UNITED STATES
ENVIRONMENTAL PROTECTION AGENCY
REGION III

STATEMENT OF BASIS

FORMER CERRO METALS PRODUCTS PLANT

2022 AXEMANN ROAD
BELLEFONTE, PENNSYLVANIA

EPA ID NO. PAD086733540

Prepared by
Office of Pennsylvania Remediation
Land and Chemicals Division
July 2018

Table of Contents

List of Abbreviations and Acronyms

AOI	Areas of Interest
AR	Administrative Record
AWQC	Pennsylvania Ambient Water Quality Criteria
EC	Engineering Control
EI	Environmental Indicator
EPA	Environmental Protection Agency
FDRTC	Final Decision Response to Comments
GPRA	Government Performance and Results Act
IC	Institutional Control
$\mu g/m^3$	Micrograms per cubic meter
µg/L	Micrograms per liter
MCL	Maximum Contaminant Level
NPDES	National Pollutant Discharge Elimination System
PADEP	Pennsylvania Department of Environmental Protection
RCRA	Resource Conservation and Recovery Act
RSL	Regional Screening Level
SB	Statement of Basis
SHS	Statewide Health Standard(s)
SVOC	Semi-Volatile Organic Compound
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 former Cerro Metals Products (Cerro) facility located at 2022 Axemann Road, Bellefonte, Pennsylvania (hereafter known as "Cerro" or "Facility"). This SB highlights key information relied upon by EPA in making its proposed decision of Corrective Action Complete with Controls.

EPA's proposed remedy consists of maintaining the integrity of concrete slab floors of occupied buildings and asphalt capped parking lots. In addition, EPA's proposed remedy requires the implementation of land and groundwater-use restrictions through institutional controls (ICs). 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. EPA proposes to implement the final remedy for the Facility through anenvironmental covenant previously recorded pursuant to the Pennsylvania Uniform Environmental Covenant Act, 27 Pa C.S. Sections 6501-6517, (UECA) and recorded with the deed for the Facility.

The Facility is subject to the 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. Sections 6901 to 6992k. The Corrective Action Program is designed to ensure that certain facilities subject to RCRA have been investigated and that all releases of hazardous waste and hazardous constituents have been remediated. The Commonwealth of Pennsylvania (the Commonwealth) 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 (Final Decision) after the public comment period has ended.

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 9, Public Participation, for information on how you may review the AR. Information on the Corrective Action Program as well as a fact sheet for the Facility can be found by navigating through the EPA website https://www.epa.gov/hwcorrectiveactionsites/corrective-action-programs-around-nation#3.

Section 2: Facility Background

2.1 Introduction

The Cerro Facility consists of approximately 150 acres, 19 of which are occupied by the plant. The Cerro property (currently known as Titan Park) is depicted on Figure 1. The Facility characterization was conducted in multiple phases in order to define specific areas for remediation. As part of the characterization process, the Facility submitted the Notices of Intent to Remediate (NIR) documents in July of 2009 to address specific sites as defined by Pennsylvania Code. The characterizations resulted in the identification of six distinct areas of the plant: including the North Yard Area, the Plant 1 Area, the South Spring Area, the Plant 4 Area, the South Yard Area, and the Eastern Hillside Area (see Figure 1).

The Facility (with the exception of the Hillside tract) is bounded to the east by Axemann Road, and on the west by active railroad tracks. The Hillside tract is located on the hillside east of Axemann Road.

Historic operations at Cerro have included forging, machining, melting, casting, pickling, drawing, and the finishing of metals, specifically copper and brass. Cerro historically handled and stored various lubricants, oils, degreasers, sulfuric acid and hydrogen peroxide for operations conducted on the Facility. The manufacturing operations flowed in a southern to northern direction through the Facility buildings. Raw and scrap metals, which have included copper, zinc, lead, brass, and other alloying metals, were delivered to the South Yard before being deposited into Plant 4 where they were housed in the southern most section of Plant 4 to prevent contact with precipitation. The raw and scrap metals were melted in Plant 4 and turned into ingots. The ingots were extruded into various shapes and lengths within the middle section to northern section of Plant 4. The most northern section of Plant 4 consisted of areas to forge and finish the brass as well as storing the finished products. The northwestern section of Plant 4 was the shipping area for the finished product. The Eastern Hillside historically was undeveloped land and not utilized as part of the manufacturing operations. The South Spring Area historically contained administration buildings, parking, and a pond used for an emergency fire suppression system. The South Yard historically contained a bag house, scales, and parking and was utilized for receiving of raw materials. The North Yard consisted of the WWTP that treated pickling waste, and contact and non-contact water, with former degreaser and pickling vats used for storage during later years. The North Yard also contained the boiler house.

The Facility manufacturing history dates back to 1915 when the Bellefonte operations began operation as Alpha Metal Co. Shortly thereafter, the name was changed to Titan Metal Company and in 1925, the company was re-organized and the name changed to Titan Metal Manufacturing Company (Titan). Ownership of Titan passed to Consolidated Copper Mines Corporation in 1947, then to Cerro Corporation in 1959 and in 1962 was renamed Cerro Copper & Brass Company. In 1972, Cerro Copper & Brass Company was split into two divisions and the Cerro Metal Products Division of Cerro Corporation was headquartered in Bellefonte, PA. In 1976, Cerro Corporation merged with the Marmon Group, LLC and the Bellefonte, PA based

company was subsequently renamed the Cerro Metal Products Company. In February of 2007, the ownership of the Cerro, including the Bellefonte, PA manufacturing facility site was sold by Marmon to Bolton Metals of Aldrich Walsall, West Midlands, England and was renamed as Bolton Metal Products Company. On February 1, 2008, Bolton announced the closure of the Bellefonte brass rod manufacturing operation as well as the sale of its business and equipment to Chase Brass & Copper Co. Inc. located in Montpelier, OH. As part of the sale's agreement, Marmon Group, a Berkshire Hathaway Company, retained the environmental liability for the Facility.

The Facility remained inactive and was decommissioned until February of 2012, when a partnership, Navitus, LLC purchased the property and began the revitalization of the facility.

The Facility has been renamed Titan Energy Park, and as of January 1, 2014, was designated a Keystone Opportunity Expansion Zone (KEOZ) by the Pennsylvania Department of Community and Economic Development. Titan Energy Park has 5,000 to 500,000 square feet available in several buildings including office, industrial, and manufacturing space.

2.2 Areas of Investigation

Three areas of potential concern were identified in the 2010 Remedial Investigation Report (RIR) including:

(1) Plant 1 contains VOCs, primarily TCE, in both soil and groundwater along its northwestern portion
(2) Groundwater in the southern portion of Plant 4 contains a PCB-containing dense non-aqueous phase liquid (DNAPL) plume
(3) the North Yard contains VOCs, primarily Trichloroethylene (TCE) in both soil and groundwater

Section 3: Summary of Environmental Investigations

3.1 Environmental Investigations

The Facility characterization was conducted in multiple phases in order to define and prioritize specific areas for remediation. As part of the characterization process, Cerro submitted revised Notice of Intent to Remediate (NIR) documents in July of 2009 to address specific sites as defined in PA Code, Title 25, Chapter §250.1. The investigations were completed pursuant to PADEP's Land Recycling program (Act 2) and sampling results were compared to Act 2 Statewide Health Standards (SHSs) otherwise known as Medium Specific Concentrations (MSCs). Unless otherwise noted, PADEP's MSCs for a used-aquifer are equivalent to EPA's MCLs for individual contaminants in groundwater; and PADEPs MSCs for residential and non-residential soils are equivalent to EPA Region III's RSLs for residential and industrial soils.

The last area's Act 2 Final report for the Cerro Facility was approved by PADEP on May

5, 2015. The Final Reports summarized the investigations and remedial actions undertaken at the Facility as described below. EPA has reviewed and agrees with the conclusions and recommendations in the Final Reports.

3.1.1 Plant 1

The characterization of the Plant 1 area of the Facility consisted of soil borings, groundwater monitoring well installation/sampling, soil vapor sampling, indoor air sampling, and surface water gauging/sampling. The field work for the characterization of groundwater beneath Plant 1 was initiated on July 21, 2007. A total of nine groundwater monitoring wells and one recovery well were installed in the Plant 1 vicinity in order to characterize and remediate groundwater. The monitoring wells were located in areas where the soil samples reportedly contained elevated concentrations of contaminants of concern (COC), areas where former equipment was located, areas downgradient of the former equipment, and between the suspected source area and the likely receptor (Logan Branch). The overburden within Plant 1 ranged from five feet below ground surface (ft-bgs) to 20 ft-bgs. Groundwater samples from the monitoring wells were analyzed for VOCs, PCBs, and metals or a variation of these constituents depending on the location and suspected contaminant. The Facility characterization revealed soils and groundwater beneath the northwestern portion of Plant 1were impacted with VOCs.

3.1.2 Plant 4

The characterization of the Plant 4 area of the Facility consisted of soil borings, groundwater monitoring well installation/sampling, soil vapor sampling, and indoor air sampling. Contamination of the Plant 4 can be attributed to historic oil leakage from the hydraulic piston-pit of older melting furnaces (TAMAs), iron and copper slag and ash buried beneath a significant portion of Plant 4, and periodic use and spillage of industrial degreasers in historic manufacturing operations.

The field work for the characterization of groundwater beneath Plant 4 was initiated on July 21, 2007. A total of thirty-two groundwater monitoring wells. and three recovery wells were installed in the Plant 4 vicinity in order to characterize and remediate groundwater. The monitoring wells were located in areas where the soil samples reportedly contained elevated COC concentrations, areas where former equipment was located, areas downgradient of the former equipment, and between the suspected source area and the likely receptor (the Logan Branch). The overburden within Plant 4 ranged from five ft-bgs to 20 ft-bgs. Groundwater samples from the monitoring wells were analyzed for chlorinated solvents, aromatic hydrocarbons, hydraulic oil contaminated with PCBs, and metals or a variation of these constituents depending on the location and suspected contaminant.

The results from the July 10, 2012 PCB air/vapor and sub-slab evaluation were screened against the Regional Screening Level (RSL) Industrial Air Supporting(IAS) Table, and did not indicate exceedances of the RSL standards.

3.1.3 North Yard Plant

Thirty-one groundwater monitoring wells and four recovery wells were installed in the North Yard vicinity in order to characterize and remediate groundwater. The monitoring wells were located in areas where the soil samples reportedly contained elevated COC concentrations, areas where former equipment was located, areas downgradient of the former equipment, and between the suspected source area and the likely receptor (Logan Branch). The overburden within the North Yard ranged from 5 ft-bgs to 20 ft-bgs. Groundwater samples from the monitoring wells were analyzed for VOCs, PCBs, and metals or a variation of these constituents depending on the location and suspected contaminant. Seventeen groundwater gauging and sampling events were completed to determine the extent of contamination in groundwater.

The PADEP requires post-remedial monitoring as part of pursuing Facility closure using site-specific standards (SSS) via pathway elimination. A post-remedial quarterly gauging and sampling program was initiated for the North Yard on March 22, 2013 and was completed on October 7, 2014. Groundwater gauging and sampling were completed using the EPA Region 3 Low-Flow Sampling Procedure. The results of the quarterly gauging and sampling were summarized in quarterly reports which were submitted to the PADEP.

Section 4: Summary of Remedial Activities

4.1 Remedial Activities Completed

4.1.1 Plant 1

Early Interim remedial actions conducted in the Plant 1 area include a pump and treat (dewatering and filtration system) in the Die Cast Area starting in June of 1992. The system operated until March 2008 when the treatment plant was shut down.

After Facility characterization, 238.5 cubic yards of contaminated soil was excavated from the northern portion of Plant 1. Soil removed was contaminated with TCE, tetrachloroethylene (PCE), cis-1,2-dichloroethene, and vinyl chloride (VC). Confirmatory sampling showed that all post-excavation samples in the excavation area were below PADEP's MSC TCE value of 180 mg/kg for the 2-15 ft zone in a nonresidential scenario. The highest reading of TCE was 37.4 mg/kg in sample P1BS-3 taken at a depth of 4.5'. Non-residential, non-cancer RSL for HQ=1.0 is 19 mg/kg. After confirmatory sampling was complete, multiple injections of sodium persulfate (chemical oxidant) were injected during 2010 and 2011 to help remediate impacted groundwater. Prior to the last injection of persulfate, the monitoring wells for Plant 1 were sampled for VOCs. All results were below the Statewide Health Standards, and most results were non-detect. During the February 2014 sampling event one well showed an exceedance of the Statewide Health Standards, well SB-17B-s had a value of 224 µg/L, above the PADEP MSC of 5 µg/L for TCE. This appears have been an anomaly, because the next quarter TCE was observed at 1.01 µg/l at the same well location.

4.1.2 Plant 4

DNAPL in the form of PCB Arochlor 1248 was present in groundwater in an isolated area beneath the Plant 4 building in the area that housed the furnaces. Plant 4 had 3 recovery wells installed, pumped to recover DNAPL from the Facility, and then the wells were closed when pumping was no longer effective. Five 55-gallon drums of PCB contaminated DNAPL were recovered from the wells.

Soil Attainment at Plant 4 was demonstrated through sampling and comparison of concentrations to soil to the NR groundwater MSCs using the PADEP 75%/10X rule. This rule requires that 75% of the samples collected for demonstration attainment be equal to or below the risk-based cleanup standard and that no single sample result exceeds the risk-based standard by more than ten times. There were four soil samples that exceeded the hexavalent chromium standard. Lead was identified in five soil samples above its respective MSC values, mercury and silver in three soil samples, selenium in two soil samples, and zinc in two soil samples. There were a total of 93 metals soil samples collected at Plant 4. (See Final Report of Plant 4 for numerical results).

4.1.3 North Plant

A groundwater extraction and treatment system was installed to remove TCE from groundwater at the plant on July 12, 2011. The system was removed from service on March 1, 2013. TCE ISO-concentration Contour maps from October 2014 show TCE with a value of 300 µg/l in the well at the center of the North Plant area located in overburden. The TCE contamination drops to less than 5 µg/l within 50 ft. of the well, based on groundwater data.

4.2 Activity and Use Limitations for Plant 1, Plant 4, and the North Yard Plant.

Restricted areas (see Figure 1) are subject to the following use limitations per the Environmental Covenants.

1) The Facility is restricted to non-residential purposes as defined by the PADEP Act 2 regulations; and,
2) Groundwater underlying the area is restricted and may not be used as a potable water supply nor for agricultural purposes; and,
3) A soil handling plan that includes notification to PADEP shall be developed if soil within the restricted area will be disturbed; and,
4) The ground surface must remain sealed with an impermeable material such as concrete or asphalt; and,
5) By the end of every third January following approval of this Environmental Covenant, the current owner of the Facility shall submit, to PADEP, the EPA, and any Holder listed in paragraph 3 of the Covenant; written documentation stating whether or not the activity and use limitations in the Covenant are being abided by.

4.3 Environmental Indicators

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 (EIs) for each facility: (1) Current Human Exposures Under Control, and (2) Migration of Contaminated Groundwater Under Control. The Facility met the Human Health EI on September 28, 2017 and the Groundwater EI on September 29, 2017. The environmental indicator determinations are available at www.epa.gov/reg3wcmd/ca/pa.htm. The Facility is identified as the former Bolton Metal Products Facility on that website.

Section 5: Corrective Action Objectives

EPA's Corrective Action Objectives (CAO) for the specific environmental media at the Facility are the following:

1. Soils

EPA's CAO for soil is to prevent human exposure to contaminants found at concentrations above the EPA allowable risk range of $1x10^{-4}$ to $1x10^{-6}$ for an industrial-exposure scenario.

2. Indoor Air

EPA's CAO for Indoor Air is to prevent exposure to VOCs above EPA's Indoor Air Standard for TCE of 8.8 $\mu g/m^3$.

3. Groundwater

EPA expects final remedies to return usable groundwater to its maximum beneficial use. EPA has determined that maximum beneficial use of the Facility groundwater is for potable purposes. Therefore, EPA's CAO for Facility-wide groundwater is to achieve EPA's drinking water standard, otherwise known as MCLs, or the relevant tap water standards and to prevent exposure to contaminants while contaminant levels remain above drinking water standards.

Section 6: Proposed Remedy

A. Soils

EPA's proposed remedy for soils at the Facility is to require the continued compliance with and maintenance of the three existing Environmental Covenants issued by PADEP on 6/10/15, 1/24/13, and 7/21/15. The Covenants require the inspection and maintenance of the existing engineered cap and requires soil a handling plan to be developed prior to excavation. The Covenant also restricts land use to non-residential use. The engineered cap and land use restrictions eliminate the direct contact pathway to all surface soils where non-residential direct contact RSL's were exceeded. The Covenants require the owner to report annually in writing as to whether or not the activity and use limitations in the Covenant are being abided by.

B. Indoor Air

Releases have occurred to soil and groundwater, however, after soil removal and groundwater extraction and treatment, VOCs, SVOSs, and PCBs detected in indoor air were below risk based levels. EPA is not proposing any remedial actions for indoor air nor are any restrictions on non-residential use.

C. Groundwater

EPA's proposed remedy for groundwater at the Facility is compliance with the activity and use limitations (AULs) contained in the Environmental Covenants. The AULs will prohibit the use of groundwater beneath the Facility for potable, agricultural or commercial purposes. EPA has determined that these restrictions are necessary and sufficient to achieve EPA's Corrective Action Objectives.

EPA has concluded that remedial measures described in Section 4 have been successful. Groundwater monitoring data show that TCE levels reduced to < 5 µg/l in all wells except well RW-1, which is located in the middle of the facility. TCE concentration in the most recent sampling event was 300 µg/l. PADEP approved a request to terminate groundwater monitoring once 5 µg/l MCL levels are achieved in 6 out of 7 monitoring wells.

Section 7: 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 that meet the threshold criteria, EPA then evaluates seven balancing criteria.

Threshold Criteria	Evaluation
1) Protect human health and the environment	The primary human health and environmental threats posed by contaminated soils at the Facility were related to direct contact with those soils. Additional threats were related to the potential for migration of contamination in the soils via soil erosion, surface water run-off and leaching to the groundwater. The containment of metals-impacted soils within the constructed engineering cap provides a physical barrier that prevents direct contact, eliminates migration pathways through soil erosion, and eliminates percolation through the soil and fill material to groundwater. Therefore, the proposed remedy eliminates or minimizes threats to human health and the environment, provided that land and groundwater use restrictions and post remedial care are maintained.

2) Achieve media cleanup objectives	The cleanup objective at the Facility is to contain the hazardous wastes that remain in place and control exposure to those wastes in a non-residential land use scenario. The proposed remedy meets this objective through the containment of impacted soils within the three engineered caps and implementation and maintenance of land and groundwater use restrictions, and post-remedial care implemented through the three covenants.
3) Containing/Controlling the Source of Releases	Source control efforts described in Section 4 are complete and have reduced TCE to below MCL in 6 out of 7 wells. The capped areas provide a physical barrier that will continue to prevent direct contact, eliminate migration pathways through soil erosion, and limit percolation through the materials to groundwater. Future risks related to direct exposures will be limited by land and groundwater use restrictions, and post-remedial care implemented through use of a covenant. The capped areas can not be disturbed without a PADEP approved soil management plan.

Balancing Criteria	Evaluation
4) Long-term effectiveness	The proposed remedy will protect human health and the environment over time by controlling exposure to hazardous constituents remaining in soils and groundwater. EPA's proposed remedy requires the compliance with and maintenance of land use restrictions at the Facility, which are currently being implemented via three distinct Environmental Covenants. The Covenants are enforceable by EPA and PADEP against current and future land owners. In addition to the activity and use limitations, the Covenants require maintenance of the engineered cap overlying contaminated wastes/soils, which will ensure the long-term effectiveness of the proposed remedy.
5) Reduction of toxicity, mobility, or volume of the Hazardous Constituents	The containment of the VOCs/metals in soils beneath the engineered cap greatly reduces potential mobility of the encapsulated hazardous constituents.
6) Short-term effectiveness	EPA's proposed remedy does not involve any additional activities, such as construction or excavation that would pose short-term risks to workers, residents, and the environment.

	The use restrictions proposed in the remedy are already in effect at the Facility per the three recorded Environmental Covenants.
7) Implementability	EPA's proposed remedy has been largely implemented by PADEP. The land and groundwater-use restrictions proposed in the remedy are already in place at the Facility by means of the three Environmental Covenants recorded with Centre County.
8) Cost	The costs associated with this proposed remedy have already been incurred and the remaining costs are minimal (estimated cost of less than $10,000 per year for engineered cover/maintenance, etc.).
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	PADEP reviewed and approved the Final reports, the three Environmental Covenants, and associated remedial activities and use restrictions for the Facility. EPA agrees with PADEP approval of a Final report.

Section 8: 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 further 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 less than $10,000 per year, EPA is proposing that no financial assurance be required.

Section 9: 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. Grant Dufficy at the contact information listed below.

A public meeting will be held upon request. Requests for a public meeting should be submitted to Mr. Grant Dufficy at the contact information listed below. A meeting will not be scheduled unless one is requested.

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

U.S. EPA Region III
1650 Arch Street
Philadelphia, PA 19103
Contact: Mr. Grant Dufficy (3LC20)
Phone: (215) 814-3455
Fax: (215) 814-3113
Email: Dufficy.Grant@epa.gov

Attachment:
Figure 1: Map of Facility

Section 10: Signature

Date: 7.9.18

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

Section 11: Index to Administrative Record

Consent Order and Agreement issued to Cerro metals, November 21, 1994

PADEP Notice of Intent to Remediate (NIR), July 27, 2009

PADEP Final Report for the North Plant – April 11, 2011

PADEP Final Report for Plant 4, March 7, 2012

Evaluation of PCB soil vapor intrusion – Plant 4 Area, June 14,2012

PADEP Remedial Action Progress Report for Plant 4 Area (The culmination of all previous Progress Reports for the Plan1 area), April 10, 2013

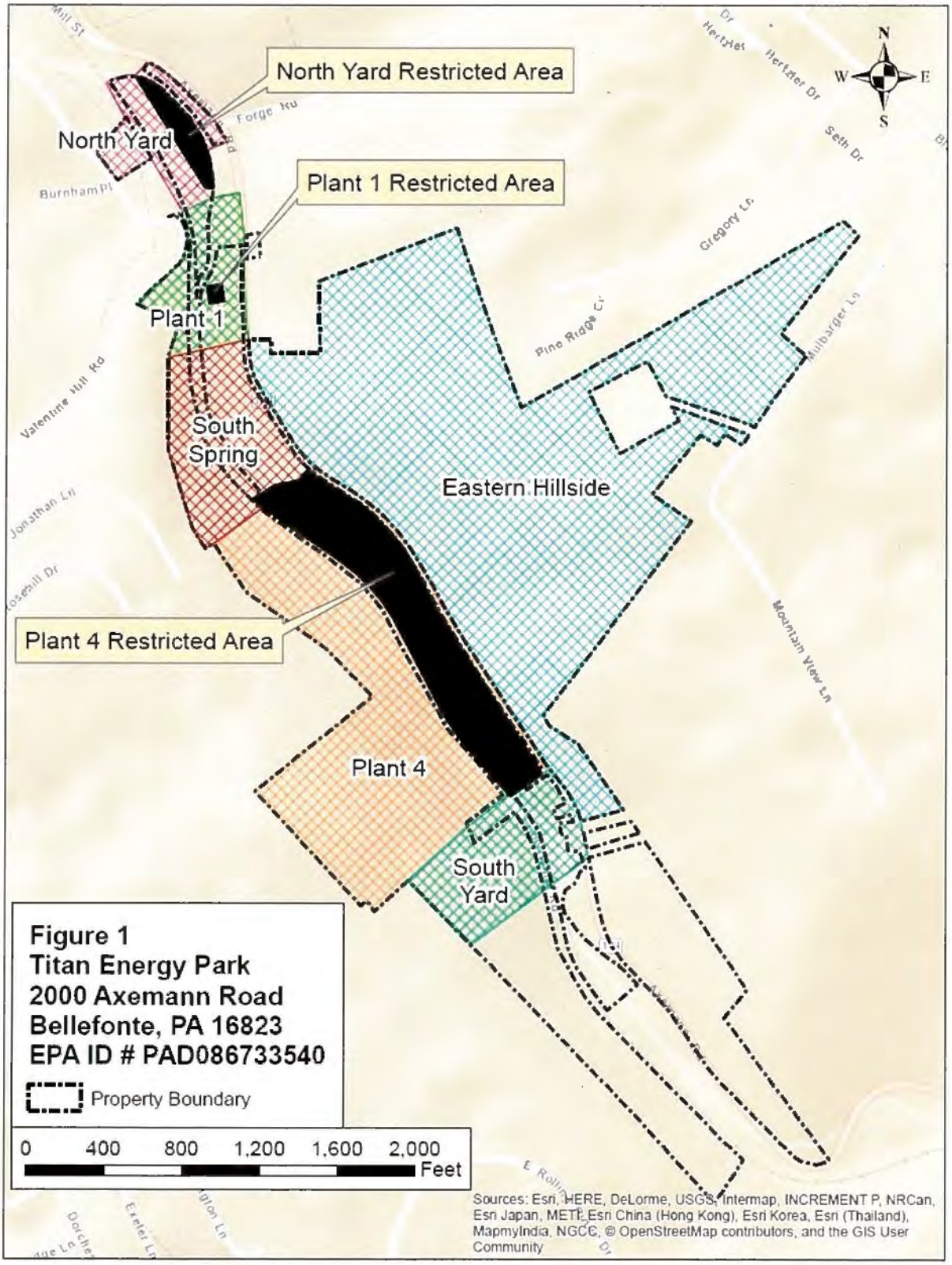
PADEP Remedial Action Progress Report for Plant 1 Area (The culmination of all previous Progress Reports for the Plan1 area), April 24, 2014

PADEP Final Report for Plant 1Area, December 22, 2014

PADEP Remedial Action Progress Report for the North Plant Area (The culmination of all previous Progress Reports for the North Plant Area), January 28, 2015

PADEP Post Remedial Monitoring Report – Plant 4, May 13, 2015

Attachment


North Yard Restricted Area
North Yard
Plant 1 Restricted Area
Plant 1
South Spring
Eastern Hillside
Plant 4 Restricted Area
Plant 4
South Yard
N
S
E
W
Figure 1
Titan Energy Park
2000 Axemann Road
Bellefonte, PA 16823
EPA ID # PAD086733540
Property Boundary
0 400 800 1,200 1,600 2,000
Feet
Sources: Esri, HERE, DeLorme, USGS, Intermap, INCREMENT P, NRCan, Esri Japan, METI, Esri China (Hong Kong), Esri Korea, Esri (Thailand), MapmyIndia, NGCC, © OpenStreetMap contributors, and the GIS User Community