UNITED STATES
ENVIRONMENTAL PROTECTION AGENCY
REGION III

STATEMENT OF BASIS

GUILFORD MILLS INC
1 PENN DYE STREET

PINE GROVE, PENNSYLVANIA

EPA ID NO. PAD002377703

Prepared by
Office of Remediation
Land and Chemicals Division
August 2015

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Section 1: Introduction

The United States Environmental Protection Agency (EPA) has prepared this Statement of Basis (SB) to solicit public comment on its proposed remedy for Guilford Mills, Inc. located in Pine Grove, Pennsylvania (Facility). EPA's proposed remedy for the Facility includes maintaining the existing asphalt cap, continuing to pump and aerate the groundwater, and implementing institutional controls (ICs) designed to minimize the potential for human exposure to contamination. This SB highlights key information relied upon by EPA in proposing its remedy for the Facility.

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

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

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

Section 2: Facility Background

The Facility property consists of approximately 33 acres and is surrounded by mixed commercial and residential development to the southwest and northwest and mixed residential development and undeveloped land to the southeast and northeast. Swatara Creek divides the Facility roughly in half and flows to the southeast in the vicinity of the Facility. A location map and a property diagram are attached as Figures 1 and 2, respectively.

Prior to 1950, the Pine Grove Tanning Company conducted tanning operations on a portion of the Facility property currently occupied by the main manufacturing building. Around 1951, that portion of the Facility property was purchased by the Garden State Tanning Company, which subsequently sold it to the Penn Dye and Finishing Company in 1960. Thereafter, the Penn Dye and Finishing Company became a wholly-owned subsidiary of Gold Mills, Inc.

In June 1986, an abutting parcel of land to the east formerly used as an orchard was purchased, bringing the Facility to its present-day footprint.

In October 1986, Gold Mills, Inc. became a wholly-owned subsidiary of Guilford Mills, Inc. After the 1988 merger of the Penn Dye and Finishing Company and Gold Mills, Inc., the Facility began operations under the name of Gold Mills, Inc. In 2007 the name was changed to Gold Mills, LLC, and in May 2012, Guilford Mills, Inc. was acquired by the Lear Corporation. The legal name of the Facility was changed from Gold Mills, LLC to Guilford Mills, Inc. in 2013. The Facility is currently owned by Guilford Mills, Inc. Guilford Mills, Inc. and its predecessor-owners of the Facility are hereinafter referred to as Guilford Mills.

Since 1960, the Facility has been used to dye and finish textiles. The Facility submitted a Part A permit application in November 1980 for the storage of chlorinated solvents used in a dry cleaning machine. In 1982 the Facility requested deletion as a hazardous waste storage facility, as the dry cleaning machine was no longer in use and had been removed. Further notifications in 2000 and 2013 list the Facility as a Conditionally Exempt Small Quantity Generator of ignitable wastes/waste solvents.

Section 3: Summary of Environmental Investigations

For all environmental investigations, groundwater concentrations were screened against federal Maximum Contaminant Levels (MCLs) promulgated pursuant to Section 42 U.S.C. §§ 300f et seq. of the Safe Drinking Water Act and codified at 40 CFR Part 141, or EPA Region III Screening Levels (RSL) for tap water for chemicals for which there is no applicable MCL. Soil concentrations were screened against EPA RSLs for residential soil and industrial soil. Soil concentrations were also screened against Soil Screening Levels (SSLs) which are used to protect groundwater from soil contamination that may leach or otherwise migrate to groundwater.

Under PADEP oversight, Guilford Mills completed a soil and groundwater investigation in February 1989 in response to observations the previous summer of oil floating on the groundwater table near the octagonal pit, which was a result of a leaking influent pipe. Several monitoring wells, piezometers, and soil borings were installed and sampled. Soil sampling indicated organic and inorganic contamination, resulting in the excavation and removal of approximately 15,000 tons of contaminated soil from the area. Low concentrations of volatile organic contaminants (VOCs) were detected in shallow groundwater; higher concentrations of VOCs were detected in the bedrock aquifer. In addition to the soil removal, several sewer system components were replaced, the area surrounding the manufacturing building was capped with asphalt to minimize rainwater infiltration to potentially contaminated soils below and limit further contaminant migration, and the production wells were continuously pumped to contain contaminated groundwater.

A Preliminary Assessment of the Facility was completed in June 1991. Seven solid waste management units (SWMUs) were identified, three of which were associated with the Facility's wastewater treatment plant, which is regulated by PADEP under permit-by-rule status. The Lint Collection System was also identified as a SWMU; no releases or evidence of releases from this SWMU were observed or reported. The three remaining SWMUs (Oil Skimmer with Drum Storage, Drum Storage Area, and Contaminated Soil Area) were located in the southeastern portion of the Facility, which had previously been investigated and remediated in 1989 as described above.

In September 1992 Guilford Mills entered into a Consent Order (Order) with EPA that requires Guilford Mills to perform interim measures to prevent or mitigate threats to human health or the environment. Pursuant to the Order, Guilford Mills began pumping groundwater from three production wells to provide containment of contaminated groundwater, installed a granular activated carbon treatment system to treat contaminated water pumped from the most-impacted production well, and continued use of the on-site reservoir for storage of pumped groundwater. The Order also requires Guilford Mills to conduct a RCRA Facility Investigation (RFI) and prepare a Corrective Measures Study (CMS).

In 1993, EPA sampled 12 private wells in the vicinity of the Facility to determine if contaminants from the Facility had migrated to off-site wells. None of the contaminants from the Facility were detected in samples from these wells, indicating that groundwater contamination from the Facility was not affecting off-site wells.

Guilford Mills submitted a RFI report in March 1995 that further characterized contamination at the Facility. Additional shallow and bedrock monitoring wells were installed and sampled; geophysical and hydrological characterizations were performed; additional soil samples were collected; surface water and sediments from Swatara and Wideawake Creeks, the three on-site wastewater treatment lagoons, and the on-site reservoir were sampled and characterized; and indoor air samples from three locations inside the main building were analyzed.

The hydrological characterizations demonstrated that the three active pumping wells at the Facility maintain a significant capture zone for groundwater beneath the Facility, thereby containing the remaining contamination on-site. Furthermore, the capture zone was maintained during semiannual seven-day shutdowns when the pumping wells were not pumping.

Groundwater sampling during the RFI showed areas of chlorinated VOCs both east and west of the main manufacturing building, with tetrachloroethylene (PCE) dominating to the east around PW4 and 1,1,1-trichloroethane (1,1,1-TCA) dominating to the west around M11D. A mix of both chlorinated VOCs exists at PW1, which was likely due to PW1's sole influence on groundwater as the only active production well in the early history of the Facility. Soil characterization showed isolated metals exceedances and was not considered a primary media of concern since soil contamination had already been removed from the southeastern portion of the Facility near the octagonal pit, which was considered the primary source area at this time. Sediment samples included sporadic exceedances of metals and Polycyclic Aromatic Hydrocarbons (PAHs) that were determined likely to be indicative of background conditions, and surface water samples included slight exceedances of PCE and TCE, particularly in the on-site reservoir.

Human health and ecological risk assessments were also performed as part of the RFI. Trespasser and on-site worker receptors were evaluated under the current use scenario. All routes of exposure for these receptors were below EPA's risk range for carcinogenic and non-carcinogenic effects. A future use scenario using on-site and off-site residents as receptors was also included in the risk assessment. Off-site resident exposures were below EPA's risk ranges, but on-site resident exposures exceeded EPA's risk ranges for both carcinogenic and non-carcinogenic effects, primarily due to the ingestion of groundwater as drinking water. The ecological risk assessment concluded that risks for both terrestrial and aquatic biota as a result of the Facility's impact on the environment were below levels of concern.

In October 2001, after further remedial efforts, including the removal of over 900 tons of soil from beneath the southern portion of the main building in April 1998 and the investigation of three additional potential source areas (the vicinity of M11S; the location within the main building of the former dry cleaning machine removed in 1982, now known as the former Dry Cleaner Area; and the PCE Delivery and Storage Area), EPA acknowledged that the RFI for the Facility was finalized.

Under the Government Performance and Results Act ("GPRA"), EPA has set national goals to address RCRA corrective action facilities. Under GPRA, EPA evaluates two key environmental clean-up indicators for each facility: (1) Current Human Exposures Under Control, and (2) Migration of Contaminated Groundwater Under Control. The Facility met both of these indicators on January 2, 2002.

Based on the performance of a pilot SVE system installed in the former Dry Cleaner Area in August 2002, Guilford Mills submitted a CMS report in October 2002 that proposed the construction and operation of a soil vapor extraction (SVE) system as the remedy for soils in the Dry Cleaner Area. In addition, two wells were installed in the PCE Delivery and Storage Area (between the former Dry Cleaner Area and PW4) to monitor the potential impact of the SVE system on the surficial and deep aquifers in the vicinity. These two wells were included in the Facility's quarterly groundwater monitoring program. EPA approved the CMS report in August 2003, and the SVE system was installed and began operation in December 2003.

By 2010, the SVE system had reached the practical limits of contaminant removal from the subsurface. Guilford Mills proposed to discontinue use of the SVE system in 2010. Closure activities included the collection of 11 soil samples beneath the former Dry Cleaner Area to determine whether soil cleanup objectives were met. Concentrations of PCE prior to SVE system operation reached a maximum of 200 mg/kg in soil. Following the shutdown of the SVE system, maximum PCE concentrations were 7.1 mg/kg in soil in 2011. Based on the results from the 2011 soil sampling effort, soils in the former Dry Cleaner Area meet EPA's residential soil RSLs. EPA approved closure of the SVE system in September 2011.

In 2011 Guilford Mills proposed to replace the granular activated carbon treatment system with an aeration system as a result of the reduced PCE concentrations (e.g., less than 200 ug/L PCE from an initial concentration of 1100 ug/L) remaining in groundwater and declining efficiencies of the carbon treatment system in contaminant removal. Based on the average flow from pumping wells and remaining VOC concentrations, EPA determined that aerating contaminated groundwater to transfer VOCs from the liquid phase to the air phase would not constitute a significant source of VOCs (VOC emissions were estimated at 48 lb/yr). To demonstrate the effectiveness of aeration of groundwater discharging into the reservoir, an 8-month pilot study was conducted. Biweekly samples from six locations throughout the Facility's flow process were taken. During the pilot study, average reduction of PCE was 51.6% with the aeration system, compared to an

average PCE reduction of 66.3% with the carbon treatment system. Although the removal efficiency of PCE is less with the aeration system than with the carbon system, the aeration system offers a more reliable and consistent performance (i.e., no breakthrough or down time due to equipment malfunctions or maintenance). EPA approved the replacement of the carbon treatment system with the aeration system in May 2012.

In April 2015 Guilford Mills submitted a RCRA Closure Report. Activities performed as part of RCRA closure activities included characterization of the water reservoir, performance of a well survey in the vicinity of the Facility to identify current potential receptors, and a discussion of institutional and engineering controls anticipated to be part of the final remedy for the Facility. Seven samples of sediment were taken throughout the reservoir and analyzed for VOCs. PCE was the only VOC detected. It was present at very low concentrations (maximum of 0.071 mg/kg) in three samples nearest the pipe that discharges pumped groundwater into the reservoir. The well survey identified 17 wells within a 0.5-mile radius of the Facility (the majority of which are upgradient of the Facility), but none of these wells are used for potable purposes, as all properties within this area are served by a public water supply. In addition, no waivers of the local ordinance requirement to connect to the public water supply were discovered through interviews with water authority personnel. Finally, an analysis of the groundwater pumping system and monitoring well network concluded that, based on historical average pumping rates that exert influence over groundwater migration and the generally decreasing trends of contaminant concentrations in groundwater, the groundwater pumping system maintains capture of remaining groundwater contamination on-site and is feasible for use as an engineering control to be included in the final remedy.

Chlorinated VOCs exceed EPA's MCLs in groundwater primarily in the vicinity of PW4, the former Dry Cleaner Area, and M11D (see table, below).

Table 1: 1st Quarter 2015 VOC Exceedances in Groundwater

Contaminant	**MCL** µg/L	**PW1** µg/L	**PW4** µg/L	**CMS-1D** µg/L	**M11D** µg/L
cis-1,2-DCE	70				79.9
PCE	5	8.3	78.3	43.2	8.9
TCE	5	5.3	14.3	5.3	10.5

Section 4: Corrective Action Objectives

1. Soils

Given that the current and reasonably anticipated future use of Facility property is industrial and that Facility soils have met EPA's industrial RSLs, EPA's Corrective Action Objective for soils is to limit the migration of remaining soil contamination and ensure that land use remains non-residential.

2. Groundwater

EPA expects final remedies to return usable groundwater to its maximum beneficial use within a timeframe that is reasonable given the particular circumstances of the project. For facilities associated with aquifers that are either currently used for water supply or have the potential to be used for water supply, EPA will require the groundwater be remediated to MCLs, or RSLs for tap water for chemicals for which there are no applicable MCLs.

Since contaminants remain in the groundwater at the Facility above their respective MCLs, the corrective action objectives for groundwater are to:

- Reduce levels of chlorinated VOCs in groundwater to MCLs,
- Prevent exposure to groundwater with chlorinated VOC concentrations above MCLs, and
- Prevent off-site migration of groundwater contamination.

Section 5: Proposed Remedy

1. Soils

EPA proposes the final remedy for Facility soils consist of the following components:

- Implement and comply with an EPA-approved Post-Remediation Care Plan specifying how the asphalt cap over the area surrounding the manufacturing building shall be maintained to limit the migration of contaminants into groundwater.
- Because contaminants will remain in Facility soils above levels appropriate for residential uses, the proposed remedy for soils includes land use restrictions to restrict the Facility to non-residential uses. The proposed use restriction will be implemented through an institutional control such as an enforceable permit, order and/or an Environmental Covenant pursuant to the Pennsylvania Uniform Environmental Covenants Act, 27 Pa. C.S. Sections 6501-6517 (UECA) to be recorded with the deed for the Facility property.

2. Groundwater

As the final remedy for Facility groundwater, EPA proposes to have Guilford Mills perform the following activities until MCLs are met or until such time as EPA deems an activity no longer necessary:

- pump groundwater at the Facility at a rate sufficient to prevent the off-site migration of contaminants in excess of MCLs,
- treat the pumped groundwater to reduce concentrations of chlorinated VOCs to allow 1) its use in manufacturing operations, 2) its discharge into Swatara Creek under NPDES permit, or 3) its discharge to the local municipal sewer under permit with the municipal sewer authority, and
- perform annual groundwater sampling of wells CMS-1S, CMS-1D, M1D, M5I, M6D, M11D, PW-1, PW-3, and PW-4 for PCE and its degradation products.

In addition, to prevent exposure to contaminants while levels remain above MCLs, EPA proposes that compliance with and maintenance of groundwater use restrictions be implemented through institutional controls at the Facility. Specifically, EPA proposes to prohibit groundwater use for any purpose other than industrial usage and to conduct the operation, maintenance, and monitoring activities required by EPA, unless it is (a) demonstrated to EPA, in consultation with PADEP, that such use will not pose a threat to human health or the environment or adversely affect or interfere with the selected remedy, and (b) EPA provides prior written approval for such use. The proposed groundwater use restriction will be implemented through an institutional control as described above.

3. Additional Requirements

A. On an annual basis and when requested by PADEP or EPA, submit a written certification of compliance with all terms of the final remedy.

B. Within one month after any of the following events, require the then current owner to submit written documentation to PADEP and EPA describing any:
- observed noncompliance with groundwater use restrictions,
- transfer of ownership,
- change in land use,
- application for building permits, and
- proposed site work that could affect the effectiveness of the final remedy.

C. Generally prohibit any use of the Facility that would adversely affect the protectiveness of the final remedy.

D. Require Guilford Mills to provide PADEP and EPA with a coordinate survey of the site as well as a metes and bounds survey of the facility boundary. At a minimum, the coordinate survey would delineate boundaries of the asphalt cap and be in a form amenable to publicly accessible mapping programs (e.g., Google Earth® or Google Maps®).

Section 6: Evaluation of Proposed Remedy

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

Threshold Criteria	Evaluation
1) Protect human health and the environment	The proposed remedy protects human health and the environment by eliminating exposure pathways. Land and groundwater use restrictions will prohibit future uses that would pose an unacceptable risk through the use of an environmental covenant or other administrative mechanism. Exposure to groundwater beneath the Facility will be controlled by prohibiting groundwater use for domestic purposes.
2) Achieve media cleanup objectives	EPA's proposed remedy meets the cleanup objectives appropriate for the expected current and reasonably anticipated future land use. As detailed in the RFI, the Facility achieved industrial RSLs for soils. In addition, the proposed remedy will require continued pumping and treating until Facility groundwater attains MCLs thereby allowing for the maximum beneficial use of the groundwater. Until MCLs are attained, the proposed remedy will eliminate exposure pathways to remaining contamination by requiring use restrictions.
3) Remediating the Source of Releases	In all proposed remedies, EPA seeks to eliminate or reduce further releases of hazardous wastes and hazardous constituents that may pose a threat to human health and the environment. The Facility met this objective by removing approximately 15,000 tons of contaminated soil, installing a pump-and-treat system to clean up and contain groundwater, and installing a SVE system and operating it for almost eight years to attain soil cleanup criteria beneath the main building in the source area. There are no remaining large, discrete sources of waste from which constituents would be released to the environment.

Balancing Criteria	Evaluation
4) Long-term effectiveness	The components of proposed remedy will be implemented through an environmental covenant and a post-remediation care plan. Both of these instruments would be recorded on the land records for the Facility property and "run with the land", making them enforceable by EPA and PADEP against future land owners in perpetuity.
5) Reduction of toxicity, mobility, or volume of the Hazardous Constituents	Under the proposed remedy, the reduction of toxicity occurs by the transfer of VOCs from the liquid to the vapor phase, where VOCs more readily degrade. The reduction in mobility of groundwater contaminants is primarily achieved via the production well pumping network to maintain capture of contaminated groundwater on-site. Mobility of remaining soil contaminants is also reduced via the asphalt cap surrounding the main building.
6) Short-term effectiveness	Proposed land use restrictions can be implemented shortly after making a final decision. No proposed activities require construction or excavation that could pose short-term risks to workers, residents, or the environment.
7) Implementability	The proposed remedy is readily implementable through the use of an environmental covenant and a post-remediation care plan.
8) Cost	The proposed remedy is cost-effective. The cost to operate and maintain the pump and treat system and asphalt cap and perform groundwater monitoring is estimated at $27,000 per year. The one-time cost to record an environmental covenant is minimal. This cost is much lower than remedial alternatives that could include excavation and disposal of contaminated soil, demolition and reconstruction of buildings, and operational interruptions.
9) Community Acceptance	EPA will evaluate community acceptance during the public comment period and will be described in the Final Decision and Response to Comments.
10) State/Support Agency Acceptance	PADEP has reviewed and concurred with the proposed remedy.

Section 7: Financial Assurance

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

Section 8: Public Participation

Interested persons are invited to comment on EPA's proposed remedy. The public comment period will last 30 calendar days from the date that notice is published in a local newspaper. Comments may be submitted by mail, fax, e-mail, or phone to Griff Miller at the address listed below.

EPA may hold a public meeting upon request. Requests for a public meeting should be made to Mr. Miller at the address listed below. A meeting will not be scheduled unless one is requested.

EPA may modify the proposed remedy based on new information and/or public comments. Therefore, the public is encouraged to review the Administrative Record and to comment on the proposed remedy presented in this document.

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

U.S. EPA Region III
1650 Arch Street
Philadelphia, PA 19103
Contact: Griff Miller (3LC30)
Phone: (215) 814-3407
Fax: (215) 814 - 3113
Email: miller.griff@epa.gov

Date: __8.31.15_____ __/John A. Armstead/_____

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

Attachments:
Figure 1: Location Map
Figure 2: Property Diagram

Statement of Basis

Section 9: Index to Administrative Record

Environmental Priorities Initiative Preliminary Assessment of Penn Dye and Finishing Company, prepared by NUS Corporation, June 1991.

Final Administrative Order on Consent between USEPA and Gold Mills, Inc., September 1992.

RCRA Facility Investigation Report for Gold Mills, Incorporated, prepared by ENSR, March 1995.

RCRA Facility Soils Investigation Report, Penn Dye and Finishing Plant, prepared by EarthRes Group, July 2001.

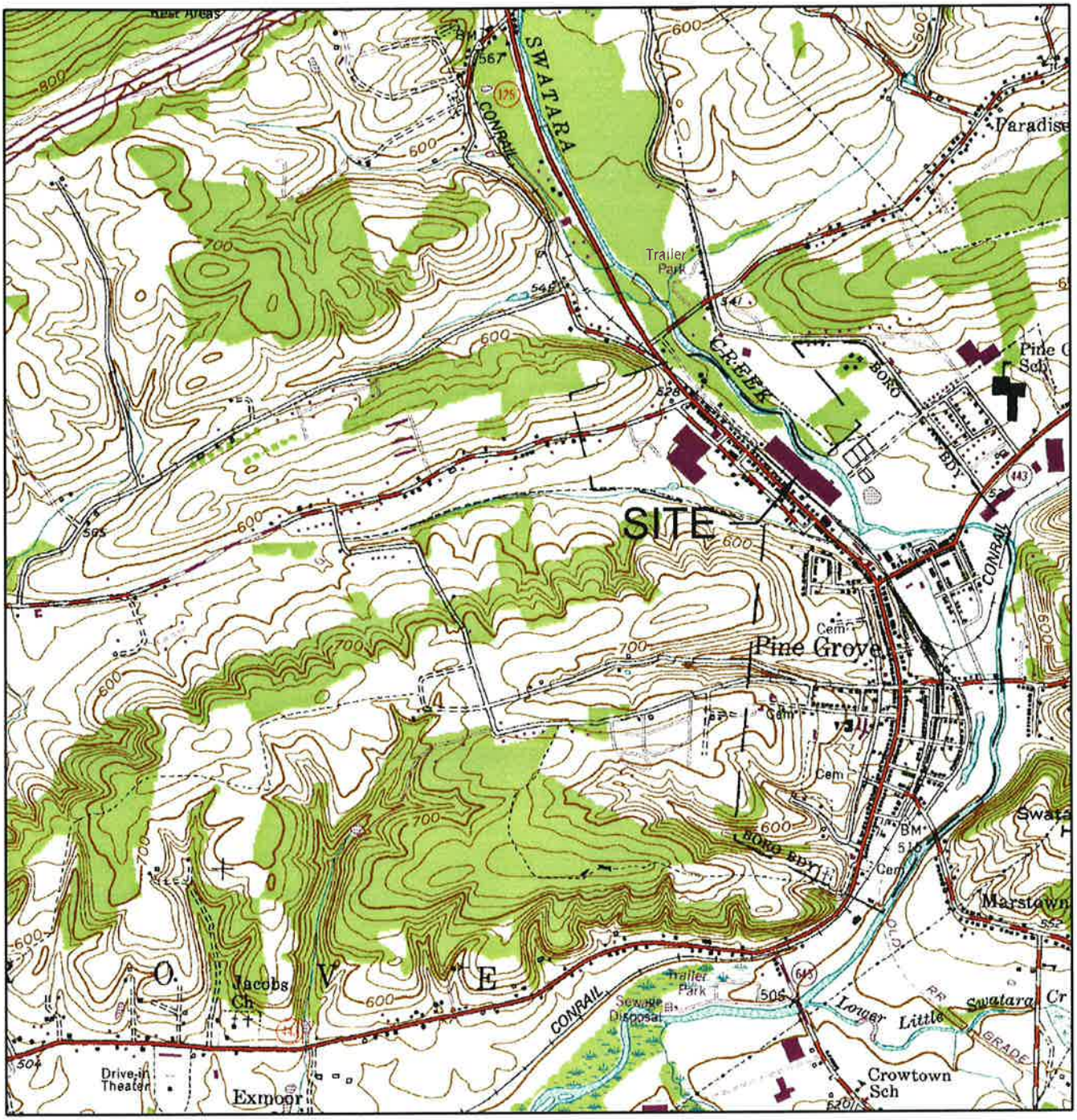
RCRA Corrective Measures Study Report, Penn Dye and Finishing Plant, prepared by EarthRes Group, October 2002.

SVE System Closure Report, Gold Mills Inc. Penn Dye and Finishing Plant, prepared by EarthRes Group, August 2011.

Groundwater Remediation Demonstration Project, Gold Mills LLC Penn Dye and Finishing Plant, prepared by EarthRes Group, March 2012.

RCRA Closure Report, Guilford Mills Inc. Penn Dye and Finishing Plant, prepared by EarthRes, April 2015.

1st Quarter 2015 Quarterly Groundwater Sampling, Guilford Mills Inc. Penn Dye and Finishing Plant, prepared by EarthRes, April 2015.



SOURCE: USGS 7.5 MINUTE QUADRANGLE – PINE GROVE, PA

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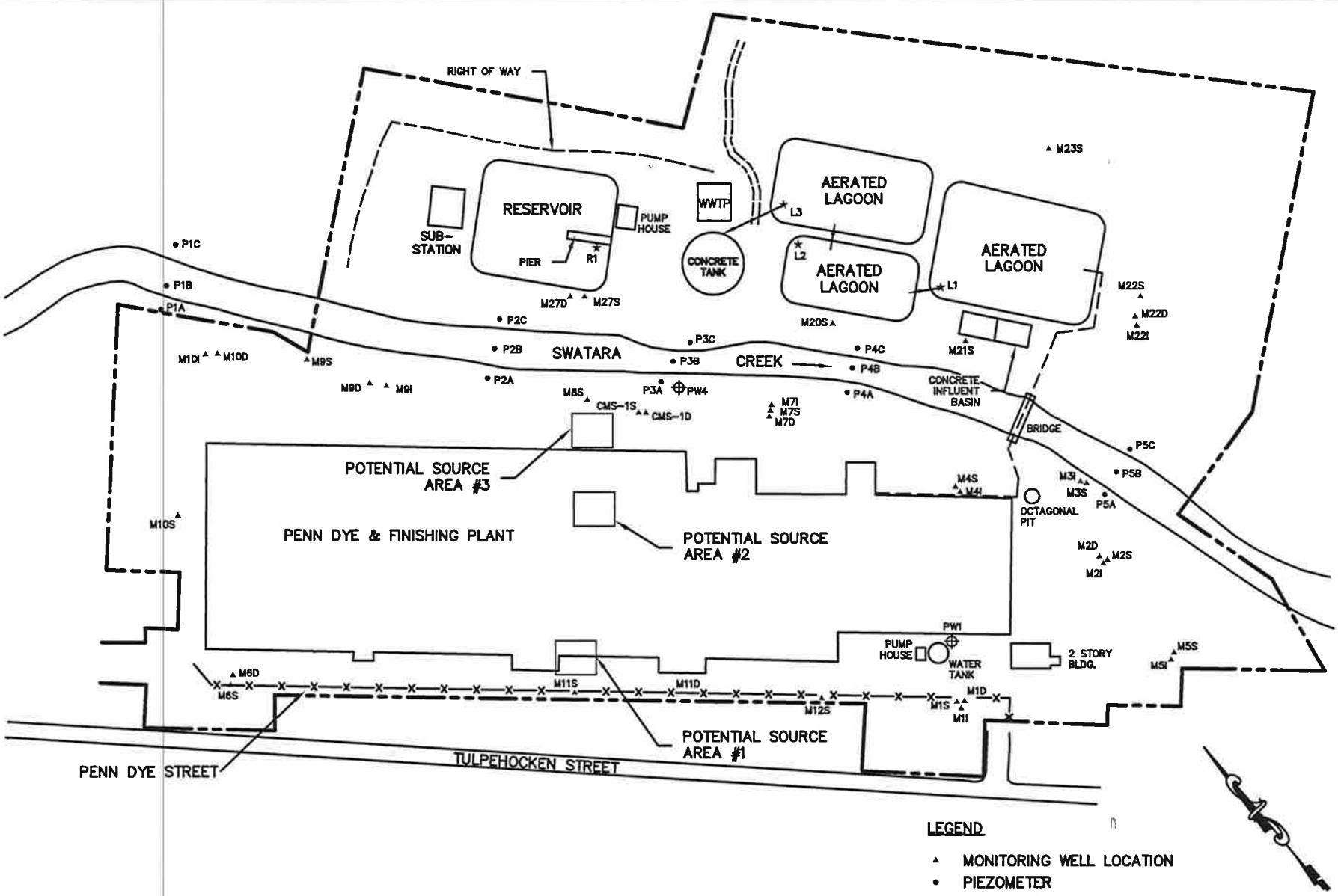
DRAWING SCALE: NTS	

FIGURE 1
SITE LOCATION MAP

GOLD MILLS, INC.
SCHUYLKILL COUNTY, PENNSYLVANIA



NOTE: MAP DIGITIZED FROM DRAWINGS BY ENSR CONSULTING AND ENGINEERING DATED MARCH, 1995.

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1" = 200'	

FIGURE 2
POTENTIAL SOURCE AREA LOCATION MAP

GOLD MILLS, INC.
SCHUYLKILL COUNTY, PENNSYLVANIA