

4/7/020

# FIVE-YEAR REVIEW REPORT

## Metropolitan Mirror and Glass

### Frackville Borough

### Schuylkill County, PA

Prepared by:

U.S. Environmental Protection Agency

Region III

Philadelphia, Pennsylvania



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12/11/03

Date

AR301016

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## List of Acronyms

AOC	Area of Concern
ARAR	Applicable or Relevant and Appropriate Requirement
CERCLA	Comprehensive Environmental Response, Compensation and Liability Act
CFR	Code of Federal Regulations
EPA	Environmental Protection Agency
NCP	National Contingency Plan
NPL	National Priorities List
O&M	Operation and Maintenance
PADEP	Pennsylvania Department of Environmental Protection
RI/FS	Remedial Investigation/Feasibility Study
RAL	Remedial Action Level
ROD	Record of Decision
RPM	Remedial Project Manager
VOC	Volatile Organic Compound

## Executive Summary

The Metropolitan Mirror and Glass Superfund Site (the "Site") is located in Frackville Borough, Schuylkill County, Pennsylvania. The Site is an industrial property where the Metropolitan Mirror and Glass Company manufactured mirrors from 1959 to 1982. The waste generated from the manufacturing process was accumulated in a series of four lagoons located on the Site property. From the period 1982 to 1987 no industrial manufacturing is known to have occurred at the Site. The Site property has been occupied since 1987 by the St. Jude Polymer Company, which recycles plastic bottles. The Metropolitan Mirror and Glass Site was placed on the National Priorities List (NPL) on October 14, 1992. A Remedial Investigation/Feasibility Study (RI/FS) was conducted between 1995 and 1998. In 1997 a Removal Action was implemented at the Site to address contamination that posed a significant endangerment to human health and the environment. EPA issued a Record of Decision in September, 1998.

The Metropolitan Mirror and Glass Site consists of one operable unit (OU) in which the following Areas of Concern ("AOCs") had been identified during the Remedial Investigation (RI):

AOC 1: North Building Area.

AOC 2: Existing Lagoons

AOC 3: Lagoon Dredge Disposal Area

AOC 4: Former Lagoons

AOC 5: South Parking Area

The RI conducted at the Site also focused on the shallow and deep groundwater, surface water and sediments from Stoney Creek, wetlands and drainage ditches. The Removal Action mentioned above was implemented in May 1997 and completed in August 1997. During this time the lead contaminated soil in AOC 1 was excavated and taken off-site for disposal. The area was then backfilled with clean fill. The silver contaminated sludge and sediment in AOC 2 and AOC 3 were also excavated and taken off-site for disposal. The lagoons were then recontoured and the bottom was covered with clean shale. The lagoons subsequently refilled with water. Post excavation sampling was conducted at all three areas and the results indicated that no contaminants with concentrations above EPA acceptable criteria remain in these areas. The trigger for this five-year review was the signature of the Record of Decision on September 30, 1998. The assessment of this five-year review found that the components of the Removal Action for AOC 1, AOC 2 and AOC 3 under OU1 that have been completed were done in accordance with the requirements of the Action Memorandum dated March 1997. Upon completion of the Removal Action in August, 1997 and the RI/FS in 1998, EPA issued a No Action ROD having determined that its response at this Site is complete.

The remedy for OU1 (AOC 1, AOC 2, and AOC 3) is expected to continue to be protective of human health and the environment. The principle threat from lead and silver contaminated soil and sludge has been addressed by the excavation and subsequent off-site disposal. Other findings of the RI concluded that the remaining contamination at the Site is a result of non-Site related inorganic contaminants in the groundwater. These contaminants include manganese, iron and arsenic, all of which were not identified as being used in the mirror manufacturing process. Manganese, iron and arsenic are naturally occurring and common constituents of the rock types underlying the Site. The residents of Frackville and West Mahanoy Township are served by a municipal water supply company.

### Five-Year Review Summary Form

SITE IDENTIFICATION		
Site Name (from Wastelan): Metropolitan Mirror and Glass Site		
EPA ID (from Wastelan): PAD982366957		
Region: 3	State: PA	City/County: Frackville Borough/Schuylkill
SITE STATUS		
NPL Status: Final		
Remediation Status: Complete		
Multiple OUs? No	Construction complete date: N/A	
Has site been put into reuse? Yes		
REVIEW STATUS		
Lead Agency: EPA		
Author name: Eugene Dennis		
Author Title: Remedial Project Manager	Author affiliation: U.S. EPA, Region 3	
Review Period: 07/17/03 to 12/03		
Date(s) of site inspection: 7/17/03		
Type of review: Post-SARA		
Review Number: 1 (first)		
Triggering Action: Record of Decision (09/30/98)		
Triggering action date (from Wastelan): 09/30/98		
Due date (five years after triggering action date): 09/30/03		

**Five-Year Review Summary Form, cont'd.**

**Issues:**

No issues were identified.

**Recommendations and Follow-up Actions:**

There are no recommendations or follow up actions required.

**Protectiveness Statements:**

The Site is protective of human health and the environment. The data evaluated as part of this review confirms that the removal action addressed site risks. No further 5 year reviews of the site are required.

**Other Comments:**

No other comments.

**Metropolitan Mirror and Glass Superfund Site  
Frackville Borough, Pennsylvania  
First Five-Year Review Report**

**I. Introduction**

The purpose of the five-year review is to determine whether the site is protective of human health and the environment. The methods, findings, and conclusions of reviews are documented in Five-Year Review reports. In addition, Five-Year Review reports identify issues found during the review, if any, and identify recommendations to address them.

This five year review is not being conducted pursuant to CERCLA § 121 and the National Contingency Plan (NCP), nor as a matter of policy, because no Site related waste was left on-site and a No Action alternative was selected in the 1998 ROD for the Site. However, because a removal response action was undertaken prior to the issuance of the ROD the Agency had, as a matter of discretion, required that a five year review would be conducted five years after the ROD signature.

The United States Environmental Protection Agency (EPA), Region 3, conducted the five-year review of the remedy for OUI implemented at the Metropolitan Mirror and Glass Superfund Site in Schuylkill County, Pennsylvania. This review was conducted by the Remedial Project Manager (RPM) for the Site from July 2003 through December 2003. This report documents the results of the review.

This is the first, and only, five-year review for the Metropolitan Mirror and Glass Superfund Site. The triggering action for this discretionary review is the Record of Decision signed on September 30, 1998.

**II. Site Chronology**

Table 1 lists the chronology of events for the Metropolitan Mirror and Glass Site.

**Table 1: Chronology of Site Events**

Date	Event
1959	Metropolitan Mirror and Glass begins operations at the Site. Waste from the silvering process entered four settling lagoons located on-site.
1982	Metropolitan Mirror and Glass declares bankruptcy and the property is acquired by the National Patent Development Company (NPDC). NPDC owns Site from 1982 to 1987 and no industrial manufacturing is known to have occurred at the Site during this time.
1987	NPDC sells Site property to St. Jude Polymer Company. St. Jude Polymer Company continues to operate plastic bottle recycling center on property.
1987	Tetrachloroethene found in Frackville Borough water supply. PADEP conducts investigation and Metropolitan Mirror and Glass Site is identified as potential source of contamination.
1988-1990	EPA conducts Preliminary Assessment, Screening Site Inspection and Listing Site Inspection at the Site.
1992	The Metropolitan Mirror and Glass Site is placed on National Priorities List (NPL).
1995	EPA initiates RI/FS at Site.
1997	EPA performs Removal Action at Site.
1998	EPA completes RI/FS at the Site.
1998	EPA issues No Action Record of Decision for the Metropolitan Mirror and Glass Site.

### **III. Background**

#### **Physical Characteristics**

The Metropolitan Mirror and Glass Superfund Site (the "Site") is located at the intersection of Industrial Park Road and Altamont Boulevard in Frackville Borough, Schuylkill County, Pennsylvania (see Attachment 1). The Site covers approximately 12.5 acres, with the Pennsylvania Power and Light power and gas right-of-way forming the eastern boundary, Interstate I-81 and Stoney Creek bordering the Site on the south, Altamont Boulevard on the west and other industrial businesses to the north. Development on the property includes a single-story manufacturing building (currently occupied by St. Jude Polymer Co.), a small pump house with a water supply well inside, a water tower and a small building connected to the manufacturing building. The water supply well is used as a production well and not as a potable supply well. A parking lot is along the south wall of the manufacturing building. The area surrounding the Site is a mixture of commercial and residential areas.

The principal ecological features at the Site are uplands, wetlands, Stoney Creek and a pond (formerly the wastewater lagoons remediated during the removal action). The types of wetlands identified are emergent wetlands, shrub-shrub wetlands, and forested wetlands. The Site is drained by three drainage ditches on the property which flow generally to the south, and discharge through the wetlands into Stony Creek. Stony Creek flows west along the southern property line until it discharges from the property through a culvert beneath I-81. Stony Creek continues south to join Mud Run approximately 700 feet south of the Site.

#### **Land and Resource Use**

The Metropolitan Mirror and Glass Site is located in an industrial park in the southern part of West Mahanoy Township, approximately 0.25 miles southeast of Frackville. As shown in Figure 1, land use near the Site along Industrial Park Road is predominantly industrial. Hollander Corporation (formerly Zapata Industries) is northeast of the Site. Mixed commercial and residential areas are generally north and west of the Site. Motels, gas stations, convenience stores, and restaurants comprise a large part of the commercial development along Altamont Boulevard, northwest of the Site. The Pennsylvania State Correctional Institution at Frackville is approximately 1/4 mile southeast of the Site and the Schuylkill Mall is within 1 mile to the south.

Drinking water supplies within a 4-mile radius of the Site are provided by two municipal water companies which use groundwater solely as their drinking water source. The Pennsylvanian-American Water Company uses five wells which are located in the Borough of Frackville, approximately 1/4 to 3/4 mile west of the Site. The Morea Citizens Water Company uses one well which is located approximately 2 miles northeast of the Site. The two water companies are located in different basins and supply different areas surrounding the Site. The nearest residential well identified in the vicinity of the Site is located approximately 1,250 feet north of the Site.

#### **History of Contamination**

Before 1959 the Site property was owned by the Kimerling Estates. In 1959, Kimerling Estates sold a large property parcel that included the Site to the Frackville Merchants Association, which subsequently donated the entire parcel to the Greater Pottsville Industrial Development Corporation (GPIDC). Metropolitan Mirror and Glass Company purchased the property from GPIDC in 1959.

Between 1959 and 1982, Metropolitan Mirror and Glass Company manufactured mirrors at the property. The manufacturing was a multi-stage assembly-line process. The process used silver solutions, paint strippers, paint thinners, and other solvents. The stages of the manufacturing process included cleaning and polishing, preparing and sensitizing, silvering, stabilization and protection, painting and drying and cleaning. Waste generated from the painting and drying process was stored in 55-gallon drums in the northeast corner of the property (AOC 1). Liquid waste generated from the silvering process entered four settling lagoons located on the Site. Prior to 1969 wastewater was sent to two former lagoons located near the western end of the Site (AOC 4). These lagoons were backfilled in the late 1960' s and may have been covered over during



the construction of State Route I-81. From at least 1969 until 1982, the wastewater was discharged to two other lagoons (AOC 2) located on Site, due east of the former lagoons. These lagoons were used to settle suspended solids and, when filled, the supernatant was discharged to Stony Creek. The normal operating volume of each lagoon was 330,000 gallons. During at least one occasion, the sludge that accumulated in these lagoons was scrapped out and placed along the edge of the lagoons (AOC 3).

As a result of the above activities soils in the lagoon dredge disposal area (AOC 3) and soils and sediment in the lagoons (AOC 2) became contaminated with silver at concentrations exceeding the Removal Action Levels ("RAL") established by EPA. Elevated concentrations of lead were also found in soils at the north building area (AOC 1).

### **Initial Response**

B. E. S. Environmental initially sampled the site in August, 1987 under the direction of the Pennsylvania Department of Environmental Resources ("PADER")(currently the Pennsylvania Department of Environmental Protection - "PADEP"). Between 1988 and 1990 EPA conducted a Preliminary Assessment (PA), Screening Site Inspection (SSI), and Listing Site Inspection (LSI) at the Site. Subsequently, the Site was placed on the CERCLA National Priorities List on October 14, 1992. Between 1995 and 1998 a Remedial Investigation/ Feasibility Study ("RI/FS") was conducted by an EPA contractor. The RI/FS was conducted to identify the types, quantities and locations of contaminants and to develop ways of addressing the contamination. The RI included a risk assessment that determined which contaminants, if any, posed a risk to human health and the environment. The RI divided the Site into Areas of Concern ("AOCs") according to geographic features and suspected waste-handling activities. The AOCs identified during the RI include:

- AOC 1 - North Building Area
- AOC 2 - Existing Lagoons x
- AOC 3 - Lagoon Dredge Disposal Area
- AOC 4 - Former Lagoons
- AOC 5 - South Parking Area

In March, 1997 EPA issued an Action Memorandum which stated that an emergency removal action needed to be taken at the Site. The Action Memorandum was based on data generated during the Remedial Investigation. This data indicated that AOC-1, AOC-2, and AOC-3 posed a significant endangerment to human health and the environment. Silver concentrations in soil samples collected in the lagoon dredge disposal area (AOC-3) and in the soil and sediment samples collected in the existing lagoons (AOC-2) exceeded the EPA Region III Removal Action Levels ("RAL"). The contaminated soil and sediment in these areas posed an ecological threat to Stony Creek if the lagoons were to be breached or if further development of the property were to occur. There was also a threat of contamination, or further contamination, of the shallow groundwater system that moves through and just below this area. The elevated lead levels found in the soil at the north building area (AOC-1) also presented an inhalation hazard to workers at the facility.

Between May 1997 and August 1997, a Removal Action for AOCs 1, 2 and 3 was implemented. The lead contaminated soils located behind the manufacturing building (AOC-1) were excavated and taken off-site for proper disposal. The area was then backfilled with clean soils. The existing lagoons (AOC-2) were drained of any standing liquids and the sludge was then scrapped out to the bedrock. The lagoons were then re-contoured into the shape of a small pond and the bottom covered with clean shale. The re-contoured lagoons subsequently filled with groundwater and remain on the Site property. The lagoon dredge spoil area (AOC-3) was excavated and covered with clean fill. The excavated sludge from the lagoons and dredge spoil area was taken off-site for proper disposal. Post excavation sampling was performed at all three areas discussed above and the results indicated that no contaminants with concentrations above EPA acceptable criteria remain in these areas.

The RJ conducted at the Site also focused on the shallow and deep groundwater, surface water and sediments, former lagoon area soils (AOC-4) and south parking lot soils (AOC-5). The

groundwater investigation included the rehabilitation and sampling of 5 existing monitoring wells and the installation and sampling of 8 overburden and bedrock monitoring wells.

## **Basis for No Action**

### **Contaminants**

Hazardous substances that had been released at the Site in each media include:

<u>Ground Water</u>	<u>Sediment</u>	<u>Surface Water</u>
Lead	Arsenic	Silver
Iron	Copper	Iron
Manganese	Nickel	
Arsenic	Silver	

<u>Soils (AOC-4)</u>	<u>Soils (AOC-5)</u>
Aluminum	Aluminum
Beryllium	Antimony
Chromium	Beryllium
Copper	Copper
Lead	Lead
Zinc	Zinc
Iron	Iron
Silver	Chromium
Nickel	Silver

As part of the RI/FS for the Site, a Baseline Risk Assessment (RA) was conducted to estimate the human health and environmental risks associated with the Site. Based on this RA, the health risks from exposure to soil, sediment, and surface water by potential receptors (trespassers, maintenance workers, or construction workers) at AOCs 4 and 5 were found to be within acceptable risk ranges.

The results of the groundwater samples collected as part of this 5 year review indicate that there are no human health risks associated with site related materials in the groundwater. The inorganic contaminants found in the groundwater at the Site have been determined to not be related to Site activities. Manganese, iron and arsenic are naturally occurring and common constituents of the rock types underlying the Site.

## **IV. Remedial Actions**

### **Remedy Selection**

As set forth above, EPA has addressed the Metropolitan Mirror and Glass Site as one operable unit with different areas of concern. The alternative that EPA selected in the 1998 ROD was "No Action". Under this alternative, EPA requires no action beyond the removal action that took place at the Site in 1997. The removal of the lagoons (AOC-2), dredge spoil area (AOC-3) and the contaminated soils located behind the manufacturing building (AOC-1) eliminated the exposure pathways that were associated with these areas. The remaining contamination at the Site is a result of non-Site related inorganic contaminants in the groundwater. These contaminants include manganese, iron and arsenic, none of which were identified as being used in the mirror manufacturing process. Manganese, iron and arsenic are naturally occurring and common constituents of the rock types underlying the Site.

### **System Operation/Operation and Maintenance**

Since the alternative selected in the ROD was "No Action" there is no System Operation/Operation Maintenance associated with this Site.

## **V. Progress Since the Last Five-Year Review**

This is the first, and only five-year review for the Metropolitan Mirror and Glass Superfund Site.

## **VI. Five-Year Review Process**

### **Administrative Components**

A five year review Site visit was conducted by Eugene Dennis of EPA, Remedial Project Manager (RPM) for the Metropolitan Mirror and Glass Site on July 17, 2003. On August 21, 2003 Mr. Len Zelinka, Project Officer from PADEP conducted a five year review Site visit.

The five-year review included the following administrative components:

- Community Involvement;
- Document Review;
- Data Compilation and Review;
- Site Inspection;
- Interviews;
- Five-Year Review Report Development and Review

### **Community Involvement**

Activities to involve the community in the five-year review were initiated by publishing an ad in the Pottsville Republican and Evening Herald on August 21, 2003 informing residents in the local area that EPA was conducting a five-year review at the Metropolitan Mirror and Glass Superfund Site.

Following signature on this Five-Year Review document, a notice will be sent to a local newspaper announcing that the Five-Year Review report for the Metropolitan Mirror and Glass Superfund Site is complete, and that the results of the review and the report are available to the public in the information repository located at the West Mahanoy Township Building in Shenandoah, Pennsylvania

### **Document Review**

This five-year review consisted of a review of relevant documents including the ROD and monitoring data.

### **Data Review**

Groundwater samples were collected from the on-site monitoring wells and analyzed for organic and inorganic parameters as part of the Five-Year review for the Metropolitan Mirror and Glass Site. Based on a review and evaluation of this data the Site remains protective of human health and the environment.

### **Site Inspection**

Inspections at the Site were conducted on July 17, 2003 by the EPA RPM, Eugene Dennis. PADEP Representative (Len Zelinka) conducted an inspection at the Site on August 21, 2003. The purpose of these inspections was to assess the protectiveness of the removal action and the No Action Alternative.

The weather on the day of the Site visit was sunny and warm. In general, Site conditions appeared to be good. The pond (formerly the lagoons) that were addressed during the removal action contained approximately 3 feet of clear water with little underwater vegetation. Fish and turtles could be observed. The drainage culverts were clear of debris and functioning. The monitoring wells were in working order. The locks on the wells were cut off and replaced with new locks during the sampling visit.

### **Interviews**

On August 6, 2003 a phone interview was conducted by the RPM, Eugene Dennis and the Emergency Coordinator for Frackville Borough and the Township Manager for West Mahanoy Township. During the interviews, representatives of EPA summarized the requirements of the five-year review inspection for the Metropolitan Mirror and Glass Site and asked for any input or concerns on the

protectiveness of the remedy. The Emergency Coordinator and the Township Manager informed the RPM that the information provided during the interview would be presented during the next Township meeting.

## **VII. Technical Assessment**

### Question A: Is the remedy functioning as intended by the decision documents?

The alternative selected in the ROD was "No Action".

### Question B: Are the exposure assumptions, toxicity data, cleanup levels, and remedial action objectives (RAOs) used at the time of the remedy selection still valid?

There have been no changes in the physical conditions of the Site that would affect the protectiveness of the No Action alternative.

### Changes in Standards and To Be Considered

In light of EPA's decision not to select a remedial action, the requirements of Section 121 of CERCLA, 42 U. S. C. § 9621, including its Applicable or Relevant and Appropriate Requirements provisions of CERCLA Section 121 (d) (2), 42 U. S. C. § 9621 (D) (2) are not triggered; that section applies only in those cases where a remedial action is selected.

### Changes in Exposure Pathways, Toxicity and Other Contaminant Characteristics

The exposure assumptions used to develop the Human Health Risk Assessment included both current and potential future exposures. These assumptions are considered to be conservative and reasonable in evaluating risk and developing risk based cleanup levels. Newly collected groundwater data was evaluated in accordance with the Quality Assurance Project Plan for the Site. There were no changes in exposure pathways, toxicity or other contaminant characteristics.

### Question C: Has any other information come to light that could call into question the protectiveness of the remedy?

There is no other information that calls into question the "No Action" alternative selected in the 1998 ROD.

### Technical Assessment Summary

According to the data reviewed and the site inspection, the No Action remedy is functioning as intended by the ROD. There have been no changes in the physical conditions of the Site that would affect the protectiveness of the remedy.

## **VIII. Issues**

No issues were identified during this review.

## **IX. Recommendations and Follow-Up Actions**

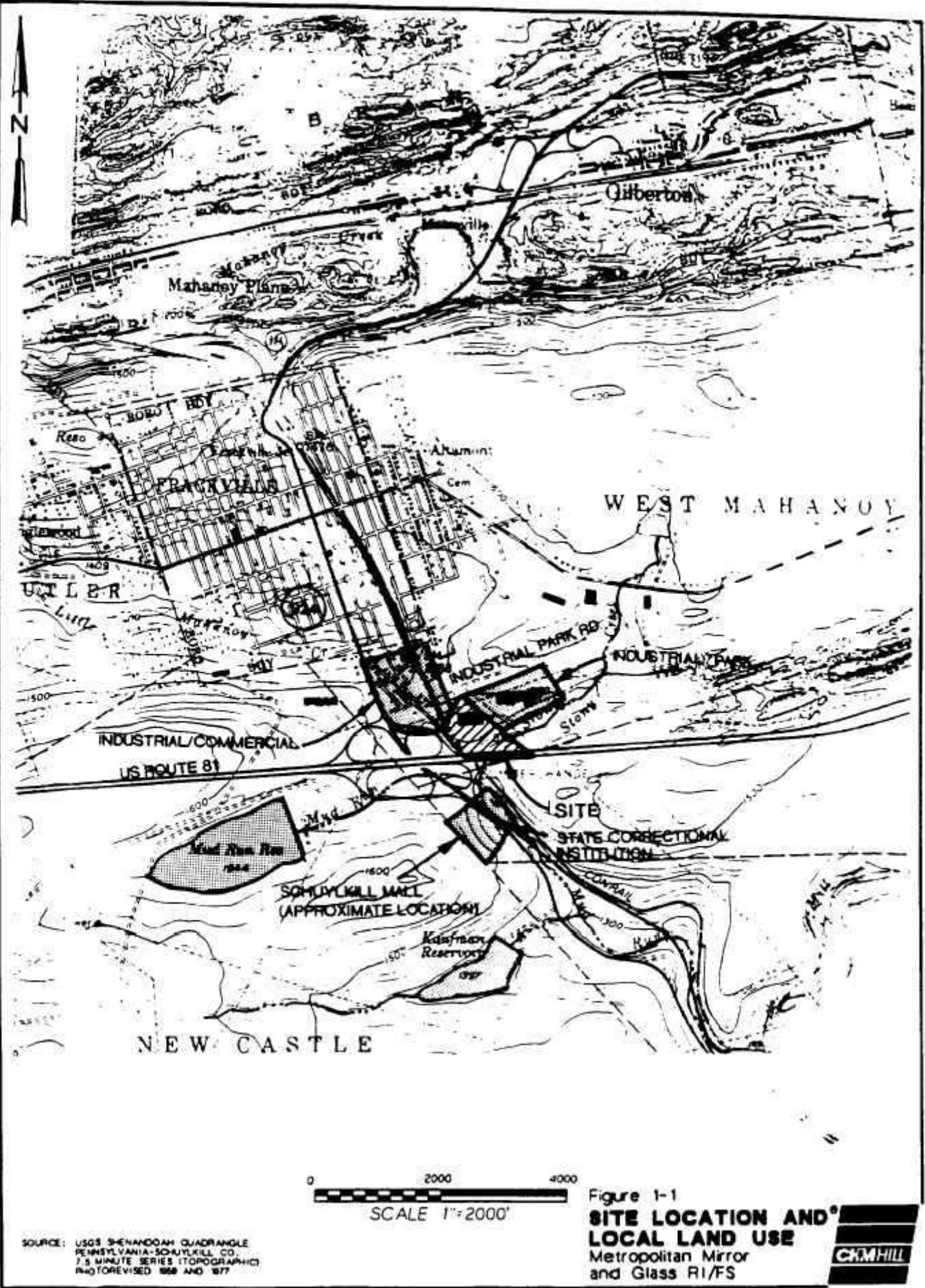
There are no recommendations.

## **X. Statement on Protectiveness**

Based on the data reviewed and the site inspection performed, the Removal Action and subsequent No Action remedy selected in the 1998 ROD remains protective of human health and the environment.

## **XI. Next Five-Year Review**

This is the first and only Five-Year review that will be conducted for the Metropolitan Mirror and Glass Site.



SOURCE: USGS SHENANDOAH QUADRANGLE  
 PENNSYLVANIA-SCHUYLKILL CO.  
 7.5 MINUTE SERIES (TOPOGRAPHIC)  
 REVISIONS 1966 AND 1977

Figure 1-1  
**SITE LOCATION AND  
 LOCAL LAND USE**  
 Metropolitan Mirror  
 and Glass RI/FS



LEGEND

- PROPERTY BOUNDARY
- SURFACE WATER COURSE
- GROUND SURFACE ELEVATION CONTOUR (FT) NAVD-88
- PAVED OR GRAVEL AREAS
- UTILITY POLE
- EDGE OF VEGETATION
- SB SOIL BORING
- MW MONITORING WELL
- HP HYDROFUNCH BORING
- PW PRODUCTION WELL

NOTES:

1. MW6 WAS DESTROYED DURING PARKING LOT EXPANSION AND NO LONGER EXISTS.
2. MW7 WAS NOT INSTALLED DURING THE RI BECAUSE OF ACCESS CONSTRAINTS ON ADJACENT PROPERTIES.
3. SB 4 AND SB 5 WERE NOT USED DURING THE INVESTIGATION.
4. THE LOCATION OF SB 6 IS ESTIMATED.

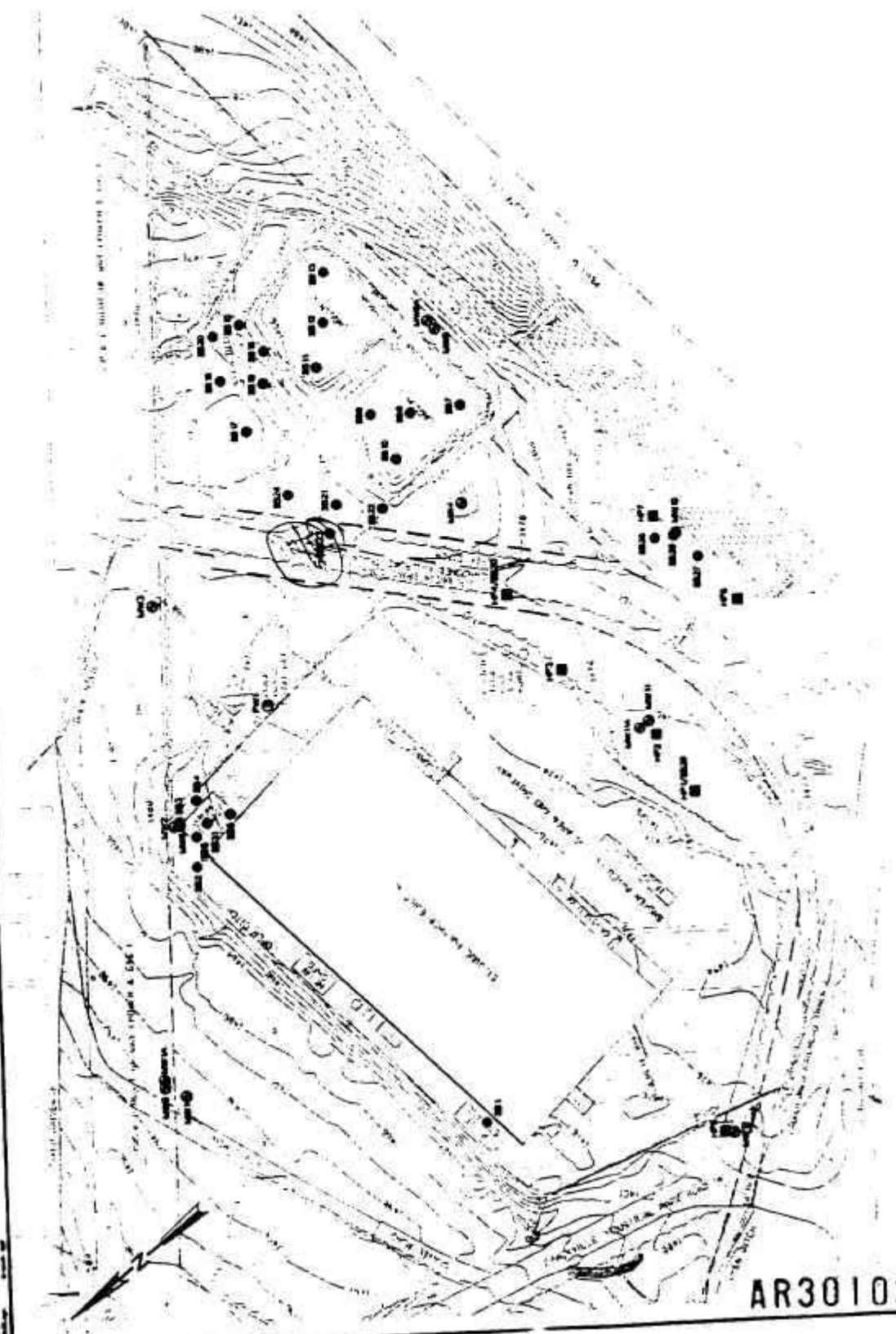


Figure 2  
**LOCATIONS OF SOIL BORINGS AND MONITORING WELLS**  
 Metropolitan Area  
 PWS GWSB HUFFS

AR301035