



UNITED STATES
ENVIRONMENTAL PROTECTION AGENCY
REGION III

STATEMENT OF BASIS

TRINITY INDUSTRIES SOUTH PLANT
100 YORK STREET

GREENVILLE, PENNSYLVANIA

EPA ID NO. PAD004342556

Prepared by
RCRA Corrective Action Branch 2
Land, Chemicals, and Redevelopment Division
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List of Acronyms

AR	Administrative Record
EI	Environmental Indicator
EPA	Environmental Protection Agency
MCL	Maximum Contaminant Level
PADEP	Pennsylvania Department of Environmental Protection
PCB	Poly-Chlorinated Biphenyl
PRCP	Post-Remediation Care Plan
RCRA	Resource Conservation and Recovery Act
RSL	Regional Screening Level
SB	Statement of Basis
SVOC	Semi-Volatile Organic Compound
TCLP	Toxicity Characteristic Leaching Procedure
VOC	Volatile Organic Compound

Section 1: Introduction

The United States Environmental Protection Agency (EPA) has prepared this Statement of Basis (SB) to solicit public comment on its proposed remedy for the Trinity Industries South Plant facility located in Greenville, Pennsylvania (Facility). EPA's proposed remedy for the Facility consists of the implementation of land and groundwater use restrictions. 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. §§ 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 thirty (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 (Final Decision) 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 <https://www.epa.gov/hwcorrectiveactionsites>. 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, below, for information on how you may review the AR.

Section 2: Facility Background

The Facility is located at 100 York Street in Greenville, Pennsylvania 16125. It occupies approximately 53 acres and is surrounded by residential properties to the north and east, industrial properties to the north and west, and undeveloped property to the south. The Shenango River lies less than ¼ mile west of the Facility, and Mathay Run, which runs along the eastern border of the Facility, discharges to the Shenango River approximately ½ mile south of the Facility. A location map and Facility layout are attached as Figures 1 and 2, respectively.

In 1911, the Chicago Bridge & Iron Company began manufacturing large water tanks and other equipment for the railroad industry at the Facility. In 1989, Trinity Industries (Trinity) purchased the Facility and used it to manufacture rail cars until 2000, when operations ceased. The Facility is currently inactive, with remaining workers providing security and general building/site maintenance.

Section 3: Summary of Environmental Investigations

For all environmental investigations conducted at the Facility, 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 if there was no MCL for a contaminant, EPA Regional Screening Levels (RSLs) for tapwater were used. Soil concentrations were screened against EPA RSLs for industrial soil.

Environmental investigation of the Facility began in the early 2000s. In March 2010, Trinity submitted a revised Remedial Investigation (RI) Report to PADEP. Investigation activities included installing and sampling over 100 soil borings and over 30 test pits; sampling surface water and sediment from drainage ditches, Mathay Run, and the Old Erie Extension Canal; and sampling 15 groundwater monitoring wells.

Primary contaminants included lead in soil and manganese in groundwater, with some volatile and semi-volatile organic compounds (VOCs and SVOCs, respectively), pesticides, and other metals exceeding Pennsylvania's Land Recycling Program (Act 2) non-residential standards in soil and groundwater in limited areas of the Facility. No surface water samples exceeded applicable Pennsylvania Surface Water Quality Criteria. Some SVOCs, pesticides, and metals exceeded the EPA Region 3 Biological Technical Assessment Group's Freshwater Sediment Benchmarks; however, the highest contaminant concentrations were from samples collected upstream of the Facility, which suggests that the Facility is not the source of this sediment contamination.

A preliminary qualitative risk assessment was also developed as part of the RI Report, including a conceptual site model and exposure pathway evaluation. Primary potential contaminant transport mechanisms included wind/water erosion of surface soil, intrusive activities into surface and subsurface soil, dissolution of soil contaminants into groundwater, downgradient groundwater flow, and volatilization of contaminants into indoor/outdoor air. Workers and trespassers could potentially be exposed to contaminated soil, and workers could also be exposed to indoor vapors that volatilized from soil and/or groundwater contamination. Human and ecological exposures to contaminated sediment were also considered, as well as consumption of contaminated groundwater. However, because the Facility was inoperative, worker exposures were not expected to be significant, and because no groundwater users between the Facility and the Shenango River exist, the groundwater pathway was also deemed incomplete. PADEP approved the RI Report in March 2010.

PADEP's consultant conducted an Environmental Indicator inspection at the Facility in November 2008 and submitted a report (EI Report) in September 2010 that detailed the regulatory history of the Facility, identified 23 areas of concern, and summarized the investigations and remedial actions to date. The EI Report also evaluated exposure pathways to contamination at the Facility. Vapor intrusion into indoor air was deemed an incomplete exposure pathway because only one VOC (benzene) had a single detection in groundwater just above its MCL, and no other VOCs exceeded applicable Act 2 soil-to-groundwater standards in

soil. Further characterization and delineation of contaminated groundwater and surface water/sediment were recommended because of potentially complete exposure pathways from unrestricted groundwater use in the area and evidence of trespassing and/or hunting near Mathay Run. In addition, some surface water and sediment samples exceeded applicable Act 2 ecological standards for metals. Major areas of contaminated soil were also identified where direct contact exposures and/or erosion of non-capped areas due to wind or runoff could occur.

Trinity submitted a Cleanup Plan under Act 2 to PADEP in February 2013 that detailed the selected cleanup standards and response actions to be implemented in various areas of the Facility to reach attainment of Act 2 remediation standards. PADEP approved the Cleanup Plan in May 2013. Pursuant to the Cleanup Plan, Trinity met Act 2’s site-specific standard of pathway elimination through a combination of excavating contaminated soil and capping areas unable to be excavated. Lead- and VOC-impacted areas were excavated to the water table (around 4 to 8 feet below ground surface) and backfilled with clean fill. Lead-impacted areas within former disposal areas that exceeded the Toxicity Characteristic Leaching Procedure (TCLP) threshold were also excavated, and the former disposal areas were capped and restricted via engineering and institutional controls. For groundwater, a background standard for manganese and arsenic was developed; Act 2’s residential used aquifer standards were met for all other groundwater contaminants. A Post-Remediation Care Plan (PRCP) was also developed to prohibit use of overburden groundwater and any excavation in the former disposal areas. New fencing, signage, and access roads around the former disposal areas were also installed, and an operations and maintenance plan was developed that included inspection, maintenance, and repair activities for the cap system; a stormwater management system; perimeter fencing; and access roads.

In December 2020, Trinity submitted a Final Report to PADEP that documented the soil and groundwater cleanup activities at the Facility and demonstrated attainment of the selected cleanup standards for soil and groundwater. Between May 2014 and September 2015, approximately 12,500 tons of lead- and VOC-impacted soil were excavated and disposed off-site and approximately 109,200 tons of soil were capped on-site. Confirmation samples (see Table 1 below) were taken at excavation floors and sidewalls to demonstrate that contaminated soils had been removed to Act 2’s Statewide Health Standards in impacted areas, and the site-specific standard of pathway elimination and not exceeding the TCLP threshold in the former disposal areas. During the soil cleanup, previously unidentified poly-chlorinated biphenyl (PCB) impacts were discovered and addressed under a risk-based PCB cleanup plan approved by EPA. Under the EPA-approved cleanup plan, PCB-impacted areas were capped in place with 18 inches of dense-graded aggregate and a 6-inch concrete cap after removing two feet of impacted soil.

Table 1: Maximum Exceedances in Confirmation Soil Samples, mg/kg

Contaminant	Industrial Soil RSL	Maximum Exceedance	Location of Maximum*	Fraction of Samples Exceeding RSL
Arsenic	3	74.6	IA1C-S10 6-8’	598/679 (88%)
Lead	800	74,500	IA1F-W01 2’	16/679 (2%)
Mercury	46	59	IA1M-S04 6-8’	1/679 (0.1%)
Benzo(a)pyrene	2.1	12.2	IA1F-PA-S12 4-6’	7/148 (5%)
Naphthalene	8.6	329	IA1F-PA-S09 2-4’	3/148 (2%)

1,2,4-Trimethylbenzene	1800	3210	IA1F-PA-S09 2-4'	2/148 (1%)
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* All locations of maximum contaminant concentrations are underneath caps.

Groundwater activities documented in the Final Report included 14 rounds of quarterly groundwater monitoring (2015-2018); see Table 2 below for exceedances from final sampling event. A statistical analysis and additional fate and transport monitoring were conducted to determine if some contaminants represented background conditions. The statistical analysis of the 14 rounds of groundwater monitoring results demonstrated that all wells with arsenic and manganese exceedances were similar to background conditions except for MW-S1R and MW-S11; however, both of these wells are near wetland areas along Mathay Run that contribute to reducing conditions, which typically result in higher levels of dissolved metals in groundwater. Additionally, seasonal patterns in the concentrations of dissolved metals were apparent. Therefore, elevated metals concentrations in groundwater beneath the Facility were determined to be a result of natural conditions and not a release from the Facility, and the fate and transport modeling suggested that there were no potential impacts to surface water from diffuse groundwater discharges.

Table 2: Maximum Exceedances in Final (July 2018) Groundwater Monitoring Event, ug/L

Contaminant	MCL	Maximum Exceedance	Location of Maximum	Fraction of Samples Exceeding MCL
Arsenic	10	13.8	MW-S3	1/14 (7%)
Iron	14,000*	25,800	MW-S1R	4/14 (29%)
Manganese	430*	2540	MW-S11	8/14 (57%)

*Tapwater RSL, as MCL does not exist

The Final Report also included a Residual Risk Assessment that detailed human health and ecological risk screenings. The human health assessment evaluated potential exposures to remaining soil and groundwater contamination via ingestion, dermal contact, and inhalation by five identified receptors (future construction workers, future maintenance workers, current on-site workers, trespassers, and off-site residents). Risk estimates for each receptor were below 10^{-6} (one in one million) for cancer risks and below 1 for systemic risks, meeting EPA's acceptable risk levels of less than 10^{-4} for total cancer risks and a hazard index below 1 for total systemic risks. A 2018 ecological assessment included a search of the Pennsylvania Natural Diversity Index, as well as responses from the Pennsylvania Fish and Boat Commission and the U.S. Fish and Wildlife Service. Based on the conclusions from these efforts, no additional ecological impacts were expected to occur at the Facility. PADEP approved the Final Report in March 2021.

Section 4: Corrective Action Objectives

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

Soils

Soil contamination remains within certain areas of the Facility; however, no significant exposure to remaining soil contamination occurs because remaining contamination exists in the subsurface beneath protective caps. Therefore, EPA's Corrective Action Objectives for soil are to:

- Control industrial and construction worker exposures to soil where contaminant concentrations remain above Industrial Soil RSLs; and
- Prevent residential exposures to soil where contaminant concentrations exceed Resident Soil RSLs.

Groundwater

EPA expects final remedies to return usable groundwater to its maximum beneficial use within a timeframe that is reasonable given the site-specific conditions. 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 for contaminants for which there are no applicable MCLs, to Tapwater RSLs.

Fate and transport modeling and statistical analysis of groundwater monitoring at the Facility have demonstrated that existing groundwater contamination is a result of natural conditions and not a release from the Facility. Nonetheless, because some contaminant concentrations remain in the groundwater beneath the Facility above their respective MCLs or Tapwater RSLs, EPA's Corrective Action Objective for Facility groundwater is to:

- Prohibit the use of the groundwater for potable purposes.

Section 5: Proposed Remedy

Soils

EPA's proposed remedy for Facility soils consists of the following components:

- 1) The Facility property shall be restricted to commercial and/or industrial purposes and shall not be used for residential purposes unless it is demonstrated to EPA that such use will not pose a threat to human health or the environment or adversely affect or interfere with the final remedy, and EPA provides prior written approval for such use; and
- 2) The Facility owner shall maintain the protective caps and/or structures overlying areas of remaining soil contamination as depicted on Figure 2 in accordance with the PADEP-approved December 2020 Operation and Maintenance Plan, or as approved by EPA.

Groundwater

EPA's proposed remedy for Facility groundwater consists of the following component:

- 1) Groundwater shall not be used for potable purposes unless it is demonstrated to EPA that
 - a) such use will not pose a threat to human health or the environment or adversely affect or interfere with the final remedy selected by EPA, and
 - b) EPA provides prior written approval for such use.

Implementation

EPA proposes that the final remedy be implemented through an enforceable mechanism such as a permit, order, or an Environmental Covenant. If an Environmental Covenant is selected as the enforceable mechanism, it will be recorded in the chain of title for the property pursuant to the Pennsylvania Uniform Environmental Covenants Act, 27 Pa. C.S. §§ 6501 et seq.

Metes and Bounds Survey

EPA will require the Facility owner to include a coordinate and metes and bounds survey of the Facility boundary in the enforceable mechanism which implements the final remedy. At a minimum, the coordinate survey would be in a form amenable to publicly accessible mapping programs (e.g., Google Earth[®] or Google Maps[®]) and include boundaries of each area under a use restriction defined as polygons using the World Geodetic System (WGS) 1984 datum, with the latitude and longitude of each polygon vertex in decimal degrees format to at least seven decimal places and a negative sign used for west longitude.

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	This criterion is met without additional active remedial actions. Remaining soil contamination is covered by protective caps. There is no current potable use of groundwater, and the groundwater contamination is stable and not affecting potential receptors. The proposed remedy will continue to protect human health and the environment by limiting exposures to remaining contamination. Land and groundwater use restrictions will prohibit future uses that would pose an unacceptable risk via an environmental covenant or other administrative mechanism.
2) Achieve media cleanup objectives	EPA's proposed remedy meets the media cleanup objectives based on current and reasonably anticipated land and groundwater use. The Facility property will not be used for residential purposes, and groundwater will not be used for potable purposes. In addition, the proposed remedy addresses human and environmental exposures stemming from non-residential use. Industrial RSLs in soil have been met throughout the Facility except underneath protective caps as shown in Figure 2. Maintenance of the protective caps will ensure that no exposures to this subsurface contamination occur.
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 has met this objective, to the extent feasible, by excavating over 12,000 tons of contaminated soil and placing protective caps over remaining areas of soil contamination that were unable to be excavated. Therefore, EPA has determined that this criterion has been met.

Balancing Criteria	Evaluation
4) Long-term effectiveness	The proposed controls will maintain protection of human health and the environment over time by controlling exposure to contaminated soils and groundwater. EPA's proposed

	remedy requires the compliance with and maintenance of land use and groundwater use restrictions. EPA anticipates that these restrictions will be implemented through an enforceable permit, order, or an environmental covenant to be recorded with the Facility property records. The long-term effectiveness of the proposed remedy for the Facility will be maintained by the implementation of such restrictions.
5) Reduction of toxicity, mobility, or volume of the Hazardous Constituents	The reduction of toxicity and volume of the volatile contaminants remaining in soil beneath the Facility has occurred largely through excavation and removal of over 12,000 tons of contaminated soil. Although the mobility of existing groundwater contamination varies seasonally, statistical and fate and transport analyses of groundwater contamination has demonstrated that this is a natural process within this area and not a result of a release from the Facility.
6) Short-term effectiveness	EPA's proposed remedy does not involve any activities such as construction or excavation that would pose short-term risks to workers, residents, and/or the environment. EPA anticipates that the land and groundwater use restrictions will be fully implemented shortly after issuing the Final Decision.
7) Implementability	EPA's proposed remedy is readily implementable. EPA proposes to implement the land and groundwater use restrictions through an enforceable mechanism such as an Environmental Covenant, permit or order.
8) Cost	EPA's proposed remedy is cost effective. Most of the costs associated with this proposed remedy have already been incurred and the remaining costs to implement an enforceable mechanism for the land and groundwater use restrictions should be minimal.
9) Community Acceptance	EPA will evaluate community acceptance of the proposed remedy during the public comment period, and it will be described in the Final Decision.
10) State/Support Agency Acceptance	EPA will evaluate state acceptance of the proposed remedy during the public comment period, and it will be described in the Final Decision.

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

Section 7: Financial Assurance

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 or groundwater contamination at this time, and given that the costs of implementing the necessary controls at the Facility will be minimal (less than \$5,000 annually), EPA is proposing that no financial assurance is required.

Section 8: Public Participation

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

A public meeting may be held upon request. Requests for a public meeting should be submitted to Mr. Miller in writing at the contact information listed below. A meeting will not be scheduled unless one is requested. If EPA receives a request for a public meeting, EPA will assess how to hold such a meeting given current public health concerns.

The AR contains all the information considered by EPA for the proposed remedy at this Facility. The AR is available at the following location:

U.S. EPA Region III
1650 Arch Street
Philadelphia, PA 19103
Contact: Mr. Griff Miller (3LD20)
Phone: (215) 814-3407
Fax: (215) 814-3113
Email: miller.griff@epa.gov

Attachments:

Figure 1: Location Map

Figure 2: Facility Diagram

Date: _____

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

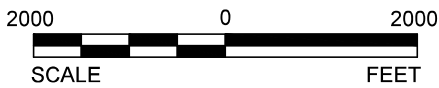
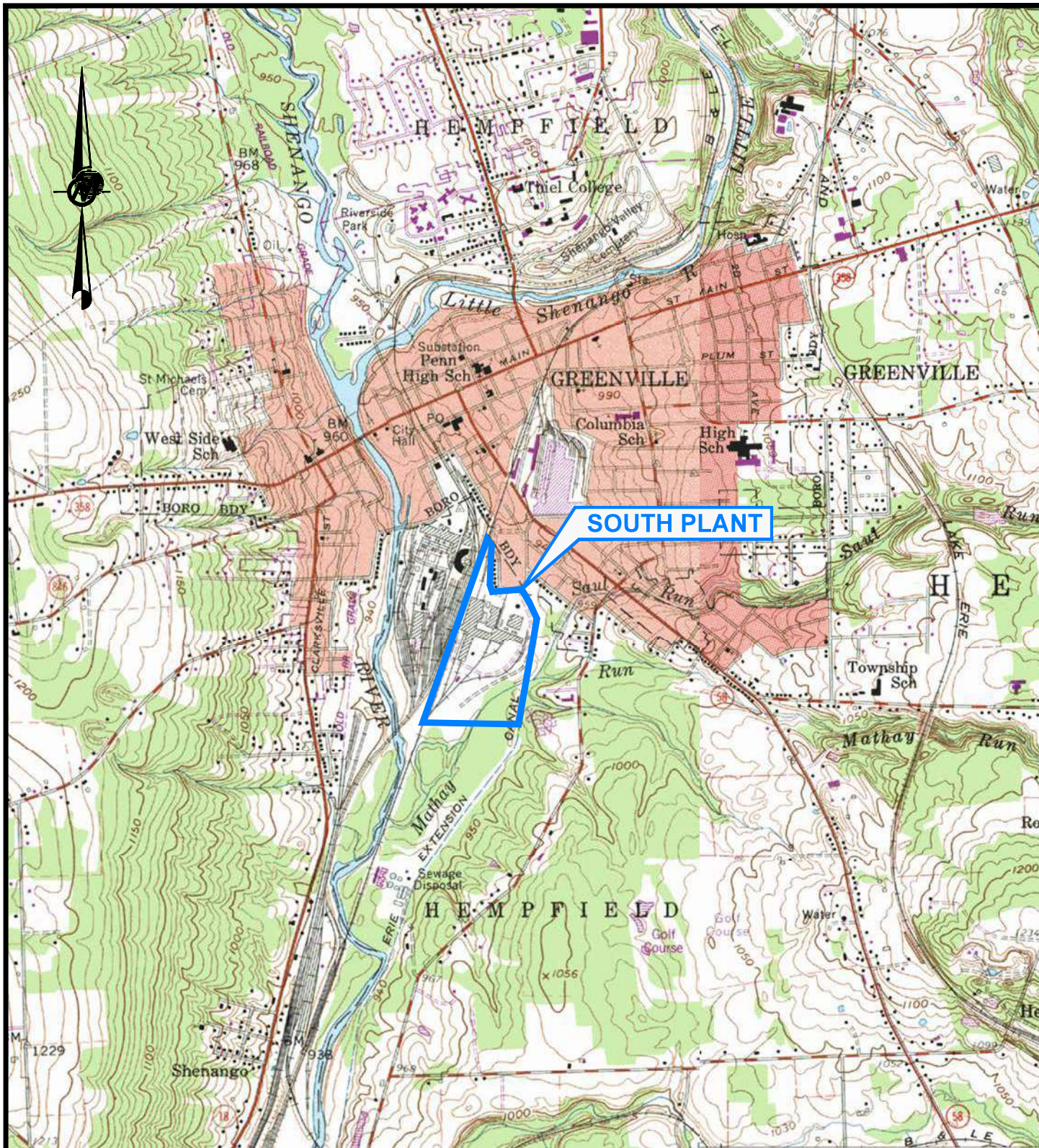
Section 9: Index to Administrative Record

Revised Remedial Investigation Report – South Plant Trinity Industries, prepared by Golder Associates, March 2010.

Environmental Indicator Inspection Report for Trinity Industries, prepared by Baker, September 2010.

Revised Cleanup Plan South Plant Site Trinity Industries, prepared by Golder Associates, February 2013.

Final Report for Soil and Groundwater Cleanup Activities – Trinity South Plant Site, prepared by Golder Associates, December 2020.



REFERENCE

1.) BASE MAP TAKEN FROM USGS 7.5 MINUTE SERIES QUADRANGLES OF GREENVILLE WEST AND GREENVILLE EAST, DATED 1958, PHOTOREVISED IN 1990 AND 1970 RESPECTIVELY.

REV	DATE	DES	REVISION DESCRIPTION	CADD	CHK	RWW

PROJECT: FINAL REPORT - SOUTH PLANT
TRINITY INDUSTRIES, INC.
HEMPFIELD TOWNSHIP, PA

TITLE: SITE LOCATION MAP

PROJECT No. 073-0009		FILE No. 0736009AW01	
DESIGN	BJG	05/22/17	SCALE AS SHOWN
CADD	RG	05/22/17	REV. 0
CHECK	BJG	05/22/17	FIGURE 3-1
REVIEW	JBG	05/22/17	



