UNITED STATES

ENVIRONMENTAL PROTECTION AGENCY

REGION III

STATEMENT OF BASIS

JAMES SPRING & WIRE COMPANY
FRAZER, PENNSYLVANIA

PAD002331635

I. 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 James Spring & Wire Company (James Spring & Wire) facility located at 6 Bacton Hill Road, Frazer, East Whiteland Township, Chester County, Pennsylvania (Facility). EPA's proposed remedy consists of maintenance of a cap and the implementation and maintenance of land and groundwater use restrictions. This SB highlights key information relied upon by EPA in making its proposed remedy.

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. 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.

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 five (5) acres and is surrounded by residential and light commercial properties. There are no potable water wells located within ¼ mile downgradient of the Facility. The Facility houses one building and a shed. A Facility location map and a Facility layout are attached to this SB as Figures 1 and 2, respectively.

James Spring & Wire has manufactured springs, wire forms, and light-gauge metal stampings at the Facility since 1961. Prior to 1997, production processes conducted at the Facility also included metal plating. James Spring & Wire currently owns and operates this Facility as a conditionally exempt small quantity generator of hazardous wastes. Current production processes at the Facility include spring grinding, cleaning, passivation, heat treating, assembly, and special packaging. The Facility also performs surface treatment on steel parts including rust prevention and deburring.

On August 14, 1980, James Spring & Wire submitted its initial Notification of Hazardous Waste to EPA for its generation of hazardous wastes F001 (spent non-halogenated solvents), F006 (wastewater treatment sludges), F007 (spent cyanide plating solution), and F009 (spent stripping solution). On November 14, 1980, the Facility

submitted to EPA its Part A Permit Application for storage and treatment of these wastes in drums and tanks. The Facility was assigned EPA identification number PAD002331635. On August 6, 1981, EPA granted the Facility interim status for treatment, storage, or disposal of hazardous waste.

III. Summary of Environmental Investigations

During all environmental investigations, groundwater concentrations were screened against federal drinking water standards known as Maximum Contaminant Levels (MCLs) promulgated pursuant to Section 42 U.S.C. §§ 300f et seq. of the Safe Drinking Water Act and codified at 40 CFR Part 141), or EPA Region III Risk-Based Concentration (RBCs) for tap water (designated as Screening Levels for tap water (SLs)) for chemicals for which there are no applicable MCLs. Soil concentrations were screened against EPA RBCs for residential soil and industrial soil (designated as soil SLs). If EPA has no MCL or SL for a contaminant, the Pennsylvania Department of Environmental Protection (PADEP's) Act 2 standards were used.

A. Removal of the 10,000 gallon Heating Oil Underground Storage Tank (UST)

In May 1991, in coordination with PADEP, the Facility removed a 10,000-gallon steel UST containing No. 2 heating oil. Soil samples taken beneath the UST showed concentrations of total petroleum hydrocarbons (TPH) ranging from 29 milligrams per kilogram (mg/kg) to 65 mg/kg, which were below the PADEP Act 2 Program standard of 500 mg/kg. EPA has no SL for TPH in soil.

The analytical results of the confirmatory soil samples taken around the UST demonstrated that there was no release of TPH from the UST. On January 14, 1992, PADEP issued a No Further Action letter to the Facility for closure of the UST.

B. Chemical Container Storage Shed

The chemical container storage shed was a 300-square foot wooden shed that was situated on the grass that borders the west side of the building. Empty 55-gallon drums that formerly contained chromic acid, nitric acid, muriatic acid, and cadmium/zinc coating mixture, as well as used acid crocks and propane cylinders, and partially filled drums of quenching oil were stored inside the shed. The shed had been used as a storage area since 1977. During the EPA 1989 Environmental Priority Initiative Preliminary Assessment Site visit, black oily stains were observed around the outside of the shed. As a result, PADEP instructed the Facility to clean up the stained area. In response to this directive from PADEP, James Spring & Wire conducted an investigation and remedial actions addressing the stained soil area around the shed.

Soil investigation and remediation were conducted by the Facility between 1990 and 1995. Soil around the north and west sides of the shed was found to be contaminated with TPH at concentration as high as 56,000 ppm. The contaminated soil was excavated. The total of six confirmatory samples was collected from excavation walls and bottom on August 31, 1995. The confirmatory sampling results showed TPH at concentrations less than 10 mg/kg, below the PADEP Act 2 cleanup standard of 500 mg/kg. On January 4, 1996, PADEP issued a No Further Action letter to the Facility.

C. Septic Tank and Drainage Field Area.

The septic tanks were discovered during the excavation of the quenching oil contaminated soil at the container storage shed area. Prior to 1975, there were three septic tanks located beneath the building (the former plating area) into which plating wastes were directed prior to 1975. The septic tanks were abandoned in 1976.

In 1993, in coordination with PADEP, the Facility performed a cleanup of its septic tanks. Samples of material from the septic tanks were obtained in May 1993. Analytical results of the samples indicated the presence of barium, cadmium, chromium, lead, silver, tetrachloroethene (PCE), and trichloroethylene (TCE). In September and November of 1993, the contents of the septic tanks were removed. Wastes generated from cleaning the septic tanks and contents of the tanks were disposed of as hazardous waste at L.W.D. Incorporated in Calvert City, Kansas.

Between 1997 and 2010, in coordination with PADEP, James Spring & Wire performed soil and groundwater investigation at the Facility. Five groundwater monitoring wells (MW-1A, MW-2A, MW-3, MW-4, and MW-5) were installed. MW-3 is an onsite upgradient well, MW-1A, MW-2A, and MW-4 are onsite downgradient wells, and MW-5 is an offsite downgradient well.

The soil investigation results demonstrated that the chromium levels exceed EPA non-residential standard in the soils beneath the building's foundation. All other soil areas within the plant property contained chromium and cadmium below EPA's industrial screening levels of 5.6 mg/kg and 800 mg/kg, respectively. The area with contaminated soils exceeding the EPA Region 3 industrial soil RSL was located under the building. The building has a concrete floor which serves as a cap to prevent human exposure to the contaminants. Therefore, soils exceeding residential and industrial standards are contained.

The results of groundwater samples collected between 1997 and 2000 showed that concentrations of barium, chromium, lead, silver and cadmium were below their respective MCL, and PCE and TCE concentrations as high as 130 ug/l and 110 ug/l, respectively, were above their respective PADEP Act 2 used aquifer MSC and MCL. The PADEP Act 2 used aquifer MSCs and MCLs for PCE and TCE are

5 ug/l. Groundwater analytical results of the groundwater collected from MW-5 (offsite downgradient monitoring well) between 1997 and 2000 showed there were no contaminants of concern (COC) detected in the groundwater and that contaminated groundwater did not migrate offsite. The contaminated groundwater is confined to the Facility's property. The groundwater results showed that PCE has been degrading and PCE concentrations have been decreasing. On December 9, 2002, PADEP approved the Facility's Act 2 Final Report for attainment of Site Specific Standard of 99 ug/l for PCE in groundwater.

On May 28, 2013, in coordination with EPA, James Spring & Wire performed groundwater sampling at the Facility. Groundwater samples were collected from the five monitoring wells at the Facility. PCE and TCE were detected in MW-1A at concentrations of 29 ug/l and 1.7 ug/l, respectively, significantly lower than those detected in April 2000. The continual reduction of PCE and TCE indicates that PCE and TCE are attenuating naturally. There were no COCs detected in the offsite downgradient monitoring well (MW-5). The May 2013 groundwater results confirmed that concentrations of PCE and TCE continue to attenuate naturally and the contaminated groundwater remains confined to the Facility's property.

Due to the presence of PCE in the groundwater, a vapor intrusion pathway was evaluated in accordance with the EPA's Subsurface Vapor Intrusion Guidance (November 2002 OSWER Draft Guidance for Evaluating the Vapor Intrusion to Indoor Air Pathway from Groundwater and Soils). The May 2013 groundwater results showed concentrations of PCE in the groundwater beneath the Facility below the EPA's acceptable range of 125 ug/l and 12,500 ug/l. Therefore, EPA has determined that there are currently no unacceptable risks to human health and the environment via vapor intrusion pathway.

IV. Corrective Action Objectives

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

1. Soils

EPA's Corrective Action Objective for Facility soils is to attain Pennsylvania's non-residential SHSs and to limit exposure to chromium and cadmium levels in Facility soils located beneath the plant floor. Pennsylvania's SHSs meet EPA guidelines for protection of human health and the environment for individual contaminants at the Facility.

2. Groundwater

EPA's Corrective Action Objective for Facility groundwater is to meet the drinking water standards (MCLs). Until such time as drinking water standards are met, exposures will be controlled by requiring groundwater use restrictions at the Facility.

V. Proposed Remedy

1. Soil

For Facility soils, the proposed remedy consists of the maintenance and inspection of the concrete floor of the building in order to assure continued protection of human health and the environment at the Facility. Because some contaminants remain in the soil at the Facility above levels appropriate for residential uses, EPA is also proposing that land use restrictions be implemented to prohibit residential uses of Facility property.

James Spring & Wire will develop a Post-Remediation Care Plan (Plan) to verify that the concrete floor remains effective in preventing exposure to soil contaminants beneath the building footprint. The Plan will include an annual inspection of the concrete floor of the building to ensure that the integrity and protectiveness of the floor is maintained. The property owner will report the findings of the inspection to EPA and PADEP.

2. Groundwater

EPA's proposed remedy for groundwater at the Facility is monitored natural attenuation with the implementation and maintenance of groundwater use restrictions while PCE concentrations in the groundwater remain above the MCL. PCE in groundwater is expected to reach the MCL level of 5 ug/l in approximately 5 years as demonstrated by the PCE Concentration Trend Graph constructed after the May 2013 groundwater sampling event (Attachment 3).

3. Land and Groundwater Use Restrictions

EPA is proposing the following activities and land and groundwater use restrictions be implemented at the Facility:

A. Groundwater at the Facility shall not be used for any purpose other than to conduct the operation, maintenance, and monitoring activities required by PADEP and/or EPA, 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 selected remedy and EPA provides prior written approval for such use;

B. The Facility property will not be used for any residential purpose 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 selected remedy and EPA provides prior written approval for such use; and

C. All earth moving activities, including excavation, drilling, and construction activities, in the areas at the Facility where any contaminant remains in soil above EPA's

screening levels for non-residential use shall be prohibited unless it is demonstrated to EPA that such activity will not pose a threat to human health or the environment or adversely affect or interfere with the selected remedy and EPA provides prior written approval for such use.

4. Implementation of Institutional Controls

ICs are generally non-engineered mechanisms such as administrative and/or legal controls that minimize the potential for human exposure to contamination and/or protect the integrity of a remedy. Under this proposed remedy, some concentrations of contaminants may remain in the groundwater at the Facility above levels appropriate for residential and domestic uses. As a result, the proposed remedy will require the Facility to implement ICs in order to prohibit use of the Facility groundwater to prevent human exposure to contaminants while contaminants remain in place.

Implementation of ICs is necessary to maintain the integrity and protectiveness of the remedy; to ensure that the Facility is not used for residential purposes; and that subsequent purchasers of the Facility property are informed of the environmental conditions at the Facility and of EPA's final remedy for the Facility.

The proposed ICs will be implemented through an enforceable mechanism such as a permit, order, or an Environmental Covenant, pursuant to the Pennsylvania Uniform Environmental Covenant Act, 27 Pa.C.S. §§ 6501-6517 and recorded with the deed for the Facility property. The proposed IC will require appropriate inspection, maintenance, and reporting requirements to ensure that the restrictions are met as long as necessary. These requirements will be specified in a Post-Remediation Care Plan that will be submitted to EPA by the Facility and will be included in the Administrative Record (AR) for the Facility. The AR will be available to the public on the EPA corrective action website which is found at http://www.epa.gov/reg3wcmd/ca/pa.htm.

VI. Evaluation of EPA's 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 to determine which proposed remedy alternative provides the best relative combination of attributes.

A. Threshold Criteria

1. Protect Human Health and the Environment

With respect to soils, contaminated soil is below the surface of the Facility's manufacturing building and contained within the Facility property. Maintenance of the building's concrete floor will prevent exposure to impacted soil where contamination above non-residential screening levels remains in place. In addition, EPA's proposed final

remedy requires that Facility property is not used for residential purposes.

With respect to groundwater, there are no potable water wells located within ¼ mile downgradient of the Facility. Moreover, while PCE remains in the groundwater beneath the Facility at concentrations above its MCL, the contaminants are not migrating beyond the Facility boundary. The results of the 1999, 2000, and 2013 groundwater sampling events show that the groundwater plume has stabilized and concentrations of PCE have been and will continue to decline over time. EPA's proposed final remedy also requires that groundwater beneath Facility property not be used for any purpose.

2. Achieve Media Cleanup Objectives

The Facility has achieved the PADEP Act 2 non-residential Statewide Health Standards (SHSs) for soils which meet EPA risk guidelines for human health and the environment for individual contaminants at the Facility. EPA's proposed remedy requires the implementation and maintenance of land use controls to ensure that Facility property is not used for residential purposes. Although contaminants are above MCLs, the groundwater plume appears to be stable (not migrating) and declining over time through attenuation. In addition, groundwater monitoring will continue until MCLs are met through attenuation. Until drinking water standards are met, the proposed remedy requires groundwater use restrictions to minimize the potential for human exposure to contamination and protect the integrity of the remedy.

3. Remediating the Source of Releases

In all proposed remedies, 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 August 2002 Act 2 Final Report, the Facility met this objective by removing the contents of the septic tanks and maintaining an impermeable concrete floor of the building. 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 remedy requires the compliance with and maintenance of land use and groundwater use restrictions at the Facility and the continuation of maintenance of the concrete floor of the building. EPA anticipates that the land use and groundwater use restrictions and the maintenance of the concrete floor of the building may be implemented through an environmental covenant to be recorded with the deed for the Facility property and which will be enforceable against future 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 through the existence of the concrete floor of the building. In addition, groundwater monitoring data have showed that the plume is stable (not migrating), and concentrations of COCs are declining over time.

3. Short-Term Effectiveness

EPA's proposed remedy 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 groundwater use restrictions will be fully implemented shortly after the issuance of the Final Decision and Response to Comments (FDRTC).

4. Implementability

EPA's proposed remedy is readily implementable.

5. Cost

The cost of implementing the proposed remedy is estimated to be less than $1,000.00

6. Community Acceptance

EPA will evaluate Community acceptance of the proposed remedy during the public comment period and will be described in the FDRTC.

7. State/Support Agency Acceptance

EPA will evaluate the Commonwealth's acceptance based on comments received from PADEP during the public comment period and will be described in the FDRTC.

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 August 15, 2013.

VIII. Financial Assurance

EPA has evaluated whether financial assurance for corrective action is necessary to implement EPA's proposed remedy at the Facility. EPA's proposed remedy does not require any further engineering action to remediate soil, groundwater, or indoor air contamination at this time. Given that the costs of implementing land and groundwater use restrictions and maintaining the concrete floor at the Facility are estimated to be less than $1,000.00 and, thus, will be de minimis, 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 remedy selection process by reviewing this SB and documents contained in the AR for the Facility. The AR contains all information considered by EPA in reaching this proposed remedy. It is available for public review during normal business hours at:

U.S. EPA Region III
1650 Arch Street
Philadelphia, PA 19103
Contact: Ms. Tran Tran
Phone: (215) 814-2079
Fax: (215) 814-3113
Email: tran.tran@epa.gov

Interested parties are encouraged to review the AR and 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. You may submit comments by mail, fax, or e-mail to Ms. Tran Tran. EPA will hold a public meeting to discuss this proposed remedy upon request. Requests for a public meeting should be made in writing to Ms. Tran Tran.

EPA will respond to all relevant comments received during the comment period. If EPA determines that new information warrant a modification to the proposed remedy, EPA will modify the proposed remedy or select other alternatives based on such new information and/or public comments. EPA will announce its final remedy and explain the rationale for any changes in the FDRTC. All persons who comment on this proposed remedy will receive a copy of the FDRTC. Others may obtain a copy by contacting Ms. Tran Tran at the address listed above.

Date: 7.17.14

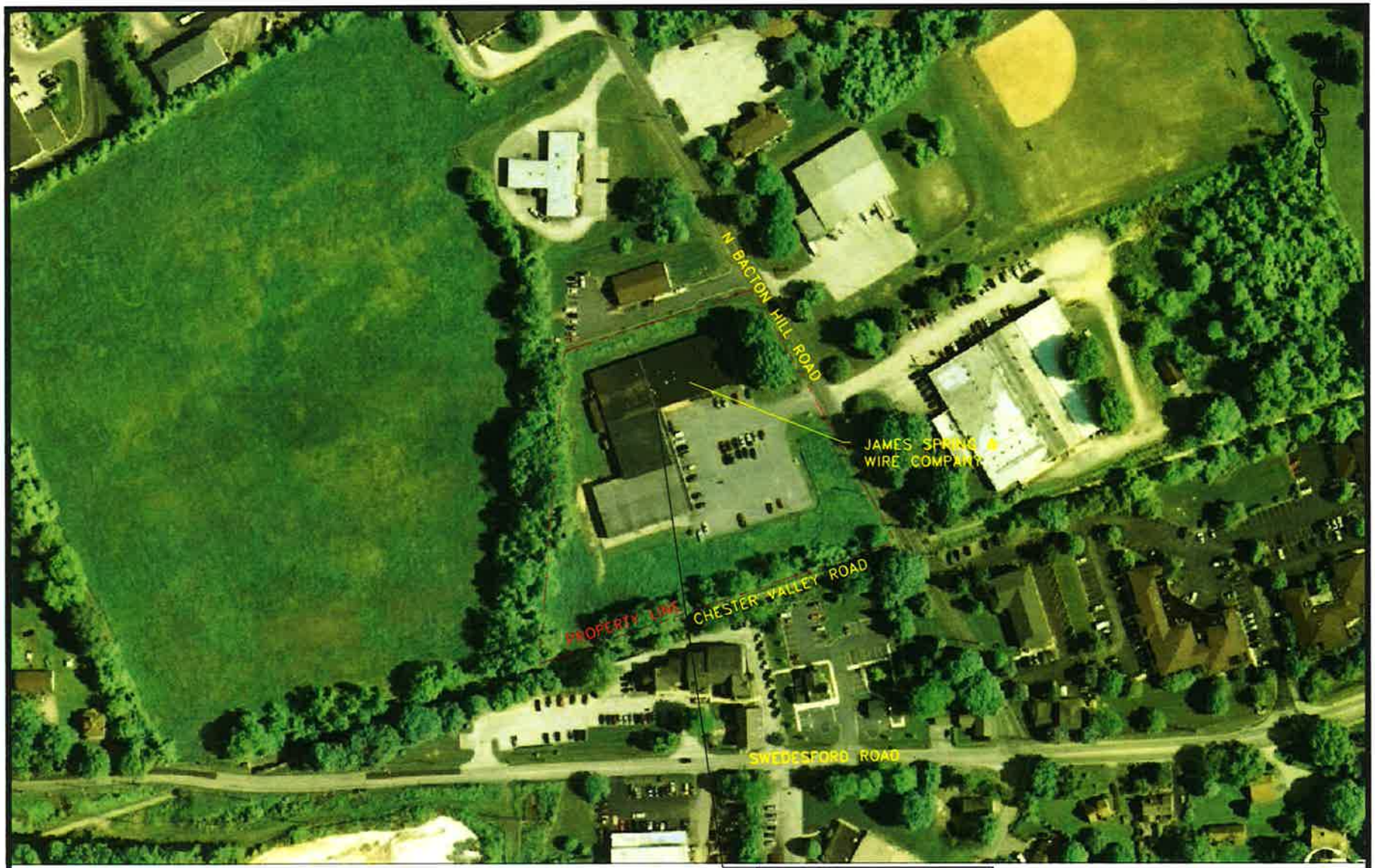
John A. Armstead, Director
Land and Chemicals Division
US EPA, Region III

Attachments:

1. Attachment 1 – Figure1 - Facility Location Map
2. Attachment 2 – Figure 2 – Site Layout
3. Attachment 3 – PCE Concentration Trend Graph
4. Attachment 4 – Index to Administrative Record

Attachment 1

Figure 1 – Facility Location Map



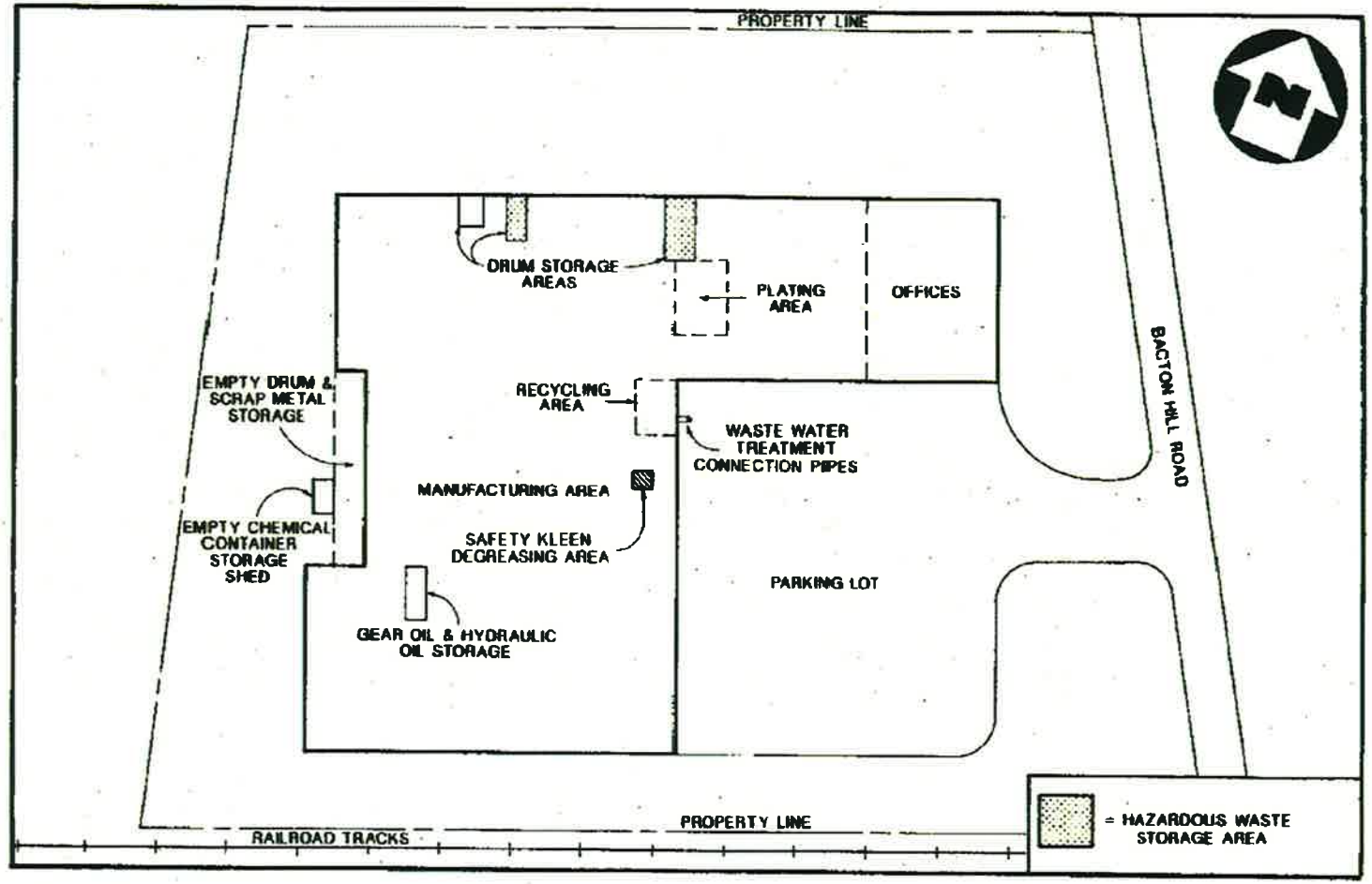
Source: Google maps

LAT=40° 2'36.57"N
LON=75° 34'51.54"W

SCALE: 1"=200'	DATE: JUNE 2010	Baker MICHAEL BAKER JR., INC. MOON TOWNSHIP, PENNSYLVANIA	FIGURE 1 SITE LOCATION MAP JAMES SPRING & WIRE COMPANY 6 N BACTON HILL ROAD FRAZER, PENNSYLVANIA 19355
S.O. NO.: 118034	FILE: 118034-JSW-01		
DSN/DWN: MM/WJH	CHK: MM		

Attachment 2

Figure 2 – Site Layout



SITE SKETCH

JAMES SPRING & WIRE

(NO SCALE)

FIGURE 2.2

NUS CORPORATION

Source: NUS.

SCALE: NO TO SCALE	DATE: JUNE 2010	Baker MICHAEL BAKER JR., INC. MOON TOWNSHIP, PENNSYLVANIA	FIGURE 2 SITE LAYOUT JAMES SPRING & WIRE COMPANY 6 N BACTON HILL ROAD FRAZER, PENNSYLVANIA 19355
S.O. NO.: 118034	FILE: 118034-JSW-02		
DSN/DWN: MM/WJH	CHK: MM		

Attachment 3

PCE Concentration Trend Graph

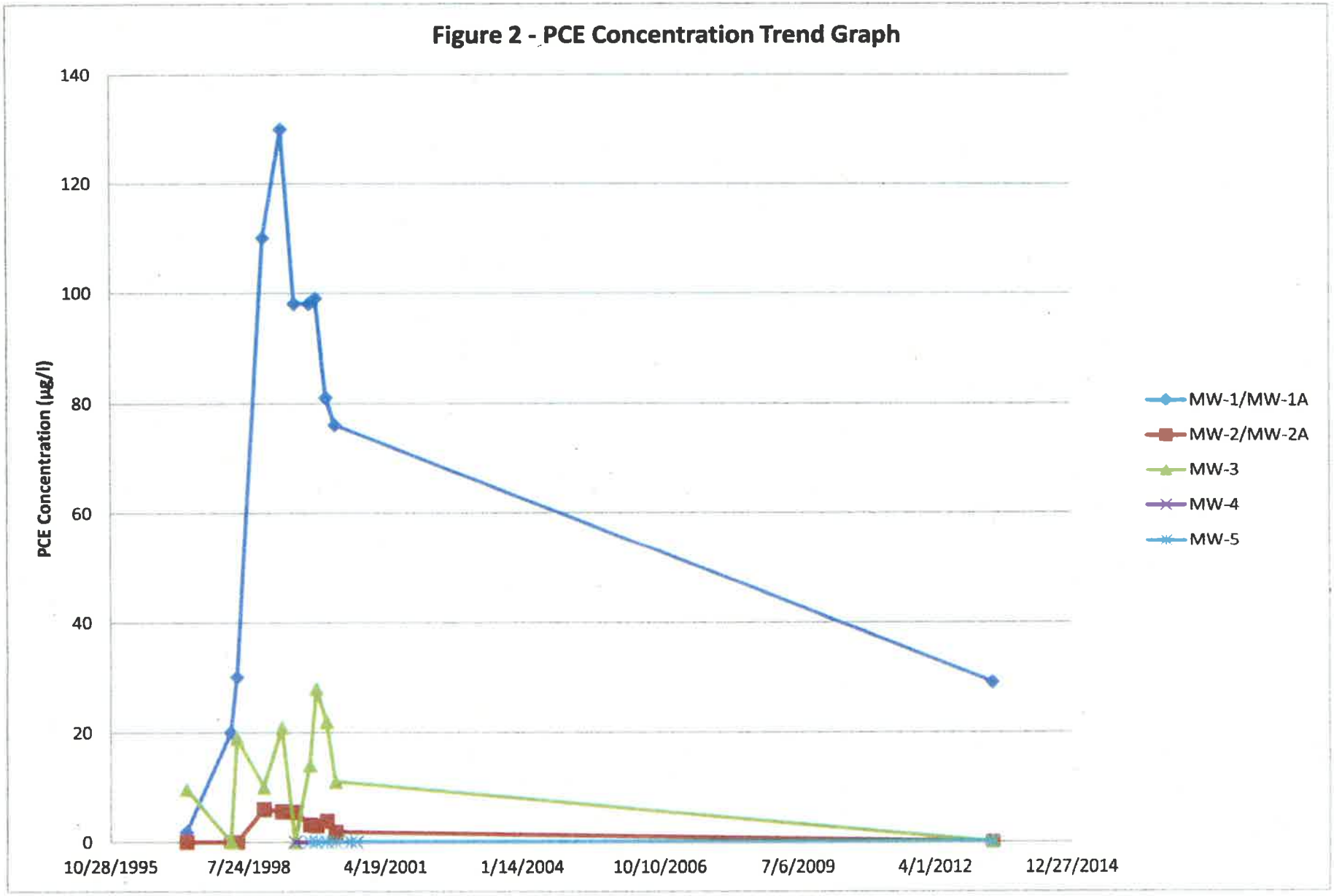


Figure 2 - PCE Concentration Trend Graph
PCE Concentration (µg/l)
140
120
100
80
60
40
20
0
10/28/1995
7/24/1998
4/19/2001
1/14/2004
10/10/2006
7/6/2009
4/1/2012
12/27/2014
MW-1/MW-1A
MW-2/MW-2A
MW-3
MW-4
MW-5

Attachment 4

Index to Administrative Record

Index to Administrative Record

1. Environmental Priority Initiative Preliminary Assessment of James Spring & Wire Company, NUS Corporation – Superfund Division, September 5, 1989
2. Tank Removal Report for James Spring & Wire Company, TEL Enterprises, June 20, 1991.
3. PADEP No Further Action Letter, January 14, 1992.
4. Soil Remediation Report, James Spring & Wire Company, Montgomery Watson, December, 1995.
5. PADEP No Further Action Letter, January 4, 1996.
6. Act 2 Final Report, James Spring & Wire Company, RT Environmental Services, Inc., August, 2002 .
7. PADEP Act 2 Final Report Approval Letter, December 9, 2002.
8. Final Environmental Indicator Inspection Report, Baker, November 2010.
9. Groundwater Sampling Report, James Spring & Wire Company, RT Environmental Services, Inc., June 25, 2013.
10. EPA's November 2002 OSWER Draft Subsurface Vapor Intrusion Guidance.