UNITED STATES

ENVIRONMENTAL PROTECTION AGENCY

REGION III

STATEMENT OF BASIS

FEDERAL-MOGUL CORPORATION

LANCASTER, PENNSYLVANIA

PAD 991 298 266

I. Introduction

The United States Environmental Protection Agency (EPA) has prepared this Statement of Basis (SB) to solicit public comment on its proposed decision for the former Federal-Mogul Corporation facility (Federal-Mogul or the Facility) located at Garfield Avenue and Race Street, Lancaster, Pennsylvania, 17604. EPA's proposed decision consists of the compliance with and maintenance of institutional controls (ICs) designed to minimize the potential for human exposure to contamination and to protect the integrity of the remedy. This SB highlights key information relied upon by EPA in making its proposed decision.

The Facility is subject to EPA's Corrective Action Program under the Solid Waste Disposal Act, as amended by the Resource Conservation and Recovery Act (RCRA) of 1976, and the Hazardous and Solid Waste Amendments (HSWA) of 1984, 42 U.S.C. §§ 6901 et seq. (Corrective Action Program). The Corrective Action Program is designed to ensure that certain facilities subject to RCRA have investigated and cleaned up any releases of hazardous waste and hazardous constituents that have occurred at their property. 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.

The Administrative Record (AR) for the Facility contains all documents, including data and quality assurance information, on which EPA's proposed decision is based. See Section IX, Public Participation, for information on how you may review the AR.

II. Facility Background

The Facility property consists of approximately 3.4 acres and is surrounded by railroad tracks and industrial properties to the south and commercial/industrial properties to the east, north and west. The Facility is located within the City of Lancaster along its border with Manheim Township. A few residential properties are located a tenth of a mile north-northeast of the Facility in Manheim Township. A location map is attached as Figure 1.

Federal-Mogul Corporation operated a ball-bearing manufacturing plant at the site from the mid-1950s through the mid-1990s. The Facility contains two separate single-story structures with a total of 80,000 square feet of manufacturing space and 3,000 square feet of office space separated by three open courtyards. Manufacturing processes at the Facility included machining, press work, heat treating, and grinding. The heat treating process utilized a sodium cyanide solution to improve the strength and durability of the ball bearings.

Federal-Mogul, Garfield Center, LLC (current owner of the property), and the Pennsylvania Department of Environmental Protection (PADEP) executed a Consent Order and Agreement (COA) on July 2, 2004, requiring the Facility to obtain liability protection under the Pennsylvania Land Recycling and Environmental Remediation and Standards Act (Act 2). On August 30, 2004, PADEP approved the Facility's Remedial Investigation and Final Report (RIFR) and indicated that a site-specific standard was attained for the Facility. A deed notice acknowledging the presence of hazardous constituents at the Facility was required because site-specific standards were attained. During an August 1, 2005 conveyance of the Facility property, the deed contained covenants allowing only non-residential use of the property and prohibiting the use of groundwater for any drinking or agricultural purpose.

Garfield Center, LLC leases portions of buildings to tenants for use as warehouse space and retail stores. The K & W Tire Company (K&W) currently uses the building on the eastern half of the property (East Building) for warehouse operations and office space. The building on the western half of the property (West Building) is currently occupied by Nolt's Auto Parts and Gallo Kitchen & Bath.

III. Summary of Environmental Investigation and Cleanups

Several investigations, reports and cleanups have been completed by Federal-Mogul and its contractors at the Facility the including Phase I Environmental Site Assessment (ESA) (1997), the Facility Cleanup Report (1999), Site Characterization Report (2000), and investigations to meet PADEP Act 2 requirements (2000 to 2004). An Environmental Indicator Inspection was conducted at the Facility by PADEP and its contractor on January 23, 2009. The most recent investigation was completed at EPA's request in December 2011 to assess the vapor intrusion pathway inside the East Building. In addition, non-site related investigations have occurred both upgradient and downgradient of the Facility. These reports, investigations and cleanups are summarized below.

In December 1997, Montgomery Watson, a contractor for Federal-Mogul, performed a Phase I ESA at the Facility to assess whether potential environmental concerns were present. The Phase I ESA identified concerns about as many as twelve former or closed underground storage tanks (USTs), three oil sumps, two former reservoirs, historical spills or discharges of oils and cyanide solutions, and stained soils on the Facility property. This investigation did not include the collection or analysis of any environmental samples.

In July 1999, Montgomery Watson conducted field activities at the Facility including the removal of asbestos floor tile, disposal of cans of paints, thinners and other chemicals, removal of an 8,000-gallon above-ground storage tank south of the West Building and excavation of an area of petroleum-contaminated soils also located south of the West Building. No volatile organic compounds (VOCs) or semivolatile organic compounds (SVOCs) were found above their respective detection limits in any of the three post-excavation soil samples collected from the petroleum-contaminated soil area.

In January 2000, Environmental Strategies, another contractor for Federal-Mogul, conducted an initial subsurface investigation to assess several areas of concern (AOCs) at the Facility. Sixty-eight soil samples were collected from 48 soil borings and four grab groundwater samples were collected during the soil boring installation. Arsenic was the only contaminant detected in soils at concentrations above the residential direct contact PADEP medium-specific concentration (MSC) (12 milligrams per kilogram (mg/kg)). Arsenic was not detected in any soil sample above the non-residential direct contact MSC (53 mg/kg). The arsenic contamination was limited to seven soil sample locations north and south of the West Building. The maximum concentration of arsenic was 20.8 mg/kg found in soil boring SB-2 near the southwest corner of the property. EPA's allowable risk range for arsenic in industrial soils is 1.6 mg/kg to 160 mg/kg.

Soil containing diesel range and motor oil range petroleum hydrocarbons was encountered near the center of the Facility, where USTs were either formerly located or closed in place. While certain petroleum-related compounds were detected in soil samples collected from

this area, none was seen at concentrations above PADEP residential soil MSCs or above EPA's allowable risk range for residential soils. Chlorobenzene and benzene were detected in soil samples within a limited area of the facility (East Building Areas 3 and 4, and the east courtyard) at concentrations above PADEP's non-residential soil-to-groundwater MSCs and also above the PADEP Indoor Air Quality non-residential screening value but below PADEP's direct contact MSCs. Barium and chrysene were detected in the groundwater grab samples collected from localized areas of perched groundwater along the southern property boundary at concentrations above their non-residential MSCs.

Environmental Strategies collected an additional 38 soil samples from 24 soil borings as well as two surface soil samples as part of a supplemental site characterization in December 2000 and January 2001. These soil samples confirmed the presence of petroleum hydrocarbons in the site soils near the center of the Facility; however, the concentrations of individual constituents continued to not be detected above applicable Statewide Health Standards (SHSs). Also as part of the supplemental site characterization, four monitoring wells were installed into the shallow bedrock aquifer in January 2001. Groundwater was sampled four times from each well between July 2001 and October 2002 and was not found to contain any constituents at concentrations exceeding applicable PADEP MSCs. The elevated barium and chrysene concentrations seen in grab groundwater samples in the earlier investigation were not found in the samples collected from the monitoring wells. Chlorobenzene was detected in two of the four on-site monitoring wells at concentrations as high as 96 micrograms per liter (µg/L), which is just below EPA's maximum contaminant level (MCL), promulgated pursuant to Section 42 U.S.C. §§ 300f et seq. of the Safe Drinking Water Act and codified at 40 C.F.R. Part 141, of 100 µg/L.

Also as part of the supplemental site characterization, Environmental Strategies performed a geophysical survey to confirm the presence or absence of ten former USTs. All ten of the USTs were reportedly closed or removed prior to the PADEP closure requirements promulgated in August 1989. Based on the survey, eight of the ten USTs have been removed from the Facility, and two were closed in place and filled with sand.

The ACM Company, Inc. (ACM), located across Garfield Avenue from the Facility (see Figure 1), informed PADEP in 2003 that shallow groundwater beneath its property contained concentrations of chlorobenzene and chrysene attributable to Federal-Mogul above their respective residential used aquifer MSCs (100 µg/L and 1.9 µg/L, respectively). The ACM property had been subject to remedial action since the removal of a leaking 1,000-gallon gasoline UST in October 2000. ACM's groundwater extraction system, which was in operation until July 2010, likely captured the chlorobenzene and chrysene plumes in addition to the gasoline-related compounds for which it was designed. Environmental Recovery Corporation (ERC), the current owner of the ACM property, allowed PADEP to collect split groundwater samples from the ACM wells on May 1, 2012. Chlorobenzene was observed at a maximum concentration of 182 µg/L and chrysene was observed at a maximum concentration of 3.05 µg/L during this most recent groundwater sampling event.

The concentrations of chlorobenzene and chrysene seen in groundwater are below EPA's screening levels for the vapor intrusion pathway; however, benzene and chlorobenzene were found above the PADEP non-residential volatilization to indoor air soil screening levels of 13 mg/kg and 0.63 mg/kg, respectively. Since EPA does not rely on soil data to predict indoor air

intrusion, a round of indoor air/sub-slab soil gas sampling was completed in October 2011 by WSP Environment & Energy, a contractor for Federal-Mogul. The sampling effort confirmed that the indoor air quality within the Facility building is not being impacted by the subsurface soil contamination.

V. Corrective Action Objectives

EPA's Corrective Action Objectives for the Facility are the following:

1. Soils

Federal-Mogul has demonstrated that soil contamination levels at its Facility do not pose unacceptable risk to non-residential occupants. EPA's Corrective Action Objective for Facility soils is to prohibit residential use of the property by current and future owners.

2. Groundwater

The Corrective Action Objective for Facility groundwater is to prohibit use of the groundwater for drinking and agricultural purposes.

V. Proposed Decision

EPA's proposed decision for the former Federal-Mogul Corporation Facility is compliance with and maintenance of institutional controls.

Institutional Controls

Institutional Controls (ICs) are non-engineered instruments such as administrative and/or legal controls that minimize the potential for human exposure to contamination and/or protect the integrity of the remedy by limiting land or resource use. Under this proposed decision, arsenic remains in the soil at the Facility above levels appropriate for residential use, and chlorobenzene remains in groundwater above levels appropriate for non-residential use. Because contaminants remain in the soil and groundwater at the Facility at levels which exceed residential use, EPA's proposed decision requires the compliance with and maintenance of land and groundwater use restrictions.

Because arsenic will remain in Facility soils above levels appropriate for residential uses, under this proposed remedy compliance with institutional controls to restrict the Facility to non-residential uses is required. This restriction is already present in the Facility's current property deed dated August 1, 2005 and will be established in a permit, order or Environmental Covenant entered into pursuant to the Pennsylvania Uniform Environmental Covenants Act, Title 27, Chapter 65, Sections 6501-6517 of the Pennsylvania Code. If the mechanism is to be an Environmental Covenant, the document will be recorded with the Clerk's Office of Lancaster County, Pennsylvania, and a clerk-stamped copy will be sent to EPA and PADEP within sixty (60) calendar days of recordation.

To address exceedances of the soil to groundwater SHSs for chlorobenzene and benzene as well as the non-residential groundwater SHS for barium and chrysene, the August 1, 2005 property deed restricts the use of groundwater for any drinking or agricultural purpose at the Facility. Subsequent to the recording of the deed, PADEP designated the City of Lancaster with non-use aquifer status on November 20, 2007. With this designation, groundwater derived from wells or springs for drinking or agricultural purposes is prohibited within the city limits. Manheim Township, located across the street from the Facility, is not a designated non-use aquifer area, but it does have an ordinance in place requiring property owners to connect to the public water system and there are no potable wells located within ¾ miles of the Facility. Combined, these institutional controls prevent exposure to groundwater that has been impacted by the Facility. If EPA determines that additional institutional controls or other corrective actions are necessary to protect human health or the environment, EPA has the authority to require and enforce such additional corrective actions through an enforceable mechanism which may include an order, permit or Environmental Covenant.

VI. Evaluation of EPA's Proposed Decision

This section provides a description of the criteria EPA used to evaluate the proposed decision 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 to determine which proposed decision alternative provides the best relative combination of attributes.

A. Threshold Criteria

1. Protect Human Health and the Environment

With respect to Facility soils, constituents including chlorobenzene and benzene were detected in samples from at least one location at concentrations above PADEP's soil to groundwater MSCs. However, groundwater is not used for any purpose in the site vicinity, all properties in the site vicinity are connected to the City of Lancaster's public water system, and PADEP has designated the City of Lancaster as a non-use aquifer. The City of Lancaster obtains its water supply from the Susquehanna and Conestoga Rivers, neither of which is impacted by historic Facility operations. Chlorobenzene and benzene were not observed at concentrations above PADEP's residential soil direct contact MSCs. Arsenic was the only contaminant observed at the Facility at a concentration above its residential soil direct contact MSC. This contaminant met the non-residential soil direct contact MSC and also fell within EPA's allowable target risk range for non-residential soil. Institutional controls are in place and will be made more reliable by their inclusion in an Environmental Covenant, permit or order to assure that the property remains non-residential unless additional remediation that would allow for a change in land use designation occurs.

With respect to groundwater, chrysene and barium were detected at concentrations exceeding PADEP's non-residential used aquifer MSCs in grab groundwater samples collected during the January 2000 Site Characterization. These contaminants were not seen at elevated concentrations during the four rounds of groundwater sampling from four shallow aquifer monitoring wells that were part of the Supplemental Site Characterization. Chlorobenzene and

chrysene have been observed in groundwater off-site at the neighboring ACM Co. property at concentrations above their respective MSCs. However, as stated above, the non-use aquifer designation for the City of Lancaster and the Manheim Township ordinance requiring connection to the public water supply ensures that the groundwater pathway is incomplete. The concentrations of chlorobenzene and chrysene have been decreasing over time and lack the strength to be of indoor air vapor intrusion concern.

2. Achieve Media Cleanup Objectives

The Facility has achieved the non-residential Statewide Health Standards (SHSs) for direct contact of soils and the site-specific standard for groundwater. Both of these standards meet EPA risk guidelines for human health and the environment at the Facility. EPA's proposed decision requires the implementation and maintenance of institutional controls to ensure that the Facility property is not used for residential purposes and groundwater beneath the Facility property is not used for any purpose.

3. Remediating the Source of Releases

In all proposed decisions, EPA seeks to eliminate or reduce further releases of hazardous wastes or hazardous constituents that may pose a threat to human health and the environment. As shown in the June 2004 RIFR, the Facility met this objective by removing or closing in place ten USTs used to store fuel oil, cutting oil and solvents. In 1999 a small area south of the West Building containing petroleum-contaminated soils was excavated and removed from the Facility. There are no remaining large, discrete sources of waste from which constituents would be released to the environment. Therefore, EPA has determined that this criterion has been met.

B. Balancing/Evaluation Criteria

1. Long-Term Effectiveness

The proposed ICs will maintain protection of human health and the environment over time by controlling exposure to the hazardous constituents remaining in soils and groundwater. EPA's proposed decision requires the compliance with and maintenance of land use and groundwater use restrictions at the Facility. The ICs are already in place via property deed restrictions, the City of Lancaster non-use aquifer designation, and the Manheim Township ordinance requiring connection to the public water supply, but EPA anticipates that the land use restrictions will also be implemented through permit, order or environmental covenant to be recorded in the chain of title for the Facility property. If the mechanism is to be an environmental covenant, the environmental covenant will run with the land and as such, will be enforceable by EPA and the State against future land owners.

2. Reduction of Toxicity, Mobility, or Volume of the Hazardous Constituents

The reduction of toxicity, mobility and volume of hazardous constituents at the Facility has already been achieved by removal of the above ground storage tank and removal or closure in place of all USTs at the Facility. The volume of hazardous constituents was further reduced with the excavation of petroleum-contaminated soils south of the West Building located at the Facility.

3. Short-Term Effectiveness

EPA's proposed decision does not involve any activities, such as construction or excavation, that would pose short-term risks workers, residents, and the environment. In addition, EPA anticipates that the land use and/or groundwater use restrictions will be fully implemented shortly after the issuance of the Final Decision and Response to Comments.

4. Implementability

EPA's proposed decision is readily implementable. EPA does not anticipate any regulatory constraints in requiring Garfield Center, LLC to record an environmental covenant in the chain of title for the Facility property. EPA also does not anticipate significant constraints in issuing a permit or order.

5. Cost

EPA's proposed decision is cost effective. The cost to record an environmental covenant with the deed to the Facility property is minimal. Likewise, the costs associated with the issuance of permits and orders are also minimal.

6. Community Acceptance

EPA will evaluate community acceptance of the proposed decision during the public comment period and will be described in the Final Decision and Response to Comments.

7. State/Support Agency Acceptance

EPA will evaluate State acceptance based on comments received from PADEP during the public comment period and will be described in the Final Decision and Response to Comments.

VII. Environmental Indicators

EPA sets national goals to measure progress toward meeting the nation's major environmental goals. For Corrective Action, EPA evaluates two key environmental indicators for each facility: (1) current human exposures under control and (2) migration of contaminated groundwater under control. The EPA has determined that the Facility met these indicators on January 25, 2012 and February 7, 2012, respectively.

VIII. Financial Assurance

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

IX. Public Participation

Before EPA makes a final decision on its proposal for the Facility, the public may participate in the decision selection process by reviewing this SB and documents contained in the Administrative Record (AR) for the Facility. The AR contains all information considered by EPA in reaching this proposed decision. It is available for public review during normal business hours at:

U.S. EPA Region III
1650 Arch Street
Philadelphia, PA 19103
Contact: Andrew Clibanoff
Phone: (215) 814-3391
Fax: (215) 814-3013
Email: clibanoff.andrew@epa.gov

Interested parties are encouraged to review the AR and comment on EPA's proposed decision. The public comment period will last thirty (30) calendar days from the date that notice is published in a local newspaper. You may submit comments by mail, fax, or e-mail to Andrew Clibanoff. EPA will hold a public meeting to discuss this proposed decision upon request. Requests for a public meeting should be made to Andrew Clibanoff.

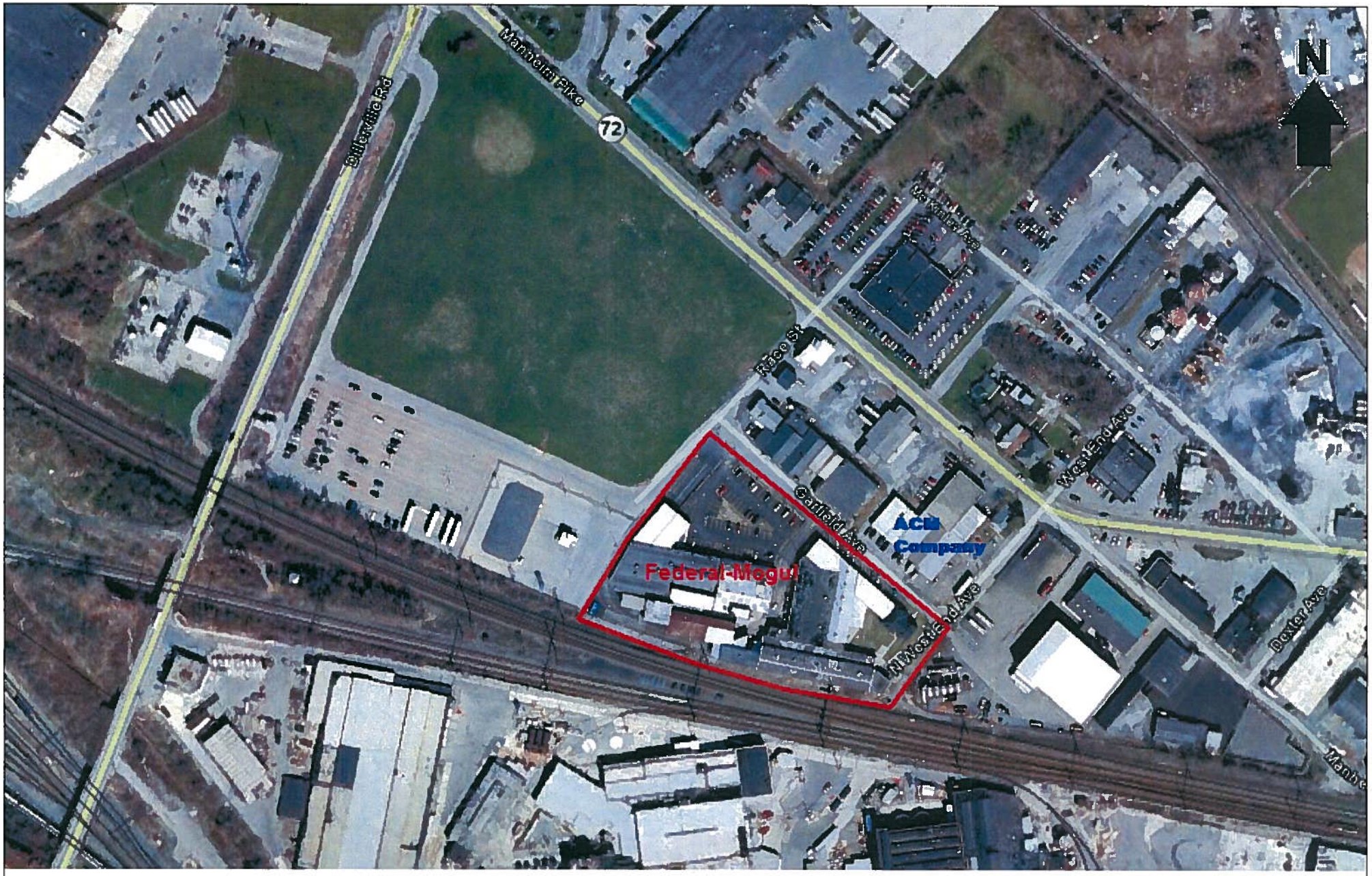
EPA will respond to all relevant comments received during the comment period. If EPA determines that new information warrants a modification to the proposed decision, EPA will modify the proposed decision or select other alternatives based on such new information and/or public comments. EPA will announce its final decision and explain the rationale for any changes in a document entitled the Final Decision and Response to Comments (FDRTC). All persons who comment on this proposed decision will receive a copy of the FDRTC. Others may obtain a copy by contacting Andrew Clibanoff at the address listed above.

Date: 6/8/12

Abraham Ferdas, Director
Land and Chemicals Division
US EPA, Region III

Figure 1 - Location Map of the Facility

Attachment 1 - Index to the Administrative Record



EPA Statement of Basis	**Former Federal-Mogul Facility** **Lancaster, PA**	**Figure 1** **Site Location Map**

ATTACHMENT ONE

INDEX TO THE ADMINISTRATIVE RECORD
FORMER FEDERAL-MOGUL CORPORATION FACILITY

The following documents constitute the Administrative Record for the Former Federal-Mogul Corporation Facility and were utilized to support the proposed remedy contained in the Statement of Basis. If you are unable to locate any of the documents listed below, please contact Andrew Clibanoff, Project Manager, USEPA Region 3 at 215-814-3391 or clibanoff.andrew@epa.gov.

1. Connection to Water System of Municipal Authority, Chapter 3, Article A, Mannheim Township, PA, Section 11-3001 to 11-303, May 12, 1986.

2. Environmental Priorities Initiative Preliminary Assessment of Federal-Mogul Corporation, prepared by NUS Corporation, September 20, 1989.

3. Phase I Environmental Site Assessment, Federal-Mogul Corporation, prepared by Montgomery Watson, December 18, 1997.

4. Facility Cleanup Report, Federal-Mogul Corporation, prepared by Montgomery Watson, July 1999.

5. Site Characterization Report for the Federal-Mogul Facility, Lancaster, Pennsylvania, prepared by Environmental Strategies Corporation, April 14, 2000.

6. Correspondence from Kimberly Yepremian, Geologist, GCI Environmental Services, to Steve Shank, PADEP, Subject: Groundwater Contamination on ACM Company property, April 17, 2003.

7. Correspondence from Kimberly Yepremian, Geologist, GCI Environmental Services, to Cherie Campbell, PADEP, Subject: ACM Company Update Report, May 11, 2004.

8. Remedial Investigation and Final Report, Federal-Mogul Corporation, prepared by Environmental Strategies Consulting LLC, June 21, 2004.

9. Correspondence from Anthony Rathfon, Manager, Environmental Cleanup Program, PADEP, to Roger Strelow, Federal-Mogul Corporation, Subject: Act 2 Final Report Approval, August 30, 2004.

10. Correspondence from Don Hess, Law Offices of Gibbel, Kraybill & Hess, to Stephen Shank, Hydrogeologist, PADEP, Subject: August 1, 2005 Property Conveyance from Federal-Mogul to Garfield Center, LLC, August 4, 2005.

11. Correspondence from Kathleen Horvath, Section Chief, Environmental Cleanup Program, PADEP, to Douglas Beck, Department of Public Works, City of Lancaster, Subject: Areawide Non-Use Aquifer Designation, November 20, 2007.

12. Correspondence from Timothy Saylor, RETTEW, to Kathleen Horvath, Section Chief, Environmental Cleanup Program, PADEP, Subject: Post-Remediation Care Plan Report for the Former Federal-Mogul Corporation Property, August 13, 2008.

13. Correspondence from Russell Pellegrino, Technical Director, Centek Laboratories, LLC, to Michael Riggins, WSP Environment & Energy LLC, Subject: Analytical Report, November 8, 2011.

14. Correspondence from E. Michael Riggins, WSP Environment & Energy LLC, to Andrew Clibanoff, USEPA, Subject: Indoor Air and Sub-Slab Vapor Report of Findings, December 16, 2011.

15. Remedial Action Progress Report, First Quarter 2012, ACM Company, Lancaster, Pennsylvania, prepared by GCI Environmental Services, March 29, 2012.

16. Correspondence from Charlene Sauls, Licensed Professional Geologist, Waste Management Program, PADEP, to Peter Haiges, Vice President of Operations, Environmental Recovery Corporation, Subject: Groundwater Analytical Results, June 7, 2012.