards Act (Act 2). The procedures set forth in Act 2 must be followed in order for this site to qualify for the liability protection provided by the Act. The Department of Environmental Protection (DEP or Department) will not accept plans and reports until after the 30-day comment period following submission of the NIR ends.

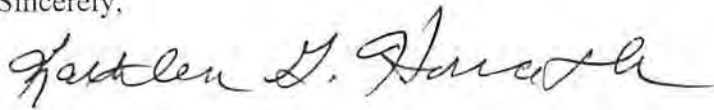
The 30-day comment period following submission of the NIR allows the municipality the opportunity to request to be involved in the development of remediation and reuse plans for the property. If the municipality requests a public involvement plan, any comments and responses must be included in any subsequent reports. Remedial investigation reports, risk assessment reports, cleanup plans, and final reports submitted to the Department under the site-specific standard need to be accompanied by the required fees and documentation verifying compliance with the public notification requirements.

Additional technical and program information can be found at www.dep.pa.gov, under Businesses > Land > Land Recycling. Also, please refer to the Land Recycling Program checklists which are helpful in assuring reports are complete before submittal. The DEP uses the checklists to perform administrative and technical completeness reviews when plans and/or reports are submitted. It is strongly encouraged to include the appropriate completed checklist with your final report submission. Land Recycling checklists can be found at the website under 'Forms, Checklists & Notifications' link.

Please refer to the enclosed Standard Attachment for considerations of other programs which may be applicable to this property.

Richard Kaiser, Jr. is the project manager assigned to your project and will be working with you towards the remediation of this property. Frequent contact is encouraged between your representatives and our staff. If you have any questions or need further clarifications of our procedures, please call Mr. Kaiser at 717.705.4851.

Sincerely,



Kathleen G. Horvath, P.G.
Land Recycling Chief
Environmental Cleanup and Brownfields Program

Enclosure: Standard Attachment

cc: Sarah Stoneking, Ramboll Environ US Corp.
Tony Hartlaub, Miller Chemical & Fertilizer, LLC
Adams County Conservation District
Conewago Township

kgH



Site #15509
For DEP Use Only
PF# 809798
Rem ID # _____
PO = Kaiser

NOTICE OF INTENT TO REMEDIATE

Act 1995-2 requires four general information items to be included in the NIR: the general location, listing of contaminants, intended use of property, and proposed remediation measures. In addition, indicate the standard(s) to be obtained (if known) and attach a scaled site map (if available).

Property Name Lois E. Whisler Property Miller Chemical Co FILE

Former Name(s) / AKA _____

Address / Location 539 Oxford Avenue

City Hanover Zip Code 17331

Municipality(s) Conewago Township County(ies) Adams

Latitude 39 ° (deg), 49 ' (min), 22.59 " (sec) Longitude 77 ° (deg), 0 ' (min), 22.83 (sec)

Horizontal Collection Method Pennsylvania Department of Environmental Protection eMapPA

Horizontal Reference Datum NAD83 Reference Point Center of Impacted Area

Wish to participate in the DEP/EPA MOA. Contact Troy Conrad at tconrad@state.pa.us for details.

EPA ID#, if known none identified

DEP ID#(s), if known none identified
(i.e., eFACTS site ID#, storage tank facility ID#, water quality permit #, watershed permit, air quality permit #, etc.)

Date Release Occurred (if known) June 8, 2015

Provide a brief description of the site contamination in plain language (e.g. fuel oil spill, historical chemical industrial area contamination), the names of any know primary contaminants to be addressed, and the intended future use of the property.

Identified impacts at the Lois E. Whisler property resulted from the migration of fire-fighting water during emergency response activities related to the June 8, 2015 fire at the Miller Chemical & Fertilizer, LLC (Miller Chemical) facility located at 170 Radio Road in Hanover. The fire water carried fertilizer constituents from the Miller Chemical site. Constituents of potential concern include metals and nutrients and as such, soil samples from background and visibly affected areas have been collected and analyzed for the presence of metals and nutrients. The intended future use of the property is agricultural/unrestricted use. Therefore, concentrations of constituents of potential concern were evaluated with respect to unrestricted site use.

Provide a general description of proposed remediation measures.

No remediation measures are proposed at this property because measured concentrations of constituents of potential concern in site soil are either below the Statewide Health Standards for unrestricted site use or are not of concern given the results of a site-specific analysis (for those constituents without Statewide Health Standards).

**Attachment A
Notice of Intent to Remediate**

Remediation Standard(s) planned (if known at this time):

- | | | |
|--|--|--------------------------------------|
| <input type="checkbox"/> Unknown at this time | <input type="checkbox"/> Soil | <input type="checkbox"/> Groundwater |
| <input type="checkbox"/> Background Contaminants: | <input type="checkbox"/> Soil | <input type="checkbox"/> Groundwater |
| <input checked="" type="checkbox"/> Statewide Health - Residential
Contaminants: aluminum, antimony, arsenic, barium, beryllium, boron, cadmium, total chromium, cobalt, copper, iron, lead, manganese, mercury, molybdenum, nickel, selenium, silver, thallium, vanadium, zinc, nitrate, nitrite | <input checked="" type="checkbox"/> Soil | <input type="checkbox"/> Groundwater |
| <input type="checkbox"/> Statewide Health – Non-Residential
Contaminants: | <input type="checkbox"/> Soil | <input type="checkbox"/> Groundwater |
| <input checked="" type="checkbox"/> Site Specific
Contaminants: calcium, magnesium, total kjeldahl nitrogen, phosphorus, potassium, sodium, sulfate | <input checked="" type="checkbox"/> Soil | <input type="checkbox"/> Groundwater |
| <input type="checkbox"/> Special Industrial Area*
Contaminants: | <input type="checkbox"/> Soil | <input type="checkbox"/> Groundwater |

*NOTE: Specific standard or Special Industrial Area require a 30-day municipal comment period

Remediator / Property Owner / Consultant. Complete the form below for each recipient obtaining a release of liability upon approval of the final report. Attach additional sheets as necessary.

Remediator	
Contact Person/Title <u>Tony Hartlaub/ VP Finance</u>	eFACTS Client ID* <u>320516</u> 563873
Relationship to Site <u>Remediator</u> (e.g. owner, remediator, participant in cleanup, consultant, etc.)	Client Type* <u>LLC</u>
Phone Number <u>717-632-8921</u>	Email Address <u>Tonyhartlaub@millerchemical.com</u>
Company Name <u>Miller Chemical & Fertilizer, LLC</u>	EIN or Federal ID # <u>46-5407027</u>
Address (street, city, state, zip) <u>120 Radio Road, Hanover, PA 17332</u>	

Property Owner	
Contact Person/Title <u>Glendon Whisler/Owner</u>	eFACTS Client ID* <u>327737</u>
Relationship to Site <u>Owner</u> (e.g. owner, remediator, participant in cleanup, consultant, etc.)	Client Type* <u>Other</u>
Phone Number <u>919-678-0022</u>	Email Address <u>gwhisler@nc.rr.com</u>
Company Name <u>NA</u>	EIN or Federal ID # _____
Address (street, city, state, zip) <u>100 Chancellor's Ridge Court, Cary, NC 27513</u>	

Consultant	
Contact Person/Title <u>Sarah Stoneking/Senior Project Manager</u>	eFACTS Client ID* <u>327099</u> 274925
Relationship to Site <u>Consultant</u> (e.g. owner, remediator, participant in cleanup, consultant, etc.)	Client Type* <u>Other (Non-Government)</u>
Phone Number <u>703-516-2407</u>	Email Address <u>sstoneking@ramboll.com</u>
Company Name <u>Ramboll Environ US Corporation</u>	EIN or Federal ID # <u>52-1248616</u>
Address (street, city, state, zip) <u>4350 North Fairfax Drive, Suite 300, Arlington, VA 22203</u>	

*Include eFACTS Client ID (if known) – "Client Types" below:

- | | | |
|--------------------------|-------------------------------|---------------------|
| Association/Organization | Limited Liability company | Partnership-General |
| Authority | Limited Liability Partnership | Partnership-Limited |
| County | Municipality | School District |
| Estate/Trust | Non-Pennsylvania Government | Sole Proprietorship |
| Federal Agency | Other (Non-Government) | State Agency |
| Individual | Pennsylvania Corporation | |

Preparer of Notice of Intent to Remediate	
Name <u>Mark Nielsen</u>	Title <u>Principal</u>
Phone Number <u>215-532-5602</u>	Email Address <u>mnielsen@ramboll.com</u>
Company Name <u>Ramboll Environ US Corporation</u>	eFACTS Client ID <u>274925</u>
Address (street, city, state, zip) <u>1760 Market Street, Suite 1000, Philadelphia, PA 19103</u>	

Faint, illegible text at the top of the page, possibly a header or introductory paragraph.

Second block of faint, illegible text, appearing as a separate paragraph or section.

31 10 28

Third block of faint, illegible text, continuing the document's content.

31 10 28

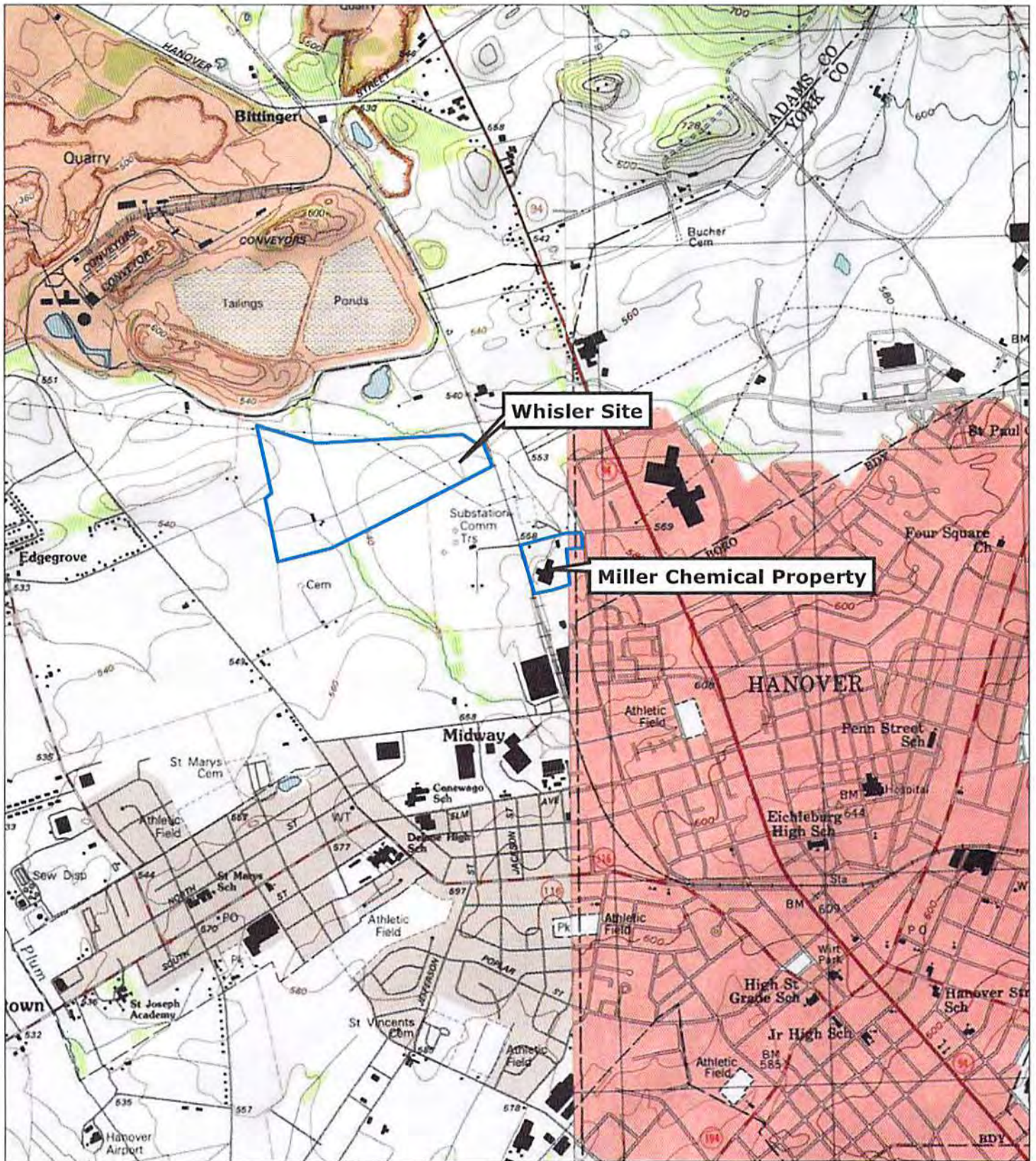
Fourth block of faint, illegible text, showing further details or information.

31 10 28

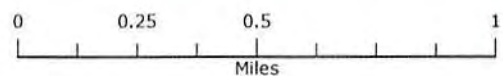
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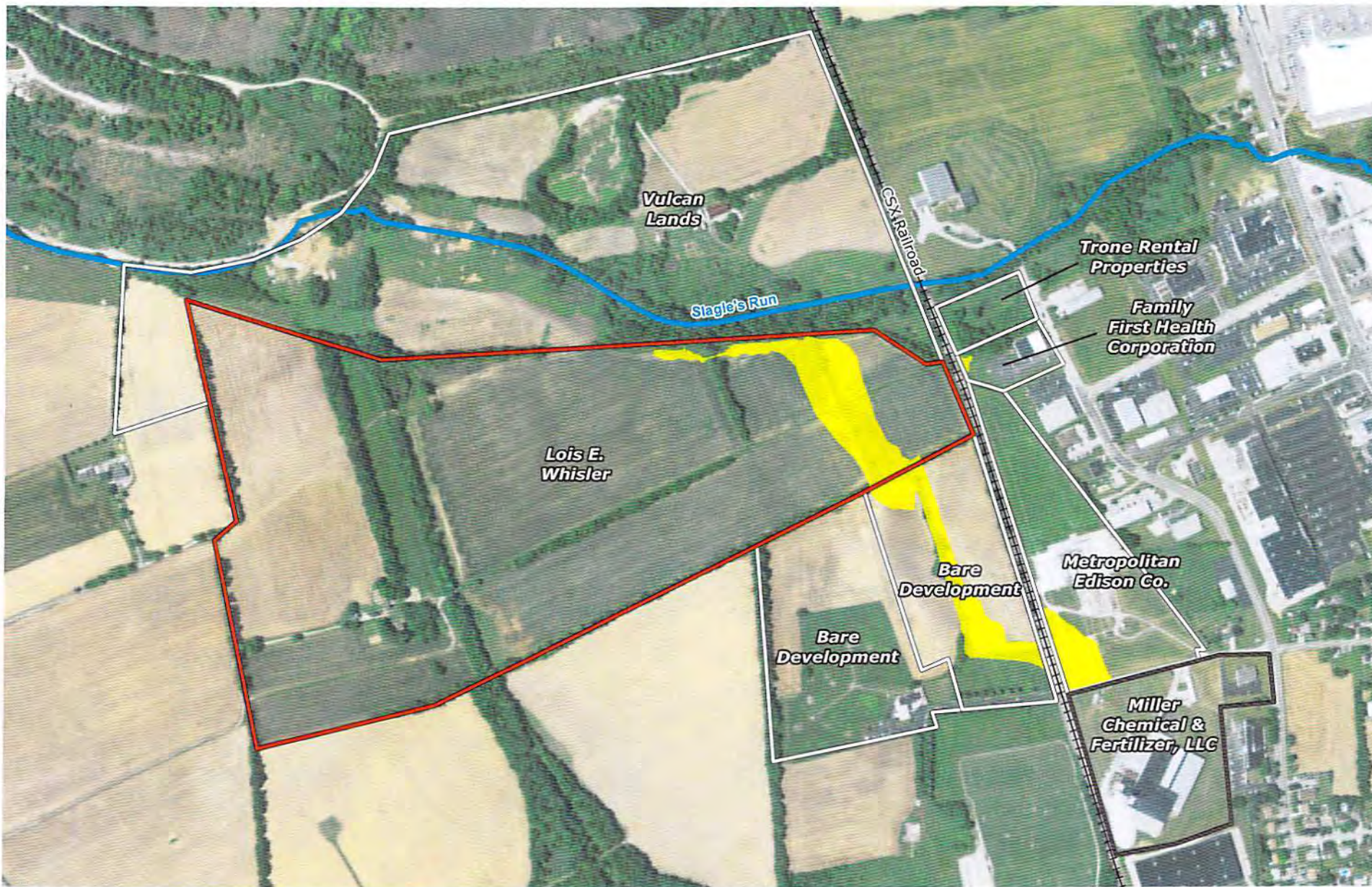
Sixth block of faint, illegible text, appearing as a list or detailed notes.

Final block of faint, illegible text at the bottom of the page.



SCALE 1:24,000

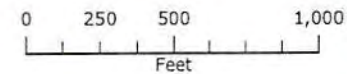




- Miller Chemical Property
- Other Off-Site Properties
- Whisler Property
- Visibly Affected Area

Imagery Source: Esri Streaming Imagery

Notes:
 (1) Visibly affected area extended to Slagle's Run north of the Whisler Property.
 (2) Visibly affected area on the Miller Chemical property is not shown on this figure.



Proof of Publication State of Pennsylvania

AD # 0001596648-01

The Evening Sun is the name of the newspaper(s) of general circulation published continuously for more than six months at its principal place of business, 37 Broadway Street, Hanover, PA.

Attach Copy of
Advertisement here

The printed copy of the advertisement hereto attached is a true copy, exactly as printed and published, of an advertisement printed in the regular issues of the said **The Evening Sun** published on the following dates, viz:

NEWSPAPER NOTIFICATION

Whisler Property

Pursuant to the Land Recycling and Environmental Remediation Standards Act, the act of May 19, 1995, P.L. 4, No. 1995-2, notice is hereby given that Miller Chemical & Fertilizer, LLC (Miller Chemical) has submitted to the Pennsylvania Department of Environmental Protection a Notice of Intent to Remediate a site located at 539 Oxford Avenue, Conewago Township, Adams County. This Notice of Intent to Remediate states that the site is an agricultural property owned by Lois Whisler, Anita Whisler and Glendon Whisler (the "Whislars"). The site has been found to be impacted by fertilizer constituents mobilized by fire-fighting emergency response activities performed on June 8, 2016 at the Miller Chemical facility located at 170 Radio Road in Hanover. Runoff of the fire-fighting water carried fertilizer constituents from the Miller Chemical site, including metals and nutrients, which were suspected to have contaminated soil at the property owned by the Whislars. Soils from background and visibly affected areas were sampled for metals and nutrients. The future use of the property is expected to remain in agricultural or other unrestricted use. Concentrations of constituents of potential concern in site soils are below the Statewide Health Standards established for residential site use or are not of concern given the results of a site-specific analysis (for those constituents without Statewide Health Standards). As such, Miller Chemical has not proposed remediation measures.

Miller Chemical plans to use the site-specific standard at the site for fertilizer constituents for which Statewide Health Standards do not exist. The Act provides for a 30-day public comment period for site-specific standard remediations. The 30-day comment period is initiated with the publication of this notice. Until April 30, 2016, Conewago Township may submit a request to Miller Chemical during this 30-day comment period to develop and implement a public involvement plan. Copies of these requests and of any comments should also be submitted to the Department of Environmental Protection at 909 Elmerton Avenue, Harrisburg, PA 17110-8200, Attn: Richard Kaiser.

3/31/2016

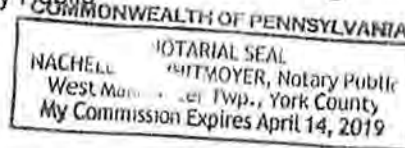
COMMONWEALTH OF PENNSYLVANIA COUNTY OF YORK

Before me, a Notary Public, personally came Pam Rodencal who being duly sworn deposes and says that she is the Legal Advertising Clerk of The Evening Sun and her personal knowledge of the publication of the advertisement mentioned in the foregoing statement as to the time, place and character of publications are true, and that the affiant is not interested in the subject matter of the above mentioned advertisement.

Sworn and subscribed to before me, on
this 31 day of March 2016

Nachelle R. Whitmoyer }
Notary Public

Pam Rodencal



The charge for the following publication of above mentioned advertisement and the expense of the affidavit.

Advertisement Cost	\$147.20
Affidavit Fee	\$5.00
Total Cost	\$152.20

Ms. Barbara Krebs
Township Manager
Conewago Township
541 Oxford Avenue
Hanover, PA 17331

**RE: Notice of Intent to Remediate to Statewide Health and Site
Specific Standards
Whisler Property
539 Oxford Avenue
Conewago Township
Adams County**

Date March 29, 2016

Dear Ms. Krebs,

The Land Recycling and Environmental Remediation Standards Act (Act 2) requires that a Notice of Intent to Remediate (NIR) a site be provided to the municipality in which the site is located. In accordance with this provision of Act 2, we are formally notifying you of our intent to remediate the subject site. A copy of the Notice of Intent to Remediate, which has been sent to the Department of Environmental Protection (DEP), is enclosed. This notice will also be published in the Pennsylvania Bulletin, and a summary of the notice will be placed in a local newspaper.

Ramboll Environ
4350 North Fairfax Drive
Suite 300
Arlington, VA 22203
USA

T +1 703 516 2300
F +1 703 516 2345
www.ramboll-environ.com

Publication of this notice in a local newspaper initiates the 30-day public and municipal comment period. During this time, your municipality may request to become involved in the development of remediation and reuse plans for the site. If the municipality wishes to become involved in this project, please send your comments to the Department of Environmental Protection at 909 Elmerton Avenue, Harrisburg, PA 17110-8200 to the attention of the case manager, Mr. Richard Kaiser.



Should you have any questions or comments regarding the proposed remediation, please feel free to contact me at (703) 516-2407.

Yours sincerely,

A handwritten signature in black ink, appearing to read "Sarah Stoneking".

Sarah Stoneking
Senior Manager

D +1 703 516 2407
sstoneking@ramboll.com

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Shabnam Rai

FedEx® Tracking

775987813267

Ship date

Tue 3/29/2016

Sarah Stocking
Suite 300
4350 North Fairfax Drive
Arlington, VA US 22203
703 201-2317

Actual delivery

Wed 3/30/2016 2:20 pm

Delivered

Signed for by: S SCHMIDT



Conewago Township
Ms. Barbara Krebs, Township
Manager
541 Oxford Avenue
HANOVER, PA US 17331
717 637-0411

Travel History

Date/Time	Activity	Location
3/30/2016 - Wednesday		
2:20 pm	Delivered	HANOVER, PA
8:33 am	On FedEx vehicle for delivery	YORK, PA
8:14 am	At local FedEx facility	TURK, PA
4:45 am	At destination sort facility	MIDDLETOWN, PA
3:54 am	Departed FedEx location	NEWARK, NJ
3/29/2016 - Tuesday		
11:59 pm	Arrived at FedEx location	NEWARK, NJ
9:11 pm	Left FedEx origin facility	ALEXANDRIA, VA
6:51 pm	Picked up	ALEXANDRIA, VA
3:36 pm	Shipment information sent to FedEx	

Shipment Facts

Tracking number	775987813267	Service	FedEx Standard Overnight
Weight	0.5 lbs / 0.23 kgs	Delivery attempts	1
Delivered To	Receptionist/Front Desk	Total pieces	1
Total shipment weight	0.5 lbs / 0.23 kgs	Terms	Not Available
Shipper reference	0137782A Phase USOFF2	Packaging	FedEx Envelope
Special handling section	Deliver Weekday		



Search or tracking number | **Sub**

Customer Focus

New Customer Center
Small Business Center
Service Guide
Customer Support

Company Information

About FedEx
Careers
Investor Relations
Subscribe to FedEx email

Featured Services

FedEx Delivery Manager
FedEx SameDay
FedEx Home Delivery
Healthcare Solutions
Online Retail Solutions
Packaging Services
Ancillary Clearance Services

Other Resources

FedEx Compatible
Developer Resource Center
FedEx Ship Manager Software
FedEx Mobile

Companies

FedEx Express
FedEx Ground
FedEx Office
FedEx Freight
FedEx Custom Critical
FedEx Trade Network
FedEx CrossBorder
FedEx SupplyChain
FedEx TechConnect

Follow FedEx

United States - English

James E. Rea, P.G.
Pennsylvania Department of Environmental Protection
Environmental Cleanup and Brownfields
909 Elmerton Avenue
Harrisburg, Pennsylvania 17110



18
ADAMS COUNTY

DEAR JIM

Please find attached finalized report text and revised text for Appendices K and L for the Remedial Investigation and Final Report, Lois E. Whisler Property, 539 Oxford Avenue, Hanover, Pennsylvania, which incorporates the redline edits submitted to PADEP via electronic mail on Tuesday, May 16, 2017 and accepted by PADEP on Thursday, May 18, 2017. Please replace the following sections of the draft report with the attached pages, which include:

- Report text;
- Tables 5-1 to 5-3;
- Appendix K; and
- Appendix L.

Yours sincerely,

A handwritten signature in black ink that reads "Sarah Stoneking".

Sarah Stoneking
Senior Manager

D +1 703 5162407
M +1 703 5874356
SStoneking@ramboll.com

Date May 23, 2017

Ramboll Environ
4350 North Fairfax Drive
Suite 300
Arlington, VA 22203
USA

T +1 703 516 2300
F +1 703 516 2345
www.ramboll-environ.com

February 28, 2017

FILE

Mr. Tony Hartlaub
Miller Chemical & Fertilizer, LLC
120 Radio Road
Hanover, PA 17332

Re: Receipt of Remedial Investigation and Final Report
Lois E. Whisler Property
eFACTS PF # 809798
539 Oxford Avenue, Hanover, PA
Conewago Township, Adams County

Dear Mr. Hartlaub:

This letter acknowledges receipt of your Remedial Investigation and Final Report on February 22, 2017 pertaining to the subject property and submitted in accordance with the Land Recycling and Environmental Remediation Standards Act (Act 2). The Notice of Intent to Remediate submitted previously and this Final Report indicate that you sought to remediate this site to meet the Site-Specific and Statewide Health Standards.

The Department of Environmental Protection (Department) has 90 days from receipt of a submission to review the combined Report. You will receive a letter advising you of the Department's action. If you have any questions or need further clarification of our procedures, please call Jim Rea at 717.705.4850.

Sincerely,



Kathleen G. Horvath, P.G.
Land Recycling Chief

cc: Sarah Stoneking, Ramboll Environ US Corporation
Glendon Whisler
Adams County Conservation District
Conewago Township

emm

MB

NOTICES

DEPARTMENT OF ENVIRONMENTAL PROTECTION

Applications, Actions and Special Notices

[47 Pa.B. 1640]

[Saturday, March 18, 2017]

UNDER ACT 2, 1995

PREAMBLE 2

The following plans and reports were submitted under the Land Recycling and Environmental Remediation Standards Act (35 P.S. §§ 6026.101—6026.907).

Lois E. Whisler Property/Miller Chemical Fire, 539 Oxford Avenue, Hanover, PA 17331, Conewago Township, **Adams County**. Ramboll Environ US Corporation, 4350 North Fairfax Drive, Suite 300, Arlington, VA 22203, on behalf of Miller Chemical and Fertilizer, LLC, 120 Radio Road, Hanover, PA 17332, and Glendon Whisler, 100 Chancellor's Ridge Court, Cary, NC 27513 submitted a Remedial Investigation and Final Report concerning remediation of site soil contaminated with inorganics and fertilizers. The report is intended to document remediation of the site to meet the Site Specific and Residential Statewide Health Standards.

18
J.M.

NOTICES

DEPARTMENT OF ENVIRONMENTAL PROTECTION

Applications, Actions and Special Notices

[47 Pa.B. 3223]
[Saturday, June 10, 2017]

UNDER ACT 2, 1995 PREAMBLE 3

The Department has taken action on the following plans and reports under the Land Recycling and Environmental Remediation Standards Act (35 P.S. §§ 6026.101—6026.907).

Lois E. Whisler Property/Miller Chemical Company Fire, 539 Oxford Avenue, Hanover, PA 17331, Conewago Township, **Adams County**. Ramboll Environ US Corporation, 4350 North Fairfax Drive, Suite 300, Arlington, VA 22203, on behalf of Miller Chemical and Fertilizer, LLC, 120 Radio Road, Hanover, PA 17332, and Glendon Whisler, 100 Chancellor's Ridge Court, Cary, NC 27513 submitted a Remedial Investigation and Final Report concerning remediation of site soil contaminated with inorganics and fertilizers. The Final Report demonstrated attainment of the Site-Specific, Background and Residential Statewide Health Standards, and was approved by the Department on May 23, 2017.

Section 1 – Transmittal Sheet

Stage 1 - Notice of Intent to Remediate (NIR)

- Check here to confirm you have included proof that a copy of your NIR was provided to each municipality where your site is located. Proof will be a copy of your cover letter and a copy of a signed certified mail receipt slip from the municipality.
- Check here to confirm a copy of a proof of publication document from a newspaper serving the area of your site has been included with this submission.
- Check here to indicate that a Site-Specific Standard or a Special Industrial Area is involved and a municipal request was received for development of a public involvement plan. The plan/report submission shall include municipality and public comments, which were submitted, and your responses to those comments.

Stage 2 - Cleanup Plan/Report Submission

2/14/2017 Place date here that each municipality was notified of any plan or report submitted under any of the three remediation standards.

Hanover Evening Sun 2/14/2017 Place the newspaper name and date that your notice of your plan/report submission was published.

Section 4 - Project Contact

On the lines below, place the name, company, mailing addresses and business phone number of the individuals who can be contacted regarding this submission:

<p>Consultant</p> <p>Contact Person/Title: <u>Sarah Stoneking / Senior Project Manager</u></p> <p>Phone Number <u>703-516-2407</u></p> <p>Email Address <u>sstoneking@ramboll.com</u></p> <p>Company Name: <u>Ramboll Environ US Corporation</u></p> <p>Mailing Address (street, city, state, zip) <u>4350 North Fairfax Drive, Suite 300, Arlington, VA, 22203</u></p>
<p>Remediator</p> <p>Contact Person/Title: <u>Tony Hartlaub / VP Finance</u></p> <p>Phone Number <u>717-632-8921</u></p> <p>Email Address <u>Tonyhartlaub@millerchemical.com</u></p> <p>Company Name: <u>Miller Chemical & Fertilizer, LLC</u></p> <p>Mailing Address (street, city, state, zip) <u>120 Radio Road, Hanover, PA 17332</u></p>
<p>Other</p> <p>Contact Person/Title: _____</p> <p>Relationship to Site _____ (e.g. owner, participant in cleanup, responsible party, etc.)</p> <p>Phone Number _____</p> <p>Email Address _____</p> <p>Company Name: _____</p> <p>Mailing Address (street, city, state, zip) _____</p>

Section 2 – Notification Documents



For DEP Use Only

PF # _____

Rem ID # _____

NOTICE OF INTENT TO REMEDIATE

Act 1995-2 requires four general information items to be included in the NIR: the general location, listing of contaminants, intended use of property, and proposed remediation measures. In addition, indicate the standard(s) to be obtained (if known) and attach a scaled site map (if available).

Property Name Lois E. Whisler Property

Former Name(s) / AKA _____

Address / Location 539 Oxford AvenueCity HanoverZip Code 17331Municipality(s) Conewago TownshipCounty(ies) AdamsLatitude 39 ° (deg). 49 ' (min) 22.59 " (sec) Longitude 77 ° (deg). 0 ' (min) 22.83 " (sec)Horizontal Collection Method Pennsylvania Department of Environmental Protection eMapPAHorizontal Reference Datum NAD83Reference Point Center of Impacted Area
 Wish to participate in the DEP/EPA MOA. Contact Troy Conrad at tconrad@state.pa.us for details.
EPA ID#, if known none identifiedDEP ID#(s), if known none identified

(i.e., eFACTS site ID#, storage tank facility ID#, water quality permit #, watershed permit, air quality permit #, etc.)

Date Release Occurred (if known) June 8, 2015

Provide a brief description of the site contamination in plain language (e.g. fuel oil spill, historical chemical industrial area contamination), the names of any know primary contaminants to be addressed, and the intended future use of the property.

Identified impacts at the Lois E. Whisler property resulted from the migration of fire-fighting water during emergency response activities related to the June 8, 2015 fire at the Miller Chemical & Fertilizer, LLC (Miller Chemical) facility located at 170 Radio Road in Hanover. The fire water carried fertilizer constituents from the Miller Chemical site. Constituents of potential concern include metals and nutrients and as such, soil samples from background and visibly affected areas have been collected and analyzed for the presence of metals and nutrients. The intended future use of the property is agricultural/unrestricted use. Therefore, concentrations of constituents of potential concern were evaluated with respect to unrestricted site use.

Provide a general description of proposed remediation measures.

No remediation measures are proposed at this property because measured concentrations of constituents of potential concern in site soil are either below the Statewide Health Standards for unrestricted site use or are not of concern given the results of a site-specific analysis (for those constituents without Statewide Health Standards).

Remediation Standard(s) planned (if known at this time):

- | | | |
|--|--|--------------------------------------|
| <input type="checkbox"/> Unknown at this time | <input type="checkbox"/> Soil | <input type="checkbox"/> Groundwater |
| <input type="checkbox"/> Background
Contaminants: | <input type="checkbox"/> Soil | <input type="checkbox"/> Groundwater |
| <input checked="" type="checkbox"/> Statewide Health - Residential
Contaminants: aluminum, antimony, arsenic, barium, beryllium, boron, cadmium, total chromium, cobalt, copper, iron, lead, manganese, mercury, molybdenum, nickel, selenium, silver, thallium, vanadium, zinc, nitrate, nitrite | <input checked="" type="checkbox"/> Soil | <input type="checkbox"/> Groundwater |
| <input type="checkbox"/> Statewide Health - Non-Residential
Contaminants: | <input type="checkbox"/> Soil | <input type="checkbox"/> Groundwater |
| <input checked="" type="checkbox"/> Site Specific
Contaminants: calcium, magnesium, total kjeldahl nitrogen, phosphorus, potassium, sodium, sulfate | <input checked="" type="checkbox"/> Soil | <input type="checkbox"/> Groundwater |
| <input type="checkbox"/> Special Industrial Area*
Contaminants: | <input type="checkbox"/> Soil | <input type="checkbox"/> Groundwater |

*NOTE: Specific standard or Special Industrial Area require a 30-day municipal comment period

Remediator / Property Owner / Consultant. Complete the form below for each recipient obtaining a release of liability upon approval of the final report. Attach additional sheets as necessary.

Remediator		
Contact Person/Title <u>Tony Hartlaub/ VP Finance</u>	eFACTS Client ID* <u>553873</u>	
Relationship to Site <u>Remediator</u> (e.g. owner, remediator, participant in cleanup, consultant, etc.)	Client Type* <u>LLC</u>	
Phone Number <u>717-632-8921</u>	Email Address <u>Tonyhartlaub@millerchemical.com</u>	
Company Name <u>Miller Chemical & Fertilizer, LLC</u>	EIN or Federal ID # <u>46-5407027</u>	
Address (street, city, state, zip) <u>120 Radio Road, Hanover, PA 17332</u>		

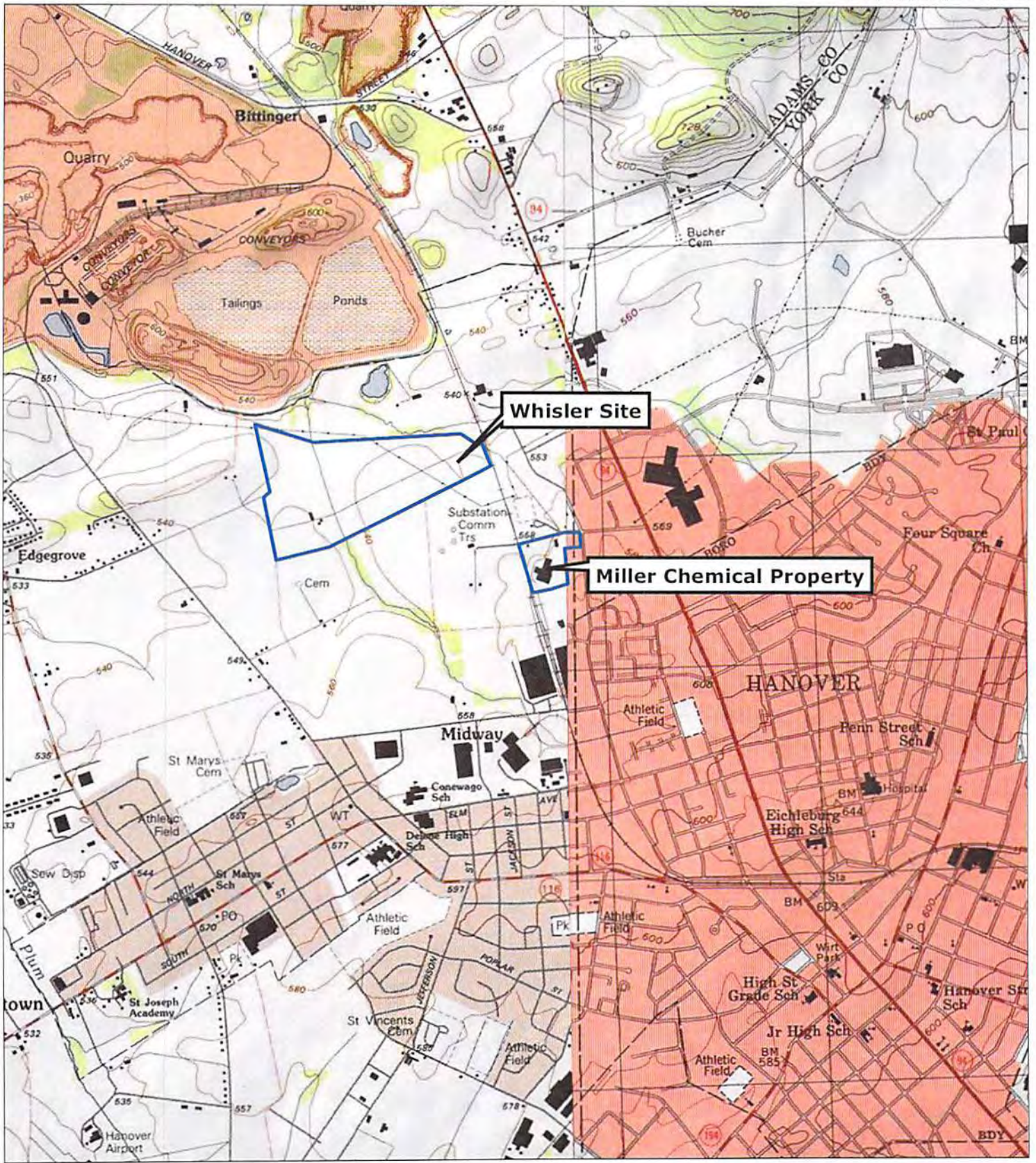
Property Owner		
Contact Person/Title <u>Glendon Whisler/Owner</u>	eFACTS Client ID* _____	
Relationship to Site <u>Owner</u> (e.g. owner, remediator, participant in cleanup, consultant, etc.)	Client Type* <u>Other</u>	
Phone Number <u>919-678-0022</u>	Email Address <u>gwhisler@nc.rr.com</u>	
Company Name <u>NA</u>	EIN or Federal ID # _____	
Address (street, city, state, zip) <u>100 Chancellor's Ridge Court, Cary, NC 27513</u>		

Consultant		
Contact Person/Title <u>Sarah Stoneking/Senior Project Manager</u>	eFACTS Client ID* <u>274925</u>	
Relationship to Site <u>Consultant</u> (e.g. owner, remediator, participant in cleanup, consultant, etc.)	Client Type* <u>Other (Non-Government)</u>	
Phone Number <u>703-516-2407</u>	Email Address <u>sstoneking@ramboll.com</u>	
Company Name <u>Ramboll Environ US Corporation</u>	EIN or Federal ID # <u>52-1248616</u>	
Address (street, city, state, zip) <u>4350 North Fairfax Drive, Suite 300, Arlington, VA 22203</u>		

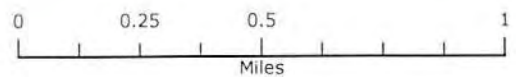
*Include eFACTS Client ID (if known) – "Client Types" below:

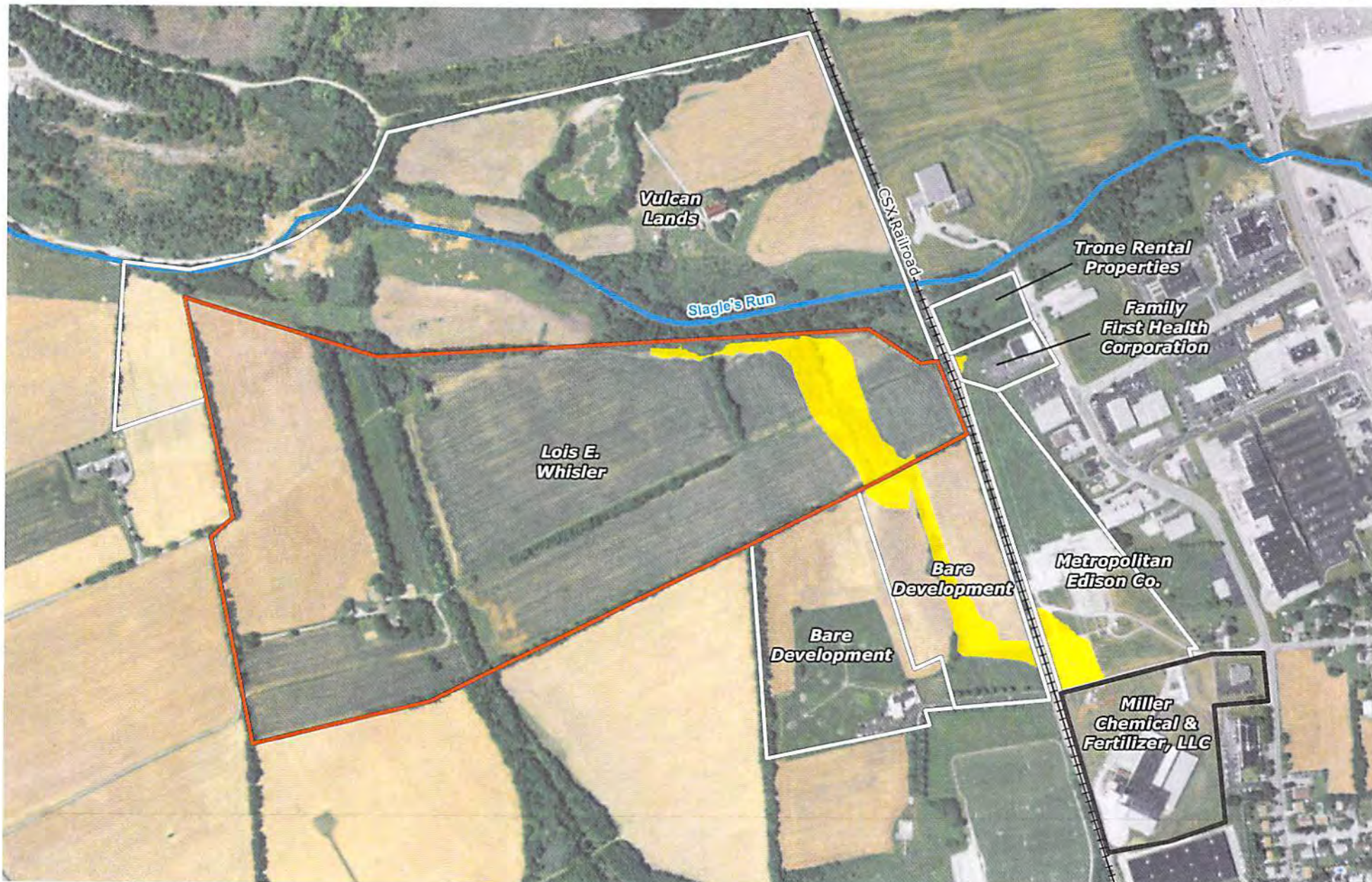
- | | | |
|--------------------------|-------------------------------|---------------------|
| Association/Organization | Limited Liability company | Partnership-General |
| Authority | Limited Liability Partnership | Partnership-Limited |
| County | Municipality | School District |
| Estate/Trust | Non-Pennsylvania Government | Sole Proprietorship |
| Federal Agency | Other (Non-Government) | State Agency |
| Individual | Pennsylvania Corporation | |

Preparer of Notice of Intent to Remediate		
Name <u>Mark Nielsen</u>	Title <u>Principal</u>	
Phone Number <u>215-532-5602</u>	Email Address <u>mnielsen@ramboll.com</u>	
Company Name <u>Ramboll Environ US Corporation</u>	eFACTS Client ID <u>274925</u>	
Address (street, city, state, zip) <u>1760 Market Street, Suite 1000, Philadelphia, PA 19103</u>		



SCALE 1:24,000



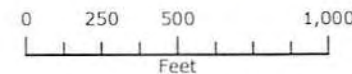


- Miller Chemical Property
- Other Off-Site Properties
- Whisler Property
- Visibly Affected Area

Imagery Source: Esri Streaming Imagery

Notes:

- (1) Visibly affected area extended to Slagle's Run north of the Whisler Property.
- (2) Visibly affected area on the Miller Chemical property is not shown on this figure.



Proof of Publication State of Pennsylvania

AD # 0001596648-01

The Evening Sun is the name of the newspaper(s) of general circulation published continuously for more than six months at its principal place of business, 37 Broadway Street, Hanover, PA.

Attach Copy of
Advertisement here

The printed copy of the advertisement hereto attached is a true copy, exactly as printed and published, of an advertisement printed in the regular issues of the said **The Evening Sun** published on the following dates, viz:

NEWSPAPER NOTIFICATION

Whisler Property

Pursuant to the Land Recycling and Environmental Remediation Standards Act, the act of May 19, 1995, P.L. 4, No. 1995-2, notice is hereby given that Miller Chemical & Fertilizer, LLC (Miller Chemical) has submitted to the Pennsylvania Department of Environmental Protection a Notice of Intent to Remediate a site located at 539 Oxford Avenue, Conewago Township, Adams County. This Notice of Intent to Remediate states that the site is an agricultural property owned by Lois Whisler, Anita Whisler and Glendon Whisler (the "Whislars"). The site has been found to be impacted by fertilizer constituents mobilized by fire-fighting emergency response activities performed on June 8, 2015 at the Miller Chemical facility located at 170 Radio Road in Hanover. Runoff of the fire-fighting water carried fertilizer constituents from the Miller Chemical site, including metals and nutrients, which were suspected to have contaminated soil at the property owned by the Whislars. Soils from background and visibly affected areas were sampled for metals and nutrients. The future use of the property is expected to remain in agricultural or other unrestricted use. Concentrations of constituents of potential concern in site soils are below the Statewide Health Standards established for residential site use or are not of concern given the results of a site-specific analysis (for those constituents without Statewide Health Standards). As such, Miller Chemical has not proposed remediation measures.

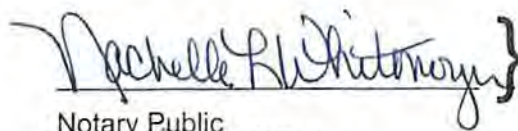
Miller Chemical plans to use the site-specific standard at the site for fertilizer constituents for which Statewide Health Standards do not exist. The Act provides for a 30-day public comment period for site-specific standard remediations. The 30-day comment period is initiated with the publication of this notice. Until April 30, 2016, Conewago Township may submit a request to Miller Chemical during this 30-day comment period to develop and implement a public involvement plan. Copies of these requests and of any comments should also be submitted to the Department of Environmental Protection at 909 Elmerton Avenue, Harrisburg, PA 17110-9200, Attn: Richard Kaiser.

3/31/2016

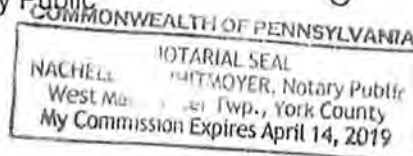
COMMONWEALTH OF PENNSYLVANIA COUNTY OF YORK

Before me, a Notary Public, personally came Pam Rodencal who being duly sworn deposes and says that she is the Legal Advertising Clerk of The Evening Sun and her personal knowledge of the publication of the advertisement mentioned in the foregoing statement as to the time, place and character of publications are true, and that the affiant is not interested in the subject matter of the above mentioned advertisement.

Sworn and subscribed to before me, on
this 31 day of March 2016


Notary Public





The charge for the following publication of above mentioned advertisement and the expense of the affidavit.

Advertisement Cost	\$147.20
Affidavit Fee	\$5.00
Total Cost	<u>\$152.20</u>

Ms. Barbara Krebs
Township Manager
Conewago Township
541 Oxford Avenue
Hanover, PA 17331

**RE: Notice of Intent to Remediate to Statewide Health and Site
Specific Standards
Whisler Property
539 Oxford Avenue
Conewago Township
Adams County**

Dear Ms. Krebs,

The Land Recycling and Environmental Remediation Standards Act (Act 2) requires that a Notice of Intent to Remediate (NIR) a site be provided to the municipality in which the site is located. In accordance with this provision of Act 2, we are formally notifying you of our intent to remediate the subject site. A copy of the Notice of Intent to Remediate, which has been sent to the Department of Environmental Protection (DEP), is enclosed. This notice will also be published in the Pennsylvania Bulletin, and a summary of the notice will be placed in a local newspaper.

Publication of this notice in a local newspaper initiates the 30-day public and municipal comment period. During this time, your municipality may request to become involved in the development of remediation and reuse plans for the site. If the municipality wishes to become involved in this project, please send your comments to the Department of Environmental Protection at 909 Elmerton Avenue, Harrisburg, PA 17110-8200 to the attention of the case manager, Mr. Richard Kaiser.

Date March 29, 2016

Ramboll Environ
4350 North Fairfax Drive
Suite 300
Arlington, VA 22203
USA

T +1 703 516 2300
F +1 703 516 2345
www.ramboll-environ.com

Should you have any questions or comments regarding the proposed remediation, please feel free to contact me at (703) 516-2407.

Yours sincerely,

A handwritten signature in black ink, appearing to read "Sarah Stoneking". The signature is fluid and cursive, with a large initial "S" and "K".

Sarah Stoneking

Senior Manager

D +1 703 516 2407

ssoneking@ramboll.com

Attachment A
Notice of Intent to Remediate



For DEP Use Only

PF # _____

Rem ID # _____

NOTICE OF INTENT TO REMEDIATE

Act 1995-2 requires four general information items to be included in the NIR: the general location, listing of contaminants, intended use of property, and proposed remediation measures. In addition, indicate the standard(s) to be obtained (if known) and attach a scaled site map (if available).

Property Name Lois E. Whisler Property

Former Name(s) / AKA _____

Address / Location 539 Oxford AvenueCity HanoverZip Code 17331Municipality(s) Conewago TownshipCounty(ies) AdamsLatitude 39 ° (deg). 49 ' (min) 22.59 " (sec) Longitude 77 ° (deg). 0 ' (min) 22.83 " (sec)Horizontal Collection Method Pennsylvania Department of Environmental Protection eMapPAHorizontal Reference Datum NAD83Reference Point Center of Impacted Area

Wish to participate in the DEP/EPA MOA. Contact Troy Conrad at tconrad@state.pa.us for details.

EPA ID#, if known none identifiedDEP ID#(s), if known none identified

(i.e., eFACTS site ID#, storage tank facility ID#, water quality permit #, watershed permit, air quality permit #, etc.)

Date Release Occurred (if known) June 8, 2015

Provide a brief description of the site contamination in plain language (e.g. fuel oil spill, historical chemical industrial area contamination), the names of any know primary contaminants to be addressed, and the intended future use of the property.

Identified impacts at the Lois E. Whisler property resulted from the migration of fire-fighting water during emergency response activities related to the June 8, 2015 fire at the Miller Chemical & Fertilizer, LLC (Miller Chemical) facility located at 170 Radio Road in Hanover. The fire water carried fertilizer constituents from the Miller Chemical site. Constituents of potential concern include metals and nutrients and as such, soil samples from background and visibly affected areas have been collected and analyzed for the presence of metals and nutrients. The intended future use of the property is agricultural/unrestricted use. Therefore, concentrations of constituents of potential concern were evaluated with respect to unrestricted site use.

Provide a general description of proposed remediation measures.

No remediation measures are proposed at this property because measured concentrations of constituents of potential concern in site soil are either below the Statewide Health Standards for unrestricted site use or are not of concern given the results of a site-specific analysis (for those constituents without Statewide Health Standards).

Remediation Standard(s) planned (if known at this time):

- | | | |
|--|--|--------------------------------------|
| <input type="checkbox"/> Unknown at this time | <input type="checkbox"/> Soil | <input type="checkbox"/> Groundwater |
| <input type="checkbox"/> Background Contaminants: | <input type="checkbox"/> Soil | <input type="checkbox"/> Groundwater |
| <input checked="" type="checkbox"/> Statewide Health - Residential
Contaminants: aluminum, antimony, arsenic, barium, beryllium, boron, cadmium, total chromium, cobalt, copper, iron, lead, manganese, mercury, molybdenum, nickel, selenium, silver, thallium, vanadium, zinc, nitrate, nitrite | <input checked="" type="checkbox"/> Soil | <input type="checkbox"/> Groundwater |
| <input type="checkbox"/> Statewide Health - Non-Residential
Contaminants: | <input type="checkbox"/> Soil | <input type="checkbox"/> Groundwater |
| <input checked="" type="checkbox"/> Site Specific
Contaminants: calcium, magnesium, total kjeldahl nitrogen, phosphorus, potassium, sodium, sulfate | <input checked="" type="checkbox"/> Soil | <input type="checkbox"/> Groundwater |
| <input type="checkbox"/> Special Industrial Area*
Contaminants: | <input type="checkbox"/> Soil | <input type="checkbox"/> Groundwater |

*NOTE: Specific standard or Special Industrial Area require a 30-day municipal comment period
Remediator / Property Owner / Consultant. Complete the form below for each recipient obtaining a release of liability upon approval of the final report. Attach additional sheets as necessary.

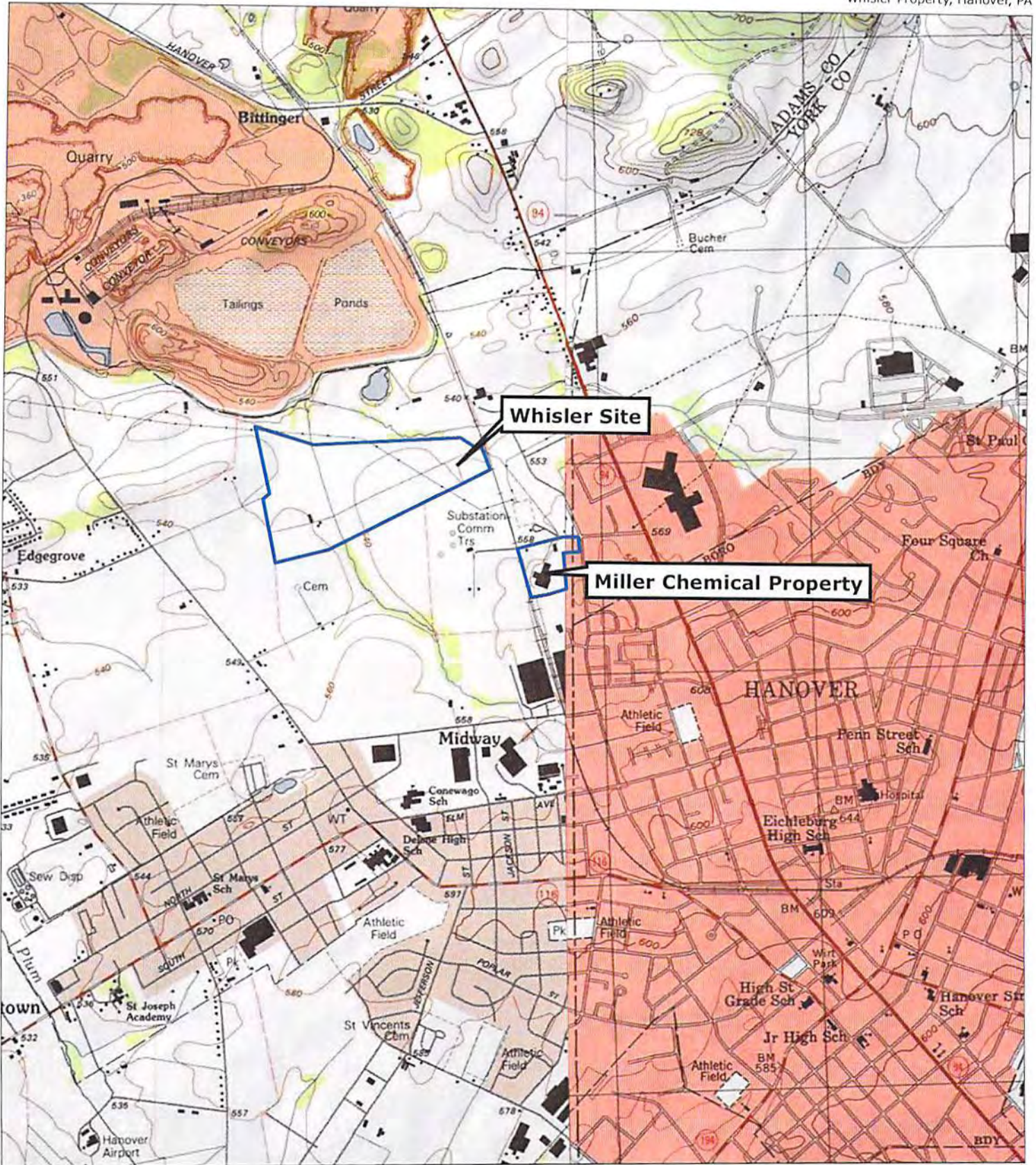
Remediator		
Contact Person/Title <u>Tony Hartlaub/ VP Finance</u>	eFACTS Client ID* <u>553873</u>	
Relationship to Site <u>Remediator</u> (e.g. owner, remediator, participant in cleanup, consultant, etc.)	Client Type* <u>LLC</u>	
Phone Number <u>717-632-8921</u>	Email Address <u>Tonyhartlaub@millerchemical.com</u>	
Company Name <u>Miller Chemical & Fertilizer, LLC</u>	EIN or Federal ID # <u>46-5407027</u>	
Address (street, city, state, zip) <u>120 Radio Road, Hanover, PA 17332</u>		

Property Owner		
Contact Person/Title <u>Glendon Whisler/Owner</u>	eFACTS Client ID* _____	
Relationship to Site <u>Owner</u> (e.g. owner, remediator, participant in cleanup, consultant, etc.)	Client Type* <u>Other</u>	
Phone Number <u>919-678-0022</u>	Email Address <u>gwhisler@nc.rr.com</u>	
Company Name <u>NA</u>	EIN or Federal ID # _____	
Address (street, city, state, zip) <u>100 Chancellor's Ridge Court, Cary, NC 27513</u>		

Consultant		
Contact Person/Title <u>Sarah Stoneking/Senior Project Manager</u>	eFACTS Client ID* <u>274925</u>	
Relationship to Site <u>Consultant</u> (e.g. owner, remediator, participant in cleanup, consultant, etc.)	Client Type* <u>Other (Non-Government)</u>	
Phone Number <u>703-516-2407</u>	Email Address <u>sstoneking@ramboll.com</u>	
Company Name <u>Ramboll Environ US Corporation</u>	EIN or Federal ID # <u>52-1248616</u>	
Address (street, city, state, zip) <u>4350 North Fairfax Drive, Suite 300, Arlington, VA 22203</u>		

*Include eFACTS Client ID (if known) – "Client Types" below:		
Association/Organization	Limited Liability company	Partnership-General
Authority	Limited Liability Partnership	Partnership-Limited
County	Municipality	School District
Estate/Trust	Non-Pennsylvania Government	Sole Proprietorship
Federal Agency	Other (Non-Government)	State Agency
Individual	Pennsylvania Corporation	

Preparer of Notice of Intent to Remediate		
Name <u>Mark Nielsen</u>	Title <u>Principal</u>	
Phone Number <u>215-532-5602</u>	Email Address <u>mnielsen@ramboll.com</u>	
Company Name <u>Ramboll Environ US Corporation</u>	eFACTS Client ID <u>274925</u>	
Address (street, city, state, zip) <u>1760 Market Street, Suite 1000, Philadelphia, PA 19103</u>		



SCALE 1:24,000

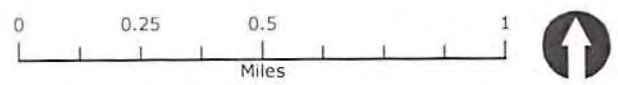
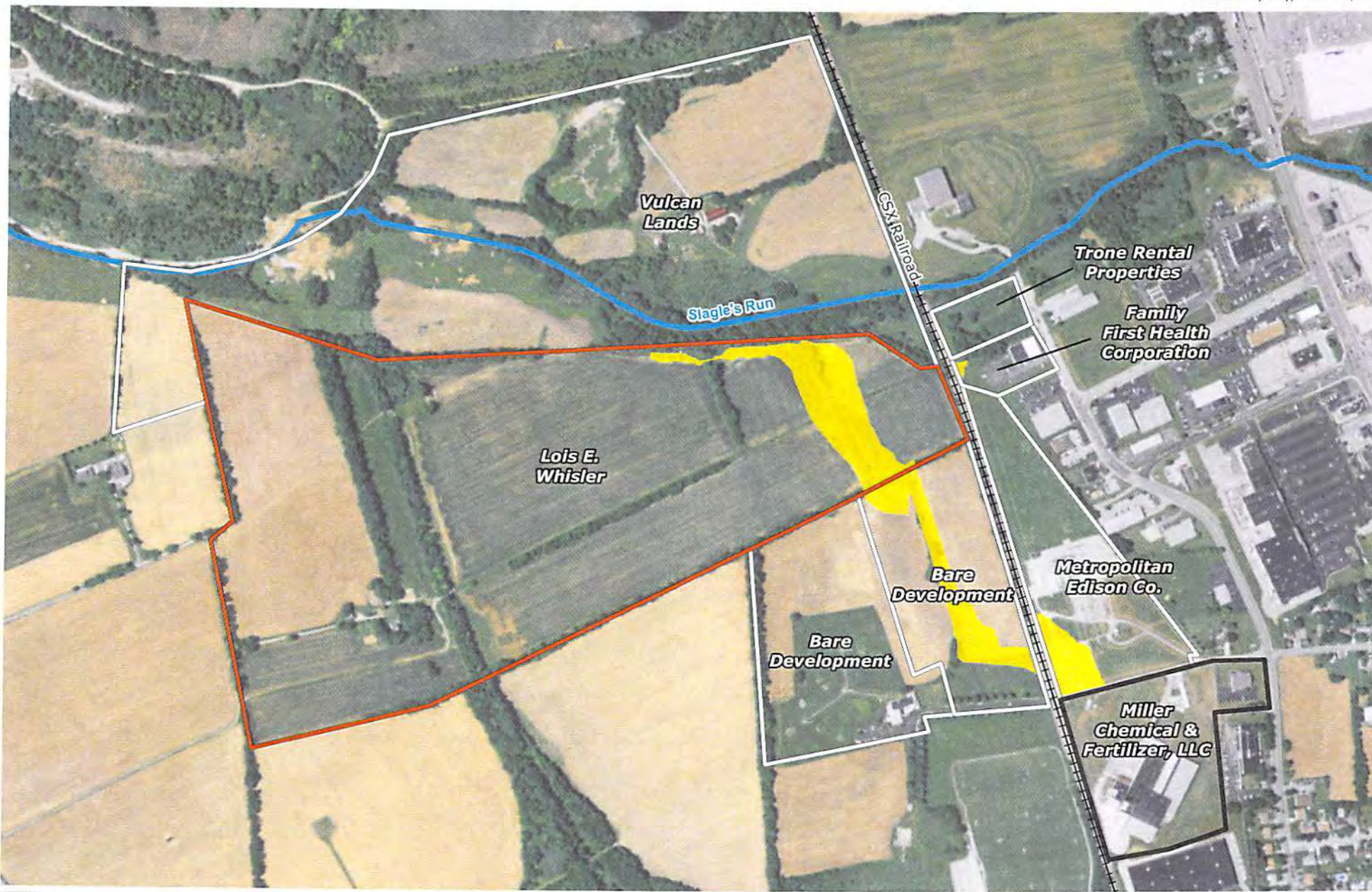


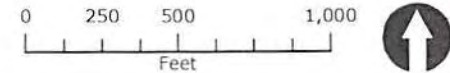
Figure 1-2
Affected Properties
Whisler Property, Hanover, PA



- Miller Chemical Property
- Other Off-Site Properties
- Whisler Property
- Visibly Affected Area

Imagery Source: Esri Streaming Imagery

Notes:
 (1) Visibly affected area extended to Slagle's Run north of the Whisler Property.
 (2) Visibly affected area on the Miller Chemical property is not shown on this figure.





Shipping Tracking Manage Learn

My Profile Support Locations English Search or tracking number **Sub**
FedEx Office® **Shabnam Rai**

FedEx Tracking

775987813267

Ship date

Tue 3/29/2016

Sarah Stoneking
 Suite 300
 4350 North Fairfax Drive
 Arlington, VA US 22203
 703 201-2317

Actual delivery

Wed 3/30/2016 2:20 pm

Delivered

Signed for by: S SCHMIDT



Conewago Township
 Ms. Barbara Krebs, Township
 Manager
 541 Oxford Avenue
 HANOVER, PA US 17331
 717 537-0411

Travel History

Date/Time	Activity	Location
- 3/30/2016 - Wednesday		
2:20 pm	Delivered	HANOVER, PA
8:33 am	On FedEx vehicle for delivery	YORK, PA
8:14 am	At local FedEx facility	YORK, PA
4:45 am	At destination sort facility	MIDDLETOWN, PA
3:54 am	Departed FedEx location	NEWARK, NJ
- 3/29/2016 - Tuesday		
11:59 pm	Arrived at FedEx location	NEWARK, NJ
9:11 pm	Left FedEx origin facility	ALEXANDRIA, VA
6:51 pm	Picked up	ALEXANDRIA, VA
3:36 pm	Shipment information sent to FedEx	

Shipment Facts

Tracking number	775987813267	Service	FedEx Standard Overnight
Weight	0.5 lbs / 0.23 kgs	Delivery attempts	1
Delivered To	Receptionist/Front Desk	Total pieces	1
Total shipment weight	0.5 lbs / 0.23 kgs	Terms	Not Available
Shipper reference	0137782A Phase USOFF2	Packaging	FedEx Envelope
Special handling section	Deliver Weekday		



Search or tracking number **Sub**

Customer Focus
 New Customer Center
 Small Business Center
 Service Guide
 Customer Support

Company Information
 About FedEx
 Careers
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 FedEx Delivery Manager
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 FedEx Ship Manager Software
 FedEx Mobile

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 FedEx Custom Critical
 FedEx Trade Networks
 FedEx CrossBorder
 FedEx SupplyChain
 FedEx TechConnect

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Proof of Publication
State of Pennsylvania

AD # 0001656559-01

The Evening Sun is the name of the newspaper(s) of general circulation published continuously for more than six months at its principal place of business, 37 Broadway Street, Hanover, PA.

The printed copy of the advertisement hereto attached is a true copy, exactly as printed and published, of an advertisement printed in the regular issues of the said **The Evening Sun** published on the following dates, viz:

Attach Copy of
Advertisement here

Public Notice Public Notice

NEWSPAPER NOTIFICATION
Lois E. Whisler Property

Notice is hereby given that Miller Chemical & Fertilizer, LLC (Miller Chemical) has submitted a Remedial Investigation and Final Report to the Pennsylvania Department of Environmental Protection, South-Central Regional Office, to demonstrate attainment of the Background Standard, Statewide Health Standard, and Site-Specific Standard for a site located at 539 Oxford Avenue, Conewago Township, Adams County. Miller Chemical has indicated attainment of the Background Standard, Statewide Health Standard, and residential Site-Specific Standard established under the Land Recycling and Environmental Remediation Standards Act.

This notice is made under the provision of the Land Recycling and Environmental Remediation Standards Act, the Act of May 19, 1995, P.L. #4, No. 2.

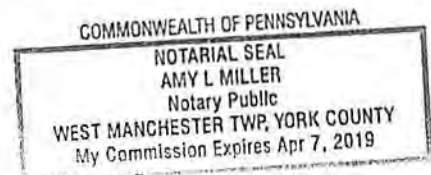
2/14/2017

**COMMONWEALTH OF PENNSYLVANIA
COUNTY OF YORK**

Before me, a Notary Public, personally came Pam Rodencal who being duly sworn deposes and says that she is the Legal Advertising Clerk of The Evening Sun and her personal knowledge of the publication of the advertisement mentioned in the foregoing statement as to the time, place and character of publications are true, and that the affiant is not interested in the subject matter of the above mentioned advertisement.

Sworn and subscribed to before me, on
this 14 day of February 2017

Amy L. Miller } Pam Rodencal
Notary Public



The charge for the following publication of above mentioned advertisement and the expense of the affidavit.

Advertisement Cost	\$64.92
Affidavit Fee	\$5.00
Total Cost	<u>\$69.92</u>

Ms. Barbara Krebs
Township Manager
Conewago Township
541 Oxford Avenue
Hanover, PA 17331

**RE: Notice of Remedial Investigation and Final Report Submission for
Background Standard, Statewide Health Standard, and Site-Specific
Standard
Lois E. Whisler Property
539 Oxford Avenue, Hanover, Conewago Township, Adams County**

Dear Ms. Krebs:

Notice is hereby given that Miller Chemical & Fertilizer, LLC has submitted a Remedial Investigation and Final Report to the Department of Environmental Protection for the Lois E. Whisler property located at 539 Oxford Avenue, Hanover, Conewago Township, Adams County. The Remedial Investigation and Final Report indicates attainment of the Background Standard, Statewide Health Standard and Site-Specific Standard established under the Land Recycling and Environmental Remediation Standards Act.

This notice is made under the provision of the Land Recycling and Environmental Standards Act, the Act of May 19, 1995, P.L. #4, No. 2.

Please contact Sarah Stoneking at 703-516-2407 or stoneking@ramboll.com if you should have any questions regarding this notice.

Yours sincerely,



Sarah Stoneking
Senior Manager



J. Mark Nielsen, P.E.
Principal

Date February 13, 2017

Ramboll Environ
4350 North Fairfax Drive
Suite 300
Arlington, VA 22203
USA

T +1 703 516 2300
F +1 703 516 2345
www.ramboll-environ.com



February 14, 2017

Dear Customer:

The following is the proof-of-delivery for tracking number **778413824360**.

Delivery Information:

Status:	Delivered	Delivered to:	Receptionist/Front Desk
Signed for by:	A.PARR	Delivery location:	541 OXFORD AVE HANOVER, PA 17331
Service type:	FedEx Priority Overnight	Delivery date:	Feb 14, 2017 10:33
Special Handling:	Deliver Weekday Adult Signature Required		

Shipping Information:

Tracking number:	778413824360	Ship date:	Feb 13, 2017
		Weight:	0.5 lbs/0.2 kg

Recipient:
Barbara Krebs
Conewago Township
541 Oxford Avenue
HANOVER, PA 17331 US

Shipper:
ANNIE KOHAN
RAMBOLL ENVIRON
4350 N. FAIRFAX DRIVE
STE. 300
ARLINGTON, VA 22203 US
0137782A OFF2WP

Reference

Thank you for choosing FedEx.

Section 3 – Final Report Summary

FINAL REPORT SUMMARY

The Final Report Summary (FRS) is a brief report consisting of set of data required in addition to the Act 2 Final Report. The summary is used in part as a reference to the Final Report Approval Letter which conveys liability relief to the remediator and other applicable persons. It is of value long after the remediation to be used by the public and Department in understanding key information about the site and remediation.

This use is increased by the fact that it will ultimately be merged into the Department's eFACTS system, which allows the public to have the ease of computer access to environmental information at sites. For more information, see www.ahs.dep.pa.gov/eFACTSWeb/default.aspx. Finally, the summary will be used by the Department to help to better assess the status and the level of success of the program. In the past, numbers of sites remediated has been tracked. With the inclusion of this summary information, progress can be tracked in many specific ways, including identification of individual chemical constituents, and the mass treated, removed or managed safely in place.

Identification

Property Name Lois E. Whisler Property

Property Descriptor Agricultural fields and residential property

Address / Location

Address 539 Oxford Avenue

City Hanover Zip Code 17331

Municipality(s) Conewago Township County(ies) Adams

Latitude 39 ° (deg). 49 ' (min) 22.59 " (sec) Longitude -77 ° (deg). 0 ' (min) 22.83 " (sec)

Horizontal Collection Method Pennsylvania Department of Environmental Protection eMapPA

Horizontal Reference Datum NAD83 Reference Point Center of Impacted Area

Property Specifics

Size of Property ~102 acres Number of Sites 1

Combined acreage of sites Not Applicable

Remediation

Standards attained or special industrial area attainment. (Check all that apply. Can use multiple.)

Background Statewide Health Site-Specific Special Industrial Area

Proposed future property use - scenario for which the attainment of Statewide Health standard is demonstrated

Residential Non-residential

List of contaminants

Soils

Chemical Name	CAS Number	Mass Contaminant Treated or Removed (lbs.)	Mass Contaminant Managed on Site (lbs.)
Aluminum	7429-90-5	0	0
Antimony	7440-36-0	0	0
Arsenic	7440-38-2	0	0
Barium	7440-39-3	0	0
Beryllium	7440-41-7	0	0
Boron	7440-42-8	0	0
Cadmium	7440-43-9	0	0
Calcium	7440-70-2	0	0
Chromium (total)	7440-47-3	0	0
Cobalt	7440-48-4	0	0
Copper	7440-50-8	0	0

Iron	7439-89-6	0	0
Lead	7439-92-1	0	0
Magnesium	7439-95-4	0	0
Manganese	7439-96-5	0	0
Mercury	9439-97-6	0	0
Molybdenum	7439-98-7	0	0
Nickel	7440-02-0	0	0
Nitrate	14797-65-0	0	0
Nitrite	14797-55-8	0	0
Phosphorous	7723-14-0	0	0
Potassium	7440-09-7	0	0
Selenium	7782-49-2	0	0
Silver	7440-28-0	0	0
Sodium	7440-23-5	0	0
Sulfate	14808-79-8	0	0
Thallium	7440-28-0	0	0
Vanadium	7440-62-2	0	0
Zinc	7440-66-6	0	0

Groundwater

Chemical Name	CAS Number	Mass Contaminant Treated or Removed (lbs.)	Mass Contaminant Managed on Site (lbs.)

Remediation

Number of sampling rounds for groundwater attainment: NA

Special Features

Non-use aquifer approval date: _____

Area-wide background approval date: _____

Amount of waste removed other than soil or groundwater (cubic yards): _____

Municipal ordinance prohibiting groundwater use:

Not applicable

Post remediation care plan:

Not applicable

Other Programs

- Key Site
- Multi-site Agreement; Date: _____
- Enterprise Zone
- Keystone Opportunity Zone

Administrative

- Municipality request for public involvement plan

Deed notification

- Deed acknowledgment:

Not applicable

- Environmental covenant:

Not applicable

Cleanup cost (\$): _____

Jobs created/saved: _____

Narrative: Provide property history and description, site characterization findings, site description, summary of remediation, summary of attainment demonstration, description of pathway elimination, engineering and institutional controls, and benefits of land reuse, when applicable.

Emergency response actions associated with a June 8, 2015 fire at the Miller Chemical & Fertilizer, LLC (Miller Chemical) facility, which is located southeast of the Whisler property, resulted in the migration of fertilizer constituents in fire water runoff, which flowed across an approximately 4.7-acre portion of the Whisler property. On behalf of Miller Chemical, Ramboll Environ US Corporation (Ramboll Environ) investigated the nature and extent of soil impacts at the Whisler property. Soils were analyzed for a broad suite of potential contaminants of concern, including metals and other fertilizer constituents. Results of the soil sample analysis indicate that only arsenic, manganese, and vanadium were detected at concentrations exceeding Residential medium specific concentrations (MSCs) in visibly affected area soils.

Consistent with 25 Pa. Code §250.707 (b)(1)(ii), the 95% UCL on the mean arsenic and manganese concentrations for the visibly affected soils were evaluated and determined to be less than the Residential MSCs. As such, the arsenic and manganese concentrations in soil at the Whisler property are in attainment of the SHS. Consistent with 25 PA. Code §250.707(a)(1)(i), the Wilcoxon Rank Sum test and Quantile Test results demonstrate that vanadium

concentrations in soil within the visibly affected area at the Whisler property are in attainment of the Background Standard.

Ramboll Environ also conducted a human health evaluation to assess the potential significance of detected constituents with no established MSCs. Based on the results of the evaluation, the detected concentrations of these constituents (calcium, magnesium, phosphorus, potassium, sodium, and sulfate) in soil at the Whisler property do not represent a human health concern.

To address property owner concerns, soil fertility testing was conducted to assess the conditions for continued use of the visibly affected area for crop production. Based on the evaluation conducted by the Penn State Agricultural Analytical Services Laboratory (PSAASL), soil concentrations in the visibly affected area are consistent with a well fertilized area and do not represent conditions that would adversely affect agricultural use of the affected area. PSAASL recommended that potassium and phosphorus not be applied to the visibly affected area during the 2016 growing season, and that the affected and unaffected areas should be resampled after the 2016 growing season to reassess nutrient levels prior to application of fertilizer for the 2017 growing season.

Finally, conduct of an ecological screening assessment in accordance with PADEP guidance did not identify species of concern on or adjacent to the site, and no significant impacts to habitats of concern on or near the site were identified. Therefore, no further ecological evaluation is required.

Based on the results of the attainment assessment, Relief of Liability is being sought for the vanadium in soil at the Whisler property under the Background Standard, and the following compounds in soil under the Residential Statewide Health Standard:

- Aluminum, antimony, arsenic, barium, beryllium, boron, cadmium, chromium, cobalt, copper, iron, lead, manganese, mercury, molybdenum, nickel, selenium, silver, thallium, and zinc;
- Nitrate and nitrite.

Relief of Liability is also being sought for the following constituents, for which MSCs have not been developed, under the Site Specific Standard:

- Calcium
- Magnesium
- Phosphorous
- Potassium
- Sodium
- Sulfate

Remediator / Property Owner / Consultant. Complete the form below for each recipient obtaining a release of liability upon approval of the final report. Attach additional sheets as necessary.

Remediator

Contact Person/Title Tony Hartlaub/ VP Finance eFACTS Client ID* 320516
 Relationship to Site Remediator Client Type* LLC
 (e.g. owner, remediator, participant in cleanup, consultant, etc.)
 Phone Number 717-632-8921 Email Address Tonyhartlaub@millerchemical.com
 Company Name Miller Chemical & Fertilizer, LLC EIN or Federal ID # 46-5407027
 Street Address 120 Radlo Road
 City Hanover State PA Zip Code 17332

Property Owner

Contact Person/Title Glendon Whisler/Owner eFACTS Client ID* 327737
 Relationship to Site Owner Client Type* Other
 (e.g. owner, remediator, participant in cleanup, consultant, etc.)
 Phone Number 919-678-0022 Email Address gewhisler@gmail.com
 Company Name NA EIN or Federal ID # _____
 Street Address 100 Chancellor's Ridge Court
 City Cary State NC Zip Code 27513

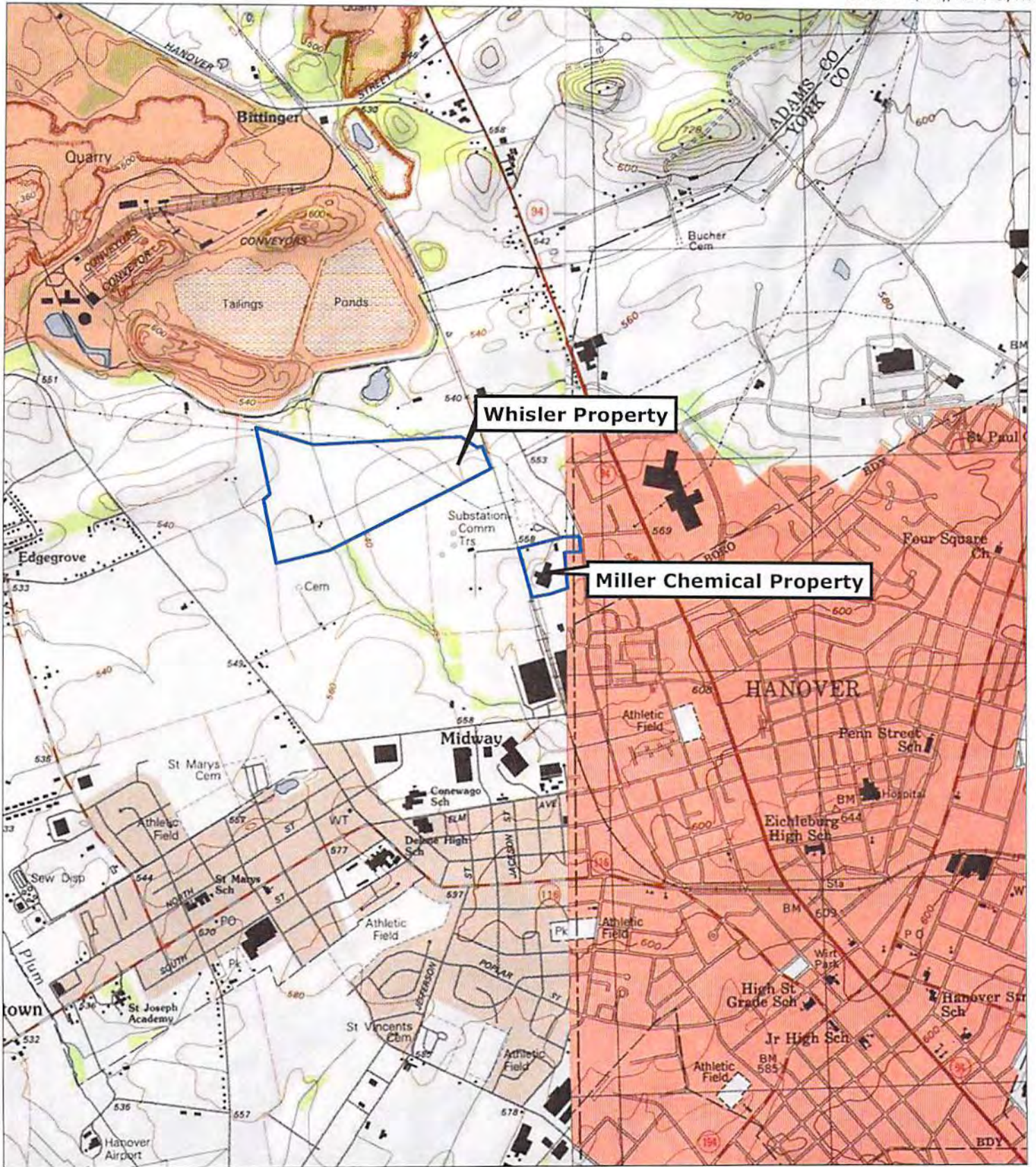
Consultant

Contact Person/Title Sarah Stoneking/Senior Project Manager eFACTS Client ID* 274925
 Relationship to Site Consultant Client Type* Other (Non Government)
 (e.g. owner, remediator, participant in cleanup, consultant, etc.)
 Phone Number 703-516-2407 Email Address sstoneking@ramboll.com
 Company Name Ramboll Environ US Corporation EIN or Federal ID # 52-1248616
 Street Address 4350 North Fairfax Drive, Suite 300
 City Arlington State VA Zip Code 22203

*Include eFACTS Client ID (if known) – "Client Types" below:

Association/Organization	Limited Liability Company	Partnership-General
Authority	Limited Liability Partnership	Partnership-Limited
County	Municipality	School District
Estate/Trust	Non-Pennsylvania Government	Sole Proprietorship
Federal Agency	Other (Non-Government)	State Agency
Individual	Pennsylvania Corporation	

Attachments: In addition to the data entered in this FRS, the Department requests scanned image(s) of a map view of the site indicating, at a minimum, the boundaries of the "site" relative to the locations of the adjacent property boundaries. The location of the site (as defined by Act 2) is that which will receive the liability relief conveyed by Act 2, Chapter 5. The maps may portray other features but should clearly show the Act 2 site boundaries. You may also attach other applicable image files or attachments. These files should be in Adobe Acrobat (*.pdf), GIF (*.gif) or JPEG file interchange format (*.jpg).



SCALE 1:24,000

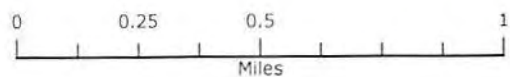
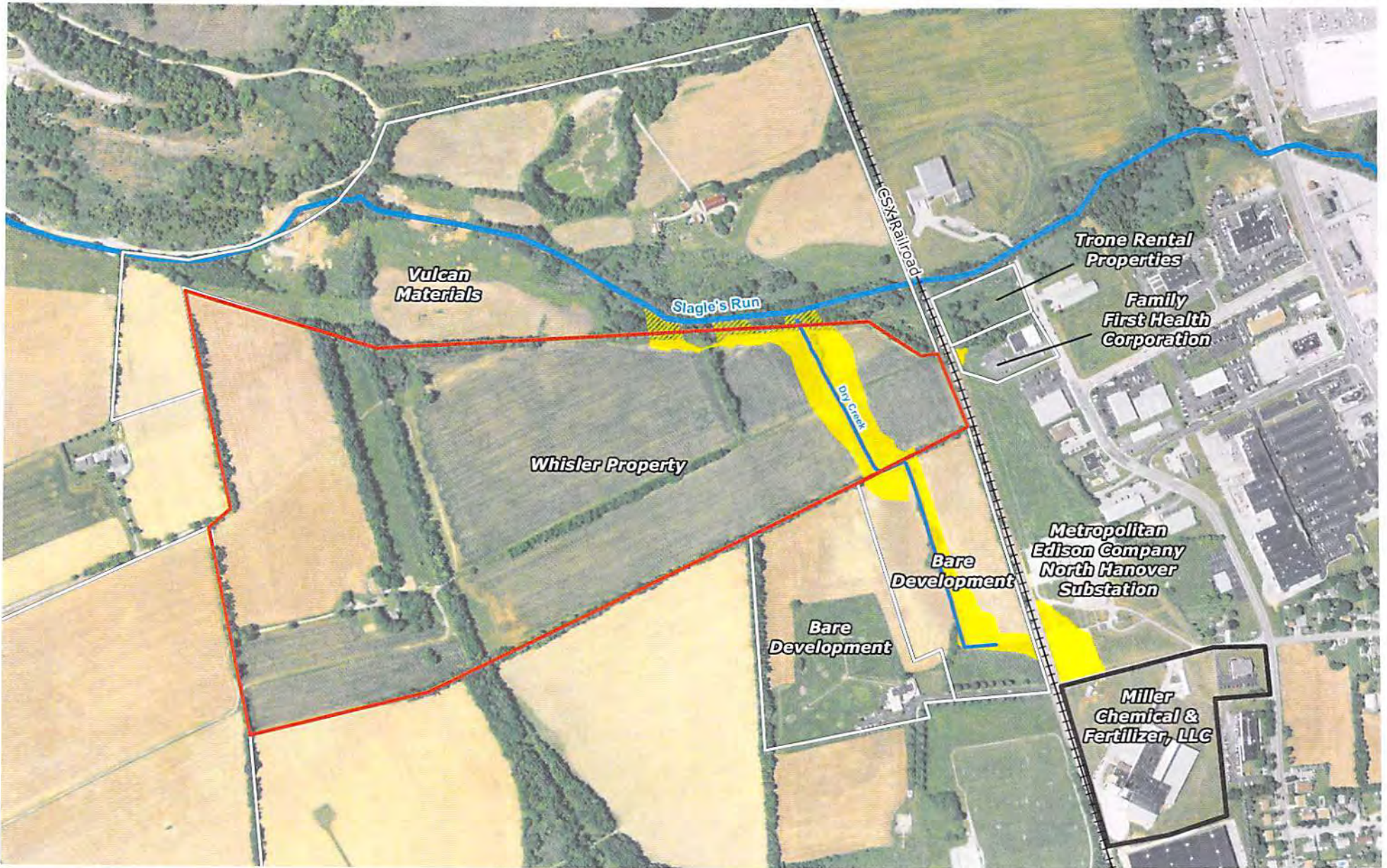
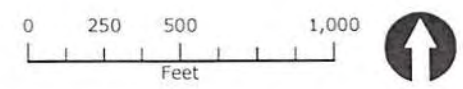


Figure 1-2
Affected Properties
Whisler Property, Hanover, PA



- Miller Chemical Property
- Whisler Property
- Other Off-Site Properties
- Visibly Affected Area
- Estimated Affected Area

Notes:
 (1) Location of the visibly affected area is based on the 8/28/2015 and 9/21/2015 surveys conducted by GHI and on GPS measurements collected by Ramboll Environ Staff. The estimated affected area was not mapped with the GPS because the boundaries of the impacts were not readily discernible or not safely accessible. The estimated area shown on the map is based on visual observations.
 (2) Visibly affected area on the Miller Chemical property is not shown on this figure.
 (3) Dry Creek feature is approximate.



Section 4 – RI and Final Report

1B



Prepared for:
Miller Chemical & Fertilizer, LLC
Hanover, Pennsylvania

Prepared By:
Ramboll Environ US Corporation
Arlington, Virginia
Princeton, New Jersey

Date
February 2017
Revised May 2017

Project Number
01-37782A

REMEDIAL INVESTIGATION AND FINAL REPORT

LOIS E. WHISLER PROPERTY
539 OXFORD AVENUE, HANOVER, PENNSYLVANIA

REMEDIAL INVESTIGATION AND FINAL REPORT



Revision **01**
Date **February 16, 2017; Revised May 15, 2017**
Prepared by **Christopher Bowles**
Checked by **Sarah Stoneking, Bill Kraft, Jason Miller**
Approved by **J. Mark Nielsen**
Description **Remedial Investigation and Final Report
Lois E. Whisler Property
539 Oxford Avenue, Hanover, Pennsylvania**

Ref 01-377782A

REMEDIAL INVESTIGATION AND FINAL REPORT

Pursuant to the requirements of the Pennsylvania Land Recycling and Environmental Remediation Standards Act (Act 2), adopted August 16, 1997, which state that:

Interpretation of geologic and hydrogeologic data shall be prepared by a professional geologist licensed in this Commonwealth

I hereby attest that, as a Professional Geologist licensed in the Commonwealth of Pennsylvania, I am familiar with, and have reviewed and/or prepared the interpretation of the geology and hydrogeology presented in the attached report entitled:

Remedial Investigation and Final Report, Lois E. Whisler Property, 539 Oxford Avenue, Hanover, Pennsylvania dated May 2017.

Based on the available data represented in the report, I believe that the geologic and hydrogeologic interpretations made herein are reasonable and accurate.



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1. INTRODUCTION

On behalf of Miller Chemical & Fertilizer, LLC (Miller Chemical), Ramboll Environ US Corporation (Ramboll Environ) has prepared this Remedial Investigation (RI) and Final Report for the property owned by Lois E. Whisler located at 539 Oxford Avenue in Hanover, Conewago Township, Adams County, Pennsylvania ("Whisler property" or "the site") (Figure 1-1). This RI and Final Report presents the results of investigation activities conducted to evaluate potential impacts relating to the mobilization of fertilizer constituents from the Miller Chemical property by fire water during and subsequent to emergency fire-fighting response efforts at the Miller Chemical facility on June 8, 2015. Section 1 of this report provides information relating to the Miller Chemical operations and the fire. Section 2 of this report provides background information relating to the Whisler property operations and setting, and surrounding area geology, hydrogeology, and meteorology. Section 3 contains a discussion of emergency response measures that have occurred on the Whisler property. A summary of the soil investigation activities conducted in accordance with the *Miller Chemical & Fertilizer, LLC, 170 Radio Road, Hanover, Pennsylvania Off-Site Act 2 Soil Sampling and Analysis Plan* (the "SAP") and associated addenda, modifications to the SAP, and the analyte selection process are described in Section 4 of this report. Section 5 presents the soil sampling results, and Section 6 contains a demonstration of attainment of applicable soil standards. Section 7 of this report presents the conclusions of the ecological risk review. Section 8 provides a summary of conclusions.

The investigation activities described herein were conducted pursuant to the requirements of the Land Recycling and Environmental Standards Act (Act 2) as set forth in Title 25, Chapter 250 regulations, promulgated by the Pennsylvania Department of Environmental Protection (PADEP). The purpose of this report is to demonstrate attainment of Act 2 standards for compounds evaluated in soil at the Whisler property and qualification for a Relief of Liability pursuant to Act 2. This report also applies a Site Specific approach to evaluate constituents for which no media specific concentrations (MSCs) have been developed.

A Notice of Intent to Remediate (NIR) for the Whisler property was submitted to PADEP on April 19, 2016. A copy of the NIR was also submitted to the local municipality (Conewago Township) and a legal notification was published in the Hanover Evening Sun. The NIR indicates that chemicals of concern (COCs) will be addressed under the Statewide Health Standard (SHS) for unrestricted site use or a site-specific approach (for constituents for which no MSCs have been developed). Copies of notification documents are included in Appendix A.

Emergency fire-fighting response activities also affected other properties. Separate NIRs have been submitted to demonstrate attainment for COCs evaluated in soil at other affected properties; in addition, demonstration of attainment with Act 2 standards for groundwater will be submitted under a separate NIR and will be evaluated holistically across all potentially affected properties.

1.1 Miller Chemical Information

The Miller Chemical facility is located at 120, 150, and 170 Radio Road in Hanover, Conewago Township, Adams County, Pennsylvania and is approximately 13 acres in size. The Miller Chemical property was first developed in the late 1930s as a fertilizer

manufacturing facility and was operated by Union Fertilizer from the late 1930s until the mid-1940s as a fertilizer manufacturing facility. The property was acquired by Miller Chemical and Fertilizer Corporation in the mid-1940s and was operated by Miller Chemical and Fertilizer Corporation for fertilizer and pesticide formulation. By the early 1990s, the facility began shifting operations to fertilizer blending, and pesticide handling was limited to repackaging until 1995 when all pesticide handling operations ceased. Miller Chemical & Fertilizer, LLC acquired the Miller Chemical property and the assets of the business in 2014 and operated the facility for the formulation and packing of fertilizers.

At the time of the fire, the Miller Chemical property was developed with an approximately 96,000-square-foot main (production and warehouse) building, which was located in the center of the property (170 Radio Road), and three smaller buildings used for administrative activities (120 Radio Road), and for maintenance and document storage (150 Radio Road). A storm water retention pond was located northeast of the former building and connected to a storm water ditch located along the northern edge of the Miller Chemical property. Although the main building was mostly destroyed during the fire, construction of a new building within the same footprint was completed in July 2016.

The areas surrounding the current and former buildings are landscaped with grass and other vegetation. In addition, a newly constructed storm water pond is present in the northwest portion of the site.

1.2 History of Events

At approximately 3:30 am on Monday, June 8, 2015, emergency responders were alerted to a fire at the Miller Chemical production and warehouse building located southeast of the Whisler property. No one was inside the main building at the time and no injuries occurred while fighting the fire. Firefighters applied a large volume of water to extinguish the fire, as well as firefighting foam confirmed to be Universal Gold Alcohol Resistant Aqueous Film Forming Foam. A heavy rainfall occurred during the fire. Despite efforts to contain firefighting water and rainwater in the Miller Chemical property's retention pond and a series of connected pits excavated on the northwestern portion of the Miller Chemical property during the fire, runoff from firefighting activities traveled across various parcels, including the Whisler property, towards Slagle's Run north of the Miller Chemical property (Figure 1-2). More specifically, the majority of the fire water flowed across the Miller Chemical property to a ditch running east-west along the north side of the Miller Chemical property, with a portion of the water flowing across the Miller Chemical property to a ditch running south-north along the west side of the property. Water in both ditches flowed to the northwest corner of the Miller Chemical property and through a culvert beneath Radio Road and into the southwest corner of the Metropolitan Edison (Met-Ed) property. During the early firefighting efforts, water also appeared to have overtopped the drainage ditch on the Miller Chemical property and flowed across Radio Road onto the southwestern portion of the Met-Ed property. From the Met-Ed property, most of this water flowed through a corrugated metal drainage pipe beneath the CSX Transportation (CSX) rail tracks and onto the Bare Development property to the west, eventually discharging to Slagle's Run after crossing the Whisler property. A small portion of the fire water flowed north along the east side of the CSX rail tracks to the Family First Health Corporation property. Approximately 4.7 acres of the Whisler property were visibly affected by the fire water.

Subsequent to the fire, water and storm water runoff generated at the Miller Chemical property was pumped into a number of above ground storage containers (i.e., frac tanks) located at the Miller Chemical property. In an effort to control additional storm water runoff from reaching Slagle's Run in the days after the fire, several trenches and pits were excavated within the adjacent agricultural fields near Slagle's Run; these pits have since been filled. In addition, a one-million-gallon water holding tank (the "pool") was constructed on the Bare Development parcel to increase storm water runoff holding capacity. Water was pumped into the pool from the surrounding pits and drainage areas. A number of berms and other storm water diversions were also placed on the Miller Chemical property and on the agricultural parcels to reduce the flow of storm water from upgradient properties onto the Miller Chemical property and affected properties and to separate storm water from affected areas and unaffected areas.

2. SITE SETTING

2.1 Site Description

The Lois E. Whisler property is located at 539 Oxford Avenue in Hanover, Conewago Township, Adams County, Pennsylvania and comprises approximately 102 acres. The location of the site is shown on the United States Geological Survey (USGS) topographic map for the McSherrytown quadrangle (Figure 1-1). The Whisler property is comprised of several agricultural fields and several residential/agricultural structures. A drainage ditch (referred to as the "dry creek") runs south to north across the parcel to Slagle's Run (see Figure 1-2). A narrow area of land adjacent to the dry ditch has been designated as a wetland (Figure 2-2); a figure prepared by Johnson, Mirmiran & Thompson (JMT) and depicting the mapped wetland area is included as Appendix B to this report. The site is accessed on the western boundary of the site from a dirt road leading from Oxford Avenue.

The visibly affected area of the Whisler property includes an area encompassing approximately 4.7 acres that originates from the northern boundary of the adjacent Bare Development property and generally runs south to north along the dry creek to the northern property boundary (Figure 1-2).

2.2 Site History

Based on a review of historical aerial photographs, topographic maps, and discussions with the Whisler property representatives, the site appears to have been developed for agricultural and residential land use purposes as early as 1937 (and most likely earlier). Based on Ramboll Environ's review, it does not appear that the site was used for any other industrial or commercial purpose.

2.3 Climate

Hanover, Pennsylvania has an average annual temperature of 53 degrees Fahrenheit, average annual humidity of 72%, and averages approximately 39 inches of precipitation annually.¹ Approximately half of the annual precipitation returns to the atmosphere through evapotranspiration. The amount of precipitation that recharges to groundwater in this region of Pennsylvania typically averages approximately 30% of the total precipitation amount, with the rest flowing into surface water bodies (Reese & Risser, 2010). This suggests that approximately 11.7 inches of precipitation reaches groundwater per year; although factors such as soil type, precipitation rates, ratio of pervious to impervious surfaces, and the slope of the ground will impact the infiltration rate.

2.4 Topography

Topography at the site is generally characterized by a gentle slope to the northwest. Surface elevations range from approximately 545 feet above mean sea level (AMSL) in the southeast corner of the Whisler property to approximately 520 feet AMSL in the northwest corner of the site. The Whisler property is bounded on the east side by the CSX rail line, which is situated above the surrounding area on an approximately four foot high berm.

¹ <http://www.usclimatedata.com/climate/hanover/pennsylvania/united-states/uspa0672>;
<http://www.wunderground.com/personal-weather-station/dashboard?ID=KPAHANOV9>.

2.5 Site and Surrounding Area Geology/Hydrogeology

The site is located within the southwestern portion of the Piedmont Lowland Section of the Piedmont Province. The Piedmont Lowland Section consists of karst valleys separated by broad, low hills (Sevon, 2000). The rock is complexly folded and faulted and dominantly consists of limestone and dolomite with some shale and sandstone. The Conestoga Limestone crops out within the site vicinity. This formation dominantly consists of thinly bedded, dark-gray limestone with some shale. Underlying the limestone is a black to dark-gray shale and limestone, which may be over 1,000 feet in thickness (Taylor & Royer, 1981).

According to the United States Department of Agriculture (USDA) Natural Resources Conservation Service (NRCS) Web Soil Survey, the natural surface soils within the vicinity of the site are primarily identified as the Conestoga silt loam, which is characterized as well drained, and the Clarksburg silt loam, which is characterized as moderately well drained.² The Dunning silty clay loam, which is characterized as very poorly drained, is located in the center of the site and the Penlaw silt loam, which is characterized as somewhat poorly drained, is present on the eastern side of the site in smaller percentages than the Conestoga silt loam and the Clarksburg silt loam.

2.6 Current and Future On-site Land Use

As discussed in Section 2.1, the Whisler property is used for residential and agricultural purposes. The Whisler property is currently zoned for suburban residential and highway commercial use by Conewago Township.³ The Conewago Township Comprehensive Plan (the "Comprehensive Plan;" 2008)⁴ identifies a future land use of agricultural purposes and conservation, although no use restrictions are noted. Zoning documents are provided in Appendix C.

2.7 Current and Future Surrounding Land Use

The Whisler property is bounded to the east by the CSX rail line, beyond which is the Family First Health Corporation (Family First) property and Met-Ed property. The Family First property is developed with an adult and pediatric medical and dental care facility; the Met-Ed property is developed as an electrical substation and is improved with high-voltage transformers and a power distribution grid. Vulcan Materials Company (Vulcan Materials) owns the property to the north between the Whisler property and Slagle's Run; this portion of the Vulcan property is undeveloped woodland. Slagle's Run runs east to west on the Vulcan Materials property. The properties immediately to the west and south are used for agricultural purposes with some residences located on the western properties. The Comprehensive Plan⁴ calls for certain properties west of the Whisler property to be rezoned as agricultural. The properties north, south, and east will remain as they are currently zoned; however, certain areas of each property may be designated as conservation zones.

2.8 Groundwater Use

To evaluate groundwater use at properties in the vicinity of the site, Ramboll Environ conducted a water well search in June 2015 that was subsequently updated in February

² <http://websoilsurvey.nrcs.usda.gov>

³ <http://www.conewagotwp.org/departments/zoning-codes/>.

⁴ <http://www.conewagotwp.org/departments/zoning-codes/comprehensive-plan/>.

2016⁵. The water well survey identified 15 withdrawal water wells (commercial, domestic, industrial, and/or agricultural) and 64 other types of wells (monitoring, observation, injection, mine, test, and/or unused) within a one-mile radius of the Miller Chemical property (see Figure 2-1); the nearest domestic water well was identified approximately 3,200 feet south of the Whisler property. In addition, representatives for the Whisler property noted that a spring and an agricultural use well are located in the vicinity of the residence on the Whisler property, approximately 2,600 feet west of the dry creek.

With the exception of the spring and agricultural well located on the Whisler property, no potable water wells were identified with a one-mile radius in the downgradient direction (north to northwest). In the future, while it is expected that water will continue to be provided to surrounding parcels by Hanover Municipal Works, Ramboll Environ did not identify local ordinances that would restrict the future installation of potable or non-potable wells at or in the vicinity of the site; as such, the future use of groundwater as a drinking source cannot be ruled out.

As previously indicated, potential groundwater effects related to the fire at the Miller Chemical property are being assessed separately.

⁵ Mapping does not include the groundwater monitoring wells recently installed by Miller Chemical Act 2 investigation.

3. EMERGENCY RESPONSE MEASURES

As part of the emergency response to the fire, certain emergency response activities occurred prior to the preparation of the Act 2 report and are discussed in further detail below:

3.1 Interceptor Trenches

As part of the emergency response, several storm water trenches were installed by the emergency response contractor, appointed by Adams County, on the central and southern portions of the agricultural field. This work included the excavation of a trench across the southern boundary of the Whisler property to facilitate flow within the dry creek (herein referred to as "Trench B"; Figure 3-1).⁶ Trench B was approximately 80 feet in length and was excavated to depths ranging from approximately one to four feet bgs. In addition, a trench was excavated along the western central area of the Whisler property (herein referred to as "Trench C"; Figure 3-1) to intercept non-impacted storm water flow and to divert it away from the dry creek; Trench C was approximately 490 feet in length and was excavated to depths ranging from approximately one to four feet bgs. A third trench was excavated along both sides of and cutting across the dry creek to collect storm water flowing across the visibly impacted areas and to contain overflow from the off-site pit (discussed below). This trench is herein referred to as the "Horseshoe Trench" (Figure 3-1). The Horseshoe Trench was approximately 750 feet in length and was excavated to a depth of approximately four feet bgs. Trench C and the Horseshoe Trench (except the portion that crosses the dry creek) were backfilled in the summer of 2015 under the supervision of WCD. Trench B and the remaining portion of the Horseshoe Trench were backfilled between November and December 2015 under the oversight of Ramboll Environ and in accordance with plans approved by the United States Army Corps of Engineers (USACE). Details regarding the November and December 2015 restoration activities are provided in the Initial Monitoring Report - Restoration of Dry Creek Off-Site Areas Associated with the Miller Chemical Site, Hanover, PA dated January 8, 2016 (Appendix D). As discussed in Section 4.2 of this report, soils within the restored area of these trenches were sampled as part of the Act 2 soil sampling.

3.2 Collection Pits

As part of the emergency response, several pits were installed on the southern portions of the agricultural field to capture water migrating through the dry ditch. One pit was dug along the flow path of the dry creek (herein referred to as the "Offsite Pit"; Figure 3-1). The Offsite Pit was approximately 220 feet in length with a variable width up to approximately 60 feet at the widest location and depths up to 16 feet bgs. A portion of the pit (referred to as the "Offsite Pit Area"; Figure 3-1) was filled in on July 20, 2016 under the supervision of WCD. In addition, the Offsite Pit was partially backfilled to a depth of approximately 4 feet bgs on July 20, 2015. Backfilling and restoration of the Offsite Pit was completed between November 23 and 25, 2015. Details regarding the restoration of this area are provided in the Initial Monitoring Report - Restoration of Dry Creek Off-site Areas Associated with the Miller Chemical Site, Hanover, PA dated January 8, 2016 (Appendix D).

⁶ Trench "A" was dug on the adjacent Bare Development property and thus, is not discussed herein.

A second, more shallow pit was also excavated on the eastern side of the dry creek northeast of the Offsite Pit (herein referred to as the "Former Overflow Pit"; Figure 3-1). The Former Overflow Pit was approximately 100 feet in length, approximately 50 feet in width, and no greater than 5 feet deep. The Former Overflow Pit was backfilled in the summer of 2015 under the supervision of WCD.

3.3 Placement of Gravel Haul Road

As part of the emergency response, a gravel road was constructed along the western side of the dry creek (herein referred to as the "Haul Road;" see Figure 3-1) to facilitate movement of emergency response vehicles. The Haul Road is approximately 500 feet in length on the Whisler property. The haul road will be removed as part of final restoration activities, following the completion of Act 2 work.

4. SOIL CHARACTERIZATION SCOPE OF WORK

Ramboll Environ conducted soil sampling activities as described in the following documents:

- The SAP, which was approved by PADEP on November 3, 2015, and subsequently revised on November 20, 2016 to respond to additional off-site property owner comments.
- SAP Addendum titled *Additional Sampling for Agricultural Properties and Off-Site Soil Stockpiles* (December 17, 2015), which describes the collection of additional composite soil samples for analysis by the Pennsylvania State University College of Agricultural Sciences Agricultural Analytical Services Laboratory (PSAASL).

The sampling activities were conducted in accordance with the approved SAP with the following modifications:

- Sample locations WH-DA-09 and WH-DA-10 were moved in the field approximately 6 feet west and south, respectively, due to the presence of pooled water on the ground surface at the time of sampling.
- Sample location WH-BS-21 was moved approximately 20 feet north due to accessibility constraints.
- The location for the deeper sample for WH-VA-22 was relocated approximately 20 feet north due to refusal (identified as location WH-VA-22b). The surface sample was collected at the original location (WH-VA-22).
- Sample location WH-DC-04 was shifted approximately 60 feet north to be outside of the restored area such that soil samples were representative of undisturbed post-fire conditions (i.e., had not been disturbed as a result of restoration activities). As a result of moving WH-DC-04, location WH-DC-05 was shifted approximately 50 feet north to maintain a similar separation distance between all dry creek samples.
- Four boundary samples (WH-BS-13, WH-BS-14, WH-BS-15, and WH-BS-16) were collected along the northern boundary of the Whisler property, but within the visibly affected area. These boundary samples were treated as visibly affected area samples for data evaluation purposes.

4.1 Pre-Mobilization Activities

Pre-mobilization activities included a preliminary meeting with representatives of the Whisler property, preparation of a site Health and Safety Plan (HASP), mark-out of public subsurface utilities by the Pennsylvania One-Call service, preparation of a topographic survey by a licensed land surveyor, and field mapping of the visibly affected areas.

4.2 Act 2 Soil Sample Collection

Ramboll Environ conducted the Act 2 soil sampling activities from December 1 to December 4, 2015, December 7 to December 9, 2015, and December 14, 2015. Soil sampling activities included the collection of soil samples from twelve background sample locations (WH-BACK-01 to WH-BACK-12), forty-two visibly affected area sample locations (WH-VA-01

to WH-VA-42), twenty-one delineation (or boundary) sample locations (WH-BS-01 to WH-BS-21), five dry creek sample locations (WH-DC-01 to WH-DC-05), and fourteen disturbed area sample locations (WH-DA-01 to WH-DA-14). For data evaluation purposes, Ramboll Environ also considered the results for two additional background soil samples (SS6-F2-C and SB4-AGR) that were collected in June 2015 as part of fire response activities. The sampling locations are depicted on Figure 4-1. Ramboll Environ also collected eight duplicate soil samples and six equipment rinse blanks for quality assurance purposes.

All Act 2 soil samples were collected in accordance with the SAP unless otherwise described below, and following the procedures specified in the Act 2 Off-Site SAP and summarized briefly below.

Background Samples (WH-BACK-01 to WH-BACK-12)

Background soil samples were collected as grab soil samples from twelve visibly unaffected locations on the Whisler property. Soil samples were collected from 0 to 3 inches bgs; 6 to 12 inches bgs; and 1 to 2 feet bgs at each background soil sample location. In addition, two soil samples were collected from a depth of 4 to 5 feet bgs (WH-BACK-02 and WH-BACK-10) and one soil sample was collected from a depth of 3.2 to 4.2 feet bgs (WH-BACK-07).⁷ Background soil samples collected in June 2015 were collected from the upper twelve inches of soil using similar methodologies. A total of 44 background soil samples were collected from 14 sample locations (including one duplicate).

Visibly Affected Area (WH-VA-01 to WH-VA-42)

Five-point composite soil samples were collected at a depth interval of 0 to 3 inches bgs at each visibly affected area location. Five-point composite samples were collected by taking five equal volume subsamples from the center location and compass points of a 10-foot-diameter circle, combining the subsamples in a stainless steel bowl and mixing thoroughly prior to packaging in a laboratory-supplied container. A total of 43 surface composite soil samples were collected from 42 sample locations (including one duplicate). In addition, at approximately 33% of the sample locations, deeper soil samples were collected as discrete grab samples from depths of 1 to 2 feet bgs and 4 to 5 feet bgs (including one duplicate sample collected at each depth), resulting in the collection of 30 subsurface soil samples from 14 sample locations (including two duplicates).⁸

Boundary Samples (WH-BS-01 to WH-BS-21)

Soil samples were collected from the boundary of the visibly affected area at a rate of approximately one sample per 150 linear feet. Boundary samples were collected as five-point composite samples from a depth of 0 to 3 inches bgs. Composite samples were collected as described above, but the five subsamples were collected in an equally

⁷ Saturated soils were encountered at 4.2 feet bgs at WH-BACK-07 thus the at-depth sample was collected from 3.2 to 4.2 feet bgs.

⁸ Due to refusal at WH-VA-22 and WH-VA-25, soil samples were collected from 2 to 3 feet bgs and 2.5 to 3.5 feet bgs, respectively, instead of from a 4 to 5 foot bgs interval.

spaced linear fashion. A total of 22 boundary samples were collected from 21 sample locations (including one duplicate).

Dry Creek (WH-DC-01 to WH-DC-05)

Soil samples were collected from the base of the dry creek approximately every 150 linear feet along the creek. These samples were collected as five-point composite soil samples from a depth of 0 to 3 inches bgs. These composite samples were collected in a method similar to the boundary samples. A total of 6 dry creek samples were collected from 5 sample locations (including one duplicate).

Disturbed Areas (WH-DA-01 to WH-DA-14)

Three trenches and two pits were dug on the Whisler property during the initial response efforts; the trenches were subsequently backfilled. Five-point composite samples were collected at a depth interval of 0 to 3 inches bgs at each disturbed area location. These composite samples were collected in a method similar to the visibly affected area samples. To evaluate the native soil beneath these disturbed areas, Ramboll Environ collected soil samples from the base of these features and collected additional soil samples every 5 feet below the base of these features, to the water table, or to refusal, whichever was encountered first. A total of 39 disturbed area samples were collected from 14 sample locations (including two duplicates).

Soil samples were packaged in laboratory-provided containers, labelled, placed on ice, and delivered under chain-of-custody protocols to Phase Separation Science, Inc. (PSS) and ALS for laboratory analysis. These laboratories are Pennsylvania-certified for the constituents that were analyzed (listed below in Section 4.5).

4.3 Agricultural Soil Sample Collection

To further evaluate nutrients for which no SHSs have been established, a total of four composite soil samples (WHCSS-01020; WHCSS-01060; WHCSS-02020; and WHCSS-02060) were collected for analysis by Penn State Agricultural Analytical Services Laboratory (PSAASL) on December 14, 2015. Agricultural samples were collected as composite samples from depths of 0 to 2 inches bgs and 2 to 6 inches bgs (referred to herein as "surface" and "shallow," respectively). One set of surface and shallow soil samples were collected from within the visibly affected area and another set was collected from background locations, resulting in the collection of four samples. Each composite sample was comprised of 15 discrete soil samples; the discrete sample locations were selected in the field to provide uniform coverage across the eastern portion of the Whisler property with an emphasis on portions of the parcel that are used for agricultural purposes (rather than tree covered portions of the parcel or areas within the footprint of the dry creek). Figure 4-2 presents the locations where the individual discrete samples were collected.

4.4 Act 2 Analyte Selection Process

Ramboll Environ conducted a review of available information from Miller Chemical and PADEP to evaluate potential analytes that could have been present in fire water flows, and to identify the list of potential COCs. This review began with an assessment of broad spectrum sampling data from affected soil and fire water and then extended to a review of Miller

Chemical's chemical inventories and product composition information. More specifically, Ramboll Environ relied upon the following information sources:

- Analytical results for fire water samples collected on-site immediately following the fire and analyzed for an extensive analyte list (as described in further detail below);
- Analytical results for soil samples collected from the visibly worst-affected areas of the Miller Chemical property shortly following the fire (e.g., the on-site drainage ditch) and analyzed for an extensive analyte list (as described in further detail below);
- Product and raw materials inventories review; and
- Data that PADEP collected immediately after the fire.

4.4.1 Fire Water Analysis

Environmental Products & Services of Vermont, Inc. (EPS), the emergency response contractor appointed by Adams County, collected a sample of fire water on June 9, 2015. The sample was submitted to Pace Analytical Services, Inc. in Greensburg, Pennsylvania for analysis of the parameters listed below, and certain additional waste characterization parameters, such as pH, flashpoint, etc.:

- Total phosphorus by Standard Method (SM) 4500-P E;
- TKN by USEPA Method 351.2;
- Nitrate (as N) by SM 4500-NO₃ F;
- Nitrite by Method SM 4500-NO₂ B;
- Metals including: antimony, arsenic, barium, beryllium, cadmium, chromium (total), copper, lead, nickel, selenium, silver, thallium, and zinc by USEPA Method 6010B;
- Mercury by USEPA Method 7470A;
- Polychlorinated biphenyls (PCBs) by USEPA Method SW-846 8082;
- Reactive cyanide by USEPA Method SW-846 7.3.3.2; and
- Reactive sulfide by USEPA Method SW-846 7.3.4.2.
- Toxicity characteristic leaching procedure (TCLP) pesticides by USEPA Method SW-846 8081A;
- TCLP herbicides by USEPA Method SW-846 8151A (analyzed by Summit Environmental Technologies, Inc.);
- TCLP metals by USEPA Method-846 6010B;
- TCLP semi-volatile organic compounds (SVOCs) by USEPA Method SW-846 9270C;
- TCLP volatile organic compounds (VOCs) by USEPA Method SW-846 9260B;

Results for the fire water analysis were non-detect for leachable (TCLP) pesticides, PCBs, leachable (TCLP) SVOCs, leachable (TCLP) VOCs, reactive cyanide, and reactive sulfide. Certain of the metals were also non-detect. Detected constituents and parameters include

total phosphorus, TKN, nitrate, nitrite, sulfate, certain metals, and select leachable (TCLP) metals including arsenic, chromium (total), and lead⁹.

4.4.2 Miller-Site Surface Soil

On June 15, 2015, Ramboll Environ collected a surface soil sample (SS8-IS-061515) from a heavily impacted drainage ditch along the northern boundary of the Miller Chemical property. This sample was submitted for laboratory analysis of the following constituents:

- Total phosphorus (as P) by USEPA Method 365.1;
- TKN by Standard Method (SM) 4500-NH3 C-1997;
- Nitrate (as N), nitrite (as N), and sulfate by USEPA Method 300.0;
- Target Analyte List (TAL) metals including: aluminum, antimony, arsenic, barium, beryllium, cadmium, chromium (total), cobalt, copper, iron, lead, manganese, mercury, nickel, potassium, selenium, silver, sodium, thallium, and zinc by USEPA Method SW-846 6020A;
- Organochlorine pesticides by USEPA Method SW-846 8081B;
- Chlorinated herbicides by USEPA Method SW-846 8151A;
- Organophosphorus compounds by USEPA Method SW-846 8141B; and
- TCLP metals by USEPA Method SW-846 6020A;
- TCLP organochlorine pesticides by USEPA Method SW-846 8081B;
- TCLP chlorinated herbicides by USEPA Method SW-846 8151A;
- TCLP VOCs by USEPA Method SW-846 8260B;
- TCLP organophosphorus compounds by USEPA Method SW-846 8141B.

Results for the soil sample were non-detect for chlorinated herbicides, leachable (TCLP) metals, leachable (TCLP) organochlorine pesticides, leachable (TCLP) organochlorine herbicides, leachable (TCLP) VOCs, and organophosphorus compounds; a map showing the approximate sample location, a data summary of detected constituents, and the complete laboratory analytical data report are included as Appendix E.¹⁰ A single organochlorine pesticide (methoxychlor) was detected at a concentration of 1.2 milligrams per kilogram (mg/kg) in the soil sample. The measured concentration of methoxychlor is well below the Statewide Health Standards of 630 mg/kg for protection of groundwater and 1,100 mg/kg for direct contact at residential properties. Ramboll Environ also notes that methoxychlor was not detected in subsequent, additional soil characterization samples collected from the Miller Chemical property. Remaining detected parameters included total phosphorus, TKN, nitrate, nitrite, sulfate, and certain metals.

⁹ Based on information provided to PADEP indicating that Miller Chemical did not use or store chemicals or raw materials containing hexavalent chromium, the Department verbally agreed that testing for total chromium and application of the trivalent chromium MSC would be appropriate for this site.

¹⁰ Ramboll Environ notes that the laboratory analytical report included results for samples collected from other properties and media, which are not pertinent to the evaluation discussed in Section 4.4; data for these samples has been redacted from the analytical data report provided in Appendix E.

4.4.3 Chemical Inventory Review

As part of the chemical inventory review, Ramboll Environ reviewed product and raw materials inventories provided by Miller Chemical (including estimates of the amount of material present on the Miller Chemical property at the time of the fire and, for certain materials, estimates of the amount of material recovered after the fire). Ramboll Environ also interviewed representatives of Miller Chemical regarding chemical use and reviewed safety data sheets (SDSs) and other publicly available information (e.g., product labels) regarding the composite of materials listed on the inventories.

More specifically, Ramboll Environ reviewed chemical composition information listed on the SDSs and labels provided by Miller Chemical or available through Miller Chemical-specific online portals. Ramboll Environ also reviewed other publicly available SDS repositories not associated with Miller Chemical to identify SDSs associated with Miller Chemical. Given the overall number of chemicals present on-site and the range in quantities, more detailed chemical composition review was conducted for products present at the time of the fire in quantities in excess of 75,000 pounds (this quantity was selected based on an estimate of the volume of firewater that flowed off the Miller Chemical property and potential resulting average contaminant concentrations). The chemical composition review was focused on identifying additional analytes of potential concern.

4.4.4 Selection of Analytes of Potential Concern

Based on the results for analyses of on-site soil and fire water and the review of Miller Chemical's chemical use and inventory, Ramboll Environ ruled out the following constituents of concern:

- Pesticides – No pesticides other than methoxychlor were detected in the samples described above and Miller Chemical did not store or use pesticides on-site at the time of the fire. Methoxychlor was identified in only a single soil sample and was not detected in fire water, surface water, or in samples collected during subsequent characterization of visibly affected soils. As such, pesticides were not retained as constituents of concern for the purposes of the Act 2 Investigation.
- Herbicides – No herbicides were detected in the samples described above and Miller Chemical did not store or use herbicides at the site at the time of the fire. As such, herbicides were ruled out as a constituent of concern associated with the fire.
- VOCs/SVOCs – Neither VOCs nor SVOCs were detected in the characterization samples described above. It is likely that volatile organic compounds within materials stored at the site were consumed by the fire. Ramboll Environ did not identify materials in the chemical and raw material inventory containing appreciable SVOCs.
- PCBs – PCBs were not detected in the characterization samples and Miller Chemical did not use or store PCBs at the Miller Chemical facility. As such, PCBs were not retained as a constituent of concern for the Act 2 investigation.
- Reactive cyanide and sulfide – Neither reactive cyanide nor sulfide were detected in the characterization samples discussed above. Further these compounds are not anticipated based on chemical inventory information. As such, these compounds were ruled out as constituents of potential concern for the Act 2 investigation.

The following analytes were retained as potential constituents of concern:

- TAL metals (aluminum, antimony, arsenic, barium, beryllium, cadmium, calcium, total chromium, cobalt, copper, iron, lead, manganese, mercury, nickel, potassium, selenium, silver, sodium, thallium, vanadium, and zinc) plus molybdenum and boron;
- TKN, nitrate, and nitrite;
- Sulfate; and
- Total phosphorus.

4.5 Soil Sample Analysis

Based on the analyte selection process described above, Act 2 soil samples were analyzed for the presence of the following compounds, in accordance with the SAP:

- Target Analyte List (TAL) metals including: aluminum, antimony, arsenic, barium, beryllium, cadmium, calcium, total chromium, cobalt, copper, iron, lead, magnesium, manganese, mercury, nickel, potassium, selenium, silver, sodium, thallium, vanadium, and zinc plus molybdenum and boron by SW846-6020A (submitted to PSS);
- TKN by Standard Method (SM) 4500-NH3 C-1997 (submitted to ALS);
- Nitrate (as N) by USEPA method 300.0 (submitted to ALS);
- Nitrite (as N) by USEPA method 300.0 (submitted to ALS);
- Sulfate by USEPA method 300.0 (submitted to ALS); and
- Total phosphorous (as P) by USEPA method 365.1 (submitted to ALS).

In addition, one representative soil sample from both the visibly affected area and dry creek were collected and submitted to Schnabel Engineering, Inc. for soil grain-size analysis and to PSS for total organic carbon analysis by USEPA method 9060A.

The agricultural samples were analyzed for pH, Mehlich buffer lime requirement, phosphorus, potassium, calcium, magnesium, zinc, copper, sulfur, nitrate nitrogen, ammonium nitrogen, arsenic, and soluble salts in accordance with recommendations from the PSAASL.

4.6 Quality Assurance/Quality Control

Chain-of-custody documents and field log books were maintained for all samples. Sample locations were recorded using both a Trimble GeoXH GPS and traditional survey methods.

To evaluate the repeatability of the sampling procedures, one duplicate sample per 20 samples was collected during the sampling event, resulting in the collection and analysis of eight duplicate soil samples.

Re-useable sampling equipment was decontaminated using appropriate procedures including a non-phosphate detergent wash, followed by a double de-ionized water rinse. Six equipment rinse blanks were collected from decontaminated sampling equipment to document the effectiveness of equipment decontamination methods. Laboratory-provided deionized water was poured over the sampling equipment into laboratory provided containers. The samples were submitted to the laboratory for the constituents identified in Section 4.4.

The analytical laboratory employed standard QA/QC practices including the analysis of internal laboratory duplicates, reagent blanks, method blanks, matrix spikes and matrix spike duplicates, surrogate spikes, laboratory control samples, and continuing calibrations. Analytical data was reviewed and validated prior to reporting by Laboratory Data Consultants, Inc. (LDC). Results of the data validation are further discussed in Section 4.7.

Forms summarizing the analytical data were checked and the overall completeness of the data packages was evaluated. Completeness checks were administered on all data to determine whether all necessary deliverables were present. Data validation included a complete review of all technical holding times; the instrument performance check sample results, initial & continuing calibration results, blanks, surrogate spikes, matrix spikes/matrix spike duplicates and laboratory control sample results; internal standards; target compound identification and quantitation; and system performance checks.

4.7 Data Usability

During a review of data validation results, Ramboll Environ observed that numerous soil samples were flagged with a non-detect qualifier ("U" qualifier) due to the presence of inorganic constituents including aluminum, barium, calcium, copper, magnesium, nitrate, potassium, sodium, strontium, sulfate, and zinc in the six field equipment rinse blanks (EB-1-111915, EB-2-111915, EB-3-120415, EB-4-120415, EB-5-121015, and EB-6-121015). Based on a review of the available data and discussions with PSS, it was concluded that the laboratory-provided deionized water used to collect these equipment blanks may not have been free of inorganic parameters. During follow up conversations, PSS indicated that the lab uses two separate sources of deionized water within the lab; one source is used for analysis of inorganics while the second source is used for organics testing. The laboratory-provided deionized water was supposed to have been provided from the inorganics source on March 9, 2016. The laboratory analyzed an aliquot of water from the de-ionized water source used for organics analysis. Based on a review of these results, detected concentrations of inorganic compounds in the six field equipment blanks are similar to those measured in the laboratory water supply for organics analysis. Therefore, it appears that this water source was used to provide water for collection of the equipment blanks designated above (see Appendix F for analytical results for the PSS organics water).

As a result of this review, Ramboll Environ has rejected the equipment blank data for samples EB-1-111915, EB-2-111915, EB-3-120415, EB-4-120415, EB-5-121015, and EB-6-121015 and has removed all qualifiers associated with detected metals in these blanks. By removing these data qualifiers, Ramboll Environ is conservatively assuming that 100% of the measured concentrations for the inorganic parameters in the soil samples associated with these equipment rinse blanks reflect actual concentrations in the soil with no potential contribution from cross-contamination by laboratory provided water.

Analytical results for boron in 55 of 180 samples were rejected during the data validation process due to exceedances of the associated continuing calibration verification standards (i.e., the result for the continuing calibration standard was not in the expected range). The reported value for each of the rejected data points for boron was non-detect. Of the remaining 125 samples collected on the Whisler property, boron was detected in only one sample (WH-VA-15) at a concentration of 22 mg/kg, which is below the applicable MSCs. Ramboll Environ notes that continuing calibration standard analyses for soil samples

collected on the adjacent Bare Development property were acceptable (i.e., data were not rejected for this reason) and the analytical results for boron in soil samples collected from the Bare Development property are comparable to the results from the Whisler property (e.g., boron was only detected in one sample from the Bare Development at a concentration of 16 mg/kg). As such, the rejected results are not expected to affect the characterization of fire-response impacts to site soils.

Results for arsenic reported for samples WH-VA-12-C-120215 and WH-DC-03-C-120715 were both qualified "J" as estimated during data validation due to the associated matrix spike duplicate (MS/MSD) recovery for the batch of samples that included WH-VA-12-C-120215; the MSD recovery was 71%, slightly below the laboratory control limit of 75%. The recovery of the MS was 84%, which is within the control limits. The purpose of the MS/MSD analysis is to provide an assessment of the effect of the sample matrix on the sample preparation and analysis. In this case, the sample used to prepare the MS/MSD for this batch of samples was collected at location WH-VA-09-C. Due to the heterogeneity of soil samples it is not likely that these samples were exactly the same matrix. Further, only the MSD was below the control limit. The recovery for arsenic was also within the control limits in the laboratory control sample (LCS) and continuing calibration verification (CCV) standards associated with the analytical batch, which indicates acceptable accuracy for the analysis. Therefore, the arsenic result for sample WH-VA-12-C-120215 is considered a valid result and usable as qualified.

Sample WH-DC-03-C-120715 was used to prepare the MS/MSD associated with that sample. The MS and MSD recoveries for arsenic were 70% and 71%; which are both below the laboratory control limit of 75%. The result for arsenic was qualified "J" as estimated for a potential low bias. The recovery for arsenic was within the laboratory control limit in the associated LCS and CCV standards. Based on a review with LDC, the "J" qualified data is valid and useable for decision-making purposes.

5. SITE CHARACTERIZATION RESULTS

Results of soil characterization activities on the Whisler property are presented in this section. Soils on other affected parcels are being addressed under separate NIRs and reports. Groundwater is being addressed for all affected parcels under a separate NIR.

5.1 Field Observations

Surface soils at the Whisler property are generally described as yellowish brown to dark brown clay with little to some silt and little to trace coarse sand; analysis of a representative sample of surface soil (WH-GRAIN-121415) for soil grain size indicated sandy silt; grain size analytical data sheets are included as Appendix G.

Subsurface soils are generally characterized as a yellowish brown to brown clay with little to some silt underlain by a shale bedrock layer. Saturated soils were encountered at the time of drilling at depths between 4.2 feet bgs and 6.5 feet bgs at several disturbed area sample locations (WH-DA-01, WH-DA-02, WH-DA-03, WH-DA-04, WH-DA-06, WH-DA-08, WH-DA-11, and WH-DA-13), and one background sample (WH-BACK-07). Field observations during the summer of 2015 also indicated potential seepage of shallow perched groundwater into the Off-site Pit at a depth of approximately 5 to 6 feet bgs.

5.2 Soil Sampling Results

A summary of detected constituents in site soil samples is provided in Table 5-1; soil sample locations are depicted on Figure 4-1. Copies of the full laboratory analytical data packages are included in Appendix H. The complete data validation package is included in Appendix I.¹¹ Detected constituents include 19 metals (aluminum, arsenic, barium, beryllium, boron, calcium, chromium (total), cobalt, copper, iron, lead, magnesium, manganese, mercury, nickel, potassium, sodium, vanadium, and zinc), nitrate, nitrite, TKN, sulfate, phosphorus, and total organic carbon. Antimony, cadmium, molybdenum, selenium, silver, and thallium were not detected in soil samples collected from the Whisler property.

In order to help support a determination as to whether adequate sampling had been performed to characterize the nature and extent of potential soil contamination, and to evaluate whether further action to evaluate or address soils is necessary, detected soil concentrations were compared to the following applicable PADEP Statewide Health values:

- Residential direct contact within the upper fifteen feet of soil (Residential Direct Contact value),
- Migration from soil to groundwater (Soil-to-GW)¹² pathways.¹³

Calculated Soil to Groundwater Values for nitrate and nitrite. Soil to groundwater numeric values for inorganic chemicals as specified by Pa. Code §250.308 can be

¹¹ Modified qualifiers based on the data validation are not reflected in the analytical data packages provided by the laboratory.

¹² For residential used aquifer with TDS \leq 2,500 milligrams per liter (mg/L).

¹³ Soil-to-groundwater values for aluminum, iron, phosphorus, potassium, sodium, and sulfate were not derived since these chemicals are either not toxic to humans at relevant concentrations or only have secondary MCLs.

selected using two methods. Ramboll Environ applied the first method, which selects, "a value which is 100 times the applicable MSC for groundwater identified in §250.304(c) or (d) (relating to MSCs for groundwater), expressed as milligrams per kilogram of soil." For nitrate and nitrite, the applicable MSCs for groundwater identified in §250.304(c) are maximum contaminant levels (MCLs) established by the USEPA. The MCLs for nitrate and nitrite are 10 milligrams per liter (mg/L) and 1 mg/L, respectively. Multiplying these concentrations by 100 yields soil to groundwater values for nitrate and nitrite of 1,000 mg/kg and 100 mg/kg, respectively.

In Table 5-2, maximum concentrations of detected constituents in soil are compared to Residential Direct Contact values and the Soil-to-GW values; the Residential medium specific concentration (MSC) for soil is the more stringent of these two values. The maximum detected concentrations of constituents in soil are below the applicable MSCs with the exception of arsenic, manganese, and vanadium, which are discussed below. In addition, constituents for which PADEP has not established MSCs are also discussed below.

5.2.1 Constituents Exceeding MSCs

Arsenic, manganese, and vanadium were the only constituents detected above applicable MSCs and are further described below.

Arsenic

Arsenic was detected in 8 (including a duplicate) of the 184 samples collected on the Whisler property at concentrations greater than the Residential MSC of 12 mg/kg. Arsenic was not detected at concentrations greater than the Soil to GW value (29 mg/kg) in any sample collected on the Whisler property. The highest detection of arsenic (22 mg/kg) was measured in a visibly affected sample (WH-VA-12) collected from the 1 to 2 foot depth interval. As presented on Figure 5-1, the nature and extent of arsenic concentrations in soil was adequately characterized with arsenic concentrations delineated to the applicable MSC.

Manganese

Manganese was detected in 7 (including a duplicate) of the 184 samples collected on the Whisler property at concentrations greater than the Residential MSC (2,000 mg/kg) based on the Soil-to-GW value. Manganese was not detected at concentrations greater than the Residential Direct Contact value (10,000 mg/kg). The highest manganese concentration (3,100 mg/kg) was measured in a boundary sample (WH-BS-03) from the 0 to 3 inch bgs interval; the highest concentration of manganese from a visibly affected location was 2,700 mg/kg at WH-VA-32 at a depth of 4 to 5 feet bgs. Although an exceedance of the MSC was identified at boundary sample location WH-BS-03, this exceedance is bounded by additional data points located to the west. As presented on Figure 5-2, the nature and extent of manganese concentrations in soil was adequately characterized with manganese concentrations delineated to the applicable MSC.

Further, it is noted:

- Manganese was identified in background soil samples at concentrations up to 2,500 mg/kg; and

- Given the location of WH-BS-03, it is possible that restoration activities relating to the backfilling of the off-site pit and subsequent re-grading of surrounding soils may have affected the soil at the location of WH-BS-03.

Vanadium

Vanadium was detected in 177 of the 184 samples (including 8 duplicates) collected on the Whisler Property at concentrations greater than the Residential MSC of 15 mg/kg. The maximum detected concentration of vanadium (68 mg/kg) was measured in a visibly affected area sample (WH-VA-12) from the 1-2 feet bgs interval. The maximum detected background concentration of 55 mg/kg was measured at background sample location WH-BACK-04 at the 1-2 feet bgs interval. Nearly all of the vanadium concentrations, including all of the concentrations in background soil, are above the Residential MSC; thus, it is not possible to delineate the extent of vanadium concentrations to this MSC. However, the nature and extent of vanadium concentrations in soil has been adequately characterized to be able to support an evaluation regarding the significance of the concentrations in the visibly affected area relative to background.

Given the nature and extent of the arsenic, manganese, and vanadium concentrations, no additional sampling is necessary in order to evaluate the potential significance of current and future receptor exposures to soil or to determine if remedial action would be warranted. The presence of arsenic, manganese, and vanadium in soil at concentrations exceeding the MSCs was further evaluated using procedures set forth under the Act 2 program as discussed in Section 6 of this report.

5.2.2 Constituents with no PADEP MSCs

Sample analyses also identified a number of analytes of potential concern in soil for which no MSCs have been established. These analytes were identified at the following maximum concentrations and locations: calcium (310,000 mg/kg; WH-DA-07), magnesium (20,000 mg/kg; WH-DA-11), phosphorus (2,340 mg/kg; WH-DC-01), potassium (8,500 mg/kg; WH-DA-09), sodium (250 mg/kg; WH-VA-22), sulfate (63.3 mg/kg; WH-BACK-02), and TKN (6,710 mg/kg; WH-VA-42). The measured concentrations of these constituents are discussed further in Section 6.2 of this report.

5.2.3 PSAASL Analysis

As discussed in Section 4.3 of this report, a total of four composite soil samples were analyzed by PSAASL to evaluate soil fertility characteristics for crop growth in the surface soil zone (0 to 2 inches bgs) and shallow soil zone (2 to 6 inches bgs) of the Whisler property. A summary of detected constituents in the agricultural soil samples is included in Table 5-3; composite soil sample locations are depicted on Figure 4-2. Copies of the PSAASL Soil Test Reports for the agricultural soil samples are included in Appendix J. Results of the agricultural soil analyses were reviewed with Dr. John Spargo, Director of PSAASL, on January 19, 2016. Results of the agricultural soil analyses and the discussion with Dr. Spargo are summarized below.

Measured concentrations of calcium, copper, phosphorus, potassium, sulfur, and zinc within the visibly affected area soil samples were generally greater than those measured in soil samples collected outside of the visibly affected area. According to PSAASL, these higher levels are consistent with "a well fertilized agricultural field and similar to conditions

observed at sites with repeated applications of animal manure – but not levels that would be a concern with regards to crop nutrition.” Of these constituents, the only potential concern identified by PSAASL is the concentration of potassium in the surface soil sample collected from the visibly affected area. While not of concern for production of soybean or corn, according to PSAASL, elevated potassium concentrations can be of concern for forage or grain crops because elevated potassium concentrations can result in reduced magnesium uptake into crops which in turn could impact animal health. However, PSAASL further explained that such a concern is mitigated in this case due to two factors: 1) concentrations of potassium decrease with depth and the measured concentration of potassium in the deeper soil sample (which is more representative of the root zone) is at an optimal level and would not pose such a concern, and 2) measured concentrations of magnesium in the shallow soil sample are also elevated, which would help to counter the high potassium concentration observed in the surface soil.

Overall, PSAASL explained that soil concentrations in the affected area represent a condition that would be consistent with a well fertilized area and do not represent conditions that would adversely affect agricultural use of soil in the affected area of the parcel. PSAASL recommended that potassium and phosphorus not be applied to the visibly affected area during the 2016 growing season, and the affected and unaffected areas should be resampled after harvesting to reassess nutrient levels prior to application of fertilizer for the 2017 growing season.

6. DEMONSTRATION OF ATTAINMENT

Section 6.1 provides details and information necessary to demonstrate attainment of the Act 2 standards for soil with respect to arsenic, manganese and vanadium concentrations which were detected in certain samples above the applicable MSCs. The results of a limited human health evaluation for the constituents that do not have established MSCs is provided in Section 6.2. Section 6.3 provides a summary of the evaluation performed to assess the potential significance of storm water runoff from the Whisler property.

6.1 Site Soil – SHS

Arsenic and manganese concentrations in visibly affected area soil were further evaluated by calculating 95% upper confidence limit (UCL) on the mean concentrations for the distinct area of contamination consistent with 25 Pa. Code §250.707 (b)(1)(ii) and comparing the result with the Residential MSC, which is based on the lower of the Residential Direct Contact value or the Soil-to-GW value.

As the majority of vanadium concentrations, including all of the concentrations observed in background soil samples, are above the Residential MSC, these data were further evaluated by comparing the visibly affected sampling data with the background data following the provisions of PA Act 2 as described in the PADEP's 2002 *Land Recycling Program Technical Guidance Manual*¹⁴.

6.1.1 Arsenic and Manganese - UCL Calculations

Arsenic and manganese concentrations in the visibly affected soil area were evaluated by calculating a 95% UCL on the mean concentration¹⁵ for the distinct area of contamination consistent with 25 Pa. Code §250.707 (b)(1)(ii) and comparing the result with the Residential MSC, which is based on the lower of the Residential Direct Contact value or the Soil-to-GW value. Sampling data for locations within the visibly affected area were included in the UCL calculation. This included the boundary samples that were collected within the visibly affected area along the northern boundary of the property, adjacent to the woods (i.e., WH-BS-13, WH-BS-14, WH-BS-15, and WH-BS-16). The visibly affected area samples also included all dry creek samples and disturbed areas samples (excluding WH-DA-08 and WH-DA-12, which were installed within the former unaffected storm water diversion trench, outside the visibly affected area).

In addition, as a sensitivity analysis, the 95% UCL on the mean concentration for the distinct area of contamination for each constituent was also calculated including sampling data for all locations that are within the visibly affected area as well as all locations at the boundary of the visibly affected area and the additional two disturbed area samples (WH-DA-08 and WH-DA-12). The resulting UCLs on the mean for each chemical are discussed below. The statistical outputs of these UCL calculations are provided in Appendix K.

¹⁴ PADEP, Bureau of Land Recycling and Waste Management. 2002. *Land Recycling Program Technical Guidance Manual*. June 8.

¹⁵ UCL calculations were performed using USEPA's ProUCL software.

Arsenic

The 95% UCL on the mean for arsenic using visibly affected area samples is 9.2 mg/kg which is less than the Residential MSC of 12 mg/kg based on direct contact, inhalation, and ingestion of soil (see Table K-1 in Appendix K). The 95% UCL on the mean for arsenic when considering all visibly affected samples, boundary samples, and disturbed area samples is 8.6 mg/kg which is also less than the Residential MSC (Table K-2, Appendix K).

As an additional sensitivity analysis, the 95% UCL on the mean for arsenic was calculated using only grab soil samples from the visibly affected area and using only composite soil samples from the visibly affected area (Tables K-3 and K-4, Appendix K). The calculated UCLs on the mean for visibly affected grab and composite soil samples are 11.0 mg/kg and 8.4 mg/kg, respectively, as compared to the residential MSC of 12 mg/kg. Therefore, measured concentrations of arsenic in soil meet the SHSs and no further action is necessary to evaluate or address measured concentrations of arsenic.

Manganese

The 95% UCL on the mean for manganese using visibly affected area samples is 1,186 mg/kg, which is less than the Residential MSC of 2,000 mg/kg based on soil to groundwater migration (See Table K-5, Appendix K). The 95% UCL on the mean for manganese when considering all visibly affected samples, boundary samples, and disturbed area samples is 1,128 mg/kg which is also less than the Residential MSC (Table K-6, Appendix K).

As an additional sensitivity analysis, the 95% UCLs were calculated for manganese in soil using only visibly affected area grab soil samples and only visibly affected area composite soil samples (Tables K-7 and K-8, Appendix K). The calculated 95% UCLs for visibly affected grab samples only and for visibly affected composite soil samples only are 1,019 mg/kg and 1,089 mg/kg respectively, as compared to the Residential MSC of 2,000 mg/kg. Therefore, measured concentrations of manganese in soil meet the SHSs and no further action is necessary to evaluate or address measured concentrations of manganese.

This evaluation of arsenic and manganese concentrations in soil, and the associated sensitivity analyses, demonstrate that arsenic and manganese concentrations in soil within the visibly affected area at the Whisler property are in attainment of the SHS and no further evaluation or action is necessary to address the measured concentrations of arsenic or manganese in soil.

6.1.2 Vanadium – Comparison to Background

Vanadium soil concentrations were evaluated by comparing the concentrations in the visibly affected area¹⁶ to the background concentrations. This comparison was performed consistent with the methodologies specified in Section II.A.5.f of the PADEP (2002) *Land Recycling*

¹⁶ All sampling data for all locations within the visibly affected area were compared to background. This included the boundary samples that were collected within the visibly affected area along the northern boundary of the property, adjacent to the woods (i.e., WH-BS-13, WH-BS-14, WH-BS-15, and WH-BS-16). The visibly affected area samples also included all dry creek samples and disturbed areas samples (excluding WH-DA-08 and WH-DA-12, which were installed within the former unaffected storm water diversion trench, outside the visibly affected area).

Program Technical Guidance Manual (which allows use of the highest measurement comparison, combination of Wilcoxon Rank Sum test and Quantile test, or other appropriate methods to demonstrate attainment of background standards). For this evaluation, the Wilcoxon Rank Sum test and Quantile test have been used to determine if the vanadium concentrations identified in the area affected by emergency fire-fighting response efforts are consistent with background; the details of these test methods are provided in Section IV.B.5.b.iii of the PADEP (2002) *Land Recycling Program Technical Guidance Manual*.¹⁷

Results

The approach involved first comparing concentrations within the visibly affected area to the maximum detected background vanadium concentration. If the affected area concentrations were found to be greater, then a more detailed evaluation was performed (i.e., using the Wilcoxon Rank Sum (WRS) test and Quantile test) In order to evaluate whether the visibly affected concentrations were consistent with the background data set.

The maximum detected vanadium concentration in the visibly affected area is 60 mg/kg¹⁸. This value is greater than the maximum detected background vanadium concentration of 55 mg/kg. Therefore, the soil data were evaluated using the WRS and Quantile tests which were performed to determine whether concentrations observed in the visibly affected area are consistent with background.

The WRS test is a non-parametric hypothesis test used to compare two independent groups of sample data. The WRS test uses the ranks of the data rather than their raw values to compare the two populations. A description of the WRS test is presented in Section IV.B.5.b.iii of the *Technical Guidance Manual* (PADEP 2002) and is not repeated here.

The hypothesis test for the comparison of the two data sets was set up as follows:

- H_0 : The concentrations in the visibly affected area are not greater than background
- H_A : The concentrations in the visibly affected area are greater than background

The WRS test used a 95% level of confidence ($\alpha = 0.05$, false positive rate of 5%). The details of the WRS test are presented in Appendix L. The WRS test resulted in a test statistic (Z_{rs} -value) of 1.13 which is below the critical Z_{95} -value of 1.645. As a result, the

¹⁷ When promulgating the SHS for vanadium in August 2016, PADEP acknowledged that the revised SHS may be below soil background levels (<http://www.pabulletin.com/secure/data/vol46/46-35/1508.html>). For example, vanadium background concentrations in Pennsylvania range from a minimum of 15 mg/kg to a maximum of 150 mg/kg with an average of 80 mg/kg (Dragun, J. and Chekiri, K. (2005), *Element In North America Soils*; and Amherst and Boerngen, J.G and Shacklette, H.T. (1981). "Chemical Analysis of Soils and Other Surficial Materials of the Conterminous United States." Open File Report 81-197. United States Geological Survey). PADEP recognized that "human health toxicity values for any naturally occurring regulated substance may result in standards that are numerically less than the background levels at specific sites in this Commonwealth. In this case, section 303(d) of the Act states that persons are not required to remediate below the background standard. Therefore, persons may use the background standard under the Act and the regulations promulgated thereunder."

¹⁸ The maximum detected concentration at WH-VA-12 is 68 mg/kg but this result is a part of a parent-duplicate pair with an average concentration of 57.5 mg/kg. Accounting for averaging, the maximum detected concentration is 60 mg/kg at WH-VA-03.

null hypothesis (H_0) was accepted, indicating that vanadium soil concentrations in the visibly affected area are not greater than background levels. The documentation for the WRS test is provided in Appendix L-1.

The Quantile test is another test that uses ranking to evaluate for any differences between the values of two sampling populations. A description of the Quantile test is presented in Section IV.B.5.b.III of the *Technical Guidance Manual* (PADEP 2002) and is not repeated here. The results of the Quantile test also demonstrate that the vanadium concentrations in the visibly affected area are not greater than background. The details of the Quantile test are presented in Appendix L-1.

Sensitivity Analyses

Similar to the assessment of the arsenic and manganese data described above, the following sensitivity analyses were performed to further evaluate the vanadium soil data.

1. The data set that includes all visibly affected samples, boundary samples, and disturbed area were compared with background.
2. The data set that includes only the grab samples collected in the visibly affected area.
3. The data set that includes only composite samples collected in the visibly affected area.

The first sensitivity analysis considered sampling data for all locations that are within the visibly affected area, all locations at the boundary of the visibly affected area, and the additional two disturbed area samples (WH-DA-08 and WH-DA-12). This dataset includes the maximum detected concentration (60 mg/kg) which is greater than the background maximum (55 mg/kg). Therefore, the Wilcoxon Rank Sum test and Quantile Test were conducted. Documentation of these tests is provided in Appendix L-2. The WRS test resulted in a test statistic (Z_{rs} -value) of 0.47 which is below the critical Z_{95} -value of 1.645. As a result, the null hypothesis (H_0) was accepted, indicating that vanadium soil concentrations in the visibly affected area, boundary of the visibly affected area, and disturbed area are not greater than background. The results of the Quantile test confirmed that the vanadium concentrations for this combined data set are not greater than background.

The second sensitivity analysis considered only the grab samples within the visibly affected area. This dataset includes the maximum detected concentration (60 mg/kg) which is greater than the background maximum (55 mg/kg). Therefore, the Wilcoxon Rank Sum test and Quantile Test were conducted. Documentation of these tests is provided in Appendix L-3. The WRS test results in a test statistic (Z_{rs} -value) of -1.346 which is below the critical Z_{95} -value of 1.645. As a result, the null hypothesis (H_0) was accepted, indicating that vanadium soil concentrations in the visibly affected area grab samples are not greater than background. The results of the Quantile test confirmed that the vanadium concentrations for the grab samples are not greater than background.

The third sensitivity analysis considered only the composite samples within the visibly affected area. This dataset had a maximum detected concentration of 54 mg/kg, which is lower than the background maximum detected concentration of 55 mg/kg, indicating

that the vanadium concentrations in the visibly affected area composite samples are not greater than background following the highest measurement comparison method.

Conclusion

These evaluations demonstrate that vanadium concentrations in soil within the visibly affected area at the Whisler property are in attainment of the Act 2 Background Standard and no further evaluation or action is necessary to address the measured concentrations of vanadium in soil.

6.2 Assessment of Constituents Without PADEP MSCs

As discussed above, six constituents were detected in site soils but do not have established MSCs (calcium, magnesium, phosphorus, potassium, sodium, and sulfate). Therefore, Ramboll Environ investigated toxicity values for these constituents from USEPA's hierarchy of sources (USEPA 2003b), as follows:

1. Integrated Risk Information System (IRIS);
2. Provisional Peer Reviewed Toxicity Values (PPRTV); and
3. Other Toxicity Values.

Ramboll Environ also reviewed information published by other USEPA and non-USEPA sources (e.g., Agency for Toxic Substances and Disease Registry (ATSDR) and National Institute for Occupational Health and Safety (NIOSH)) for possible human health toxicity values. However, no toxicity data were identified from these sources for the constituents listed above. Due to a lack of toxicity data for these constituents, MSCs cannot be calculated as the supporting data necessary to calculate MSCs could not be identified.

The predominant health concern within the scientific literature and among government agencies for these constituents is related to inadequate intake as they are (or contain) essential human nutrients and minerals. As a conservative measure, Ramboll Environ conducted additional analysis to evaluate whether an ingestion risk to humans exists, as this would be expected to be the primary route of exposure.

6.2.1 Approach and Methods

To evaluate potential risk associated with ingestion of soil and in the absence of MSCs, Ramboll Environ compared ingestion of these constituents from soil in the visibly affected area to the respective Dietary Reference Intake (DRI) value for each constituent as recommended by the Food and Nutrition Board of the Institute of Medicine (IOM), the National Academy of Science, and other authoritative bodies. For purposes of this analysis, Ramboll Environ first compared the standard residential soil ingestion rate of 100 mg/day adopted by PADEP (25 Pa. Code §250.306) to the DRI values for each constituent. Ramboll Environ also calculated the amount of soil that would need to be ingested to exceed the DRIs discussed below, based on maximum detected concentrations of constituents in surface soil at the site¹⁹. This approach is described further below.

¹⁹ An approach similar to that taken in this analysis was conducted by the Texas Natural Resource Conservation Commission (now known as the Texas Commission on Environmental Quality) to determine whether certain chemicals (including five of the nutrients discussed here: calcium, magnesium, potassium, sodium, and phosphorus) should be considered chemicals of potential concern for soil remediation. The Commission concluded that where DRI values were significantly higher than the soil ingestion rates, any concentration of

6.2.1.1 Description of DRIs

DRI values vary by age and gender. Therefore, values for children (beginning at age one) were used in this analysis since this is typically the most sensitive group with the lowest recommended DRI values as well as the highest potential for soil ingestion. DRI values include the following (NIH 2016):

- **Recommended Daily Allowance (RDA):** average goal intake sufficient to meet the nutrient requirements of nearly all (97%-98%) healthy people in a group.
- **Adequate Intake (AI):** average goal intake established when evidence is insufficient to develop an RDA, but is set at a level assumed to ensure nutritional adequacy.
- **Tolerable Upper Intake Levels (UL):** maximum level of daily nutrient intake that is likely to pose no risk of adverse effects.

DRI values for the constituents evaluated as part of this analysis are provided in Table 6-1. Ramboll Environ notes that a DRI value for sulfate has not been established by IOM. However, the World Health Organization (WHO) established that the average daily intake of sulfate from all sources (drinking water, air, and food), with food being the primary source, is 500 mg/day. Therefore, this value was used for the purposes of this analysis (WHO 2003; WHO 2004); mild adverse effects have been reported for sulfate intake levels of 1,500 mg/day (IOM 2005).

6.2.2 Results and Discussion

6.2.2.1 Analysis using the PADEP Standard Residential Ingestion Rate of 100 mg/day

As a first step in evaluating potential soil ingestion, the typical soil ingestion rate established by PADEP for residents (100 mg/kg) was compared with the lowest of the DRI values for each constituent (Table 6-1). This analysis conservatively assumes that the soil consists solely of the constituent of concern (i.e., 1,000,000 mg/kg). For five of the six constituents (calcium, phosphorus, potassium, sodium, and sulfate), the PADEP residential soil ingestion rate is below the lowest DRI value. For example, the RDA or AI for calcium for a child is 700 mg/day as compared to the PADEP residential soil ingestion rate of 100 mg/day; as such, a child ingesting the standard daily amount of soil could not ingest the recommended daily amount of calcium from soil, regardless of the concentration of calcium in soil. For magnesium, the lowest DRI is 65 mg/day for a child, which is less than the 100 mg/day upper percentile soil ingestion rate.

This analysis indicates that surface soil concentrations of calcium, phosphorus, potassium, sodium, and sulfate at the Whisler property do not present a human health concern. Ramboll Environ further evaluated potential ingestion of magnesium by calculating the amount of soil that would need to be ingested in a day to meet the lowest DRI value as discussed in Section 6.3.2.2.

these chemicals (even if the soil were 100% of the constituent) would not be expected to be a health concern (TNRCC 2001).

6.2.2.2 Soil Ingestion Needed to Meet Lowest DRI

Because the RDA and UL for magnesium are below the PADEP residential ingestion rate, Ramboll Environ evaluated the mass of soil that would need to be ingested in a day to meet or exceed the UL (the more conservative, lower value) assuming ingestion of soil containing the maximum magnesium concentrations observed in surface soils on-site.²⁰

$$\text{Soil Ingestion needed to meet} = \frac{\text{Lowest RDA/AI/UL (mg/d)}}{\text{Lowest RDA/AI/UL (mg/d)}} * 1,000,000 \text{ mg/kg}$$

$$\text{Max Soil Concentration (mg/kg)}$$

The maximum detected concentration of magnesium in site soil is 20,000 mg/kg. In order to meet the UL for magnesium for a child (65 mg/day), a child would need to ingest 3,250 mg of soil in a single day. Therefore, magnesium concentrations in soil at the Whisler property do not present a human health concern.²¹

6.3 Surface Water/Storm Water

As discussed above, storm water flows onto the Whisler property from the Bare Development property along the dry creek and onto the Vuican Materials property before entering Slagle's Run, a tributary of the South Branch of Conewago Creek. Runoff from portions of the agricultural fields on the Whisler property also flows into the dry creek.

Following the fire, Miller Chemical began collecting storm water runoff from the Miller Chemical property and affected off-site properties and disposing of the water at approved facilities. During this time, fertilizer constituent concentrations were monitored in the collected storm water and within the dry creek, Slagle's Run, South Branch Conewago Creek, and Conewago Creek to evaluate potential impacts resulting from flow of storm water over visibly affected soils.

Ramboll Environ calculated site specific benchmarks for surface water using PADEP's PENTOX model. The storm water benchmarks, which were designed to be protective of human health and aquatic life in Slagle's Run, were presented to PADEP in a memorandum dated September 3, 2015 and were subsequently approved. Fertilizer constituent concentrations in surface water and collected storm water declined over time. Upon confirmation that concentrations were below these benchmarks, on September 21, 2015 PADEP granted Miller Chemical's request to permit storm water running over the off-site affected properties to be released to Slagle's Run along its original flow path. Following additional sampling on October 2, 2015, PADEP also granted a follow-up request to release storm water running off the Miller Chemical Property along its original flow path. Storm water has been allowed to flow freely from the off-site affected properties and the Miller Chemical site since October 1, 2015 and October 9, 2015, respectively. Continued monitoring of surface water quality has documented that measured concentrations of fertilizer constituents in surface water within Slagle's Run remain below the benchmarks.

²⁰ Soil ingestion calculation is derived from Equation 1 in TNRC 2001 with frequency and duration removed as this approach conservatively assumes constant exposure.

²¹ As shown in Table 6-1, calculated soil ingestion rates needed to meet the lowest DRI values for all six constituents are at least an order of magnitude greater than the PADEP residential soil ingestion rates, in keeping with the analysis discussed in Section 6.2.2.2.

Based on the results of storm water and surface water monitoring, storm water runoff over visibly affected soils on the Whisler property is not identified as a concern, and no further action is necessary to address overland flow of storm water to Slagle's Run.

6.4 Vapor Intrusion

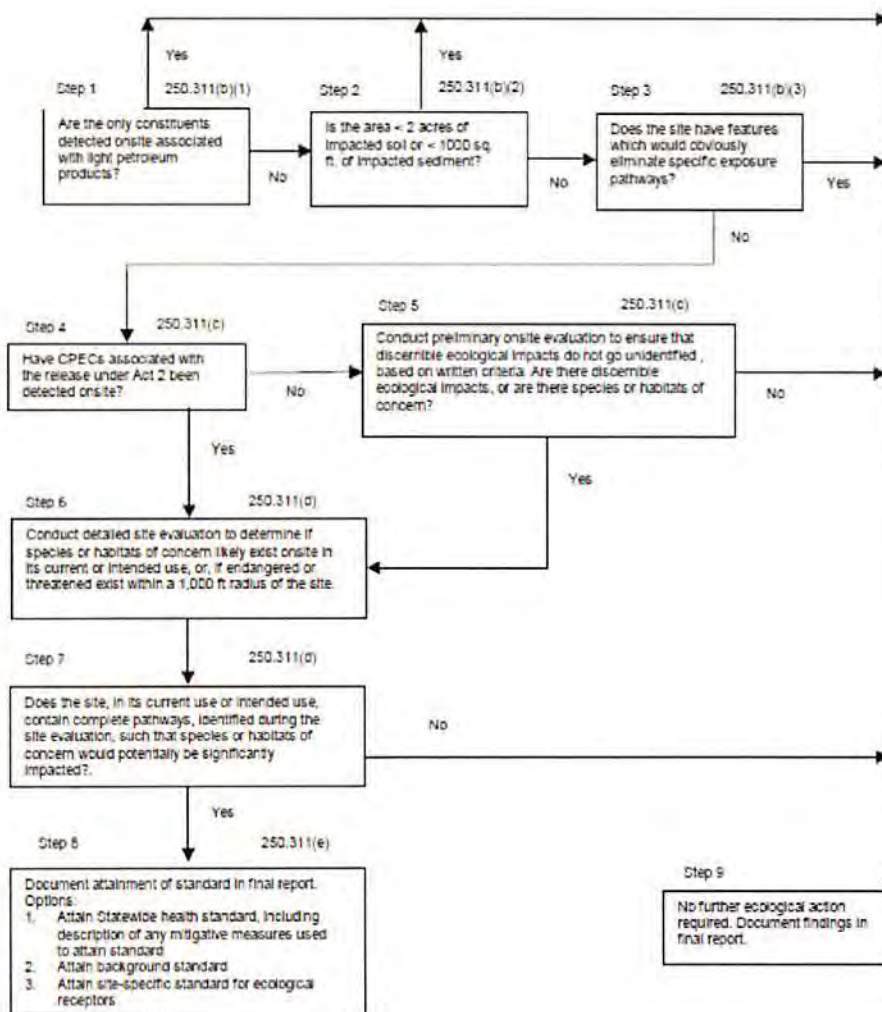
As discussed in Section 4.4, constituents of concern relating to the fire and fire response activities at the Miller Chemical site do not include volatile compounds. As such, vapor intrusion is not a pathway of concern on the Whisler site.²²

²² Mercury was detected at low concentrations in site soil (up to 0.13 mg/kg in background soil and up to 0.11 mg/kg in visibly affected area soil samples). PADEP has not established a vapor intrusion screening level for mercury. According to PADEP's 2017 Land Recycling Program Technical Guidance Manual for Vapor Intrusion into Buildings from Groundwater and Soil under Act 2, the generic soil-to-groundwater numeric values are considered appropriate for VI screening because soil contamination that is unable to impact aquifers in excess of groundwater MSCs is also unlikely to pose an excess inhalation risk. Further, VI sources associated with contaminated soil are typically not directly beneath buildings and they do not have an infinite lateral extent, making the assumptions of the model for calculated soil screening values conservative. The maximum detected concentration of mercury is less than the generic soil-to-groundwater numeric value for mercury from Chapter 250 of 10 mg/kg. Therefore, the presence of low level concentrations of mercury are not significant for the vapor intrusion pathway.

7. ECOLOGICAL RISK EVALUATION

The following section describes the ecological screening evaluation that was performed for the site in accordance with PA Statewide Health Standards of the PA Code (§250.311) and Section II.B of the PADEP Technical Guidance Manual (TGM). The regulatory framework for conducting an ecological screening evaluation under the Statewide Health Standards is summarized by the ecological screening flow chart Figure II-10 of the TGM provided below. The PADEP's Statewide Health Standard ecological screening process is comprised of nine steps that are consistent with USEPA's ecological risk assessment guidelines for contaminated sites (U.S. EPA, 1997).

Figure II-10
Ecological Screening Flow Chart



Following the screening process outlined on Figure II-10, the ecological evaluation of the site required completion of Steps 1 through 4 and Steps 6, 7 and 9 as discussed below. Note that Step 5 is only applicable when CPECs are not detected on the site. Step 8 is only applicable when the need for further ecological evaluation cannot be eliminated based on Steps 1 through 7. Although this report also applies a Site-Specific approach to evaluate those constituents for which no MSCs have been developed, none are considered Constituents of Potential Ecological Concern (CPECs) as Identified in Appendix A, Table 8 of the PA Code, and therefore do not require site-specific ecological evaluation.

Step 1 – Presence of Light Petroleum Product Constituents

Site Constituents of concern are not light petroleum products constituents.

Step 2 – Site Size

The area of visibly affected soil on the site is greater than two acres. Specifically, the total Impacted area is approximately 4.7 acres.

Step 3 – Obvious Pathway Elimination

The site is an unpaved agricultural field. Therefore, the site does not have features that would obviously eliminate specific potential exposure pathways.

Step 4 – Presence of Constituents of Potential Ecological Concern

The results of soil sampling performed at the site indicate that CPECs, as per Appendix A Table 8 of the PA Code, associated with the release have been detected on the site.

Step 5 – Preliminary On-site Evaluation

Step 5 is not applicable because CPECs have been detected on the site.

Step 6 – Detailed On-site Evaluation

The detailed site evaluation consisted of a determination of whether species or habitats of concern exist on-site or if endangered or threatened species exist within 2,500²³ feet of the site, and whether or not there is a complete pathway, identified during the site evaluation, such that species or habitats of concern would potentially be significantly impacted. Ramboll Environ conducted an assessment of potential ecological receptors at the site to determine if the potential for impact to species and or habitats of concern was present. This evaluation was based on the following:

- A search of PADEP's Pennsylvania Natural Diversity Inventory (PNDI) database.
- Site reconnaissance conducted on September 9, 2015 as part of a bog turtle (*Glyptemys muhlenbergii*) survey by Johnson, Mirmiran, and Thompson (JMT) qualified ecologists.

The PNDI search performed for the site indicated that no threatened and endangered species and or special concern species and resources are present. In addition, no known impact was

²³ Step 6 of Table II-10, indicates an evaluation for threatened and endangered species within a 1,000 foot radius of the site should be performed, which appears to be a typographical error, as the text of TGM and PA Code 250.311(d) indicate a 2,500 search radius should be used.

Identified and no further review is required. The results of the PNDI search is provided as Appendix M.

The results of the site reconnaissance are summarized below.

On-Site

The site consists primarily of agricultural fields, typically planted with soybean during the growing season, over most of the property. A residence is present on the extreme western portion of the site. A small wetland dry creek extends from south to north across the eastern portion of the property (see Appendix B). The dry creek vegetation is dominated by reed canarygrass (*Phalaris arundinacea*) and also includes arrow-leaf tearthumb (*Persicaria sagittata*), and black cherry (*Prunus serotina*) scattered throughout. JMT concluded that the wetlands present on the site are not exceptional value wetlands and do not contain potential bog turtle habitat (Appendix B). Although the wetland dry ditch provides only marginal ecological habitat, as a conservative measure it was carried forward as a habitat of concern warranting further evaluation under Step 7 below.

Off-Site

North of the site is a forested area, beyond which is Siagle's Run. To the south of the site there are agricultural fields, typically planted with soybean during the growing season, and the continuation of the wetland dry creek identified on-site. Agricultural fields are also present west of the site. Along the eastern property boundary is a railroad, and further east are small commercial properties and areas of urban development.

Within 1,000 feet of the affected on-site area, there is a palustrine forested wetland to the east-northeast of the site on a parcel owned by the Trone Rental Properties. This wetland feature contains standing water and drains into the Siagle's Run tributary. The palustrine forested wetland is dominated by reed canarygrass (*Phalaris arundinacea*), arrow-leaf tearthumb, jewelweed (*Impatiens capensis*), and common reed (*Phragmites australis*). Additional vegetation overserved included soft rush (*Juncus effusus*), sedges (*Carex sp.*), goldenrod (*Solidago sp.*), box elder (*Acer negundo*), and black walnut. This palustrine forested wetland is identified as potential habitat for bog turtle, however, no sightings were observed during the assessment.

During the field survey, JMT did not observe the presence of any threatened or endangered species or any species of special concern.

Step 7 – Identification of Completed Exposure Pathways

As discussed under Step 6 above, no threatened and endangered species and/or special concern species and resources are present on or near the site. As a conservative evaluation, Ramboll Environ evaluated the potential for CPECs to hypothetically migrate from the site to potentially ecologically sensitive areas (e.g., the wetland to the northeast of the site). As presented on Figure 1-2, the visibly affected area extended up to Siagle's Run. As discussed in Appendix B, no bog turtle habitat was identified within the affected area. In addition, the potential bog turtle habitat identified to the east-northeast of the site on the Trone Rental Properties lies upstream of the confluence of the dry creek with Siagle's Run. Therefore, CPECs are not expected to migrate from the site to the off-site wetland on the Trone Rental Properties parcel. In addition, significant ecological impacts from migration of fire water to

the dry ditch were not observed (i.e., not greater than 50% change in the diversity and extent of habitat). It is notable that portions of the dry creek were disturbed during the emergency response procedures and restoration of those areas was conducted under jurisdiction of the USACE. Restored areas were monitored for regrowth as part of the restoration activities, as documented to USACE in October 2016 (see Appendix D).

Step 8 – Attainment of Standard and Mitigative Measures

Based on the findings for Steps 1 through 7, the site is eliminated from further ecological evaluation. Therefore, Step 8 is not applicable.

Step 9 – Final Report – No Further Ecological Evaluation Required

The results of the ecological evaluation indicate that no species of concern are present on or near the site and no significant impacts to habitats of concern on or near the site were identified at the time of the evaluation. Therefore, no further ecological evaluation is required²⁴.

²⁴ Ramboll Environ notes that, potential ecological impacts to Slagle's Run adjacent the site are being further evaluated under the Act 2 Investigation for the Vulcan Materials property located north of the Whisler property and south of Slagle's Run.

8. CONCLUSION

Emergency response actions associated with a June 8, 2015 fire at the Miller Chemical facility, which is located southeast of the Whisler property, resulted in the migration of fertilizer constituents in fire water runoff, which flowed across an approximately 4.7-acre portion of the Whisler property. On behalf of Miller Chemical, Ramboll Environ investigated the nature and extent of soil impacts at the Whisler property. Soils were analyzed for a broad suite of potential contaminants of concern, including metals and other fertilizer constituents. Results of the soil sample analysis indicate that only arsenic, manganese, and vanadium were detected at concentrations exceeding Residential MSCs in visibly affected area soils.

Consistent with 25 Pa. Code §250.707 (b)(1)(ii), the 95% UCL on the mean arsenic and manganese concentrations for the visibly affected soils were evaluated and determined to be less than the Residential MSCs. As such, the arsenic and manganese concentrations in soil at the Whisler property are in attainment of the SHS. Consistent with 25 PA. Code §250.707(a)(1)(i), the Wilcoxon Rank Sum test and Quantile Test results demonstrate that vanadium concentrations in soil within the visibly affected area at the Whisler property are in attainment of the Background Standard.

Ramboll Environ also conducted a human health evaluation to assess the potential significance of detected constituents with no established MSCs. Based on the results of the evaluation, the detected concentrations of these constituents (calcium, magnesium, phosphorus, potassium, sodium, and sulfate) in soil at the Whisler property do not represent a human health concern.

To address property owner concerns, soil fertility testing was conducted to assess the conditions for continued use of the visibly affected area for crop production. Based on the evaluation conducted by PSAASL, soil concentrations in the visibly affected area are consistent with a well fertilized area and do not represent conditions that would adversely affect agricultural use of the affected area. PSAASL recommended that potassium and phosphorus not be applied to the visibly affected area during the 2016 growing season, and that the affected and unaffected areas should be resampled after the 2016 growing season to reassess nutrient levels prior to application of fertilizer for the 2017 growing season.

Finally, conduct of an ecological screening assessment in accordance with PADEP guidance did not identify species of concern on or adjacent to the site, and no significant impacts to habitats of concern on or near the site were identified. Therefore, no further ecological evaluation is required.

Based on the results of the attainment assessment, Relief of Liability is being sought for the vanadium in soil at the Whisler property under the Background Standard, and the following compounds in soil under the Residential Statewide Health Standard:

- Aluminum, antimony, arsenic, barium, beryllium, boron, cadmium, chromium, cobalt, copper, iron, lead, manganese, mercury, molybdenum, nickel, selenium, silver, thallium, vanadium and zinc;
- Nitrate and nitrite.

Relief of Liability is also being sought for the following constituents, for which MSCs have not been developed, under the Site Specific Standard:

- Calcium
- Magnesium
- Phosphorous
- Potassium
- Sodium
- Sulfate

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REMEDIAL INVESTIGATION AND FINAL REPORT

TABLES

TABLE 5-1
Soil Sampling Results
Lois E. Whisler Property
Miller Chemical & Fertilizer, Hanover, Pennsylvania

Location Location Type Field Sample ID	PADEP Residential Direct Contact Values (0-15ft)	PADEP Soil to GW Values - Residential Used Aquifer - TDS <= 2500 MG/L	PADEP Residential MSC	WH-DA-01 Visibly Affected WH-DA-01-C-120715 15120804-008 / 15120934-008 0 - 0.25 Composite 12/7/2015	WH-DA-01 Visibly Affected WH-DA-01-G5-S.5-120715 15120804-006 / 15120934-006 5 - 5.5 Grab 12/7/2015	WH-DA-01 Visibly Affected DUP-14-120715 15120804-016 / 15120934-016 5 - 5.5 Grab 12/7/2015 Field Duplicate	WH-DA-01 Visibly Affected WH-DA-01-G6-S.5-120715 15120804-007 / 15120934-007 6 - 6.5 Grab 12/7/2015	WH-DA-02 Visibly Affected WH-DA-02-C-120715 15120804-012 / 15120934-012 0 - 0.25 Composite 12/7/2015
INORG								
Aluminum	190000		190000	26000 (2500)	24000 (2300)	33000 (2600)	31000 (2700)	34000 (2400)
Ammonia	1900	3000	1900	--	--	--	--	--
Arsenic	12	29	12	9.7 (0.5)	13 J (0.47)	19 J (0.51)	3.7 (0.54)	8.1 (0.49)
Barium	44000	8200	8200	100 (2.5)	96 J (2.3)	170 J (2.6)	82 (2.7)	130 (2.4)
Beryllium	2	320	2	U (2.5)	1.2 J (2.3)	1.3 J (2.6)	U (2.7)	U (2.4)
Boron	44000	1900	1900	U (25)	U (23)	U (26)	U (27)	U (24)
Calcium				4300 J (2500)	4100 J (2300)	7000 J (2600)	24000 J (2700)	20000 J (2400)
Chromium (total)	190000	190000	190000	36 (2.5)	33 (2.3)	29 J (2.6)	24 (2.7)	33 (2.4)
Cobalt	66	59	59	16 (2.5)	25 (2.3)	32 J (2.6)	8.3 (2.7)	15 (2.4)
Copper	8100	8100	8100	16 (2.5)	18 (2.3)	20 J (2.6)	17 (2.7)	17 (2.4)
Iron	150000	150000	150000	45000 (2500)	79000 (2300)	85000 J (2600)	36000 (2700)	47000 (2400)
Lead	500	450	450	23 J (2.5)	23 J (2.3)	22 J (2.6)	12 J (2.7)	25 J (2.4)
Magnesium				4500 J (2500)	3900 J (2300)	9700 J (2600)	16000 J (2700)	9700 J (2400)
Manganese	10000	2000	2000	760 J (130)	<u>2100 J (120)</u>	<u>2300 J (130)</u>	160 J (2.7)	1300 J (120)
Mercury	35	10	10	0.057 J (0.1)	0.058 J (0.094)	0.1 J (0.1)	0.058 J (0.11)	0.053 J (0.097)
Nickel	4400	650	650	23 (2.5)	29 (2.3)	33 J (2.6)	25 (2.7)	23 (2.4)
Nitrate	350000	1000	1000	U (12.3)	U (13.3)	0.67 J (11.2)	U (12.5)	1.8 J (13)
Total Kjeldahl Nitrogen				932 (91.3)	661 J (99.7)	1130 J (84.7)	496 (95.1)	1350 (98.9)
Phosphorus (total)				553 (59.8)	681 J (63)	299 J (56.8)	1680 (61.8)	680 (66.6)
Potassium				1500 (50)	1200 J (47)	2100 J (51)	2600 (54)	1900 (49)
Sodium				57 (50)	55 (47)	65 (51)	46 J (54)	62 (49)
Sulfate				16.8 J (123)	8.5 J (133)	8.3 J (112)	11.2 J (125)	12.8 J (130)
Vanadium	15	290	15	43 J (2.5)	49 J (2.3)	56 J (2.6)	28 J (2.7)	39 J (2.4)
Zinc	66000	12000	12000	69 J (10)	65 J (9.4)	70 J (10)	58 J (11)	85 J (9.7)

Notes:

- All concentrations are presented in milligrams per kilogram (mg/kg).
- Only compounds with at least one detection are shown.
- The Soil to Groundwater values for nitrate and nitrite are 100x the Federal maximum contaminant level (MCL).
- The values for chromium III are used to evaluate chromium (total).
- Blank cells in columns with criteria indicate that no value has been established.
- Concentrations that exceed the PADEP Residential Direct Contact Values (0-15ft) are **boldfaced**.
- Concentrations that exceed the PADEP Soil to Groundwater Values - Residential Used Aquifer - TDS <= 2500 MG/L are double underlined.

Abbreviations:

MSC -- Medium Specific Concentration.
 GW -- Groundwater.
 TDS -- Total Dissolved Solids.
 U -- Not Detected.
 MG/L - Milligrams Per Liter.
 J -- Estimated Concentration.
 R -- Unreliable Result.
 () -- Reporting Limit.
 -- -- Not Analyzed

TABLE 5-1
Soil Sampling Results
Lois E. Whisler Property
Miller Chemical & Fertilizer, Hanover, Pennsylvania

Location Location Type Field Sample ID	PADEP Residential Direct Contact Values (0-15ft)	PADEP Soil to GW Values - Residential Used Aquifer - TDS <= 2500 MG/L	PADEP Residential MSC	WH-DA-02 Visibly Affected WH-DA-02-G5-5.5-120715 15120804-011 / 15120934-011 5 - 5.5 Grab 12/7/2015	WH-DA-03 Visibly Affected WH-DA-03-C-120815 15120910-007 / 15121020-007 0 - 0.25 Composite 12/8/2015	WH-DA-03 Visibly Affected WH-DA-03-G5-5.5-120815 15120910-004 / 15121020-004 5 - 5.5 Grab 12/8/2015	WH-DA-03 Visibly Affected WH-DA-03-G5.5-6-120815 15120910-005 / 15121020-005 5.5 - 6 Grab 12/8/2015	WH-DA-04 Visibly Affected WH-DA-04-C-120915 15121025-004 / 15121030-004 0 - 0.25 Composite 12/9/2015
INORG								
Aluminum	190000		190000	30000 (2700)	29000 (2300)	32000 (2800)	24000 (2900)	32000 (2400)
Ammonia	1900	3000	1900	--	--	--	--	--
Arsenic	12	29	12	4.8 (0.54)	7.7 (0.45)	11 (0.55)	12 (0.57)	UJ (0.47)
Barium	44000	8200	8200	83 (2.7)	130 (2.3)	100 (2.8)	110 (2.9)	210 (2.4)
Beryllium	2	320	2	U (2.7)	1.1 J (2.3)	U (2.8)	U (2.9)	U (2.4)
Boron	44000	1900	1900	U (27)	R (23)	R (28)	R (29)	UJ (24)
Calcium				6100 J (2700)	7000 (2300)	7400 (2800)	4800 (2900)	6700 (2400)
Chromium (total)	190000	190000	190000	20 (2.7)	34 (2.3)	37 (2.8)	31 (2.9)	33 J (2.4)
Cobalt	66	59	59	16 (2.7)	14 (2.3)	16 (2.8)	22 (2.9)	11 (2.4)
Copper	8100		8100	25 (2.7)	17 (2.3)	19 (2.8)	18 (2.9)	24 J (2.4)
Iron	150000		150000	47000 (2700)	40000 (2300)	67000 (2800)	58000 (2900)	40000 (2400)
Lead	500	450	450	12 J (2.7)	23 (2.3)	29 (2.8)	26 (2.9)	26 (2.4)
Magnesium				19000 J (2700)	5000 (2300)	5100 (2800)	2400 (57)	4900 (2400)
Manganese	10000	2000	2000	1200 J (130)	1000 J (110)	1000 J (140)	1700 J (140)	1400 (120)
Mercury	35	10	10	U (0.11)	0.067 J (0.09)	0.064 J (0.11)	UJ (0.11)	0.056 J (0.094)
Nickel	4400	650	650	31 (4.0)	20 (2.3)	21 (2.8)	22 (2.9)	19 (2.4)
Nitrate	350000	1000	1000	U (12.4)	2.2 J (12.2)	0.76 J (12.6)	0.83 J (13.8)	1 J (12.5)
Total Kjeldahl Nitrogen				365 (91.4)	1290 (91.5)	616 (94.7)	1460 (103)	1610 (93.1)
Phosphorus (total)				897 (62.3)	516 J (57.8)	635 J (63.5)	183 J (71)	290 (58.8)
Potassium				2600 (54)	1600 (45)	1900 (55)	1200 (57)	2100 (47)
Sodium				27 J (54)	44 J (45)	U (55)	U (57)	49 (47)
Sulfate				6.7 J (124)	6.1 J (122)	6.3 J (126)	11.3 J (138)	14.3 J (125)
Vanadium	15	290	15	21 J (2.7)	39 (2.3)	48 (2.8)	40 (2.9)	46 (2.4)
Zinc	66000	12000	12000	60 J (11)	81 (9)	66 (11)	52 (11)	82 J (9.4)

Notes:

- All concentrations are presented in milligrams per kilogram (mg/kg).
- Only compounds with at least one detection are shown.
- The Soil to Groundwater values for nitrate and nitrite are 100x the Federal maximum contaminant level (MCL).
- The values for chromium III are used to evaluate chromium (total).
- Blank cells in columns with criteria indicate that no value has been established.
- Concentrations that exceed the PADEP Residential Direct Contact Values (0-15ft) are **boldfaced**.
- Concentrations that exceed the PADEP Soil to Groundwater Values - Residential Used Aquifer - TDS <= 2500 MG/L are double underlined.

Abbreviations:

MSC -- Medium Specific Concentration.
 GW -- Groundwater.
 TDS -- Total Dissolved Solids.
 U -- Not Detected.
 MG/L - Milligrams Per Liter.
 J -- Estimated Concentration.
 R -- Unreliable Result.
 () -- Reporting Limit.
 -- -- Not Analyzed

TABLE 5-1
Soil Sampling Results
Lois E. Whisler Property
Miller Chemical & Fertilizer, Hanover, Pennsylvania

Location	WH-DA-04	WH-DA-05	WH-DA-05	WH-DA-06	WH-DA-06
Location Type	Visibly Affected	Visibly Affected	Visibly Affected	Visibly Affected	Visibly Affected
Field Sample ID	WH-DA-04-G4-4.5-120915	WH-DA-05-C-120915	WH-DA-05-G4.5-5-120915	WH-DA-06-C-120915	WH-DA-06-G4.5-5-120915
Lab Sample ID(s)	15121024-005 / 15121029-005	15121025-003 / 15121030-003	15121024-004 / 15121029-004	15120910-016 / 15121020-018	15120910-015 / 15121020-015
Collection Depth (ft bgs)	4 - 4.5	0 - 0.25	4.5 - 5	0 - 0.25	4.5 - 5
Sample Method	Grab	Composite	Grab	Composite	Grab
Sample Date	12/9/2015	12/9/2015	12/9/2015	12/8/2015	12/8/2015
Comments					
INORG					
Aluminum	190000	190000	190000	22000 J (2100)	31000 (2700)
Ammonia	1900	3000	1900	--	--
Arsenic	12	29	12	7.2 J (0.42)	10 J (0.53)
Barium	44000	8200	8200	91 J (2.1)	150 (2.7)
Beryllium	2	320	2	UJ (2.1)	UJ (2.7)
Boron	44000	1900	1900	UJ (21)	UJ (27)
Calcium				3300 (2100)	8800 (2700)
Chromium (total)	190000	190000	190000	28 J (2.1)	33 J (2.7)
Cobalt	66	59	59	17 J (2.1)	12 (2.7)
Copper	8100	8100	8100	15 J (2.1)	17 J (2.7)
Iron	150000	150000	150000	39000 (2100)	49000 (2700)
Lead	500	450	450	18 J (2.1)	24 (2.7)
Magnesium				6500 J (2100)	5000 (2700)
Manganese	10000	2000	2000	350 J (110)	980 (130)
Mercury	35	10	10	U (0.085)	0.071 J (0.11)
Nickel	4400	650	650	22 J (2.1)	19 (2.7)
Nitrate	350000	1000	1000	U (12.1)	1.3 J (12.6)
Total Kjeldahl Nitrogen				293 (92.3)	1710 (94.7)
Phosphorus (total)				743 (58)	480 (63.7)
Potassium				2900 (2100)	2300 (53)
Sodium				33 J (42)	49 J (53)
Sulfate				3.2 J (121)	7.8 J (126)
Vanadium	15	290	15	36 J (2.1)	46 (2.7)
Zinc	66000	12000	12000	43 J (8.5)	78 J (11)

Notes:

- All concentrations are presented in milligrams per kilogram (mg/kg).
- Only compounds with at least one detection are shown.
- The Soil to Groundwater values for nitrate and nitrite are 100x the Federal maximum contaminant level (MCL).
- The values for chromium III are used to evaluate chromium (total).
- Blank cells in columns with criteria indicate that no value has been established.
- Concentrations that exceed the PADEP Residential Direct Contact Values (0-15ft) are **boldfaced**.
- Concentrations that exceed the PADEP Soil to Groundwater Values - Residential Used Aquifer - TDS <= 2500 MG/L are double underlined.

Abbreviations:

MSC -- Medium Specific Concentration.
 GW -- Groundwater.
 TDS -- Total Dissolved Solids.
 U -- Not Detected.
 MG/L - Milligrams Per Liter.
 J -- Estimated Concentration.
 R -- Unreliable Result.
 () -- Reporting Limit.
 -- -- Not Analyzed

TABLE 5-1
Soil Sampling Results
Lois E. Whisler Property
Miller Chemical & Fertilizer, Hanover, Pennsylvania

Location Location Type Field Sample ID	PADEP Residential Direct Contact Values (0-15ft)	PADEP Soil to GW Values - Residential Used Aquifer - TDS <= 2500 MG/L	PADEP Residential MSC	WH-DA-06 Visibly Affected WH-DA-06-G5-S.5-120815 15120910-016 / 15121020-016	WH-DA-07 Visibly Affected WH-DA-07-C-120915 15121025-011 / 15121030-011	WH-DA-07 Visibly Affected WH-DA-07-G4.5-5-120815 15120910-020 / 15121020-020	WH-DA-07 Visibly Affected WH-DA-07-G7-7.5-120815 15120910-021 / 15121021-001	WH-DA-09 Visibly Affected WH-DA-09-C-120415 15120428-005 / 15120713-005
Lab Sample ID(s) Collection Depth (ft bgs) Sample Method Sample Date Comments				5 - 5.5 Grab 12/8/2015	0 - 0.25 Composite 12/9/2015	4.5 - 5 Grab 12/8/2015	7 - 7.5 Grab 12/8/2015	0 - 0.25 Composite 12/4/2015
INORG								
Aluminum	19000		19000	19000 (2200)	28000 (2400)	18000 (2800)	6100 (2300)	32000 (2900)
Ammonia	1900	3000	1900	--	--	--	--	--
Arsenic	12	29	12	5.3 (0.43)	7 J (0.48)	6.1 (0.56)	3.3 (0.46)	6.3 (0.58)
Barium	44000	8200	8200	51 (2.2)	140 (2.4)	69 (2.8)	32 J (2.3)	140 (2.9)
Beryllium	2	320	2	UJ (2.2)	UJ (2.4)	UJ (2.8)	U (2.3)	U (2.9)
Boron	44000	1900	1900	R (22)	UJ (2.4)	R (28)	UJ (2.3)	R (29)
Calcium				56000 (2200)	3700 (2400)	41000 (2800)	310000 (9200)	5200 (2900)
Chromium (total)	190000	190000	190000	19 (2.2)	31 J (2.4)	23 (2.8)	3.9 (2.3)	31 J (2.9)
Cobalt	66	59	59	9.4 (2.2)	13 (2.4)	11 (2.8)	4.5 (2.3)	10 (2.9)
Copper	8100		8100	15 (2.2)	10 J (2.4)	11 (2.8)	UJ (5.9)	13 (2.9)
Iron	150000		150000	25000 (2200)	31000 (2400)	35000 (2800)	16000 (2300)	37000 (2900)
Lead	500	450	450	12 (2.2)	20 (2.4)	11 (2.8)	4 (2.3)	21 (2.9)
Magnesium				1600 (43)	3300 (2400)	4000 (2800)	6900 (2300)	UJ (4400)
Manganese	10000	2000	2000	100 J (2.2)	710 (120)	240 J (2.8)	490 (110)	490 (150)
Mercury	35	10	10	UJ (0.087)	0.067 J (0.095)	UJ (0.11)	U (0.092)	0.11 J (0.12)
Nickel	4400	650	650	16 (2.2)	18 (2.4)	15 (2.8)	8.5 J (2.3)	18 (2.9)
Nitrate	350000	1000	1000	0.93 J (11.6)	0.78 J (13)	U (12.1)	U (10.9)	U (12.7)
Total Kjeldahl Nitrogen				158 (87)	771 (99)	211 (90.2)	103 (80.9)	1650 (96.5)
Phosphorus (total)				427 J (55)	238 (60.6)	290 (62.7)	370 J (54.2)	368 J (66.7)
Potassium				1400 (43)	1800 (48)	2100 (56)	2000 (46)	UJ (1700)
Sodium				U (43)	56 (48)	U (56)	UJ (86)	66 (58)
Sulfate				11.2 J (116)	U (130)	9 J (121)	6.1 J (109)	5.1 J (127)
Vanadium	15	290	15	27 (2.2)	45 (2.4)	24 (2.8)	5.2 J (2.3)	42 (2.9)
Zinc	66000	12000	12000	31 (8.7)	42 J (9.5)	27 (11)	UJ (8.5)	UJ (56)

Notes:

- All concentrations are presented in milligrams per kilogram (mg/kg).
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- The Soil to Groundwater values for nitrate and nitrite are 100x the Federal maximum contaminant level (MCL).
- The values for chromium III are used to evaluate chromium (total).
- Blank cells in columns with criteria indicate that no value has been established.
- Concentrations that exceed the PADEP Residential Direct Contact Values (0-15ft) are **boldfaced**.
- Concentrations that exceed the PADEP Soil to Groundwater Values - Residential Used Aquifer - TDS <= 2500 MG/L are double underlined.

Abbreviations:

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 GW -- Groundwater.
 TDS -- Total Dissolved Solids.
 U -- Not Detected.
 MG/L - Milligrams Per Liter.
 J -- Estimated Concentration.
 R -- Unreliable Result.
 () -- Reporting Limit.
 -- -- Not Analyzed

TABLE 5-1
Soil Sampling Results
Lois E. Whisler Property
Miller Chemical & Fertilizer, Hanover, Pennsylvania

Location Location Type Field Sample ID Lab Sample ID(s) Collection Depth (ft bgs) Sample Method Sample Date Comments	PADEP Residential Direct Contact Values (0-15ft)	PADEP Soil to GW Values - Residential Used Aquifer - TDS <= 2500 MG/L	PADEP Residential MSC	WH-DA-09	WH-DA-09	WH-DA-10	WH-DA-10	WH-DA-10
				Visibly Affected WH-DA-09-G5-5.5-120815 15120910-013 / 15121020-013 S - 5.5 Grab 12/8/2015	Visibly Affected WH-DA-09-G6-6.5-120815 15120910-014 / 15121020-014 6 - 6.5 Grab 12/8/2015	Visibly Affected WH-DA-10-C-120415 15120428-006 / 15120713-006 0 - 0.25 Composite 12/4/2015	Visibly Affected WH-DA-10-G5-5.5-120815 15120910-010 / 15121020-010 S - 5.5 Grab 12/8/2015	Visibly Affected WH-DA-10-G5.5-6-120815 15120910-011 / 15121020-011 5.5 - 6 Grab 12/8/2015
INORG								
Aluminum	190000		190000	31000 (3100)	16000 (3000)	30000 (2900)	33000 (2900)	18000 (2400)
Ammonia	1900	3000	1900	--	--	--	--	--
Arsenic	12	29	12	3.8 (0.62)	3.9 (0.61)	6.6 (0.58)	3.1 (0.59)	2.4 (0.48)
Barium	44000	8200	8200	110 (3.1)	57 (3)	120 (2.9)	110 (2.9)	80 (2.4)
Beryllium	2	320	2	UJ (3.1)	UJ (3)	U (2.9)	UJ (2.9)	UJ (2.4)
Boron	44000	1900	1900	R (31)	R (30)	R (29)	R (29)	R (24)
Calcium				5600 (3100)	140000 (3000)	4500 (2900)	5000 (2900)	84000 (2400)
Chromium (total)	190000	190000	190000	29 (3.1)	12 (3)	30 J (2.9)	28 (2.9)	12 (2.4)
Cobalt	66	59	59	15 (3.1)	7.7 (3)	11 (2.9)	6.8 (2.9)	7.1 (2.4)
Copper	8100		8100	20 (3.1)	11 (3)	12 (2.9)	15 (2.9)	11 (2.4)
Iron	150000		150000	45000 (3100)	25000 (3000)	36000 (2900)	25000 (2900)	19000 (2400)
Lead	500	450	450	11 (3.1)	5.8 (3)	18 (2.9)	11 (2.9)	8.6 (2.4)
Magnesium				18000 (3100)	15000 (3000)	UJ (3900)	15000 (2900)	12000 (2400)
Manganese	10000	2000	2000	270 J (3.1)	270 J (3)	460 (140)	100 J (2.9)	200 J (2.4)
Mercury	35	10	10	UJ (0.12)	UJ (0.12)	0.08 J (0.12)	UJ (0.12)	UJ (0.095)
Nickel	4400	650	650	25 (3.1)	15 (3)	17 (2.9)	23 (2.9)	12 (2.4)
Nitrate	350000	1000	1000	U (14)	U (12.5)	U (12.7)	U (14.6)	U (12)
Total Kjeldahl Nitrogen				272 (106)	161 (95.7)	1260 (94.1)	403 (110)	146 (89.5)
Phosphorus (total)				722 J (67.1)	578 J (63.7)	343 J (60.1)	982 J (74.3)	691 J (60.2)
Potassium				8500 J (3100)	5800 J (3000)	UJ (2100)	6900 J (2900)	7600 J (2400)
Sodium				U (62)	U (61)	59 (58)	U (59)	U (48)
Sulfate				14.5 J (140)	9.8 J (125)	3.8 J (127)	38 J (146)	14.8 J (120)
Vanadium	15	290	15	<u>33 (3.1)</u>	17 (3)	41 (2.9)	33 (2.9)	15 (2.4)
Zinc	66000	12000	12000	48 (12)	26 (12)	UJ (46)	52 (12)	20 (9.5)

Notes:

- All concentrations are presented in milligrams per kilogram (mg/kg).
- Only compounds with at least one detection are shown.
- The Soil to Groundwater values for nitrate and nitrite are 100x the Federal maximum contaminant level (MCL).
- The values for chromium III are used to evaluate chromium (total).
- Blank cells in columns with criteria indicate that no value has been established.
- Concentrations that exceed the PADEP Residential Direct Contact Values (0-15ft) are boldfaced.
- Concentrations that exceed the PADEP Soil to Groundwater Values - Residential Used Aquifer - TDS <= 2500 MG/L are double underlined.

Abbreviations:

- MSC -- Medium Specific Concentration.
- GW -- Groundwater.
- TDS -- Total Dissolved Solids.
- U -- Not Detected.
- MG/L - Milligrams Per Liter.
- J -- Estimated Concentration.
- R -- Unreliable Result.
- () -- Reporting Limit.
- -- Not Analyzed

TABLE 5-1
Soil Sampling Results
Lois E. Whisler Property
Milfer Chemical & Fertilizer, Hanover, Pennsylvania

Location Location Type Field Sample ID	PADEP Residential Direct Contact Values (0-15ft)	PADEP Soil to GW Values - Residential Used Aquifer - TDS <= 2500 MG/L	PADEP Residential MSC	WH-DA-11	WH-DA-11	WH-DA-11	WH-DA-13	WH-DA-13
				Visibly Affected WH-DA-11-C-120815 15120910-012 / 15121020-012 0 - 0.25 Composite 12/8/2015	Visibly Affected WH-DA-11-G4.5-5-120815 15120910-008 / 15121020-008 4.5 - 5 Grab 12/8/2015	Visibly Affected WH-DA-11-G5-5.5-120815 15120910-009 / 15121020-009 5 - 5.5 Grab 12/8/2015	Visibly Affected WH-DA-13-C-120815 15120910-006 / 15121020-006 0 - 0.25 Composite 12/8/2015	Visibly Affected WH-DA-13-G5-5.5-120815 15120910-002 / 15121020-002 5 - 5.5 Grab 12/8/2015
Lab Sample ID(s) Collection Depth (ft bgs) Sample Method Sample Date Comments								
INORG								
Aluminum	190000		190000	38000 (2600)	34000 (2800)	43000 (2900)	32000 (2500)	18000 (5700)
Ammonia	1900	3000	1900	--	--	--	--	--
Arsenic	12	29	12	8.8 (0.53)	5.1 (0.55)	5.5 (0.58)	9.1 (0.51)	7.2 (0.57)
Barium	44000	8200	8200	160 (2.6)	85 (2.8)	92 (2.9)	140 (2.5)	49 (2.8)
Beryllium	2	320	2	1.4 J (2.6)	UJ (2.8)	UJ (2.9)	U (2.5)	U (2.8)
Boron	44000	1900	1900	R (26)	R (28)	R (29)	R (25)	R (28)
Calcium				8500 (2600)	7000 (2800)	12000 (2900)	5600 (2500)	1400 (57)
Chromium (total)	190000	190000	190000	34 (2.6)	32 (2.8)	34 (2.9)	32 (2.5)	25 (2.8)
Cobalt	66	59	59	13 (2.6)	12 (2.8)	12 (2.9)	18 (2.5)	14 (2.8)
Copper	8100		8100	18 (2.6)	25 (2.8)	23 (2.9)	18 (2.5)	8.8 (2.8)
Iron	150000		150000	42000 (2600)	49000 (2800)	53000 (2900)	53000 (2500)	41000 (5700)
Lead	500	450	450	29 (2.6)	15 (2.8)	15 (2.9)	24 (2.5)	13 (2.8)
Magnesium				5200 (2600)	17000 (2800)	20000 (2900)	5700 (2500)	1600 (57)
Manganese	10000	2000	2000	1600 J (130)	200 J (2.8)	180 J (2.9)	1500 J (130)	670 J (280)
Mercury	35	10	10	0.066 J (0.11)	UJ (0.11)	UJ (0.12)	0.056 J (0.1)	UJ (0.11)
Nickel	4400	650	650	18 (2.6)	28 (2.8)	28 (2.9)	23 (2.5)	11 (2.8)
Nitrate	350000	1000	1000	3.8 J (13.5)	U (13.3)	U (13.9)	U (11.9)	U (11.5)
Total Kjeldahl Nitrogen				2760 (103)	715 (101)	738 (105)	1410 (89.8)	443 (85.4)
Phosphorus (total)				1010 J (70.1)	721 J (64.4)	1450 J (68)	307 J (59)	108 J (54.9)
Potassium				1900 (53)	UJ (4200)	2600 (58)	1700 (51)	690 (57)
Sodium				33 J (53)	36 J (55)	37 J (58)	37 J (51)	U (57)
Sulfate				15.2 J (135)	18.3 J (133)	18.7 J (139)	18.6 J (119)	17.4 J (115)
Vanadium	15	290	15	42 (2.6)	34 (2.8)	37 (2.9)	42 (2.5)	32 (2.8)
Zinc	66000	12000	12000	95 (11)	84 (11)	84 (12)	74 (10)	25 (11)

Notes:

- All concentrations are presented in milligrams per kilogram (mg/kg).
- Only compounds with at least one detection are shown.
- The Soil to Groundwater values for nitrate and nitrite are 100x the Federal maximum contaminant level (MCL).
- The values for chromium III are used to evaluate chromium (total).
- Blank cells in columns with criteria indicate that no value has been established.
- Concentrations that exceed the PADEP Residential Direct Contact Values (0-15ft) are **boldfaced**.
- Concentrations that exceed the PADEP Soil to Groundwater Values - Residential Used Aquifer - TDS <= 2500 MG/L are double underlined.

Abbreviations:

MSC -- Medium Specific Concentration.
 GW -- Groundwater.
 TDS -- Total Dissolved Solids.
 U -- Not Detected.
 MG/L - Milligrams Per Liter.
 J -- Estimated Concentration.
 R -- Unreliable Result.
 () -- Reporting Limit.
 -- -- Not Analyzed

TABLE 5-1
Soil Sampling Results
Lois E. Whisler Property
Miller Chemical & Fertilizer, Hanover, Pennsylvania

Location Location Type Field Sample ID	PADEP Residential Direct Contact Values (0-15R)	PADEP Soil to GW Values - Residential Used Aquifer - TDS <= 2500 MG/L	PADEP Residential MSC	WH-DA-13 Visibly Affected WH-DA-13-G5.5-6-120815 15120910-003 / 15121020-003 S.S - 6 Grab 12/8/2015	WH-DA-14 Visibly Affected WH-DA-14-C-120815 15120910-024 / 15121021-004 0 - 0.25 Composite 12/8/2015	WH-DA-14 Visibly Affected WH-DA-14-G4-4.5-120815 15120910-022 / 15121021-002 4 - 4.5 Grab 12/8/2015	WH-DC-01 Visibly Affected WH-DC-01-C-120815 15120910-033 / 15121021-013 0 - 0.25 Composite 12/8/2015	WH-DC-01 Visibly Affected DUP-13-120815 15120910-035 / 15121021-015 0 - 0.25 Composite 12/8/2015 Field Duplicate
INORG								
Aluminum	190000		190000	43000 (2800)	37000 (2100)	21000 (2700)	29000 (2400)	35000 (2200)
Ammonia	1900	3000	1900	--	--	--	--	--
Arsenic	12	29	12	6.4 (0.56)	5.7 (0.43)	13 (0.54)	5.8 J (1.2)	6.7 J (1.1)
Barium	44000	8200	8200	120 (2.8)	130 J (2.1)	81 J (2.7)	130 J (6)	150 J (5.5)
Beryllium	2	320	2	U (2.8)	U (2.1)	U (2.7)	U (6)	U (5.5)
Boron	44000	1900	1900	R (28)	UJ (21)	UJ (27)	UJ (60)	UJ (55)
Calcium				5400 (2800)	4200 (2100)	2300 (54)	UJ (9300)	UJ (14000)
Chromium (total)	190000	190000	190000	34 (2.8)	30 (2.1)	17 (2.7)	31 (6)	33 (5.5)
Cobalt	66	59	59	22 (2.8)	7.4 (2.1)	12 (2.7)	10 (6)	11 (5.5)
Copper	8100		8100	17 (2.8)	UJ (8.6)	34 J (2.7)	160 J (120)	170 J (110)
Iron	150000		150000	64000 (2800)	39000 (2100)	64000 (2700)	28000 (2400)	31000 (2200)
Lead	500	450	450	17 (2.8)	18 (2.1)	33 (2.7)	23 (6)	26 (5.5)
Magnesium				4600 (2800)	3600 (2100)	2100 (54)	3300 (120)	3600 (110)
Manganese	10000	2000	2000	590 J (140)	260 (110)	170 (130)	590 (120)	790 (110)
Mercury	35	10	10	UJ (0.11)	U (0.086)	0.055 J (0.11)	U (0.24)	U (0.22)
Nickel	4400	650	650	29 (2.8)	14 J (2.1)	20 J (2.7)	16 J (6)	18 J (5.5)
Nitrate	350000	1000	1000	U (12.3)	U (12.5)	U (13.8)	U (29)	U (29.4)
Total Kjeldahl Nitrogen				495 (90.8)	1120 (94)	346 (102)	4560 (216)	4720 (220)
Phosphorus (total)				303 J (63.6)	280 J (59.9)	944 J (64.5)	2340 J (141)	1830 J (139)
Potassium				2100 (56)	1100 (43)	6000 (2700)	2400 (120)	2600 (110)
Sodium				U (56)	UJ (55)	UJ (54)	UJ (76)	UJ (85)
Sulfate				15.7 J (123)	9.7 J (125)	40.6 J (138)	24.3 J (290)	25.9 J (294)
Vanadium	15	290	15	<u>38 (2.8)</u>	<u>43 (2.1)</u>	<u>38 J (2.7)</u>	<u>34 (6)</u>	<u>37 (5.5)</u>
Zinc	66000	12000	12000	43 (11)	UJ (34)	UJ (55)	160 J (24)	210 J (22)

Notes:

- All concentrations are presented in milligrams per kilogram (mg/kg).
- Only compounds with at least one detection are shown.
- The Soil to Groundwater values for nitrate and nitrite are 100x the Federal maximum contaminant level (MCL).
- The values for chromium III are used to evaluate chromium (total).
- Blank cells in columns with criteria indicate that no value has been established.
- Concentrations that exceed the PADEP Residential Direct Contact Values (0-15ft) are **boldfaced**.
- Concentrations that exceed the PADEP Soil to Groundwater Values - Residential Used Aquifer - TDS <= 2500 MG/L are double underlined.

Abbreviations:

- MSC -- Medium Specific Concentration.
- GW -- Groundwater.
- TDS -- Total Dissolved Solids.
- U -- Not Detected.
- MG/L - Milligrams Per Liter.
- J -- Estimated Concentration.
- R -- Unreliable Result.
- () -- Reporting Limit.
- -- Not Analyzed

TABLE 5-1
Soil Sampling Results
Lois E. Whisler Property
Miller Chemical & Fertilizer, Hanover, Pennsylvania

Location Location Type Field Sample ID	PADEP Residential Direct Contact Values (0-15ft)	PADEP Soil to GW Values - Residential Used Aquifer - TDS <= 2500 MG/L	PADEP Residential MSC	WH-DC-02 Visibly Affected WH-DC-02-C-120815 15120910-023 / 15121021-003 0 - 0.25 Composite 12/8/2015	WH-DC-03 Visibly Affected WH-DC-03-C-120715 15120803-001 / 15120933-001 0 - 0.25 Composite 12/7/2015	WH-DC-04 Visibly Affected WH-DC-04-C-120815 15120910-019 / 15121020-019 0 - 0.25 Composite 12/8/2015	WH-DC-05 Visibly Affected WH-DC-05-C-120815 15120910-017 / 15121020-017 0 - 0.25 Composite 12/8/2015	WH-VA-01 Visibly Affected WH-VA-01-C-120215 15120319-014 / 15120423-014 0 - 0.25 Composite 12/2/2015
Lab Sample ID(s) Collection Depth (ft bgs) Sample Method Sample Date Comments								
INORG								
Aluminum	190000		190000	47000 (3100)	33000 (3100)	38000 (2600)	31000 (2900)	28000 (4700)
Ammonia	1900	3000	1900	--	--	--	--	--
Arsenic	12	29	12	7.7 (0.62)	12 J (0.61)	8.8 (0.51)	7.6 (0.58)	7.3 J (0.94)
Barium	44000	8200	8200	140 J (3.1)	120 (3.1)	160 (2.6)	130 (2.9)	150 (4.7)
Beryllium	2	320	2	U (3.1)	UJ (3.1)	1.3 J (2.6)	UJ (2.9)	UJ (4.7)
Boron	44000	1900	1900	R (31)	U (31)	R (26)	R (29)	R (47)
Calcium				9900 (3100)	6800 (3100)	6300 (2600)	7800 (2900)	5700 (4700)
Chromium (total)	190000	190000	190000	39 (3.1)	45 J (3.1)	37 (2.6)	31 (2.9)	32 (4.7)
Cobalt	66	59	59	13 (3.1)	20 J (3.1)	13 (2.6)	11 (2.9)	11 (4.7)
Copper	8100		8100	29 J (3.1)	21 J (3.1)	15 (2.6)	55 (2.9)	41 (4.7)
Iron	150000		150000	45000 (3100)	52000 J (3100)	55000 (2600)	33000 (2900)	26000 (4700)
Lead	500	450	450	33 (3.1)	28 (3.1)	22 (2.6)	22 (2.9)	28 (4.7)
Magnesium				6100 (3100)	5700 (3100)	5600 (2600)	4200 (2900)	3100 (94)
Manganese	10000	2000	2000	1200 (150)	930 J (150)	1500 J (130)	890 J (150)	730 (230)
Mercury	35	10	10	0.1 J (0.12)	0.098 J (0.12)	UJ (0.1)	UJ (0.12)	U (0.19)
Nickel	4400	650	650	21 J (3.1)	25 J (3.1)	20 (2.6)	16 (2.9)	18 J (4.7)
Nitrate	350000	1000	1000	U (17.2)	1.2 J (14.4)	U (15)	U (18)	1.4 J (17.5)
Total Kjeldahl Nitrogen				2190 (128)	1840 (107)	1560 (112)	3110 (137)	4160 (133)
Phosphorus (total)				1560 J (79.3)	794 (70)	500 (71.5)	1650 J (94.6)	1030 (86.8)
Potassium				1900 (62)	2100 J (61)	1900 (51)	2200 (58)	2500 (94)
Sodium				UJ (68)	93 (61)	37 J (51)	49 J (58)	UJ (80)
Sulfate				37 J (172)	14.4 J (144)	15 J (150)	15.5 J (180)	18.9 J (175)
Vanadium	15	290	15	41 J (3.1)	51 J (3.1)	48 (2.6)	37 (2.9)	41 (4.7)
Zinc	66000	12000	12000	130 J (12)	93 (12)	64 (10)	120 (12)	120 J (19)

Notes:

- All concentrations are presented in milligrams per kilogram (mg/kg).
- Only compounds with at least one detection are shown.
- The Soil to Groundwater values for nitrate and nitrite are 100x the Federal maximum contaminant level (MCL).
- The values for chromium III are used to evaluate chromium (total).
- Blank cells in columns with criteria indicate that no value has been established.
- Concentrations that exceed the PADEP Residential Direct Contact Values (0-15ft) are **boldfaced**.
- Concentrations that exceed the PADEP Soil to Groundwater Values - Residential Used Aquifer - TDS <= 2500 MG/L are double underlined.

Abbreviations:

MSC -- Medium Specific Concentration.
 GW -- Groundwater.
 TDS -- Total Dissolved Solids.
 U -- Not Detected.
 MG/L -- Milligrams Per Liter.
 J -- Estimated Concentration.
 R -- Unreliable Result.
 () -- Reporting Limit.
 -- -- Not Analyzed

TABLE 5-1
Soil Sampling Results
Lois E. Whisler Property
Miller Chemical & Fertilizer, Manover, Pennsylvania

Location Location Type Field Sample ID	PADEP Residential Direct Contact Values (0-15ft)	PADEP Soil to GW Values - Residential Used Aquifer - TDS <= 2500 MG/L	PADEP Residential MSC	WH-VA-02 Visibly Affected WH-VA-02-C-120215 15120319-015 / 15120423-015 0 - 0.25 Composite 12/2/2015	WH-VA-03 Visibly Affected WH-VA-03-C-120215 15120319-016 / 15120423-016 0 - 0.25 Composite 12/2/2015	WH-VA-03 Visibly Affected WH-VA-03-GC-120715 15120804-004 / 15120934-004 1 - 2 Grab 12/7/2015	WH-VA-03 Visibly Affected WH-VA-03-GD-120715 15120804-005 / 15120934-005 4 - 5 Grab 12/7/2015	WH-VA-04 Visibly Affected WH-VA-04-C-120215 15120319-017 / 15120423-017 0 - 0.25 Composite 12/2/2015
Lab Sample ID(s) Collection Depth (ft bgs) Sample Method Sample Date Comments								
INORG								
Aluminum	190000		190000	24000 (2400)	35000 (3000)	36000 (2200)	33000 (2300)	41000 (3100)
Ammonia	1900	3000	1900	--	--	--	--	--
Arsenic	12	29	12	4.9 J (0.61)	6.5 J (0.61)	12 (0.44)	8.1 (0.45)	11 J (0.61)
Barium	44000	8200	8200	130 (2.4)	170 (3)	85 (2.2)	110 (2.3)	220 (3.1)
Beryllium	2	320	2	U (2.4)	U (3)	1.7 J (2.2)	1.5 J (2.3)	1.6 J (3.1)
Boron	44000	1900	1900	R (24)	R (30)	U (22)	U (23)	R (31)
Calcium				4000 (2400)	23000 (3000)	4700 J (2200)	6100 J (2300)	9100 (3100)
Chromium (total)	190000	190000	190000	25 (2.4)	36 (3)	55 (2.2)	41 (2.3)	41 (3.1)
Cobalt	66	59	59	9.3 (2.4)	12 (3)	19 (2.2)	23 (2.3)	16 (3.1)
Copper	8100		8100	10 (2.4)	15 (3)	15 (2.2)	22 (2.3)	18 (3.1)
Iron	150000		150000	24000 (2400)	33000 (3000)	67000 (2200)	63000 (2300)	46000 (3100)
Lead	500	450	450	23 (2.4)	27 (3)	29 J (2.2)	31 J (2.3)	31 (3.1)
Magnesium				3200 (2400)	5100 (3000)	5400 J (2200)	5300 J (2300)	5200 (3100)
Manganese	10000	2000	2000	590 (120)	1100 (150)	410 J (110)	1600 J (110)	1900 (150)
Mercury	35	10	10	U (0.096)	U (0.12)	0.066 J (0.088)	0.066 J (0.09)	0.078 J (0.12)
Nickel	4400	650	650	13 J (2.4)	19 J (3)	26 (2.2)	27 (2.3)	23 J (3.1)
Nitrate	350000	1000	1000	0.84 J (14)	U (15.1)	0.73 J (12.2)	U (12.7)	U (15.4)
Total Kjeldahl Nitrogen				1970 (103)	3320 (114)	791 (92.1)	836 (96.4)	3100 (116)
Phosphorus (total)				513 (69.6)	852 (75.2)	219 (59.8)	773 (66.2)	785 (76.7)
Potassium				1900 (48)	2300 (61)	1300 (44)	1600 (45)	2500 (61)
Sodium				U (45)	U (71)	54 (44)	58 (45)	U (76)
Sulfate				8.7 J (140)	11.5 J (151)	14.4 J (122)	17.3 J (127)	5.2 J (154)
Vanadium	15	290	15	36 (2.4)	42 (3)	60 J (2.2)	44 J (2.3)	54 (3.1)
Zinc	66000	12000	12000	U (53)	88 J (12)	85 J (8.8)	87 J (9)	100 J (12)

Notes:

- All concentrations are presented in milligrams per kilogram (mg/kg).
- Only compounds with at least one detection are shown.
- The Soil to Groundwater values for nitrate and nitrite are 100x the Federal maximum contaminant level (MCL).
- The values for chromium III are used to evaluate chromium (total).
- Blank cells in columns with criteria indicate that no value has been established.
- Concentrations that exceed the PADEP Residential Direct Contact Values (0-15ft) are **boldfaced**.
- Concentrations that exceed the PADEP Soil to Groundwater Values - Residential Used Aquifer - TDS <= 2500 MG/L are double underlined.

Abbreviations:

MSC -- Medium Specific Concentration.
 GW -- Groundwater.
 TDS -- Total Dissolved Solids.
 U -- Not Detected.
 MG/L - Milligrams Per Liter.
 J -- Estimated Concentration.
 R -- Unreliable Result.
 () -- Reporting Limit.
 -- -- Not Analyzed

TABLE 5-1
Soil Sampling Results
Lois E. Whisler Property
Miller Chemical & Fertilizer, Hanover, Pennsylvania

Location Location Type Field Sample ID Lab Sample ID(s) Collection Depth (ft bgs) Sample Method Sample Date Comments	PADEP Residential Direct Contact Values (0-15ft)	PADEP Soil to GW Values - Residential Used Aquifer - TDS <= 2500 MG/L	PADEP Residential MSC	WH-VA-05 Visibly Affected WH-VA-05-C-120415 15120428-004 / 15120713-004 0 - 0.25 Composite 12/4/2015	WH-VA-06 Visibly Affected WH-VA-06-C-120215 15120319-018 / 15120423-018 0 - 0.25 Composite 12/2/2015	WH-VA-06 Visibly Affected WH-VA-06-GC-120715 15120804-002 / 15120934-002 1 - 2 Grab 12/7/2015	WH-VA-06 Visibly Affected WH-VA-06-GD-120715 15120804-003 / 15120934-003 4 - 5 Grab 12/7/2015	WH-VA-07 Visibly Affected WH-VA-07-C-120215 15120319-019 / 15120423-019 0 - 0.25 Composite 12/2/2015
INORG								
Aluminum	19000	190000	190000	35000 (2900)	37000 (3300)	49000 (3000)	31000 (2800)	37000 (3500)
Ammonia	1900	3000	1900	--	--	--	--	--
Arsenic	12	29	12	8.6 (0.57)	7.7 J (0.66)	5.5 (0.61)	5.7 (0.56)	7.6 J (0.7)
Barium	44000	8200	8200	150 (2.9)	170 (3.3)	170 (3)	97 (2.8)	170 (3.5)
Beryllium	2	320	2	1.5 J (2.9)	UJ (3.3)	1.8 J (3)	U (2.8)	UJ (3.5)
Boron	44000	1900	1900	R (29)	R (33)	U (30)	U (28)	R (35)
Calcium				8800 (2900)	8000 (3300)	9400 J (3000)	5300 J (2800)	8000 (3500)
Chromium (total)	190000	190000	190000	35 J (2.9)	40 (3.3)	47 (3)	28 (2.8)	39 (3.5)
Cobalt	66	59	59	12 (2.9)	10 (3.3)	13 (3)	19 (2.8)	11 (3.5)
Copper	8100	8100	8100	25 (2.9)	24 (3.3)	14 (3)	26 (2.8)	35 (3.5)
Iron	150000	150000	150000	41000 (2900)	35000 (3300)	47000 (3000)	50000 (2800)	35000 (3500)
Lead	500	450	450	30 (2.9)	28 (3.3)	23 J (3)	14 J (2.8)	30 (3.5)
Magnesium				UJ (4500)	4900 (3300)	5700 J (3000)	17000 J (2800)	5000 (3500)
Manganese	10000	2000	2000	1300 (140)	990 (160)	1200 J (150)	850 J (140)	1000 (180)
Mercury	35	10	10	0.093 J (0.11)	0.07 J (0.13)	0.092 J (0.12)	0.058 J (0.11)	U (0.14)
Nickel	4400	650	650	19 (2.9)	21 J (3.3)	27 (3)	37 (2.8)	20 J (3.5)
Nitrate	350000	1000	1000	1.2 J (14.8)	U (15.8)	1.7 J (14)	U (12.9)	1.2 J (15.6)
Total Kjeldahl Nitrogen				4850 (111)	3230 (118)	2270 (104)	615 (95)	3200 (116)
Phosphorus (total)				1200 J (72.1)	989 (78.9)	265 (67.9)	795 (62.8)	1540 (76.4)
Potassium				UJ (2000)	2800 (66)	2100 (61)	3500 (2800)	3200 (70)
Sodium				81 (57)	UJ (85)	110 (61)	54 J (56)	UJ (83)
Sulfate				6.2 J (148)	10.4 J (158)	21.6 J (140)	15.7 J (129)	13.7 J (156)
Vanadium	15	290	15	41 (2.9)	47 (3.3)	49 J (3)	33 J (2.8)	48 (3.5)
Zinc	66000	12000	12000	120 J (11)	110 J (13)	100 J (12)	69 J (11)	120 J (14)

Notes:

- All concentrations are presented in milligrams per kilogram (mg/kg).
- Only compounds with at least one detection are shown.
- The Soil to Groundwater values for nitrate and nitrite are 100x the Federal maximum contaminant level (MCL).
- The values for chromium III are used to evaluate chromium (total).
- Blank cells in columns with criteria indicate that no value has been established.
- Concentrations that exceed the PADEP Residential Direct Contact Values (0-15ft) are **boldfaced**.
- Concentrations that exceed the PADEP Soil to Groundwater Values - Residential Used Aquifer - TDS <= 2500 MG/L are double underlined.

Abbreviations:

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- TDS -- Total Dissolved Solids.
- U -- Not Detected.
- MG/L - Milligrams Per Liter.
- J -- Estimated Concentration.
- R -- Unreliable Result.
- () -- Reporting Limit.
- -- Not Analyzed

TABLE 5-1
Soil Sampling Results
Lois E. Whister Property
Miller Chemical & Fertilizer, Hanover, Pennsylvania

Location Location Type Field Sample ID	PADEP Residential Direct Contact Values (0-15ft)	PADEP Soil to GW Values - Residential Used Aquifer - TDS <= 2500 MG/L	PADEP Residential MSC	WH-VA-08 Visibly Affected WH-VA-08-C-120215 15120319-020 / 15120423-020 0 - 0.25 Composite 12/2/2015	WH-VA-09 Visibly Affected WH-VA-09-C-120215 15120320-001 / 15120424-001 0 - 0.25 Composite 12/2/2015	WH-VA-09 Visibly Affected WH-VA-09-GC-120715 15120804-009 / 15120934-009 1 - 2 Grab 12/7/2015	WH-VA-09 Visibly Affected WH-VA-09-GD-120715 15120804-010 / 15120934-010 4 - 5 Grab 12/7/2015	WH-VA-10 Visibly Affected WH-VA-10-C-120215 15120320-002 / 15120424-002 0 - 0.25 Composite 12/2/2015
Lab Sample ID(s) Collection Depth (ft bgs) Sample Method Sample Date Comments								
INORG								
Aluminum	190000		190000	49000 (2700)	34000 (5900)	29000 (2800)	31000 (2300)	29000 (5400)
Ammonia	1900	3000	1900	--	--	--	--	--
Arsenic	12	29	12	6.6 J (0.54)	7.5 J (0.59)	5.9 (0.56)	4.7 (0.47)	8.6 J (0.54)
Barium	44000	8200	8200	170 (2.7)	230 (2.9)	98 (2.8)	78 (2.3)	130 (2.7)
Beryllium	2	320	2	U (2.7)	1.5 J (2.9)	U (2.8)	U (2.3)	U (2.7)
Boron	44000	1900	1900	R (2.7)	U (29)	U (28)	U (23)	U (27)
Calcium				5500 (2700)	6700 (590)	3800 J (2800)	4100 J (2300)	21000 (5400)
Chromium (total)	190000	190000	190000	32 (2.7)	36 J (2.9)	30 (2.8)	30 (2.3)	36 J (2.7)
Cobalt	66	59	59	12 (2.7)	13 J (2.9)	11 (2.8)	7.2 (2.3)	17 J (2.7)
Copper	8100	8100	8100	15 (2.7)	16 J (2.9)	11 (2.8)	16 (2.3)	17 J (2.7)
Iron	150000	150000	150000	31000 (2700)	36000 (5900)	31000 (2800)	39000 (2300)	48000 (5400)
Lead	500	450	450	27 (2.7)	31 (2.9)	15 J (2.8)	14 J (2.3)	24 (2.7)
Magnesium				3800 (2700)	4400 (590)	4200 J (2800)	7900 J (2300)	7700 (5400)
Manganese	10000	2000	2000	1200 (130)	1400 (29)	430 J (140)	130 J (2.3)	930 (270)
Mercury	35	10	10	U (0.11)	0.11 J (0.12)	0.056 J (0.11)	0.049 J (0.093)	0.079 J (0.11)
Nickel	4400	650	650	18 J (2.7)	21 J (2.9)	21 (2.8)	23 (2.3)	23 J (2.7)
Nitrate	350000	1000	1000	U (14.6)	2.9 J (13.4)	U (11.9)	U (11.4)	U (14)
Total Kjeldahl Nitrogen				2470 (109)	2170 (99.9)	523 (90.7)	505 (85.4)	1430 (104)
Phosphorus (total)				894 (72.6)	552 (66.3)	358 (62.4)	630 (55.4)	597 (69.5)
Potassium				2100 (54)	U (2500)	1700 (56)	1800 (47)	U (2300)
Sodium				U (77)	75 (59)	36 J (56)	39 J (47)	70 (54)
Sulfate				25.3 J (146)	16.3 J (134)	16.9 J (119)	11.2 J (114)	21.5 J (140)
Vanadium	15	290	15	43 (2.7)	50 J (2.9)	37 J (2.8)	33 J (2.3)	43 J (2.7)
Zinc	66000	12000	12000	71 J (11)	85 J (12)	46 J (11)	58 J (9.3)	70 J (11)

Notes:

- All concentrations are presented in milligrams per kilogram (mg/kg).
- Only compounds with at least one detection are shown.
- The Soil to Groundwater values for nitrate and nitrite are 100x the Federal maximum contaminant level (MCL).
- The values for chromium III are used to evaluate chromium (total).
- Blank cells in columns with criteria indicate that no value has been established.
- Concentrations that exceed the PADEP Residential Direct Contact Values (0-15ft) are **boldfaced**.
- Concentrations that exceed the PADEP Soil to Groundwater Values - Residential Used Aquifer - TDS <=2500 MG/L are double underlined.

Abbreviations:

- MSC -- Medium Specific Concentration.
 GW -- Groundwater.
 TDS -- Total Dissolved Solids.
 U -- Not Detected.
 MG/L - Milligrams Per Liter.
 J -- Estimated Concentration.
 R -- Unreliable Result.
 () -- Reporting Limit.
 -- -- Not Analyzed

TABLE 5-1
Soil Sampling Results
Lois E. Whisler Property
Miller Chemical & Fertilizer, Hanover, Pennsylvania

Location Location Type Field Sample ID	PADEP Residential Direct Contact Values (0-15ft)	PADEP Soil to GW Values - Residential Used Aquifer - TDS <= 2500 MG/L	PADEP Residential MSC	WH-VA-11 Visibly Affected WH-VA-11-C-120215 15120320-003 / 15120424-003 0 - 0.25 Composite 12/2/2015	WH-VA-12 Visibly Affected WH-VA-12-C-120215 15120320-004 / 15120424-004 0 - 0.25 Composite 12/2/2015	WH-VA-12 Visibly Affected WH-VA-12-GC-120715 15120804-013 / 15120934-013 1 - 2 Grab 12/7/2015	WH-VA-12 Visibly Affected DUP-10-120715 15120804-015 / 15120934-015 1 - 2 Grab 12/7/2015 Field Duplicate	WH-VA-12 Visibly Affected WH-VA-12-GD-120715 15120804-014 / 15120934-014 4 - 5 Grab 12/7/2015
INORG								
Aluminum	190000		190000	28000 (4800)	34000 (5000)	25000 (2200)	26000 (2400)	16000 (2300)
Ammonia	1900	3000	1900	--	--	--	--	--
Arsenic	12	29	12	10 J (0.48)	12 J (0.5)	11 J (0.44)	22 J (0.49)	3.4 (0.45)
Barium	44000	8200	8200	170 (2.4)	160 (2.5)	72 (2.2)	64 (2.4)	66 (2.3)
Beryllium	2	320	2	1.3 J (2.4)	1.4 J (2.5)	1.2 J (2.4)	1.6 J (2.4)	U (2.3)
Boron	44000	1900	1900	UJ (24)	UJ (25)	UJ (22)	UJ (24)	UJ (23)
Calcium				16000 (4800)	6200 (500)	2100 J (44)	2000 J (49)	3400 J (2300)
Chromium (total)	190000	190000	190000	38 J (2.4)	40 J (2.5)	39 (2.2)	50 (2.4)	14 (2.3)
Cobalt	66	59	59	20 J (2.4)	32 J (2.5)	13 J (2.2)	21 J (2.4)	10 (2.3)
Copper	8100		8100	22 J (2.4)	19 J (2.5)	16 J (2.2)	26 J (2.4)	16 (2.3)
Iron	150000		150000	54000 (4800)	62000 (5000)	57000 J (2200)	100000 J (2400)	20000 (2300)
Lead	500	450	450	26 (2.4)	32 (2.5)	24 J (2.2)	39 J (2.4)	17 J (2.3)
Magnesium				7200 (4800)	5600 (500)	3100 J (2200)	3200 J (2400)	1500 (45)
Manganese	10000	2000	2000	1400 (240)	1500 (25)	360 J (110)	420 J (120)	110 J (2.3)
Mercury	35	10	10	0.075 J (0.096)	0.082 J (0.1)	0.047 J (0.087)	0.067 J (0.098)	U (0.091)
Nickel	4400	650	650	25 J (2.4)	27 J (2.5)	21 (2.2)	26 (2.4)	17 (2.3)
Nitrate	350000	1000	1000	U (13.3)	0.74 J (12.4)	U (12)	U (12)	U (11.7)
Total Kjeldahl Nitrogen				1330 (100)	828 (91.5)	452 (91.7)	604 J (90.4)	277 (85.9)
Phosphorus (total)				731 (66.7)	586 (61.8)	80.6 (58.4)	71.7 (60.3)	669 (59.4)
Potassium				UJ (2200)	2100 (50)	1200 (44)	960 (49)	2700 (2300)
Sodium				71 (48)	69 (50)	26 J (44)	U (49)	U (45)
Sulfate				37.4 J (133)	24.8 J (124)	15.2 J (120)	16.5 J (120)	5.8 J (117)
Vanadium	15	290	15	47 J (2.4)	53 J (2.5)	47 J (2.2)	68 J (2.4)	19 J (2.3)
Zinc	66000	12000	12000	79 J (9.6)	78 J (10)	40 (8.7)	51 (9.8)	21 (9.1)

Notes:

- All concentrations are presented in milligrams per kilogram (mg/kg).
- Only compounds with at least one detection are shown.
- The Soil to Groundwater values for nitrate and nitrite are 100x the Federal maximum contaminant level (MCL).
- The values for chromium III are used to evaluate chromium (total).
- Blank cells in columns with criteria indicate that no value has been established.
- Concentrations that exceed the PADEP Residential Direct Contact Values (0-15ft) are **boldfaced**.
- Concentrations that exceed the PADEP Soil to Groundwater Values - Residential Used Aquifer - TDS <= 2500 MG/L are double underlined.

Abbreviations:

MSC -- Medium Specific Concentration.
 GW -- Groundwater.
 TDS -- Total Dissolved Solids.
 U -- Not Detected.
 MG/L - Milligrams Per Liter.
 J -- Estimated Concentration.
 R -- Unreliable Result.
 () -- Reporting Limit.
 -- -- Not Analyzed

TABLE 5-1
Soil Sampling Results
Lots E, Whisler Property
Miller Chemical & Fertilizer, Manover, Pennsylvania

Location Location Type Field Sample ID	PADEP Residential Direct Contact Values (0-15ft)	PADEP Soil to GW Values - Residential Used Aquifer - TDS <= 2500 MG/L	PADEP Residential MSC	WH-VA-13 Visibly Affected WH-VA-13-C-120715 15120803-018 / 15120933-018 0 - 0.25 Composite 12/7/2015	WH-VA-14 Visibly Affected WH-VA-14-C-120215 15120320-005 / 15120424-005 0 - 0.25 Composite 12/2/2015	WH-VA-15 Visibly Affected WH-VA-15-C-120415 15120428-001 / 15120713-001 0 - 0.25 Composite 12/4/2015	WH-VA-15 Visibly Affected WH-VA-15-GC-120715 15120803-019 / 15120933-019 1 - 2 Grab 12/7/2015	WH-VA-15 Visibly Affected WH-VA-15-GD-120715 15120803-020 / 15120933-020 4 - 5 Grab 12/7/2015
INORG								
Aluminum	190000		190000	27000 (2900)	35000 (4300)	30000 (2800)	30000 (2300)	22000 (4200)
Ammonia	1900	3000	1900	--	--	--	--	--
Arsenic	12	29	12	7.9 J (0.58)	6.6 J (0.43)	5.5 (0.56)	21 J (0.46)	3.1 J (0.42)
Barium	44000	8200	8200	110 (2.9)	160 (2.2)	110 (2.8)	140 (2.3)	110 (2.1)
Beryllium	2	320	2	UJ (2.9)	1.1 J (2.2)	U (2.8)	1.3 J (2.3)	UJ (2.1)
Boron	44000	1900	1900	U (29)	U (22)	R (28)	U (23)	22 (21)
Calcium				3700 (2900)	3300 (430)	2400 (56)	3100 (2300)	50000 (4200)
Chromium (total)	190000	190000	190000	29 J (2.9)	33 J (2.2)	29 J (2.8)	37 J (2.3)	21 J (2.1)
Cobalt	66	59	59	7.5 J (2.9)	11 J (2.2)	7.3 (2.8)	17 J (2.3)	14 J (2.1)
Copper	8100		8100	10 J (2.9)	UJ (9.9)	8.1 (2.8)	7.7 J (2.3)	16 J (2.1)
Iron	150000		150000	37000 J (2900)	39000 (4300)	29000 (2800)	110000 J (2300)	43000 J (4200)
Lead	500	450	450	22 (2.9)	20 (2.2)	21 (2.8)	18 (2.3)	13 (2.1)
Magnesium				2600 J (58)	3300 (430)	UJ (2400)	2100 J (46)	13000 (4200)
Manganese	10000	2000	2000	220 J (2.9)	350 (22)	130 (2.8)	210 J (2.3)	1100 J (210)
Mercury	35	10	10	UJ (0.12)	0.076 J (0.087)	0.09 J (0.11)	0.088 J (0.092)	UJ (0.084)
Nickel	4400	650	650	13 J (2.9)	17 J (2.2)	12 (2.8)	22 J (2.3)	22 J (2.1)
Nitrate	350000	1000	1000	U (12.8)	U (13.2)	0.76 J (12.6)	3.4 J (12)	0.96 J (12)
Total Kjeldahl Nitrogen				1240 (96.4)	935 (101)	1330 (95.8)	222 (90.9)	232 (90.2)
Phosphorus (total)				286 (66.9)	353 (65.7)	681 J (63.3)	34.1 (12)	582 (61)
Potassium				1300 J (58)	1800 (43)	UJ (1200)	860 J (46)	4900 (4200)
Sodium				46 J (58)	57 (43)	55 J (56)	47 (46)	38 J (42)
Sulfate				5.4 J (128)	15.6 J (132)	U (126)	59.7 J (120)	12.2 J (120)
Vanadium	15	290	15	48 J (2.9)	46 J (2.2)	42 (2.8)	40 J (2.3)	23 J (2.1)
Zinc	66000	12000	12000	46 (12)	UJ (41)	UJ (41)	30 (9.2)	41 (8.4)

Notes:

- All concentrations are presented in milligrams per kilogram (mg/kg).
- Only compounds with at least one detection are shown.
- The Soil to Groundwater values for nitrate and nitrite are 100x the Federal maximum contaminant level (MCL).
- The values for chromium III are used to evaluate chromium (total).
- Blank cells in columns with criteria indicate that no value has been established.
- Concentrations that exceed the PADEP Residential Direct Contact Values (0-15ft) are **boldfaced**.
- Concentrations that exceed the PADEP Soil to Groundwater Values - Residential Used Aquifer - TDS <= 2500 MG/L are double underlined.

Abbreviations:

MSC -- Medium Specific Concentration.
 GW -- Groundwater.
 TDS -- Total Dissolved Solids.
 U -- Not Detected.
 MG/L - Milligrams Per Liter.
 J -- Estimated Concentration.
 R -- Unreliable Result.
 () -- Reporting Limit.
 -- -- Not Analyzed

TABLE 5-1
Soil Sampling Results
Lois E. Whisler Property
Miller Chemical & Fertilizer, Hanover, Pennsylvania

Location Location Type Field Sample ID Lab Sample ID(s) Collection Depth (ft bgs) Sample Method Sample Date Comments	PADEP Residential Direct Contact Values (0-15ft)	PADEP Soil to GW Values - Residential Used Aquifer - TDS <= 2500 MG/L	PADEP Residential MSC	WH-VA-16 Visibly Affected WH-VA-16-C-120315 15120320-006 / 15120424-006 0 - 0.25 Composite 12/3/2015	WH-VA-16 Visibly Affected DUP-9-120315 15120321-006 / 15120425-006 0 - 0.25 Composite 12/3/2015 Field Duplicate	WH-VA-17 Visibly Affected WH-VA-17-C-120915 15121025-012 / 15121030-012 0 - 0.25 Composite 12/9/2015	WH-VA-18 Visibly Affected WH-VA-18-C-120315 15120320-007 / 15120424-007 0 - 0.25 Composite 12/3/2015	WH-VA-18 Visibly Affected WH-VA-18-GC-120715 15120803-016 / 15120933-016 1 - 2 Grab 12/7/2015
INORG								
Aluminum	190000		190000	34000 (4400)	33000 (2800)	33000 (2500)	29000 (1100)	28000 (2200)
Ammonia	1900	3000	1900	--	--	--	--	--
Arsenic	12	29	12	6.3 J (0.44)	6 (0.57)	6.9 J (0.57)	6 J (0.57)	5 J (0.45)
Barium	44000	8200	8200	170 (2.2)	160 (2.8)	150 (2.5)	140 (2.9)	110 (2.2)
Beryllium	2	320	2	1.2 J (2.2)	UJ (2.8)	UJ (2.5)	U (2.9)	UJ (2.2)
Boron	44000	1900	1900	UJ (22)	U (28)	UJ (25)	UJ (29)	U (22)
Calcium				4500 (440)	3900 (2800)	4100 (2500)	11000 (1100)	3100 (2200)
Chromium (total)	190000	190000	190000	34 J (2.2)	37 (2.8)	33 J (2.5)	30 J (2.9)	27 J (2.2)
Cobalt	66	59	59	11 J (2.2)	11 (2.8)	11 (2.5)	12 J (2.9)	8 J (2.2)
Copper	8100		8100	UJ (11)	12 (2.8)	12 J (2.5)	UJ (12)	7.9 J (2.2)
Iron	150000		150000	35000 (4400)	28000 (2800)	35000 (2500)	29000 (1100)	26000 J (2200)
Lead	500	450	450	32 (2.2)	24 (2.8)	24 (2.5)	23 (2.9)	15 (2.2)
Magnesium				3600 (440)	3700 (2800)	4900 (2500)	5300 (1100)	2200 J (45)
Manganese	10000	2000	2000	500 (22)	410 (140)	440 (130)	540 (57)	130 J (2.2)
Mercury	35	10	10	0.07 J (0.089)	0.064 J (0.11)	0.053 J (0.1)	0.071 J (0.11)	0.054 J (0.09)
Nickel	4400	650	650	18 J (2.2)	18 (2.8)	17 (2.5)	16 J (2.9)	13 J (2.2)
Nitrate	350000	1000	1000	U (12.8)	U (12.8)	0.8 J (13.3)	0.79 J (13.2)	1.6 J (11.7)
Total Kjeldahl Nitrogen				843 (96.5)	1020 (97.4)	733 (99.6)	1850 (98.6)	691 (87.3)
Phosphorus (total)				287 J (63.5)	139 J (66.7)	216 (63)	535 (65.9)	108 (57.2)
Potassium				1900 (44)	2000 (57)	2400 (50)	2000 (57)	1100 J (45)
Sodium				57 (44)	70 (57)	56 (50)	47 J (57)	40 J (45)
Sulfate				UJ (14.6)	UJ (128)	9.3 J (133)	5.3 J (132)	U (117)
Vanadium	15	290	15	48 J (2.2)	48 (2.8)	48 (2.5)	41 J (2.9)	39 J (2.2)
Zinc	66000	12000	12000	UJ (52)	53 (11)	46 J (10)	UJ (55)	34 (9)

Notes:

- All concentrations are presented in milligrams per kilogram (mg/kg).
- Only compounds with at least one detection are shown.
- The Soil to Groundwater values for nitrate and nitrite are 100x the Federal maximum contaminant level (MCL).
- The values for chromium III are used to evaluate chromium (total).
- Blank cells in columns with criteria indicate that no value has been established.
- Concentrations that exceed the PADEP Residential Direct Contact Values (0-15ft) are **boldfaced**.
- Concentrations that exceed the PADEP Soil to Groundwater Values - Residential Used Aquifer - TDS <= 2500 MG/L are double underlined.

Abbreviations:

- MSC -- Medium Specific Concentration.
- GW -- Groundwater.
- TDS -- Total Dissolved Solids.
- U -- Not Detected.
- MG/L - Milligrams Per Liter.
- J -- Estimated Concentration.
- R -- Unreliable Result.
- () -- Reporting Limit.
- -- Not Analyzed

TABLE 5-1
Soil Sampling Results
Lois E. Whisler Property
Miller Chemical & Fertilizer, Hanover, Pennsylvania

Location Location Type Field Sample ID	PAOEP Residential Direct Contact Values (0-15ft)	PADEP Soil to GW Values - Residential Used Aquifer - TDS <= 2500 MG/L	PADEP Residential MSC	WH-VA-18 Visibly Affected WH-VA-18-GD-120715 15120803-017 / 15120933-017	WH-VA-19 Visibly Affected WH-VA-19-C-120315 15120320-008 / 15120424-008	WH-VA-20 Visibly Affected WH-VA-20-C-120315 15120320-009 / 15120424-009	WH-VA-21 Visibly Affected WH-VA-21-C-120315 15120320-010 / 15120424-010	WH-VA-22 Visibly Affected WH-VA-22-C-120315 15120320-011 / 15120424-011
Lab Sample ID(s) Collection Depth (ft bgs) Sample Method Sample Date Comments				4 - 5 Grab 12/7/2015	0 - 0.25 Composite 12/3/2015	0 - 0.25 Composite 12/3/2015	0 - 0.25 Composite 12/3/2015	0 - 0.25 Composite 12/3/2015
INORG								
Aluminum	190000		190000	33000 (2400)	27000 (1200)	27000 (1200)	25000 (4400)	28000 (1200)
Ammonia	1900	3000	1900	--	--	--	--	--
Arsenic	12	29	12	7 J (0.48)	7.6 J (0.58)	6.3 J (0.62)	5.8 J (0.44)	8.3 J (0.58)
Barium	44000	8200	8200	150 (2.4)	200 (2.9)	140 (3.1)	120 (2.2)	150 (2.9)
Beryllium	2	320	2	UJ (2.4)	U (2.9)	U (3.1)	U (2.2)	U (2.9)
Boron	44000	1900	1900	U (24)	UJ (29)	UJ (31)	UJ (22)	UJ (29)
Calcium				3400 (2400)	12000 (1200)	8000 (1200)	6500 (880)	6800 (1200)
Chromium (total)	190000	190000	190000	33 J (2.4)	29 J (2.9)	28 J (3.1)	25 J (2.2)	30 J (2.9)
Cobalt	66	59	59	16 J (2.4)	13 J (2.9)	10 J (3.1)	9.2 J (2.2)	11 J (2.9)
Copper	8100		8100	9.9 J (2.4)	16 J (2.9)	26 J (3.1)	UJ (14)	20 J (2.9)
Iron	150000		150000	34000 J (2400)	32000 (1200)	27000 (1200)	28000 (880)	34000 (1200)
Lead	500	450	450	18 (2.4)	23 (2.9)	20 (3.1)	18 (2.2)	20 (2.9)
Magnesium				3900 (2400)	4200 (1200)	4100 (1200)	3200 (880)	3900 (1200)
Manganese	10000	2000	2000	880 J (120)	1200 (58)	460 (62)	450 (44)	550 (58)
Mercury	35	10	10	UJ (0.096)	0.083 J (0.12)	0.076 J (0.12)	0.05 J (0.088)	0.062 J (0.12)
Nickel	4400	650	650	18 J (2.4)	18 J (2.9)	16 J (3.1)	14 J (2.2)	17 J (2.9)
Nitrate	350000	1000	1000	U (11.8)	1.4 J (13.8)	1.4 J (14.2)	3.8 J (12.8)	16.6 (13.2)
Total Kjeldahl Nitrogen				297 (87.8)	2290 (104)	2630 (107)	2120 (97.7)	2250 (98.4)
Phosphorus (total)				322 (59.3)	712 (68.6)	1040 (70.6)	562 (63.4)	809 (65.4)
Potassium				1700 J (48)	2500 (58)	2900 (62)	2000 (44)	2900 (58)
Sodium				58 (48)	60 (58)	80 (62)	63 (44)	62 (58)
Sulfate				7.8 J (118)	6.9 J (138)	9.7 J (142)	11.3 J (128)	5.8 J (132)
Vanadium	15	290	15	47 J (2.4)	42 J (2.9)	37 J (3.1)	36 J (2.2)	40 J (2.9)
Zinc	66000	12000	12000	47 (9.6)	64 J (12)	75 J (12)	UJ (53)	64 J (12)

Notes:

- All concentrations are presented in milligrams per kilogram (mg/kg).
- Only compounds with at least one detection are shown.
- The Soil to Groundwater values for nitrate and nitrite are 100x the Federal maximum contaminant level (MCL).
- The values for chromium III are used to evaluate chromium (total).
- Blank cells in columns with criteria indicate that no value has been established.
- Concentrations that exceed the PAOEP Residential Direct Contact Values (0-15ft) are boldfaced.
- Concentrations that exceed the PAOEP Soil to Groundwater Values - Residential Used Aquifer - TDS <= 2500 MG/L are double underlined.

Abbreviations:

MSC -- Medium Specific Concentration.
GW -- Groundwater.
TDS -- Total Dissolved Solids.
U -- Not Detected.
MG/L - Milligrams Per Liter.
J -- Estimated Concentration.
R -- Unreliable Result.
() -- Reporting Limit.
-- -- Not Analyzed

TABLE 5-1
Soil Sampling Results
Lots E, Whisler Property
Miller Chemical & Fertilizer, Hanover, Pennsylvania

Location Location Type Field Sample ID	PADEP Residential Direct Contact Values (0-15ft)	PADEP Soil to GW Values - Residential Used Aquifer - TDS <= 2500 MG/L	PADEP Residential MSC	WH-VA-22b Visibly Affected WH-VA-22-GC-120915 15121025-009 / 15121030-009	WH-VA-22b Visibly Affected WH-VA-22-G2-3-120915 15121025-010 / 15121030-010	WH-VA-23 Visibly Affected WH-VA-23-C-120315 15120320-012 / 15120424-012	WH-VA-24 Visibly Affected WH-VA-24-C-120415 15120428-002 / 15120713-002	WH-VA-25 Visibly Affected WH-VA-25-C-120715 15120804-001 / 15120934-001
Lab Sample ID(s) Collection Depth (ft bgs) Sample Method Sample Date Comments				1 - 2 Grab 12/9/2015	2 - 3 Grab 12/9/2015	0 - 0.25 Composite 12/3/2015	0 - 0.25 Composite 12/4/2015	0 - 0.25 Composite 12/7/2015
INORG								
Aluminum	190000		190000	30000 (2800)	20000 (2500)	28000 (1200)	32000 (2500)	25000 (3000)
Ammonia	1900	3000	1900	--	--	--	--	--
Arsenic	12	29	12	4.2 J (0.57)	4.1 J (0.5)	6 J (0.6)	6.4 (0.5)	6.9 (0.61)
Barium	44000	8200	8200	150 (2.8)	87 (2.5)	140 (3)	160 (2.5)	130 (3)
Beryllium	2	320	2	UJ (2.8)	UJ (2.5)	U (3)	1.3 J (2.5)	U (3)
Boron	44000	1900	1900	UJ (28)	UJ (25)	UJ (30)	R (25)	U (30)
Calcium				4200 (2800)	1800 (50)	7600 (1200)	9100 (2500)	4900 J (3000)
Chromium (total)	190000	190000	190000	33 J (2.8)	28 J (2.5)	25 J (3)	25 J (2.5)	25 (3)
Cobalt	66	59	59	15 (2.8)	8.3 (2.5)	9.6 J (3)	11 (2.5)	8.6 (3)
Copper	8100		8100	9.3 J (2.8)	11 J (2.5)	26 J (3)	18 (2.5)	15 (3)
Iron	150000		150000	23000 (2800)	16000 (2500)	32000 (1200)	32000 (2500)	24000 (3000)
Lead	500	450	450	16 (2.8)	15 (2.5)	20 (3)	22 (2.5)	20 J (3)
Magnesium				3700 (2800)	1800 (50)	2900 (60)	UJ (4200)	2400 (61)
Manganese	10000	2000	2000	120 (2.8)	72 (2.5)	550 (60)	580 (130)	660 J (150)
Mercury	35	10	10	0.079 J (0.11)	UJ (0.099)	0.063 J (0.12)	0.11 (0.1)	0.067 J (0.12)
Nickel	4400	650	650	21 (2.8)	15 (2.5)	15 J (3)	17 (2.5)	13 (3)
Nitrate	350000	1000	1000	0.73 J (12.2)	0.92 J (11.5)	2.3 J (14.5)	0.85 J (14.1)	2.2 J (13.9)
Total Kjeldahl Nitrogen				400 (90.7)	271 (86.6)	2750 (111)	3090 (106)	2020 (105)
Phosphorus (total)				102 (12.2)	142 (54.3)	856 (72.2)	1030 J (71.2)	674 (70.9)
Potassium				1600 (57)	1200 (50)	2400 (60)	UJ (2200)	1700 (61)
Sodium				81 (57)	250 (50)	55 J (60)	61 (50)	35 J (61)
Sulfate				21.2 J (122)	18 J (115)	7.8 J (145)	5.9 J (141)	16.7 J (139)
Vanadium	15	290	15	47 (2.8)	31 (2.5)	35 J (3)	37 (2.5)	33 J (3)
Zinc	66000	12000	12000	60 J (11)	36 J (9.9)	72 J (12)	75 J (10)	59 J (12)

Notes:

- All concentrations are presented in milligrams per kilogram (mg/kg).
- Only compounds with at least one detection are shown.
- The Soil to Groundwater values for nitrate and nitrite are 100x the Federal maximum contaminant level (MCL).
- The values for chromium III are used to evaluate chromium (total).
- Blank cells in columns with criteria indicate that no value has been established.
- Concentrations that exceed the PADEP Residential Direct Contact Values (0-15ft) are **boldfaced**.
- Concentrations that exceed the PADEP Soil to Groundwater Values - Residential Used Aquifer - TDS<=2500 MG/L are double underlined.

Abbreviations:

- MSC -- Medium Specific Concentration.
- GW -- Groundwater.
- TDS -- Total Dissolved Solids.
- U -- Not Detected.
- MG/L - Milligrams Per Liter.
- J -- Estimated Concentration.
- R -- Unreliable Result.
- () -- Reporting Limit.
- -- Not Analyzed

TABLE 5-1
Soil Sampling Results
Lois E. Whisler Property
Miller Chemical & Fertilizer, Hanover, Pennsylvania

Location Location Type Field Sample ID Lab Sample ID(s) Collection Depth (ft bgs) Sample Method Sample Date Comments	PADEP Residential Direct Contact Values (0-15ft)	PADEP Soil to GW Values - Residential Used Aquifer - TDS <= 2500 MG/L	PADEP Residential MSC	WH-VA-25	WH-VA-25	WH-VA-26	WH-VA-26	WH-VA-26
				Visibly Affected WH-VA-25-GC-120915 15121025-007 / 15121030-007	Visibly Affected WH-VA-25-G2.5-3.5-120915 15121025-008 / 15121030-008	Visibly Affected WH-VA-26-C-120315 15120320-013 / 15120424-013	Visibly Affected WH-VA-26-GC-120915 15121024-002 / 15121029-002	Visibly Affected WH-VA-26-GD-120915 15121024-003 / 15121029-003
INORG								
Aluminum	190000		190000	14000 (2200)	26000 (2400)	35000 (5200)	11000 J (3000)	13000 J (2500)
Ammonia	1900	3000	1900	--	--	--	--	--
Arsenic	12	29	12	6.4 J (0.44)	5.8 J (0.49)	6.7 J (0.52)	8.8 J (0.6)	13 J (0.5)
Barium	44000	8200	8200	120 (2.2)	150 (2.4)	150 (2.6)	110 J (3)	60 J (2.5)
Beryllium	2	320	2	UJ (2.2)	UJ (2.4)	1.3 J (2.6)	UJ (3)	UJ (2.5)
Boron	44000	1900	1900	UJ (2.2)	UJ (2.4)	R (26)	UJ (30)	UJ (25)
Calcium				36000 (2200)	7100 (2400)	7400 (520)	1800 J (3000)	1400 (50)
Chromium (total)	190000	190000	190000	21 J (2.2)	21 J (2.4)	34 J (2.6)	36 J (3)	23 J (2.5)
Cobalt	66	59	59	13 (2.2)	8.5 (2.4)	11 J (2.6)	11 J (3)	24 J (2.5)
Copper	8100		8100	13 J (2.2)	11 J (2.4)	17 J (2.6)	8 J (3)	11 J (2.5)
Iron	150000		150000	19000 (2200)	20000 (2400)	37000 (5200)	16000 (3000)	15000 (5000)
Lead	500	450	450	17 (2.2)	21 (2.4)	25 (2.6)	18 J (3)	12 J (2.5)
Magnesium				3100 (2200)	4800 (2400)	4300 (520)	3600 (600)	1500 (50)
Manganese	10000	2000	2000	250 (110)	410 (120)	600 (26)	120 J (150)	1100 J (130)
Mercury	35	10	10	UJ (0.088)	0.058 J (0.097)	0.06 J (0.1)	0.067 J (0.12)	U (0.1)
Nickel	4400	650	650	14 (2.2)	13 (2.4)	19 J (2.6)	21 J (3)	17 J (2.5)
Nitrate	350000	1000	1000	0.73 J (12.2)	0.8 J (13.3)	2.1 J (13.4)	U (12.8)	0.69 J (11.5)
Total Kjeldahl Nitrogen				1040 (91.4)	973 (98.5)	3020 (100)	1090 (98.5)	199 (85.5)
Phosphorus (total)				258 (60.5)	292 (61.8)	616 (71)	197 (64.9)	63.7 (59)
Potassium				1700 (44)	1600 (49)	2500 (52)	1700 (60)	1200 (50)
Sodium				35 J (44)	50 (49)	53 (52)	38 J (60)	U (50)
Sulfate				20.3 J (122)	U (133)	11.2 J (134)	U (128)	5.7 J (115)
Vanadium	15	290	15	25 (2.2)	32 (2.4)	42 J (2.6)	48 J (3)	23 J (2.5)
Zinc	66000	12000	12000	49 J (8.8)	45 J (9.7)	75 J (10)	60 J (12)	33 J (10)

Notes:

- All concentrations are presented in milligrams per kilogram (mg/kg).
- Only compounds with at least one detection are shown.
- The Soil to Groundwater values for nitrate and nitrite are 100x the Federal maximum contaminant level (MCL).
- The values for chromium III are used to evaluate chromium (total).
- Blank cells in columns with criteria indicate that no value has been established.
- Concentrations that exceed the PADEP Residential Direct Contact Values (0-15ft) are **boldfaced**.
- Concentrations that exceed the PADEP Soil to Groundwater Values - Residential Used Aquifer - TDS <= 2500 MG/L are double underlined.

Abbreviations:

MSC -- Medium Specific Concentration.
 GW -- Groundwater.
 TDS -- Total Dissolved Solids.
 U -- Not Detected.
 MG/L - Milligrams Per Liter.
 J -- Estimated Concentration.
 R -- Unreliable Result.
 () -- Reporting Limit.
 -- -- Not Analyzed

TABLE 5-1
Soil Sampling Results
Lois E. Whisler Property
Miller Chemical & Fertilizer, Hanover, Pennsylvania

Location Location Type Field Sample ID Lab Sample ID(s) Collection Depth (ft bgs) Sample Method Sample Date Comments	PADEP Residential Direct Contact Values (0-15ft)	PADEP Soil to GW Values - Residential Used Aquifer - TDS <= 2500 MG/L	PADEP Residential MSC	WH-VA-27 Visibly Affected WH-VA-27-C-120315 15120320-014 / 15120424-014 0 - 0.25 Composite 12/3/2015	WH-VA-28 Visibly Affected WH-VA-28-C-120315 15120320-015 / 15120424-015 0 - 0.25 Composite 12/3/2015	WH-VA-29 Visibly Affected WH-VA-29-C-120315 15120320-016 / 15120424-016 0 - 0.25 Composite 12/3/2015	WH-VA-29 Visibly Affected WH-VA-29-GC-120915 15121024-001 / 15121029-001 1 - 2 Grab 12/9/2015	WH-VA-29 Visibly Affected WH-VA-29-GD-120915 15121025-017 / 15121030-017 4 - 5 Grab 12/9/2015
INORG								
Aluminum	190000		190000	37000 (5200)	38000 (4900)	35000 (4500)	19000 J (2000)	30000 (2100)
Ammonia	1900	3000	1900	--	--	--	--	--
Arsenic	12	29	12	7 J (0.52)	7.6 J (0.49)	9.3 J (0.45)	19 J (0.4)	4.4 J (0.42)
Barium	44000	8200	8200	160 (2.6)	160 (2.5)	150 (2.2)	55 J (2)	120 (2.1)
Beryllium	2	320	2	1.4 J (2.6)	1.4 J (2.5)	1.4 J (2.2)	1.1 J (2)	UJ (2.1)
Boron	44000	1900	1900	R (26)	R (25)	R (22)	UJ (20)	UJ (21)
Calcium				9000 (520)	6900 (490)	4900 (450)	1600 (40)	16000 (2100)
Chromium (total)	190000	190000	190000	36 J (2.6)	36 J (2.5)	41 J (2.2)	39 J (2)	27 J (2.1)
Cobalt	66	59	59	11 J (2.6)	11 J (2.5)	14 J (2.2)	18 J (2)	16 (2.1)
Copper	8100		8100	22 J (2.6)	23 J (2.5)	16 J (2.2)	16 J (2)	18 J (2.1)
Iron	150000		150000	38000 (5200)	41000 (4900)	55000 (4500)	67000 (2000)	39000 (2100)
Lead	500	450	450	25 (2.6)	25 (2.5)	26 (2.2)	29 J (2)	19 (2.1)
Magnesium				4800 (520)	5300 (490)	5000 (450)	3100 J (2000)	15000 (2100)
Manganese	10000	2000	2000	770 (26)	760 (25)	790 (22)	210 J (100)	190 (2.1)
Mercury	35	10	10	0.065 J (0.1)	0.068 J (0.099)	0.064 J (0.089)	0.061 J (0.081)	UJ (0.085)
Nickel	4400	650	650	20 J (2.6)	20 J (2.5)	23 J (2.2)	24 J (2)	25 (2.1)
Nitrate	350000	1000	1000	1.3 J (13)	5.2 J (13.8)	1 J (12.9)	0.98 J (12.3)	U (12.4)
Total Kjeldahl Nitrogen				2750 (97.7)	3150 (106)	1600 (97.7)	895 (92.4)	308 (94.2)
Phosphorus (total)				1010 J (65.4)	1230 (67.2)	405 (65.4)	80.5 (59.6)	855 (64.4)
Potassium				3800 (520)	4000 (490)	2100 (45)	1200 (40)	7500 (2100)
Sodium				81 (52)	100 (49)	45 (45)	29 J (40)	50 (42)
Sulfate				7 J (130)	25.6 J (138)	3.1 J (129)	3.7 J (123)	U (124)
Vanadium	15	290	15	44 J (2.6)	45 J (2.5)	51 J (2.2)	54 J (2)	32 (2.1)
Zinc	66000	12000	12000	90 J (10)	93 J (9.9)	64 J (8.9)	37 J (8.1)	47 J (8.5)

Notes:

- All concentrations are presented in milligrams per kilogram (mg/kg).
- Only compounds with at least one detection are shown.
- The Soil to Groundwater values for nitrate and nitrite are 100x the Federal maximum contaminant level (MCL).
- The values for chromium III are used to evaluate chromium (total).
- Blank cells in columns with criteria indicate that no value has been established.
- Concentrations that exceed the PADEP Residential Direct Contact Values (0-15ft) are **boldfaced**.
- Concentrations that exceed the PADEP Soil to Groundwater Values - Residential Used Aquifer - TDS <= 2500 MG/L are double underlined.

Abbreviations:

MSC -- Medium Specific Concentration.
 GW -- Groundwater.
 TDS -- Total Dissolved Solids.
 U -- Not Detected.
 MG/L - Milligrams Per Liter.
 J -- Estimated Concentration.
 R -- Unreliable Result.
 () -- Reporting Limit.
 -- -- Not Analyzed

TABLE 5-1
Soil Sampling Results
Lois E. Whisler Property
Miller Chemical & Fertilizer, Hanover, Pennsylvania

Location Location Type Field Sample ID Lab Sample ID(s) Collection Depth (ft bgs) Sample Method Sample Date Comments	PADEP Residential Direct Contact Values (0-15ft)	PADEP Soil to GW Values - Residential Used Aquifer - TDS <= 2500 MG/L	PADEP Residential MSC	WH-VA-30 Visibly Affected WH-VA-30-C-120315 15120320-017 / 15120424-017 0 - 0.25 Composite 12/3/2015	WH-VA-31 Visibly Affected WH-VA-31-C-120315 15120320-018 / 15120424-018 0 - 0.25 Composite 12/3/2015	WH-VA-32 Visibly Affected WH-VA-32-C-120315 15120320-019 / 15120424-019 0 - 0.25 Composite 12/3/2015	WH-VA-32 Visibly Affected WH-VA-32-GC-120815 15120910-031 / 15121021-011 1 - 2 Grab 12/8/2015	WH-VA-32 Visibly Affected WH-VA-32-GD-120815 15120910-032 / 15121021-012 4 - 5 Grab 12/8/2015
INDRG								
Aluminum	190000		190000	38000 (5400)	31000 (5400)	33000 (5000)	36000 (2100)	27000 (2600)
Ammonia	1900	3000	1900	--	--	--	--	--
Arsenic	12	29	12	9.8 J (0.54)	9.4 J (0.54)	9.3 J (0.54)	14 (0.43)	11 (0.52)
Barium	44000	8200	8200	220 (2.7)	230 (2.7)	170 (2.5)	100 J (2.1)	170 J (2.6)
Beryllium	2	320	2	1.5 J (2.7)	1.5 J (2.7)	U (2.5)	1.8 J (2.1)	U (2.6)
Boron	44000	1900	1900	R (27)	R (27)	R (25)	UJ (21)	UJ (26)
Calcium				6900 (540)	6900 (540)	7300 (500)	8700 (2100)	2000 (52)
Chromium (total)	190000	190000	190000	39 J (2.7)	35 J (2.7)	33 J (2.5)	56 (2.1)	33 (2.6)
Cobalt	66	59	59	14 J (2.7)	14 J (2.7)	12 J (2.5)	22 (2.1)	26 (2.6)
Copper	8100		8100	28 J (2.7)	UJ (15)	20 J (2.5)	17 J (2.1)	16 J (2.6)
Iron	150000		150000	54000 (5400)	45000 (5400)	41000 (5000)	93000 (4300)	66000 (2600)
Lead	500	450	450	32 (2.7)	31 (2.7)	25 (2.5)	34 (2.1)	30 (2.6)
Magnesium				4900 (540)	4400 (540)	4900 (500)	6400 (2100)	2200 (52)
Manganese	10000	2000	2000	1400 (27)	1500 (27)	1300 (25)	1300 (110)	<u>2700 (130)</u>
Mercury	35	10	10	0.064 J (0.11)	0.063 J (0.11)	0.065 J (0.1)	0.057 J (0.086)	U (0.1)
Nickel	4400	650	650	22 J (2.7)	21 J (2.7)	20 J (2.5)	28 J (2.1)	22 J (2.6)
Nitrate	350000	1000	1000	1.1 J (13.6)	1.2 J (12.4)	1.4 J (13.7)	1.5 J (12.4)	1.2 J (11.6)
Total Kjeldahl Nitrogen				2210 (102)	2130 (93.9)	2210 (101)	550 (92.5)	391 (88)
Phosphorus (total)				471 (65.4)	562 (61.4)	855 (65.6)	105 J (58)	215 J (55.1)
Potassium				2400 (54)	2200 (54)	2400 (50)	1100 (43)	1200 (52)
Sodium				79 (54)	47 (54)	59 (50)	UJ (31)	UJ (52)
Sulfate				9.5 J (136)	6.9 J (124)	33.6 J (137)	9.2 J (124)	16 J (116)
Vanadium	15	290	15	53 J (2.7)	52 J (2.7)	43 J (2.5)	57 (2.1)	44 (2.6)
Zinc	66000	12000	12000	89 J (11)	78 J (11)	91 J (10)	60 J (8.6)	UJ (39)

Notes:

- All concentrations are presented in milligrams per kilogram (mg/kg).
- Only compounds with at least one detection are shown.
- The Soil to Groundwater values for nitrate and nitrite are 100x the Federal maximum contaminant level (MCL).
- The values for chromium III are used to evaluate chromium (total).
- Blank cells in columns with criteria indicate that no value has been established.
- Concentrations that exceed the PADEP Residential Direct Contact Values (0-15ft) are **boldfaced**.
- Concentrations that exceed the PADEP Soil to Groundwater Values - Residential Used Aquifer - TDS <= 2500 MG/L are double underlined.

Abbreviations:

MSC -- Medium Specific Concentration.
 GW -- Groundwater.
 TDS -- Total Dissolved Solids.
 U -- Not Detected.
 MG/L - Milligrams Per Liter.
 J -- Estimated Concentration.
 R -- Unreliable Result.
 () -- Reporting Limit.
 -- -- Not Analyzed

TABLE 5-1
Soil Sampling Results
Lois E. Whisler Property
Miller Chemical & Fertilizer, Hanover, Pennsylvania

Location Location Type Field Sample ID	PADEP Residential Direct Contact Values (0-15ft)	PADEP Soil to GW Values - Residential Used Aquifer - TDS <= 2500 MG/L	PADEP Residential MSC	WH-VA-33 Visibly Affected WH-VA-33-C-120315 15120320-020 / 15120424-020 0 - 0.25 Composite 12/3/2015	WH-VA-34 Visibly Affected WH-VA-34-C-120315 15120321-001 / 15120425-001 0 - 0.25 Composite 12/3/2015	WH-VA-35 Visibly Affected WH-VA-35-C-120915 15121025-013 / 15121030-013 0 - 0.25 Composite 12/9/2015	WH-VA-35 Visibly Affected WH-VA-35-GC-120815 15120910-030 / 15121021-010 1 - 2 Grab 12/8/2015	WH-VA-35 Visibly Affected WH-VA-35-GD-120815 15120910-029 / 15121021-009 4 - 5 Grab 12/8/2015
Lab Sample ID(s) Collection Depth (ft bgs) Sample Method Sample Date Comments								
INORG								
Aluminum	190000		190000	29000 (1200)	28000 (3000)	31000 (3100)	42000 (2300)	26000 (2600)
Ammonia	1900	3000	1900	--	--	--	--	--
Arsenic	12	29	12	8.6 J (0.59)	6.9 (0.6)	6.5 J (0.62)	6 (0.46)	8.4 (0.52)
Barium	44000	8200	8200	120 (2.9)	190 (3)	250 (3.1)	150 J (2.3)	61 J (2.6)
Beryllium	2	320	2	U (2.9)	UJ (3)	UJ (3.1)	U (2.3)	U (2.6)
Boron	44000	1900	1900	R (29)	U (30)	UJ (31)	UJ (23)	UJ (26)
Calcium				14000 (1200)	32000 (3000)	16000 (3100)	7200 (2300)	1800 (52)
Chromium (total)	190000	190000	190000	34 J (2.9)	30 (3)	25 J (3.1)	31 (2.3)	39 (2.6)
Cobalt	66	59	59	16 J (2.9)	12 (3)	11 (3.1)	13 (2.3)	23 (2.6)
Copper	8100		8100	18 J (2.9)	13 (3)	12 J (3.1)	12 J (2.3)	16 J (2.6)
Iron	150000		150000	43000 (1200)	27000 (3000)	24000 (3100)	35000 (2300)	66000 (2600)
Lead	500	450	450	22 (2.9)	31 (3)	31 (3.1)	19 (2.3)	28 (2.6)
Magnesium				7200 (1200)	7700 (3000)	9800 (3100)	6700 (2300)	4300 (2600)
Manganese	10000	2000	2000	1100 (59)	1200 (150)	2000 (150)	960 (120)	450 (130)
Mercury	35	10	10	0.062 J (0.12)	0.084 J (0.12)	0.062 J (0.12)	0.058 J (0.093)	U (0.1)
Nickel	4400	650	650	20 J (2.9)	16 (3)	17 (3.1)	21 J (2.3)	19 J (2.6)
Nitrate	350000	1000	1000	2.7 J (13.3)	1.6 J (13.1)	0.85 J (14.2)	U (13.6)	U (11.4)
Total Kjeldahl Nitrogen				1340 (98.5)	2050 (99.1)	2360 (107)	873 (102)	273 (87)
Phosphorus (total)				576 (69.8)	639 (62.7)	565 (72.9)	114 J (70)	296 J (58.1)
Potassium				1800 (59)	1800 (60)	2000 (62)	1400 (46)	1100 (52)
Sodium				77 (59)	80 (60)	66 (62)	UJ (42)	UJ (52)
Sulfate				27.4 J (133)	17.8 J (131)	3.7 J (142)	9 J (136)	15.3 J (114)
Vanadium	15	290	15	42 J (2.9)	41 (3)	40 (3.1)	42 (2.3)	43 (2.6)
Zinc	66000	12000	12000	73 J (12)	79 (12)	65 J (12)	57 J (9.3)	UJ (40)

Notes:

- All concentrations are presented in milligrams per kilogram (mg/kg).
- Only compounds with at least one detection are shown.
- The Soil to Groundwater values for nitrate and nitrite are 100x the Federal maximum contaminant level (MCL).
- The values for chromium III are used to evaluate chromium (total).
- Blank cells in columns with criteria indicate that no value has been established.
- Concentrations that exceed the PADEP Residential Direct Contact Values (0-15ft) are **boldfaced**.
- Concentrations that exceed the PADEP Soil to Groundwater Values - Residential Used Aquifer - TDS <= 2500 MG/L are double underlined.

Abbreviations:

MSC -- Medium Specific Concentration.
 GW -- Groundwater.
 TDS -- Total Dissolved Solids.
 U -- Not Detected.
 MG/L - Milligrams Per Liter.
 J -- Estimated Concentration.
 R -- Unreliable Result.
 () -- Reporting Limit.
 -- -- Not Analyzed

**TABLE 5-1
Soil Sampling Results
Lois E. Whisler Property
Miller Chemical & Fertilizer, Hanover, Pennsylvania**

Location Location Type Field Sample ID	PADEP Residential Direct Contact Values (0-15ft)	PADEP Soil to GW Values - Residential Used Aquifer - TDS <= 2500 MG/L	PADEP Residential MSC	WH-VA-35 Visibly Affected DUP-11-120815 15120910-034 / 15121021-014	WH-VA-36 Visibly Affected WH-VA-36-C-121415 15121631-001 / 15121635-001	WH-VA-37 Visibly Affected WH-VA-37-C-120415 15120428-003 / 15120713-003	WH-VA-38 Visibly Affected WH-VA-38-C-120315 15120321-002 / 15120425-002	WH-VA-38 Visibly Affected WH-VA-38-GC-120815 15120910-027 / 15121021-007
Lab Sample ID(s) Collection Depth (ft bgs) Sample Method Sample Date Comments				4 - 5 Grab 12/8/2015 Field Duplicate	0 - 0.25 Composite 12/14/2015	0 - 0.25 Composite 12/4/2015	0 - 0.25 Composite 12/3/2015	1 - 2 Grab 12/8/2015
INORG								
Aluminum	190000		190000	24000 (2200)	33000 (3000)	38000 (3000)	32000 (2700)	38000 (2900)
Ammonia	1900	3000	1900	--	--	--	--	--
Arsenic	12	29	12	7.6 J (0.43)	6.8 (0.6)	6.6 (0.6)	5.7 (0.53)	8.7 (0.58)
Barium	44000	8200	8200	52 J (2.2)	250 (3)	230 (3)	200 (2.7)	130 J (2.9)
Beryllium	2	320	2	U (2.2)	U (3)	1.5 J (3)	U (2.7)	U (2.9)
Boron	44000	1900	1900	U (22)	U (30)	R (30)	U (27)	U (29)
Calcium				1600 (43)	9300 (3000)	9200 (3000)	19000 (2700)	4600 (2900)
Chromium (total)	190000	190000	190000	29 (2.2)	28 (3)	32 J (3)	33 (2.7)	40 (2.9)
Cobalt	66	59	59	22 (2.2)	12 (3)	16 (3)	11 (2.7)	14 (2.9)
Copper	8100		8100	13 J (2.2)	14 (3)	15 (3)	15 (2.7)	14 J (2.9)
Iron	150000		150000	61000 (2200)	34000 (3000)	34000 (3000)	27000 (2700)	57000 (2900)
Lead	500	450	450	24 (2.2)	32 (3)	33 (3)	29 (2.7)	20 (2.9)
Magnesium				4000 (2200)	U (4300)	U (5300)	7700 (2700)	6500 (2900)
Manganese	10000	2000	2000	560 (110)	2000 (150)	<u>2100 (150)</u>	1200 (130)	520 (140)
Mercury	35	10	10	U (0.086)	0.07 J (0.12)	0.088 J (0.12)	0.09 J (0.11)	0.062 J (0.12)
Nickel	4400	650	650	16 J (2.2)	17 (3)	20 (3)	18 (2.7)	25 J (2.9)
Nitrate	350000	1000	1000	U (11.8)	U (14.5)	U (14.5)	0.88 J (14.7)	1 J (12.5)
Total Kjeldahl Nitrogen				229 (90)	2710 (110)	3470 (109)	2550 (110)	826 (95.9)
Phosphorus (total)				151 J (59.3)	546 (71.9)	602 J (71.8)	655 J (73.1)	107 J (61)
Potassium				980 (43)	2500 (60)	U (2700)	2500 (53)	2000 (58)
Sodium				U (43)	U (33)	72 (60)	68 (53)	U (34)
Sulfate				11.8 J (118)	U (145)	U (145)	7.9 J (147)	7 J (125)
Vanadium	15	290	15	<u>35 (2.2)</u>	<u>44 (3)</u>	<u>46 (3)</u>	<u>43 (2.7)</u>	<u>51 (2.9)</u>
Zinc	66000	12000	12000	U (34)	64 (12)	72 J (12)	71 (11)	62 J (12)

Notes:

- All concentrations are presented in milligrams per kilogram (mg/kg).
- Only compounds with at least one detection are shown.
- The Soil to Groundwater values for nitrate and nitrite are 100x the Federal maximum contaminant level (MCL).
- The values for chromium III are used to evaluate chromium (total).
- Blank cells in columns with criteria indicate that no value has been established.
- Concentrations that exceed the PADEP Residential Direct Contact Values (0-15ft) are **boldfaced**.
- Concentrations that exceed the PADEP Soil to Groundwater Values - Residential Used Aquifer - TDS <= 2500 MG/L are double underlined.

Abbreviations:

MSC -- Medium Specific Concentration.
 GW -- Groundwater.
 TDS -- Total Dissolved Solids.
 U -- Not Detected.
 MG/L - Milligrams Per Liter.
 J -- Estimated Concentration.
 R -- Unreliable Result.
 () -- Reporting Limit.
 -- -- Not Analyzed

TABLE 5-1
Soil Sampling Results
Lois E. Whister Property
Miller Chemical & Fertilizer, Hanover, Pennsylvania

Location Location Type Field Sample ID Lab Sample ID(a) Collection Depth (ft bgs) Sample Method Sample Date Comments	PADEP Residential Direct Contact Values (0-15ft)	PADEP Soil to GW Values - Residential Used Aquifer - TDS <= 2500 MG/L	PADEP Residential MSC	WH-VA-38 Visibly Affected WH-VA-38-GD-120815 15120910-028 / 15121021-008 4 - 5 Grab 12/8/2015	WH-VA-39 Visibly Affected WH-VA-39-C-120815 15120910-001 / 15121020-001 0 - 0.25 Composite 12/8/2015	WH-VA-40 Visibly Affected WH-VA-40-C-120315 15120321-003 / 15120425-003 0 - 0.25 Composite 12/3/2015	WH-VA-41 Visibly Affected WH-VA-41-C-120315 15120321-004 / 15120425-004 0 - 0.25 Composite 12/3/2015	WH-VA-41 Visibly Affected WH-VA-41-GC-120815 15120910-025 / 15121021-005 1 - 2 Grab 12/8/2015
INORG								
Aluminum	190000		190000	50000 (2600)	35000 (4600)	45000 (2700)	31000 (2800)	28000 (2600)
Ammonia	1900	3000	1900	--	--	--	--	--
Arsenic	12	29	12	4.2 (0.52)	5.9 (0.46)	7.8 (0.55)	6.3 (0.56)	10 (0.52)
Barium	44000	8200	8200	100 J (2.6)	180 (2.3)	250 (2.7)	150 (2.8)	53 J (2.6)
Beryllium	2	320	2	U (2.6)	1.4 J (2.3)	1.6 J (2.7)	UJ (2.8)	1.3 J (2.6)
Boron	44000	1900	1900	UJ (26)	R (23)	U (27)	U (28)	UJ (26)
Calcium				6000 (2600)	18000 (4600)	11000 (2700)	7300 (2800)	15000 (52)
Chromium (total)	190000	190000	190000	25 (2.6)	29 (2.3)	40 (2.7)	30 (2.8)	36 (2.6)
Cobalt	66	59	59	6.9 (2.6)	10 (2.3)	15 (2.7)	12 (2.8)	30 (2.6)
Copper	8100		8100	24 J (2.6)	12 (2.3)	15 (2.7)	13 (2.8)	18 J (2.6)
Iron	150000		150000	54000 (2600)	37000 (4600)	41000 (2700)	30000 (2800)	73000 (2600)
Lead	500	450	450	17 (2.6)	25 (2.3)	35 (2.7)	27 (2.8)	29 (2.6)
Magnesium				5200 (2600)	7600 (4600)	5900 (2700)	4600 (2800)	4000 (2600)
Manganese	10000	2000	2000	200 (130)	1600 J (230)	<u>2100 (140)</u>	740 (140)	390 (130)
Mercury	35	10	10	0.074 J (0.1)	0.046 J (0.093)	0.084 J (0.11)	0.067 J (0.11)	U (0.1)
Nickel	4400	650	650	26 J (2.6)	16 (2.3)	23 (2.7)	17 (2.8)	19 J (2.6)
Nitrate	350000	1000	1000	U (12.2)	0.81 J (13.5)	1.1 J (13.7)	U (13.6)	U (11.9)
Total Kjeldahl Nitrogen				501 (92.3)	1780 (103)	2490 (103)	2510 (101)	414 (89.5)
Phosphorus (total)				1300 J (62.4)	371 J (64)	329 (67.6)	873 (66.3)	461 J (56.5)
Potassium				1900 (52)	1900 (46)	2300 (55)	2100 (56)	730 (52)
Sodium				UJ (30)	33 J (46)	85 (55)	75 (56)	UJ (52)
Sulfate				8 J (122)	5.1 J (135)	24.4 J (137)	U (136)	12.3 J (119)
Vanadium	15	290	15	27 (2.6)	41 (2.3)	51 (2.7)	42 (2.8)	42 (2.6)
Zinc	66000	12000	12000	UJ (39)	54 (9.3)	83 (11)	55 (11)	UJ (41)

Notes:

- All concentrations are presented in milligrams per kilogram (mg/kg).
- Only compounds with at least one detection are shown.
- The Soil to Groundwater values for nitrate and nitrite are 100x the Federal maximum contaminant level (MCL).
- The values for chromium III are used to evaluate chromium (total).
- Blank cells in columns with criteria indicate that no value has been established.
- Concentrations that exceed the PADEP Residential Direct Contact Values (0-15ft) are **boldfaced**.
- Concentrations that exceed the PADEP Soil to Groundwater Values - Residential Used Aquifer - TDS <= 2500 MG/L are double underlined.

Abbreviations:

MSC -- Medium Specific Concentration.
 GW -- Groundwater.
 TDS -- Total Dissolved Solids.
 U -- Not Detected.
 MG/L - Milligrams Per Liter.
 J -- Estimated Concentration.
 R -- Unreliable Result.
 () -- Reporting Limit.
 -- -- Not Analyzed

**TABLE 5-1
Soil Sampling Results
Lois E. Whisler Property
Miller Chemical & Fertilizer, Hanover, Pennsylvania**

Location Location Type Field Sample ID Lab Sample ID(s) Collection Depth (ft bgs) Sample Method Sample Date Comments	PADEP Residential Direct Contact Values (0-15ft)	PADEP Soil to GW Values - Residential Used Aquifer - TDS <= 2500 MG/L	PADEP Residential MSC	WH-VA-41 Visibly Affected WH-VA-41-GD-120815 15120910-026 / 15121021-006 4 - 5 Grab 12/8/2015	WH-VA-42 Visibly Affected WH-VA-42-C-120915 15121025-015 / 15121030-015 0 - 0.25 Composite 12/9/2015	WH-BS-13 Visibly Affected WH-BS-13-C-120215 15120319-005 / 15120423-005 0 - 0.25 Composite 12/2/2015	WH-BS-14 Visibly Affected WH-BS-14-C-120215 15120319-006 / 15120423-006 0 - 0.25 Composite 12/2/2015	WH-BS-15 Visibly Affected WH-BS-15-C-120215 15120319-007 / 15120423-007 0 - 0.25 Composite 12/2/2015
INORG								
Aluminum	190000		190000	52000 (2800)	28000 (5300)	29000 (3100)	26000 (2800)	25000 (3000)
Ammonia	1900	3000	1900	--	--	--	--	--
Arsenic	12	29	12	5.5 (0.55)	6.8 J (1.1)	6.3 J (0.62)	6.8 J (0.56)	6.2 J (0.6)
Barium	44000	8200	8200	120 J (2.8)	140 (5.3)	170 (3.1)	140 (2.8)	130 (3)
Beryllium	2	320	2	U (2.8)	U (5.3)	U (3.1)	U (2.8)	U (3)
Boron	44000	1900	1900	U (28)	U (53)	U (31)	U (28)	U (30)
Calcium				7000 (2800)	13000 (5300)	7000 (3100)	14000 (2800)	U (14000)
Chromium (total)	190000	190000	190000	28 (2.8)	29 J (5.3)	30 (3.1)	28 (2.8)	26 (3)
Cobalt	66	59	59	15 (2.8)	11 (5.3)	11 (3.1)	11 (2.8)	9.7 (3)
Copper	8100		8100	24 J (2.8)	150 J (5.3)	20 (3.1)	15 (2.8)	12 (3)
Iron	150000		150000	80000 (2800)	23000 (5300)	27000 (3100)	31000 (2800)	24000 (3000)
Lead	500	450	450	20 (2.8)	21 (5.3)	30 (3.1)	21 (2.8)	24 (3)
Magnesium				13000 (2800)	3800 (110)	3900 (3100)	4800 (2800)	2600 (60)
Manganese	10000	2000	2000	430 (140)	740 (270)	690 (160)	740 (140)	610 J (150)
Mercury	35	10	10	0.075 J (0.11)	U (0.21)	0.087 J (0.12)	0.068 J (0.11)	0.076 J (0.12)
Nickel	4400	650	650	34 J (2.8)	18 (5.3)	18 J (3.1)	16 J (2.8)	14 J (3)
Nitrate	350000	1000	1000	1.1 J (13.6)	1.4 J (23.3)	10.6 J (14.7)	8.1 J (13.9)	1.7 J (13.8)
Total Kjeldahl Nitrogen				569 (105)	6710 (173)	3760 (111)	4370 (104)	2970 (104)
Phosphorus (total)				512 J (64)	1950 (113)	826 (72.8)	708 (69.6)	476 J (68.2)
Potassium				2200 (55)	2300 (110)	2500 (62)	2200 (56)	1900 (60)
Sodium				U (40)	110 J (110)	U (130)	U (48)	U (36)
Sulfate				14.9 J (136)	25.6 J (233)	16.4 J (147)	3.9 J (139)	U (138)
Vanadium	15	290	15	<u>32 (2.8)</u>	<u>34 (5.3)</u>	<u>39 (3.1)</u>	<u>36 (2.8)</u>	<u>36 (3)</u>
Zinc	66000	12000	12000	64 J (11)	230 J (21)	81 J (12)	U (61)	U (54)

Notes:

- All concentrations are presented in milligrams per kilogram (mg/kg).
- Only compounds with at least one detection are shown.
- The Soil to Groundwater values for nitrate and nitrite are 100x the Federal maximum contaminant level (MCL).
- The values for chromium III are used to evaluate chromium (total).
- Blank cells in columns with criteria indicate that no value has been established.
- Concentrations that exceed the PADEP Residential Direct Contact Values (0-15ft) are **boldfaced**.
- Concentrations that exceed the PADEP Soil to Groundwater Values - Residential Used Aquifer - TDS <= 2500 MG/L are double underlined.

Abbreviations:

MSC -- Medium Specific Concentration.
 GW -- Groundwater.
 TDS -- Total Dissolved Solids.
 U -- Not Detected.
 MG/L - Milligrams Per Liter.
 J -- Estimated Concentration.
 R -- Unreliable Result.
 () -- Reporting Limit.
 -- -- Not Analyzed

TABLE 5-1
Soil Sampling Results
Lois E. Whisler Property
Miller Chemical & Fertilizer, Hanover, Pennsylvania

Location Location Type Field Sample ID	PADEP Residential Direct Contact Values (0-15R)	PADEP Soil to GW Values - Residential Used Aquifer - TDS <= 2500 MG/L	PADEP Residential MSC	WH-BS-15 Visibly Affected DUP-12-120215 15120321-005 / 15120425-005 0 - 0.25 Composite 12/2/2015 Field Duplicate	WH-BS-16 Visibly Affected WH-BS-16-C-120215 15120319-008 / 15120423-008 0 - 0.25 Composite 12/2/2015	WH-DA-08 Disturbed Area WH-DA-08-C-120915 15121025-005 / 15121030-005 0 - 0.25 Composite 12/9/2015	WH-DA-08 Disturbed Area DUP-15-120915 15121025-016 / 15121030-016 0 - 0.25 Composite 12/9/2015 Field Duplicate	WH-DA-08 Disturbed Area WH-DA-08-G4.5-5-120915 15121024-006 / 15121029-006 4.5 - 5 Grab 12/9/2015
INORG								
Aluminum	190000		190000	25000 (3100)	22000 (2200)	27000 (2100)	26000 (2200)	35000 J (3200)
Ammonia	1900	3000	1900	--	--	--	--	--
Arsenic	12	29	12	5.6 (0.62)	5.5 J (0.45)	6.6 J (0.43)	8.2 J (0.44)	6.2 J (0.65)
Barium	44000	8200	8200	120 (3.1)	110 (2.2)	170 (2.1)	220 (2.2)	130 J (3.2)
Beryllium	2	320	2	UJ (3.1)	UJ (2.2)	UJ (2.1)	UJ (2.2)	UJ (3.2)
Boron	44000	1900	1900	U (31)	UJ (22)	UJ (21)	UJ (22)	UJ (32)
Calcium				UJ (5000)	7700 (2200)	3000 (2100)	3100 (2200)	3100 (65)
Chromium (total)	190000	190000	190000	27 (3.1)	23 (2.2)	24 J (2.1)	26 J (2.2)	27 J (3.2)
Cobalt	66	59	59	8.3 (3.1)	8.9 (2.2)	11 (2.1)	13 (2.2)	10 J (3.2)
Copper	8100		8100	14 (3.1)	9.6 (2.2)	13 J (2.1)	11 J (2.2)	21 J (3.2)
Iron	150000		150000	21000 (3100)	24000 (2200)	28000 (2100)	38000 (2200)	38000 (3200)
Lead	500	450	450	25 (3.1)	22 (2.2)	20 (2.1)	28 (2.2)	13 J (3.2)
Magnesium				UJ (2500)	4000 (2200)	4200 (2100)	3700 (2200)	5900 J (3200)
Manganese	10000	2000	2000	360 (160)	610 (110)	850 J (110)	1600 J (110)	280 J (160)
Mercury	35	10	10	0.098 J (0.12)	0.056 J (0.09)	0.056 J (0.086)	UJ (0.089)	0.082 J (0.13)
Nickel	4400	650	650	14 (3.1)	11 J (2.2)	15 (2.1)	15 (2.2)	28 J (3.2)
Nitrate	350000	1000	1000	UJ (14)	1.9 J (13.3)	4.5 J (12.5)	2.5 J (12.5)	U (13.4)
Total Kjeldahl Nitrogen				2820 (105)	2080 (102)	1180 (94.6)	1510 (94.4)	504 (97.6)
Phosphorus (total)				473 (66.1)	574 (66.4)	268 (58.9)	306 (65.3)	920 (62.9)
Potassium				2000 (62)	1600 (45)	2700 (2100)	2800 (2200)	4800 (3200)
Sodium				49 J (62)	UJ (34)	37 J (43)	35 J (44)	43 J (65)
Sulfate				U (140)	U (133)	5.2 J (125)	5 J (125)	U (134)
Vanadium	15	290	15	35 (3.1)	33 (2.2)	35 (2.1)	45 (2.2)	32 J (3.2)
Zinc	66000	12000	12000	61 (12)	UJ (43)	43 J (8.6)	41 J (8.9)	79 J (13)

Notes:

- All concentrations are presented in milligrams per kilogram (mg/kg).
- Only compounds with at least one detection are shown.
- The Soil to Groundwater values for nitrate and nitrite are 100x the Federal maximum contaminant level (MCL).
- The values for chromium III are used to evaluate chromium (total).
- Blank cells in columns with criteria indicate that no value has been established.
- Concentrations that exceed the PADEP Residential Direct Contact Values (0-15ft) are boldfaced.
- Concentrations that exceed the PADEP Soil to Groundwater Values - Residential Used Aquifer - TDS <= 2500 MG/L are double underlined.

Abbreviations:

MSC -- Medium Specific Concentration.
GW -- Groundwater.
TDS -- Total Dissolved Solids.
U -- Not Detected.
MG/L - Milligrams Per Liter.
J -- Estimated Concentration.
R -- Unreliable Result.
() -- Reporting Limit.
-- -- Not Analyzed

TABLE 5-1
Soil Sampling Results
Lois E. Whisler Property
Miller Chemical & Fertilizer, Hanover, Pennsylvania

Location Location Type Field Sample ID	PADEP Residential Direct Contact Values (0-15ft)	PADEP Soil to GW Values - Residential Used Aquifer - TDS <= 2500 MG/L	PADEP Residential MSC	WH-DA-08 Disturbed Area WH-DA-08-G5.5-6-120915 15121024-007 / 15121029-007 5.5 - 6 Grab 12/9/2015	WH-DA-12 Disturbed Area WH-DA-12-C-120915 15121025-006 / 15121030-006 0 - 0.25 Composite 12/9/2015	WH-DA-12 Disturbed Area WH-DA-12-G4.5-5-120915 15121024-008 / 15121029-008 4.5 - 5 Grab 12/9/2015	WH-BS-01 Boundary WH-BS-01-C-120215 15120318-013 / 15120422-013 0 - 0.25 Composite 12/2/2015	WH-BS-02 Boundary WH-BS-02-C-120215 15120318-014 / 15120422-014 0 - 0.25 Composite 12/2/2015
INORG								
Aluminum	190000		190000	34000 (2600)	22000 (2500)	36000 (2600)	22000 (2900)	32000 (2800)
Ammonia	1900	3000	1900	--	--	--	--	--
Arsenic	12	29	12	11 J (0.52)	7.9 J (0.5)	6.2 J (0.52)	4.8 (0.59)	4.6 (0.47)
Barium	44000	8200	8200	120 J (2.6)	150 (2.5)	97 J (2.6)	120 (3)	190 (2.3)
Beryllium	2	320	2	UJ (2.6)	UJ (2.5)	UJ (2.6)	U (3)	U (2.3)
Boron	44000	1900	1900	UJ (26)	UJ (25)	UJ (26)	UJ (30)	UJ (23)
Calcium				4400 (2600)	2000 (50)	4800 (2600)	UJ (9700)	UJ (5500)
Chromium (total)	190000	190000	190000	31 J (2.6)	24 J (2.5)	25 J (2.6)	22 (3)	21 (2.3)
Cobalt	66	59	59	23 J (2.6)	16 (2.5)	11 J (2.6)	7.9 (3)	12 (2.3)
Copper	8100		8100	33 J (2.6)	10 J (2.5)	31 J (2.6)	9.4 (3)	11 (2.3)
Iron	150000		150000	59000 (2600)	28000 (2500)	61000 (2600)	26000 (2900)	34000 (2800)
Lead	500	450	450	19 J (2.6)	28 (2.5)	19 J (2.6)	22 (3)	25 (2.3)
Magnesium				8700 (2600)	2000 (50)	12000 (2600)	2500 (59)	UJ (4400)
Manganese	10000	2000	2000	960 J (130)	1300 (120)	220 J (130)	520 (140)	1900 (140)
Mercury	35	10	10	U (0.1)	0.054 J (0.1)	0.071 J (0.1)	U (0.12)	U (0.093)
Nickel	4400	650	650	42 J (2.6)	11 (2.5)	35 J (2.6)	11 (3)	13 (2.3)
Nitrate	350000	1000	1000	U (13.4)	2.8 J (12.6)	U (13.4)	U (13.7)	1.3 J (13)
Total Kjeldahl Nitrogen				433 (102)	1150 (93.4)	631 (98.5)	1750 (103)	1770 (98.9)
Phosphorus (total)				855 (70.8)	390 (63.4)	506 (65.9)	519 (67.9)	605 (64.8)
Potassium				4500 (2600)	1800 (50)	3900 (2600)	1900 (59)	2100 (47)
Sodium				39 J (52)	32 J (50)	31 J (52)	33 J (59)	31 J (47)
Sulfate				U (134)	10.6 J (126)	U (134)	U (137)	3.1 J (130)
Vanadium	15	290	15	33 J (2.6)	38 (2.5)	29 J (2.6)	31 J (3)	32 J (2.3)
Zinc	66000	12000	12000	61 J (10)	42 J (10)	73 J (10)	37 (12)	42 (9.3)

Notes:

- All concentrations are presented in milligrams per kilogram (mg/kg).
- Only compounds with at least one detection are shown.
- The Soil to Groundwater values for nitrate and nitrite are 100x the Federal maximum contaminant level (MCL).
- The values for chromium III are used to evaluate chromium (total).
- Blank cells in columns with criteria indicate that no value has been established.
- Concentrations that exceed the PADEP Residential Direct Contact Values (0-15ft) are boldfaced.
- Concentrations that exceed the PADEP Soil to Groundwater Values - Residential Used Aquifer - TDS <= 2500 MG/L are double underlined.

Abbreviations:

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 GW -- Groundwater.
 TDS -- Total Dissolved Solids.
 U -- Not Detected.
 MG/L - Milligrams Per Liter.
 J -- Estimated Concentration.
 R -- Unreliable Result.
 () -- Reporting Limit.
 -- -- Not Analyzed

TABLE 5-1
Soil Sampling Results
Lois E. Whisler Property
Miller Chemical & Fertilizer, Hanover, Pennsylvania

Location Location Type Field Sample ID Lab Sample ID(s) Collection Depth (ft bgs) Sample Method Sample Date Comments	PADEP Residential Direct Contact Values (0-15ft)	PADEP Soil to GW Values - Residential Used Aquifer - TDS <= 2500 MG/L	PADEP Residential MSC	WH-BS-03 Boundary WH-BS-03-C-120215 15120318-015 / 15120422-015 0 - 0.25 Composite 12/2/2015	WH-BS-04 Boundary WH-BS-04-C-120215 15120318-016 / 15120422-016 0 - 0.25 Composite 12/2/2015	WH-BS-05 Boundary WH-BS-05-C-120215 15120318-017 / 15120422-017 0 - 0.25 Composite 12/2/2015	WH-BS-06 Boundary WH-BS-06-C-120215 15120318-018 / 15120422-018 0 - 0.25 Composite 12/2/2015	WH-BS-07 Boundary WH-BS-07-C-120215 15120318-019 / 15120422-019 0 - 0.25 Composite 12/2/2015
INORG								
Aluminum	190000		190000	31000 (2900)	41000 (2500)	35000 (2800)	25000 (2800)	25000 (3000)
Ammonia	1900	3000	1900	--	--	--	--	--
Arsenic	12	29	12	7.4 (0.51)	7.6 (0.49)	6.5 (0.56)	8.8 (0.56)	5.5 (0.61)
Barium	44000	8200	8200	350 (150)	220 (2.5)	170 (2.8)	160 (2.8)	150 (3)
Beryllium	2	320	2	U (2.6)	1.6 J (2.5)	1.4 J (2.8)	U (2.8)	U (3)
Boron	44000	1900	1900	U (26)	U (25)	U (28)	U (28)	U (30)
Calcium				U (4700)	U (7100)	U (16000)	U (9400)	U (7900)
Chromium (total)	190000	190000	190000	23 (2.6)	33 (2.5)	33 (2.8)	27 (2.8)	25 (3)
Cobalt	66	59	59	13 (2.6)	9.9 (2.5)	9.5 (2.8)	10 (2.8)	8.1 (3)
Copper	8100		8100	10 (2.6)	13 (2.5)	15 (2.8)	16 (2.8)	13 (3)
Iron	150000		150000	42000 (2900)	45000 (2500)	37000 (2800)	34000 (2800)	23000 (3000)
Lead	500	450	450	28 (2.6)	32 (2.5)	38 (2.8)	24 (2.8)	23 (3)
Magnesium				U (4200)	U (5400)	4800 (2800)	3400 (2800)	3600 (3000)
Manganese	10000	2000	2000	<u>3100 (150)</u>	1500 (120)	840 (140)	740 (140)	350 (150)
Mercury	35	10	10	U (0.1)	0.064 J (0.099)	U (0.11)	U (0.11)	U (0.12)
Nickel	4400	650	650	13 (2.6)	18 (2.5)	17 (2.8)	14 (2.8)	13 (3)
Nitrate	350000	1000	1000	U (13.3)	U (13.7)	U (13.5)	U (13.6)	U (14.4)
Total Kjeldahl Nitrogen				1600 (99.3)	2330 (104)	2820 (102)	2000 (101)	2730 (107)
Phosphorus (total)				669 (65.8)	603 (67.4)	801 (66.7)	740 (67.4)	689 (71.1)
Potassium				2300 (51)	3600 (2500)	2500 (56)	2400 (56)	2400 (61)
Sodium				34 J (51)	47 J (49)	48 J (56)	64 (56)	60 J (61)
Sulfate				U (133)	U (137)	U (135)	U (136)	U (144)
Vanadium	15	290	15	39 J (2.6)	49 J (2.5)	44 J (2.8)	42 J (2.8)	33 J (3)
Zinc	66000	12000	12000	44 (10)	64 (9.9)	71 (11)	54 (11)	54 (12)

Notes:

- All concentrations are presented in milligrams per kilogram (mg/kg).
- Only compounds with at least one detection are shown.
- The Soil to Groundwater values for nitrate and nitrite are 100x the Federal maximum contaminant level (MCL).
- The values for chromium III are used to evaluate chromium (total).
- Blank cells in columns with criteria indicate that no value has been established.
- Concentrations that exceed the PADEP Residential Direct Contact Values (0-15ft) are **boldfaced**.
- Concentrations that exceed the PADEP Soil to Groundwater Values - Residential Used Aquifer - TDS <=2500 MG/L are double underlined.

Abbreviations:

MSC -- Medium Specific Concentration.
 GW -- Groundwater.
 TDS -- Total Dissolved Solids.
 U -- Not Detected.
 MG/L - Milligrams Per Liter.
 J -- Estimated Concentration.
 R -- Unreliable Result.
 () -- Reporting Limit.
 -- -- Not Analyzed

TABLE 5-1
Soil Sampling Results
Lois E. Whisler Property
Miller Chemical & Fertilizer, Hanover, Pennsylvania

Location Location Type Field Sample ID	PADEP Residential Direct Contact Values (0-15ft)	PADEP Soil to GW Values - Residential Used Aquifer - TDS <= 2500 MG/L	PADEP Residential MSC	WH-BS-08 Boundary WH-BS-08-C-120215 15120318-020 / 15120422-020 0 - 0.25 Composite 12/2/2015	WH-BS-09 Boundary WH-BS-09-C-120215 15120319-001 / 15120423-001 0 - 0.25 Composite 12/2/2015	WH-BS-10 Boundary WH-BS-10-C-120215 15120319-002 / 15120423-002 0 - 0.25 Composite 12/2/2015	WH-BS-11 Boundary WH-BS-11-C-120215 15120319-003 / 15120423-003 0 - 0.25 Composite 12/2/2015	WH-BS-12 Boundary WH-BS-12-C-120215 15120319-004 / 15120423-004 0 - 0.25 Composite 12/2/2015
Lab Sample ID(s) Collection Depth (ft bgs) Sample Method Sample Date Comments								
INORG								
Aluminum	190000		190000	24000 (2500)	24000 (2400)	4800 (2600)	16000 (2900)	25000 (3300)
Ammonia	1900	3000	1900	--	--	--	--	--
Arsenic	12	29	12	4.8 (0.49)	6.6 J (0.49)	6.3 J (0.52)	4.6 J (0.58)	5.7 J (0.66)
Barium	44000	8200	8200	140 (2.5)	150 (2.4)	140 (2.6)	110 (2.9)	140 (3.3)
Beryllium	2	320	2	U (2.5)	U (2.4)	U (2.6)	U (2.9)	U (3.3)
Boron	44000	1900	1900	U (25)	U (24)	U (26)	U (29)	U (33)
Calcium				U (4800)	25000 (2400)	4600 (1000)	2800 (58)	6000 (3300)
Chromium (total)	190000	190000	190000	20 (2.5)	22 (2.4)	21 (2.6)	16 (2.9)	26 (3.3)
Cobalt	66	59	59	8.2 (2.5)	9.9 J (2.4)	9.5 J (2.6)	7.3 J (2.9)	10 (3.3)
Copper	8100		8100	11 (2.5)	11 (2.4)	13 (2.6)	8.2 (2.9)	14 (3.3)
Iron	150000		150000	20000 (2500)	23000 (2400)	4700 (2600)	15000 (2900)	25000 (3300)
Lead	500	450	450	21 (2.5)	21 (2.4)	22 (2.6)	15 (2.9)	22 (3.3)
Magnesium				2400 (49)	3600 (2400)	2500 (52)	1800 (58)	2800 (66)
Manganese	10000	2000	2000	550 (120)	810 (120)	150 (130)	520 (150)	570 (160)
Mercury	35	10	10	U (0.099)	0.059 J (0.098)	0.066 J (0.1)	0.071 J (0.12)	U (0.13)
Nickel	4400	650	650	12 (2.5)	13 J (2.4)	15 J (2.6)	9.7 J (2.9)	15 J (3.3)
Nitrate	350000	1000	1000	U (14.1)	U (13.9)	1.1 J (13.6)	U (13.3)	1.5 J (14.7)
Total Kjeldahl Nitrogen				2450 (108)	2030 (105)	2200 (103)	2700 (99.8)	3260 (109)
Phosphorus (total)				721 J (70.5)	776 (69.1)	540 (67.7)	785 (65.6)	625 (73.2)
Potassium				2100 (49)	1700 (49)	1800 (52)	1400 (58)	2200 (66)
Sodium				28 J (49)	U (41)	U (88)	U (32)	U (56)
Sulfate				U (141)	U (139)	U (136)	U (133)	9.4 J (147)
Vanadium	15	290	15	29 J (2.5)	32 (2.4)	32 (2.6)	24 (2.9)	35 (3.3)
Zinc	66000	12000	12000	46 (9.9)	U (48)	U (52)	U (38)	U (58)

Notes:

- All concentrations are presented in milligrams per kilogram (mg/kg).
- Only compounds with at least one detection are shown.
- The Soil to Groundwater values for nitrate and nitrite are 100x the Federal maximum contaminant level (MCL).
- The values for chromium III are used to evaluate chromium (total).
- Blank cells in columns with criteria indicate that no value has been established.
- Concentrations that exceed the PADEP Residential Direct Contact Values (0-15ft) are **boldfaced**.
- Concentrations that exceed the PADEP Soil to Groundwater Values - Residential Used Aquifer - TDS <= 2500 MG/L are double underlined.

Abbreviations:

MSC -- Medium Specific Concentration.
 GW -- Groundwater.
 TDS -- Total Dissolved Solids.
 U -- Not Detected.
 MG/L - Milligrams Per Liter.
 J -- Estimated Concentration.
 R -- Unreliable Result.
 () -- Reporting Limit.
 -- -- Not Analyzed

TABLE 5-1
Soil Sampling Results
Lois E. Whisler Property
Miller Chemical & Fertilizer, Hanover, Pennsylvania

Location Location Type Field Sample ID	PADEP Residential Direct Contact Values (0-15ft)	PADEP Soil to GW Values - Residential Used Aquifer - TDS <= 2500 MG/L	PADEP Residential MSC	WH-BS-17 Boundary WH-BS-17-C-120215 15120319-009 / 15120423-009 0 - 0.25 Composite 12/2/2015	WH-BS-18 Boundary WH-BS-18-C-120215 15120319-010 / 15120423-010 0 - 0.25 Composite 12/2/2015	WH-BS-19 Boundary WH-BS-19-C-120215 15120319-011 / 15120423-011 0 - 0.25 Composite 12/2/2015	WH-BS-20 Boundary WH-BS-20-C-120215 15120319-012 / 15120423-012 0 - 0.25 Composite 12/2/2015	WH-BS-21 Boundary WH-BS-21-C-120215 15120319-013 / 15120423-013 0 - 0.25 Composite 12/2/2015
Lab Sample ID(s) Collection Depth (ft bgs) Sample Method Sample Date Comments								
INORG								
Aluminum	190000		190000	19000 (2500)	16000 (2400)	23000 (4000)	18000 (2700)	18000 (2600)
Ammonia	1900	3000	1900	--	--	--	--	--
Arsenic	12	29	12	4.6 J (0.5)	6.8 J (0.49)	5.9 J (0.8)	4 J (0.54)	6.2 J (0.52)
Barium	44000	8200	8200	78 (2.5)	98 (2.4)	140 (4)	99 (2.7)	100 (2.6)
Beryllium	2	320	2	U (2.5)	U (2.4)	U (4)	U (2.7)	U (2.6)
Boron	44000	1900	1900	U (25)	U (24)	U (40)	U (27)	R (26)
Calcium				2100 (50)	15000 (2400)	2800 (80)	2200 (54)	1600 (52)
Chromium (total)	190000	190000	190000	23 (2.5)	23 (2.4)	27 (4)	22 (2.7)	23 (2.6)
Cobalt	66	59	59	5.6 (2.5)	8.2 (2.4)	11 (4)	7 (2.7)	10 (2.6)
Copper	8100		8100	7.2 (2.5)	7.8 (2.4)	11 (4)	7.6 (2.7)	7.7 (2.6)
Iron	150000		150000	18000 (2500)	24000 (2400)	25000 (4000)	19000 (2700)	29000 (2600)
Lead	500	450	450	21 (2.5)	24 (2.4)	29 (4)	20 (2.7)	26 (2.6)
Magnesium				2200 (50)	2300 (49)	2700 (80)	1900 (54)	1800 (52)
Manganese	10000	2000	2000	170 (2.5)	560 (120)	600 (200)	240 (2.7)	530 (130)
Mercury	35	10	10	U (0.1)	U (0.097)	U (0.16)	U (0.11)	U (0.1)
Nickel	4400	650	650	8.4 J (2.5)	8.4 J (2.4)	14 J (4)	9.8 J (2.7)	9 J (2.6)
Nitrate	350000	1000	1000	0.88 J (14.6)	U (13.7)	U (14.9)	U (13.6)	0.78 J (13)
Total Kjeldahl Nitrogen				1630 (111)	2140 (102)	1630 (112)	1490 (101)	1500 (99.9)
Phosphorus (total)				290 J (73.2)	498 (67.9)	288 (74.7)	195 (67.9)	481 (65.1)
Potassium				1000 (50)	1200 (49)	2100 (80)	1600 (54)	1700 (52)
Sodium				U (40)	U (39)	U (45)	U (34)	U (52)
Sulfate				U (146)	7.4 J (137)	U (149)	4.1 J (136)	U (130)
Vanadium	15	290	15	34 (2.5)	32 (2.4)	43 (4)	30 (2.7)	36 (2.6)
Zinc	66000	12000	12000	U (33)	U (43)	U (48)	U (32)	U (35)

Notes:

- All concentrations are presented in milligrams per kilogram (mg/kg).
- Only compounds with at least one detection are shown.
- The Soil to Groundwater values for nitrate and nitrite are 100x the Federal maximum contaminant level (MCL).
- The values for chromium III are used to evaluate chromium (total).
- Blank cells in columns with criteria indicate that no value has been established.
- Concentrations that exceed the PADEP Residential Direct Contact Values (0-15ft) are boldfaced.
- Concentrations that exceed the PADEP Soil to Groundwater Values - Residential Used Aquifer - TDS <= 2500 MG/L are double underlined.

Abbreviations:

MSC -- Medium Specific Concentration.
 GW -- Groundwater.
 TDS -- Total Dissolved Solids.
 U -- Not Detected.
 MG/L - Milligrams Per Uter.
 J -- Estimated Concentration.
 R -- Unreliable Result.
 () -- Reporting Limit.
 -- -- Not Analyzed

TABLE 5-1
Soil Sampling Results
Lois E. Whisler Property
Miller Chemical & Fertilizer, Hanover, Pennsylvania

Location Location Type Field Sample ID Lab Sample ID(s) Collection Depth (ft bgs) Sample Method Sample Date Comments	PADEP Residential Direct Contact Values (0-15ft)	PADEP Soil to GW Values - Residential Used Aquifer - TDS <= 2500 MG/L	PADEP Residential MSC	SB4-AGR Background SB4-AGR-0-2-062915 15063001-004 / 15063009-004 0 - .2 Grab 6/29/2015	SB4-AGR Background SB4-AGR-2-6-062915 15063001-005 / 15063009-005 0.2 - 0.5 Grab 6/29/2015	SB4-AGR Background SB4-AGR-6-12-062915 15063001-006 / 15063009-006 0.5 - 1 Grab 6/29/2015	SS6-F2-C Background SS6-F2-C-061515 15061601-006 / 15061603-006 0 - 0.2 Grab 6/15/2015	WH-BACK-01 Background WH-Back-01-GA-120115 15120318-007 / 15120422-007 0 - 0.25 Grab 12/1/2015
INORG								
Aluminum	190000		190000	16000 (4600)	18000 (4200)	17000 (4500)	19000 (3000)	22000 (2500)
Ammonia	1900	3000	1900	130 (9.7)	72.7 (9.4)	55.3 (9)	--	--
Arsenic	12	29	12	5.7 (0.46)	7.5 (0.42)	6.7 (0.45)	8.2 (0.6)	9.4 (0.5)
Barium	44000	8200	8200	83 (2.3)	81 (2.1)	86 (2.3)	130 (3)	110 (2.5)
Beryllium	2	320	2	U (2.3)	U (2.1)	U (2.3)	U (3)	U (2.5)
Boron	44000	1900	1900	--	--	--	--	U (25)
Calcium				--	--	--	--	U (1400)
Chromium (total)	190000	190000	190000	25 (2.3)	32 (2.1)	30 (2.3)	29 (3)	48 (2.5)
Cobalt	66	59	59	9.9 (2.3)	12 (2.1)	11 (2.3)	12 (3)	14 (2.5)
Copper	8100		8100	7 (2.3)	6.2 (2.1)	6.5 (2.3)	9 (3)	7 (2.5)
Iron	150000		150000	22000 (4600)	47000 (4200)	27000 (4500)	30000 (3000)	44000 (2500)
Lead	500	450	450	22 (2.3)	27 (2.1)	25 (2.3)	29 (3)	34 (2.5)
Magnesium				--	--	--	--	1700 (50)
Manganese	10000	2000	2000	560 (230)	980 (210)	630 (230)	870 (150)	890 (120)
Mercury	35	10	10	0.053 J (0.092)	U (0.084)	0.047 J (0.091)	U (0.12)	U (0.1)
Nickel	4400	650	650	9 (2.3)	9.2 (2.1)	9.6 (2.3)	9.5 (3)	9.1 (2.5)
Nitrate	350000	1000	1000	--	--	--	U (1.4)	1.6 J (13.5)
Total Kjeldahl Nitrogen				1770 (97.6)	942 (92.3)	807 (89.4)	2050 (101)	2260 (102)
Phosphorus (total)				650 (63.2)	562 (60.2)	195 (62.4)	508 (66.5)	630 (66.8)
Potassium				970 (46)	760 (42)	810 (45)	1600 (60)	1200 (50)
Sodium				U (46)	21 J (42)	25 J (45)	U (60)	U (50)
Sulfate				U (66)	U (61)	U (63)	U (69)	U (135)
Vanadium	15	290	15	--	--	--	--	54 J (2.5)
Zinc	66000	12000	12000	32 (9.2)	31 (8.4)	31 (9.1)	38 (12)	36 (10)

Notes:

- All concentrations are presented in milligrams per kilogram (mg/kg).
- Only compounds with at least one detection are shown.
- The Soil to Groundwater values for nitrate and nitrite are 100x the Federal maximum contaminant level (MCL).
- The values for chromium III are used to evaluate chromium (total).
- Blank cells in columns with criteria indicate that no value has been established.
- Concentrations that exceed the PADEP Residential Direct Contact Values (0-15ft) are boldfaced.
- Concentrations that exceed the PADEP Soil to Groundwater Values - Residential Used Aquifer - TDS <= 2500 MG/L are double underlined.

Abbreviations:

MSC -- Medium Specific Concentration.
 GW -- Groundwater.
 TDS -- Total Dissolved Solids.
 U -- Not Detected.
 MG/L - Milligrams Per Liter.
 J -- Estimated Concentration.
 R -- Unreliable Result.
 () -- Reporting Limit.
 -- -- Not Analyzed

TABLE 5-1
Soil Sampling Results
Lois E. Whisler Property
Miller Chemical & Fertilizer, Hanover, Pennsylvania

Location Location Type Field Sample ID	PADEP Residential Direct Contact Values (0-15ft)	PADEP Soil to GW Values - Residential Used Aquifer - TDS <= 2500 MG/L	PADEP Residential MSC	WH-BACK-01 Background WH-BACK-01-GB-120715 15120803-002 / 15120933-002 0.5 - 1 Grab 12/7/2015	WH-BACK-01 Background WH-BACK-01-GC-120715 15120803-003 / 15120933-003 1 - 2 Grab 12/7/2015	WH-BACK-02 Background WH-BACK-02-GA-120115 15120318-008 / 15120422-008 0 - 0.25 Grab 12/1/2015	WH-BACK-02 Background WH-BACK-02-GB-120715 15120803-004 / 15120933-004 0.5 - 1 Grab 12/7/2015	WH-BACK-02 Background WH-BACK-02-GC-120715 15120803-005 / 15120933-005 1 - 2 Grab 12/7/2015
Lab Sample ID(s) Collection Depth (ft bgs) Sample Method Sample Date Comments								
INORG								
Aluminum	190000		190000	15000 (2700)	24000 (2600)	20000 (2900)	45000 (2400)	26000 (2100)
Ammonia	1900	3000	1900	--	--	--	--	--
Arsenic	12	29	12	6.1 J (0.55)	8.1 J (0.52)	6.5 (0.59)	5 J (0.48)	3.6 J (0.42)
Barium	44000	8200	8200	90 (2.7)	77 (2.6)	110 (2.9)	250 (120)	92 (2.1)
Beryllium	2	320	2	U (2.7)	U (2.6)	U (2.9)	1.8 J (2.4)	U (2.1)
Boron	44000	1900	1900	U (27)	U (26)	U (29)	U (24)	U (21)
Calcium				860 (55)	830 (52)	U (1800)	5300 (2400)	820 (42)
Chromium (total)	190000	190000	190000	26 J (2.7)	33 J (2.6)	24 (2.9)	31 J (2.4)	23 J (2.1)
Cobalt	66	59	59	12 J (2.7)	9 J (2.6)	9.1 (2.9)	9.9 J (2.4)	5.1 J (2.1)
Copper	8100		8100	6.7 J (2.7)	9.5 J (2.6)	7.8 (2.9)	14 J (2.4)	8.6 J (2.1)
Iron	150000		150000	20000 J (2700)	34000 J (2600)	27000 (2900)	52000 J (2400)	27000 J (2100)
Lead	500	450	450	25 (2.7)	18 (2.6)	25 (2.9)	20 (2.4)	12 (2.1)
Magnesium				1700 J (55)	2000 J (52)	2100 (59)	4100 (2400)	2600 (2100)
Manganese	10000	2000	2000	570 J (140)	330 J (130)	440 (150)	81 J (2.4)	60 J (2.1)
Mercury	35	10	10	0.081 J (0.11)	U (0.1)	U (0.12)	0.12 (0.097)	0.057 J (0.084)
Nickel	4400	650	650	9.2 J (2.7)	12 J (2.6)	8.8 (2.9)	27 J (2.4)	13 J (2.1)
Nitrate	350000	1000	1000	4.4 J (12.2)	2.6 J (12)	U (13.1)	1 J (12.6)	1.5 J (12.2)
Total Kjeldahl Nitrogen				429 (92.7)	425 (91.9)	2370 (97.6)	492 (95.3)	365 (91.4)
Phosphorus (total)				153 (61.2)	92.8 (62.3)	430 (64.9)	26.8 J (60.9)	51.8 J (61.7)
Potassium				1000 J (55)	1300 J (52)	1600 (59)	2400 J (48)	2500 (2100)
Sodium				U (55)	27 J (52)	U (59)	83 (48)	33 J (42)
Sulfate				29.7 J (122)	35.5 J (120)	U (131)	8.8 J (126)	63.3 J (122)
Vanadium	15	290	15	36 J (2.7)	48 J (2.6)	36 J (2.9)	40 J (2.4)	34 J (2.1)
Zinc	66000	12000	12000	37 (11)	39 (10)	34 (12)	44 (9.7)	27 (8.4)

Notes:

- All concentrations are presented in milligrams per kilogram (mg/kg).
- Only compounds with at least one detection are shown.
- The Soil to Groundwater values for nitrate and nitrite are 100x the Federal maximum contaminant level (MCL).
- The values for chromium III are used to evaluate chromium (total).
- Blank cells in columns with criteria indicate that no value has been established.
- Concentrations that exceed the PADEP Residential Direct Contact Values (0-15ft) are **boldfaced**.
- Concentrations that exceed the PADEP Soil to Groundwater Values - Residential Used Aquifer - TDS <= 2500 MG/L are double underlined.

Abbreviations:

- MSC -- Medium Specific Concentration.
- GW -- Groundwater.
- TDS -- Total Dissolved Solids.
- U -- Not Detected.
- MG/L - Milligrams Per Liter.
- J -- Estimated Concentration.
- R -- Unreliable Result.
- () -- Reporting Limit.
- -- Not Analyzed

**TABLE 5-1
Soil Sampling Results
Lois E. Whisler Property
Miller Chemical & Fertilizer, Hanover, Pennsylvania**

Location Location Type Field Sample ID	PADEP Residential Direct Contact Values (0-15ft)	PADEP Soil to GW Values - Residential Used Aquifer - TDS <= 2500 MG/L	PADEP Residential MSC	WH-BACK-02 Background WH-Back-02-GD-120715 15120803-006 / 15120933-006 4 - 5 Grab 12/7/2015	WH-BACK-03 Background WH-Back-03-GA-120115 15120318-009 / 15120422-009 0 - 0.25 Grab 12/1/2015	WH-BACK-03 Background WH-BACK-03-GB-120715 15120803-007 / 15120933-007 0.5 - 1 Grab 12/7/2015	WH-BACK-03 Background WH-BACK-03-GC-120715 15120803-008 / 15120933-008 1 - 2 Grab 12/7/2015	WH-BACK-03 Background DUP-8-120715 15120803-009 / 15120933-009 1 - 2 Grab 12/7/2015 Field Duplicate
INORG								
Aluminum	190000		190000	52000 (2400)	18000 (2500)	18000 (2800)	20000 (2500)	23000 (2400)
Ammonia	1900	3000	1900	--	--	--	--	--
Arsenic	12	29	12	3.5 J (0.47)	5.6 (0.51)	5.6 J (0.51)	5.9 J (0.5)	5.8 J (0.47)
Barium	44000	8200	8200	280 (120)	80 (2.5)	76 (2.8)	75 (2.5)	80 (2.4)
Beryllium	2	320	2	1.5 J (2.4)	U (2.5)	U (2.8)	U (2.5)	U (2.4)
Boron	44000	1900	1900	U (24)	U (25)	U (28)	U (25)	U (24)
Calcium				7200 (2400)	U (2000)	1400 (57)	1300 (50)	1300 (47)
Chromium (total)	190000	190000	190000	34 J (2.4)	20 (2.5)	23 J (2.8)	26 J (2.5)	25 J (2.4)
Cobalt	66	59	59	16 J (2.4)	7.4 (2.5)	6.1 J (2.8)	5.7 J (2.5)	6.2 J (2.4)
Copper	8100		8100	14 J (2.4)	6.6 (2.5)	6.5 J (2.8)	7.4 J (2.5)	7.6 J (2.4)
Iron	150000		150000	43000 J (2460)	30000 (2500)	21000 J (2800)	23000 J (2500)	24000 J (2400)
Lead	500	450	450	32 (2.4)	24 (2.5)	23 (2.8)	19 (2.5)	19 (2.4)
Magnesium				5600 (2400)	1700 (51)	1900 J (57)	2000 J (50)	2300 J (47)
Manganese	10000	2000	2000	1800 J (120)	430 (130)	260 J (2.8)	170 J (2.5)	160 J (2.4)
Mercury	35	10	10	0.1 (0.095)	U (0.1)	U (0.11)	0.051 J (0.1)	U (0.094)
Nickel	4400	650	650	49 J (2.4)	7.3 (2.5)	7.9 J (2.8)	9 J (2.5)	9.8 J (2.4)
Nitrate	350000	1000	1000	0.77 J (12.9)	U (13.8)	4.6 J (12.1)	1.4 J (12)	1.4 J (12)
Total Kjeldahl Nitrogen				527 J (96.2)	1580 (105)	874 (91)	777 J (90.3)	534 J (90.7)
Phosphorus (total)				22.6 (12.3)	346 (68.3)	228 (62.6)	80.5 (61)	77.2 (57.6)
Potassium				2300 J (47)	1200 (51)	1000 J (57)	1100 J (50)	1200 J (47)
Sodium				82 (47)	27 J (51)	U (57)	27 J (50)	31 J (47)
Sulfate				8.5 J (129)	U (138)	5.6 J (121)	22.6 J (120)	15.6 J (120)
Vanadium	15	290	15	32 J (2.4)	31 J (2.5)	34 J (2.8)	38 J (2.5)	39 J (2.4)
Zinc	66000	12000	12000	52 (9.5)	32 (10)	37 (11)	36 (10)	35 (9.4)

Notes:

- All concentrations are presented in milligrams per kilogram (mg/kg).
- Only compounds with at least one detection are shown.
- The Soil to Groundwater values for nitrate and nitrite are 100x the Federal maximum contaminant level (MCL).
- The values for chromium III are used to evaluate chromium (total).
- Blank cells in columns with criteria indicate that no value has been established.
- Concentrations that exceed the PADEP Residential Direct Contact Values (0-15ft) are boldfaced.
- Concentrations that exceed the PADEP Soil to Groundwater Values - Residential Used Aquifer - TDS <= 2500 MG/L are double underlined.

Abbreviations:

MSC -- Medium Specific Concentration.
 GW -- Groundwater.
 TDS -- Total Dissolved Solids.
 U -- Not Detected.
 MG/L - Milligrams Per Liter.
 J -- Estimated Concentration.
 R -- Unreliable Result.
 () -- Reporting Limit.
 -- -- Not Analyzed

TABLE 5-1
Soil Sampling Results
Lois E. Whisler Property
Miller Chemical & Fertilizer, Hanover, Pennsylvania

Location Location Type Field Sample ID	PADEP Residential Direct Contact Values (0-15ft)	PADEP Soil to GW Values - Residential Used Aquifer - TDS <= 2500 MG/L	PADEP Residential MSC	WH-BACK-04 Background WH-Back-04-GA-120115 15120318-010 / 15120422-010	WH-BACK-04 Background WH-BACK-04-GB-120715 15120803-010 / 15120933-010	WH-BACK-04 Background WH-BACK-04-GC-120715 15120803-011 / 15120933-011	WH-BACK-05 Background WH-Back-05-GA-120115 15120318-012 / 15120422-012	WH-BACK-05 Background WH-BACK-05-GB-120715 15120803-012 / 15120933-012
Lab Sample ID(s) Collection Depth (ft bgs) Sample Method Sample Date Comments				0 - 0.25 Grab 12/1/2015	0.5 - 1 Grab 12/7/2015	1 - 2 Grab 12/7/2015	0 - 0.25 Grab 12/1/2015	0.5 - 1 Grab 12/7/2015
INORG								
Aluminum	190000		190000	18000 (2400)	32000 (2800)	33000 (2700)	24000 (3100)	33000 (2800)
Ammonia	1900	3000	1900	--	--	--	--	--
Arsenic	12	29	12	4.5 (0.47)	4.7 J (0.57)	5.7 J (0.53)	5.9 (0.64)	6.8 J (0.56)
Barium	44000	8200	8200	68 (2.4)	96 (2.8)	92 (2.7)	110 (3.2)	83 (2.8)
Beryllium	2	320	2	U (2.4)	U (2.8)	U (2.7)	U (3.2)	U (2.8)
Boron	44000	1900	1900	U (24)	U (28)	U (27)	U (32)	U (28)
Calcium				U (3200)	1100 (57)	1100 (53)	U (3000)	1600 (56)
Chromium (total)	190000	190000	190000	19 (2.4)	33 J (2.8)	35 J (2.7)	24 (3.2)	32 J (2.8)
Cobalt	66	59	59	4.5 (2.4)	8 J (2.8)	8.9 J (2.7)	9.2 (3.2)	7.7 J (2.8)
Copper	8100		8100	6.3 (2.4)	9.8 J (2.8)	9.8 J (2.7)	9.1 (3.2)	13 J (2.8)
Iron	150000		150000	19000 (2400)	26000 J (2800)	30000 J (2700)	25000 (3100)	38000 J (2800)
Lead	500	450	450	17 (2.4)	18 (2.8)	17 (2.7)	23 (3.2)	16 (2.8)
Magnesium				1900 (47)	2800 J (57)	2600 J (53)	2400 (64)	2500 J (56)
Manganese	10000	2000	2000	180 (120)	86 J (2.8)	77 J (2.7)	520 (150)	83 J (2.8)
Mercury	35	10	10	U (0.094)	0.068 J (0.11)	0.067 J (0.11)	U (0.13)	0.059 J (0.11)
Nickel	4400	650	650	6.8 (2.4)	16 J (2.8)	15 J (2.7)	10 (3.2)	18 J (2.8)
Nitrate	350000	1000	1000	U (13.5)	2 J (12.3)	0.97 J (12.1)	U (12.8)	0.73 J (12.2)
Total Kjeldahl Nitrogen				1630 (101)	593 (91.6)	571 (89.9)	1530 (94.3)	431 (90.7)
Phosphorus (total)				449 (66.8)	152 (63.9)	49.7 J (61.4)	523 (63.6)	U (57.9)
Potassium				980 (47)	1400 J (57)	1400 J (53)	2000 (64)	1900 J (56)
Sodium				33 J (47)	40 J (57)	41 J (53)	37 J (64)	37 J (56)
Sulfate				U (135)	15 J (123)	47.9 J (121)	U (128)	54.2 J (122)
Vanadium	15	290	15	29 J (2.4)	50 J (2.8)	55 J (2.7)	36 J (3.2)	44 J (2.8)
Zinc	66000	12000	12000	30 (9.4)	39 (11)	37 (11)	38 (13)	37 (11)

Notes:

- All concentrations are presented in milligrams per kilogram (mg/kg).
- Only compounds with at least one detection are shown.
- The Soil to Groundwater values for nitrate and nitrite are 100x the Federal maximum contaminant level (MCL).
- The values for chromium III are used to evaluate chromium (total).
- Blank cells in columns with criteria indicate that no value has been established.
- Concentrations that exceed the PADEP Residential Direct Contact Values (0-15ft) are **boldfaced**.
- Concentrations that exceed the PADEP Soil to Groundwater Values - Residential Used Aquifer - TDS <= 2500 MG/L are double underlined.

Abbreviations:

MSC -- Medium Specific Concentration.
 GW -- Groundwater.
 TDS -- Total Dissolved Solids.
 U -- Not Detected.
 MG/L - Milligrams Per Liter.
 J -- Estimated Concentration.
 R -- Unreliable Result.
 () -- Reporting Limit.
 -- -- Not Analyzed

TABLE 5-1
Soil Sampling Results
Lois E. Whisler Property
Miller Chemical & Fertilizer, Hanover, Pennsylvania

Location Location Type Field Sample ID	PADEP Residential Direct Contact Values (0-15ft)	PADEP Soil to GW Values - Residential Used Aquifer - TDS <= 2500 MG/L	PADEP Residential MSC	WH-BACK-05 Background WH-BACK-05-GC-120715 15120803-013 / 15120933-013	WH-BACK-06 Background WH-BACK-06-GA-120115 15120318-011 / 15120422-011	WH-BACK-06 Background WH-BACK-06-GB-120715 15120803-014 / 15120933-014	WH-BACK-06 Background WH-BACK-06-GC-120715 15120803-015 / 15120933-015	WH-BACK-07 Background WH-BACK-07-GA-120115 15120318-004 / 15120422-004
Lab Sample ID(s) Collection Depth (ft bgs) Sample Method Sample Date Comments				1 - 2 Grab 12/7/2015	0 - 0.25 Grab 12/1/2015	0.5 - 1 Grab 12/7/2015	1 - 2 Grab 12/7/2015	0 - 0.25 Grab 12/1/2015
INORG								
Aluminum	190000		190000	41000 (2200)	19000 (2600)	19000 (2400)	33000 (2500)	27000 (2400)
Ammonia	1900	3000	1900	--	--	--	--	--
Arsenic	12	29	12	5 J (0.45)	5.2 (0.53)	4.8 J (0.48)	7.6 J (0.5)	6.1 (0.48)
Barium	44000	8200	8200	130 (2.2)	77 (2.6)	78 (2.4)	140 (2.5)	130 (2.4)
Beryllium	2	320	2	U (2.2)	U (2.6)	U (2.4)	U (2.5)	U (2.4)
Boron	44000	1900	1900	U (22)	U (26)	U (24)	U (25)	U (24)
Calcium				2900 (2200)	U (3800)	1700 J (2400)	3000 (2500)	U (3900)
Chromium (total)	190000	190000	190000	29 J (2.2)	25 (2.6)	21 J (2.4)	37 J (2.5)	23 (2.4)
Cobalt	66	59	59	26 J (2.2)	5.6 (2.6)	6.9 J (2.4)	8.5 J (2.5)	11 (2.4)
Copper	8100		8100	11 J (2.2)	6.8 (2.6)	6.6 J (2.4)	11 J (2.5)	11 (2.4)
Iron	150000		150000	43000 J (2200)	21000 (2600)	19000 J (2400)	42000 J (2500)	30000 (2400)
Lead	500	450	450	19 (2.2)	20 (2.6)	20 (2.4)	17 (2.5)	26 (2.4)
Magnesium				3700 (2200)	2100 (53)	1900 J (48)	2400 J (50)	3600 (2400)
Manganese	10000	2000	2000	200 J (2.2)	330 (130)	400 J (120)	37 J (2.5)	1200 (120)
Mercury	35	10	10	U (0.089)	U (0.11)	0.05 J (0.097)	0.078 J (0.1)	0.053 J (0.096)
Nickel	4400	650	650	20 J (2.2)	7.6 (2.6)	8.6 J (2.4)	14 J (2.5)	13 (2.4)
Nitrate	350000	1000	1000	U (12.1)	0.86 J (14.4)	2.5 J (12.7)	U (11.7)	0.8 J (13.3)
Total Kjeldahl Nitrogen				524 (92.5)	1650 (110)	2120 (94.5)	296 (86.9)	2840 (102)
Phosphorus (total)				19.9 J (60.3)	497 (71.3)	304 (61.9)	18.9 J (55.7)	613 (65.8)
Potassium				2100 J (45)	960 (53)	770 J (48)	1300 J (50)	2200 (48)
Sodium				39 J (45)	31 J (53)	31 J (48)	60 (50)	28 J (48)
Sulfate				33.2 J (121)	U (144)	U (127)	19.2 J (117)	U (133)
Vanadium	15	290	15	41 J (2.2)	30 J (2.6)	31 J (2.4)	49 J (2.5)	33 J (2.4)
Zinc	66000	12000	12000	33 (8.9)	32 (11)	36 (9.7)	24 (10)	48 (9.6)

Notes:

- All concentrations are presented in milligrams per kilogram (mg/kg).
- Only compounds with at least one detection are shown.
- The Soil to Groundwater values for nitrate and nitrite are 100x the Federal maximum contaminant level (MCL).
- The values for chromium III are used to evaluate chromium (total).
- Blank cells in columns with criteria indicate that no value has been established.
- Concentrations that exceed the PADEP Residential Direct Contact Values (0-15ft) are **boldfaced**.
- Concentrations that exceed the PADEP Soil to Groundwater Values - Residential Used Aquifer - TDS <= 2500 MG/L are double underlined.

Abbreviations:

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 GW -- Groundwater.
 TDS -- Total Dissolved Solids.
 U -- Not Detected.
 MG/L - Milligrams Per Liter.
 J -- Estimated Concentration.
 R -- Unreliable Result.
 () -- Reporting Limit.
 -- -- Not Analyzed

TABLE 5-1
Soil Sampling Results
Lois E. Whisler Property
Miller Chemical & Fertilizer, Hanover, Pennsylvania

Location Location Type Field Sample ID Lab Sample ID(s) Collection Depth (ft bgs) Sample Method Sample Date Comments	PADEP Residential Direct Contact Values (0-15ft)	PADEP Soil to GW Values - Residential Used Aquifer - TDS <= 2500 MG/L	PADEP Residential MSC	WH-BACK-07 Background WH-BACK-07-GB-120915 15121024-018 / 15121029-018 0.5 - 1 Grab 12/9/2015	WH-BACK-07 Background WH-BACK-07-GC-120915 15121024-019 / 15121029-019 1 - 2 Grab 12/9/2015	WH-BACK-07 Background WH-BACK-07-G3.2-4.2-120915 15121024-020 / 15121029-020 3.2 - 4.2 Grab 12/9/2015	WH-BACK-08 Background WH-Back-08-GA-120115 15120318-005 / 15120422-005 0 - 0.25 Grab 12/1/2015
INORG							
Aluminum	190000		190000	19000 (2600)	30000 (2100)	18000 (2300)	24000 (3000)
Ammonia	1900	3000	1900	--	--	--	--
Arsenic	12	29	12	6.8 J (0.52)	7.4 J (0.43)	4.8 J (0.45)	6 (0.59)
Barium	44000	8200	8200	130 J (2.6)	110 J (2.1)	79 J (2.3)	130 (3)
Beryllium	2	320	2	R (2.6)	R (2.1)	R (2.3)	U (3)
Boron	44000	1900	1900	R (26)	R (21)	R (23)	UJ (30)
Calcium				1800 (52)	3100 (2100)	3300 (2300)	UJ (3600)
Chromium (total)	190000	190000	190000	25 J (2.6)	37 J (2.1)	19 J (2.3)	24 (3)
Cobalt	66	59	59	17 J (2.6)	5.5 J (2.1)	7.1 J (2.3)	8.8 (3)
Copper	8100		8100	9.7 J (2.6)	9 J (2.1)	13 J (2.3)	10 (3)
Iron	150000		150000	23000 J (2600)	27000 J (2100)	22000 J (2300)	29000 (3000)
Lead	500	450	450	21 J (2.6)	14 J (2.1)	12 J (2.3)	24 (3)
Magnesium				2300 (52)	2800 (2100)	2100 (45)	2900 (59)
Manganese	10000	2000	2000	910 J (130)	79 J (110)	38 J (2.3)	480 (150)
Mercury	35	10	10	UJ (0.1)	0.082 J (0.086)	0.058 J (0.091)	0.061 J (0.12)
Nickel	4400	650	650	15 J (2.6)	20 J (2.1)	17 J (2.3)	12 (3)
Nitrate	350000	1000	1000	2.9 J (12.1)	2 J (12.2)	1.3 J (12.7)	U (13)
Total Kjeldahl Nitrogen				1250 (90.5)	609 (93)	226 (94.5)	2460 (98.4)
Phosphorus (total)				382 (60.9)	69.8 (12.3)	814 (67.1)	483 (64.9)
Potassium				2200 (52)	2500 (2100)	3400 (2300)	2600 (59)
Sodium				UJ (52)	31 J (43)	UJ (45)	37 J (59)
Sulfate				11.6 J (121)	5.6 J (122)	7.4 J (127)	U (130)
Vanadium	15	290	15	35 J (2.6)	44 J (2.1)	25 J (2.3)	37 J (3)
Zinc	66000	12000	12000	38 J (10)	25 J (8.6)	20 J (9.1)	40 (12)

Notes:

- All concentrations are presented in milligrams per kilogram (mg/kg).
- Only compounds with at least one detection are shown.
- The Soil to Groundwater values for nitrate and nitrite are 100x the Federal maximum contaminant level (MCL).
- The values for chromium III are used to evaluate chromium (total).
- Blank cells in columns with criteria indicate that no value has been established.
- Concentrations that exceed the PADEP Residential Direct Contact Values (0-15ft) are **boldfaced**.
- Concentrations that exceed the PADEP Soil to Groundwater Values - Residential Used Aquifer - TDS <= 2500 MG/L are double underlined.

Abbreviations:

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 GW -- Groundwater.
 TDS -- Total Dissolved Solids.
 U -- Not Detected.
 MG/L - Milligrams Per Liter.
 J -- Estimated Concentration.
 R -- Unreliable Result.
 () -- Reporting Limit.
 -- -- Not Analyzed

TABLE S-1
Soil Sampling Results
Lois E. Whisler Property
Miller Chemical & Fertilizer, Hanover, Pennsylvania

Location Location Type Field Sample ID	PADEP Residential Direct Contact Values (0-15ft)	PADEP Soil to GW Values - Residential Used Aquifer - TDS <= 2500 MG/L	PADEP Residential MSC	WH-BACK-08 Background WH-BACK-08-GB-120915 15121024-016 / 15121029-016 0.5 - 1 Grab 12/9/2015	WH-BACK-08 Background WH-BACK-08-GC-120915 15121024-017 / 15121029-017 1 - 2 Grab 12/9/2015	WH-BACK-09 Background WH-BACK-09-GA-120115 15120318-003 / 15120422-003 0 - 0.25 Grab 12/1/2015	WH-BACK-09 Background WH-BACK-09-GB-120915 15121025-001 / 15121030-001 0.5 - 1 Grab 12/9/2015	WH-BACK-09 Background WH-BACK-09-GC-120915 15121025-002 / 15121030-002 1 - 2 Grab 12/9/2015
Lab Sample ID(s) Collection Depth (ft bgs) Sample Method Sample Date Comments								
INORG								
Aluminum	190000		190000	30000 (2100)	35000 (3000)	27000 (3300)	32000 (2300)	54000 (2300)
Ammonia	1900	3000	1900	--	--	--	--	--
Arsenic	12	29	12	8.7 J (0.42)	6.5 J (0.59)	6.2 (0.66)	7.6 J (0.47)	8.2 J (0.46)
Barium	44000	8200	8200	180 J (2.1)	160 J (3)	120 (3.3)	91 (2.3)	210 (2.3)
Beryllium	2	320	2	R (2.1)	R (3)	U (3.3)	U (2.3)	U (2.3)
Boron	44000	1900	1900	R (21)	R (30)	U (33)	U (23)	U (23)
Calcium				3200 (2100)	3300 (3000)	U (1700)	1200 (47)	1700 (46)
Chromium (total)	190000	190000	190000	31 J (2.1)	39 J (3)	26 (3.3)	33 J (2.3)	40 J (2.3)
Cobalt	66	59	59	17 J (2.1)	9.7 J (3)	11 (3.3)	11 (2.3)	16 (2.3)
Copper	8100		8100	10 J (2.1)	12 J (3)	12 (3.3)	16 J (2.3)	19 J (2.3)
Iron	150000		150000	33000 J (2100)	36000 J (3000)	30000 (3300)	35000 (2300)	50000 (2300)
Lead	500	450	450	22 J (2.1)	16 J (3)	22 (3.3)	18 (2.3)	32 (2.3)
Magnesium				3500 (2100)	4100 (3000)	2800 (66)	4000 (2300)	4200 (2300)
Manganese	10000	2000	2000	640 J (100)	130 J (150)	710 (170)	280 (120)	790 (120)
Mercury	35	10	10	0.052 J (0.083)	U (0.12)	U (0.13)	0.056 J (0.093)	0.13 J (0.093)
Nickel	4400	650	650	20 J (2.1)	24 J (3)	14 (3.3)	17 (2.3)	24 (2.3)
Nitrate	350000	1000	1000	2.9 J (12.2)	2 J (12.3)	U (13.5)	4.2 J (12.2)	3.3 J (12.8)
Total Kjeldahl Nitrogen				907 (89.8)	495 (93)	3640 (100)	686 (91.2)	394 (96.6)
Phosphorus (total)				131 (56.4)	95.4 (12.4)	558 (66.8)	226 (56.8)	146 (13.6)
Potassium				2700 (2100)	3100 (3000)	2900 (66)	3300 (2300)	4900 (2300)
Sodium				40 J (42)	47 J (59)	U (66)	28 J (47)	32 J (46)
Sulfate				4.6 J (122)	7.1 J (123)	U (135)	U (122)	40.7 J (128)
Vanadium	15	290	15	50 J (2.1)	47 J (3)	37 J (3.3)	42 (2.3)	53 (2.3)
Zinc	66000	12000	12000	36 J (8.3)	40 J (12)	44 (13)	39 J (9.3)	35 J (9.3)

Notes:

- All concentrations are presented in milligrams per kilogram (mg/kg).
- Only compounds with at least one detection are shown.
- The Soil to Groundwater values for nitrate and nitrite are 100x the Federal maximum contaminant level (MCL).
- The values for chromium III are used to evaluate chromium (total).
- Blank cells in columns with criteria indicate that no value has been established.
- Concentrations that exceed the PADEP Residential Direct Contact Values (0-15ft) are boldfaced.
- Concentrations that exceed the PADEP Soil to Groundwater Values - Residential Used Aquifer - TDS <= 2500 MG/L are double underlined.

Abbreviations:

- MSC -- Medium Specific Concentration.
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- TDS -- Total Dissolved Solids.
- U -- Not Detected.
- MG/L - Milligrams Per Liter.
- J -- Estimated Concentration.
- R -- Unreliable Result.
- () -- Reporting Limit.
- -- Not Analyzed

TABLE 5-1
Soil Sampling Results
Lois E. Whisler Property
Miller Chemical & Fertilizer, Hanover, Pennsylvania

Location Location Type Field Sample ID	PADEP Residential Direct Contact Values (0-15ft)	PADEP Soil to GW Values - Residential Used Aquifer - TDS <= 2500 MG/L	PADEP Residential MSC	WH-BACK-10	WH-BACK-10	WH-BACK-10	WH-BACK-10	WH-BACK-11
				Background WH-Back-10-GA-120115 15120318-006 / 15120422-006	Background WH-Back-10-GB-120915 15121024-015 / 15121029-015	Background WH-Back-10-GC-120915 15121024-014 / 15121029-014	Background WH-Back-10-GD-120915 15121024-013 / 15121029-013	Background WH-Back-11-GA-120115 15120318-002 / 15120422-002
Lab Sample ID(s) Collection Depth (ft bgs) Sample Method Sample Date Comments				0 - 0.25 Grab 12/1/2015	0.5 - 1 Grab 12/9/2015	1 - 2 Grab 12/9/2015	4 - 5 Grab 12/9/2015	0 - 0.25 Grab 12/1/2015
INORG								
Aluminum	190000		190000	33000 (3400)	29000 (2000)	25000 (2300)	21000 (2200)	19000 (2600)
Ammonia	1900	3000	1900	--	--	--	--	--
Arsenic	12	29	12	7 (0.68)	6.1 J (0.41)	5.7 J (0.46)	3.9 J (0.45)	5.4 (0.52)
Barium	44000	8200	8200	180 (3.4)	100 J (2)	72 J (2.3)	95 J (2.2)	110 (2.6)
Beryllium	2	320	2	U (3.4)	R (2)	R (2.3)	R (2.2)	U (2.6)
Boron	44000	1900	1900	UJ (34)	R (20)	R (23)	R (22)	UJ (26)
Calcium				UJ (1900)	700 (41)	500 (46)	3300 (2200)	UJ (2200)
Chromium (total)	190000	190000	190000	27 (3.4)	25 J (2)	24 J (2.3)	23 J (2.2)	23 (2.6)
Cobalt	66	59	59	14 (3.4)	8.7 J (2)	6.7 J (2.3)	8.3 J (2.2)	9.5 (2.6)
Copper	8100		8100	15 (3.4)	13 J (2)	15 J (2.3)	15 J (2.2)	8.3 (2.6)
Iron	150000		150000	40000 (3400)	32000 (2000)	30000 (2300)	27000 (2200)	22000 (2600)
Lead	500	450	450	30 (3.4)	16 J (2)	12 J (2.3)	9.5 J (2.2)	21 (2.6)
Magnesium				3100 (68)	1900 (41)	1900 (46)	11000 (2200)	2000 (52)
Manganese	10000	2000	2000	1200 (170)	630 J (100)	130 J (120)	210 J (110)	950 (130)
Mercury	35	10	10	U (0.14)	0.043 J (0.082)	0.07 J (0.093)	U (0.089)	0.057 J (0.1)
Nickel	4400	650	650	15 (3.4)	13 J (2)	15 J (2.3)	23 J (2.2)	10 (2.6)
Nitrate	350000	1000	1000	U (13.4)	2.7 J (12.1)	1.9 (0.66)	1.2 J (12.3)	1.2 J (14.5)
Total Kjeldahl Nitrogen				2520 (101)	494 (92.4)	283 (91.6)	209 (91.7)	3230 (111)
Phosphorus (total)				665 (66)	254 (56.1)	144 (62.4)	933 (61.3)	597 (72.1)
Potassium				3300 (68)	3200 (2000)	2700 (2300)	4400 (2200)	1200 (52)
Sodium				U (68)	UJ (41)	UJ (46)	24 J (45)	U (52)
Sulfate				U (134)	10.2 J (121)	53.8 (2.7)	13 J (123)	U (145)
Vanadium	15	290	15	41 J (3.4)	33 J (2)	33 J (2.3)	24 J (2.2)	33 J (2.6)
Zinc	66000	12000	12000	54 (14)	30 J (8.2)	25 J (9.3)	39 J (8.9)	39 (10)

Notes:

- All concentrations are presented in milligrams per kilogram (mg/kg).
- Only compounds with at least one detection are shown.
- The Soil to Groundwater values for nitrate and nitrite are 100x the Federal maximum contaminant level (MCL).
- The values for chromium III are used to evaluate chromium (total).
- Blank cells in columns with criteria indicate that no value has been established.
- Concentrations that exceed the PADEP Residential Direct Contact Values (0-15ft) are boldfaced.
- Concentrations that exceed the PADEP Soil to Groundwater Values - Residential Used Aquifer - TDS <= 2500 MG/L are double underlined.

Abbreviations:

- MSC -- Medium Specific Concentration.
- GW -- Groundwater.
- TDS -- Total Dissolved Solids.
- U -- Not Detected.
- MG/L - Milligrams Per Liter.
- J -- Estimated Concentration.
- R -- Unreliable Result.
- () -- Reporting Limit.
- -- Not Analyzed

TABLE 5-1
Soil Sampling Results
Lois E. Whisler Property
Miller Chemical & Fertilizer, Hanover, Pennsylvania

Location Location Type Field Sample ID	PADEP Residential Direct Contact Values (0-15ft)	PADEP Soil to GW Values - Residential Used Aquifer - TDS <= 2500 MG/L	PADEP Residential MSC	WH-BACK-11 Background WH-BACK-11-GB-120915 15121024-011 / 15121029-011 0.5 - 1 Grab 12/9/2015	WH-BACK-11 Background WH-BACK-11-GC-120915 15121024-012 / 15121029-012 1 - 2 Grab 12/9/2015	WH-BACK-12 Background WH-BACK-12-GA-120115 15120318-001 / 15120422-001 0 - 0.25 Grab 12/1/2015	WH-BACK-12 Background WH-BACK-12-GB-120915 15121024-009 / 15121029-009 0.5 - 1 Grab 12/9/2015	WH-BACK-12 Background WH-BACK-12-GC-120915 15121024-010 / 15121029-010 1 - 2 Grab 12/9/2015
Lab Sample ID(s) Collection Depth (ft bgs) Sample Method Sample Date Comments								
INORG								
Aluminum	190000		190000	16000 (2900)	22000 (2700)	22000 (3300)	25000 (2600)	22000 (2300)
Ammonia	1900	3000	1900	--	--	--	--	--
Arsenic	12	29	12	5.6 J (0.57)	5.7 J (0.54)	5.6 (0.66)	6.6 J (0.51)	6 J (0.46)
Barium	44000	8200	8200	110 J (2.9)	200 J (2.7)	140 (3.3)	77 J (2.6)	52 J (2.3)
Beryllium	2	320	2	R (2.9)	R (2.7)	U (3.3)	R (2.6)	R (2.3)
Boron	44000	1900	1900	R (2.9)	R (2.7)	U (3.3)	R (2.6)	R (2.3)
Calcium				1100 (57)	600 (54)	U (6700)	1100 (51)	580 (46)
Chromium (total)	190000	190000	190000	22 J (2.9)	26 J (2.7)	23 (3.3)	39 J (2.6)	30 J (2.3)
Cobalt	66	59	59	9.9 J (2.9)	36 J (2.7)	12 (3.3)	6.5 J (2.6)	5.2 J (2.3)
Copper	8100		8100	7.7 J (2.9)	10 J (2.7)	13 (3.3)	11 J (2.6)	10 J (2.3)
Iron	150000		150000	15000 (2900)	23000 (2700)	30000 (3300)	38000 (2600)	29000 (2300)
Lead	500	450	450	19 J (2.9)	30 J (2.7)	28 (3.3)	13 J (2.6)	13 J (2.3)
Magnesium				1800 (57)	2100 (54)	2500 (66)	1700 (51)	1400 (46)
Manganese	10000	2000	2000	760 J (140)	<u>2500 J (130)</u>	1100 (160)	130 J (130)	92 J (110)
Mercury	35	10	10	U (0.11)	U (0.11)	0.066 J (0.13)	U (0.1)	0.077 J (0.091)
Nickel	4400	650	650	12 J (2.9)	14 J (2.7)	11 (3.3)	13 J (2.6)	14 J (2.3)
Nitrate	350000	1000	1000	3.4 J (12.2)	2.2 J (12)	0.81 J (13.5)	2 J (12.3)	1.7 J (12)
Total Kjeldahl Nitrogen				721 (91.4)	225 (90.2)	2610 (99.9)	695 (91.6)	377 (90.7)
Phosphorus (total)				428 (61.2)	160 (60.9)	581 (67.1)	220 (62.4)	151 (61.8)
Potassium				1100 (57)	1800 (54)	1900 (66)	1800 (51)	1500 (46)
Sodium				U (57)	U (54)	U (66)	U (51)	U (46)
Sulfate				3.2 J (122)	62.7 J (120)	U (135)	U (123)	U (120)
Vanadium	15	290	15	32 J (2.9)	43 J (2.7)	33 J (3.3)	50 J (2.6)	42 J (2.3)
Zinc	66000	12000	12000	37 J (11)	32 J (11)	39 (13)	25 J (10)	25 J (9.1)

Notes:

- All concentrations are presented in milligrams per kilogram (mg/kg).
- Only compounds with at least one detection are shown.
- The Soil to Groundwater values for nitrate and nitrite are 100x the Federal maximum contaminant level (MCL).
- The values for chromium III are used to evaluate chromium (total).
- Blank cells in columns with criteria indicate that no value has been established.
- Concentrations that exceed the PADEP Residential Direct Contact Values (0-15ft) are boldfaced.
- Concentrations that exceed the PADEP Soil to Groundwater Values - Residential Used Aquifer - TDS <= 2500 MG/L are double underlined.

Abbreviations:

- MSC -- Medium Specific Concentration.
- GW -- Groundwater.
- TDS -- Total Dissolved Solids.
- U -- Not Detected.
- MG/L - Milligrams Per Liter.
- J -- Estimated Concentration.
- R -- Unreliable Result.
- () -- Reporting Limit.
- -- Not Analyzed

**Table 5-2: Soil Screening Summary (Comparison of Maximum Detected Concentrations to PA Criteria)
Lois E. Whisler Property, Miller Chemical & Fertilizer, Hanover, Pennsylvania**

Location Type	Chem Group	Chemical	CASRN	Analyzed	Detected	Max Detected (mg/kg)	PADEP Residential Direct Contact (0-15 ft) Values (mg/kg)	Ratio of Max Detect to PADEP Residential Direct Contact (0-15 ft) Values	PADEP Soil to Groundwater Values - Used Aquifer - TDS <= 2500 MG/L - Residential (mg/kg)	Ratio of Max Detect to PADEP Soil to Groundwater Values - Used Aquifer - TDS <= 2500 MG/L - Residential	PADEP Residential MSCs (mg/kg)	Ratio of Max Detect to PADEP Residential MSCs
Visibly Affected	INORG	Aluminum	7429-90-5	117	117	5.20E+04	1.9E+05	2.7E-01			1.9E+05	2.7E-01
Visibly Affected	INORG	Arsenic	7440-38-2	117	116	2.20E+01	1.2E+01	1.8E+00	2.9E+01	7.6E-01	1.2E+01	1.8E+00
Visibly Affected	INORG	Barium	7440-39-3	117	117	2.50E+02	4.4E+04	5.7E-03	8.2E+03	3.0E-02	8.2E+03	3.0E-02
Visibly Affected	INORG	Beryllium	7440-41-7	117	31	1.80E+00	2.0E+00	9.0E-01	3.2E+02	5.6E-03	2.0E+00	9.0E-01
Visibly Affected	INORG	Boron	7440-42-8	75	1	2.20E+01	4.4E+04	5.0E-04	1.9E+03	1.2E-02	1.9E+03	1.2E-02
Visibly Affected	INORG	Calcium	7440-70-2	117	113	3.10E+05						
Visibly Affected	INORG	Chromium (total)	7440-47-3	117	117	5.60E+01	1.9E+05	2.9E-04	1.9E+05	2.9E-04	1.9E+05	2.9E-04
Visibly Affected	INORG	Cobalt	7440-48-4	117	117	3.20E+01	6.6E+01	4.8E-01	5.9E+01	5.4E-01	5.9E+01	5.4E-01
Visibly Affected	INORG	Copper	7440-50-8	117	110	1.70E+02	8.1E+03	2.1E-02			8.1E+03	2.1E-02
Visibly Affected	INORG	Iron	7439-89-6	117	117	1.50E+05	1.5E+05	1.0E+00			1.5E+05	1.0E+00
Visibly Affected	INORG	Lead	7439-92-1	117	117	3.90E+01	5.0E+02	7.8E-02	4.5E+02	8.7E-02	4.5E+02	8.7E-02
Visibly Affected	INORG	Magnesium	7439-95-4	117	109	2.00E+04						
Visibly Affected	INORG	Manganese	7439-96-5	117	117	2.70E+03	1.0E+04	2.7E-01	2.0E+03	1.4E+00	2.0E+03	1.4E+00
Visibly Affected	INORG	Mercury	7439-97-6	117	78	1.10E-01	3.5E+01	3.1E-03	1.0E+01	1.1E-02	1.0E+01	1.1E-02
Visibly Affected	INORG	Nickel	7440-02-0	117	117	3.70E+01	4.4E+03	8.4E-03	6.5E+02	5.7E-02	6.5E+02	5.7E-02
Visibly Affected	INORG	Nitrate	14797-55-8	117	61	1.66E+01	3.5E+05	4.7E-05	1.0E+03	1.7E-02	1.0E+03	1.7E-02
Visibly Affected	INORG	Total Kjeldahl Nitrogen	C-021	117	117	6.71E+03						
Visibly Affected	INORG	Phosphorus (total)	7723-14-0	117	117	2.34E+03						
Visibly Affected	INORG	Potassium	7440-09-7	117	107	8.50E+03						
Visibly Affected	INORG	Sodium	7440-23-5	117	76	2.50E+02						
Visibly Affected	INORG	Sulfate	14808-79-8	117	103	5.97E+01						
Visibly Affected	INORG	Vanadium	7440-62-2	117	117	6.80E+01	1.5E+01	4.5E+00	2.9E+02	2.3E-01	1.5E+01	4.5E+00
Visibly Affected	INORG	Zinc	7440-66-6	117	98	2.30E+02	6.6E+04	3.5E-03	1.2E+04	1.9E-02	1.2E+04	1.9E-02
Disturbed Area	INORG	Aluminum	7429-90-5	6	6	3.60E+04	1.9E+05	1.9E-01			1.9E+05	1.9E-01
Disturbed Area	INORG	Arsenic	7440-38-2	6	6	1.10E+01	1.2E+01	9.2E-01	2.9E+01	3.8E-01	1.2E+01	9.2E-01
Disturbed Area	INORG	Barium	7440-39-3	6	6	2.20E+02	4.4E+04	5.0E-03	8.2E+03	2.7E-02	8.2E+03	2.7E-02
Disturbed Area	INORG	Calcium	7440-70-2	6	6	4.80E+03						
Disturbed Area	INORG	Chromium (total)	7440-47-3	6	6	3.10E+01	1.9E+05	1.6E-04	1.9E+05	1.6E-04	1.9E+05	1.6E-04
Disturbed Area	INORG	Cobalt	7440-48-4	6	6	2.30E+01	6.6E+01	3.5E-01	5.9E+01	3.9E-01	5.9E+01	3.9E-01
Disturbed Area	INORG	Copper	7440-50-8	6	6	3.30E+01	8.1E+03	4.1E-03			8.1E+03	4.1E-03
Disturbed Area	INORG	Iron	7439-89-6	6	6	6.10E+04	1.5E+05	4.1E-01			1.5E+05	4.1E-01
Disturbed Area	INORG	Lead	7439-92-1	6	6	2.80E+01	5.0E+02	5.6E-02	4.5E+02	6.2E-02	4.5E+02	6.2E-02
Disturbed Area	INORG	Magnesium	7439-95-4	6	6	1.20E+04						
Disturbed Area	INORG	Manganese	7439-96-5	6	6	1.60E+03	1.0E+04	1.6E-01	2.0E+03	8.0E-01	2.0E+03	8.0E-01
Disturbed Area	INORG	Mercury	7439-97-6	6	4	8.20E-02	3.5E+01	2.3E-01	1.0E+01	8.2E-03	1.0E+01	8.2E-03
Disturbed Area	INORG	Nickel	7440-02-0	6	6	4.20E+01	4.4E+03	9.5E-03	6.5E+02	6.5E-02	6.5E+02	6.5E-02
Disturbed Area	INORG	Nitrate	14797-55-8	6	3	4.50E+00	3.5E+05	1.3E-05	1.0E+03	4.5E-03	1.0E+03	4.5E-03
Disturbed Area	INORG	Total Kjeldahl Nitrogen	C-021	6	6	1.51E+03						

**Table 5-2: Soil Screening Summary (Comparison of Maximum Detected Concentrations to PA Criteria)
Lois E. Whisler Property, Miller Chemical & Fertilizer, Hanover, Pennsylvania**

Location Type	Chem Group	Chemical	CASRN	Analyzed	Detected	Max Detected (mg/kg)	PADEP Residential Direct Contact (0-15 ft) Values (mg/kg)	Ratio of Max Detect to PADEP Residential Direct Contact (0-15 ft) Values	PADEP Soil to Groundwater Values - Used Aquifer - TDS <= 2500 MG/L - Residential (mg/kg)	Ratio of Max Detect to PADEP Soil to Groundwater Values - Used Aquifer - TDS <= 2500 MG/L - Residential	PADEP Residential MSCs (mg/kg)	Ratio of Max Detect to PADEP Residential MSCs
Disturbed Area	INORG	Phosphorus (total)	7723-14-0	6	6	9.20E+02						
Disturbed Area	INORG	Potassium	7440-09-7	6	6	4.80E+03						
Disturbed Area	INORG	Sodium	7440-23-5	6	6	4.30E+01						
Disturbed Area	INORG	Sulfate	14808-79-8	6	3	1.06E+01						
Disturbed Area	INORG	Vanadium	7440-62-2	6	6	4.50E+01	1.5E+01	3.0E+00	2.9E+02	1.6E-01	1.5E+01	3.0E+00
Disturbed Area	INORG	Zinc	7440-66-6	6	6	7.90E+01	6.6E+04	1.2E-03	1.2E+04	6.6E-03	1.2E+04	6.6E-03
Boundary	INORG	Aluminum	7429-90-5	17	17	4.10E+04	1.9E+05	2.2E-01			1.9E+05	2.2E-01
Boundary	INORG	Arsenic	7440-38-2	17	17	8.80E+00	1.2E+01	7.3E-01	2.9E+01	3.0E-01	1.2E+01	7.3E-01
Boundary	INORG	Barium	7440-39-3	17	17	3.50E+02	4.4E+04	8.0E-03	8.2E+03	4.3E-02	8.2E+03	4.3E-02
Boundary	INORG	Beryllium	7440-41-7	17	2	1.60E+00	2.0E+00	8.0E-01	3.2E+02	5.0E-03	2.0E+00	8.0E-01
Boundary	INORG	Calcium	7440-70-2	17	9	2.50E+04						
Boundary	INORG	Chromium (total)	7440-47-3	17	17	3.30E+01	1.9E+05	1.7E-04	1.9E+05	1.7E-04	1.9E+05	1.7E-04
Boundary	INORG	Cobalt	7440-48-4	17	17	1.30E+01	6.6E+01	2.0E-01	5.9E+01	2.2E-01	5.9E+01	2.2E-01
Boundary	INORG	Copper	7440-50-8	17	17	1.60E+01	8.1E+03	2.0E-03			8.1E+03	2.0E-03
Boundary	INORG	Iron	7439-89-6	17	17	4.50E+04	1.5E+05	3.0E-01			1.5E+05	3.0E-01
Boundary	INORG	Lead	7439-92-1	17	17	3.80E+01	5.0E+02	7.6E-02	4.5E+02	8.4E-02	4.5E+02	8.4E-02
Boundary	INORG	Magnesium	7439-95-4	17	14	4.80E+03						
Boundary	INORG	Manganese	7439-96-5	17	17	3.10E+03	1.0E+04	3.1E-01	2.0E+03	1.6E+00	2.0E+03	1.6E+00
Boundary	INORG	Mercury	7439-97-6	17	4	7.10E-02	3.5E+01	2.0E-03	1.0E+01	7.1E-03	1.0E+01	7.1E-03
Boundary	INORG	Nickel	7440-02-0	17	17	1.80E+01	4.4E+03	4.1E-03	6.5E+02	2.8E-02	6.5E+02	2.8E-02
Boundary	INORG	Nitrate	14797-55-8	17	5	1.50E+00	3.5E+05	4.3E-06	1.0E+03	1.5E-03	1.0E+03	1.5E-03
Boundary	INORG	Total Kjeldahl Nitrogen	C-021	17	17	3.26E+03						
Boundary	INORG	Phosphorus (total)	7723-14-0	17	17	8.01E+02						
Boundary	INORG	Potassium	7440-09-7	17	17	3.60E+03						
Boundary	INORG	Sodium	7440-23-5	17	8	6.40E+01						
Boundary	INORG	Sulfate	14808-79-8	17	4	9.40E+00						
Boundary	INORG	Vanadium	7440-62-2	17	17	4.90E+01	1.5E+01	3.3E+00	2.9E+02	1.7E-01	1.5E+01	3.3E+00
Boundary	INORG	Zinc	7440-66-6	17	8	7.10E+01	6.6E+04	1.1E-03	1.2E+04	5.9E-03	1.2E+04	5.9E-03
Background	INORG	Ammonia	7664-41-7	3	3	1.30E+02	1.9E+03	6.8E-02	3.0E+03	4.3E-02	1.9E+03	6.8E-02
Background	INORG	Aluminum	7429-90-5	44	44	5.40E+04	1.9E+05	2.8E-01			1.9E+05	2.8E-01
Background	INORG	Arsenic	7440-38-2	44	44	9.40E+00	1.2E+01	7.8E-01	2.9E+01	3.2E-01	1.2E+01	7.8E-01
Background	INORG	Barium	7440-39-3	44	44	2.80E+02	4.4E+04	6.4E-03	8.2E+03	3.4E-02	8.2E+03	3.4E-02
Background	INORG	Beryllium	7440-41-7	32	2	1.80E+00	2.0E+00	9.0E-01	3.2E+02	5.6E-03	2.0E+00	9.0E-01
Background	INORG	Calcium	7440-70-2	40	28	7.20E+03						
Background	INORG	Chromium (total)	7440-47-3	44	44	4.80E+01	1.9E+05	2.5E-04	1.9E+05	2.5E-04	1.9E+05	2.5E-04
Background	INORG	Cobalt	7440-48-4	44	44	3.60E+01	6.6E+01	5.5E-01	5.9E+01	6.1E-01	5.9E+01	6.1E-01
Background	INORG	Copper	7440-50-8	44	44	1.90E+01	8.1E+03	2.3E-03			8.1E+03	2.3E-03
Background	INORG	Iron	7439-89-6	44	44	5.20E+04	1.5E+05	3.5E-01			1.5E+05	3.5E-01

**Table 5-2: Soil Screening Summary (Comparison of Maximum Detected Concentrations to PA Criteria)
Lois E. Whisler Property, Miller Chemical & Fertilizer, Hanover, Pennsylvania**

Location Type	Chem Group	Chemical	CASRN	Analyzed	Detected	Max Detected (mg/kg)	PADEP Residential Direct Contact (0-15 ft) Values (mg/kg)	Ratio of Max Detect to PADEP Residential Direct Contact (0-15 ft) Values	PADEP Soil to Groundwater Values - Used Aquifer - TDS <= 2500 MG/L - Residential (mg/kg)	Ratio of Max Detect to PADEP Soil to Groundwater Values - Used Aquifer - TDS <= 2500 MG/L - Residential	PADEP Residential MSCs (mg/kg)	Ratio of Max Detect to PADEP Residential MSCs
Background	INORG	Lead	7439-92-1	44	44	3.40E+01	5.0E+02	6.8E-02	4.5E+02	7.6E-02	4.5E+02	7.6E-02
Background	INORG	Magnesium	7439-95-4	40	40	1.10E+04						
Background	INORG	Manganese	7439-96-5	44	44	2.50E+03	1.0E+04	2.5E-01	2.0E+03	1.3E+00	2.0E+03	1.3E+00
Background	INORG	Mercury	7439-97-6	44	24	1.30E-01	3.5E+01	3.7E-03	1.0E+01	1.3E-02	1.0E+01	1.3E-02
Background	INORG	Nickel	7440-02-0	44	44	4.90E+01	4.4E+03	1.1E-02	6.5E+02	7.5E-02	6.5E+02	7.5E-02
Background	INORG	Nitrate	14797-55-8	41	31	4.60E+00	3.5E+05	1.3E-05	1.0E+03	4.6E-03	1.0E+03	4.6E-03
Background	INORG	Total Kjeldahl Nitrogen	C-021	47	44	3.64E+03						
Background	INORG	Phosphorus (total)	7723-14-0	44	43	9.33E+02						
Background	INORG	Potassium	7440-09-7	44	44	4.90E+03						
Background	INORG	Sodium	7440-23-5	44	26	8.30E+01						
Background	INORG	Sulfate	14808-79-8	44	24	6.33E+01						
Background	INORG	Vanadium	7440-62-2	40	40	5.50E+01	1.5E+01	3.7E+00	2.9E+02	1.9E-01	1.5E+01	3.7E+00
Background	INORG	Zinc	7440-66-6	44	44	5.40E+01	6.6E+04	8.2E-04	1.2E+04	4.5E-03	1.2E+04	4.5E-03

Notes:

Only constituents detected in each area are shown.

Results are provided in milligrams per kilogram (mg/kg).

Ratios of concentration to the criteria greater than 1 are shaded in bold.

Chem Group - chemical group.

TDS - Total Dissolved Solids.

MSC - Medium Specific Concentration.

MG/L - Milligrams per liter.

The PADEP Soil to Groundwater Value for a Residential Used Aquifer with TDS <= 2500, per PADEP guidance, is the maximum of the generic residential value and 100 x the Groundwater value.

The PADEP Soil to Groundwater values for Nitrate and Nitrite are 100 x the Federal maximum contaminant level (MCL).

The Chromium (total) values for PADEP are the values for Chromium III.

The sample count for the visibly affected area samples includes eight duplicates.

Blank cells in columns with criteria indicate that no value has been established.

Four boundary sample locations (WH-BS-13, WH-BS-14, WH-BS-15, and WH-BS-16), all dry creek samples, and all disturbed area samples (excluding WH-DA-08 and WH-DA-12) were treated as visibly affected for the purposes of data analysis.

TABLE 5-3
Agricultural Sampling Results
Lois E. Whisler Property
Miller Chemical & Fertilizer, Hanover, Pennsylvania

Location	WHSS01	WHSS01	WHSS02	WHSS02
Field Sample ID	WHSS01020	WHSS01060	WHSS02020	WHSS02060
Lab Sample ID	S15-47874	S15-47869	S15-47875	S15-47876
Collection Depth (in bgs)	2	6	2	6
Location Type	Background	Background	Affected Area	Affected Area
Sample Method	Composite	Composite	Composite	Composite
Sample Date	12/16/2015	12/16/2015	12/16/2015	12/16/2015
Comments				
PHYS				
Acidity (total) [meq/100g]	0	0	0	0
Cation exchange capacity [meq/100g]	7.7	4.7	17.6	17
Electrical Conductivity [mmhos/cm]	0.06	0.05	0.12	0.1
pH [SU]	7.1	6.9	7.3	7.5
INORG				
Ammonium	2	1.5	1.8	2.3
Arsenic	6.73	6.43	6.48	7.47
Calcium	1125	692	4106	3863
Copper	1.2	0.9	3.6	2.8
Magnesium	216	137	261	199
Nitrate	15.4	8.5	16.5	15.9
Phosphorus (total)	60	33	111	36
Potassium	93	48	181	128
Sulfur	9.6	7.8	12.1	10
Zinc	2.4	1.1	5.5	2.8

Notes:

- 1 All concentrations are presented in mg/kg (ppm) except where otherwise noted.
- 2 Samples were analyzed at Penn State University's Agricultural Analytical Services Laboratory.

TABLE 6-1

Limited Human Health Evaluation Results
Whisler Property, Hanover, Pennsylvania

Elements / Compounds	Soil Concentration (mg/kg)	Dietary Reference Intakes (DRI's)				Soil Ingestion Rate ² (mg/day) - PADEP Residential	Soil Ingestion needed to meet minimum RDA / AI / UL value (mg)	Milligrams element/100 mg soil
		RDA / AI ¹ (mg/day) (Adult)	UL ¹ (mg/day) (Adult)	RDA / AI ¹ (mg/day) (Child)	UL ¹ (mg/day) (Child)			
Calcium	310,000	1,000	2,000	700	2,500	100	2,258	31
Magnesium	20,000	310	350	80	65	100	3,250	2
Phosphorus	2,340	700	3,000	460	3,000	100	196,581	0.23
Potassium	8,500	4,700	None	3,000	None	100	352,941	0.85
Sodium	250	1,200	2,300	1,000	1,500	100	4,000,000	0.03
Sulfate ³	63	500	None	None	None	100	7,898,894	0.01

¹Selected RDA / AI / UL values were those for the most sensitive groups of adults and children. All values are RDAs except for Potassium and Sodium (AIs).

RDA (Recommended Dietary Allowance): goal intake set to meet needs of almost all (97-98%) individuals in a group

AI (Adequate Intake): goal intake believed to cover the needs of all individuals in the group, but lack of data to prevent being able to specify with confidence the percentage of individuals covered by this intake

UL (Tolerable Upper Intake Level): maximum level of daily nutrient intake that is likely to pose no risk of adverse effects

Source: Food and Nutrition Board, Institute of Medicine, National Academies: Dietary Reference Intakes.

https://ods.od.nih.gov/Health_Information/Dietary_Reference_Intakes.aspx

²Soil ingestion rates include exposure to soil and indoor and outdoor settled dust, and account for both ingestion and inhalation (for adults and children).

Source: PADEP Residential

³Average daily intake of sulfate from all sources is used in this table (500 mg), with food being the major source. RDA/AI for sulfate is not available because recommended intake for protein and sulfur amino acids should provide adequate sulfate for synthesis of sulfur-containing compounds. No UL was set because odor and off taste usually limit intake from drinking water. Diarrhea was observed in areas where water supply had high levels.

Laxative effect has been observed in piglets and humans at 1000-1200 mg/L. No health-based guideline has been proposed, though it is recommended that health authorities be notified of sources of drinking water that contain sulfate concentrations in excess of 500 mg/L.

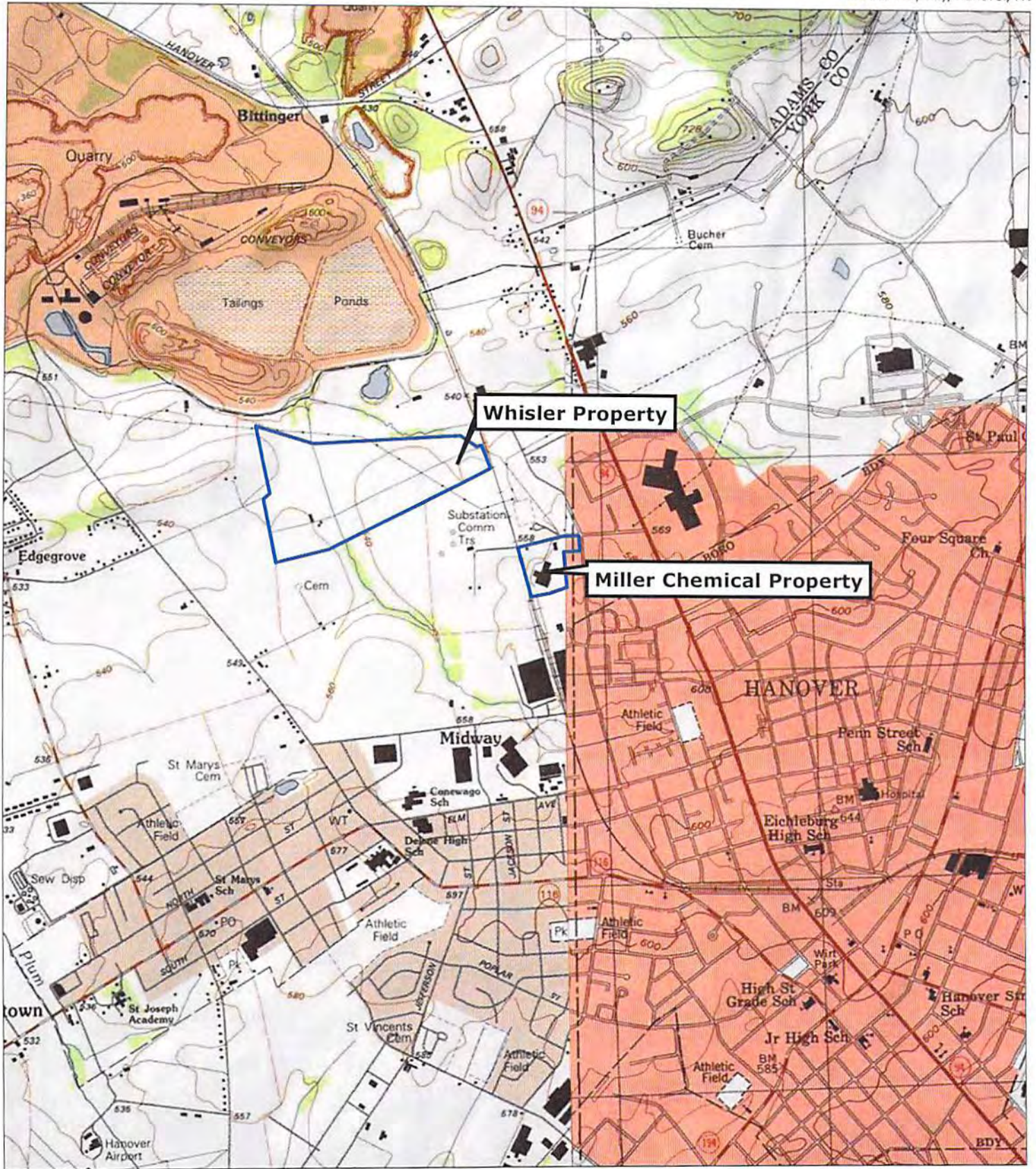
Sources: Food and Nutrition Board, Institute of Medicine, National Academies: Dietary Reference Intakes.

https://ods.od.nih.gov/Health_Information/Dietary_Reference_Intakes.aspx

WHO (2003). Chemical fact sheet in WHO Guidelines for Drinking-water Quality.

http://www.who.int/water_sanitation_health/dwq/chemicals/sulfate/en/

FIGURES



SCALE 1:24,000

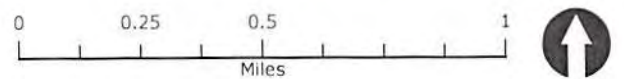
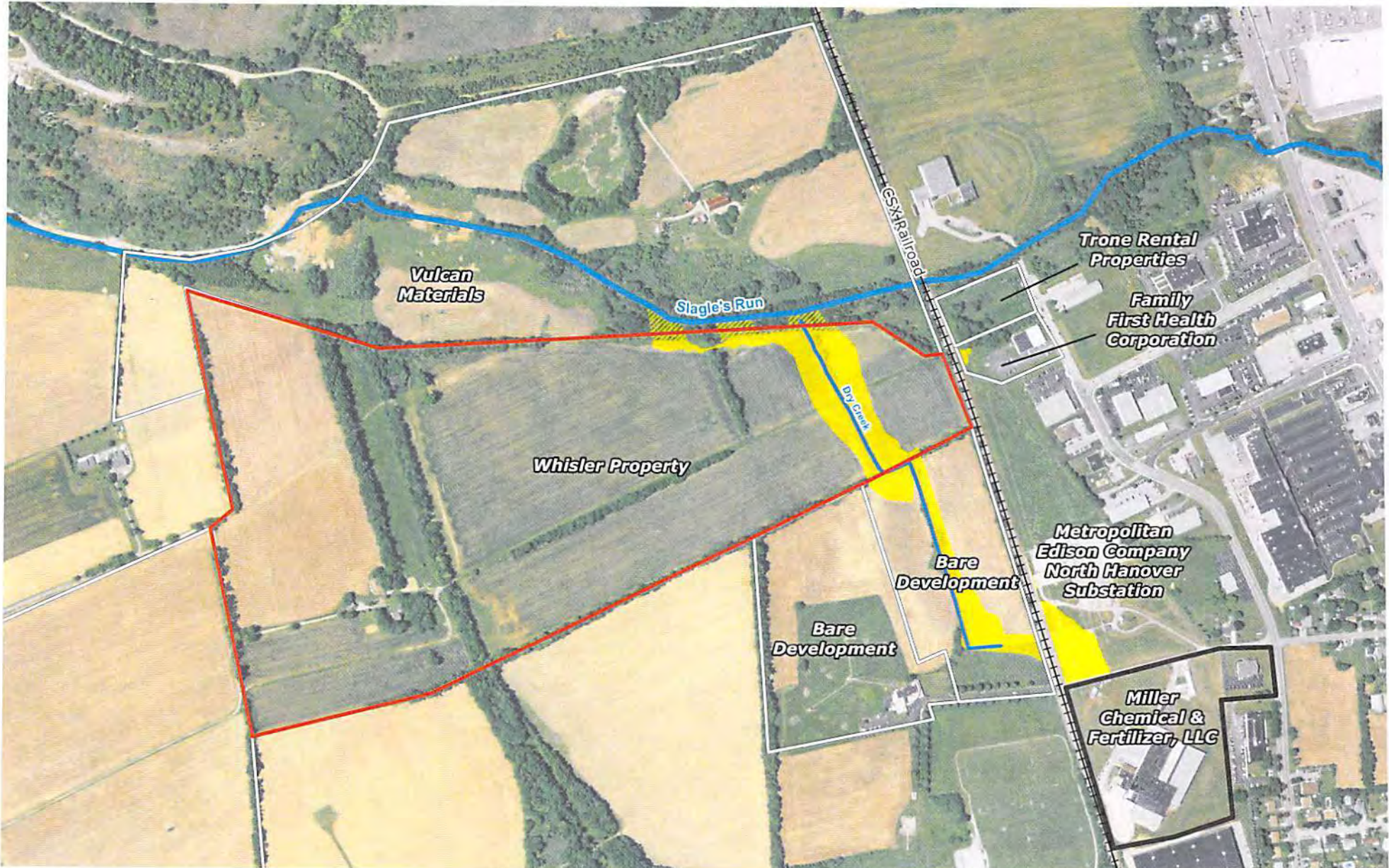


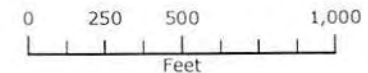
Figure 1-2
Affected Properties
Whisler Property, Hanover, PA

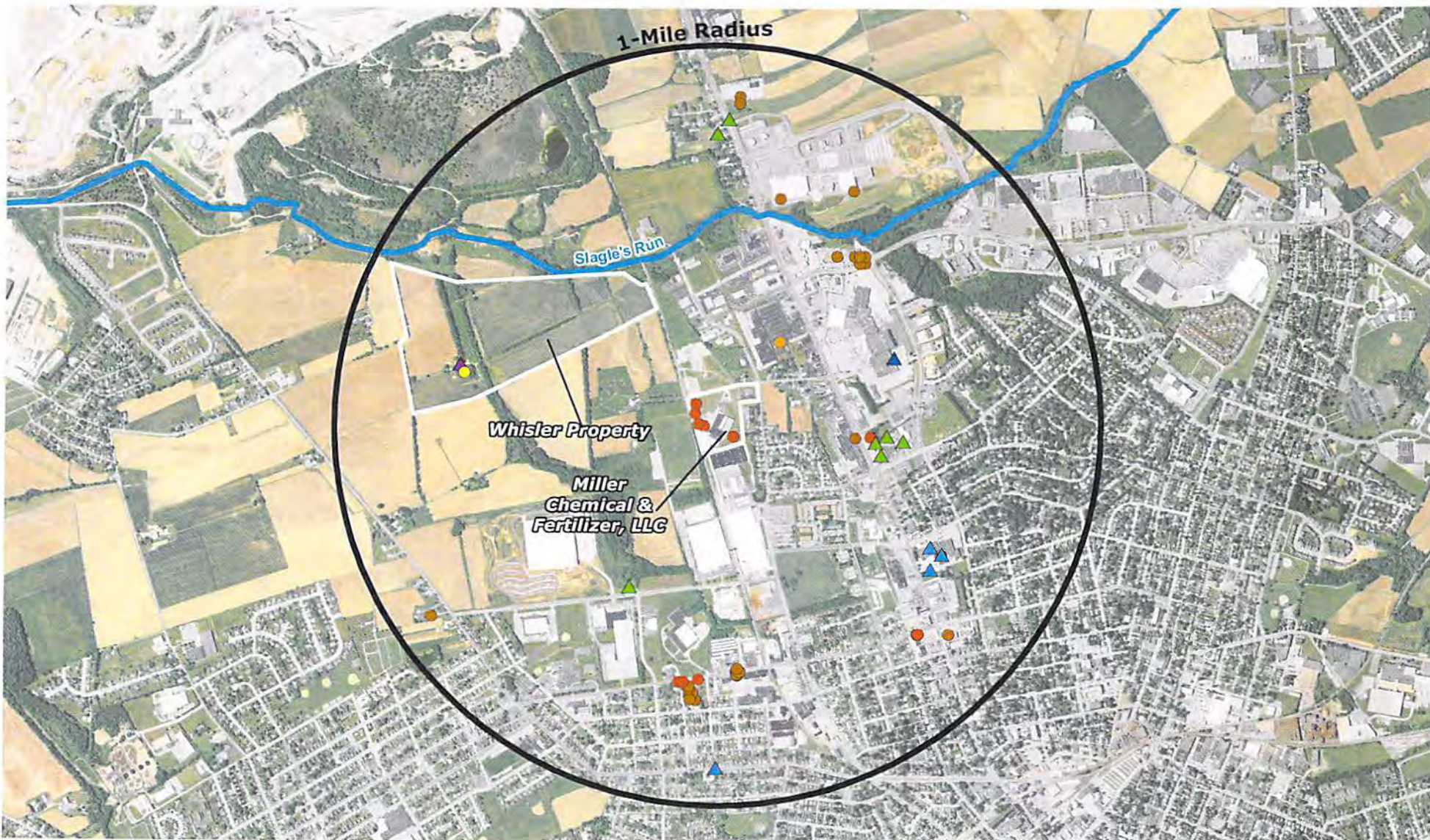


- Miller Chemical Property
- Whisler Property
- Other Off-Site Properties
- Visibly Affected Area
- Estimated Affected Area

Notes:

- (1) Location of the visibly affected area is based on the 8/28/2015 and 9/21/2015 surveys conducted by GHI and on GPS measurements collected by Ramboll Environ Staff. The estimated affected area was not mapped with the GPS because the boundaries of the impacts were not readily discernible or not safely accessible. The estimated area shown on the map is based on visual observations.
- (2) Visibly affected area on the Miller Chemical property is not shown on this figure.
- (3) Dry Creek feature is approximate.





Groundwater Well Usage

- ▲ Withdrawal - Commercial
- ▲ Withdrawal - Domestic
- ▲ Withdrawal - Industrial
- ▲ Withdrawal - Agricultural

- Spring - Approx. Location
- Monitoring
- Monitoring - Approx. Location
- Unknown, Unused, Test, Observation, Injection, Mine, or Geothermal

Notes:

- (1) Well locations are from the Pennsylvania Groundwater Information System (PaGWIS) as of February 2016.
- (2) One monitoring well was manually added based on a review of location descriptions for unmapped wells in the PaGWIS database (see orange dot).
- (3) The spring and agricultural well locations are based on information provided by Mr. Glen Whisler.
- (4) All displayed wells are within one mile of Miller Chemical.
- (5) Monitoring wells on the Miller Chemical property were installed in relation to the 2014 acquisition and were subsequently abandoned; no monitoring wells are currently present on the property.

Imagery Source: Esri Streaming Imagery

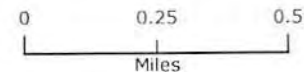
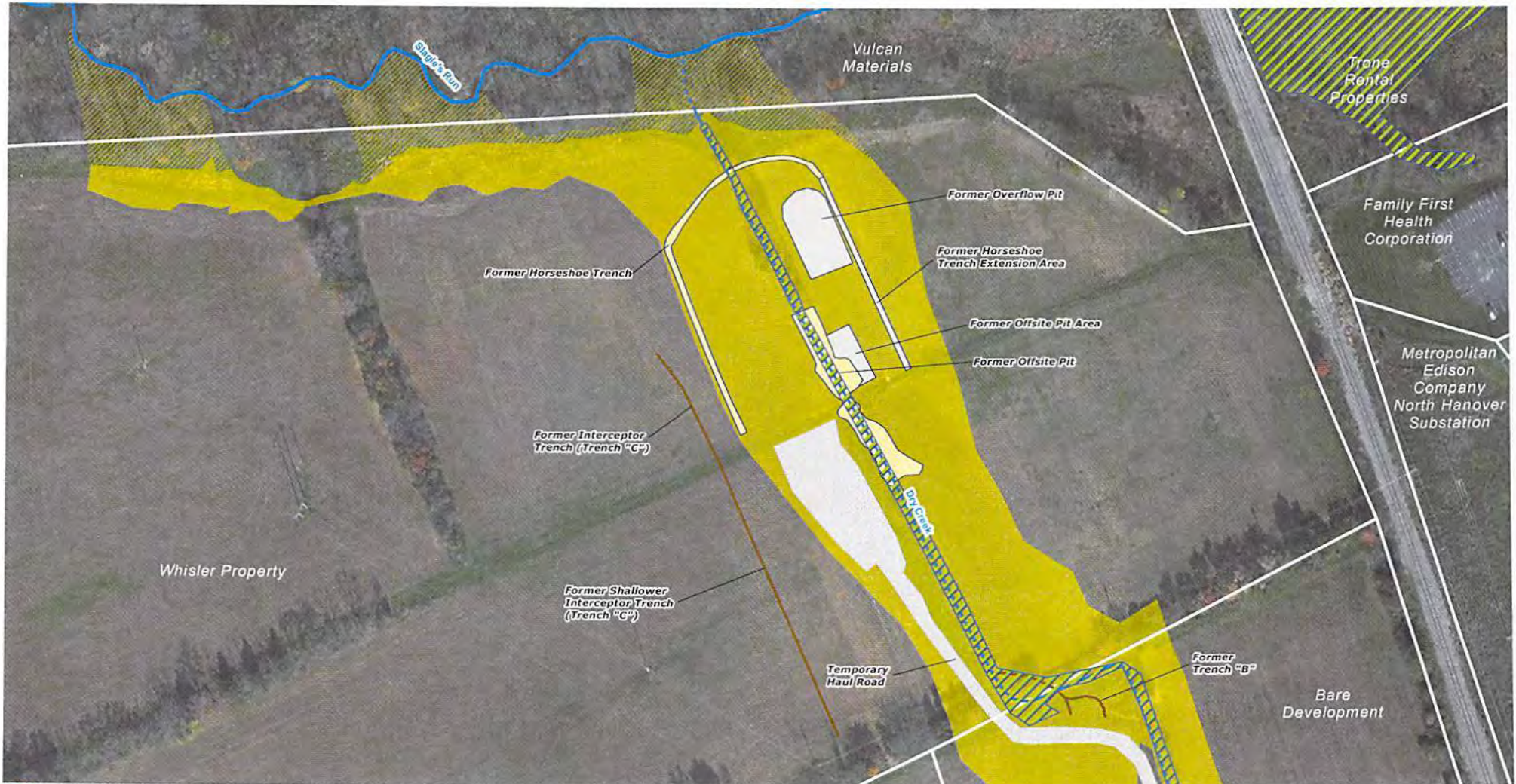





Figure 2-2
Delineated Wetland Areas
Whisler Property, Hanover, PA



-  Delineated Wetlands
-  Visibly Affected Area
-  Estimated Affected Area

Notes:
 (1) Wetland boundaries were delineated by JMT, Inc. on 11/13/2015.
 (2) Dry Creek feature is approximate.
 (3) Location of the visibly affected area, Haul Road, Former Horseshoe Trench, Former Offsite Pit, Former Interceptor Trench "C", Former Shallower Interceptor Trench "C", and Former Trench "B" are based on the 8/28/2015 and 9/21/2015 surveys conducted by GHI and on GPS measurements collected by Ramboll Environ staff. The estimated affected area was not mapped with the GPS because the boundaries of the impacts were not readily discernible or not safely accessible. The estimated area shown on the map is based on visual observations.
 (4) Location of the Former Overflow Pit, Former Horseshoe Trench Extension Area, and Former Offsite Pit Area are based on field observations and GPS measurements collected by Ramboll Environ staff. See gray shaded areas.

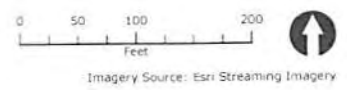
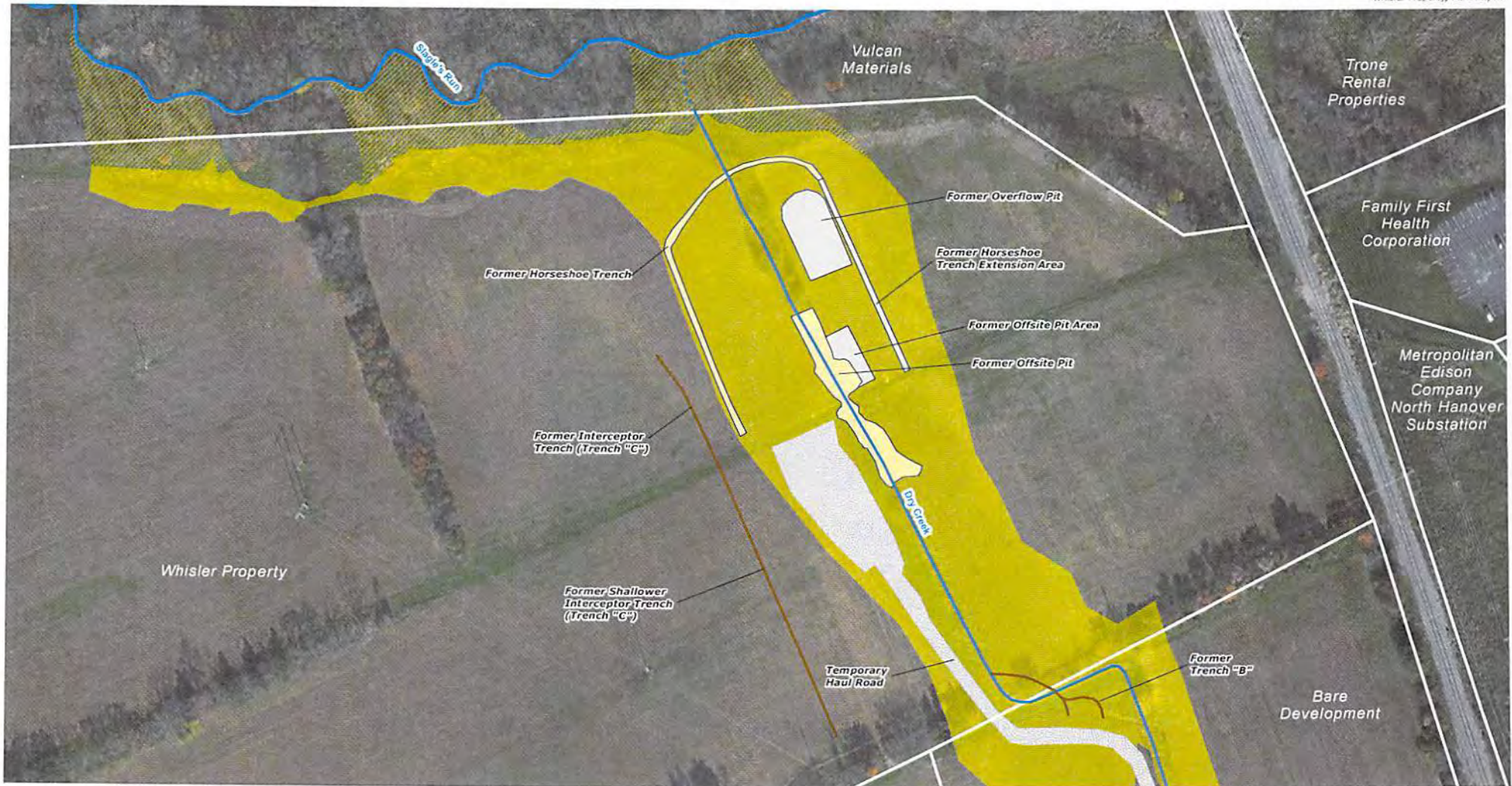


Figure 3-1
Overview of Emergency Response Features
Whisler Property, Hanover, PA



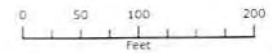
Notes:

(1) Location of the visibly affected area, Haul Road, Former Horseshoe Trench, Former Offsite Pit, Former Interceptor Trench "C", Former Shallower Interceptor Trench "C", and Former Trench "B" are based on the 8/28/2015 and 9/21/2015 surveys conducted by GHI and on GPS measurements collected by Ramboll Environ staff. The estimated affected area was not mapped with the GPS because the boundaries of the impacts were not readily discernible or not safely accessible. The estimated area shown on the map is based on visual observations.

(2) Location of the Former Overflow Pit, Former Horseshoe Trench Extension Area, and Former Offsite Pit Area are based on field observations and GPS measurements collected by Ramboll Environ staff. See gray shaded areas.

(3) Dry Creek feature is approximate.

- Visibly Affected Area
- Estimated Affected Area



Imagery Source: Esri Streaming Imagery

Figure 4-1
Act 2 Soil Sampling Locations
Whisler Property, Hanover, PA



Sample Location Code

Sample labels represent "XX" in location code

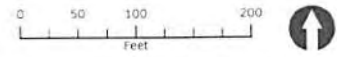
- Visibly Affected Area (WH-VA-XX)
- Dry Creek (WH-DC-XX)
- Boundary (WH-BS-XX)

- Disturbed Area (WH-DA-XX)
- Visibly Affected Area
- ▨ Estimated Affected Area

Notes:

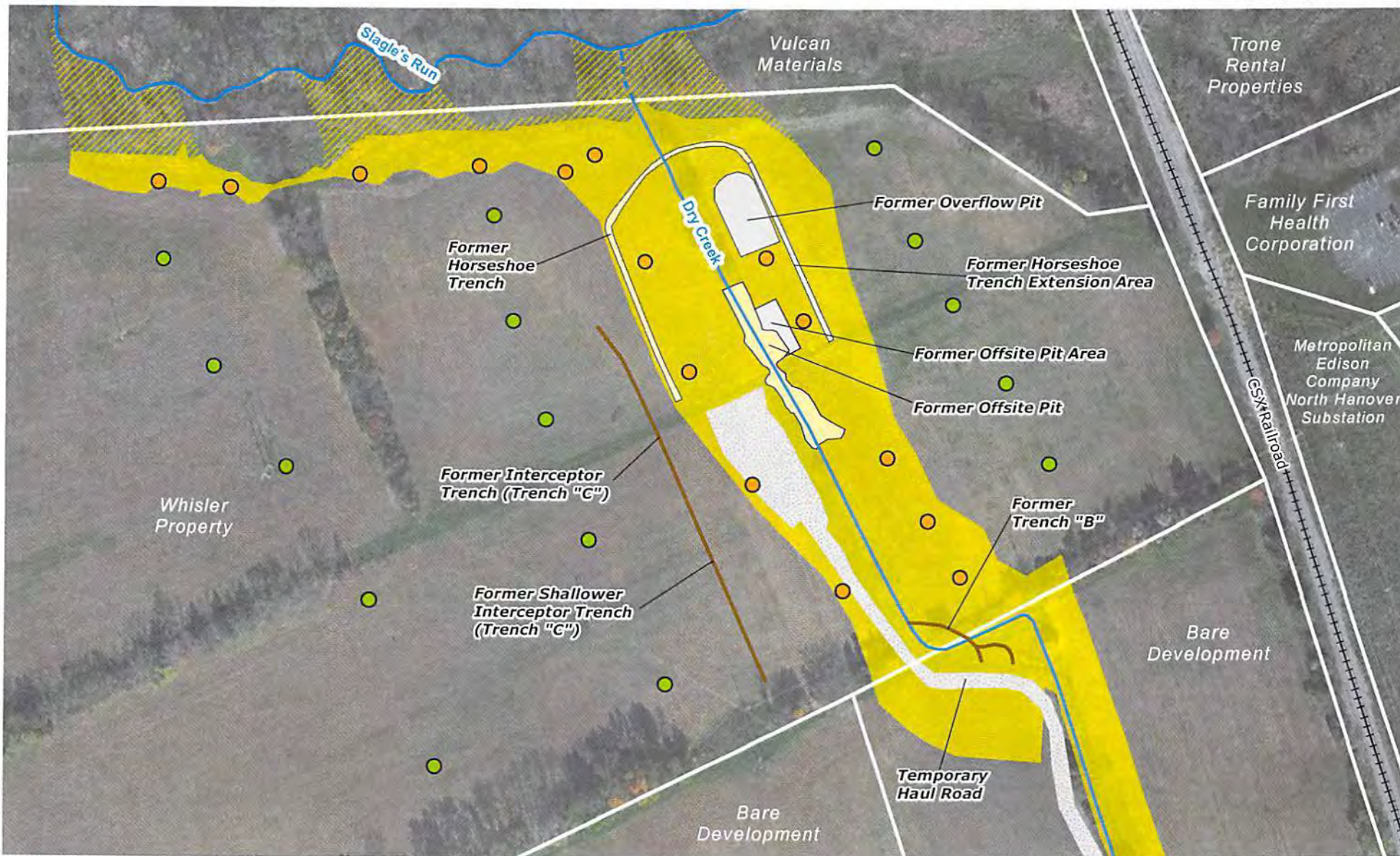
- (1) Sampling locations are based on GPS coordinates collected in the field.
- (2) Location of the visibly affected area, Haul Road, Former Horseshoe Trench, Former Offsite Pit, Former Interceptor Trench "C", Former Shallower Interceptor Trench "C", and Former Trench "B" are based on the 8/26/2015 and 9/21/2015 surveys conducted by GHI and on GPS measurements collected by Ramboll Environ staff. The estimated affected area was not mapped with the GPS because the boundaries of the impacts were not readily discernible or not safely accessible. The estimated area shown on the map is based on visual observations.

- (3) Location of the Former Overflow Pit, Former Horseshoe Trench Extension Area, and Former Offsite Pit Area are based on field observations and GPS measurements collected by Ramboll Environ staff. See gray shaded areas.
- (4) Dry Creek feature is approximate.
- (5) Background samples SS6-F2-C and SB4-AGR were collected prior to the Act 2 sampling campaign and are labeled above.
- (6) One sample from both the visibly affected area and dry creek were collected for analysis of total organic carbon and grain size and are labeled "TG".



Imagery Source: Esri Streaming Imagery

Figure 4-2
Discrete Sub-Sample Locations for Soil Fertility Analysis Composite Samples
Whisler Property, Hanover, PA



- Visibly Affected Area Composite Sub-Sample Location
- Unaffected Area Composite Sub-Sample Location
- Visibly Affected Area
- Estimated Affected Area

Notes:
 (1) Sampling locations are based on GPS coordinates collected in the field.
 (2) Location of the visibly affected area, Haul Road, Former Horseshoe Trench, Former Offsite Pit, Former Interceptor Trench "C", Former Shallower Interceptor Trench "C", and Former Trench "B" are based on the 8/28/2015 and 9/21/2015 surveys conducted by GHI and on GPS measurements collected by Ramboll Environ staff. The estimated affected area was not mapped with the GPS because the boundaries of the impacts were not readily discernible or not safely accessible. The estimated area shown on the

map is based on visual observations.
 (3) Location of the Former Overflow Pit, Former Horseshoe Trench Extension Area, and Former Offsite Pit Area are based on field observations and GPS measurements collected by Ramboll Environ staff. See gray shaded areas.
 (4) Dry Creek feature is approximate.
 (5) Two depths were collected at each subsample location. The unaffected area composite samples (green symbols) were collected from 2" (WHS01020) and 6" (WHS01060); the visibly affected area samples (orange symbols) were collected from 2" (WHS02020) and 6" (WHS02060).

Imagery Source:
Esri Streaming Imagery

0 50 100 200
Feet



Visibly Affected Area Sample Analysis Group

- Collected as Flow Path sample
- Collected as Visibly Affected Area sample
- Collected as Disturbed Area sample
- Collected as Dry Creek sample
- Collected as Boundary sample

Disturbed Area Sample Analysis Group

- Collected as Disturbed Area sample

Boundary Sample Analysis Group

- Collected as Boundary sample

Background Sample Analysis Group

- Collected as Background sample

Visibly Affected Area

Estimated Affected Area

Notes:

(1) Sampling locations are based on GPS coordinates collected in the field.
 (2) Location of the visibly affected area, Haul Road, Former Horseshoe Trench, Former Offsite Pit, Former Interceptor Trench "C", Former Shallower Interceptor Trench "C", and Former Trench "B" are based on the 8/28/2015 and 9/21/2015 surveys conducted by GH and on GPS measurements collected by Ramboll Environ staff. The estimated affected area (yellow hatching) was not mapped with the GPS because the boundaries of the impacts were not

readily discernible or not safely accessible. The estimated area shown on the map is based on visual observations.
 (3) Location of the Former Overflow Pit, Former Horseshoe Trench Extension Area, and Former Offsite Pit Area are based on field observations and GPS measurements collected by Ramboll Environ staff. See gray shaded areas.
 (4) Dry Creek feature is approximate.

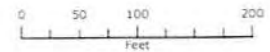


Figure 5-1
Summary of Maximum Measured Arsenic Concentrations in Soil
Whisler Property, Hanover, PA



Sample Results (mg/kg)

Color represents sample analysis group

- Visibly Affected Area Analysis Group
- Disturbed Area Analysis Group
- Boundary Analysis Group
- Background Analysis Group

Arsenic MSC Comparison

Size represents exceedances

- Does not exceed Residential MSC
- Exceeds Residential MSC (12 mg/kg)

No results exceed the Soil to Groundwater Value (29 mg/kg)

Notes:

- (1) Sampling locations are based on GPS coordinates collected in the field.
- (2) For sampling locations where samples were taken at multiple depths, the maximum concentration at the location is shown on this figure.
- (3) Results flagged with a "J" are estimated.
- (4) Location of the visibly affected area, Haul Road, Former Horseshoe Trench, Former Offsite Pit, Former Interceptor Trench "C", Former Shallow Interceptor Trench "C", and Former Trench "B" are based on the 8/28/2015 and 9/21/2015 surveys conducted by GHI

and on GPS measurements collected by Ramboll Environ staff. The estimated affected area (yellow hatching) was not mapped with the GPS because the boundaries of the impacts were not readily discernible or not safely accessible. The estimated area shown on the map is based on visual observations.

- (5) Location of the Former Overflow Pit, Former Horseshoe Trench Extension Area, and Former Offsite Pit Area are based on field observations and GPS measurements collected by Ramboll Environ staff. See gray shaded areas.
- (6) Dry Creek feature is approximate.

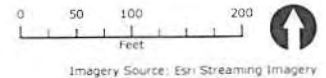
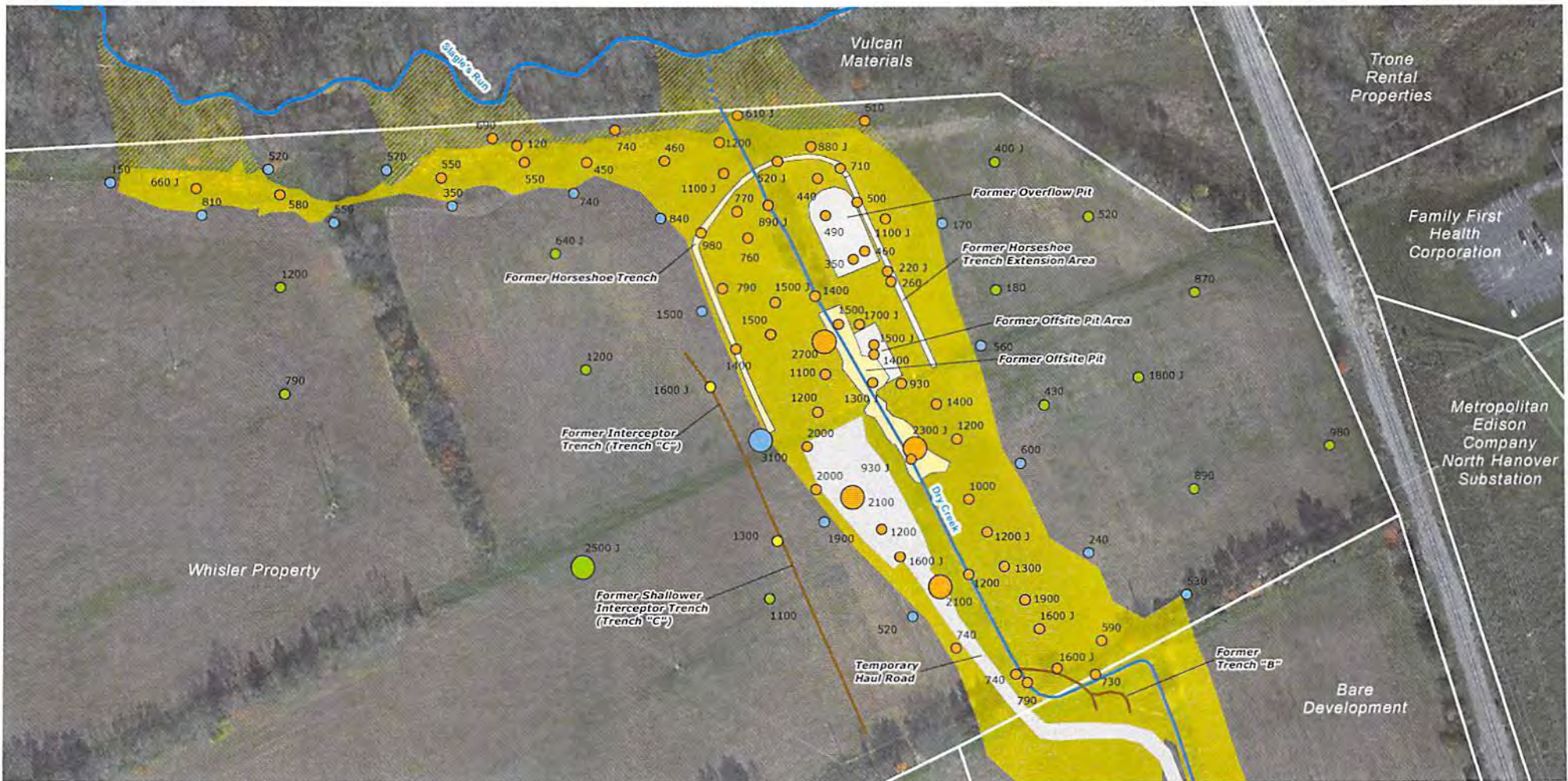


Figure 5-2
Summary of Maximum Measured Manganese Concentrations in Soil
Whisler Property, Hanover, PA



Sample Results (mg/kg)

Color represents sample analysis group

- Visibly Affected Area Analysis Group
- Disturbed Area Analysis Group
- Boundary Analysis Group
- Background Analysis Group

Manganese MSC Comparison

Size represents exceedances

- Does not exceed Residential MSC
- Exceeds Residential MSC (2,000 mg/kg)

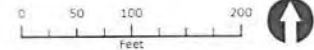
No results exceed the Residential Direct Contact Value (10,000 mg/kg)

Notes:

- (1) Sampling locations are based on GPS coordinates collected in the field.
- (2) For sampling locations where samples were taken at multiple depths, the maximum concentration at the location is shown on this figure.
- (3) Results flagged with a "J" are estimated.
- (4) Location of the visibly affected area, Haul Road, Former Horseshoe Trench, Former Offsite Pit, Former Interceptor Trench "C", Former Shallower Interceptor Trench "C", and Former Trench "B" are based on the 8/28/2015 and 9/21/2015 surveys conducted by GHI

and on GPS measurements collected by Ramboll Environ staff. The estimated affected area (yellow hatching) was not mapped with the GPS because the boundaries of the impacts were not readily discernible or not safely accessible. The estimated area shown on the map is based on visual observations.

- (5) Location of the Former Overflow Pit, Former Horseshoe Trench Extension Area, and Former Offsite Pit Area are based on field observations and GPS measurements collected by Ramboll Environ staff. See gray shaded areas.
- (6) Dry Creek feature is approximate.



Imagery Source: Esri Streaming Imagery

Site-specific Standard Checklist

Notice of Intent to Remediate

- 1. Site name and location information, including latitude and longitude
- 2. Description of site and intended future use of property
- 3. Contact information
 - a. Remediator
 - b. Owner
 - c. Consultant
- 4. Site map
- 5. Submit Public Involvement Plan (if requested by municipality)

Remedial Investigation Report, Risk Assessment Report, Cleanup Plan

- 1. Remedial Investigation Report
- 2. Risk Assessment Report (if necessary)
- 3. Cleanup Plan (if necessary)
- 4. Transmittal sheet
- 5. Notification
 - a. Proof of publication of a summary of the reports and plan in a newspaper
 - b. Proof of submission of the reports and plan to municipality
- 6. Fees

Final Report

- 1. Transmittal Sheet
- 2. Notification
 - a. Proof of publication of NIR newspaper notice
 - b. Proof of submission of NIR to municipality
 - c. Proof of publication of final report newspaper notice
 - d. Proof of submission of final report to municipality
- 3. Fees
- 4. Final Report Summary per on-line format
- 5. Final Report
 - a. Site name and location information, including municipality, county, and latitude and longitude
 - b. Remediation
 - c. List of contaminants
 - d. Attainment demonstration
 - i. Residential or Non-residential
 - ii. Groundwater
 - iii. Soils
 - iv. If applicable
 - (1) Surface water requirements
 - (2) Air Quality requirements



Land Recycling Program Transmittal Sheet for Plan/Report Submission

Instructions: Please provide all requested information in each of the four sections. This transmittal sheet shall accompany any plan/report submitted to the Department under the Land Recycling Program. Proper completion of the Transmittal Sheet will assist Department review and may avoid a finding of plan/report deficiency. The Facility ID number can be obtained from the Department's Environmental Cleanup Program in the region where the site is located.

Section 1 - Site Identification

eFACTS Facility ID Site ID: 815509

Site Name Lois E. Whisler Property

Site Address 539 Oxford Avenue, Hanover, PA 17331

Municipality and County Conewago Township; Adams County

Section 2 - Remediation Standard . . Plan/Report . . Fees

Identify the remediation standard being pursued and the type of plan/report being submitted. Please note required Department fees follow each type of plan/report.

Check the relevant standard and the type of plan/report being submitted.

- | | |
|---|---|
| <input checked="" type="checkbox"/> Background Standard
Final Report (\$250 fee) | <input checked="" type="checkbox"/> Statewide Health Standard
Final Report (\$250 fee) |
| <input checked="" type="checkbox"/> Site-Specific Standard | <input type="checkbox"/> Special Industrial Area |
| <input checked="" type="checkbox"/> Remedial Investigation Report
(\$250 fee) | <input type="checkbox"/> Work Plan
(no fee) |
| <input type="checkbox"/> Risk Assessment Report
(\$250 fee) | <input type="checkbox"/> Baseline Environmental Report
(no fee) |
| <input type="checkbox"/> Cleanup Plan (\$250 fee) | |
| <input checked="" type="checkbox"/> Final Report (\$500 fee) | |

Ensure your check covers all required fees and is made payable to the **Commonwealth of Pennsylvania**.

Section 3 - Municipal/Public Notice Confirmation

There are two stages in the Land Recycling Program where municipal and public notices are required. Read the information associated with each stage. You will be asked to confirm that information establishing your compliance with these notification requirements has been included with this submission.

- Check here if you are planning to meet the Background or Statewide Health Standard and your Final Report has been submitted within 90 days of the release.

Indicate date of release here _____

No further completion of this section is required if your Final Report for these two standards conforms to the 90 day time frame.



FILE

April 13, 2016

Mr. James Hamberger
Family First Health Corporation
116 South George Street
York, PA 17401

Re: Receipt of Notice of Intent to Remediate
Statewide Health Standard
Family First Health Corporation
eFACTS PF# 809454
1230 High Street, Hanover, PA
Conewago Township, Adams County

Dear Mr. Hamberger:

This letter acknowledges receipt of your Notice of Intent to Remediate (NIR) on April 5, 2016, pertaining to the subject property and submitted in accordance with the Land Recycling and Environmental Remediation Standards Act (Act 2). The procedures set forth in Act 2 must be followed in order for this site to qualify for the liability protection provided by the Act. If in the future you choose to select either the site-specific standard or choose to use the special industrial area provisions in Subchapter E of the Chapter 250 regulations, you will need to resubmit the NIR and follow the requirements relating to public involvement plan coordination with the local municipality. Please contact this office if you need advice on these requirements.

A final report, accompanied by the required fee, should be submitted to the Department of Environmental Protection (DEP or Department) upon completion of remediation. Include documentation verifying compliance with the public notification requirements.

Additional technical and program information can be found at www.dep.pa.gov, under Businesses > Land > Land Recycling. Also, please refer to the Land Recycling Program checklists which are helpful in assuring reports are complete before submittal. The DEP uses the checklists to perform administrative and technical completeness reviews when plans and/or reports are submitted. It is strongly encouraged to include the appropriate completed checklist with your final report submission. Land Recycling checklists can be found at the website under 'Forms, Checklists & Notifications' link.

Please refer to the enclosed Standard Attachment for considerations of other programs which may be applicable to this property.

Mr. James Hamberger

- 2 -

April 13, 2016

Mr. Richard Kaiser is the project manager assigned to your project and will be working with you towards the remediation of this property. Frequent contact is encouraged between your representatives and our staff. If you have any questions or need further clarifications of our procedures, please call Mr. Kaiser at 717.705.4851.

Sincerely,



Kathleen G. Horvath, P.G.
Land Recycling Chief
Environmental Cleanup and Brownfields Program

Enclosure: Standard Attachment

cc: Sarah Stoneking, Ramboll Environmental
Tony Hartlaub, Miller Chemical & Fertilizer LLC
Adams County Conservation District
Conewago Township

emn



NOTICE OF INTENT TO REMEDIATE

PO = Kaiser 194
Site 815 ~~914~~

Act 1995-2 requires four general information items to be included in the NIR: the general location, listing of contaminants, intended use of property, and proposed remediation measures. In addition, indicate the standard(s) to be obtained (if known) and attach a scaled site map (if available).

Property Name Family First Health Corporation

Former Name(s) / AKA _____

Address / Location 1230 High Street

City Hanover

Zip Code 17331

Municipality(s) Hanover

County(ies) Adams

Latitude 39 ° (deg). 49 ' (min) 24.78 " (sec) Longitude -77 ° (deg). 0 ' (min) 10.11 " (sec)

Horizontal Collection Method Pennsylvania Department of Environmental Protection eMapPA

Horizontal Reference Datum NAD83

Reference Point Entrance to facility

Wish to participate in the DEP/EPA MOA. Contact Troy Conrad at tconrad@state.pa.us for details.

EPA ID#, if known none identified

DEP ID#(s), if known none identified

(i.e., eFACTS site ID#, storage tank facility ID#, water quality permit #, watershed permit, air quality permit #, etc.)

Date Release Occurred (if known) June 8, 2015

Provide a brief description of the site contamination in plain language (e.g. fuel oil spill, historical chemical industrial area contamination), the names of any know primary contaminants to be addressed, and the intended future use of the property.

Identified impacts at the Family First Health Corporation (Family First) property resulted from the migration of fire-fighting water during emergency response activities related to the June 8, 2015 fire at the Miller Chemical & Fertilizer, LLC (Miller Chemical) facility located at 170 Radio Road in Hanover. The fire water carried high concentrations of fertilizer constituents from the Miller Chemical site. Constituents of potential concern include metals and nutrients and as such, soil samples from background and visibly affected areas have been collected and analyzed for the presence of metals, nitrate, nitrite, total kjeldahl nitrogen, sulfate, and phosphorus. The intended future use of the property is commercial property use. However, as a conservative measure, concentrations of constituents of potential concern were evaluated with respect to future unrestricted site use.

Provide a general description of proposed remediation measures.

No remediation measures are proposed at this property because measured concentrations of constituents of potential concern in site soil are below the Statewide Health Standards for unrestricted site use.

Remediation Standard(s) planned (if known at this time):

- | | | |
|---|--|--------------------------------------|
| <input type="checkbox"/> Unknown at this time | <input type="checkbox"/> Soil | <input type="checkbox"/> Groundwater |
| <input type="checkbox"/> Background Contaminants: | <input type="checkbox"/> Soil | <input type="checkbox"/> Groundwater |
| <input checked="" type="checkbox"/> Statewide Health - Residential | <input checked="" type="checkbox"/> Soil | <input type="checkbox"/> Groundwater |
| Contaminants: aluminum, antimony, arsenic, barium, beryllium, boron, cadmium, calcium, total chromium, cobalt, copper, iron, lead, magnesium, manganese, mercury, molybdenum, nickel, potassium, selenium, silver, sodium, thallium, vanadium, zinc, nitrate, nitrite, total kjeldahl nitrogen, sulfate, and phosphorus | | |
| <input type="checkbox"/> Statewide Health - Non-Residential | <input type="checkbox"/> Soil | <input type="checkbox"/> Groundwater |
| Contaminants: | | |
| <input type="checkbox"/> Site Specific | <input type="checkbox"/> Soil | <input type="checkbox"/> Groundwater |
| Contaminants: | | |
| <input type="checkbox"/> Special Industrial Area* | <input type="checkbox"/> Soil | <input type="checkbox"/> Groundwater |
| Contaminants: | | |

*NOTE: Specific standard or Special Industrial Area require a 30-day municipal comment period
 Remediator / Property Owner / Consultant. Complete the form below for each recipient obtaining a release of liability upon approval of the final report. Attach additional sheets as necessary.

Remediator	
Contact Person/Title <u>Tony Hartlaub/ VP Finance</u>	eFACTS Client ID* <u>320516</u> 552873
Relationship to Site <u>Remediator</u> (e.g. owner, remediator, participant in cleanup, consultant, etc.)	Client Type* <u>LLC</u>
Phone Number <u>717-632-8921</u>	Email Address <u>Tonyhartlaub@millerchemical.com</u>
Company Name <u>Miller Chemical & Fertilizer, LLC</u>	EIN or Federal ID # <u>46-5407027</u>
Address (street, city, state, zip) <u>120 Radio Road, Hanover, PA 17332</u>	

Property Owner	
Contact Person/Title <u>James Hamberger, Facilities Director</u>	eFACTS Client ID* <u>327098</u> <i>REMOVED: 260880</i>
Relationship to Site <u>Owner</u> (e.g. owner, remediator, participant in cleanup, consultant, etc.)	Client Type* <u>Other</u>
Phone Number <u>717-801-4819</u>	Email Address <u>jhamberger@familyfirsthealth.org</u>
Company Name <u>Family First Health Corporation</u>	EIN or Federal ID # _____
Address (street, city, state, zip) <u>116 South George Street, York, PA 17401</u>	

Consultant	
Contact Person/Title <u>Sarah Stoneking</u>	eFACTS Client ID* <u>327099</u>
Relationship to Site <u>Consultant</u> (e.g. owner, remediator, participant in cleanup, consultant, etc.)	Client Type* <u>Other</u>
Phone Number <u>703-516-2407</u>	Email Address <u>sstoneking@ramboll.com</u>
Company Name <u>Ramboll Environ US Corporation</u>	EIN or Federal ID # <u>52-1248616</u>
Address (street, city, state, zip) <u>4350 North Fairfax Drive, Suite 300, Arlington, VA 22203</u>	

*Include eFACTS Client ID (if known) - "Client Types" below:

Association/Organization	Limited Liability company	Partnership-General
Authority	Limited Liability Partnership	Partnership-Limited
County	Municipality	School District
Estate/Trust	Non-Pennsylvania Government	Sole Proprietorship
Federal Agency	Other (Non-Government)	State Agency
Individual	Pennsylvania Corporation	

Preparer of Notice of Intent to Remediate	
Name <u>Mark Nielsen</u>	Title <u>Principal</u>
Phone Number <u>215-532-5602</u>	Email Address <u>mnielsen@ramboll.com</u>
Company Name <u>Ramboll Environ US Corporation</u>	eFACTS Client ID _____

Ms. Barbara Krebs
Township Manager
Conewago Township
541 Oxford Avenue
Hanover, PA 17331

**RE: Notice of Intent to Remediate to Background and Statewide
Health Standards
Family First Health Corporation
1230 High Street
Conewago Township
Adams County**

Dear Ms. Krebs,

The Land Recycling and Environmental Remediation Standards Act (Act 2) requires that a Notice of Intent to Remediate (NIR) a site be provided to the municipality in which the site is located. In accordance with this provision of Act 2, we are formally notifying you of our intent to remediate the subject site. A copy of the Notice of Intent to Remediate, which has been sent to the Department of Environmental Protection (DEP), is enclosed. This notice will also be published in the Pennsylvania Bulletin, and a summary of the notice will be placed in a local newspaper.

Should you have any questions or comments regarding the proposed remediation, please contact me at (703) 516-2407, or sstoneking@ramboll.com.

Yours sincerely,



Sarah Stoneking
Senior Manager

D +1 703 516 2407
sstoneking@ramboll.com

Date March 18, 2016

Ramboll Environ
4350 North Fairfax Drive
Suite 300
Arlington, VA 22203
USA

T +1 703 516 2300
F +1 703 516 2345
www.ramboll-environ.com

**Attachment A
Notice of Intent to Remediate**

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March 30, 2016

Dear Customer:

The following is the proof-of-delivery for tracking number **775912067587**.

Delivery Information:

Status:	Delivered	Delivered to:	Receptionist/Front Desk
Signed for by:	A.SCHMIDT	Delivery location:	541 OXFORD AVE HANOVER, PA 17331
Service type:	FedEx Standard Overnight	Delivery date:	Mar 21, 2016 13:35
Special Handling:	Deliver Weekday Adult Signature Required		



Shipping Information:

Tracking number:	775912067587	Ship date:	Mar 18, 2016
		Weight:	0.5 lbs/0.2 kg

Recipient:
Ms. Barbara Krebs, Township Manager
Conewago Township
541 Oxford Avenue
HANOVER, PA 17331 US

Shipper:
Sarah Stoneking
4350 North Fairfax Drive
Suite 300
Arlington, VA 22203 US
0137782A Phase USOFF2

Reference

Thank you for choosing FedEx.

Proof of Publication
State of Pennsylvania

AD # 0001594615-01

The Evening Sun is the name of the newspaper(s) of general circulation published continuously for more than six months at its principal place of business, 37 Broadway Street, Hanover, PA.

The printed copy of the advertisement hereto attached is a true copy, exactly as printed and published, of an advertisement printed in the regular issues of the said The Evening Sun published on the following dates, viz:

Attach Copy of
Advertisement here

3/24/2016

NEWSPAPER NOTIFICATION
Family First Health

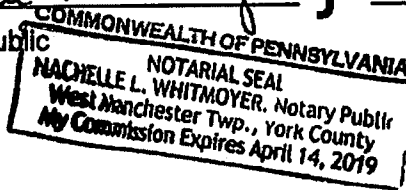
Pursuant to the Land Recycling and Environmental Remediation Standards Act, the act of May 19, 1995, P.L. 4, No. 1995-2, notice is hereby given that Miller Chemical & Fertilizer, LLC (Miller Chemical) has submitted to the Pennsylvania Department of Environmental Protection a Notice of Intent to Remediate a site located at 1230 High Street, Cohewago Township, Adams County. This Notice of Intent to Remediate states that the site is commercial property operated by Family First Health Corporation. The site has been found to be impacted by fertilizer constituents mobilized by fire-fighting emergency response activities performed on June 3, 2016 at the Miller Chemical facility located at 120 Radio Road in Hanover. Runoff of the fire-fighting water carried fertilizer constituents from the Miller Chemical site, including metals and nutrients, which were suspected to have contaminated soil at the property owned by Family First Health Corporation. Soils from background and visibly affected areas were sampled for metals and nutrients. The future use of the property is expected to remain in commercial use. Concentrations of constituents of potential concern in site soils are below the State-wide Health Standards established for residential site use. As such, Miller Chemical has not proposed remediation measures.

**COMMONWEALTH OF PENNSYLVANIA
COUNTY OF YORK**

Before me, a Notary Public, personally came Pam Rodencal who being duly sworn deposes and says that she is the Legal Advertising Clerk of The Evening Sun and her personal knowledge of the publication of the advertisement mentioned in the foregoing statement as to the time, place and character of publications are true, and that the affiant is not interested in the subject matter of the above mentioned advertisement.

Sworn and subscribed to before me, on
this 24 day of March 2016

Nachelle L. Whitmoyer } Pam Rodencal
Notary Public



The charge for the following publication of above mentioned advertisement and the expense of the affidavit.

Advertisement Cost	\$89.12
Affidavit Fee	\$5.00
Total Cost	<u>\$94.12</u>

SITE 14
FAMILY FIRST AND 2 TRON RENTAL PROPERTIES
1230 AND 1250 HIGH STREET

1B

FILE

July 7, 2016

Mr. James Hamberger
Family First Health Corporation
116 South George Street
York, PA 17401

Mr. Chris Trone
Trone Rental Properties
350 3rd Street
Hanover, PA 17117

Re: Receipt of Notice of Intent to Remediate
Statewide Health Standard
Family First Health Corporation & 2 Trone Rental Properties
eFACTS PF# 809454
1230 & 1250 High Street, Hanover, PA
Conewago Township, Adams County

Dear Messrs. Hamberger and Trone:

This letter acknowledges receipt of your Notice of Intent to Remediate (NIR) on July 6, 2016, pertaining to the subject property and submitted in accordance with the Land Recycling and Environmental Remediation Standards Act (Act 2). The procedures set forth in Act 2 must be followed in order for this site to qualify for the liability protection provided by the Act. If in the future you choose to select either the site-specific standard or choose to use the special industrial area provisions in Subchapter E of the Chapter 250 regulations, you will need to resubmit the NIR and follow the requirements relating to public involvement plan coordination with the local municipality. Please contact this office if you need advice on these requirements.

A final report, accompanied by the required fee, should be submitted to the Department of Environmental Protection (DEP or Department) upon completion of remediation. Include documentation verifying compliance with the public notification requirements.

Additional technical and program information can be found at www.dep.pa.gov, under Businesses > Land > Land Recycling. Also, please refer to the Land Recycling Program checklists which are helpful in assuring reports are complete before submittal. The DEP uses the checklists to perform administrative and technical completeness reviews when plans and/or reports are submitted. It is strongly encouraged to include the appropriate completed checklist with your final report submission. Land Recycling checklists can be found at the website under 'Forms, Checklists & Notifications' link.

Please refer to the enclosed Standard Attachment for considerations of other programs which may be applicable to this property.

Messrs. Hamberger & Trone

- 2 -

July 7, 2016

Mr. Richard Kaiser is the project manager assigned to your project and will be working with you towards the remediation of this property. Frequent contact is encouraged between your representatives and our staff. If you have any questions or need further clarifications of our procedures, please call Mr. Kaiser at 717.705.4851.

Sincerely,



Kathleen G. Horvath, P.G.
Land Recycling Chief
Environmental Cleanup and Brownfields Program

Enclosure: Standard Attachment

cc: Sarah Stoneking, Ramboll Environmental
Tony Hartlaub, Miller Chemical & Fertilizer LLC
Adams County Conservation District
Conewago Township

emn



site 815194
For DEP Use Only
PF # 809454
Rem ID #

NOTICE OF INTENT TO REMEDIATE

pd = Kaiser

Act 1995-2 requires four general information items to be included in the NIR: the general location, listing of contaminants, intended use of property, and proposed remediation measures. In addition, indicate the standard(s) to be obtained (if known) and attach a scaled site map (if available).



Property Name (1) Family First Health Corporation and (2) Trone Rental Properties

Former Name(s) / AKA

Address / Location (1) 1230 High Street and (2) 1250 High Street

City Hanover

Zip Code 17331

Municipality(s) Hanover Conewago Twp

County(ies) Adams

Latitude 39 ° (deg). 49 ' (min) 24.78 " (sec) Longitude -77 ° (deg). 0 ' (min) 10.11 " (sec) ✓

Horizontal Collection Method Pennsylvania Department of Environmental Protection eMapPA

Horizontal Reference Datum NAD83

Reference Point Entrance to facility

Wish to participate in the DEP/EPA MOA. Contact Troy Conrad at tconrad@state.pa.us for details.

EPA ID#, if known none identified

DEP ID#(s), if known none identified

(i.e., eFACTS site ID#, storage tank facility ID#, water quality permit #, watershed permit, air quality permit #, etc.)

Date Release Occurred (if known) June 8, 2015

Provide a brief description of the site contamination in plain language (e.g. fuel oil spill, historical chemical industrial area contamination), the names of any know primary contaminants to be addressed, and the intended future use of the property.

Identified impacts at the Family First Health Corporation (Family First) property and possible impacts at the Trone Rental Properties parcel resulted from the migration of fire-fighting water during emergency response activities related to the June 8, 2015 fire at the Miller Chemical & Fertilizer, LLC (Miller Chemical) facility located at 170 Radio Road in Hanover. The fire water carried high concentrations of fertilizer constituents from the Miller Chemical site. Constituents of potential concern include metals and nutrients and as such, soil samples from background and visibly affected areas have been collected and analyzed for the presence of metals, nitrate, nitrite, total kjeldahl nitrogen, sulfate, and phosphorus. The intended future use of the property is commercial property use and undeveloped land. However, as a conservative measure, concentrations of constituents of potential concern were evaluated with respect to future unrestricted site use.

Provide a general description of proposed remediation measures.

No remediation measures are proposed at this property because measured concentrations of constituents of potential concern in site soil are below the Statewide Health Standards for unrestricted site use.

Remediation Standard(s) planned (if known at this time):

- | | | |
|---|--|--------------------------------------|
| <input type="checkbox"/> Unknown at this time | <input type="checkbox"/> Soil | <input type="checkbox"/> Groundwater |
| <input type="checkbox"/> Background Contaminants: | <input type="checkbox"/> Soil | <input type="checkbox"/> Groundwater |
| <input checked="" type="checkbox"/> Statewide Health - Residential | <input checked="" type="checkbox"/> Soil | <input type="checkbox"/> Groundwater |
| Contaminants: aluminum, antimony, arsenic, barium, beryllium, boron, cadmium, calcium, total chromium, cobalt, copper, iron, lead, magnesium, manganese, mercury, molybdenum, nickel, potassium, selenium, silver, sodium, thallium, vanadium, zinc, nitrate, nitrite, total kjeldahl nitrogen, sulfate, and phosphorus | | |
| <input type="checkbox"/> Statewide Health - Non-Residential | <input type="checkbox"/> Soil | <input type="checkbox"/> Groundwater |
| <input type="checkbox"/> Site Specific | <input type="checkbox"/> Soil | <input type="checkbox"/> Groundwater |
| <input type="checkbox"/> Special Industrial Area* | <input type="checkbox"/> Soil | <input type="checkbox"/> Groundwater |

*NOTE: Specific standard or Special Industrial Area require a 30-day municipal comment period Remediator / Property Owner / Consultant. Complete the form below for each recipient obtaining a release of liability upon approval of the final report. Attach additional sheets as necessary.

Remediator	
Contact Person/Title <u>Tony Hartlaub/ VP Finance</u>	eFACTS Client ID* <u>553873 320516</u>
Relationship to Site <u>Remediator</u> (e.g. owner, remediator, participant in cleanup, consultant, etc.)	Client Type* <u>LLC</u>
Phone Number <u>717-632-8921</u>	Email Address <u>Tonyhartlaub@millerchemical.com</u>
Company Name <u>Miller Chemical & Fertilizer, LLC</u>	EIN or Federal ID # <u>46-5407027</u>
Address (street, city, state, zip) <u>120 Radio Road, Hanover, PA 17332</u>	

Property Owner	
Contact Person/Title <u>See Exhibit A</u>	eFACTS Client ID* _____
Relationship to Site _____ (e.g. owner, remediator, participant in cleanup, consultant, etc.)	Client Type* _____
Phone Number _____	Email Address _____
Company Name _____	EIN or Federal ID # _____
Address (street, city, state, zip) _____	

Consultant	
Contact Person/Title <u>Sarah Stoneking</u>	eFACTS Client ID* <u>327099</u>
Relationship to Site <u>Consultant</u> (e.g. owner, remediator, participant in cleanup, consultant, etc.)	Client Type* <u>Other</u>
Phone Number <u>703-516-2407</u>	Email Address <u>sstoneking@ramboll.com</u>
Company Name <u>Ramboll Environ US Corporation</u>	EIN or Federal ID # <u>52-1248616</u>
Address (street, city, state, zip) <u>4350 North Fairfax Drive, Suite 300, Arlington, VA 22203</u>	

*Include eFACTS Client ID (if known) – "Client Types" below:

Association/Organization	Limited Liability company	Partnership-General
Authority	Limited Liability Partnership	Partnership-Limited
County	Municipality	School District
Estate/Trust	Non-Pennsylvania Government	Sole Proprietorship
Federal Agency	Other (Non-Government)	State Agency
Individual	Pennsylvania Corporation	

Preparer of Notice of Intent to Remediate	
Name <u>Mark Nielsen</u>	Title <u>Principal</u>
Phone Number <u>215-532-5602</u>	Email Address <u>mnielsen@ramboll.com</u>
Company Name <u>Ramboll Environ US Corporation</u>	eFACTS Client ID _____

Address (street, city, state, zip) 1760 Market Street, Suite 1000, Philadelphia, PA 19103

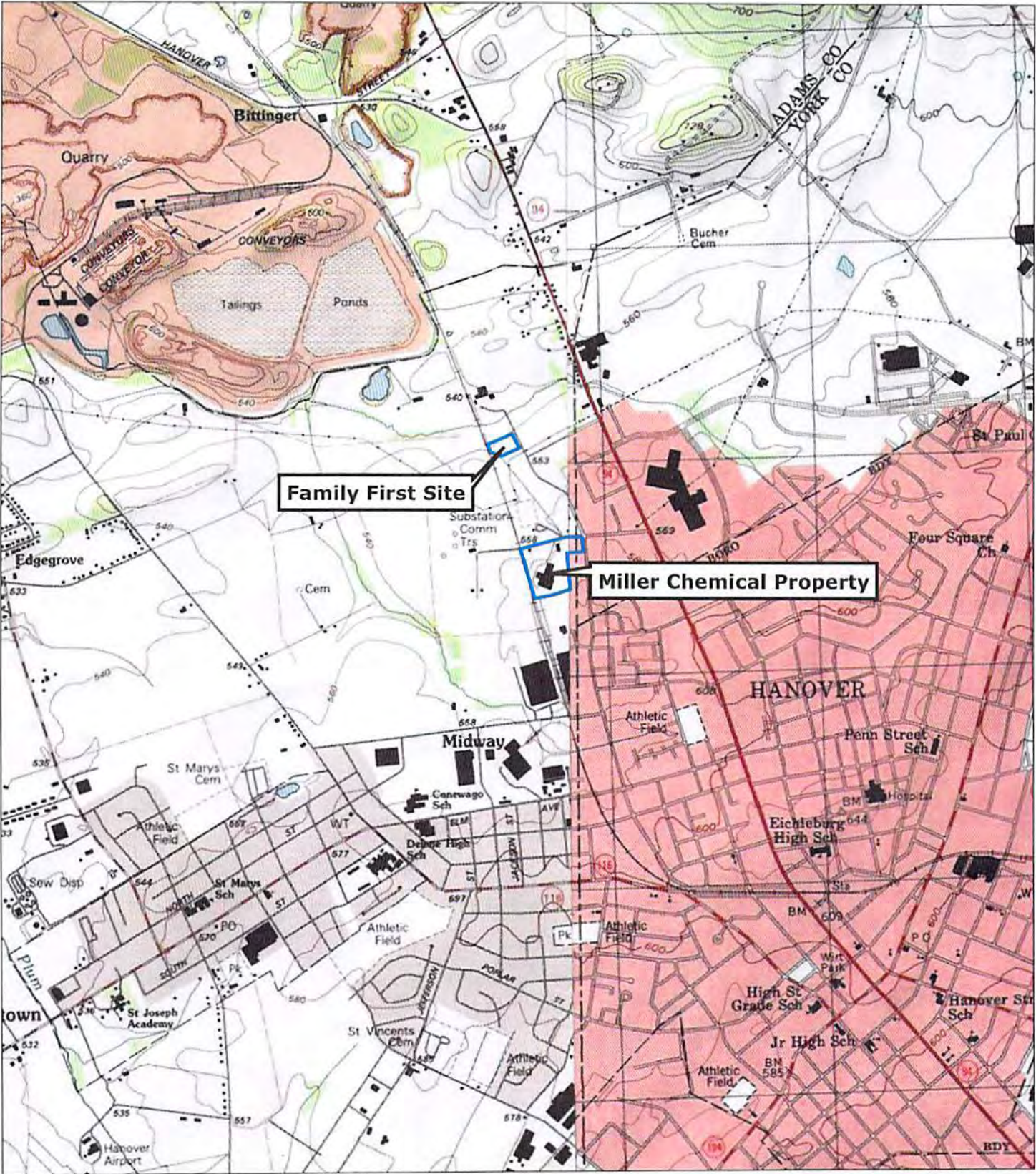
**EXHIBIT A
TO NOTICE OF INTENT TO REMEDIATE
FAMILY FIRST HEALTH CORPORATION/TRONE RENTAL PROPERTIES, PA
PROPERTY OWNERS**

Property Owner (1)		
Contact Person/Title	<u>James Hamberger, Facilities Director</u>	eFACTS Client ID* <u>327098</u>
Relationship to Site	<u>Owner</u>	Client Type* <u>Other</u>
<small>(e.g. owner, remediator, participant in cleanup, consultant, etc.)</small>		
Phone Number	<u>717-801-4819</u>	Email Address <u>jhamberger@familyfirsthealth.org</u>
Company Name	<u>Family First Health Corporation</u>	EIN or Federal ID # _____
Address (street, city, state, zip) <u>116 South George Street, York, PA 17401</u>		

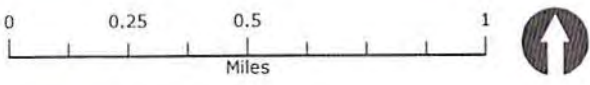
Property Owner (2)		
Contact Person/Title	<u>Chris Trone, Owner</u>	eFACTS Client ID* <u>329161</u>
Relationship to Site	<u>Owner</u>	Client Type* <u>Other</u>
<small>(e.g. owner, remediator, participant in cleanup, consultant, etc.)</small>		
Phone Number	<u>717-633-7004</u>	Email Address <u>ctrone@tronerentals.com</u>
Company Name	<u>Trone Rental Properties</u>	EIN or Federal ID # _____
Address (street, city, state, zip) <u>350 3rd Street, Hanover, PA 17117</u>		

*Include eFACTS Client ID (if known) – "Client Types" below:		
Association/Organization	Limited Liability company	Partnership-General
Authority	Limited Liability Partnership	Partnership-Limited
County	Municipality	School District
Estate/Trust	Non-Pennsylvania Government	Sole Proprietorship
Federal Agency	Other (Non-Government)	State Agency
Individual	Pennsylvania Corporation	

Figure 1-1
Site Location
Family First Health Corporation, Hanover, PA

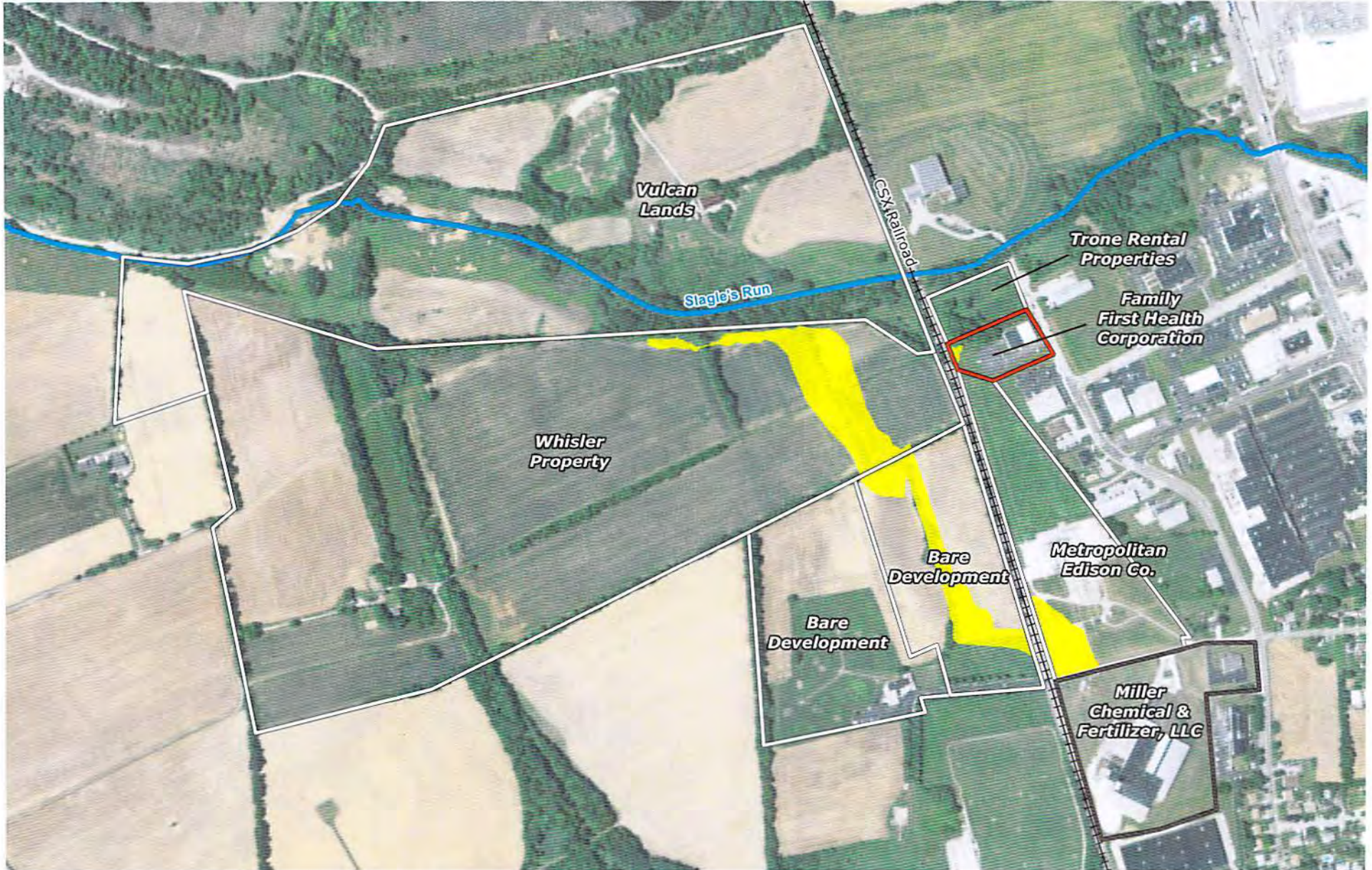


SCALE 1:24,000



Source: USGS 7.5 minute (topographic) quadrangles
Hanover and McSherrystown, Pennsylvania

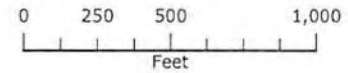
Figure 1-2
 Affected Properties
 Family First Health Corporation, Hanover, PA



- Miller Chemical Property
- Other Off-Site Properties
- Family First Property
- Visibly Affected Area

Imagery Source: Esri Streaming Imagery

Notes:
 (1) Visibly affected area extended to Slagle's Run north of the Whisler Property.
 (2) Visibly affected area on the Miller Chemical property is not shown on this figure.



Ms. Barbara Krebs
Township Manager
Conewago Township
541 Oxford Avenue
Hanover, PA 17331

**RE: Notice of Intent to Remediate to Background and Statewide
Health Standards
Family First Health Corporation and Trone Rental Properties
1230 and 1250 High Street
Conewago Township
Adams County**

Dear Ms. Krebs,

Date June 15, 2016

The Land Recycling and Environmental Remediation Standards Act (Act 2) requires that a Notice of Intent to Remediate (NIR) a site be provided to the municipality in which the site is located. In accordance with this provision of Act 2, we are formally notifying you of our intent to remediate the subject site. A copy of the Notice of Intent to Remediate, which has been sent to the Department of Environmental Protection (DEP), is enclosed. This notice will also be published in the Pennsylvania Bulletin, and a summary of the notice will be placed in a local newspaper.

Ramboll Environ
4350 North Fairfax Drive
Suite 300
Arlington, VA 22203
USA

T +1 703 516 2300
F +1 703 516 2345
www.ramboll-environ.com

Should you have any questions or comments regarding the proposed remediation, please contact me at (703) 516-2407, or sstoneking@ramboll.com.

Yours sincerely,



Sarah Stoneking
Senior Manager

D +1 703 516 2407
sstoneking@ramboll.com

Attachment A
Notice of Intent to Remediate

[Faint, illegible text follows, likely containing the main body of the notice.]

Proof of Publication
State of Pennsylvania

AD # 0001612481-01

The Evening Sun is the name of the newspaper(s) of general circulation published continuously for more than six months at its principal place of business, 37 Broadway Street, Hanover, PA.

The printed copy of the advertisement hereto attached is a true copy, exactly as printed and published, of an advertisement printed in the regular issues of the said The Evening Sun published on the following dates, viz:

6/16/2016

NEWSPAPER NOTIFICATION
Family First Health and Trone Rental Properties

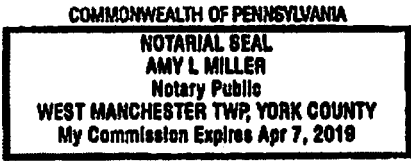
Pursuant to the Land Recycling and Environmental Remediation Standards Act, the act of May 19, 1985, P.L. 4, No. 1895-2, notice is hereby given that Miller Chemical & Fertilizer, LLC (Miller Chemical) has submitted to the Pennsylvania Department of Environmental Protection a Notice of Intent to Remediate a site located at 1230 High Street and 1280 High Street, Conowingo Township, Adams County. This Notice of Intent to Remediate states that the site includes commercial property operated by Family First Health Corporation and an undeveloped property owned by Trone Rental Properties. The site has been found to be impacted by fertilizer constituents mobilized by firefighting emergency response activities performed on June 8, 2016 at the Miller Chemical facility located at 120 Radio Road in Hanover. Runoff of the fire-fighting water carried fertilizer constituents from the Miller Chemical site, including metals and nutrients, which were suspected to have contaminated soil at the property owned by Family First Health Corporation, and potentially, all the property owned by Trone Rental Properties. Soils from background and nearby adjacent areas were sampled for metals and nutrients. The future use of the property is expected to remain in commercial use and undeveloped land use, respectively. Concentrations of constituents of potential concern in site soils are below the Statewide Health Standards established for residential site use. As such, Miller Chemical has not proposed remediation measures.

COMMONWEALTH OF PENNSYLVANIA
COUNTY OF YORK

Before me, a Notary Public, personally came Pam Rodencal who being duly sworn deposes and says that she is the Legal Advertising Clerk of The Evening Sun and her personal knowledge of the publication of the advertisement mentioned in the foregoing statement as to the time, place and character of publications are true, and that the affiant is not interested in the subject matter of the above mentioned advertisement.

Sworn and subscribed to before me, on
this 16 day of June 2016

Amy L. Miller } Pam Rodencal
Notary Public



The charge for the following publication of above mentioned advertisement and the expense of the affidavit.

Advertisement Cost	\$107.27
Affidavit Fee	\$5.00
Total Cost	<u>\$112.27</u>



June 26, 2016

Dear Customer:

The following is the proof-of-delivery for tracking number **776530886626**.

Delivery Information:

Status:	Delivered	Delivered to:	Residence
Signed for by:	Signature not required	Delivery location:	HANOVER, PA
Service type:	FedEx Standard Overnight	Delivery date:	Jun 16, 2016 16:29
Special Handling:	Deliver Weekday Residential Delivery		

NO SIGNATURE REQUIRED

Proof-of-delivery details appear below; however, no signature is available for this FedEx Express shipment because a signature was not required.

Shipping Information:

Tracking number:	776530886626	Ship date:	Jun 15, 2016
		Weight:	0.5 lbs/0.2 kg

Recipient:
HANOVER, PA US

Shipper:
Arlington, VA US

Reference

0137782A, Phase OFF2

Thank you for choosing FedEx.



18

FILE

February 3, 2017

Mr. James Hamberger
Family First Health Corporation
116 South George Street
York, PA 17401

Mr. Chris Trone
Trone Rental Properties
350 3rd Street
Hanover, PA 17117

Re: Receipt of Final Report
Family First Health Corporation & 2 Trone Rental Properties
eFACTS PF# 809454
1230 & 1250 High Street, Hanover, PA
Conewago Township, Adams County

Dear Messrs. Hamberger and Trone:

This letter acknowledges receipt of your Final Report February 2, 2017 pertaining to the subject property and submitted in accordance with the Land Recycling and Environmental Remediation Standards Act (Act 2). The Notice of Intent to Remediate you submitted previously and this Final Report indicate that you sought to remediate this site to meet the Statewide Health Standard.

Act 2 requires the Department of Environmental Protection (Department) to review and respond to your Final Report within 60 days of the receipt date. You will receive a letter advising you of the Department's action on your Final Report submission. If you have any questions or need further clarification of our procedures, please call Jim Rea at 717.705.4850.

Sincerely,

Kathleen G. Horvath, P.G.
Land Recycling Chief

cc: Sarah Stoneking, Ramboll Environmental
Tony Hartlaub, Miller Chemical & Fertilizer LLC
Adams County Conservation District
Conewago Township

emn

18
Adams Co
PF# 809454

RECEIVED
APR 11 2017
DEP SOUTHCENTRAL REGION
ECB PROGRAM

April 3, 2017

Via Electronic Mail

James E. Rea, P.G.
Pennsylvania Department of Environmental Protection
Environmental Cleanup and Brownfields
909 Elmerton Avenue
Harrisburg, PA 17110

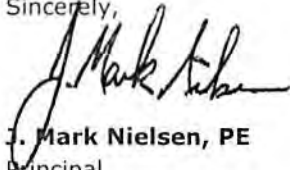
**RE: FINAL REPORT FOR FAMILY FIRST HEALTH CORPORATION AND
UNDEVELOPED TRONE RENTALS PROPERTY, HANOVER, PA**

Dear Mr. Rea:

As requested, on behalf of Miller Chemical & Fertilizer, LLC, Ramboll Environ is providing revised pages to the Final Act 2 Report submitted on February 1, 2017 for the Family First Health Corporation and Undeveloped Trone Rentals Property located in Hanover, PA. The enclosed pages reflect revisions provided in response to PADEP questions, and should be inserted as replacement pages into the previously submitted version of the report.

Please call me (215) 523-5602 if you should have any questions regarding this report. We appreciate your assistance in this matter.

Sincerely,



J. Mark Nielsen, PE
Principal

Enclosure

18
Jim

NOTICES

DEPARTMENT OF ENVIRONMENTAL PROTECTION

Applications, Actions and Special Notices

[47 Pa.B. 2339]
[Saturday, April 22, 2017]

UNDER ACT 2, 1995 PREAMBLE 3

The Department has taken action on the following plans and reports under the Land Recycling and Environmental Remediation Standards Act (35 P.S. §§ 6026.101—6026.907).

Family First Health Corporation & 2 Trone Rental Properties, 1230 & 1250 High Street, Hanover, PA 17331, Conewago Township, **Adams County**. Ramboll Environ US Corporation, 4350 North Fairfax Drive, Suite 300, Arlington, VA 22203, on behalf of Miller Chemical & Fertilizer, LLC, 120 Radio Road, Hanover, PA 17332; Family First Health Corporation, 116 South George Street, York, PA 17401; and Trone Rental Properties, 350 3rd Street, Hanover, PA, submitted a Final Report concerning remediation of site soils contaminated with fertilizers and inorganics. The Final Report demonstrated attainment of the Background and Residential Statewide Health Standard, and was approved by the Department on April 3, 2017.

Jim MB

NOTICES

DEPARTMENT OF ENVIRONMENTAL PROTECTION

Applications, Actions and Special Notices

[47 Pa.B. 1007]

[Saturday, February 18, 2017]

UNDER ACT 2, 1995

PREAMBLE 2

The following plans and reports were submitted under the Land Recycling and Environmental Remediation Standards Act (35 P.S. §§ 6026.101—6026.907).

Family First Health Corporation & 2 Trone Rental Properties, 1230 & 1250 High Street, Hanover, PA 17331, Conewago Township, **Adams County**. Ramboll Environ US Corporation, 4350 North Fairfax Drive, Suite 300, Arlington, VA 22203, on behalf of Miller Chemical & Fertilizer, LLC, 120 Radio Road, Hanover, PA 17332; Family First Health Corporation, 116 South George Street, York, PA 17401; and Trone Rental Properties, 350 3rd Street, Hanover, PA, submitted a Final Report concerning remediation of site soils contaminated with fertilizers and inorganics. The Report is intended to document remediation of the site to meet the Residential Statewide Health Standard.

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SECTION 1

TRANSMITTAL SHEET



Land Recycling Program Transmittal Sheet for Plan/Report Submission

Instructions: Please provide all requested information in each of the four sections. This transmittal sheet shall accompany any plan/report submitted to the Department under the Land Recycling Program. Proper completion of the Transmittal Sheet will assist Department review and may avoid a finding of plan/report deficiency. The Facility ID number can be obtained from the Department's Environmental Cleanup Program in the region where the site is located.

Section 1 - Site Identification

eFACTS Facility ID Site ID: 815194

Site Name (1) Family First Health Corporation & (2) Trone Rental Properties

Site Address (1) 1230 High Street & (2) 1250 High Street, Hanover, PA, 17331

Municipality and County Conewago Township, Adams County

Section 2 - Remediation Standard . . Plan/Report . . Fees

Identify the remediation standard being pursued and the type of plan/report being submitted. Please note required Department fees follow each type of plan/report.

Check the relevant standard and the type of plan/report being submitted.

- | | |
|---|---|
| <input checked="" type="checkbox"/> Background Standard
Final Report (\$250 fee) | <input checked="" type="checkbox"/> Statewide Health Standard
Final Report (\$250 fee) |
| <input type="checkbox"/> Site-Specific Standard | <input type="checkbox"/> Special Industrial Area |
| <input type="checkbox"/> Remedial Investigation Report
(\$250 fee) | <input type="checkbox"/> Work Plan
(no fee) |
| <input type="checkbox"/> Risk Assessment Report
(\$250 fee) | <input type="checkbox"/> Baseline Environmental Report
(no fee) |
| <input type="checkbox"/> Cleanup Plan (\$250 fee) | |
| <input type="checkbox"/> Final Report (\$500 fee) | |

Ensure your check covers all required fees and is made payable to the **Commonwealth of Pennsylvania**.

Section 3 - Municipal/Public Notice Confirmation

There are two stages in the Land Recycling Program where municipal and public notices are required. Read the information associated with each stage. You will be asked to confirm that information establishing your compliance with these notification requirements has been included with this submission.

- Check here if you are planning to meet the Background or Statewide Health Standard and your Final Report has been submitted within 90 days of the release.

Indicate date of release here _____

No further completion of this section is required if your Final Report for these two standards conforms to the 90 day time frame.

Stage 1 - Notice of Intent to Remediate (NIR)

- Check here to confirm you have included proof that a copy of your NIR was provided to each municipality where your site is located. Proof will be a copy of your cover letter and a copy of a signed certified mail receipt slip from the municipality.
- Check here to confirm a copy of a proof of publication document from a newspaper serving the area of your site has been included with this submission.
- Check here to indicate that a Site-Specific Standard or a Special Industrial Area is involved and a municipal request was received for development of a public involvement plan. The plan/report submission shall include municipality and public comments, which were submitted, and your responses to those comments.

Stage 2 - Cleanup Plan/Report Submission

1/30/2017 Place date here that each municipality was notified of any plan or report submitted under any of the three remediation standards.

Hanover Evening Sun 1/29/2017 Place the newspaper name and date that your notice of your plan/report submission was published.

Section 4 - Project Contact

On the lines below, place the name, company, mailing addresses and business phone number of the individuals who can be contacted regarding this submission:

<p>Consultant</p> <p>Contact Person/Title: <u>Sarah Stoneking</u></p> <p>Phone Number <u>703-516-2407</u></p> <p>Email Address <u>sstoneking@ramboll.com</u></p> <p>Company Name: <u>Ramboll Environ US Corporation</u></p> <p>Mailing Address (street, city, state, zip) <u>4350 North Fairfax Drive, Suite 300, Arlington, VA, 22203</u></p>
<p>Remediator</p> <p>Contact Person/Title: <u>Tony Hartlaub / VP Finance</u></p> <p>Phone Number <u>717-632-8921</u></p> <p>Email Address <u>Tonyhartlaub@millerchemical.com</u></p> <p>Company Name: <u>Miller Chemical & Fertilizer, LLC</u></p> <p>Mailing Address (street, city, state, zip) <u>120 Radio Road, Hanover, PA, 17332</u></p>
<p>Other</p> <p>Contact Person/Title: _____</p> <p>Relationship to Site _____ (e.g. owner, participant in cleanup, responsible party, etc.)</p> <p>Phone Number _____</p> <p>Email Address _____</p> <p>Company Name: _____</p> <p>Mailing Address (street, city, state, zip) _____</p>

SECTION 2

NOTIFICATION DOCUMENTS

Proof of Publication
State of Pennsylvania

AD # 0001612481-01

The Evening Sun is the name of the newspaper(s) of general circulation published continuously for more than six months at its principal place of business, 37 Broadway Street, Hanover, PA.

The printed copy of the advertisement hereto attached is a true copy, exactly as printed and published, of an advertisement printed in the regular issues of the said **The Evening Sun** published on the following dates, viz:

6/16/2016

NEWSPAPER NOTIFICATION
Family First Health and Trone Rental Properties

Pursuant to the Land Recycling and Environmental Remediation Standards Act, the act of May 19, 1995, P.L. 4, No. 1995-2, notice is hereby given that Miller Chemical & Fertilizer, LLC (Miller Chemical) has submitted to the Pennsylvania Department of Environmental Protection a Notice of Intent to Remediate a site located at 1230 High Street and 1250 High Street, Conewago Township, Adams County. This Notice of Intent to Remediate states that the site includes commercial property operated by Family First Health Corporation and an undeveloped property owned by Trone Rental Properties. The site has been found to be impacted by fertilizer constituents mobilized by fire-fighting emergency response activities performed on June 8, 2015 at the Miller Chemical facility located at 120 Radio Road in Hanover. Runoff of the fire-fighting water carried fertilizer constituents from the Miller Chemical site, including metals and nutrients, which were suspected to have contaminated soil at the property owned by Family First Health Corporation, and potentially, at the property owned by Trone Rental Properties. Soils from background and visibly affected areas were sampled for metals and nutrients. The future use of the property is expected to remain in commercial use and undeveloped land use, respectively. Concentrations of constituents of potential concern in site soils are below the Statewide Health Standards established for residential site use. As such, Miller Chemical has not proposed remediation measures.

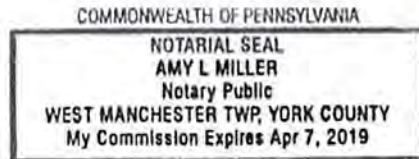
COMMONWEALTH OF PENNSYLVANIA
COUNTY OF YORK

Before me, a Notary Public, personally came Pam Rodencal who being duly sworn deposes and says that she is the Legal Advertising Clerk of The Evening Sun and her personal knowledge of the publication of the advertisement mentioned in the foregoing statement as to the time, place and character of publications are true, and that the affiant is not interested in the subject matter of the above mentioned advertisement.

Sworn and subscribed to before me, on
this 16 day of June 2016

Amy L. Miller }
Notary Public

Pam Rodencal



The charge for the following publication of above mentioned advertisement and the expense of the affidavit.

Advertisement Cost	\$107.27
Affidavit Fee	\$5.00
Total Cost	<u>\$112.27</u>



For DEP Use Only PF # _____ Rem ID # _____
--

NOTICE OF INTENT TO REMEDIATE

Act 1995-2 requires four general information items to be included in the NIR: the general location, listing of contaminants, intended use of property, and proposed remediation measures. In addition, indicate the standard(s) to be obtained (if known) and attach a scaled site map (if available).

Property Name (1) Family First Health Corporation and (2) Trone Rental Properties

Former Name(s) / AKA _____

Address / Location (1) 1230 High Street and (2) 1250 High Street

City Hanover Zip Code 17331

Municipality(s) Hanover County(ies) Adams

Latitude 39 ° (deg). 49 ' (min) 24.78 " (sec) Longitude -77 ° (deg). 0 ' (min) 10.11 " (sec)

Horizontal Collection Method Pennsylvania Department of Environmental Protection eMapPA

Horizontal Reference Datum NAD83 Reference Point Entrance to facility

Wish to participate in the DEP/EPA MOA. Contact Troy Conrad at tconrad@state.pa.us for details.

EPA ID#, if known none identified

DEP ID#(s), if known none identified
 (i.e., eFACTS site ID#, storage tank facility ID#, water quality permit #, watershed permit, air quality permit #, etc.)

Date Release Occurred (if known) June 8, 2015

Provide a brief description of the site contamination in plain language (e.g. fuel oil spill, historical chemical industrial area contamination), the names of any know primary contaminants to be addressed, and the intended future use of the property.

Identified impacts at the Family First Health Corporation (Family First) property and possible impacts at the Trone Rental Properties parcel resulted from the migration of fire-fighting water during emergency response activities related to the June 8, 2015 fire at the Miller Chemical & Fertilizer, LLC (Miller Chemical) facility located at 170 Radio Road in Hanover. The fire water carried high concentrations of fertilizer constituents from the Miller Chemical site. Constituents of potential concern include metals and nutrients and as such, soil samples from background and visibly affected areas have been collected and analyzed for the presence of metals, nitrate, nitrite, total kjeldahl nitrogen, sulfate, and phosphorus. The intended future use of the property is commercial property use and undeveloped land. However, as a conservative measure, concentrations of constituents of potential concern were evaluated with respect to future unrestricted site use.

Provide a general description of proposed remediation measures.

No remediation measures are proposed at this property because measured concentrations of constituents of potential concern in site soil are below the Statewide Health Standards for unrestricted site use.

Remediation Standard(s) planned (if known at this time):

- | | | |
|---|--|--------------------------------------|
| <input type="checkbox"/> Unknown at this time | <input type="checkbox"/> Soil | <input type="checkbox"/> Groundwater |
| <input type="checkbox"/> Background Contaminants: | <input type="checkbox"/> Soil | <input type="checkbox"/> Groundwater |
| <input checked="" type="checkbox"/> Statewide Health - Residential | <input checked="" type="checkbox"/> Soil | <input type="checkbox"/> Groundwater |
| Contaminants: aluminum, antimony, arsenic, barium, beryllium, boron, cadmium, calcium, total chromium, cobalt, copper, iron, lead, magnesium, manganese, mercury, molybdenum, nickel, potassium, selenium, silver, sodium, thallium, vanadium, zinc, nitrate, nitrite, total kjeldahl nitrogen, sulfate, and phosphorus | | |
| <input type="checkbox"/> Statewide Health – Non-Residential | <input type="checkbox"/> Soil | <input type="checkbox"/> Groundwater |
| <input type="checkbox"/> Site Specific | <input type="checkbox"/> Soil | <input type="checkbox"/> Groundwater |
| <input type="checkbox"/> Special Industrial Area* | <input type="checkbox"/> Soil | <input type="checkbox"/> Groundwater |

*NOTE: Specific standard or Special Industrial Area require a 30-day municipal comment period
 Remediator / Property Owner / Consultant. Complete the form below for each recipient obtaining a release of liability upon approval of the final report. Attach additional sheets as necessary.

Remediator		
Contact Person/Title <u>Tony Hartlaub/ VP Finance</u>	eFACTS Client ID* <u>553873</u>	
Relationship to Site <u>Remediator</u> (e.g. owner, remediator, participant in cleanup, consultant, etc.)	Client Type* <u>LLC</u>	
Phone Number <u>717-632-8921</u>	Email Address <u>Tonyhartlaub@millerchemical.com</u>	
Company Name <u>Miller Chemical & Fertilizer, LLC</u>	EIN or Federal ID # <u>46-5407027</u>	
Address (street, city, state, zip) <u>120 Radio Road, Hanover, PA 17332</u>		

Property Owner		
Contact Person/Title <u>See Exhibit A</u>	eFACTS Client ID* _____	
Relationship to Site _____ (e.g. owner, remediator, participant in cleanup, consultant, etc.)	Client Type* _____	
Phone Number _____	Email Address _____	
Company Name _____	EIN or Federal ID # _____	
Address (street, city, state, zip) _____		

Consultant		
Contact Person/Title <u>Sarah Stoneking</u>	eFACTS Client ID* _____	
Relationship to Site <u>Consultant</u> (e.g. owner, remediator, participant in cleanup, consultant, etc.)	Client Type* <u>Other</u>	
Phone Number <u>703-516-2407</u>	Email Address <u>sstoneking@ramboll.com</u>	
Company Name <u>Ramboll Environ US Corporation</u>	EIN or Federal ID # <u>52-1248616</u>	
Address (street, city, state, zip) <u>4350 North Fairfax Drive, Suite 300, Arlington, VA 22203</u>		

*Include eFACTS Client ID (if known) – "Client Types" below:

Association/Organization	Limited Liability company	Partnership-General
Authority	Limited Liability Partnership	Partnership-Limited
County	Municipality	School District
Estate/Trust	Non-Pennsylvania Government	Sole Proprietorship
Federal Agency	Other (Non-Government)	State Agency
Individual	Pennsylvania Corporation	

Preparer of Notice of Intent to Remediate		
Name <u>Mark Nielsen</u>	Title <u>Principal</u>	
Phone Number <u>215-532-5602</u>	Email Address <u>mnielsen@ramboll.com</u>	
Company Name <u>Ramboll Environ US Corporation</u>	eFACTS Client ID _____	

Ms. Barbara Krebs
Township Manager
Conewago Township
541 Oxford Avenue
Hanover, PA 17331

**RE: Notice of Final Report Submission for Background Standard and
Statewide Health Standard
Family First Health Corporation and Trone Rental Properties
1230 High Street and 1250 High Street
Conewago Township
Adams County**

Dear Ms. Krebs,

Notice is hereby given that Miller Chemical & Fertilizer, LLC has submitted a final report to the Department of Environmental Protection for the Family First Health Corporation and Trone Rental Properties located at 1230 High Street and 1250 High Street, respectively, in Conewago Township, Adams County. The report indicates attainment of the Background Standard and the Statewide Health Standard established under the Land Recycling and Environmental Remediation Standards Act.

This notice is made under the provision of the Land Recycling and Environmental Standards Act, the Act of May 19, 1995, P.L. 4, No. 2.

Yours sincerely,

DRAFT

Sarah Stoneking
Senior Manager

D +1 703 516 2407
sstoneking@ramboll.com

Date January 3, 2017

Ramboll Environ
4350 North Fairfax Drive
Suite 300
Arlington, VA 22203
USA

T +1 703 516 2300
F +1 703 516 2345
www.ramboll-environ.com



January 31, 2017

Dear Customer:

The following is the proof-of-delivery for tracking number **778292575954**.

Delivery Information:

Status:	Delivered	Delivered to:	Receptionist/Front Desk
Signed for by:	A.PALMER	Delivery location:	541 OXFORD AVE HANOVER, PA 17331
Service type:	FedEx Priority Overnight	Delivery date:	Jan 30, 2017 09:48
Special Handling:	Deliver Weekday Adult Signature Required		

Angela Palmer

Shipping Information:

Tracking number:	778292575954	Ship date:	Jan 27, 2017
		Weight:	0.5 lbs/0.2 kg

Recipient:
Barbara Krebs
Conewago Township
541 Oxford Avenue
HANOVER, PA 17331 US

Shipper:
ANNIE KOHAN
RAMBOLL ENVIRON
4350 N. FAIRFAX DRIVE
STE. 300
ARLINGTON, VA 22203 US
0137782A OFF2

Reference

Thank you for choosing FedEx.

SECTION 3

FINAL REPORT SUMMARY



For DEP Use Only

PF # _____

Rem ID # _____

FINAL REPORT SUMMARY

The Final Report Summary (FRS) is a brief report consisting of set of data required in addition to the Act 2 Final Report. The summary is used in part as a reference to the Final Report Approval Letter which conveys liability relief to the remediator and other applicable persons. It is of value long after the remediation to be used by the public and Department in understanding key information about the site and remediation.

This use is increased by the fact that it will ultimately be merged into the Department's eFACTS system, which allows the public to have the ease of computer access to environmental information at sites. For more information, see www.ahs.dep.pa.gov/eFACTSWeb/default.aspx. Finally, the summary will be used by the Department to help to better assess the status and the level of success of the program. In the past, numbers of sites remediated has been tracked. With the inclusion of this summary information, progress can be tracked in many specific ways, including identification of individual chemical constituents, and the mass treated, removed or managed safely in place.

Identification

Property Name (1) Family First Health Corporation and (2) Trone Rental Properties

Property Descriptor (1) Adult and pediatric medical and dental care facility and (2) undeveloped property

Address / Location

Address (1) 1230 High Street and (2) 1250 High Street

City Hanover

Zip Code 17331

Municipality(s) Conewago Township

County(ies) Adams

Latitude 39 ° (deg). 49 ' (min) 24.78 " (sec) Longitude -77 ° (deg). 0 ' (min) 10.11 " (sec)

Horizontal Collection Method Pennsylvania Department of Environmental Protection eMapPA

Horizontal Reference Datum NAD83

Reference Point Entrance to Family First

Property Specifics

Size of Property (1) ~2.5 acres and (2) ~2.2 acres

Number of Sites 2

Combined acreage of sites ~4.7 acres

Remediation

Standards attained or special industrial area attainment. (Check all that apply. Can use multiple.)

Background Statewide Health Site-Specific Special Industrial Area

Proposed future property use - scenario for which the attainment of Statewide Health standard is demonstrated

Residential Non-residential

List of contaminants

Soils

Chemical Name	CAS Number	Mass Contaminant Treated or Removed (lbs.)	Mass Contaminant Managed on Site (lbs.)
Aluminum	7429-90-5	0	0
Antimony	7440-36-0	0	0
Arsenic	7440-38-2	0	0
Barium	7440-39-3	0	0
Beryllium	7440-41-7	0	0
Boron	7440-42-8	0	0
Cadmium	7440-43-9	0	0
Calcium	7440-70-2	0	0
Chromium (total)	7440-47-3	0	0
Cobalt	7440-48-4	0	0
Copper	7440-50-8	0	0

Iron	7439-89-6	0	0
Lead	7439-92-1	0	0
Magnesium	7439-95-4	0	0
Manganese	7439-96-5	0	0
Mercury	9439-97-6	0	0
Molybdenum	7439-98-7	0	0
Nickel	7440-02-0	0	0
Nitrate	14797-65-0	0	0
Nitrite	14797-55-8	0	0
Selenium	7782-49-2	0	0
Silver	7440-28-0	0	0
Thallium	7440-28-0	0	0
Vanadium	7440-62-2	0	0
Zinc	7440-66-6	0	0

Groundwater

Chemical Name	CAS Number	Mass Contaminant Treated or Removed (lbs.)	Mass Contaminant Managed on Site (lbs.)

Remediation

Number of sampling rounds for groundwater attainment: NA

Special Features

Non-use aquifer approval date: _____

Area-wide background approval date: _____

Amount of waste removed other than soil or groundwater (cubic yards): _____

Municipal ordinance prohibiting groundwater use:

Not applicable

Post remediation care plan:

Not applicable

Other Programs

- Key Site
- Multi-site Agreement; Date: _____
- Enterprise Zone
- Keystone Opportunity Zone

Administrative

- Municipality request for public involvement plan

Deed notification

- Deed acknowledgment:

Not applicable

- Environmental covenant:

Not applicable

Cleanup cost (\$): _____

Jobs created/saved: _____

Narrative: Provide property history and description, site characterization findings, site description, summary of remediation, summary of attainment demonstration, description of pathway elimination, engineering and institutional controls, and benefits of land reuse, when applicable.

Emergency response actions associated with a June 8, 2015 fire at the Miller Chemical facility, which is located south of the Family First property, resulted in the migration of fertilizer constituents in fire water runoff, which flowed across an approximately 0.07-acre portion of the Family First property. On behalf of Miller Chemical, Ramboll Environ investigated the nature and extent of soil impacts at the Family First property. As part of this effort, sampling was conducted on the adjacent Trone property to confirm conditions along the potential water flow path. Soils were analyzed for a broad suite of potential contaminants of concern, including metals and other fertilizer constituents. Results of the soil sample analyses indicate that only vanadium was detected at concentrations exceeding Residential MSCs in visibly affected area soils.

Further evaluation of vanadium, calcium, and magnesium in soil indicated that, consistent with 25 Pa. Code §250.707 (a)(1)(i), concentrations of these metals in soil within the visibly affected area at the site are in attainment of the Background standard.

Ramboll Environ also conducted a human health evaluation to assess the potential significance of detected constituents with no established MSCs. Based on the results of the evaluation, the detected concentrations of these constituents (calcium, magnesium, phosphorous, potassium, and sulfate) in soil at the Family First and Trone properties do not represent a human health concern.

An area of impacted soil of approximately 0.07 acres has been identified at the Family First Health Corporation Parcel Site. In accordance with PA Code and TGM for ecological evaluations of sites remediated to the Statewide Health Standards (§250.311), no further ecological evaluation is required for the site because the area of soil impacts is less than two acres. As a conservative measure, however, Miller Chemical conducted an assessment of potential ecological receptors at the site to determine if the potential for impact to species and or habitats of concern was present. The results of the PNDI search indicated that species and or habitats of concern are not present on or near the site. In addition, a Bog Turtle Survey identified potentially suitable habitat for bog turtle in a wetland system north of the site. The Bog Turtle Survey did not identify potential direct impact to Bog Turtle Habitat, but recommended that avoidance measures be employed during the conduct of invasive activities, if the activities are conducted outside of the inactive season (November 1 to March 31). Based on the size of the impacted area, the results of the PNDI search and site reconnaissance, no further ecological risk evaluation is warranted for the Site.

Based on the results of the attainment assessment, Relief of Liability is being sought for the vanadium, calcium, and magnesium in soil at the Family First property and Trone Rental Properties parcel under the Background standard, and for the following compounds in soil at the Family First Property and Trone Rental Properties parcel under the Residential Statewide Health Standard:

- Aluminum, antimony, arsenic, barium, beryllium, boron, cadmium, chromium, cobalt, copper, iron, lead, manganese, mercury, molybdenum, nickel, selenium, silver, thallium, and zinc;
- Nitrate, and nitrite.

Remediator / Property Owner / Consultant. Complete the form below for each recipient obtaining a release of liability upon approval of the final report. Attach additional sheets as necessary.

Remediator

Contact Person/Title Tony Hartlaub/ VP Finance eFACTS Client ID* 320516
 Relationship to Site Remediator Client Type* LLC
 (e.g. owner, remediator, participant in cleanup, consultant, etc.)
 Phone Number 717-632-8921 Email Address Tonyhartlaub@millerchemical.com
 Company Name Miller Chemical & Fertilizer, LLC EIN or Federal ID # 46-5407027
 Street Address 120 Radio Road
 City Hanover State PA Zip Code 17332

Property Owner

Contact Person/Title See Exhibit A eFACTS Client ID* _____
 Relationship to Site _____ Client Type* _____
 (e.g. owner, remediator, participant in cleanup, consultant, etc.)
 Phone Number _____ Email Address _____
 Company Name _____ EIN or Federal ID # _____
 Street Address _____
 City _____ State _____ Zip Code _____

Consultant

Contact Person/Title Sarah Stoneking eFACTS Client ID* 274925
 Relationship to Site Consultant Client Type* Other (Non Government)
 (e.g. owner, remediator, participant in cleanup, consultant, etc.)
 Phone Number 703-516-2407 Email Address sstoneking@ramboll.com
 Company Name Ramboll Environ US Corporation EIN or Federal ID # 52-1248616
 Street Address 4350 North Fairfax Drive, Suite 300
 City Arlington State VA Zip Code 22203

*Include eFACTS Client ID (if known) – "Client Types" below:

Association/Organization	Limited Liability Company	Partnership-General
Authority	Limited Liability Partnership	Partnership-Limited
County	Municipality	School District
Estate/Trust	Non-Pennsylvania Government	Sole Proprietorship
Federal Agency	Other (Non-Government)	State Agency
Individual	Pennsylvania Corporation	

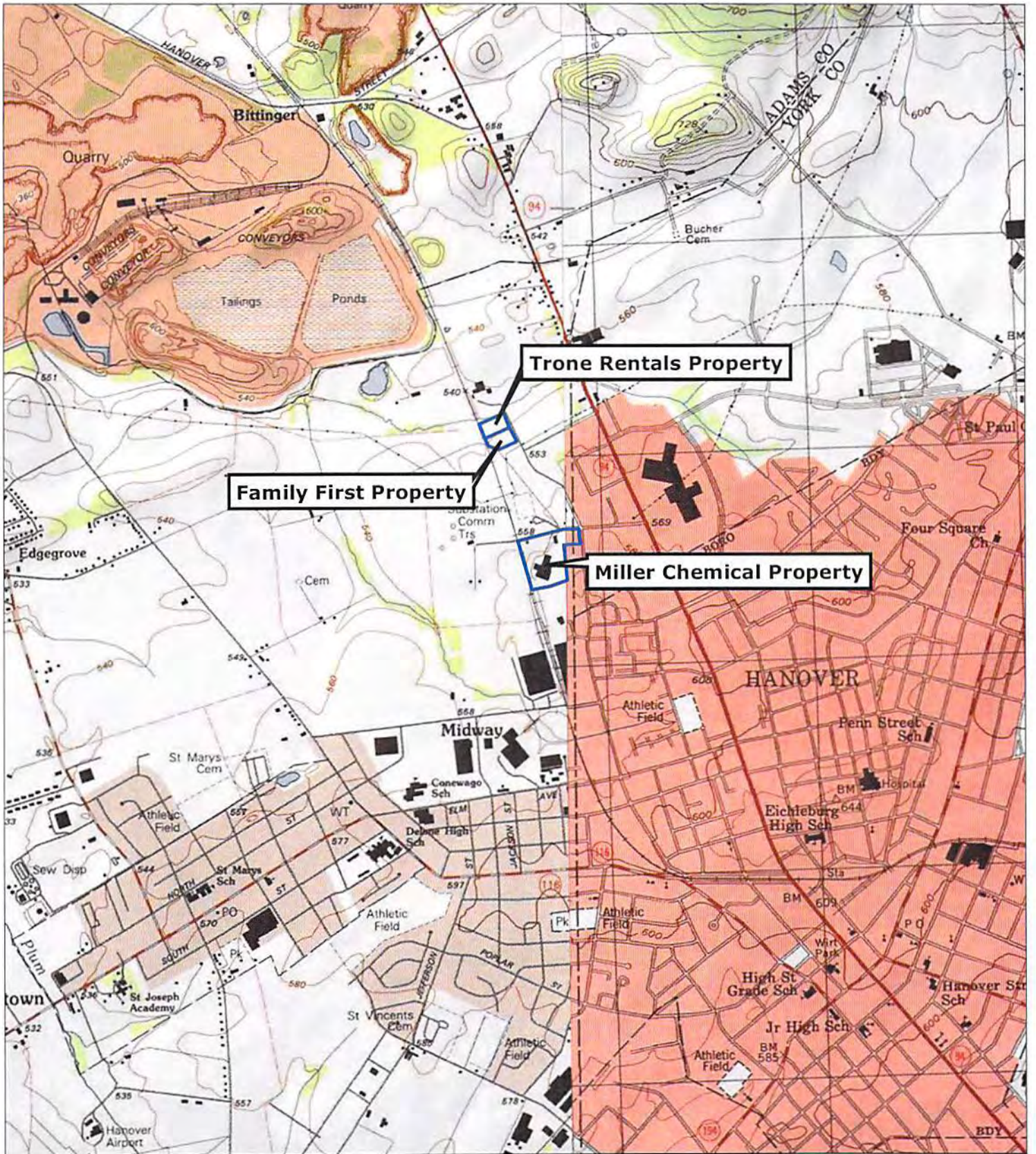
Attachments: In addition to the data entered in this FRS, the Department requests scanned image(s) of a map view of the site indicating, at a minimum, the boundaries of the "site" relative to the locations of the adjacent property boundaries. The location of the site (as defined by Act 2) is that which will receive the liability relief conveyed by Act 2, Chapter 5. The maps may portray other features but should clearly show the Act 2 site boundaries. You may also attach other applicable image files or attachments. These files should be in Adobe Acrobat (*.pdf), GIF (*.gif) or JPEG file interchange format (*.jpg).

**EXHIBIT A
TO NOTICE OF INTENT TO REMEDIATE
FAMILY FIRST HEALTH CORPORATION/TRONE RENTAL PROPERTIES, PA
PROPERTY OWNERS**

Property Owner (1)		
Contact Person/Title	<u>James Hamberger, Facilities Director</u>	eFACTS Client ID* _____
Relationship to Site	<u>Owner</u>	Client Type* <u>Other</u>
(e.g. owner, remediator, participant in cleanup, consultant, etc.)		
Phone Number	<u>717-801-4819</u>	Email Address <u>jhamberger@familyfirsthealth.org</u>
Company Name	<u>Family First Health Corporation.</u>	EIN or Federal ID # _____
Address (street, city, state, zip) <u>116 South George Street, York, PA 17401</u>		

Property Owner (2)		
Contact Person/Title	<u>Chris Trone, Owner</u>	eFACTS Client ID* _____
Relationship to Site	<u>Owner</u>	Client Type* <u>Other</u>
(e.g. owner, remediator, participant in cleanup, consultant, etc.)		
Phone Number	<u>717-633-7004</u>	Email Address <u>ctrone@tronerentals.com</u>
Company Name	<u>Trone Rental Properties.</u>	EIN or Federal ID # _____
Address (street, city, state, zip) <u>350 3rd Street, Hanover, PA 17117</u>		

*Include eFACTS Client ID (if known) – "Client Types" below:		
Association/Organization	Limited Liability company	Partnership-General
Authority	Limited Liability Partnership	Partnership-Limited
County	Municipality	School District
Estate/Trust	Non-Pennsylvania Government	Sole Proprietorship
Federal Agency	Other (Non-Government)	State Agency
Individual	Pennsylvania Corporation	



SCALE 1:24,000

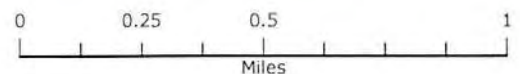
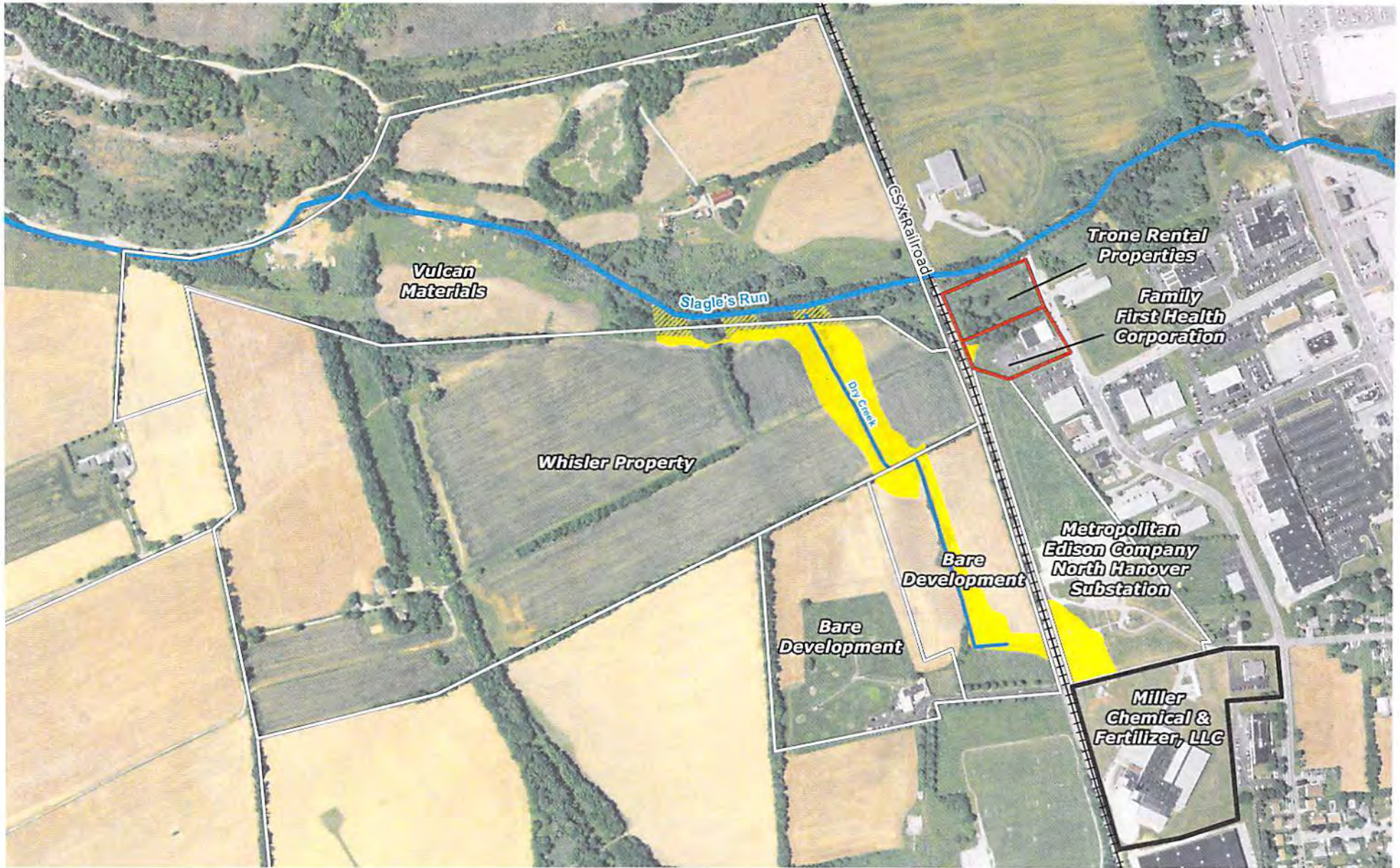


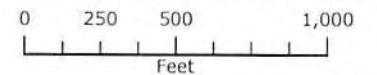
Figure 1-2
Affected Properties
Family First and Trone Rental Properties, Hanover, PA



- Miller Chemical Property
- Family First and Trone Rental Properties
- Other Off-Site Properties
- Visibly Affected Area
- Estimated Affected Area

Notes:

- (1) Location of the visibly affected area is based on the 8/28/2015 and 9/21/2015 surveys conducted by GHI and on GPS measurements collected by Ramboll Environ Staff. The estimated affected area was not mapped with the GPS because the boundaries of the impacts were not readily discernible or not safely accessible. The estimated area shown on the map is based on visual observations.
- (2) Visibly affected area on the Miller Chemical property is not shown on this figure.
- (3) Dry Creek feature is approximate.

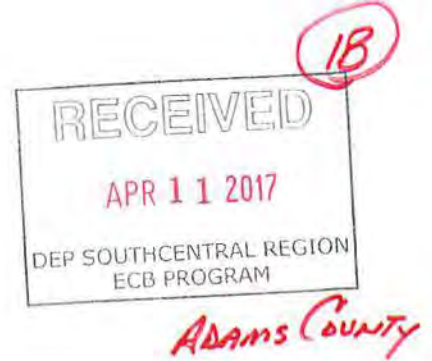


Prepared for:
Miller Chemical & Fertilizer, LLC
Hanover, Pennsylvania

Prepared By:
Ramboll Environ US Corporation
Arlington, Virginia
Princeton, New Jersey

Date
February 2017
Revised April 2017

Project Number
01-37782A



FINAL REPORT

FAMILY FIRST HEALTH CORPORATION AND UNDEVELOPED TRONE RENTALS PROPERTY HANOVER, PENNSYLVANIA

FINAL REPORT

Revision **01**
Date **February 1, 2017; Revised April 3, 2017**
Prepared by **Christopher Bowles**
Checked by **Sarah Stoneking, Bill Kraft, Jason Miller**
Approved by **J. Mark Nielsen**
Description **Final Report**
Family First Health Corporation and Undeveloped
Trone Rentals Property
Hanover, Pennsylvania

Ref **01-37782A**

FINAL REPORT

Pursuant to the requirements of the Pennsylvania Land Recycling and Environmental Remediation Standards Act (Act 2), adopted August 16, 1997, which state that:

Interpretation of geologic and hydrogeologic data shall be prepared by a professional geologist licensed in this Commonwealth

I hereby attest that, as a Professional Geologist licensed in the Commonwealth of Pennsylvania, I am familiar with, and have reviewed and/or prepared the interpretation of the geology and hydrogeology presented in the attached report entitled:

Final Report, Family First Health Corporation and Undeveloped Trone Rentals Property, Hanover, Pennsylvania, dated February 2017 (as revised April 2017).

Based on the available data represented in the report, I believe that the geologic and hydrogeologic interpretations made herein are reasonable and accurate.



William Kraft, PG

PG-003902

Expires September 2017

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- Appendix B: Wetland Map and Bog Turtle Survey (JMT)
- Appendix C: Zoning Documents
- Appendix D: Laboratory Data Package, Summary, and Figure for Soil Characterization Sample Collected from Miller Chemical Property
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1. INTRODUCTION

On behalf of Miller Chemical & Fertilizer, LLC (Miller Chemical), Ramboll Environ US Corporation (Ramboll Environ) has prepared this Final Report for the property owned by Family First Health Corporation (Family First) located at 1230 High Street in Hanover, Conewago Township, Adams County, Pennsylvania (the "site") (Figure 1-1), and the adjacent undeveloped Trone Rental Properties (Trone) located at 1250 High Street.

This Final Report presents the results of investigation activities conducted to evaluate potential impacts relating to the mobilization of fertilizer constituents from the Miller Chemical property by fire water during and subsequent to emergency fire-fighting response efforts at the Miller Chemical facility on June 8, 2015. Section 1 of this report provides information relating to the Miller Chemical operations and the fire. Section 2 provides background information relating to the Family First and Trone property operations and setting, and surrounding area geology, hydrogeology, and meteorology. Section 3 contains a summary of the soil investigation activities, modifications to the *Miller Chemical & Fertilizer, LLC, 170 Radio Road, Hanover, Pennsylvania Off-Site Act 2 Soil Sampling and Analysis Plan* (the "SAP"), and the analyte selection process. Section 4 presents the soil sampling results, and Section 5 contains a demonstration of attainment of applicable soil standards. The conclusions of the ecological risk review are provided in Section 6, and Section 7 provides a summary of conclusions.

The investigation activities described herein were conducted pursuant to the requirements of the Land Recycling and Environmental Standards Act (Act 2) as set forth in Title 25, Chapter 250 regulations, promulgated by the Pennsylvania Department of Environmental Protection (PADEP). The purpose of this report is to demonstrate attainment of Act 2 standards for compounds evaluated in soil at the Family First and Trone properties and qualification for a Relief of Liability pursuant to Act 2.

A Notice of Intent to Remediate (NIR) for the Family First and Trone properties was submitted to PADEP on July 6, 2016. A copy of the NIR was also submitted to the local municipality (Conewago Township) and a legal notification was published in the Hanover Evening Sun. The NIR indicates that chemicals of concern (COCs) will be addressed under the Statewide Health Standards (SHS) for unrestricted site use; several inorganics have also been evaluated under the background standard. Copies of the notification documents are included in Appendix A.

Emergency fire-fighting response activities also affected other parcels. Separate NIRs have been submitted to demonstrate attainment for COCs evaluated in soil at other affected properties; in addition, demonstration of attainment with Act 2 standards for groundwater will be submitted under a separate NIR and will be evaluated holistically across all potentially affected properties.

1.1 Miller Chemical Information

The Miller Chemical facility is located at 120, 150, and 170 Radio Road in Hanover, Conewago Township, Adams County, Pennsylvania and is approximately 13 acres in size. The Miller Chemical property was first developed in the late 1930s as a fertilizer manufacturing facility and was operated by Union Fertilizer from the late 1930s until the

mid-1940s as a fertilizer manufacturing facility. The property was acquired by Miller Chemical and Fertilizer Corporation in the mid-1940s and was operated by Miller Chemical and Fertilizer Corporation for fertilizer and pesticide formulation. By the early 1990s, the facility began shifting operations to fertilizer blending, and pesticide handling was limited to repackaging until 1995 when all pesticide handling operations ceased. Miller Chemical & Fertilizer, LLC acquired the Miller Chemical property and the assets of the business in 2014 and operated the facility for the formulation and packing of fertilizers.

At the time of the fire, the Miller Chemical property was developed with an approximately 96,000-square-foot main (production and warehouse) building, which was located in the center of the property (170 Radio Road), and three smaller buildings used for administrative activities (120 Radio Road), and for maintenance and document storage (150 Radio Road). A storm water retention pond was located northeast of the former building and connected to a storm water ditch located along the northern edge of the Miller Chemical property. Although the main building was mostly destroyed during the fire, construction of a new building within the same footprint was completed in July 2016.

The areas surrounding the current and former buildings are landscaped with grass and other vegetation. In addition, a newly constructed storm water pond is present in the northwest portion of the site.

1.2 History of Events

At approximately 3:30 am on Monday, June 8, 2015, emergency responders were alerted to a fire at the Miller Chemical production and warehouse building located south of the Family First property. No one was inside the main building at the time and no injuries occurred while fighting the fire. Firefighters applied a large volume of water to extinguish the fire, as well as firefighting foam confirmed to be Universal Gold Alcohol Resistant Aqueous Film Forming Foam. A heavy rainfall occurred during the fire. Despite efforts to contain firefighting water and rainwater in the Miller Chemical property's retention pond and a series of connected pits excavated on the northwestern portion of the Miller Chemical property during the fire, runoff from firefighting activities traveled across various parcels, including the Family First property, towards Slagle's Run north of the Miller Chemical property (Figure 1-2). More specifically, the majority of the fire water flowed across the Miller Chemical property to a ditch running east-west along the north side of the Miller Chemical property, with a portion of the water flowing across the Miller Chemical property to a ditch running south-north along the west side of the property. Water in both ditches flowed to the northwest corner of the Miller Chemical property and through a culvert beneath Radio Road and into the southwest corner of the Metropolitan Edison (Met-Ed) property. During the early firefighting efforts, water also appeared to have overtopped the drainage ditch on the Miller Chemical property and flowed across Radio Road onto the southwestern portion of the Met-Ed property. From the Met-Ed property, most of this water flowed through a corrugated metal drainage pipe beneath the CSX Transportation (CSX) rail tracks and onto the Bare Development property to the west, eventually discharging to Slagle's Run after crossing the Whisler property.

In addition, a small portion of the fire water also flowed north along the east side of the CSX rail tracks onto the Family First property. Approximately 0.07 acre of the Family First property was visibly affected by the fire water. Fire water reportedly continued to flow from

the Family First property north across the adjacent Trone property, ultimately discharging into Slagle's Run, although visibly affected areas were not observed north of the Family First property.

Subsequent to the fire, fire water and storm water runoff generated at the Miller Chemical property was pumped into a number of above ground storage containers (i.e., frac tanks) located at the Miller Chemical property. In an effort to control additional storm water runoff from reaching Slagle's Run in the days after the fire, several trenches and pits were excavated within the adjacent agricultural fields near Slagle's Run; these pits have since been filled. In addition, a one-million-gallon water holding tank (the "pool") was constructed on the Bare Development parcel to increase storm water runoff holding capacity. Water was pumped into the pool from the surrounding pits and drainage areas. A number of berms and other storm water diversions were also placed on the Miller Chemical property and on the agricultural parcels to reduce the flow of storm water from upgradient properties onto the Miller Chemical property and affected properties and to separate storm water from affected areas and unaffected areas.

2. SITE SETTING

2.1 Site Description

This report documents the investigation of potential soil impacts from the release of fire water from the Miller Chemical property onto the Family First and Trone properties (collectively, the "site"). The Family First property is located at 1230 High Street in Hanover, Conewago Township, Adams County, Pennsylvania and comprises approximately 2.5 acres. The Trone property is an approximately 2.3-acre parcel located north of the Family First property at 1250 High Street. These properties are shown on Figure 1-2.

The location of the site is shown on the United States Geological Survey (USGS) topographic map for the McSherrytown quadrangle (Figure 1-1). Family First operates an adult and pediatric medical and dental care facility. An approximately 11,000-square-foot building is located on the eastern portion of the site. The site is accessed on the eastern boundary from High Street. The access road is surfaced with asphalt and leads to an asphalt-paved parking area adjacent to the building to the south and west. The remaining areas of the site are landscaped with grass. A bermed storm water retention basin is present within the grassy area at the west end of the parking lot. A narrow strip of land near the northern boundary has been delineated as a wetland (Figure 2-1); a figure prepared by Johnson, Mirmiran & Thompson (JMT) and depicting the mapped wetland area is included as Appendix B to this report. The Family First property is bounded by High Street to the east, the Met Ed property and another commercial property to the south, by the CSX rail line to the west, and by the undeveloped Trone property to the north.

The visibly affected area of the Family First property included approximately 3,150 square feet of grass-covered area located west and north of the storm water retention basin, in the northwest corner of the Family First property (Figure 2-1). Based on visual observations, fire water did not migrate into the storm water retention basin. In addition, no visibly affected area of vegetation was observed on the Trone property.

2.2 Site History

Based on a review of historical aerial photographs, topographic maps, and discussions with Family First personnel, the site appears to have been developed with the current site building between 1987 and 1992. It appears that the site was undeveloped prior to that time.

2.3 Climate

Hanover, Pennsylvania has an average annual temperature of 53 degrees Fahrenheit, average annual humidity of 72%, and averages approximately 39 inches of precipitation annually.¹ Approximately half of the annual precipitation returns to the atmosphere through evapotranspiration. The amount of precipitation that recharges to groundwater in this region of Pennsylvania typically averages approximately 30% of the total precipitation amount, with the rest flowing into surface water bodies (Reese & Risser, 2010). This suggests that approximately 11.7 inches of precipitation reaches groundwater per year; although factors

¹ <http://www.usclimatedata.com/climate/hanover/pennsylvania/united-states/uspa0672>;
<http://www.wunderground.com/personal-weather-station/dashboard?ID=KPAHANOV9>.

such as soil type, precipitation rates, ratio of pervious to impervious surfaces, and the slope of the ground will impact the infiltration rate.

2.4 Topography

Topography in the vicinity of the building and the parking lot is generally flat; remaining portions of the site are characterized by a gentle slope to the northwest. Surface elevations range from approximately 550 feet above mean sea level (AMSL) in the southeast corner of the Family First property to 530 feet AMSL in the northwest corner of the site. The Family First and Trone properties are bounded on the west side by the CSX rail line, which is situated above the surrounding area on an approximately four-foot-high rail bed.

2.5 Site and Surrounding Area Geology/Hydrogeology

The site is located within the southwestern portion of the Piedmont Lowland Section of the Piedmont Province. The Piedmont Lowland Section consists of karst valleys separated by broad, low hills (Sevon, 2000). The rock is complexly folded and faulted and dominantly consists of limestone and dolomite with some shale and sandstone. The Conestoga Limestone crops out within the site vicinity. This formation dominantly consists of thinly bedded, dark-gray limestone with some shale. Underlying the limestone is black to dark-gray shale and limestone, which may be over 1,000 feet in thickness (Taylor & Royer, 1981).

According to the United States Department of Agriculture (USDA) Natural Resources Conservation Service (NRCS) Web Soil Survey, the natural surface soils within the vicinity of the site are primarily identified as the Conestoga silt loam, which is characterized as well drained.²

2.6 Current and Future On-site Land Use

As discussed in Section 2.1, Family First operates an adult and pediatric medical and dental care facility. The site is currently zoned for highway commercial land use by Conewago Township.³ The Conewago Township Comprehensive Plan (the "Comprehensive Plan"; 2008)⁴ indicates that the parcel will remain used for commercial purpose with the exception of the northwest corner of the parcel, which may be designated as a conservation zone. Zoning documents are provided in Appendix C.

2.7 Current and Future Surrounding Land Use

The Family First property is bounded to the west by the CSX rail line, with the Whisler agricultural parcel located west of the CSX rail line. The property is bounded to the north by an undeveloped, wooded parcel owned by Trone. To the east is High Street, beyond which is Marchio's Sport Hut, an archery range and supply store. Several additional commercial properties are located further east. A multi-tenant commercial building and the Metropolitan Edison electrical substation property are located to the south. These land uses are consistent with Conewago Township's current zoning which notes properties to the east and south as being zoned for commercial purposes (i.e., Highway Commercial), while the property to the north is zoned as vacant, and the property to the west is zoned for

² <http://websoilsurvey.nrcs.usda.gov>

³ <http://www.conewagotwp.org/departments/zoning-codes/>.

⁴ <http://www.conewagotwp.org/departments/zoning-codes/comprehensive-plan/>.

agricultural purposes. The Comprehensive Plan calls for the land use of the parcels surrounding the Family First parcel to remain as they are currently zoned with the exception of portions of the land west and north of the Family First parcel, which may be designated as conservation zones.

2.8 Groundwater Use

To evaluate groundwater use at properties in the vicinity of the site, Ramboll Environ conducted a water well search in June 2015 that was subsequently updated in February 2016. The water well survey identified 15 withdrawal water wells (commercial, domestic, industrial, and/or agricultural) and 64 other types of wells (monitoring, observation, injection, mine, test, and/or unused) within a one-mile radius of the Miller Chemical property (Figure 2-2); the nearest domestic water well was identified approximately 3,200 feet southeast of the Family First property. In addition, a nearby land owner noted that a spring is located in the vicinity of a residence on the Whisler Property, approximately 2,600 feet west of the dry creek.

Groundwater is currently not in use at the site. In the future, while it is expected that water will continue to be provided to the site and surrounding parcels by Hanover Municipal Water Works, Ramboll Environ did not identify local ordinances that would restrict the future installation of potable or non-potable wells at or in vicinity of the site; as such, the future use of groundwater as a drinking water source cannot be ruled out.

As previously indicated, potential groundwater effects related to the fire at the Miller Chemical property are being assessed separately.

3. SOIL CHARACTERIZATION SCOPE OF WORK

Ramboll Environ conducted soil sampling activities as described in the SAP, which at the request of Miller Chemical, was reviewed and approved by PADEP on November 3, 2015, and subsequently revised to respond to additional off-site property owner comments. The sampling activities were conducted in accordance with the approved SAP with the following modifications:

- At the request of PADEP, one additional fire water flow path sample was collected on the Trone property, located north of the Family First property. The sample was collected as a discrete sample (FF-FP-02) from a depth of 0 to 3 inches below ground surface (bgs), consistent with the other flow path sample.
- Three boundary samples (FF-BS-04, FF-BS-05, and FF-BS-06) were collected along the northern and western boundaries of the Family First property, but within the visibly affected area. These boundary samples were treated as visibly affected area samples for data evaluation purposes.

3.1 Pre-Mobilization Activities

Pre-mobilization activities included preparation of a site Health and Safety Plan (HASP), mark-out of public subsurface utilities by the Pennsylvania One-Call service, and field mapping of the visibly affected areas.

3.2 Act 2 Soil Sample Collection

Ramboll Environ conducted the soil sampling activities on November 16, 2015 and November 18, 2015. Soil sampling activities included the collection of soil samples from twelve background sample locations (FF-BACK-01 to FF-BACK-12), four visibly affected area sample locations (FF-VA-01 to FF-VA-04), six delineation (or boundary) samples (FF-BS-01 to FF-BS-06), and two fire water flow path samples (FF-FP-01 and FF-FP-02; FF-FP-02 was collected on the Trone Rentals Property). The sampling locations are depicted on Figure 3-1. Ramboll Environ also collected three duplicate soil samples and two equipment rinse blanks for quality assurance purposes.

Act 2 soil samples were collected at pre-specified depth intervals using the procedures documented in the Act 2 Off-Site SAP and summarized briefly below.

Background Samples (FF-BACK-01 to FF-BACK-12)

Background soil samples were collected as grab soil samples from twelve visibly unaffected locations on the Family First property. Soil samples were collected from 0 to 3 inches bgs; 6 to 12 inches bgs; and 1 to 2 feet bgs at each background soil sample location. In addition, soil samples were collected from a depth of 4 to 5 feet bgs at three locations (FF-BACK-02, FF-BACK-06, and FF-BACK-11). A total of 40 background soil samples were collected from 12 sample locations (including one duplicate).

Visibly Affected Area (FF-VA-01 to FF-VA-04)

Five-point composite soil samples were collected at a depth interval of 0 to 3 inches bgs at each visibly affected area location. Five-point composite samples were collected by taking five equal volume subsamples from the center location and compass points of a

10-foot-diameter circle, combining the subsamples in a stainless-steel bowl and mixing thoroughly prior to packaging in a laboratory-supplied container. A total of four surface composite soil samples were collected from four sample locations. In addition, deeper discrete grab soil samples were collected from depths of 1 to 2 feet bgs and 4 to 5 feet bgs at location FF-VA-02, and one duplicate soil sample was collected at a depth of 1 to 2 feet bgs. A total of 7 samples from sample locations designated as visibly-affected area sample locations.

Boundary Samples (FF-BS-01 to FF-BS-06)

Soil samples were collected from the boundary of the visibly affected area at a rate of approximately one sample per 150 linear feet. Boundary samples were collected as five-point composite soil samples from a depth interval of 0 to 3 inches bgs. Composite samples were collected as described above, but the five subsamples were collected in an equally spaced linear fashion. A total of 7 boundary samples were collected from 6 sample locations (including one duplicate). Boundary samples designated as FF-BS-04 (and a duplicate), FF-BS-05, and FF-BS-06 were collected along the property boundary, but within visibly affected areas and thus, for the purposes of data evaluation, were treated as "visibly affected" samples.

Fire Water Flow Path (FF-FP-01 to FF-FP-02)

Soil samples were collected from the fire water flow path as discrete, grab surface soil samples at a depth interval of 0 to 3 inches bgs. A total of two flow path samples were collected from two sample locations.

Soil samples were packaged in laboratory-provided containers, labelled, placed on ice, and delivered under chain-of-custody protocols to Phase Separation Science, Inc. (PSS) and ALS for laboratory analysis. These laboratories are Pennsylvania-certified for the constituents that were analyzed (listed below in Section 3.4).

3.3 Act 2 Analyte Selection Process

Ramboll Environ conducted a review of available information from Miller Chemical and PADEP to evaluate potential analytes that could have been present in fire water flows, and to identify the list of potential COCs. This review began with an assessment of broad spectrum sampling data from affected soil and fire water and then extended to a review of Miller Chemical's chemical inventories and product composition information. More specifically, Ramboll Environ relied upon the following information sources:

- Analytical results for fire water samples collected on-site immediately following the fire and analyzed for an extensive analyte list (as described in further detail below);
- Analytical results for soil samples collected from the visibly worst-affected areas of the Miller Chemical property shortly following the fire (e.g., the on-site drainage ditch) and analyzed for an extensive analyte list (as described in further detail below);
- Product and raw materials inventories review; and
- Data that PADEP collected immediately after the fire.

3.3.1 Fire Water Analysis

Environmental Products & Services of Vermont, Inc. (EPS), the emergency response contractor appointed by Adams County, collected a sample of fire water on June 9, 2015. The sample was submitted to Pace Analytical Services, Inc. in Greensburg, Pennsylvania for analysis of the parameters listed below, and certain additional waste characterization parameters, such as pH, flashpoint, etc.:

- Total phosphorus by Standard Method (SM) 4500-P E;
- TKN by USEPA Method 351.2;
- Nitrate (as N) by SM 4500-NO3 F;
- Nitrite by Method SM 4500-NO2 B;
- Metals including: antimony, arsenic, barium, beryllium, cadmium, chromium (total), copper, lead, nickel, selenium, silver, thallium, and zinc by USEPA Method 6010B;
- Mercury by USEPA Method 7470A;
- Polychlorinated biphenyls (PCBs) by USEPA Method SW-846 8082;
- Reactive cyanide by USEPA Method SW-846 7.3.3.2; and
- Reactive sulfide by USEPA Method SW-846 7.3.4.2.
- Toxicity characteristic leaching procedure (TCLP) pesticides by USEPA Method SW-846 8081A;
- TCLP herbicides by USEPA Method SW-846 8151A (analyzed by Summit Environmental Technologies, Inc.);
- TCLP metals by USEPA Method-846 6010B;
- TCLP semi-volatile organic compounds (SVOCs) by USEPA Method SW-846 9270C;
- TCLP volatile organic compounds (VOCs) by USEPA Method SW-846 9260B;

Results for the fire water analysis were non-detect for leachable (TCLP) pesticides, PCBs, leachable (TCLP) SVOCs, leachable (TCLP) VOCs, reactive cyanide, and reactive sulfide. Certain of the metals were also non-detect. Detected constituents and parameters include total phosphorus, TKN, nitrate, nitrite, sulfate, certain metals, and select leachable (TCLP) metals including arsenic, chromium (total),⁵ and lead.

3.3.2 Miller-Site Surface Soil

On June 15, 2015, Ramboll Environ collected a surface soil sample (SS8-IS-061515) from a heavily impacted drainage ditch along the northern boundary of the Miller Chemical property. This sample was submitted for laboratory analysis of the following constituents:

- Total phosphorus (as P) by USEPA Method 365.1;
- TKN by Standard Method (SM) 4500-NH3 C-1997;
- Nitrate (as N), nitrite (as N), and sulfate by USEPA Method 300.0;
- Target Analyte List (TAL) metals including: aluminum, antimony, arsenic, barium, beryllium, cadmium, chromium (total), cobalt, copper, iron, lead, manganese, mercury,

⁵ Based on Information provided to PADEP indicating that Miller Chemical did not use or store chemicals or raw materials containing hexavalent chromium, the Department verbally agreed that testing for total chromium and application of the trivalent chromium MSC would be appropriate for this site.

nickel, potassium, selenium, silver, sodium, thallium, and zinc by USEPA Method SW-846 6020A;

- Organochlorine pesticides by USEPA Method SW-846 8081B;
- Chlorinated herbicides by USEPA Method SW-846 8151A;
- Organophosphorus compounds by USEPA Method SW-846 8141B; and
- TCLP metals by USEPA Method SW-846 6020A;
- TCLP organochlorine pesticides by USEPA Method SW-846 8081B;
- TCLP chlorinated herbicides by USEPA Method SW-846 8151A;
- TCLP VOCs by USEPA Method SW-846 8260B;
- TCLP organophosphorus compounds by USEPA Method SW-846 8141B.

Results for the soil sample were non-detect for chlorinated herbicides, leachable (TCLP) metals, leachable (TCLP) organochlorine pesticides, leachable (TCLP) organochlorine herbicides, leachable (TCLP) VOCs, and organophosphorus compounds; a map showing the approximate sample location, a data summary of detected constituents, and the complete laboratory analytical data report are included as Appendix D.⁶ A single organochlorine pesticide (methoxychlor) was detected at a concentration of 1.2 milligrams per kilogram (mg/kg) in the soil sample. The measured concentration of methoxychlor is well below the Statewide Health Standards of 630 mg/kg for protection of groundwater and 1,100 mg/kg for direct contact at residential properties. Ramboll Environ also notes that methoxychlor was not detected in subsequent, additional soil characterization samples collected from the Miller Chemical property. Remaining detected parameters included total phosphorus, TKN, nitrate, nitrite, sulfate, and certain metals.

3.3.3 Chemical Inventory Review

As part of the chemical inventory review, Ramboll Environ reviewed product and raw materials inventories provided by Miller Chemical (including estimates of the amount of material present on the Miller Chemical property at the time of the fire and, for certain materials, estimates of the amount of material recovered after the fire). Ramboll Environ also interviewed representatives of Miller Chemical regarding chemical use and reviewed safety data sheets (SDSs) and other publicly available information (e.g., product labels) regarding the composite of materials listed on the inventories.

More specifically, Ramboll Environ reviewed chemical composition information listed on the SDSs and labels provided by Miller Chemical or available through Miller Chemical-specific online portals. Ramboll Environ also reviewed other publicly available SDS repositories not associated with Miller Chemical to identify SDSs associated with Miller Chemical. Given the overall number of chemicals present on-site and the range in quantities, more detailed chemical composition review was conducted for products present at the time of the fire in quantities in excess of 75,000 pounds (this quantity was selected based on an estimate of the volume of firewater that flowed off the Miller Chemical property and potential resulting average contaminant concentrations). The chemical composition review was focused on identifying additional analytes of potential concern.

⁶ Ramboll Environ notes that the laboratory analytical report included results for samples collected from other properties and media, which are not pertinent to the evaluation discussed in Section 3.4; data for these samples has been redacted from the analytical data report.

3.3.4 Selection of Analytes of Potential Concern

Based on the results for analyses of on-site soil and fire water and the review of Miller Chemical's chemical use and inventory, Ramboll Environ ruled out the following constituents of concern:

- Pesticides – No pesticides other than methoxychlor were detected in the samples described above and Miller Chemical did not store or use pesticides on-site at the time of the fire. Methoxychlor was identified in only a single soil sample and was not detected in fire water, surface water, or in samples collected during subsequent characterization of visibly-affected soils. As such, pesticides were not retained as constituents of concern for the purposes of the Act 2 investigation.
- Herbicides – No herbicides were detected in the samples described above and Miller Chemical did not store or use herbicides at the site at the time of the fire. As such, herbicides were ruled out as a constituent of concern associated with the fire.
- VOCs/SVOCs – Neither VOCs nor SVOCs were detected in the characterization samples described above. It is likely that volatile organic compounds within materials stored at the site were consumed by the fire. Ramboll Environ did not identify materials in the chemical and raw material inventory containing appreciable SVOCs.
- PCBs – PCBs were not detected in the characterization samples and Miller Chemical did not use or store PCBs at the Miller Chemical facility. As such, PCBs were not retained as a constituent of concern for the Act 2 investigation.
- Reactive cyanide and sulfide – Neither reactive cyanide nor sulfide were detected in the characterization samples discussed above. Further these compounds are not anticipated based on chemical inventory information. As such, these compounds were ruled out as constituents of potential concern for the Act 2 investigation.

The following analytes were retained as potential constituents of concern:

- TAL metals (aluminum, antimony, arsenic, barium, beryllium, cadmium, calcium, total chromium, cobalt, copper, iron, lead, manganese, mercury, nickel, potassium, selenium, silver, sodium, thallium, vanadium, and zinc) plus molybdenum and boron;
- TKN, nitrate, and nitrite;
- Sulfate; and
- Total phosphorus.⁷

3.4 Soil Sample Analysis

Based on the analyte selection process described above, Act 2 soil samples were analyzed for the presence of the following compounds, in accordance with the SAP:

- Target Analyte List (TAL) metals including: aluminum, antimony, arsenic, barium, beryllium, cadmium, calcium, total chromium, cobalt, copper, iron, lead, magnesium,

⁷ Ramboll Environ notes that no MSCs have been developed for TKN, sulfate, or phosphorous and toxicity data to support the calculation of MSCs for these constituents was not identified. Nevertheless, these constituents were analyzed to support the investigation of the presence of impacts associated with fertilizer products.

manganese, mercury, nickel, potassium, selenium, silver, sodium, thallium, vanadium, and zinc plus molybdenum and boron by SW846-6020A (submitted to PSS);

- TKN by Standard Method (SM) 4500-NH3 C-1997 (submitted to ALS);
- Nitrate (as N) by USEPA method 300.0 (submitted to ALS);
- Nitrite (as N) by USEPA method 300.0 (submitted to ALS);
- Sulfate by USEPA method 300.0 (submitted to ALS); and
- Total phosphorous (as P) by USEPA method 365.1 (submitted to ALS).

3.5 Quality Assurance/Quality Control (QA/QC)

Chain-of-custody documents and field log books were maintained for all samples. Sample locations were recorded using both a Trimble GeoXH GPS and traditional survey methods.

To evaluate the repeatability of the sampling procedures, one duplicate sample per 20 samples was collected during the sampling event, resulting in the collection and analysis of three duplicate soil samples.

Re-useable sampling equipment was decontaminated using appropriate procedures including a non-phosphate detergent wash, followed by a double de-ionized water rinse. Two equipment rinse blanks were collected from decontaminated sampling equipment to document the effectiveness of equipment decontamination methods. Laboratory-provided deionized water was poured over the sampling equipment into laboratory provided containers. The samples were submitted to the laboratory for the constituents identified in Section 3.4.

The analytical laboratory employed standard QA/QC practices including the analysis of internal laboratory duplicates, reagent blanks, method blanks, matrix spikes and matrix spike duplicates, surrogate spikes, laboratory control samples, and continuing calibrations. Analytical data was reviewed and validated prior to reporting by Laboratory Data Consultants, Inc. (LDC). Results of the data validation are further discussed in Section 3.6.

Forms summarizing the analytical data were checked and the overall completeness of the data packages was evaluated. Completeness checks were administered on all data to determine whether all necessary deliverables were present. Data validation included a complete review of all technical holding times; the instrument performance check sample results, initial & continuing calibration results, blanks, surrogate spikes, matrix spikes/matrix spike duplicates and laboratory control sample results; internal standards; target compound identification and quantitation; and system performance checks.

3.6 Data Usability

During a review of data validation results, Ramboll Environ observed that numerous soil samples were flagged with a non-detect qualifier ("U" qualifier) due to the presence of inorganic constituents including aluminum, barium, calcium, copper, magnesium, nitrate, potassium, sodium, strontium, sulfate, and zinc in the two field equipment rinse blanks (EB-1-111915, EB-2-111915). Based on a review of the available data and discussions with PSS, it was concluded that the laboratory-provided deionized water used to collect these equipment blanks may not have been free of inorganic parameters. During follow up inquiry

by Ramboll Environ, PSS indicated that the lab uses two separate sources of deionized water within the lab; one source is used for analysis of inorganics while the second source is used for organics testing. The laboratory-provided deionized water was supposed to have been provided from the inorganics source on March 9, 2016. The laboratory analyzed an aliquot of water from the de-ionized water source used for organics analysis. Based on a review of these results, detected concentrations of inorganic compounds in the two field equipment blanks are similar to those measured in the laboratory water supply for organics analysis. Therefore, it appears that this water source was used to provide water for collection of the equipment blanks designated above (see Appendix E for analytical results for the PSS organics water).

As a result of this review, Ramboll Environ has rejected the equipment blank data for samples EB-1-111915 and EB-2-111915 and has removed all qualifiers associated with detected metals in these blanks. By removing these data qualifiers, Ramboll Environ is conservatively assuming that 100% of the measured concentrations for the inorganic parameters in the soil samples associated with these equipment rinse blanks reflect actual concentrations in the soil with no potential contribution from cross-contamination by laboratory provided water.

Analytical results for boron in 12 of 56 samples were rejected during the data validation process due to exceedances of the associated continuing calibration verification standards (i.e., the result for the continuing calibration standard was not in the expected range). The reported value for each of the rejected data points for boron was non-detect. Of the remaining 44 samples collected on the Family First property, boron was not detected in any sample. Ramboll Environ notes that continuing calibration standard analyses for soil samples collected on the nearby Bare Development property were acceptable (i.e., data were not rejected for this reason) and the analytical results for boron in soil samples collected from the Bare Development property are comparable (e.g., all samples except for one were non-detect for boron; boron was detected at a concentration of 16 mg/kg in the one sample). As such, the rejected results are not expected to affect the characterization of fire-response impacts to site soils.

4. SITE CHARACTERIZATION RESULTS

Results of soil characterization activities on the Family First and Trone properties are presented in this section. Soils on other affected parcels are being addressed under separate NIRs and reports. Groundwater is being addressed for all affected parcels under a separate NIR.

4.1 Field Observations

As previously described, surface cover within the visibly-affected area of the Family First property consisted of maintained grass lawn. Based on field observations, the upper six inches of the soil column consisted of topsoil. Subsurface soils are generally described as a yellowish-brown silt with little clay and trace fine sand; in some locations trace gravel was also observed. Saturated soils were not encountered at the time of drilling.

4.2 Soil Sampling Results

A summary of detected constituents in site soil samples is provided in Table 4-1; soil sample locations are depicted on Figure 3-1. Copies of the full laboratory analytical data packages are included in Appendix F. The complete data validation package is included in Appendix G.⁸ Detected constituents include 18 metals (aluminum, arsenic, barium, beryllium, calcium, chromium (total), cobalt, copper, iron, lead, magnesium, manganese, mercury, nickel, potassium, sodium, vanadium, and zinc), nitrate, nitrite, sulfate, TKN, and phosphorous. Antimony, boron, cadmium, molybdenum, selenium, silver, and thallium were not detected in samples collected from the Family First or Trone properties.

In order to support a determination as to whether adequate sampling had been performed to characterize the nature and extent of potential soil contamination, and to evaluate whether further action to evaluate or address soils is necessary, detected soil concentrations were compared to the following applicable PADEP Statewide Health values:

- Residential direct contact within the upper fifteen feet of soil (Residential Direct Contact value),
- Migration from soil to groundwater (Soil-to-GW)⁹ pathways.¹⁰
- Calculated Soil to Groundwater Values for nitrate and nitrite. Soil to Groundwater pathway numeric values for inorganic chemicals as specified by PA code §250.308 can be selected using two methods. Ramboll Environ applied the first method, which selects, "a value which is 100 times the applicable MSC for groundwater identified in §250.304(c) or (d) (relating to MSCs for groundwater), expressed as milligrams per kilogram of soil". For nitrate and nitrite, the applicable MSCs for groundwater identified in §250.304(c) are

⁸ Modified qualifiers based on the data validation are not reflected in the analytical data packages provided by the laboratory.

⁹ For residential used aquifer with TDS ≤ 2,500 milligrams per liter (mg/L).

¹⁰ Soil to Groundwater values were developed consistent with 25 Pa. Code §250.308 for nitrate and nitrite using the Federal maximum contaminant levels (MCLs) of 10 micrograms per liter (µg/L) and 1 µg/L, respectively, as target groundwater concentrations, since Pennsylvania has not developed groundwater values for these chemicals. Soil-to-groundwater values for aluminum, iron, phosphorus, potassium, sodium, and sulfate were not derived since these chemicals are either not toxic to humans at relevant concentrations or only have secondary MCLs.

maximum contaminant levels (MCLs) established by the United States Environmental Protection Agency (USEPA). The MCLs for nitrate and nitrite are 10 milligrams per liter (mg/L) and 1 mg/L, respectively. Multiplying these concentrations by 100 yields Soil to GW values for nitrate and nitrite of 1,000 mg/kg and 100 mg/kg, respectively:

- Nitrate: $10 \times 100 = 1,000$ (mg/kg)
- Nitrite: $1 \times 100 = 100$ (mg/kg)

In Table 4-2, maximum concentrations of detected constituents in soil are compared to Residential Direct Contact values and the Soil-to-GW values; the Residential medium specific concentration (MSC) for soil is the more stringent of these two values. The maximum detected concentrations of constituents in soil are below the applicable MSCs with the exception of vanadium, which is discussed below.

4.2.1 Constituents Exceeding MSCs

Vanadium was the only constituent detected above the Residential MSC. Vanadium was detected in all 56 soil samples (including 3 duplicates) at concentrations greater than the Residential MSC of 15 mg/kg. The maximum detected concentration of vanadium (51 mg/kg) was measured in a background sample (FF-BACK-07) from the 0.5-1 foot bgs interval. The maximum detected visibly affected area concentration of 46 mg/kg was measured at location FF-VA-02 at the 1-2 foot bgs interval. Nearly all of the vanadium concentrations, including all of the concentrations in background soil, are above the Residential MSC; thus, it is not possible to delineate the extent of vanadium concentrations to this MSC. However, the nature and extent of vanadium concentrations in soil has been adequately characterized to be able to support an evaluation regarding the significance of the concentrations in the visibly affected area relative to background.

The presence of vanadium in soil at concentrations exceeding the MSC was further evaluated using procedures set forth under the Act 2 program as discussed in Section 5 of this report.

4.2.2 Constituents with no PADEP MSCs

Sample analyses also identified a number of analytes of potential concern in soil for which no MSCs have been established. These analytes were identified at the following maximum concentrations and locations: calcium (66,000 mg/kg; FF-BACK-08), magnesium (30,000 mg/kg; FF-BACK-08), phosphorus (1,590 mg/kg; FF-BS-06), potassium (3,600 mg/kg; FF-BACK-04), sodium (250 mg/kg; FF-BACK-07), sulfate (127 mg/kg; FF-BS-03), and TKN (7,340 mg/kg; FF-BS-04). The measured concentrations of these constituents are discussed further in Section 5.2 of this report.

5. DEMONSTRATION OF ATTAINMENT

Section 5.1 provides details of the demonstrate attainment of the Background standard for vanadium concentrations which were detected in certain samples above the applicable MSCs, and for calcium and magnesium, two nutrients for which no MSCs have been established. In addition, Section 5.3 provides a summary of the evaluation performed to assess the potential significance of storm water runoff from visibly affected areas. Section 5.4 provides a discussion of vapor intrusion.

5.1 Comparison to Background

Measured concentrations of vanadium, calcium and magnesium were evaluated under the background standard in accordance with Section 250.707(a)(1) of the Pennsylvania Code. As required by Section 250.707(a)(1)(i), at least 10 samples each were collected from the area of impact and from background. A total of 11 soil samples were collected from the visibly affected area (including samples collected at Boundary Sample (BS) locations 04, 05, and 06), and 40 background samples were collected.

Vanadium

Vanadium soil concentrations were evaluated by comparing the concentrations in the visibly affected area¹¹ to the background concentrations. This comparison was performed consistent with the methodologies presented in Section II and Section IV of the PADEP (2002) *Land Recycling Program Technical Guidance Manual* to determine if the concentrations identified in the area affected by emergency fire-fighting response efforts are consistent with background.¹²

Results

The approach involved comparing concentrations within the visibly affected area to the maximum detected background vanadium concentration. The maximum detected vanadium concentration in the visibly affected area is 46 mg/kg (FF-VA-02). This value is lower than the maximum detected background vanadium concentration of 51 mg/kg (FF-BACK-07), indicating that the vanadium concentrations in the visibly affected area are not greater than background.

¹¹ All sampling data for all locations within the visibly affected area were compared to background. This included the boundary samples that were collected within the visibly affected area along the northern boundary of the property (FF-BS-04, FF-BS-05, and FF-BS-06). The visibly affected area samples also included the fire water flow path samples.

¹² When promulgating the SHS for vanadium in August 2016, PADEP acknowledged that the revised SHS may be below soil background levels (<http://www.pabulletin.com/secure/data/vol46/46-35/1508.html>). For example, vanadium background concentrations in Pennsylvania range from a minimum of 15 mg/kg to a maximum of 150 mg/kg with an average of 80 mg/kg (Dragun, J. and Chekiri, K. (2005), *Element in North America Soils*; and Amherst and Boerngen, J.G and Shacklette, H.T. (1981). "Chemical Analysis of Soils and Other Surficial Materials of the Conterminous United States." Open File Report 81-197. United States Geological Survey). PADEP recognized that "human health toxicity values for any naturally occurring regulated substance may result in standards that are numerically less than the background levels at specific sites in this Commonwealth. In this case, section 303(d) of the Act states that persons are not required to remediate below the background standard. Therefore, persons may use the background standard under the Act and the regulations promulgated thereunder."

Conclusion

This evaluation demonstrates that vanadium concentrations in soil within the visibly affected area at the site are in attainment of the Act 2 Background Standard and no further evaluation or action is necessary to address the measured concentrations of vanadium in soil.

Calcium

Calcium soil concentrations were evaluated by comparing the concentrations in the visibly affected area¹³ to the background concentrations. This comparison was performed consistent with the methodologies presented in Section II and Section IV of the PADEP (2002) *Land Recycling Program Technical Guidance Manual* to determine if the concentrations identified in the area affected by emergency fire-fighting response efforts are consistent with background.

Results

The approach involved comparing concentrations within the visibly affected area to the maximum detected background calcium concentration. The maximum detected calcium concentration in the visibly affected area is 21,000 mg/kg (FF-BS-06). This value is lower than the maximum detected background calcium concentration of 66,000 mg/kg (FF-BACK-08), indicating that the calcium concentrations in the visibly affected area are not greater than background.

Conclusion

This evaluation demonstrates that calcium concentrations in soil within the visibly affected area of the site are in attainment of the Act 2 Background Standard and no further evaluation or action is necessary to address the measured concentrations of calcium in soil.

Magnesium

Magnesium soil concentrations were evaluated by comparing the concentrations in the visibly affected area¹⁴ to the background concentrations. This comparison was performed consistent with the methodologies presented in Section II and Section IV of the PADEP (2002) *Land Recycling Program Technical Guidance Manual* to determine if the concentrations identified in the area affected by emergency fire-fighting response efforts are consistent with background.

Results

The approach involved comparing concentrations within the visibly affected area to the maximum detected background magnesium concentration. The maximum detected

¹³ All sampling data for all locations within the visibly affected area were compared to background. This included the boundary samples that were collected within the visibly affected area along the northern boundary of the property (FF-BS-04, FF-BS-05, and FF-BS-06). The visibly affected area samples also included the fire water flow path samples.

¹⁴ All sampling data for all locations within the visibly affected area were compared to background. This included the boundary samples that were collected within the visibly affected area along the northern boundary of the property (FF-BS-04, FF-BS-05, and FF-BS-06). The visibly affected area samples also included the fire water flow path samples.

magnesium concentration in the visibly affected area is 1,800 mg/kg (FF-BS-04). This value is lower than the maximum detected background magnesium concentration of 30,000 mg/kg (FF-BACK-08), indicating that the magnesium concentrations in the visibly affected area are not greater than background.

Conclusion

This evaluation demonstrates that magnesium concentrations in soil within the visibly affected area of the site are in attainment of the Act 2 Background Standard and no further evaluation or action is necessary to address the measured concentrations of magnesium in soil.

5.2 Assessment of Constituents Without PADEP MSCs

As discussed in section 4.2.2, six constituents were detected in site soils but do not have established MSCs (calcium, magnesium, phosphorus, potassium, sodium and sulfate). As discussed above, concentrations of calcium and magnesium measured within the visibly affected soils are in attainment of the background standard. Ramboll Environ investigated toxicity values for phosphorous, potassium, sodium and sulfate from USEPA's hierarchy of sources (USEPA 2003b), as follows:

1. Integrated Risk Information System (IRIS);
2. Provisional Peer Reviewed Toxicity Values (PPRTV); and
3. Other Toxicity Values.

Ramboll also reviewed information published by other USEPA and non-USEPA sources (e.g., Agency for Toxic Substances and Disease Registry (ATSDR) and National Institute for Occupational Health and Safety (NIOSH)) for possible human health toxicity values. However, no toxicity data were identified from these sources for the constituents listed above. Due to a lack of toxicity data for these constituents, MSCs cannot be calculated as the supporting data necessary to calculate MSCs could not be identified.

The predominant health concern within the scientific literature and among government agencies for these constituents is related to inadequate intake as they are (or contain) essential human nutrients and minerals. As a conservative measure, Ramboll Environ conducted additional analysis to evaluate whether an ingestion risk to humans exists, as this would be expected to be the primary route of exposure.

5.2.1 Approach and Methods

To evaluate potential risk associated with ingestion of soil and in the absence of MSCs, Ramboll Environ compared ingestion of these constituents from soil in the visibly affected area to the respective Dietary Reference Intake (DRI) value for each constituent as recommended by the Food and Nutrition Board of the Institute of Medicine (IOM), the National Academy of Science, and other authoritative bodies. For purposes of this analysis, Ramboll Environ first compared the standard residential soil ingestion rate adopted by PADEP (100 mg/day) (25 Pa. Code §250.306) to the DRI values for each constituent. Ramboll Environ also calculated the amount of soil that would need to be ingested to exceed the DRIs

discussed below, based on maximum detected concentrations of constituents in surface soil at the site¹⁵. This approach is described further below.

5.2.1.1 Description of DRIs

DRI values vary by age and gender. Therefore, values for children (beginning at age one) were used in this analysis since this is typically the most sensitive group with the lowest recommended DRI values as well as the highest potential for soil ingestion. DRI values include the following (NIH 2016):

- Recommended Daily Allowance (RDA): average goal intake sufficient to meet the nutrient requirements of nearly all (97% - 98%) healthy people in a group.
- Adequate Intake (AI): average goal intake established when evidence is insufficient to develop an RDA, but is set at a level assumed to ensure nutritional adequacy.
- Tolerable Upper Intake Levels (UL): maximum level of daily nutrient intake that is likely to pose no risk of adverse effects.

DRI values for the constituents evaluated as part of this analysis are provided in Table 5-1. Ramboll Environ notes that a DRI value for sulfate has not been established by IOM. However, the World Health Organization (WHO) established that the average daily intake of sulfate from all sources (drinking water, air, and food), with food being the primary source, is 500 mg/day. Therefore, this value was used for the purposes of this analysis (WHO 2003; WHO 2004); mild adverse effects have been reported for sulfate intake levels of 1,500 mg/day (IOM 2005).

5.2.2 Results and Discussion

5.2.2.1 Analysis using the PADEP Standard Residential Ingestion Rate of 100 mg/day

As a first step in evaluating potential soil ingestion, the typical soil ingestion rate established by PADEP for residents (100 mg/kg) was compared with the lowest of the DRI values for each constituent (Table 5-1). This analysis conservatively assumes that the soil consists solely of the constituent of concern (i.e., 1,000,000 mg/kg). For each of the four constituents (phosphorus, potassium, sodium, and sulfate), the PADEP residential soil ingestion rate is below the lowest DRI value. For example, the RDA or AI for phosphorus for a child is 460 mg/day as compared to the PADEP residential soil ingestion rate of 100 mg/day; as such, a child ingesting the standard daily amount of soil could not ingest the recommended daily amount of calcium from soil, regardless of the concentration of calcium in soil.

This analysis indicates that surface soil concentrations of phosphorus, potassium, sodium, and sulfate at the site do not present a human health concern.

¹⁵ An approach similar to that taken in this analysis was conducted by the Texas Natural Resource Conservation Commission (now known as the Texas Commission on Environmental Quality) to determine whether certain chemicals (including five of the nutrients discussed here: calcium, magnesium, potassium, sodium, and phosphorus) should be considered chemicals of potential concern for soil remediation. The Commission concluded that where DRI values were significantly higher than the soil ingestion rates, any concentration of these chemicals (even if the soil were 100% of the constituent) would not be expected to be a health concern (TNRCC 2001).

5.3 Surface Water/Storm Water

Storm water on the east side of the CSX rail line and berm infiltrates or flows to the northwest along the berm to the Family First property and subsequently to a wetland located on the Trone Property north of the Family First property, which ultimately drains to Slagle's Run, a tributary of the South Branch of Conewago Creek.

Following the fire, Miller Chemical began collecting storm water runoff from the Miller Chemical property and affected off-site properties and disposing of the water at approved facilities. During this time, fertilizer constituent concentrations were monitored in the collected storm water and within the dry creek, Slagle's Run, South Branch Conewago Creek, and Conewago Creek to evaluate potential impacts resulting from flow of storm water over visibly affected soils.

Ramboll Environ calculated site specific benchmarks for surface water using PADEP's PENTOX model. The storm water benchmarks, which were designed to be protective of human health and aquatic life in Slagle's Run, were presented to PADEP in a memorandum dated September 3, 2015 and were subsequently approved. Fertilizer constituent concentrations in surface water and collected storm water declined over time. Upon confirmation that concentrations were below these benchmarks, on September 21, 2015 PADEP granted Miller Chemical's request to permit storm water running over the off-site affected properties to be released to Slagle's Run along its original flow path. Following additional sampling on October 2, 2015, PADEP also granted a follow-up request to release storm water running off the Miller Chemical Property along its original flow path. Storm water has been allowed to flow freely from the off-site affected properties and the Miller Chemical site since October 1, 2015 and October 9, 2015, respectively. Continued monitoring of surface water quality has documented that measured concentrations of fertilizer constituents in surface water within Slagle's Run remain below the benchmarks.

Based on the results of storm water and surface water monitoring, storm water runoff over visibly affected soils on the Family First and Trone properties is not identified as a concern, and no further action is necessary to address overland flow of storm water to Slagle's Run.

5.4 Vapor Intrusion

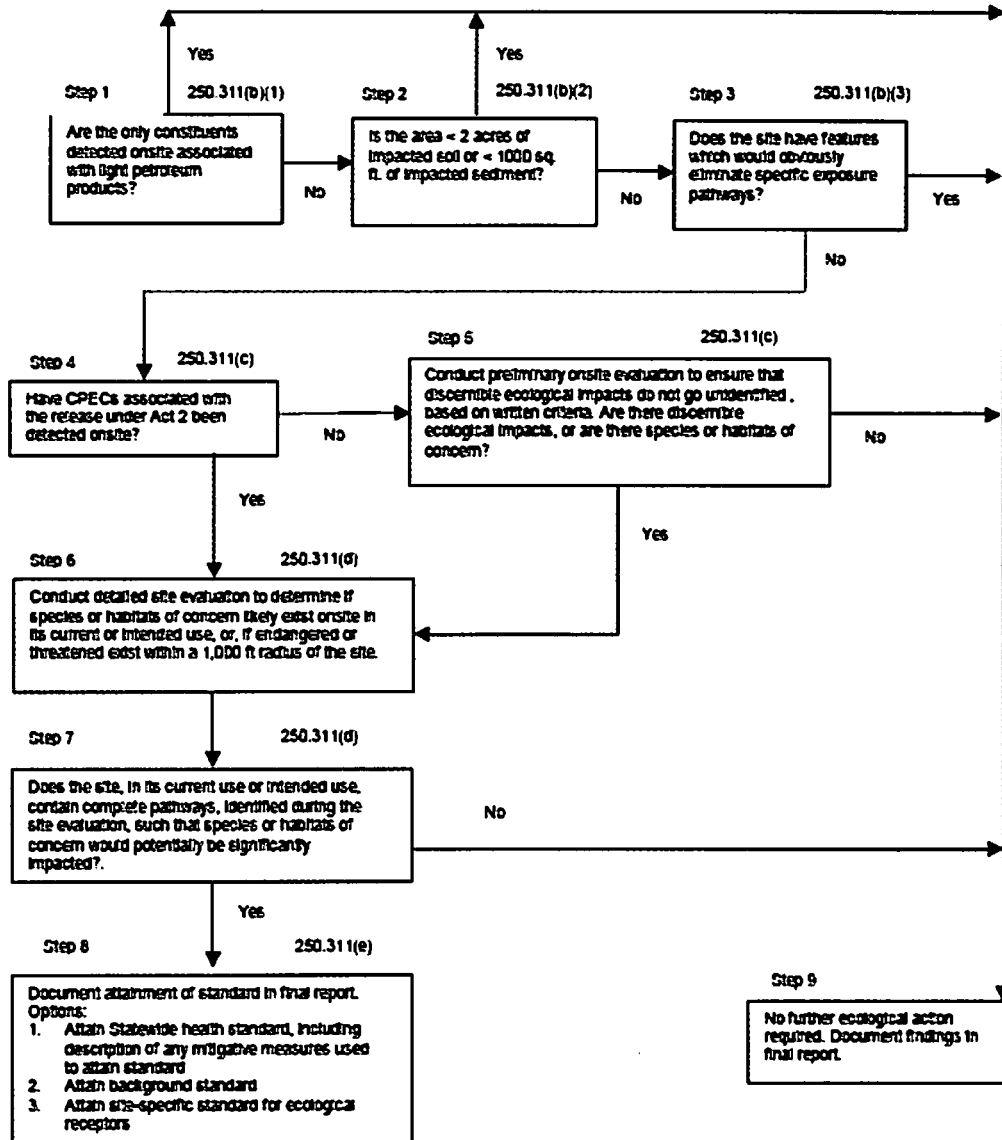
As discussed in Section 3.3, constituents of concern relating to the fire and fire response activities at the Miller Chemical site do not include volatile compounds¹⁶. As such, vapor intrusion is not a pathway of concern on the Family First or Trone property.

¹⁶ Mercury was detected at low concentrations in site soil (maximum concentration of 0.22 mg/kg). PADEP has not established a vapor intrusion screening level for mercury. According to PADEP's 2017 *Land Recycling Program Technical Guidance Manual for Vapor Intrusion into Buildings from Groundwater and Soil under Act 2*, the generic soil-to-groundwater numeric values are considered appropriate for VI screening because soil contamination that is unable to impact aquifers in excess of groundwater MSCs is also unlikely to pose an excess inhalation risk. Furthermore, VI sources associated with contaminated soil are typically not directly beneath buildings and they do not have an infinite lateral extent, making the assumptions of the model for calculating soil screening values conservative. The maximum detected mercury soil concentration is less than the generic soil-to-groundwater numeric value for mercury from Chapter 250 of 10 mg/kg. Therefore, the presence of low level concentrations of mercury are not significant for the vapor intrusion pathway.

6. ECOLOGICAL RISK EVALUATION

The following section describes the ecological screening evaluation that was performed for the site in accordance with PA Statewide Health Standards, Section II.B of the PADEP Technical Guidance Manual (TGM). The regulatory framework for conducting an ecological screening evaluation under Statewide Health Standards is outlined in the aforementioned section of the TGM and is summarized by the ecological screening flow chart, Figure II-10 of the TGM, provided below. The PADEP Statewide Health Standard ecological screening process is comprised of nine steps that are consistent with USEPA's ecological risk assessment guidelines for contaminated sites (U.S. EPA, 1997).

Figure II-10
Ecological Screening Flow Chart



In accordance with PA Code and the PADEP Technical Guidance Manual for ecological evaluations of sites remediated to the SHS (§250.311), no further ecological evaluation is required for sites where the area of soil impacts is less than two acres. Because the area of soil impacts identified on the Family First property measures approximately 0.07 acre, the ecological evaluation was terminated after Step 2 and no further ecological evaluation is required.

However, Ramboll Environ and JMT conservatively conducted an assessment of potential ecological receptors at the site to determine if the potential for impact to species and or habitats of concern was present. The results of the Pennsylvania Natural Diversity Inventory

(PNDI) search indicated that species and or habitats of concern are not present on or near the site; the PNDI Survey is included as Appendix H.

Concurrent with the conduct of the PNDI survey, JMT conducted a bog turtle survey at the site and in the surrounding area; the Bog Turtle Survey report is included as Appendix B. The Bog Turtle survey did not identify wetlands acting as bog turtle habitat on the Family First property. Although one small area of wetland was documented at the northern end of the Family First property, the Bog Turtle survey did not identify potential overwintering habitat for bog turtles within or in the immediate vicinity of the potential limits of disturbance for the proposed Act 2 activities and concluded that direct impacts to areas of potential bog turtle habitat are not anticipated. The survey recommended that, for any soil disturbance activities within the identified WET-4 wetland area, bog turtle avoidance measures be employed to prevent impact to the species if the work is conducted outside of the inactive season for the bog turtle (November 1 to March 31). Sampling activities were conducted during the inactive season; thus, avoidance measures were not necessary.

7. CONCLUSION

Emergency response actions associated with a June 8, 2015 fire at the Miller Chemical facility, which is located south of the Family First property, resulted in the migration of fertilizer constituents in fire water runoff, which flowed across an approximately 0.07-acre portion of the Family First property. On behalf of Miller Chemical, Ramboll Environ investigated the nature and extent of soil impacts at the Family First property. As part of this effort, sampling was conducted on the adjacent Trone property to confirm conditions along the potential water flow path. Soils were analyzed for a broad suite of potential contaminants of concern, including metals and other fertilizer constituents. Results of the soil sample analyses indicate that only vanadium was detected at concentrations exceeding Residential MSCs in visibly affected area soils.

Further evaluation of vanadium, calcium, and magnesium in soil indicated that, consistent with 25 Pa. Code §250.707 (a)(1)(i), concentrations of these metals in soil within the visibly affected area at the site are in attainment of the Background standard.

Ramboll Environ also conducted a human health evaluation to assess the potential significance of detected constituents with no established MSCs. Based on the results of the evaluation, the detected concentrations of these constituents (calcium, magnesium, phosphorous, potassium, and sulfate) in soil at the Family First and Trone properties do not represent a human health concern.

An area of impacted soil of approximately 0.07 acres has been identified at the Family First Health Corporation Parcel Site. In accordance with PA Code and TGM for ecological evaluations of sites remediated to the Statewide Health Standards (§250.311), no further ecological evaluation is required for the site because the area of soil impacts is less than two acres¹⁸. As a conservative measure, however, Miller Chemical conducted an assessment of potential ecological receptors at the site to determine if the potential for impact to species and or habitats of concern was present. The results of the PNDI search indicated that species and or habitats of concern are not present on or near the site. In addition, a Bog Turtle Survey identified potentially suitable habitat for bog turtle in a wetland system on the Trone property. The Bog Turtle Survey did not identify potential direct impact to Bog Turtle Habitat, but recommended that avoidance measures be employed during the conduct of invasive activities, if the activities are conducted outside of the inactive season (November 1 to March 31). Based on the size of the impacted area, the results of the PNDI search and site reconnaissance, no further ecological risk evaluation is warranted for the Site.

Based on the results of the attainment assessment, Relief of Liability is being sought for the vanadium, calcium, and magnesium in soil at the Family First and Trone Rental properties

¹⁸ Ecological impacts are evaluated further on the larger, agricultural parcels that were affected and have been addressed under separate NIRs.

under the Background standard, and for the following compounds in soil at the Family First Property and Trone Rental Properties parcel under the Residential Statewide Health Standard:

- Aluminum, antimony, arsenic, barium, beryllium, boron, cadmium, chromium, cobalt, copper, iron, lead, manganese, mercury, molybdenum, nickel, selenium, silver, thallium, and zinc;
- Nitrate, and nitrite.

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TABLES

TABLE 4-1
Summary of Soil Sampling Results
Family First Health Corporation and Trone Rentals Properties
Miller Chemical & Fertilizer, Hanover, Pennsylvania

Location Location Type Field Sample ID	PADEP Residential Direct Contact Values (0-15ft)	PADEP Soil to Groundwater Values - Used Aquifer - TDS ≤2500 MG/L	PADEP Residential MSC	FF-VA-01 Visibly Affected FF-VA-01-C-111815 15111904-008 / 15112006-008 0 - 0.25 Composite 11/18/2015	FF-VA-02 Visibly Affected FF-VA-02-GC-111615 15111702-010 / 15111816-010 1 - 2 Grab 11/16/2015	FF-VA-02 Visibly Affected DUP-17-111615 15111702-011 / 15111816-011 1 - 2 Grab 11/16/2015 Field Duplicate
INORG						
Aluminum	190000		190000	19000 (2800)	25000 (5200)	30000 (2300)
Arsenic	12	29	12	5.6 J (0.57)	7.6 (0.52)	6.7 (0.45)
Barium	44000	8200	8200	150 (2.8)	79 (2.6)	95 (2.3)
Beryllium	2	320	2	U (2.8)	U (2.6)	U (2.3)
Calcium				6700 (2800)	2000 (52)	2300 (45)
Chromium (total)	190000	190000	190000	18 J (2.8)	32 J (2.6)	34 J (2.3)
Cobalt	66	59	59	7.2 J (2.8)	7.4 (2.6)	7.6 (2.3)
Copper	8100	43000	8100	56 J (2.8)	UJ (13)	UJ (16)
Iron	150000		150000	18000 J (2800)	36000 (1000)	34000 (2300)
Lead	500	450	450	25 J (2.8)	14 (2.6)	13 (2.3)
Magnesium				UJ (2100)	UJ (2100)	UJ (3100)
Manganese	10000	2000	2000	510 (140)	140 (52)	160 (110)
Mercury	35	10	10	0.13 J (0.11)	U (0.1)	0.048 J (0.091)
Nickel	4400	650	650	11 J (2.8)	13 (2.6)	16 (2.3)
Nitrate	350000	1000	1000	37 (14.3)	41.7 (12.3)	39.7 (12)
Nitrite	22000	100	100	U (2.9)	U (2.5)	U (2.4)
Total Kjeldahl Nitrogen				4490 (107)	385 J (90.7)	352 J (89.6)
Phosphorus (total)				1450 (70.5)	174 J (62.7)	112 J (63.3)
Potassium				2000 (57)	1700 (52)	1800 (45)
Sodium				UJ (63)	UJ (58)	UJ (60)
Sulfate				14.3 J (143)	UJ (34.5)	UJ (17.3)
Vanadium	15	26000	15	25 J (2.8)	46 (2.6)	46 (2.3)
Zinc	66000	12000	12000	UJ (94)	UJ (38)	UJ (40)

Notes:

- 1 All concentrations are presented in milligrams per kilogram (mg/kg).
- 2 Only compounds with at least one detection are shown.
- 3 Soil to Groundwater Values for nitrate and nitrite are 100x the Federal maximum contaminant level (MCL).
- 4 Blank cells in columns with criteria indicate that no value has been established.
- 5 Concentrations that exceed the PADEP Residential Direct Contact Values (0-15ft) are **boldfaced**.

Abbreviations:

- U -- Not Detected.
- J -- Estimated Concentration.
- R -- Result rejected by validator.
- TDS -- Total dissolved solids
- () -- Detection Limit.

TABLE 4-1
Summary of Soil Sampling Results
Family First Health Corporation and Trone Rentals Properties
Miller Chemical & Fertilizer, Hanover, Pennsylvania

Location Location Type Field Sample ID Lab Sample IDs Collection Depth (ft bgs) Sample Method Sample Date Comments	PADEP Residential Direct Contact Values (0-15ft)	PADEP Soil to Groundwater Values - Used Aquifer - TDS <=2500 MG/L	PADEP Residential MSC	FF-VA-02 Visibly Affected FF-VA-02-GD-111615 15111702-012 / 15111816-012 4 - 5 Grab 11/16/2015	FF-VA-02 Visibly Affected FF-VA-02-C-111815 15111904-007 / 15112006-007 0 - 0.25 Composite 11/18/2015	FF-VA-03 Visibly Affected FF-VA-03-C-111815 15111904-011 / 15112006-011 0 - 0.25 Composite 11/18/2015
INORG						
Aluminum	190000		190000	31000 (2400)	19000 (2600)	21000 (3100)
Arsenic	12	29	12	5.1 (0.48)	5.4 J (0.51)	6.3 J (0.61)
Barium	44000	8200	8200	150 (2.4)	150 (2.6)	150 (3.1)
Beryllium	2	320	2	U (2.4)	U (2.6)	U (3.1)
Calcium				2000 (48)	4200 (2600)	4100 (3100)
Chromium (total)	190000	190000	190000	23 J (2.4)	19 J (2.6)	20 J (3.1)
Cobalt	66	59	59	11 (2.4)	6.6 J (2.6)	7.8 J (3.1)
Copper	8100	43000	8100	UJ (15)	UJ (38)	UJ (34)
Iron	150000		150000	39000 (2400)	17000 J (2600)	19000 J (3100)
Lead	500	450	450	14 (2.4)	29 J (2.6)	30 J (3.1)
Magnesium				UJ (2300)	UJ (1800)	UJ (2000)
Manganese	10000	2000	2000	200 (120)	550 (130)	640 (150)
Mercury	35	10	10	0.061 J (0.095)	0.14 J (0.1)	0.22 J (0.12)
Nickel	4400	650	650	17 (2.4)	9.4 J (2.6)	11 J (3.1)
Nitrate	350000	1000	1000	U (12.1)	47.7 (14.6)	18.9 (14.5)
Nitrite	22000	100	100	U (2.4)	U (2.9)	U (2.9)
Total Kjeldahl Nitrogen				422 J (89.6)	4030 (111)	4480 (108)
Phosphorus (total)				211 (60.3)	1410 (74.1)	1460 (71)
Potassium				3500 (2400)	1900 (51)	2300 (61)
Sodium				UJ (34)	UJ (55)	UJ (49)
Sulfate				32.4 J (121)	12.3 J (146)	10.5 J (145)
Vanadium	15	26000	15	31 (2.4)	26 J (2.6)	29 J (3.1)
Zinc	66000	12000	12000	UJ (30)	UJ (95)	UJ (91)

Notes:

- 1 All concentrations are presented in milligrams per kilogram (mg/kg).
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- 4 Blank cells in columns with criteria indicate that no value has been established.
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Abbreviations:

- U -- Not Detected.
- J -- Estimated Concentration.
- R -- Result rejected by validator.
- TDS -- Total dissolved solids
- () -- Detection Limit.

**TABLE 4-1
Summary of Soil Sampling Results
Family First Health Corporation and Trone Rentals Properties
Miller Chemical & Fertilizer, Hanover, Pennsylvania**

Location Location Type Field Sample ID Lab Sample IDs Collection Depth (ft bgs) Sample Method Sample Date Comments	PADEP Residential Direct Contact Values (0-15ft)	PADEP Soil to Groundwater Values - Used Aquifer - TDS <=2500 MG/L	PADEP Residential MSC	FF-VA-04 Visibly Affected FF-VA-04-C-111815 15111904-009 / 15112006-009 0 - 0.25 Composite 11/18/2015	FF-BS-04 Visibly Affected FF-BS-04-C-111815 15111904-002 / 15112006-002 0 - 0.25 Composite 11/18/2015	FF-BS-04 Visibly Affected DUP-18-111815 15111906-004 / 15112008-004 0 - 0.25 Composite 11/18/2015 Field Duplicate
INORG						
Aluminum	190000		190000	20000 (3000)	19000 (2600)	18000 (2400)
Arsenic	12	29	12	6.3 J (0.6)	6.7 J (0.52)	6.3 (0.49)
Barium	44000	8200	8200	160 (3)	140 (2.6)	150 (2.4)
Beryllium	2	320	2	U (3)	U (2.6)	U (2.4)
Calcium				9500 (3000)	3900 (2600)	3900 (2400)
Chromium (total)	190000	190000	190000	19 J (3)	20 J (2.6)	19 (2.4)
Cobalt	66	59	59	7.6 J (3)	9.6 J (2.6)	8.5 (2.4)
Copper	8100	43000	8100	43 J (3)	UJ (26)	29 (2.4)
Iron	150000		150000	19000 J (3000)	19000 J (2600)	18000 J (2400)
Lead	500	450	450	32 J (3)	40 J (2.6)	41 (2.4)
Magnesium				UJ (2600)	UJ (1900)	1800 (49)
Manganese	10000	2000	2000	620 (150)	600 (130)	580 (120)
Mercury	35	10	10	0.2 J (0.12)	0.16 J (0.1)	0.17 (0.098)
Nickel	4400	650	650	11 J (3)	12 J (2.6)	11 (2.4)
Nitrate	350000	1000	1000	15.8 (14.1)	8.1 J (13.5)	9.2 J (13.5)
Nitrite	22000	100	100	U (2.8)	U (2.7)	U (2.7)
Total Kjeldahl Nitrogen				4460 (106)	4180 (102)	7340 J (101)
Phosphorus (total)				1550 (70.4)	964 (65.3)	702 J (69.8)
Potassium				2300 (60)	2000 (52)	2100 (49)
Sodium				UJ (72)	UJ (48)	UJ (38)
Sulfate				12.7 J (141)	35.4 J (135)	UJ (24)
Vanadium	15	26000	15	28 J (3)	27 J (2.6)	28 J (2.4)
Zinc	66000	12000	12000	UJ (100)	UJ (92)	UJ (94)

Notes:

- All concentrations are presented in milligrams per kilogram (mg/kg).
- Only compounds with at least one detection are shown.
- Soil to Groundwater Values for nitrate and nitrite are 100x the Federal maximum contaminant level (MCL).
- Blank cells in columns with criteria indicate that no value has been established.
- Concentrations that exceed the PADEP Residential Direct Contact Values (0-15ft) are **boldfaced**.

Abbreviations:

- U -- Not Detected.
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- R -- Result rejected by validator.
- TDS -- Total dissolved solids
- () -- Detection Limit.

TABLE 4-1
Summary of Soil Sampling Results
Family First Health Corporation and Trone Rentals Properties
Miller Chemical & Fertilizer, Hanover, Pennsylvania

Location Location Type Field Sample ID Lab Sample IDs Collection Depth (ft bgs) Sample Method Sample Date Comments	PADEP Residential Direct Contact Values (0-15ft)	PADEP Soil to Groundwater Values - Used Aquifer - TDS <=2500 MG/L	PADEP Residential MSC	FF-BS-05 Visibly Affected FF-BS-05-C-111815 15111904-006 / 15112006-006 0 - 0.25 Composite 11/18/2015	FF-BS-06 Visibly Affected FF-BS-06-C-111815 15111904-005 / 15112006-005 0 - 0.25 Composite 11/18/2015	FF-FP-01 Flow Path FF-FP-01-GA-111815 15111904-010 / 15112006-010 0 - 0.25 Grab 11/18/2015
INORG						
Aluminum	190000		190000	20000 (2600)	18000 (3300)	20000 (2500)
Arsenic	12	29	12	5.6 J (0.52)	7.2 J (0.66)	6.2 J (0.49)
Barium	44000	8200	8200	140 (2.6)	130 (3.3)	140 (2.5)
Beryllium	2	320	2	U (2.6)	U (3.3)	U (2.5)
Calcium				16000 (2600)	21000 (3300)	16000 (2500)
Chromium (total)	190000	190000	190000	19 J (2.6)	17 J (3.3)	18 J (2.5)
Cobalt	66	59	59	7.2 J (2.6)	8.3 J (3.3)	7.6 J (2.5)
Copper	8100	43000	8100	UJ (37)	41 J (3.3)	UJ (28)
Iron	150000		150000	20000 J (2600)	20000 J (3300)	21000 J (2500)
Lead	500	450	450	26 J (2.6)	32 J (3.3)	32 J (2.5)
Magnesium				UJ (3700)	UJ (3000)	UJ (4400)
Manganese	10000	2000	2000	510 (130)	580 (160)	730 (120)
Mercury	35	10	10	0.1 J (0.1)	0.1 J (0.13)	0.098 J (0.098)
Nickel	4400	650	650	11 J (2.6)	11 J (3.3)	11 J (2.5)
Nitrate	350000	1000	1000	16.2 (14.2)	35.2 (14.3)	8.9 J (12.7)
Nitrite	22000	100	100	U (2.8)	U (2.9)	U (2.5)
Total Kjeldahl Nitrogen				4220 (108)	2990 (105)	2580 (95.5)
Phosphorus (total)				1530 (70.9)	1590 (72.6)	1330 (64.2)
Potassium				2000 (52)	1900 (66)	1900 (49)
Sodium				UJ (71)	UJ (83)	UJ (74)
Sulfate				12.2 J (142)	19.8 J (143)	19.3 J (127)
Vanadium	15	26000	15	27 J (2.6)	26 J (3.3)	28 J (2.5)
Zinc	66000	12000	12000	UJ (81)	UJ (89)	UJ (84)

Notes:

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Abbreviations:

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- TDS -- Total dissolved solids
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TABLE 4-1
Summary of Soil Sampling Results
Family First Health Corporation and Trone Rentals Properties
Miller Chemical & Fertilizer, Hanover, Pennsylvania

Location Location Type Field Sample ID Lab Sample IDs Collection Depth (ft bgs) Sample Method Sample Date Comments	PADEP Residential Direct Contact Values (0-15ft)	PADEP Soil to Groundwater Values - Used Aquifer - TDS <=2500 MG/L	PADEP Residential MSC	FF-FP-02 Flow Path FF-FP-02-GA-111815 15111904-012 / 15112006-012 0 - 0.25 Grab 11/18/2015	FF-BS-01 Boundary FF-BS-01-C-111815 15111904-003 / 15112006-003 0 - 0.25 Composite 11/18/2015	FF-BS-02 Boundary FF-BS-02-C-111815 15111904-004 / 15112006-004 0 - 0.25 Composite 11/18/2015
INORG						
Aluminum	190000		190000	19000 (4500)	20000 (3100)	22000 (2800)
Arsenic	12	29	12	4.9 J (0.9)	5.8 J (0.62)	5.2 J (0.56)
Barium	44000	8200	8200	110 (4.5)	150 (3.1)	130 (2.8)
Beryllium	2	320	2	U (4.5)	U (3.1)	U (2.8)
Calcium				7000 (4500)	4200 (3100)	2500 (56)
Chromium (total)	190000	190000	190000	18 J (4.5)	19 J (3.1)	22 J (2.8)
Cobalt	66	59	59	7.9 J (4.5)	9.5 J (3.1)	8.7 J (2.8)
Copper	8100	43000	8100	47 J (4.5)	UJ (28)	UJ (15)
Iron	150000		150000	20000 J (4500)	19000 J (3100)	21000 J (2800)
Lead	500	450	450	18 J (4.5)	35 J (3.1)	180 J (2.8)
Magnesium				UJ (3700)	UJ (1900)	UJ (2000)
Manganese	10000	2000	2000	550 (230)	670 (160)	470 (140)
Mercury	35	10	10	0.093 J (0.18)	0.11 J (0.12)	0.15 J (0.11)
Nickel	4400	650	650	12 J (4.5)	12 J (3.1)	12 J (2.8)
Nitrate	350000	1000	1000	1.4 J (18)	17 (14.4)	22 (13.6)
Nitrite	22000	100	100	U (3.6)	U (2.9)	0.54 J (2.7)
Total Kjeldahl Nitrogen				3890 (135)	4860 (107)	4280 (103)
Phosphorus (total)				523 (88.8)	1100 (69.7)	784 (68.9)
Potassium				2700 (90)	1900 (62)	2000 (56)
Sodium				UJ (200)	UJ (32)	UJ (56)
Sulfate				63.3 J (180)	26.4 J (144)	19 J (136)
Vanadium	15	26000	15	21 J (4.5)	28 J (3.1)	30 J (2.8)
Zinc	66000	12000	12000	UJ (75)	110 J (12)	UJ (60)

Notes:

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TABLE 4-1
Summary of Soil Sampling Results
Family First Health Corporation and Trone Rentals Properties
Miller Chemical & Fertilizer, Hanover, Pennsylvania

Location Location Type Field Sample ID	PADEP Residential Direct Contact Values (0-15ft)	PADEP Soil to Groundwater Values - Used Aquifer - TDS ≤2500 MG/L	PADEP Residential MSC	FF-BS-03 Boundary FF-BS-03-C-111815 15111904-001 / 15112006-001 0 - 0.25 Composite 11/18/2015	FF-BACK-01 Background FF-BACK-01-GA-111615 15111703-003 / 15111817-003 0 - 0.25 Grab 11/16/2015	FF-BACK-01 Background FF-BACK-01-GB-111615 15111701-019 / 15111815-019 0.5 - 1 Grab 11/16/2015
Lab Sample IDs Collection Depth (ft bgs) Sample Method Sample Date Comments						
INORG						
Aluminum	190000		190000	21000 (3100)	23000 (3100)	21000 (950)
Arsenic	12	29	12	6.2 J (0.62)	7.5 (0.62)	6.1 (0.47)
Barium	44000	8200	8200	140 (3.1)	170 (3.1)	160 (2.4)
Beryllium	2	320	2	U (3.1)	U (3.1)	UJ (2.4)
Calcium				3000 (62)	3900 (3100)	2300 (47)
Chromium (total)	190000	190000	190000	20 J (3.1)	26 J (3.1)	25 (2.4)
Cobalt	66	59	59	8.9 J (3.1)	12 (3.1)	15 (2.4)
Copper	8100	43000	8100	UJ (16)	19 (3.1)	16 (2.4)
Iron	150000		150000	19000 J (3100)	32000 (3100)	29000 (950)
Lead	500	450	450	46 J (3.1)	52 (3.1)	36 (2.4)
Magnesium				UJ (2000)	UJ (2000)	3600 (950)
Manganese	10000	2000	2000	510 (160)	890 (160)	1200 (47)
Mercury	35	10	10	0.14 J (0.12)	0.14 (0.12)	0.076 J (0.095)
Nickel	4400	650	650	11 J (3.1)	13 (3.1)	15 (2.4)
Nitrate	350000	1000	1000	40.7 (14.6)	4.7 J (13.8)	U (12.4)
Nitrite	22000	100	100	3.2 (2.9)	U (2.8)	U (2.5)
Total Kjeldahl Nitrogen				4120 (111)	2590 J (103)	2170 J (93.3)
Phosphorus (total)				796 (73.7)	1000 (68.4)	677 (64.7)
Potassium				1900 (62)	1900 (62)	1600 (47)
Sodium				UJ (33)	U (62)	26 J (47)
Sulfate				127 J (146)	U (138)	U (124)
Vanadium	15	26000	15	29 J (3.1)	35 (3.1)	31 (2.4)
Zinc	66000	12000	12000	UJ (65)	81 (12)	UJ (79)

Notes:

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TABLE 4-1
Summary of Soil Sampling Results
Family First Health Corporation and Trone Rentals Properties
Miller Chemical & Fertilizer, Hanover, Pennsylvania

Location Location Type Field Sample ID	PADEP Residential Direct Contact Values (0-15ft)	PADEP Soil to Groundwater Values - Used Aquifer - TDS <=2500 MG/L	PADEP Residential MSC	FF-BACK-01 Background FF-BACK-01-GC-111615 15111701-020 / 15111815-020 1 - 2 Grab 11/16/2015	FF-BACK-02 Background FF-BACK-02-GA-111615 15111703-002 / 15111817-002 0 - 0.25 Grab 11/16/2015	FF-BACK-02 Background FF-BACK-02-GB-111615 15111701-015 / 15111815-015 0.5 - 1 Grab 11/16/2015
Lab Sample IDs Collection Depth (ft bgs) Sample Method Sample Date Comments						
INORG						
Aluminum	190000		190000	44000 (2400)	23000 (2600)	45000 (2100)
Arsenic	12	29	12	5.2 (0.47)	4.5 (0.52)	4.7 (0.42)
Barium	44000	8200	8200	93 (2.4)	85 (2.6)	120 (2.1)
Beryllium	2	320	2	UJ (2.4)	U (2.6)	UJ (2.1)
Calcium				2100 (47)	1800 (52)	1500 (42)
Chromium (total)	190000	190000	190000	28 (2.4)	22 J (2.6)	27 (2.1)
Cobalt	66	59	59	8.8 (2.4)	6 (2.6)	7.6 J (2.1)
Copper	8100	43000	8100	20 (2.4)	11 (2.6)	19 (2.1)
Iron	150000		150000	44000 (2400)	26000 (2600)	45000 (2100)
Lead	500	450	450	19 (2.4)	15 (2.6)	22 (2.1)
Magnesium				2000 (47)	UJ (1600)	UJ (1900)
Manganese	10000	2000	2000	120 (2.4)	230 (130)	110 J (2.1)
Mercury	35	10	10	U (0.095)	0.065 J (0.1)	0.075 J (0.084)
Nickel	4400	650	650	21 (2.4)	12 (2.6)	22 J (2.1)
Nitrate	350000	1000	1000	U (12.8)	0.78 J (13)	U (13.3)
Nitrite	22000	100	100	U (2.6)	U (2.6)	U (2.7)
Total Kjeldahl Nitrogen				908 J (96)	3790 J (97.1)	896 J (98.6)
Phosphorus (total)				260 (64.2)	402 (64.6)	468 (66.3)
Potassium				2400 (47)	1900 (52)	2000 (42)
Sodium				27 J (47)	U (52)	30 J (42)
Sulfate				U (128)	U (130)	4.8 J (133)
Vanadium	15	26000	15	37 (2.4)	31 (2.6)	33 (2.1)
Zinc	66000	12000	12000	UJ (34)	33 (10)	UJ (40)

Notes:

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- 4 Blank cells in columns with criteria indicate that no value has been established.
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- R -- Result rejected by validator.
- TDS -- Total dissolved solids
- () -- Detection Limit.

TABLE 4-1
Summary of Soil Sampling Results
Family First Health Corporation and Trone Rentals Properties
Miller Chemical & Fertilizer, Hanover, Pennsylvania

Location Location Type Field Sample ID	PADEP Residential Direct Contact Values (0-15ft)	PADEP Soil to Groundwater Values - Used Aqulfer - TDS <=2500 MG/L	PADEP Residential MSC	FF-BACK-02 Background FF-BACK-02-GC-111615 15111701-016 / 15111815-016 1 - 2 Grab 11/16/2015	FF-BACK-02 Background FF-BACK-02-GD-111615 15111701-017 / 15111815-017 4 - 5 Grab 11/16/2015	FF-BACK-02 Background DUP-16-111615 15111701-018 / 15111815-018 4 - 5 Grab 11/16/2015 Field Duplicate
Lab Sample IDs Collection Depth (ft bgs) Sample Method Sample Date Comments						
INORG						
Aluminum	190000		190000	49000 (2700)	37000 (3000)	41000 (2800)
Arsenic	12	29	12	4.8 (0.53)	4.2 (0.6)	6.2 (0.56)
Barium	44000	8200	8200	110 (2.7)	110 (3)	110 (2.8)
Beryllium	2	320	2	UJ (2.7)	1.5 J (3)	1.4 J (2.8)
Calcium				1900 (53)	1100 (60)	1300 (56)
Chromium (total)	190000	190000	190000	31 (2.7)	21 (3)	29 (2.8)
Cobalt	66	59	59	11 (2.7)	39 (3)	32 J (2.8)
Copper	8100	43000	8100	23 (2.7)	21 (3)	18 (2.8)
Iron	150000		150000	43000 (2700)	49000 (3000)	49000 (2800)
Lead	500	450	450	17 (2.7)	25 (3)	22 (2.8)
Magnesium				2000 (53)	5300 (3000)	8900 J (2800)
Manganese	10000	2000	2000	82 (2.7)	390 (150)	560 J (140)
Mercury	35	10	10	U (0.11)	0.06 J (0.12)	0.079 J (0.11)
Nickel	4400	650	650	26 (2.7)	42 (3)	36 J (2.8)
Nitrate	350000	1000	1000	U (13.3)	U (13.5)	U (13.4)
Nitrite	22000	100	100	U (2.7)	U (2.7)	U (2.7)
Total Kjeldahl Nitrogen				715 J (100)	723 J (100)	809 J (101)
Phosphorus (total)				206 (62.5)	365 (69.6)	361 (63.7)
Potassium				1700 (53)	2100 (60)	2400 (56)
Sodium				28 J (53)	U (60)	U (56)
Sulfate				6.6 J (133)	UJ (7)	UJ (4.8)
Vanadium	15	26000	15	39 (2.7)	28 (3)	32 (2.8)
Zinc	66000	12000	12000	UJ (38)	UJ (62)	UJ (61)

Notes:

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Abbreviations:

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TABLE 4-1
Summary of Soil Sampling Results
Family First Health Corporation and Trone Rentals Properties
Miller Chemical & Fertilizer, Hanover, Pennsylvania

Location Location Type Field Sample ID	PADEP Residential Direct Contact Values (0-15ft)	PADEP Soil to Groundwater Values - Used Aqulfer - TDS <=2500 MG/L	PADEP Residential MSC	FF-BACK-03 Background FF-BACK-03-GA-111615 15111703-001 / 15111817-001 0 - 0.25 Grab 11/16/2015	FF-BACK-03 Background FF-BACK-03-GB-111615 15111701-013 / 15111815-013 0.5 - 1 Grab 11/16/2015	FF-BACK-03 Background FF-BACK-03-GC-111615 15111701-014 / 15111815-014 1 - 2 Grab 11/16/2015
INORG						
Aluminum	190000		190000	21000 (3000)	25000 (2000)	37000 (2500)
Arsenic	12	29	12	5.7 (0.59)	5 (0.4)	5.2 (0.5)
Barium	44000	8200	8200	120 (3)	67 (2)	87 (2.5)
Beryllium	2	320	2	U (3)	UJ (2)	UJ (2.5)
Calcium				2400 (59)	1400 (40)	2400 (50)
Chromium (total)	190000	190000	190000	29 J (3)	28 (2)	32 (2.5)
Cobalt	66	59	59	8.6 (3)	5.9 (2)	6.5 (2.5)
Copper	8100	43000	8100	11 (3)	9.9 (2)	14 (2.5)
Iron	150000		150000	28000 (3000)	27000 (2000)	39000 (2500)
Lead	500	450	450	26 (3)	13 (2)	13 (2.5)
Magnesium				UJ (1900)	1500 (40)	1900 (50)
Manganese	10000	2000	2000	530 (150)	110 (2)	67 (2.5)
Mercury	35	10	10	0.089 J (0.12)	0.059 J (0.08)	0.08 J (0.1)
Nickel	4400	650	650	11 (3)	12 (2)	17 (2.5)
Nitrate	350000	1000	1000	2.1 J (13.1)	U (11.7)	U (12.2)
Nitrite	22000	100	100	U (2.6)	U (2.3)	U (2.4)
Total Kjeldahl Nitrogen				3370 J (98.5)	535 (88.4)	586 J (90.9)
Phosphorus (total)				525 (66)	148 J (61.2)	65.4 (57.9)
Potassium				2100 (59)	1600 (40)	1800 (50)
Sodium				U (59)	25 J (40)	44 J (50)
Sulfate				U (131)	U (117)	U (122)
Vanadium	15	26000	15	36 (3)	38 (2)	42 (2.5)
Zinc	66000	12000	12000	47 (12)	UJ (24)	UJ (30)

Notes:

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**TABLE 4-1
Summary of Soil Sampling Results
Family First Health Corporation and Trone Rentals Properties
Miller Chemical & Fertilizer, Hanover, Pennsylvania**

Location Location Type Field Sample ID	PADEP Residential Direct Contact Values (0-15ft)	PADEP Soil to Groundwater Values - Used Aquifer - TDS ≤2500 MG/L	PADEP Residential MSC	FF-BACK-04 Background FF-BACK-04-GA-111615 15111702-020 / 15111816-020 0 - 0.25 Grab 11/16/2015	FF-BACK-04 Background FF-BACK-04-GB-111615 15111701-011 / 15111815-011 0.5 - 1 Grab 11/16/2015	FF-BACK-04 Background FF-BACK-04-GC-111615 15111701-012 / 15111815-012 1 - 2 Grab 11/16/2015
INORG						
Aluminum	190000		190000	22000 (2700)	54000 (4200)	39000 (2200)
Arsenic	12	29	12	5.4 (0.55)	5.8 (0.42)	4.8 (0.44)
Barium	44000	8200	8200	130 (2.7)	88 (2.1)	85 (2.2)
Beryllium	2	320	2	U (2.7)	UJ (2.1)	UJ (2.2)
Calcium				3600 (2700)	31000 (2100)	2900 (2200)
Chromium (total)	190000	190000	190000	22 J (2.7)	37 (2.1)	30 (2.2)
Cobalt	66	59	59	9 (2.7)	6.9 (2.1)	6.6 (2.2)
Copper	8100	43000	8100	UJ (13)	18 (2.1)	14 (2.2)
Iron	150000		150000	26000 (2700)	59000 (2100)	42000 (2200)
Lead	500	450	450	24 (2.7)	16 (2.1)	15 (2.2)
Magnesium				UJ (2200)	2100 (42)	1900 (44)
Manganese	10000	2000	2000	630 (140)	69 (2.1)	65 (2.2)
Mercury	35	10	10	U (0.11)	0.19 (0.084)	0.088 (0.087)
Nickel	4400	650	650	12 (2.7)	21 (2.1)	18 (2.2)
Nitrate	350000	1000	1000	1.8 J (12.9)	U (12.7)	U (12.5)
Nitrite	22000	100	100	U (2.6)	U (2.5)	U (2.5)
Total Kjeldahl Nitrogen				3160 J (96.3)	674 (96.6)	401 (92.9)
Phosphorus (total)				566 (64.5)	209 J (121)	144 (60.2)
Potassium				1800 (55)	3600 (2100)	2900 (2200)
Sodium				UJ (40)	130 (42)	150 (44)
Sulfate				U (129)	U (127)	14.5 J (125)
Vanadium	15	26000	15	32 (2.7)	45 (2.1)	39 (2.2)
Zinc	66000	12000	12000	UJ (55)	UJ (39)	UJ (33)

Notes:

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TABLE 4-1
Summary of Soil Sampling Results
Family First Health Corporation and Trone Rentals Properties
Miller Chemical & Fertilizer, Hanover, Pennsylvania

Location	PADEP Residential Direct Contact Values (0-15ft)	PADEP Soil to Groundwater Values - Used Aqulfer - TDS <=2500 MG/L	PADEP Residential MSC	FF-BACK-05 Background FF-BACK-05-GA-111615 15111702-019 / 15111816-019 0 - 0.25 Grab 11/16/2015	FF-BACK-05 Background FF-BACK-05-GB-111615 15111701-009 / 15111815-009 0.5 - 1 Grab 11/16/2015	FF-BACK-05 Background FF-BACK-05-GC-111615 15111701-010 / 15111815-010 1 - 2 Grab 11/16/2015
Location Type Field Sample ID	PADEP Residential Direct Contact Values (0-15ft)	PADEP Soil to Groundwater Values - Used Aqulfer - TDS <=2500 MG/L	PADEP Residential MSC	FF-BACK-05 Background FF-BACK-05-GA-111615 15111702-019 / 15111816-019 0 - 0.25 Grab 11/16/2015	FF-BACK-05 Background FF-BACK-05-GB-111615 15111701-009 / 15111815-009 0.5 - 1 Grab 11/16/2015	FF-BACK-05 Background FF-BACK-05-GC-111615 15111701-010 / 15111815-010 1 - 2 Grab 11/16/2015
Lab Sample IDs	PADEP Residential Direct Contact Values (0-15ft)	PADEP Soil to Groundwater Values - Used Aqulfer - TDS <=2500 MG/L	PADEP Residential MSC	FF-BACK-05 Background FF-BACK-05-GA-111615 15111702-019 / 15111816-019 0 - 0.25 Grab 11/16/2015	FF-BACK-05 Background FF-BACK-05-GB-111615 15111701-009 / 15111815-009 0.5 - 1 Grab 11/16/2015	FF-BACK-05 Background FF-BACK-05-GC-111615 15111701-010 / 15111815-010 1 - 2 Grab 11/16/2015
Collection Depth (ft bgs)	PADEP Residential Direct Contact Values (0-15ft)	PADEP Soil to Groundwater Values - Used Aqulfer - TDS <=2500 MG/L	PADEP Residential MSC	FF-BACK-05 Background FF-BACK-05-GA-111615 15111702-019 / 15111816-019 0 - 0.25 Grab 11/16/2015	FF-BACK-05 Background FF-BACK-05-GB-111615 15111701-009 / 15111815-009 0.5 - 1 Grab 11/16/2015	FF-BACK-05 Background FF-BACK-05-GC-111615 15111701-010 / 15111815-010 1 - 2 Grab 11/16/2015
Sample Method	PADEP Residential Direct Contact Values (0-15ft)	PADEP Soil to Groundwater Values - Used Aqulfer - TDS <=2500 MG/L	PADEP Residential MSC	FF-BACK-05 Background FF-BACK-05-GA-111615 15111702-019 / 15111816-019 0 - 0.25 Grab 11/16/2015	FF-BACK-05 Background FF-BACK-05-GB-111615 15111701-009 / 15111815-009 0.5 - 1 Grab 11/16/2015	FF-BACK-05 Background FF-BACK-05-GC-111615 15111701-010 / 15111815-010 1 - 2 Grab 11/16/2015
Sample Date	PADEP Residential Direct Contact Values (0-15ft)	PADEP Soil to Groundwater Values - Used Aqulfer - TDS <=2500 MG/L	PADEP Residential MSC	FF-BACK-05 Background FF-BACK-05-GA-111615 15111702-019 / 15111816-019 0 - 0.25 Grab 11/16/2015	FF-BACK-05 Background FF-BACK-05-GB-111615 15111701-009 / 15111815-009 0.5 - 1 Grab 11/16/2015	FF-BACK-05 Background FF-BACK-05-GC-111615 15111701-010 / 15111815-010 1 - 2 Grab 11/16/2015
Comments	PADEP Residential Direct Contact Values (0-15ft)	PADEP Soil to Groundwater Values - Used Aqulfer - TDS <=2500 MG/L	PADEP Residential MSC	FF-BACK-05 Background FF-BACK-05-GA-111615 15111702-019 / 15111816-019 0 - 0.25 Grab 11/16/2015	FF-BACK-05 Background FF-BACK-05-GB-111615 15111701-009 / 15111815-009 0.5 - 1 Grab 11/16/2015	FF-BACK-05 Background FF-BACK-05-GC-111615 15111701-010 / 15111815-010 1 - 2 Grab 11/16/2015
INORG						
Aluminum	190000		190000	23000 (1100)	41000 (2400)	31000 (2600)
Arsenic	12	29	12	5.3 (0.54)	2.9 (0.47)	3.7 (0.52)
Barium	44000	8200	8200	150 (2.7)	74 (2.4)	62 (2.6)
Beryllium	2	320	2	U (2.7)	U (2.4)	U (2.6)
Calcium				5400 (1100)	1600 (47)	680 (52)
Chromium (total)	190000	190000	190000	22 J (2.7)	22 (2.4)	21 (2.6)
Cobalt	66	59	59	9.1 (2.7)	8.4 (2.4)	16 (2.6)
Copper	8100	43000	8100	UJ (14)	20 (2.4)	29 (2.6)
Iron	150000		150000	22000 (1100)	41000 (2400)	49000 (2600)
Lead	500	450	450	28 (2.7)	16 (2.4)	19 (2.6)
Magnesium				UJ (3400)	3500 (2400)	6600 (2600)
Manganese	10000	2000	2000	670 (270)	120 (2.4)	320 (130)
Mercury	35	10	10	0.066 J (0.11)	0.064 J (0.095)	0.061 J (0.1)
Nickel	4400	650	650	13 (2.7)	22 (2.4)	22 (2.6)
Nitrate	350000	1000	1000	1.9 J (13.7)	U (13.2)	U (12.6)
Nitrite	22000	100	100	U (2.7)	U (2.6)	U (2.5)
Total Kjeldahl Nitrogen				3200 J (104)	1010 (98.6)	457 (95.5)
Phosphorus (total)				675 (68.1)	388 J (138)	240 J (115)
Potassium				2000 (54)	2200 (47)	2000 (52)
Sodium				UJ (41)	59 (47)	33 J (52)
Sulfate				U (137)	U (132)	6.3 J (126)
Vanadium	15	26000	15	32 (2.7)	27 (2.4)	23 (2.6)
Zinc	66000	12000	12000	UJ (64)	UJ (31)	UJ (38)

Notes:

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Family First Health Corporation and Trone Rentals Properties
Miller Chemical & Fertilizer, Hanover, Pennsylvania

Location Location Type Field Sample ID Lab Sample IDs Collection Depth (ft bgs) Sample Method Sample Date Comments	PADEP Residential Direct Contact Values (0-15ft)	PADEP Soil to Groundwater Values - Used Aquifer - TDS <=2500 MG/L	PADEP Residential MSC	FF-BACK-06 Background FF-BACK-06-GA-111615 15111702-018 / 15111816-018 0 - 0.25 Grab 11/16/2015	FF-BACK-06 Background FF-BACK-06-GB-111615 15111701-006 / 15111815-006 0.5 - 1 Grab 11/16/2015	FF-BACK-06 Background FF-BACK-06-GC-111615 15111701-007 / 15111815-007 1 - 2 Grab 11/16/2015
INORG						
Aluminum	190000		190000	21000 (6500)	44000 (2400)	41000 (2300)
Arsenic	12	29	12	5.2 (0.65)	4.6 (0.48)	5.1 (0.46)
Barium	44000	8200	8200	150 (3.3)	89 (2.4)	77 (2.3)
Beryllium	2	320	2	U (3.3)	U (2.4)	U (2.3)
Calcium				18000 (6500)	3300 (2400)	1500 (46)
Chromium (total)	190000	190000	190000	22 J (3.3)	33 (2.4)	22 (2.3)
Cobalt	66	59	59	8.8 (3.3)	6.6 (2.4)	8.6 (2.3)
Copper	8100	43000	8100	UJ (15)	13 (2.4)	20 (2.3)
Iron	150000		150000	21000 (6500)	42000 (2400)	50000 (2300)
Lead	500	450	450	31 (3.3)	16 (2.4)	21 (2.3)
Magnesium				8700 J (6500)	2300 (48)	1800 (46)
Manganese	10000	2000	2000	710 (330)	41 (2.4)	80 (2.3)
Mercury	35	10	10	U (0.13)	0.15 (0.096)	0.081 J (0.092)
Nickel	4400	650	650	13 (3.3)	18 (2.4)	19 (2.3)
Nitrate	350000	1000	1000	2.2 J (13.7)	U (12.4)	U (13.2)
Nitrite	22000	100	100	U (2.7)	U (2.5)	U (2.6)
Total Kjeldahl Nitrogen				3860 J (103)	604 (94.1)	741 (99)
Phosphorus (total)				775 (67.8)	178 J (121)	291 J (142)
Potassium				2200 (65)	2000 (48)	2000 (46)
Sodium				UJ (54)	140 (48)	120 (46)
Sulfate				U (137)	U (124)	11.4 J (132)
Vanadium	15	26000	15	31 (3.3)	42 (2.4)	32 (2.3)
Zinc	66000	12000	12000	UJ (70)	UJ (28)	UJ (33)

Notes:

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INORG						
Aluminum	190000		190000	42000 (2400)	26000 (5400)	45000 (2500)
Arsenic	12	29	12	5.5 (0.49)	5.8 (0.54)	5.1 (0.5)
Barium	44000	8200	8200	80 (2.4)	130 (2.7)	110 (2.5)
Beryllium	2	320	2	U (2.4)	U (2.7)	U (2.5)
Calcium				480 (49)	20000 (5400)	2300 (50)
Chromium (total)	190000	190000	190000	22 (2.4)	27 J (2.7)	36 (2.5)
Cobalt	66	59	59	7.4 (2.4)	8.6 (2.7)	6.7 (2.5)
Copper	8100	43000	8100	18 (2.4)	UJ (15)	13 (2.5)
Iron	150000		150000	53000 (2400)	27000 (5400)	41000 (2500)
Lead	500	450	450	22 (2.4)	21 (2.7)	14 (2.5)
Magnesium				1700 (49)	12000 J (5400)	2400 (50)
Manganese	10000	2000	2000	55 (2.4)	670 (270)	70 (2.5)
Mercury	35	10	10	0.066 J (0.097)	0.063 J (0.11)	0.084 J (0.1)
Nickel	4400	650	650	18 (2.4)	14 (2.7)	16 (2.5)
Nitrate	350000	1000	1000	U (13.9)	4.4 J (13.6)	U (12.1)
Nitrite	22000	100	100	U (2.8)	U (2.7)	U (2.4)
Total Kjeldahl Nitrogen				507 (104)	3850 J (101)	873 (90.8)
Phosphorus (total)				560 J (144)	588 (67.6)	173 J (116)
Potassium				2000 (49)	2100 (54)	2000 (50)
Sodium				89 (49)	UJ (50)	250 (50)
Sulfate				5.3 J (139)	3.3 J (136)	4.9 J (121)
Vanadium	15	26000	15	32 (2.4)	38 (2.7)	51 (2.5)
Zinc	66000	12000	12000	UJ (28)	UJ (53)	UJ (31)

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Miller Chemical & Fertilizer, Hanover, Pennsylvania

Location Location Type Field Sample ID	PADEP Residential Direct Contact Values (0-15ft)	PADEP Soil to Groundwater Values - Used Aquifer - TDS ≤2500 MG/L	PADEP Residential MSC	FF-BACK-07 Background FF-BACK-07-GC-111615 15111701-005 / 15111815-005 1 - 2 Grab 11/16/2015	FF-BACK-08 Background FF-BACK-08-GA-111615 15111702-016 / 15111816-016 0 - 0.25 Grab 11/16/2015	FF-BACK-08 Background FF-BACK-08-GB-111615 15111701-002 / 15111815-002 0.5 - 1 Grab 11/16/2015
Lab Sample IDs Collection Depth (ft bgs) Sample Method Sample Date Comments						
INORG						
Aluminum	190000		190000	41000 (2200)	20000 (5900)	29000 (1200)
Arsenic	12	29	12	5 (0.45)	5.7 (0.59)	6.7 (0.58)
Barium	44000	8200	8200	100 (2.2)	130 (3)	100 (2.9)
Beryllium	2	320	2	U (2.2)	U (3)	U (2.9)
Calcium				1200 (45)	66000 (5900)	2400 (58)
Chromium (total)	190000	190000	190000	33 (2.2)	27 J (3)	32 (2.9)
Cobalt	66	59	59	6.1 (2.2)	8.7 (3)	5.7 (2.9)
Copper	8100	43000	8100	13 (2.2)	UJ (14)	13 (2.9)
Iron	150000		150000	37000 (2200)	27000 (5900)	34000 (1200)
Lead	500	450	450	13 (2.2)	29 (3)	11 (2.9)
Magnesium				2200 (45)	30000 J (5900)	2100 (58)
Manganese	10000	2000	2000	51 (2.2)	750 (300)	60 (2.9)
Mercury	35	10	10	0.057 J (0.09)	0.067 J (0.12)	0.073 J (0.12)
Nickel	4400	650	650	16 (2.2)	13 (3)	14 (2.9)
Nitrate	350000	1000	1000	U (12.2)	1.9 J (13.6)	U (12.1)
Nitrite	22000	100	100	U (2.4)	U (2.7)	U (2.4)
Total Kjeldahl Nitrogen				430 (91.2)	4430 J (101)	655 (89.9)
Phosphorus (total)				115 J (114)	709 (67)	23.9 J (12.8)
Potassium				2000 (45)	1800 (59)	2000 (58)
Sodium				190 (45)	UJ (64)	95 (58)
Sulfate				11.9 J (122)	U (136)	U (121)
Vanadium	15	26000	15	48 (2.2)	35 (3)	45 (2.9)
Zinc	66000	12000	12000	UJ (31)	UJ (76)	UJ (27)

Notes:

- 1 All concentrations are presented in milligrams per kilogram (mg/kg).
- 2 Only compounds with at least one detection are shown.
- 3 Soil to Groundwater Values for nitrate and nitrite are 100x the Federal maximum contaminant level (MCL).
- 4 Blank cells in columns with criteria indicate that no value has been established.
- 5 Concentrations that exceed the PADEP Residential Direct Contact Values (0-15ft) are **boldfaced**.

Abbreviations:

- U -- Not Detected.
- J -- Estimated Concentration.
- R -- Result rejected by validator.
- TDS -- Total dissolved solids
- () -- Detection Limit.

TABLE 4-1
Summary of Soil Sampling Results
Family First Health Corporation and Trone Rentals Properties
Miller Chemical & Fertilizer, Hanover, Pennsylvania

Location Location Type Field Sample ID	PADEP Residential Direct Contact Values (0-15ft)	PADEP Soil to Groundwater Values - Used Aquifer - TDS ≤2500 MG/L	PADEP Residential MSC	FF-BACK-08 Background FF-BACK-08-GC-111615 15111701-003 / 15111815-003 1 - 2 Grab 11/16/2015	FF-BACK-09 Background FF-BACK-09-GA-111615 15111701-001 / 15111815-001 0 - 0.25 Grab 11/16/2015	FF-BACK-09 Background FF-BACK-09-GB-111615 15111702-001 / 15111816-001 0.5 - 1 Grab 11/16/2015
INORG						
Aluminum	190000		190000	31000 (2700)	19000 (1200)	21000 (2600)
Arsenic	12	29	12	5.5 (0.53)	5.5 (0.6)	7.2 (0.53)
Barium	44000	8200	8200	110 (2.7)	130 (3)	170 (2.6)
Beryllium	2	320	2	U (2.7)	U (3)	U (2.6)
Calcium				2200 (53)	2600 (60)	3100 (2600)
Chromium (total)	190000	190000	190000	30 (2.7)	23 (3)	28 J (2.6)
Cobalt	66	59	59	5.2 (2.7)	9.2 (3)	12 (2.6)
Copper	8100	43000	8100	13 (2.7)	14 (3)	UJ (17)
Iron	150000		150000	29000 (2700)	23000 (1200)	28000 (2600)
Lead	500	450	450	11 (2.7)	32 (3)	34 (2.6)
Magnesium				2000 (53)	2000 (60)	UJ (2500)
Manganese	10000	2000	2000	46 (2.7)	570 (60)	950 (130)
Mercury	35	10	10	0.095 J (0.11)	0.11 J (0.12)	0.13 (0.11)
Nickel	4400	650	650	14 (2.7)	12 (3)	14 (2.6)
Nitrate	350000	1000	1000	U (12)	2.1 J (13.3)	2.7 J (12.2)
Nitrite	22000	100	100	U (2.4)	U (2.7)	U (2.4)
Total Kjeldahl Nitrogen				475 (89.8)	4550 (100)	1620 J (91.4)
Phosphorus (total)				69.6 J (12.4)	668 J (127)	388 J (59.3)
Potassium				2000 (53)	2000 (60)	1700 (53)
Sodium				130 (53)	31 J (60)	UJ (44)
Sulfate				U (120)	U (133)	4.4 J (122)
Vanadium	15	26000	15	45 (2.7)	30 (3)	38 (2.6)
Zinc	66000	12000	12000	UJ (29)	UJ (55)	UJ (67)

Notes:

- 1 All concentrations are presented in milligrams per kilogram (mg/kg).
- 2 Only compounds with at least one detection are shown.
- 3 Soil to Groundwater Values for nitrate and nitrite are 100x the Federal maximum contaminant level (MCL).
- 4 Blank cells in columns with criteria indicate that no value has been established.
- 5 Concentrations that exceed the PADEP Residential Direct Contact Values (0-15ft) are **boldfaced**.

Abbreviations:

- U -- Not Detected.
- J -- Estimated Concentration.
- R -- Result rejected by validator.
- TDS -- Total dissolved solids
- () -- Detection Limit.

**TABLE 4-1
Summary of Soil Sampling Results
Family First Health Corporation and Trone Rentals Properties
Miller Chemical & Fertilizer, Hanover, Pennsylvania**

Location Location Type Field Sample ID Lab Sample IDs Collection Depth (ft bgs) Sample Method Sample Date Comments	PADEP Residential Direct Contact Values (0-15ft)	PADEP Soil to Groundwater Values - Used Aquifer - TDS <=2500 MG/L	PADEP Residential MSC	FF-BACK-09 Background FF-BACK-09-GC-111615 15111702-002 / 15111816-002 1 - 2 Grab 11/16/2015	FF-BACK-10 Background FF-BACK-10-GA-111615 15111702-015 / 15111816-015 0 - 0.25 Grab 11/16/2015	FF-BACK-10 Background FF-BACK-10-GB-111615 15111702-003 / 15111816-003 0.5 - 1 Grab 11/16/2015
INORG						
Aluminum	190000		190000	23000 (2600)	23000 (2600)	19000 (2600)
Arsenic	12	29	12	9.5 (0.51)	5.4 (0.52)	5.4 (0.51)
Barium	44000	8200	8200	160 (2.6)	160 (2.6)	160 (2.6)
Beryllium	2	320	2	U (2.6)	U (2.6)	U (2.6)
Calcium				3200 (2600)	5500 (2600)	2000 (51)
Chromium (total)	190000	190000	190000	36 J (2.6)	25 J (2.6)	25 J (2.6)
Cobalt	66	59	59	12 (2.6)	9.1 (2.6)	10 (2.6)
Copper	8100	43000	8100	UJ (15)	UJ (12)	UJ (10)
Iron	150000		150000	36000 (2600)	26000 (2600)	24000 (2600)
Lead	500	450	450	24 (2.6)	24 (2.6)	20 (2.6)
Magnesium				UJ (2100)	UJ (3700)	UJ (2000)
Manganese	10000	2000	2000	920 (130)	860 (130)	640 (130)
Mercury	35	10	10	0.078 J (0.1)	0.084 J (0.1)	0.06 J (0.1)
Nickel	4400	650	650	14 (2.6)	12 (2.6)	11 (2.6)
Nitrate	350000	1000	1000	2.1 J (11.9)	6.8 J (13)	1.4 J (12)
Nitrite	22000	100	100	U (2.4)	U (2.6)	U (2.4)
Total Kjeldahl Nitrogen				1490 J (89.2)	3020 J (98.2)	1040 J (89.8)
Phosphorus (total)				323 (61.8)	773 (65.1)	380 (63)
Potassium				1700 (51)	2000 (52)	1500 (51)
Sodium				UJ (36)	UJ (52)	UJ (38)
Sulfate				5.7 J (119)	5.2 J (130)	U (120)
Vanadium	15	26000	15	46 (2.6)	33 (2.6)	32 (2.6)
Zinc	66000	12000	12000	UJ (49)	UJ (51)	UJ (45)

Notes:

- 1 All concentrations are presented in milligrams per kilogram (mg/kg).
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- 4 Blank cells in columns with criteria indicate that no value has been established.
- 5 Concentrations that exceed the PADEP Residential Direct Contact Values (0-15ft) are **boldfaced**.

Abbreviations:

- U -- Not Detected.
- J -- Estimated Concentration.
- R -- Result rejected by validator.
- TDS -- Total dissolved solids
- () -- Detection Limit.

TABLE 4-1
Summary of Soil Sampling Results
Family First Health Corporation and Trone Rentals Properties
Miller Chemical & Fertilizer, Hanover, Pennsylvania

Location Location Type Field Sample ID Lab Sample IDs Collection Depth (ft bgs) Sample Method Sample Date Comments	PADEP Residential Direct Contact Values (0-15ft)	PADEP Soil to Groundwater Values - Used Aquifer - TDS <=2500 MG/L	PADEP Residential MSC	FF-BACK-10 Background FF-BACK-10-GC-111615 15111702-004 / 15111816-004 1 - 2 Grab 11/16/2015	FF-BACK-11 Background FF-BACK-11-GA-111615 15111702-014 / 15111816-014 0 - 0.25 Grab 11/16/2015	FF-BACK-11 Background FF-BACK-11-GB-111615 15111702-005 / 15111816-005 0.5 - 1 Grab 11/16/2015
INORG						
Aluminum	190000		190000	19000 (1100)	21000 (2100)	28000 (4800)
Arsenic	12	29	12	4.8 (0.55)	5.9 (0.42)	4.8 (0.48)
Barium	44000	8200	8200	110 (2.7)	100 (2.1)	120 (2.4)
Beryllium	2	320	2	U (2.7)	U (2.1)	U (2.4)
Calcium				1300 (55)	2500 (2100)	2300 (48)
Chromium (total)	190000	190000	190000	27 J (2.7)	19 J (2.1)	26 J (2.4)
Cobalt	66	59	59	8.3 (2.7)	13 (2.1)	7 (2.4)
Copper	8100	43000	8100	UJ (8.8)	UJ (16)	UJ (13)
Iron	150000		150000	24000 (1100)	32000 (2100)	82000 (2400)
Lead	500	450	450	13 (2.7)	21 (2.1)	14 (2.4)
Magnesium				UJ (2100)	UJ (1900)	UJ (2000)
Manganese	10000	2000	2000	220 (55)	760 (100)	830 (120)
Mercury	35	10	10	U (0.11)	0.06 J (0.083)	0.064 J (0.096)
Nickel	4400	650	650	12 (2.7)	14 (2.1)	14 (2.4)
Nitrate	350000	1000	1000	U (11.6)	8.1 J (12.2)	3.4 J (12.1)
Nitrite	22000	100	100	U (2.3)	U (2.4)	U (2.4)
Total Kjeldahl Nitrogen				639 J (88)	2520 J (92.3)	1320 J (89.7)
Phosphorus (total)				166 (55.1)	645 (60.3)	513 (61.4)
Potassium				1800 (55)	1400 (42)	1800 (48)
Sodium				UJ (33)	UJ (23)	UJ (78)
Sulfate				U (116)	U (122)	U (121)
Vanadium	15	26000	15	32 (2.7)	24 (2.1)	38 (2.4)
Zinc	66000	12000	12000	UJ (36)	UJ (59)	UJ (33)

Notes:

- All concentrations are presented in milligrams per kilogram (mg/kg).
- Only compounds with at least one detection are shown.
- Soil to Groundwater Values for nitrate and nitrite are 100x the Federal maximum contaminant level (MCL).
- Blank cells in columns with criteria indicate that no value has been established.
- Concentrations that exceed the PADEP Residential Direct Contact Values (0-15ft) are **boldfaced**.

Abbreviations:

- U -- Not Detected.
- J -- Estimated Concentration.
- R -- Result rejected by validator.
- TDS -- Total dissolved solids
- () -- Detection Limit.

**TABLE 4-1
Summary of Soil Sampling Results
Family First Health Corporation and Trone Rentals Properties
Miller Chemical & Fertilizer, Hanover, Pennsylvania**

Location Location Type Field Sample ID	PADEP Residential Direct Contact Values (0-15ft)	PADEP Soil to Groundwater Values - Used Aquifer - TDS ≤2500 MG/L	PADEP Residential MSC	FF-BACK-11 Background FF-BACK-11-GC-111615 15111702-006 / 15111816-006 1 - 2 Grab 11/16/2015	FF-BACK-11 Background FF-BACK-11-GD-111615 15111702-007 / 15111816-007 4 - 5 Grab 11/16/2015	FF-BACK-12 Background FF-BACK-12-GA-111615 15111702-013 / 15111816-013 0 - 0.25 Grab 11/16/2015
Lab Sample IDs Collection Depth (ft bgs) Sample Method Sample Date Comments						
INORG						
Aluminum	190000		190000	27000 (4700)	20000 (4800)	26000 (6200)
Arsenic	12	29	12	6 (0.47)	5.5 (0.48)	6 (0.62)
Barium	44000	8200	8200	140 (2.3)	130 (2.4)	150 (3.1)
Beryllium	2	320	2	U (2.3)	U (2.4)	U (3.1)
Calcium				1600 (47)	15000 (4800)	2100 (62)
Chromium (total)	190000	190000	190000	27 J (2.3)	20 J (2.4)	26 J (3.1)
Cobalt	66	59	59	11 (2.3)	10 (2.4)	11 (3.1)
Copper	8100	43000	8100	UJ (12)	UJ (14)	UJ (13)
Iron	150000		150000	29000 (4700)	26000 (4800)	27000 (6200)
Lead	500	450	450	18 (2.3)	27 (2.4)	18 (3.1)
Magnesium				UJ (1900)	9000 J (4800)	UJ (2300)
Manganese	10000	2000	2000	800 (230)	620 (240)	940 (310)
Mercury	35	10	10	U (0.093)	0.089 J (0.097)	U (0.12)
Nickel	4400	650	650	15 (2.3)	11 (2.4)	15 (3.1)
Nitrate	350000	1000	1000	1.7 J (12.4)	0.99 J (12.3)	10.5 J (12.8)
Nitrite	22000	100	100	U (2.5)	U (2.5)	U (2.6)
Total Kjeldahl Nitrogen				1120 J (92.9)	748 J (92.6)	3710 J (96.1)
Phosphorus (total)				479 (65.6)	220 (61.5)	819 (63.5)
Potassium				1500 (47)	1700 (48)	2100 (62)
Sodium				UJ (65)	UJ (40)	UJ (62)
Sulfate				U (124)	3 J (123)	3.8 J (128)
Vanadium	15	26000	15	40 (2.3)	28 (2.4)	37 (3.1)
Zinc	66000	12000	12000	UJ (47)	UJ (52)	UJ (54)

Notes:

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Abbreviations:

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- TDS -- Total dissolved solids
- () -- Detection Limit.

**TABLE 4-1
Summary of Soil Sampling Results
Family First Health Corporation and Trone Rentals Properties
Miller Chemical & Fertilizer, Hanover, Pennsylvania**

Location Location Type Field Sample ID Lab Sample IDs Collection Depth (ft bgs) Sample Method Sample Date Comments	PADEP Residential Direct Contact Values (0-15ft)	PADEP Soil to Groundwater Values - Used Aquifer - TDS <=2500 MG/L	PADEP Residential MSC	FF-BACK-12 Background FF-BACK-12-GB-111615 15111702-008 / 15111816-008 0.5 - 1 Grab 11/16/2015	FF-BACK-12 Background FF-BACK-12-GC-111615 15111702-009 / 15111816-009 1 - 2 Grab 11/16/2015
INORG					
Aluminum	190000		190000	24000 (4300)	26000 (5000)
Arsenic	12	29	12	6.5 (0.43)	6.6 (0.5)
Barium	44000	8200	8200	150 (2.1)	190 (2.5)
Beryllium	2	320	2	U (2.1)	1.4 J (2.5)
Calcium				1500 (43)	2400 (50)
Chromium (total)	190000	190000	190000	31 J (2.1)	30 J (2.5)
Cobalt	66	59	59	11 (2.1)	13 (2.5)
Copper	8100	43000	8100	UJ (13)	UJ (13)
Iron	150000		150000	31000 (4300)	30000 (5000)
Lead	500	450	450	19 (2.1)	22 (2.5)
Magnesium				UJ (1900)	UJ (2100)
Manganese	10000	2000	2000	900 (210)	1300 (250)
Mercury	35	10	10	0.057 J (0.085)	U (0.099)
Nickel	4400	650	650	16 (2.1)	17 (2.5)
Nitrate	350000	1000	1000	1.9 J (12)	6.1 J (11.3)
Nitrite	22000	100	100	U (2.4)	U (2.3)
Total Kjeldahl Nitrogen				992 J (89.4)	637 J (84.1)
Phosphorus (total)				381 (61.1)	412 (57.7)
Potassium				1700 (43)	1600 (50)
Sodium				UJ (23)	UJ (29)
Sulfate				3.6 J (120)	4.5 J (113)
Vanadium	15	26000	15	40 (2.1)	41 (2.5)
Zinc	66000	12000	12000	UJ (43)	UJ (50)

Notes:

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Abbreviations:

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- () -- Detection Limit.

**Table 4-2: Soil Screening Summary (Comparison of Maximum Detected Concentrations to PA Criteria)
Family First Health Corporation and Trone Rentals Properties, Miller Chemical & Fertilizer, Hanover, Pennsylvania**

Location Type	Chem Group	Chemical	CASRN	Analyzed	Detected	Max Detected (mg/kg)	PADEP Residential Direct Contact (0-15 ft) Values (mg/kg)	Ratio of Max Detect to PADEP Residential Direct Contact (0-15 ft) Values	PADEP Soil to Groundwater Values - Residential (mg/kg)	Ratio of Max Detect to PADEP Soil to Groundwater Values - Residential	PADEP Residential MSCs (mg/kg)	Ratio of Max Detect to PADEP Residential MSCs
Visibly Affected	INORG	Aluminum	7429-90-5	11	11	3.10E+04	1.9E+05	1.6E-01			1.9E+05	1.6E-01
Visibly Affected	INORG	Arsenic	7440-38-2	11	11	7.60E+00	1.2E+01	6.3E-01	2.9E+01	2.6E-01	1.2E+01	6.3E-01
Visibly Affected	INORG	Barium	7440-39-3	11	11	1.60E+02	4.4E+04	3.6E-03	8.2E+03	2.0E-02	8.2E+03	2.0E-02
Visibly Affected	INORG	Calcium	7440-70-2	11	11	2.10E+04						
Visibly Affected	INORG	Chromium (total)	7440-47-3	11	11	3.40E+01	1.9E+05	1.8E-04	1.9E+05	1.8E-04	1.9E+05	1.8E-04
Visibly Affected	INORG	Cobalt	7440-48-4	11	11	1.10E+01	6.6E+01	1.7E-01	5.9E+01	1.9E-01	5.9E+01	1.9E-01
Visibly Affected	INORG	Copper	7440-50-8	11	4	5.60E+01	8.1E+03	6.9E-03			8.1E+03	6.9E-03
Visibly Affected	INORG	Iron	7439-89-6	11	11	3.90E+04	1.5E+05	2.6E-01			1.5E+05	2.6E-01
Visibly Affected	INORG	Lead	7439-92-1	11	11	4.10E+01	5.0E+02	8.2E-02	4.5E+02	9.1E-02	4.5E+02	9.1E-02
Visibly Affected	INORG	Magnesium	7439-95-4	11	1	1.80E+03						
Visibly Affected	INORG	Manganese	7439-96-5	11	11	6.40E+02	1.0E+04	6.4E-02	2.0E+03	3.2E-01	2.0E+03	3.2E-01
Visibly Affected	INORG	Mercury	7439-97-6	11	10	2.20E-01	3.5E+01	6.3E-03	1.0E+01	2.2E-02	1.0E+01	2.2E-02
Visibly Affected	INORG	Nickel	7440-02-0	11	11	1.70E+01	4.4E+03	3.9E-03	6.5E+02	2.6E-02	6.5E+02	2.6E-02
Visibly Affected	INORG	Nitrate	14797-55-8	11	10	4.77E+01	3.5E+05	1.4E-04	1.0E+03	4.8E-02	1.0E+03	4.8E-02
Visibly Affected	INORG	Total Kjeldahl Nitrogen	C-021	11	11	7.34E+03						
Visibly Affected	INORG	Phosphorus (total)	7723-14-0	11	11	1.59E+03						
Visibly Affected	INORG	Potassium	7440-09-7	11	11	3.50E+03						
Visibly Affected	INORG	Sulfate	14808-79-8	11	8	3.54E+01						
Visibly Affected	INORG	Vanadium	7440-62-2	11	11	4.60E+01	1.5E+01	3.1E+00	2.9E+02	1.6E-01	1.5E+01	3.1E+00
Flow Path	INORG	Aluminum	7429-90-5	2	2	2.00E+04	1.9E+05	1.1E-01			1.9E+05	1.1E-01
Flow Path	INORG	Arsenic	7440-38-2	2	2	6.20E+00	1.2E+01	5.2E-01	2.9E+01	2.1E-01	1.2E+01	5.2E-01
Flow Path	INORG	Barium	7440-39-3	2	2	1.40E+02	4.4E+04	3.2E-03	8.2E+03	1.7E-02	8.2E+03	1.7E-02
Flow Path	INORG	Calcium	7440-70-2	2	2	1.60E+04						
Flow Path	INORG	Chromium (total)	7440-47-3	2	2	1.80E+01	1.9E+05	9.5E-05	1.9E+05	9.5E-05	1.9E+05	9.5E-05
Flow Path	INORG	Cobalt	7440-48-4	2	2	7.90E+00	6.6E+01	1.2E-01	5.9E+01	1.3E-01	5.9E+01	1.3E-01
Flow Path	INORG	Copper	7440-50-8	2	1	4.70E+01	8.1E+03	5.8E-03			8.1E+03	5.8E-03
Flow Path	INORG	Iron	7439-89-6	2	2	2.10E+04	1.5E+05	1.4E-01			1.5E+05	1.4E-01
Flow Path	INORG	Lead	7439-92-1	2	2	3.20E+01	5.0E+02	6.4E-02	4.5E+02	7.1E-02	4.5E+02	7.1E-02
Flow Path	INORG	Manganese	7439-96-5	2	2	7.30E+02	1.0E+04	7.3E-02	2.0E+03	3.7E-01	2.0E+03	3.7E-01
Flow Path	INORG	Mercury	7439-97-6	2	2	9.80E-02	3.5E+01	2.8E-03	1.0E+01	9.8E-03	1.0E+01	9.8E-03
Flow Path	INORG	Nickel	7440-02-0	2	2	1.20E+01	4.4E+03	2.7E-03	6.5E+02	1.8E-02	6.5E+02	1.8E-02
Flow Path	INORG	Nitrate	14797-55-8	2	2	8.90E+00	3.5E+05	2.5E-05	1.0E+03	8.9E-03	1.0E+03	8.9E-03
Flow Path	INORG	Total Kjeldahl Nitrogen	C-021	2	2	3.89E+03						
Flow Path	INORG	Phosphorus (total)	7723-14-0	2	2	1.33E+03						
Flow Path	INORG	Potassium	7440-09-7	2	2	2.70E+03						
Flow Path	INORG	Sulfate	14808-79-8	2	2	6.33E+01						
Flow Path	INORG	Vanadium	7440-62-2	2	2	2.80E+01	1.5E+01	1.9E+00	2.9E+02	9.7E-02	1.5E+01	1.9E+00
Boundary	INORG	Aluminum	7429-90-5	3	3	2.20E+04	1.9E+05	1.2E-01			1.9E+05	1.2E-01

**Table 4-2: Soil Screening Summary (Comparison of Maximum Detected Concentrations to PA Criteria)
Family First Health Corporation and Trone Rentals Properties, Miller Chemical & Fertilizer, Hanover, Pennsylvania**

Location Type	Chem Group	Chemical	CASRN	Analyzed	Detected	Max Detected (mg/kg)	PADEP Residential Direct Contact (0-15 ft) Values (mg/kg)	Ratio of Max Detect to PADEP Residential Direct Contact (0-15 ft) Values	PADEP Soil to Groundwater Values - Residential (mg/kg)	Ratio of Max Detect to PADEP Soil to Groundwater Values - Residential	PADEP Residential MSCs (mg/kg)	Ratio of Max Detect to PADEP Residential MSCs
Boundary	INORG	Arsenic	7440-38-2	3	3	6.20E+00	1.2E+01	5.2E-01	2.9E+01	2.1E-01	1.2E+01	5.2E-01
Boundary	INORG	Barium	7440-39-3	3	3	1.50E+02	4.4E+04	3.4E-03	8.2E+03	1.8E-02	8.2E+03	1.8E-02
Boundary	INORG	Calcium	7440-70-2	3	3	4.20E+03						
Boundary	INORG	Chromium (total)	7440-47-3	3	3	2.20E+01	1.9E+05	1.2E-04	1.9E+05	1.2E-04	1.9E+05	1.2E-04
Boundary	INORG	Cobalt	7440-48-4	3	3	9.50E+00	6.6E+01	1.4E-01	5.9E+01	1.6E-01	5.9E+01	1.6E-01
Boundary	INORG	Iron	7439-89-6	3	3	2.10E+04	1.5E+05	1.4E-01			1.5E+05	1.4E-01
Boundary	INORG	Lead	7439-92-1	3	3	1.80E+02	5.0E+02	3.6E-01	4.5E+02	4.0E-01	4.5E+02	4.0E-01
Boundary	INORG	Manganese	7439-96-5	3	3	6.70E+02	1.0E+04	6.7E-02	2.0E+03	3.4E-01	2.0E+03	3.4E-01
Boundary	INORG	Mercury	7439-97-6	3	3	1.50E-01	3.5E+01	4.3E-03	1.0E+01	1.5E-02	1.0E+01	1.5E-02
Boundary	INORG	Nickel	7440-02-0	3	3	1.20E+01	4.4E+03	2.7E-03	6.5E+02	1.8E-02	6.5E+02	1.8E-02
Boundary	INORG	Nitrate	14797-55-8	3	3	4.07E+01	3.5E+05	1.2E-04	1.0E+03	4.1E-02	1.0E+03	4.1E-02
Boundary	INORG	Nitrite	14797-65-0	3	2	3.20E+00	2.2E+04	1.5E-04	1.0E+02	3.2E-02	1.0E+02	3.2E-02
Boundary	INORG	Total Kjeldahl Nitrogen	C-021	3	3	4.86E+03						
Boundary	INORG	Phosphorus (total)	7723-14-0	3	3	1.10E+03						
Boundary	INORG	Potassium	7440-09-7	3	3	2.00E+03						
Boundary	INORG	Sulfate	14808-79-8	3	3	1.27E+02						
Boundary	INORG	Vanadium	7440-62-2	3	3	3.00E+01	1.5E+01	2.0E+00	2.9E+02	1.0E-01	1.5E+01	2.0E+00
Boundary	INORG	Zinc	7440-66-6	3	1	1.10E+02	6.6E+04	1.7E-03	1.2E+04	9.2E-03	1.2E+04	9.2E-03
Background	INORG	Aluminum	7429-90-5	40	40	5.40E+04	1.9E+05	2.8E-01			1.9E+05	2.8E-01
Background	INORG	Arsenic	7440-38-2	40	40	9.50E+00	1.2E+01	7.9E-01	2.9E+01	3.3E-01	1.2E+01	7.9E-01
Background	INORG	Barium	7440-39-3	40	40	1.90E+02	4.4E+04	4.3E-03	8.2E+03	2.3E-02	8.2E+03	2.3E-02
Background	INORG	Beryllium	7440-41-7	40	3	1.50E+00	2.0E+00	7.5E-01	3.2E+02	4.7E-03	2.0E+00	7.5E-01
Background	INORG	Calcium	7440-70-2	40	40	6.60E+04						
Background	INORG	Chromium (total)	7440-47-3	40	40	3.70E+01	1.9E+05	1.9E-04	1.9E+05	1.9E-04	1.9E+05	1.9E-04
Background	INORG	Cobalt	7440-48-4	40	40	3.90E+01	6.6E+01	5.9E-01	5.9E+01	6.6E-01	5.9E+01	6.6E-01
Background	INORG	Copper	7440-50-8	40	23	2.90E+01	8.1E+03	3.6E-03			8.1E+03	3.6E-03
Background	INORG	Iron	7439-89-6	40	40	8.20E+04	1.5E+05	5.5E-01			1.5E+05	5.5E-01
Background	INORG	Lead	7439-92-1	40	40	5.20E+01	5.0E+02	1.0E-01	4.5E+02	1.2E-01	4.5E+02	1.2E-01
Background	INORG	Magnesium	7439-95-4	40	23	3.00E+04						
Background	INORG	Manganese	7439-96-5	40	40	1.30E+03	1.0E+04	1.3E-01	2.0E+03	6.5E-01	2.0E+03	6.5E-01
Background	INORG	Mercury	7439-97-6	40	32	1.90E-01	3.5E+01	5.4E-03	1.0E+01	1.9E-02	1.0E+01	1.9E-02
Background	INORG	Nickel	7440-02-0	40	40	4.20E+01	4.4E+03	9.5E-03	6.5E+02	6.5E-02	6.5E+02	6.5E-02
Background	INORG	Nitrate	14797-55-8	40	20	1.05E+01	3.5E+05	3.0E-05	1.0E+03	1.1E-02	1.0E+03	1.1E-02
Background	INORG	Total Kjeldahl Nitrogen	C-021	40	40	4.55E+03						
Background	INORG	Phosphorus (total)	7723-14-0	40	40	1.00E+03						
Background	INORG	Potassium	7440-09-7	40	40	3.60E+03						
Background	INORG	Sodium	7440-23-5	40	18	2.50E+02						
Background	INORG	Sulfate	14808-79-8	40	16	1.45E+01						

**Table 4-2: Soil Screening Summary (Comparison of Maximum Detected Concentrations to PA Criteria)
Family First Health Corporation and Trone Rentals Properties, Miller Chemical & Fertilizer, Hanover, Pennsylvania**

Location Type	Chem Group	Chemical	CASRN	Analyzed	Detected	Max Detected (mg/kg)	PADEP Residential Direct Contact (0-15 ft) Values (mg/kg)	Ratio of Max Detect to PADEP Residential Direct Contact (0-15 ft) Values	PADEP Soil to Groundwater Values - Residential (mg/kg)	Ratio of Max Detect to PADEP Soil to Groundwater Values - Residential	PADEP Residential MSCs (mg/kg)	Ratio of Max Detect to PADEP Residential MSCs
Background	INORG	Vanadium	7440-62-2	40	40	5.10E+01	1.5E+01	3.4E+00	2.9E+02	1.8E-01	1.5E+01	3.4E+00
Background	INORG	Zinc	7440-66-6	40	3	8.10E+01	6.6E+04	1.2E-03	1.2E+04	6.8E-03	1.2E+04	6.8E-03

Notes:

Only constituents detected in each area are shown.

Results are provided in milligrams per kilogram (mg/kg).

Ratios of concentration to the criteria greater than 1 are shaded in bold.

Chem Group - chemical group.

MSC - Medium Specific Concentration.

The PADEP Soil to Groundwater values for Nitrate and Nitrite are 100 x the Federal maximum contaminant level (MCL).

The Chromium (total) values for PADEP are the values for Chromium III.

The sample count for the visibly affected area samples includes one duplicate.

Blank cells in columns with criteria indicate that no value has been established.

Three boundary sample locations (FF-BS-04, FF-BS-05, and FF-BS-06), were treated as visibly affected for the purposes of data analysis.

TABLE 5-1

**Limited Human Health Evaluation Results
Family First and Trone Rentals Properties, Hanover, Pennsylvania**

Elements / Compounds	Soil Concentration (mg/kg)	Dietary Reference Intakes (DRI's)				Soil Ingestion Rate ² (mg/day) - PADEP Residential	Soil Ingestion needed to meet minimum RDA / AI / UL value (mg)	Milligrams element/100 mg soil
		RDA / AI ¹ (mg/day) (Adult)	UL ¹ (mg/day) (Adult)	RDA / AI ¹ (mg/day) (Child)	UL ¹ (mg/day) (Child)			
Calcium	21,000	1,000	2,000	700	2,500	100	33,333	2.1
Magnesium	1,800	310	350	80	65	100	36,111	0.18
Phosphorus	1,590	700	3,000	460	3,000	100	289,308	0.16
Potassium	3,500	4,700	None	3,000	None	100	857,143	0.35
Sulfate ³	127	500	None	None	None	100	3,937,008	0.01

¹Selected RDA / AI / UL values were those for the most sensitive groups of adults and children. All values are RDAs except for Potassium and Sodium (AIs).

RDA (Recommended Dietary Allowance): goal intake set to meet needs of almost all (97-98%) individuals in a group

AI (Adequate Intake): goal intake believed to cover the needs of all individuals in the group, but lack of data to prevent being able to specify with confidence the percentage of individuals covered by this intake

UL (Tolerable Upper Intake Level): maximum level of daily nutrient intake that is likely to pose no risk of adverse effects

Source: Food and Nutrition Board, Institute of Medicine, National Academies: Dietary Reference Intakes.

https://ods.od.nih.gov/Health_Information/Dietary_Reference_Intakes.aspx

²Soil ingestion rates include exposure to soil and indoor and outdoor settled dust, and account for both ingestion and inhalation (for adults and children).

Source: PADEP Residential

³Average daily intake of sulfate from all sources is used in this table (500 mg), with food being the major source. RDA/AI for sulfate is not available because recommended intake for protein and sulfur amino acids should provide adequate sulfate for synthesis of sulfur-containing compounds. No UL was set because odor and off taste usually limit intake from drinking water. Diarrhea was observed in areas where water supply had high levels. Laxative effect has been observed in piglets and humans at 1000-1200 mg/L. No health-based guideline has been proposed, though it is recommended that health authorities be notified of sources of drinkingwater that contain sulfate concentrations in excess of 500 mg/L.

Sources: Food and Nutrition Board, Institute of Medicine, National Academies: Dietary Reference Intakes.

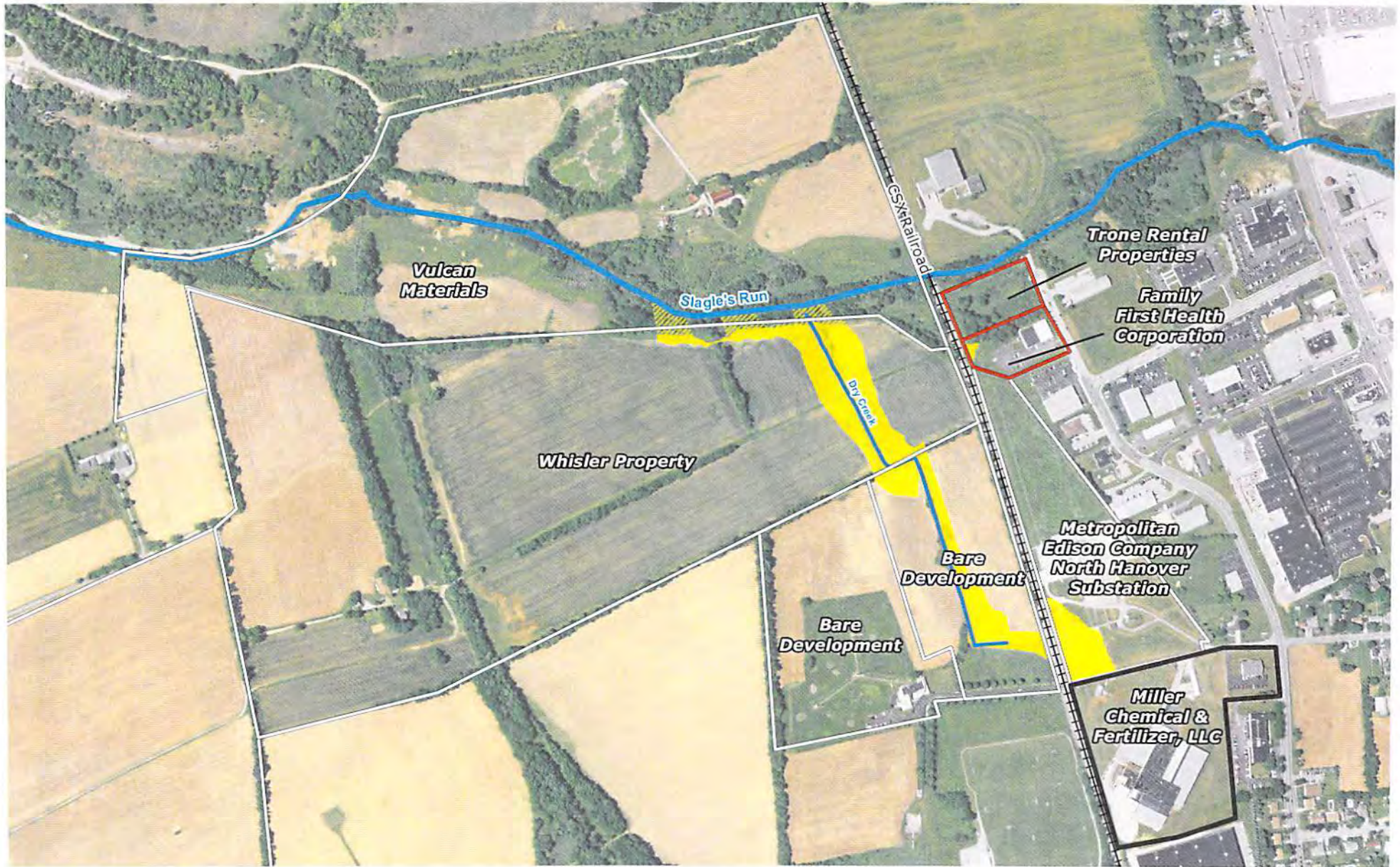
https://ods.od.nih.gov/Health_Information/Dietary_Reference_Intakes.aspx

WHO (2003). Chemical fact sheet in WHO Guidelines for Drinking-water Quality. http://www.who.int/water_sanitation_health/dwq/chemicals/sulfate/en/

FINAL REPORT

FIGURES

Figure 1-2
Affected Properties
Family First and Trone Rental Properties, Hanover, PA



- Miller Chemical Property
- Family First and Trone Rental Properties
- Other Off-Site Properties
- Visibly Affected Area
- Estimated Affected Area

Notes:
 (1) Location of the visibly affected area is based on the 8/28/2015 and 9/21/2015 surveys conducted by GHI and on GPS measurements collected by Ramboll Environ Staff. The estimated affected area was not mapped with the GPS because the boundaries of the impacts were not readily discernible or not safely accessible. The estimated area shown on the map is based on visual observations.
 (2) Visibly affected area on the Miller Chemical property is not shown on this figure.
 (3) Dry Creek feature is approximate.

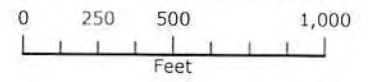





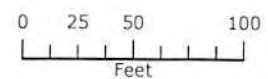
Figure 2-1
Delineated Wetland Areas
Family First and Trone Rental Properties, Hanover, PA

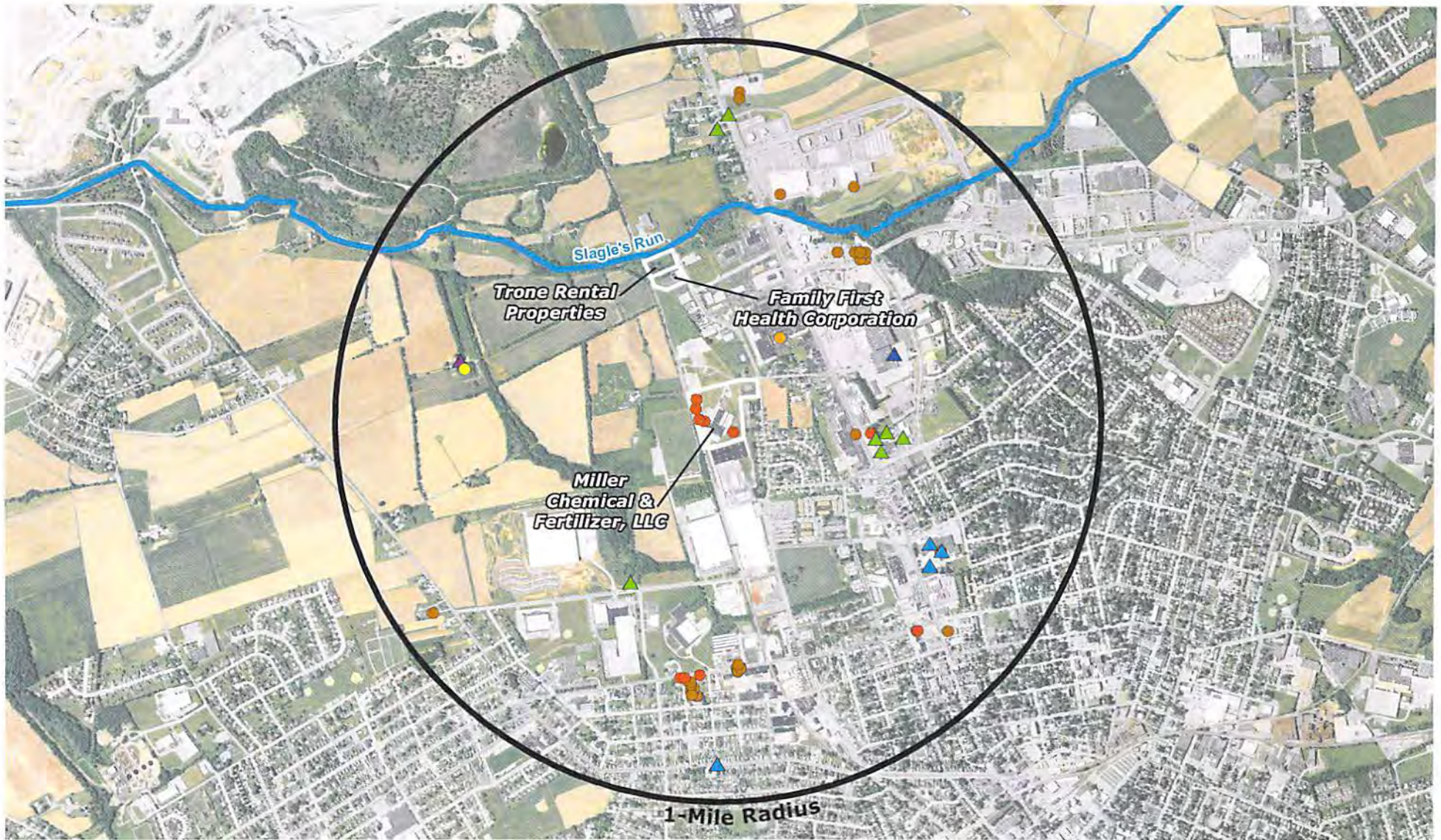


-  Storm Water Pond
-  Delineated Wetlands
-  Visibly Affected Area

Notes:
(1) Wetland boundaries were delineated by JMT, Inc. on 11/13/2015.
(2) Location of the visibly affected area is based on GPS measurements collected by Ramboll Environ staff.

Imagery Source: Esri Streaming Imagery





Groundwater Well Usage

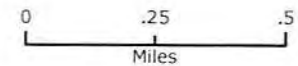
- ▲ Withdrawal - Commercial
- ▲ Withdrawal - Domestic
- ▲ Withdrawal - Industrial
- ▲ Withdrawal - Agricultural
- ▲ Approx. Location

- Spring - Approx. Location
- Monitoring
- Monitoring - Approx. Location
- Unknown, Unused, Test, Observation, Injection, Mine, or Geothermal

Notes:

- (1) Well locations are from the Pennsylvania Groundwater Information System (PaGWIS) as of February 2016.
- (2) One monitoring well was manually added based on a review of location descriptions for unmapped wells in the PaGWIS database (see orange dot).
- (3) The spring and agricultural well locations are based on information provided by Mr. Glen Whisler.
- (4) All displayed wells are within one mile of Miller Chemical.
- (5) Monitoring wells depicted on the Miller Chemical property

were installed in relation to the 2014 acquisition and were subsequently abandoned.
(6) Wells depicted on this figure do not include groundwater monitoring wells recently installed as part of the Act II groundwater investigation.





Sample Location Code

Sample labels represent "XX" in location code

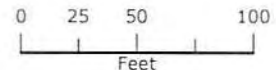
- Visibly Affected Area (FF-VA-XX)
- Boundary (FF-BS-XX)
- Flow Path (FF-FP-XX)
- Background (FF-BACK-XX)

Visibly Affected Area

Notes:

- (1) Sampling locations are based on GPS coordinates collected in the field.
- (2) Location of the visibly affected area is based on GPS measurements collected by Ramboll Environ Staff.
- (3) Slagle's Run feature is approximate.

Imagery Source: Esri Streaming Imagery



April 3, 2017

Mr. James Hamberger
Family First Health Corporation
116 South George Street
York, PA 17401

Mr. Chris Trone
Trone Rental Properties
350 3rd Street
Hanover, PA 17117

Re: Approval of Final Report
Family First Health Corporation & 2 Trone Rental Properties
eFACTS PF # 809454
1230 & 1250 High Street, Hanover, PA
Conewago Township, Adams County

Dear Messrs. Hamberger and Trone:

The Department of Environmental Protection (Department) reviewed the February 2017 document titled "Final Report" (report). Soil at the site was impacted by fertilizer related compounds resulting from firefighting efforts at the adjacent Miller Chemical & Fertilizer, LP site. The report was prepared by Ramboll Environmental, submitted to the Department in accordance with the Land Recycling and Environmental Remediation Standards Act (Act 2), and constitutes a final report as defined in Chapter 3 of Act 2. This report was reviewed by or under the supervision of a Pennsylvania licensed professional geologist.

The Department hereby approves this report for the substances identified and remediated to an Act 2 standard within the site(s) specified. Chapter 5, Section 501 of Act 2, provides the liability protection where attainment of Act 2 cleanup standards is demonstrated. The cleanup liability protection provided by this chapter applies to the current and future owner or any other person who participated in the remediation; a person who develops or occupies the property; successor or assign of any person to whom liability protection applies; and a public utility to the extent the public utility performs activities on the identified property(ies).

This project attained the Residential Statewide Health and Background Standards for soil (see the attached "*Conclusions*" Section from this approved report).

Please refer to the enclosed Standard Attachment for other Department program requirements for considerations which may be applicable to the referenced site.

Thank you for your cooperation in working with the Department in the remediation of this site. If you have any questions or need further information regarding this matter, please contact the James E. Rea, P.G. at 717.705.4850.

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Mr. James Hamberger
Mr. Chris Trone

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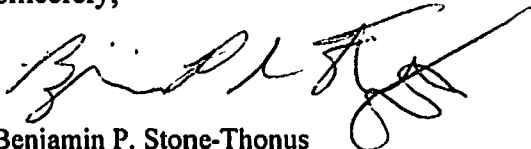
April 3, 2017

Any person aggrieved by this action may appeal, pursuant to Section 4 of the Environmental Hearing Board Act, 35 P.S. Section §7514, and the Administrative Agency Law, 2 Pa.C.S. Chapter 5A, to the Environmental Hearing Board, Second Floor, Rachel Carson State Office Building, 400 Market Street, P.O. Box 8457, Harrisburg, PA 17105-8457, 717.787.3483. TDD users may contact the Board through the Pennsylvania Relay Service, 800.654.5984. Appeals must be filed with the Environmental Hearing Board within 30 days of receipt of written notice of this action unless the appropriate statute provides a different time period. Copies of the appeal form and the Board's rules of practice and procedure may be obtained from the Board. The appeal form and the Board's rules of practice and procedure are also available in braille or on audiotape from the Secretary to the Board at 717.787.3483. This paragraph does not, in and of itself, create any right of appeal beyond that permitted by applicable statutes and decisional law.

If you want to challenge this action, your appeal must reach the Board within 30 days. You do not need a lawyer to file an appeal with the Board.

Important legal rights are at stake, however, so you should show this document to a lawyer at once. If you cannot afford a lawyer, you may qualify for free pro bono representation. Call the Secretary to the Board (717.787.3483) for more information.

Sincerely,



Benjamin P. Stone-Thonus
Program Manager
Environmental Cleanup and Brownfields Program

Enclosures: Conclusions
Standard Attachment

cc: Sarah Stoneking, Ramboll Environmental
Tony Hartlaub, Miller Chemical & Fertilizer LLC
Adams County Conservation District
Conewago Township

jer

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MEMO

TO File

THROUGH ECB Program Manager *BJ*
Land Recycling Section Chief *HGH*

FROM James E. Rea, P.G. *JEJC*
DEP Project Manager

DATE March 30, 2017

RE Act 2 Technical Memo Summary – Final Report Approval
eFACTS PF # 809454
Family First Health Corporation & 2 Trone Rental Properties
1230 & 1250 High Street, Hanover, PA
Conewago Township, Adams County

The following is based solely on the information provided in the report(s) submitted to DEP. The information was reviewed, but not verified, by DEP, and represents the remediator(s)'s best professional judgment.

Property Owner Names:

Mr. James Hamberger	Mr. Chris Trone
Family First Health Corporation	2 Trone Rental Properties
116 South George Street	350 3 rd Street
York, PA 17401	Hanover, PA 17117

Site Address: 1230 & 1250 High Street, Hanover, PA 17117

Act 2 Standard(s) Sought: Residential Statewide Health and Background Standards for soil.

Property Size: Family First ~ 2.5 acres **Act 2 Site Size:** 0.07 acres
Trone ~ 2.2 acres

Project Site History: The Family First Health Corporation property is currently developed with an approximately 11,000 sq. ft. building housing an adult & pediatric medical / dental care facility. The Trone property is currently undeveloped.

Site Findings: Emergency response activities associated with extinguishing a fire at the Miller Chemical & Fertilizer, LLC facility (located south/southeast of the site) resulted in the contamination of site soils with fertilizer constituents in water runoff.

Site Cleanup History: N/A.

Discussion of Cleanup Involved and Demonstration of Attainment: Site soils were sampled for fertilizer constituents determined to have been transported onsite in fire extinguishing water runoff from the firefighting activities at the Miller Chemical & Fertilizer, LLC facility. Soil borings were installed and samples collected/analyzed to delineate the extent of contamination.

DEP Final Action: The requirements of the Residential Statewide Health and Background Standards were met for the following compounds in soil:

Statewide Health Standard: Aluminum, antimony, arsenic, barium, beryllium, boron, cadmium, chromium, cobalt, copper, iron, lead, manganese, mercury, molybdenum, nickel, selenium, silver, thallium, zinc, nitrate, and nitrite.

Background Standard: Vanadium, calcium and magnesium.

An approval letter will be issued.

DEP Contact:	James E. Rea, P.G.	Phone: 717.705.4850
Site Contacts:	James Hamberger, Family First Health Corporation Chris Trone, 2 Trone Rental Properties	Phone: 717.801.4819 Phone: 717.633.7004
Site Consultant:	Sarah Stoneking, Ramboll Environ US Corp	Phone: 703.516.2407

jer

SITE 15
HANOVER NISSAN (FORMERLY LIBERTY NISSAN)
75 W EISENHOWER DRIVE

**NO PADEP SOUTHCENTRAL REGIONAL OFFICE FILES WERE
AVAILABLE TO REVIEW FOR THIS FACILITY**

**SITE 16
TRACTOR SUPPLY
1150 CARLISLE STREET**

3B

RECEIVED

JUN 16 2014

OMB# 2050-0024; Expires 12/31/2014

DIV OF HAZARDOUS WASTE MANAGEMENT



United States Environmental Protection Agency RCRA SUBTITLE C SITE IDENTIFICATION FORM

SEND COMPLETED FORM TO: The Appropriate State or Regional Office.

1. Reason for Submittal MARK ALL BOX(ES) THAT APPLY

- Reason for Submittal: [X] To provide an Initial Notification... [] To provide a Subsequent Notification... [] As a component of a First RCRA Hazardous Waste Part A Permit Application... [] As a component of a Revised RCRA Hazardous Waste Part A Permit Application... [] As a component of the Hazardous Waste Report... [] Site was a TSD facility and/or generator of >=1,000 kg of hazardous waste...

2. Site EPA ID Number

EPA ID Number PAK000544924

3. Site Name

Name: Tractor Supply #577

4. Site Location Information

Street Address: 1150 Carlisle Street, Suite 12 City, Town, or Village: Hanover County: York State: PA Country: USA Zip Code: 17331

5. Site Land Type

[X] Private [] County [] District [] Federal [] Tribal [] Municipal [] State [] Other

6. NAICS Code(s) for the Site (at least 5-digit codes)

A. 453998 B. C. D.

7. Site Mailing Address

Street or P.O. Box: 200 Powell Place City, Town, or Village: Brentwood State: TN Country: USA Zip Code: 37027

8. Site Contact Person

First Name: Trey MI: Last: Brown Title: Risk Analyst Street or P.O. Box: SAME AS MAILING ADDRESS City, Town or Village: State: Country: Zip Code: Email: TSCRiskmgmt@tractorsupply.com Phone: 615-440-4660 Ext.: Fax: 615-484-4660

9. Legal Owner and Operator of the Site

A. Name of Site's Legal Owner: WRD Hanover LP Date Became Owner: 2/14/03 Owner Type: [X] Private [] County [] District [] Federal [] Tribal [] Municipal [] State [] Other Street or P.O. Box: 123 Couller Avenue Suite 200 City, Town, or Village: Ardmore Phone: 610-352-1300 State: PA Country: USA Zip Code: 19003 B. Name of Site's Operator: TRACTOR SUPPLY COMPANY Date Became Operator: 2/19/03 Operator Type: [X] Private [] County [] District [] Federal [] Tribal [] Municipal [] State [] Other

Site 784572 PC 777595 Client 164229

10. Type of Regulated Waste Activity (at your site)
 Mark "Yes" or "No" for all current activities (as of the date submitting the form); complete any additional boxes as instructed.

A. Hazardous Waste Activities; Complete all parts 1-10.

- Y N **1. Generator of Hazardous Waste**
 If "Yes", mark only one of the following – a, b, or c.
- a. LQG: Generates, in any calendar month, 1,000 kg/mo (2,200 lbs./mo.) or more of hazardous waste; or Generates, in any calendar month, or accumulates at any time, more than 1 kg/mo (2.2 lbs./mo) of acute hazardous waste; or Generates, in any calendar month, or accumulates at any time, more than 100 kg/mo (220 lbs./mo) of acute hazardous spill cleanup material.
- b. SQG: 100 to 1,000 kg/mo (220 – 2,200 lbs./mo) of non-acute hazardous waste.
- c. CESQG: Less than 100 kg/mo (220 lbs./mo) of non-acute hazardous waste.

If "Yes" above, indicate other generator activities in 2-4.

- Y N **2. Short-Term Generator** (generate from a short-term or one-time event and not from on-going processes). If "Yes", provide an explanation in the Comments section.
- Y N **3. United States Importer of Hazardous Waste**
- Y N **4. Mixed Waste (hazardous and radioactive) Generator**

- Y N **5. Transporter of Hazardous Waste**
 If "Yes", mark all that apply.
- a. Transporter
- b. Transfer Facility (at your site)
- Y N **6. Treater, Storer, or Disposer of Hazardous Waste** Note: A hazardous waste Part B permit is required for these activities.
- Y N **7. Recycler of Hazardous Waste**
- Y N **8. Exempt Boiler and/or Industrial Furnace**
 If "Yes", mark all that apply.
- a. Small Quantity On-site Burner Exemption
- b. Smelting, Melting, and Refining Furnace Exemption
- Y N **9. Underground Injection Control**
- Y N **10. Receives Hazardous Waste from Off-site**

B. Universal Waste Activities; Complete all parts 1-2.

- Y N **1. Large Quantity Handler of Universal Waste** (you accumulate 5,000 kg or more) [refer to your State regulations to determine what is regulated]. Indicate types of universal waste managed at your site. If "Yes", mark all that apply.
- N/A*
- a. Batteries
- b. Pesticides
- c. Mercury containing equipment
- d. Lamps
- e. Other (specify) _____
- f. Other (specify) _____
- g. Other (specify) _____
- Y N **2. Destination Facility for Universal Waste**
 Note: A hazardous waste permit may be required for this activity.

C. Used Oil Activities; Complete all parts 1-4.

- Y N **1. Used Oil Transporter**
 If "Yes", mark all that apply. *N/A*
- a. Transporter
- b. Transfer Facility (at your site)
- Y N **2. Used Oil Processor and/or Re-refiner**
 If "Yes", mark all that apply.
- a. Processor
- b. Re-refiner
- Y N **3. Off-Specification Used Oil Burner**
- Y N **4. Used Oil Fuel Marketer**
 If "Yes", mark all that apply.
- a. Marketer Who Directs Shipment of Off-Specification Used Oil to Off-Specification Used Oil Burner
- b. Marketer Who First Claims the Used Oil Meets the Specifications

D. Eligible Academic Entities with Laboratories—Notification for opting into or withdrawing from managing laboratory hazardous wastes pursuant to 40 CFR Part 262 Subpart K

❖ You can ONLY Opt into Subpart K if:

- you are at least one of the following: a college or university; a teaching hospital that is owned by or has a formal affiliation agreement with a college or university; or a non-profit research institute that is owned by or has a formal affiliation agreement with a college or university; AND
- you have checked with your State to determine if 40 CFR Part 262 Subpart K is effective in your state

Y N 1. Opting into or currently operating under 40 CFR Part 262 Subpart K for the management of hazardous wastes in laboratories
See the item-by-item instructions for definitions of types of eligible academic entities. Mark all that apply:

- a. College or University
- b. Teaching Hospital that is owned by or has a formal written affiliation agreement with a college or university
- c. Non-profit Institute that is owned by or has a formal written affiliation agreement with a college or university

Y N 2. Withdrawing from 40 CFR Part 262 Subpart K for the management of hazardous wastes in laboratories

11. Description of Hazardous Waste

A. Waste Codes for Federally Regulated Hazardous Wastes. Please list the waste codes of the Federal hazardous wastes handled at your site. List them in the order they are presented in the regulations (e.g., D001, D003, F007, U112). Use an additional page if more spaces are needed.

D001	D002	F005				

B. Waste Codes for State-Regulated (i.e., non-Federal) Hazardous Wastes. Please list the waste codes of the State-Regulated hazardous wastes handled at your site. List them in the order they are presented in the regulations. Use an additional page if more spaces are needed.

12. Notification of Hazardous Secondary Material (HSM) Activity


Y N Are you notifying under 40 CFR 260.42 that you will begin managing, are managing, or will stop managing hazardous secondary material under 40 CFR 261.2(a)(2)(ii), 40 CFR 261.4(a)(23), (24), or (25)?

If "Yes", you must fill out the Addendum to the Site Identification Form: Notification for Managing Hazardous Secondary Material.

13. Comments

USED OIL DIY PROGRAM

14. Certification. I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fines and imprisonment for knowing violations. For the RCRA Hazardous Waste Part A Permit Application, all owner(s) and operator(s) must sign (see 40 CFR 270.10(b) and 270.11).

Signature of legal owner, operator, or an authorized representative	Name and Official Title (type or print)	Date Signed (mm/dd/yyyy)
	TREY BROWN RISK ANALYST	04/00/2014



pennsylvania

DEPARTMENT OF ENVIRONMENTAL PROTECTION

**ACKNOWLEDGEMENT OF NOTIFICATION OF
REGULATED WASTE ACTIVITY (VERIFICATION)**

This is to acknowledge that you have filed a Notification of Regulated Waste Activity for the installation located at the address shown below to comply with Section 3010 of the Resource Conservation and Recovery Act (RCRA). Your EPA Identification Number for that installation is identified below. The EPA Identification Number must be included on all shipping manifests for transporting hazardous wastes; on all Biennial Reports that are from generators of hazardous waste, for Biennial Reports from hazardous waste treatment, storage, and disposal facilities; on all applications for State or Federal Hazardous Waste Permits; and other hazardous waste management reports and documents required under Subtitle C of RCRA. The EPA Identification Number is also necessary to manage, collect, and transport waste oil in the state of Pennsylvania.

The Pennsylvania Hazardous Waste Management regulations closely mirror the Federal regulations. Links to Pennsylvania's regulations, along with Fact Sheets, Compliance Guides and much more useful compliance information may be found on the Department's Hazardous Waste Web page at www.dep.state.pa.us. The Hazardous Waste page is found under subjects "H" for Hazardous Waste.

EPA ID NO.:

PAR000544924

CONDITIONALLY EXEMPT SMALL QUANTITY GENERATOR

INSTALLATION ADDRESS:

TRACTOR SUPPLY NO 577

1150 CARLISLE ST

STE 12

HANOVER, PA 17331

MAILING ADDRESS:

TRACTOR SUPPLY CO

Attn: TREY BROWN

200 POWELL PL

BRENTWOOD TN 37027

JULY 2, 2014

SITE 17
NORTH POINT PLAZA (FORMERLY LIBERTY NISSAN)
1150 CARLISLE AVENUE

**NO PADEP SOUTHCENTRAL REGIONAL OFFICE FILES WERE
AVAILABLE TO REVIEW FOR THIS FACILITY**

APPENDIX H: DOCUMENTATION OF INTERVIEWS



Interview Memorandum

DATE 01/28/19 TIME 1:30 PM PROJECT NO. 205094.12

PROJECT Eisenhower Extension

SUBJECT Phase I ESA Interview

I SPOKE WITH IN PERSON Roy Miller, Director of Hanover Center Facilities
 CALLED Chris Walter, Facilities Maintenance

OF Clarks of America, 355 Kindig Lane, Hanover, PA 17331 PHONE NO. (717) 633 8448

DISCUSSION	ACTION REQUIRED
<p>Roy Miller is the Director of Hanover Center Facilities at Clarks America and has been with the company in multiple roles since March 2015. Chris Walter is with Facilities Maintenance and has been with the company for 21 years.</p> <p>Mr. Miller and Mr. Walter stated that the building was constructed in 2013-2014. The site was formerly fallow/agricultural field. Neither individual had knowledge of any USTs or ASTs on site. One waste oil drum, approximated at a maximum 35-gallon volume, is located on site. Waste oil is disposed of by Safety Kleen according to Mr. Walter. Mr. Miller and Mr. Walter stated that there are floor drains located within the building, which drain into the public sanitary sewer. The building is also connected to public water and utilized natural gas for heating. Small volumes of hazardous materials are stored on the property and SDS sheets are located in the center of the production area in a binder according to Roy and Chris.</p>	<p>None</p>

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Contract File Mktg. File

MEMORANDUM BY: Kevin Rucker



Interview Memorandum

DATE 04/19/2019 TIME 10:00 AM PROJECT NO. 205094.12

PROJECT Eisenhower Extension

SUBJECT Phase I ESA Interview

I SPOKE WITH IN PERSON
 CALLED Office On Duty

OF Conewago Township PD PHONE NO. (717) 637-9621

DISCUSSION	ACTION REQUIRED
<p>Spoke to the officer on duty who suggested speaking with the Fire Department for emergency service records for potential waste sites.</p>	<p>None</p>

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MEMORANDUM BY: Jacob Yealy



Interview Memorandum

DATE 04/19/2019 TIME 2:00 PM PROJECT NO. 205094.12

PROJECT Eisenhower Extension

SUBJECT Phase I ESA Interview

I SPOKE WITH IN PERSON

CALLED

Frederick C. Hickman Sr, Property Owner

OF Mummert's Auto PHONE NO. (717) 637-4237

DISCUSSION	ACTION REQUIRED
<p>Mr. Frederick C. Hickman Sr owned the 3380 Centennial Road Auto Service Center in the late 80s to early 90s.</p> <p>Mr. Hickman stated that the property was used as a car service center when he bought it and utilized for the same purpose. Mr. Hickman stated that there were no lifts in the service area when he owned the property. He did add an addition to the body shop. There were "multiple" underground tanks that they filled and are believed to have been left in place on the property. Mr. Hickman does not have any knowledge of any environmental releases, nor does he have any concerns with excavation on the site.</p>	<p>None</p>

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MEMORANDUM BY: Jacob Yealy



Interview Memorandum

DATE 04/19/2019 TIME 12:10 PM PROJECT NO. 205094.12

PROJECT Eisenhower Extension

SUBJECT Phase I ESA Interview

I SPOKE WITH IN PERSON

CALLED

Glendon Whisler, Property Owner

OF Lois E. Whisler, Farm PHONE NO. (919) 678-0022

DISCUSSION	ACTION REQUIRED
<p>Mr. Whisler is the owner of the Lois E. Whisler property. His family has owned the property for 250+ years and he has a working knowledge of the site's history previous 50 years.</p> <p>Mr. Whisler stated that there is currently a farmhouse on the property. A former farmhouse was located to the south of the currently existing structure. Additionally, a barn was previously located on the property. The current farmhouse also has a summer house in the vicinity. The summerhouse is two-stories, with the bottom story containing a spring. The house is served by both the spring and a groundwater well on the property. To the best of his knowledge, the property has always been an agricultural farm and is currently farmed by a tenant farmer. The tenant farmer stores fertilizers, pesticides, and other agricultural chemicals at another property. Mr. Whisler is not aware of any chemical storage on the property currently but believes they may have been in the past. The farmhouse has a fuel oil tank, which Mr. Whisler believes is aboveground. An AST (approximately 3'x6', according to Mr. Whisler) containing gasoline was previously utilized on the property for fueling farming equipment. The barn had a concrete UST (cistern) that was used to collect barn runoff and used for watering livestock on the property. Mr. Whisler is not aware of any environmental releases on the property.</p> <p>Mr. Whisler stated that following the Miller Chemical June 8, 2015 fire, soils attained the Act 2 Standard, but that groundwater is still being remediated. He noted that currently, "a half-dozen" constituents aren't attaining ("mostly metals") and that detected concentrations have been observed increasing in more recent sampling events. He expects a covenant restricting groundwater use on the property to result from the groundwater characterization efforts.</p>	<p>None</p>

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Corres. File Admin. File

Contract File Mktg. File

MEMORANDUM BY: Jacob Yealy



Interview Memorandum

DATE 01/28/19 TIME 1:00 PM PROJECT NO. 205094.12

PROJECT Eisenhower Extension

SUBJECT Phase I ESA Interview

I SPOKE WITH IN PERSON Dan Feeser
 CALLED General Manager

OF Hanover Nissan, 75 West Eisenhower Drive, Hanover, PA 17331 PHONE NO. (717) 637-6236

DISCUSSION	ACTION REQUIRED
<p>Dan Feeser is the General Manager of Hanover Nissan and has been at the 75 W. Eisenhower Drive facility for 1.5 years.</p> <p>Mr. Feeser indicated that the property was formerly operated as Liberty Nissan and rebranded as Hanover Nissan in 2012. Mr. Feeser stated that Liberty Nissan was also formerly located and operated at the current Aki Restaurant at 1150 Carlisle Street, Hanover, PA 17331. The former location was used for sales and service, the same as the current location. Mr. Feeser was unsure if any USTs or ASTs were located on the former property. He was not aware of any USTs located on the current property. One AST containing waste oil is located on-site and the waste oil is used to heat the service area. Waste oil is also stored in drums on-site. Total maximum volume stored on the property at any one time was estimated at 1000 gallons by Mr. Feeser. Mr. Feeser stated that car lifts in service area were pneumatic style lifts. Mr. Feeser confirmed with an individual from the service department that the service area has a floor drain where liquids go to a holding tank to be pumped and that solids are shoveled out. The property is connected to public sewer and water and utilized natural gas to heat the showroom according to Mr. Feeser. Mr. Feeser also noted that a stormwater facility is located on the back of the property.</p>	<p>None</p>

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MEMORANDUM BY: Kevin Rucker



Interview Memorandum

DATE 04/09/2019 TIME 2:00 PM PROJECT NO. 205094.12

PROJECT Eisenhower Extension

SUBJECT Phase I ESA Interview

I SPOKE WITH IN PERSON
 CALLED James Rea, PG

OF Pennsylvania Department of Environmental Protection PHONE NO. (717) 705 4850

DISCUSSION	ACTION REQUIRED
<p>Mr. James Rea is a Professional Geologist (PG) with the Pennsylvania Department of Environmental Protection (PADEP). He is the listed case officer for the site characterization and remediation efforts associated with the Miller Chemical fire on June 8, 2015.</p> <p>Mr. Rea stated that groundwater sampling is still on-going, and that Ramboll Environ US Corporation is examining the entirety of groundwater impacts from the release associated with the June 8, 2015 fire and emergency response as opposed to breaking down the characterization and remediation efforts per impacted site. No final report has been submitted to PADEP; however, informal table and figures have been submitted to Mr. Rea via email. He noted that this information would not yet be available for informal review. Mr. Rea stated that monitoring currently shows groundwater flow from the southeast to the northwest, which remains consistent through the impacted area and that depths to groundwater were observed between 3.5' and 17.5' below ground surface (bgs) during the February 2018 monitoring event. He noted that most contaminants that are being observed are metals/fertilizer constituents, as would be expected per the release. Mr. Rea stated that based on the soil characterization reports, the impacted sites had attained Act 2 relief of liability and that he would not expect any potential concerns in regard to the on-site soils, other than those discussed with the soil characterization "final reports." Mr. Rea suggested contacting Ramboll Environ for additional groundwater information due to the confidential nature of submitted materials.</p>	<p>None</p>

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MEMORANDUM BY: Jacob Yealy



Interview Memorandum

DATE 02/07/19 TIME 9:30 AM PROJECT NO. 205094.12

PROJECT Eisenhower Extension

SUBJECT Phase I ESA Interview

I SPOKE WITH IN PERSON Joan McAnall
 CALLED Representative

OF Bare Development - 275 Radio Road PHONE NO. (717) 476-3930

DISCUSSION	ACTION REQUIRED
<p>Ms. McAnall believes her father purchased the property at 275 Radio Road sometime prior to 1950. The original radio station was built on the property around 1956. Ms. McAnall, who grew up in Hanover, returned to the Hanover area as a full-time resident in 1986. No USTs are maintained on the property currently, but one containing fuel oil was removed in 2004. According to Ms. McAnall, confirmatory soil samples were collected, and no evidence of a release was detected. An AST containing fuel oil is still present within the radio station building and is used as the fuel source for a furnace that partially heats the building. A large portion of the building is heated by electric. Public water is utilized at the radio station, but public sewer is not available. Ms. McAnall stated that Bare Development owns the property and that Radio Hanover leases the building and towers from them.</p> <p>Ms. McAnall was aware of the Miller Chemical fire in 2015 and associated contamination on her property. According to Ms. McAnall, Act 2 clearance was attained for soils in accordance with residential statewide health standards. The clearance covers the following analytes: aluminum, antimony, arsenic, barium, beryllium, boron, cadmium, chromium, cobalt, copper, iron, lead, manganese, mercury, molybdenum, nickel, selenium, silver, thallium, vanadium, zinc, nitrates, nitrites. To her knowledge the soil impacts were limited to the approximately 17-acre parcel that adjoins the railroad with no encroachment onto the parcel that contains the radio station facilities.</p> <p>Groundwater was also impacted because of the incident according to Ms. McAnall. She stated that nothing hazardous was in the groundwater and it is improving slowly. She was not aware of any Act 2 release of liability associated with onsite groundwater.</p> <p>Ms. McAnall stated that PCBs may have been formerly associated with the radio station in small quantities, but none were present in 2016 at the time the radio station was sold. She is not aware of any issues on the property with PCBs.</p>	<p>None</p>

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MEMORANDUM BY: Kevin Rucker



Interview Memorandum

DATE 02/07/19 TIME 9:30 AM PROJECT NO. 205094.12

PROJECT Eisenhower Extension

SUBJECT Phase I ESA Interview

I SPOKE WITH IN PERSON Joan McAnall
 CALLED Representative

OF Bare Development - 444 Oxford Avenue PHONE NO. (717) 476-3930

DISCUSSION	ACTION REQUIRED
<p>Ms. McAnall stated Bare Development likely purchased this property in the 1960s. To her knowledge the parcel has always been operated as a farm with agricultural practices still prevalent at this location. She indicated they have a renter in the house currently but it's not the farmer. Ms. McAnall was not aware of the pesticide/herbicide usage and storage history at this location and did not know if ASTs or USTs were ever associated with the property. She confirmed the residence is on a private septic and likely uses a well for water but was not certain. Ms. McAnall is not aware how the residence is heated. Additionally, she was not aware of any entity, location, or business in the area known as Hanover Plant. No other information was disseminated by Ms. McAnall and the tenant farmer was unavailable for comment.</p>	<p>None</p>

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MEMORANDUM BY: Kevin Rucker



Interview Memorandum

DATE 01/29/19 TIME 9:00 AM PROJECT NO. 205094.12

PROJECT Eisenhower Extension

SUBJECT Phase I ESA Interview

I SPOKE WITH IN PERSON Tony Hartlaub, VP of Finance
 CALLED Andy Smith, VP of Marketing

OF Miller Chemical, 120 Radio Road, Hanover, PA 17331 PHONE NO. (717) 632-8921

DISCUSSION	ACTION REQUIRED
<p>Tony Hartlaub, VP of Finance, has been with the company for 20 years and Andy Smith, VP of Marketing, has been with the company for 31 years.</p> <p>Mr. Smith and Mr. Hartlaub discussed that Miller Chemical blends materials to produce fertilizers for the agricultural industry. No USTs are maintained on site; however, 9 ASTs, each holding 13,000 gallons, and 3 chambered ASTs holding 21,000 gallons each (7,000 gallons per chamber) are located on the property. Mr. Hartlaub and Mr. Smith stated that the tanks hold petroleum derivatives and mineral oil in addition to other compounds. Specific compounds were not stated. The June 8, 2015 fire was discussed. It was stated that millions of gallons of water were released to fight the fire by the fire department. Ground conditions were saturated due to a rain event and water released by the fire department was carried across Radio Road, through the substation parcel and into Slagles Run, Conewago Creek, and ultimately the Susquehanna River. The ground was stained black and vegetation burnt out through the flood path. It was stated that a fish kill was observed. Mr. Hartlaub stated that the following properties were impacted as a result of the fire: Bare Development, LP, CSX Railroad, Met-Ed, Vulcan, Whisler, Family First, and Trone Rental. According to Mr. Hartlaub, the soils on these sites were remediated and received a Release of Liability (ROL) through the ACT 2 program. Soils were remediated to one of three standards: Statewide Health Standard (SHS), Site Specific Standard, or Background standard. According to Mr. Hartlaub, lead values on the Whisler and Vulcan properties were already "high" prior to the fire and related incidents. Remediation involved installing 15 monitoring wells across the Miller, Bare Development, LP, and Whisler properties. Fertilizer constituents were recorded in the shallow groundwater table (approximately 5' to 18', according to Mr. Hartlaub) across these properties. Mr. Hartlaub shared the following information pertaining to the monitoring wells on the Bare Development, LP property: MW-6 and MW-9 have elevated cobalt and manganese levels and MW-8 has elevated cobalt levels. Mr. Hartlaub indicated that restrictive use covenants are likely for the Miller Chemical, Bare Development, LP, and Whisler properties. The Miller Chemical property will likely be restricted to non-residential use and water wells will not be permitted. The Bare Development, LP and Whisler properties will also likely be restricted from using groundwater. Mr. Hartlaub stated that 9th quarter sampling of the groundwater was done in Fall 2018 and results are expected soon.</p>	<p>None</p>

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MEMORANDUM BY: Kevin Rucker



Interview Memorandum

DATE 01/28/19 TIME 3:00 PM PROJECT NO. 205094.12

PROJECT Eisenhower Extension

SUBJECT Phase I ESA Interview

I SPOKE WITH IN PERSON Nick McDaniel
 CALLED Owner

OF Nick's Garage PHONE NO. (717) 637-6236

DISCUSSION	ACTION REQUIRED
<p>Nick McDaniel operates an automotive service business located at 5490 Hanover Rd. He has owned the business since 2014, when he arranged a lease agreement for the building with the owner. Mr. McDaniel confirmed that Earle Black's garage formerly operated at this location and he believed that business opened in 1984. McDaniel also stated that he worked for Earle Black at this location when he was around the age of 18. Mr. McDaniel stated that there was one UST and one AST on-site. He estimated that the UST was approximately 500 gallons, based on his observed tank depth of 4 feet, and that the AST was approximately 250-gallons. Both tanks contain waste oil that is burned in the building's furnace, according to Mr. McDaniel. Mr. McDaniel stated that the furnace heated the whole building and no backup electric/fuel generator was present on site. He also noted that there were additional drums located in the back of the building for additional waste oil storage, when needed. Mr. McDaniel stated that two in-ground lifts were present and both had separate aboveground tanks (containing hydraulic oil). Based on Mr. McDaniel's recollection, the two tanks associated with the in-ground lifts were moved from underground to aboveground some time in the previous 10-15 years when the site was operated as Earle Black's Garage. Mr. McDaniel stated that two drains were present on-site. He stated both drained to public sanitary sewer but was unsure if an oil/water separator was present. Mr. McDaniel stated the property was connected to public sewer and utilizes a well for water.</p>	<p>None</p>

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MEMORANDUM BY: Kevin Rucker



Interview Memorandum

DATE 05/09/2019 TIME 8:30 PM PROJECT NO. 205094.12

PROJECT Eisenhower Extension

SUBJECT Phase I ESA Interview

I SPOKE WITH IN PERSON

CALLED

Patrick Sheaffer, Property Owner

OF Sheaffer Farm PHONE NO. (717) 476-3330

DISCUSSION	ACTION REQUIRED
<p>Mr. Sheaffer is the owner of the property at 301 Oxford Avenue. He has been affiliated with the property since 1995.</p> <p>To the best of his knowledge, the site has always been in agricultural use. Mr. Sheaffer is not aware of any USTs on the property. The only AST in use on the property is a propane bullet tank used to fuel the heating system. Pesticide and herbicide are not stored on the property in volumes greater than what would be expected for household use. There is a renter in the house and he leases the farming rights to a family that has worked the land for three generations. No known spills or releases could be recalled. Mr. Sheaffer was not aware of landfilling on site, nor does he believe there are environmental concerns with respect to the proposed construction.</p>	<p>None</p>

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MEMORANDUM BY: Kevin Rucker



Interview Memorandum

DATE 01/28/19 TIME 2:00 PM PROJECT NO. 205094.12

PROJECT Eisenhower Extension

SUBJECT Phase I ESA Interview

I SPOKE WITH IN PERSON Joseph Bican
 CALLED Plant Manager

OF Ring Container Technologies PHONE NO. _____

DISCUSSION	ACTION REQUIRED
<p>Joseph Bican is the Plant Manager of Ring Container Technologies at 351 Church Street, Hanover, PA 17331. Mr. Bican stated that the property is owned by Holland Properties and is leased to Ring Container Technologies.</p> <p>Mr. Bican stated that he's been the Plant Manager at the 351 Church Street facility since 2008 after Ring Container Technologies acquired the building from the previous operator, Say Plastics. Mr. Bican stated that to his knowledge, no underground storage tanks (USTs) were located on site, but that three (3) silos contained PT Resin were on-site. The PT Resin is utilized in the manufacturing of plastic containers. According to Mr. Bican, no gasoline or diesel fuel is stored on the property; however, a 5-gallon tote of hydraulic fluid is contained on site. Mr. Bican stated that the property was connected to public sewer and water and utilized natural gas to heat the building. No backup generator is located on site. He confirmed that the site had two (2) drains within the building. Both drains, to the best of his knowledge, went to grinders and then connected to the sanitary sewer. There is a hazardous waste storage location on-site, according to Mr. Bican. Additionally, Mr. Bican indicated that during earthmoving activities for construction of the parking lot, a fuel truck leaked diesel onto soil. Contaminated soils were removed from the property by a third-party company according to Mr. Bican.</p>	None

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MEMORANDUM BY: Kevin Rucker



Interview Memorandum

DATE 04/25/2019 TIME 1:30 PM PROJECT NO. 205094.12

PROJECT Eisenhower Extension

SUBJECT Phase I ESA Interview

I SPOKE WITH IN PERSON

CALLED

Steve Smith, Property Owner

OF Smith Real Estate Holdings LLC, Farm PHONE NO. (717) 476-0380

DISCUSSION	ACTION REQUIRED
<p>Mr. Smith is the owner of the Smith Real Estate Farm parcel at 509 Oxford Avenue. His family has owned the property for 90+ years and he stated his knowledge of the site dates back to the 1960s.</p> <p>Mr. Smith stated that there is a farmhouse, a garage, a barn, and four sheds located on the parcel. The house is serviced by public water and has a septic drain field used to manage sewage. The house is heated by propane. To the best of his knowledge, the site has always been agricultural field. Mr. Smith is not aware of any USTs on the property. He stated there are two ASTs near the garage, both of which contain diesel at a maximum volume of 150 gallons per tank. He is not aware of any releases associated with the tanks. Pesticide and herbicide are stored on the property in volumes of less than or equal to 2 gallons and 15 gallons, respectively. Mr. Smith stated that quantities greater than this are rare for storage on site. No known spills or releases could be recalled. Mr. Smith was not aware of landfilling on site, nor does he believe there are environmental concerns with respect to the proposed construction.</p>	<p>None</p>

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MEMORANDUM BY: Jacob Yealy



Interview Memorandum

DATE 04/19 & 4/22/2019 TIME 11:00 AM PROJECT NO. 205094.12

PROJECT Eisenhower Extension

SUBJECT Phase I ESA Interview

I SPOKE WITH IN PERSON
 CALLED Chief Thomas Lawrence

OF SAVES – Company 29, Fire Department PHONE NO. (717) 637-9621

DISCUSSION	ACTION REQUIRED
<p>Mr. Lawrence is the Chief with Company 29 of Southeastern Adams Volunteer Emergency Services (SAVES). Mr. Lawrence requested a list of sites so that he could review against his available files to provide more information.</p> <p>Mr. Lawrence stated he was unable to obtain additional information on Dawood's behalf.</p>	<p>None</p>

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MEMORANDUM BY: Jacob Yealy



Interview Memorandum

DATE 04/19/2019 TIME 1:35 PM PROJECT NO. 205094.12

PROJECT Eisenhower Extension

SUBJECT Phase I ESA Interview

I SPOKE WITH IN PERSON

CALLED

Thomas Uybarreta, State Program Manager, Land & Chemical Division

OF EPA Region III PHONE NO. (215) 814-2953

DISCUSSION	ACTION REQUIRED
<p>Mr. Uybarreta is the State Program Manager for the Land & Chemical Division of EPA Region III. He stated that they have no files regarding storage tanks and recommended reviewing PADEP's online databases.</p>	<p>None</p>

DISTRIBUTION _____

Corres. File Admin. File

Contract File Mktg. File

MEMORANDUM BY: Jacob Yealy



Interview Memorandum

DATE 01/28/19 TIME 12:30 PM PROJECT NO. 205094.12

PROJECT Eisenhower Extension

SUBJECT Phase I ESA Interview

I SPOKE WITH IN PERSON Tom Fuller
 CALLED Store Manager

OF Tractor Supply, 1150 Carlisle Avenue, Hanover, PA 17331 PHONE NO. _____

DISCUSSION	ACTION REQUIRED
<p>Tom Fuller is the Store Manager at Tractor Supply and has been with the company at the facility in question since May 2017. Mr. Fuller noted that he was not from the area originally and was unaware of prior site history.</p> <p>Mr. Fuller was not aware of any USTs located on the property and stated that one AST containing waste oil on-site. Mr. Fuller stated that a single 5-gallon gas can of gasoline is kept on site. He also stated that vehicles/equipment are assembled and fueled on-site, but no vehicle service occurs on site. Mr. Fuller stated that the building is connected to public sewer and water and uses electric for heat.</p>	<p>None</p>

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 Contract File Mktg. File

MEMORANDUM BY: Kevin Rucker



Interview Memorandum

DATE 01/29/19 TIME 10:00 AM PROJECT NO. 205094.12

PROJECT Eisenhower Extension

SUBJECT Phase I ESA Interview

I SPOKE WITH IN PERSON Tammy Signor
 CALLED Business Manager

OF WYCR, 275 Radio Road, Hanover, PA 17331 PHONE NO. (717) 637-6236

DISCUSSION	ACTION REQUIRED
<p>Tammy Signor, a Business Manager for Forever Media, has worked at the site in question since August 1, 2016 and has been with Forever Media since December 1, 2015.</p> <p>Mrs. Signor stated that the 275 Radio Rd location was previously operated as Radio Hanover and that the property is owned by Bare Development, LP. She indicated that the site may have been a residence prior to operating as a radio station. Mrs. Signor stated that Joan McAnall and Barbara Carbaugh are contacts for Bare Development, LP. Mrs. Signor has no knowledge of any USTs or ASTs on the property and is aware of the Miller Chemical fire but does not have any knowledge of the impacts of the event on the soils and/or groundwater on the property.</p>	<p>None</p>

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MEMORANDUM BY: Kevin Rucker