THIRD EXPLANATION OF SIGNIFICANT DIFFERENCES
for the
DRAKE CHEMICAL SUPERFUND SITE
CITY OF LOCK HAVEN AND CASTANEA TOWNSHIP, CLINTON COUNTY, PENNSYLVANIA

I. INTRODUCTION

Site Name: Drake Chemical Superfund Site

Site Location: City of Lock Haven and Castanea Township, Clinton County, Pennsylvania

Lead Agency: U.S. Environmental Protection Agency, Region III

Support Agency: Pennsylvania Department of Environmental Protection

Statement of Purpose:

The U.S. Environmental Protection Agency (EPA) is issuing this Explanation of Significant Differences (ESD) for the Drake Chemical Superfund Site (the Site) in accordance with Section 117(c) of the Comprehensive Environmental Response, Compensation, and Liability Act, as amended (CERCLA), 42 U.S.C. § 9617(c), and Section 300.435(c)(2)(i) of the National Oil and Hazardous Substances Pollution Contingency Plan (NCP), 40 C.F.R. § 300.435(c)(2)(i). Section 117(c) of CERCLA and Section 300.435(c)(2)(i) of the NCP require the publication of an ESD when modifications to the selected remedy are necessary, and such modifications significantly change, but do not fundamentally alter, the remedy selected in a Record of Decision (ROD) with respect to scope, performance, or cost.

EPA selected the remedy for the Site in the following three RODs and two ESDs: a September 30, 1984 ROD (1984 ROD), a May 13, 1986 ROD (1986 ROD), and a September 29, 1988 ROD (1988 ROD); and a June 14, 1995 ESD (1995 ESD) and an August 2, 2016 ESD (2016 ESD). The three RODs and two ESDs collectively are the selected remedy for the Drake Site (Selected Remedy). The Selected Remedy is described in more detail in Section II, below. This ESD (Third ESD) modifies the Selected Remedy by including the requirement to discharge treated groundwater to an already constructed and operational infiltration gallery.

The information EPA has relied upon or considered to date in issuing this Third ESD, has been added to the Administrative Record for the Site in accordance with Section 300.825(a)(2) of the NCP. The Administrative Record is available for public review at the locations listed below:

Ross Public Library
232 West Main Street
Lock Haven, Pennsylvania 17745
(717) 334-5716

U.S. Environmental Protection Agency, Region III
Administrative Record Reading Room
1650 Arch Street
Philadelphia, PA 19103-2029
(215) 814-3157
Hours: Monday – Friday: 8:00 AM to 4:00 PM
Please call to schedule an appointment.

The Administrative Record is also available online at:
https://semspub.epa.gov/src/document/03/2259211

II. SUMMARY OF SITE HISTORY, CONTAMINATION, AND SELECTED REMEDY

A. Site History and Contamination

The Site is located in the City of Lock Haven and Castanea Township, Clinton County, Pennsylvania. A former American Color and Chemical. L.L.C. (AC&C) facility borders the Site to the northwest, Paul Mack Boulevard borders the Site to the northeast, and Bald Eagle Creek borders the Site to the south (Figure 1).

Currently, the Site includes a groundwater extraction and treatment system, a vegetative covered pile of ash, and a structure that housed the on-site incinerator. The groundwater contamination plume was divided into three zones that were created for administrative purposes and do not reflect separate groundwater contaminant plumes. The zones were created during the remedial investigation and feasibility study to facilitate the assessment of the extent of groundwater contamination and to provide a basis for identifying the scope of groundwater remediation strategies. Zone 1 consists of the 8-acre property where the Drake Chemical Company facility was located. Zone 2 consists of the area from the railroad tracks to Route 220 and includes the groundwater treatment plant, extraction wells, and monitoring wells. Zone 3 consists of the area from Route 220 to the Bald Eagle Creek and includes the infiltration gallery and additional monitoring wells. Groundwater flows to the southeast from the Site towards Bald Eagle Creek.

The Drake Chemical Company operated on an 8-acre property from the 1960s until 1981 and manufactured chemical ingredients for pesticides and other compounds. During operations there were buildings, wastewater treatment, tanks, lagoons, and leachate that drained from the lagoons toward Bald Eagle Creek. These operations resulted in the contamination of soil and groundwater with beta-naphthylamine, 1,2-dichloroethane, trichloroethene, and chlorobenzene, along with other contaminants.

B. Selected Remedy

The Site consists of four operable units (OUs): the leachate stream (OU1), building demolition (OU2), soil incineration (OU3) and groundwater (OU4).

The Selected Remedy consists of the following components:

- Excavation of the contaminated soil and sediment from an off-site area (OU1);
- Construction of a french drain and an underground sewer line to collect and carry the storm water runoff to Bald Eagle Creek (OU1);
- Construction of a clay cap to cover the sewer line and adjacent surface soil (OU1);
- Draining and removing of the two lined wastewater treatment lagoons (OU2);
- Removing tanks, buildings and debris (OU2);
- Incineration of chemicals stored at the Site (OU2);
- Decontamination of salvageable material (OU2);
- Disposal of all material removed, other than decontaminated material, at an approved offsite facility (OU2);
- Remediation of contaminated soil, sludge and other debris utilizing a rotary kiln incinerator on the Site (OU3);
- Consolidating the ash from the rotary kiln in a pile, grading, and covering it with clean fill (OU3);
- Groundwater extraction and treatment with granular activated carbon and discharge to Bald Eagle Creek or a sewage treatment facility (OU4); and
- Sitewide land and groundwater use restrictions.

C. Remedy Implementation

EPA performed the remedial actions for the leachate stream, the building demolition, and soil incineration, and the PRP constructed the groundwater treatment plant.

The OU1 remedial action for the leachate stream began on September 19, 1985 and was completed on August 15, 1987. Contaminated soils were staged on the Site and eventually removed for off-site disposal as part of the soil cleanup. The lagoon was drained, and a french drain and an underground sewer line were constructed to collect and carry the surface water runoff to Bald Eagle Creek.

The OU2 remedial action for the building demolition began on June 20, 1987 and was completed on May 25, 1990. EPA demolished and removed all buildings, tanks and other structures for off-site disposal.

The OU3 soil incineration remedial action started on September 30, 1991 and was completed on February 1, 2000. The remedial action included construction of an on-site incinerator, excavation of soils in the entire Site down to the water table (approximately 12 feet below ground surface) and treatment of the soil using incineration. Approximately 295,393 tons of ash were placed in a large pile on the southern portion of the Site, graded to specifications and covered with clean fill.

AC&C and Beazer East, Inc. (Beazer East), two of the PRPs at the Site, are implementing the groundwater remedy (OU4) pursuant to a February 14, 1996 Consent Decree with EPA and the Pennsylvania Department of Environmental Protection (PADEP). Pursuant to the Consent Decree, AC&C and Beazer East have been extracting and treating groundwater since November of 2000.

The groundwater extraction and treatment system consists of four extraction wells (DPW-01, DPW-02, DPW-03 and DPW-04), which are located in Zone 2. In 2001 extraction well DPW-01 was removed from operation because the contaminant concentrations were below performance standards. The groundwater is currently pumped from the three remaining extraction wells (DPW-02, DPW-03, and DPW-04) at a rate of approximately 20 gallons per minute to the treatment system building where two granular activated carbon treatment units are used in sequence to treat the groundwater. After treatment the groundwater is discharged to an infiltration gallery located in Zone 3 (Figure 1). The infiltration gallery is a series of connected wells that allows the groundwater to be discharged back into the aquifer.

Between 2006 and 2007, PADEP issued administrative orders under Sections 512(a) and 1102 of the Pennsylvania Hazardous Site Cleanup Act (HSCA) to the owners of the three parcels comprising the Site property. The administrative orders prohibit groundwater use and restrict activities that could affect the integrity of the capped area.

In 2010, the City of Lock Haven and Castanea Township enacted ordinances that prohibit using groundwater in areas affected by the Site for potable purposes. The ordinances also require that all residents abandon existing potable wells within that area and connect to a public water supply.

III. DESCRIPTION OF SIGNIFICANT DIFFERENCES AND THE BASIS FOR SUCH DIFFERENCES

During the design of the groundwater extraction and treatment system, AC&C and Beazer East included an infiltration gallery to the system to be used for the discharge of treated water. EPA and PADEP approved this design in 1999, and AC&C and Beazer East began operating the system in November of 2000.

The infiltration gallery comprises 23 connected 2-inch diameter, 10-slot well screens drilled into the aquifer. The well screens were installed utilizing a 10-inch diameter hollow stem auger. The annular space between the well screen and auger was backfilled with gravel. All the well screens were evenly spaced out in a line over approximately 450 feet and connected with a horizontal 3-inch diameter 10-slot distribution pipe. The distribution pipe is surrounded by gravel and is buried at least 4 feet below the surface. At each end of the distribution pipe is a pipe cleanout. Six of the twenty-three well screens extend to the surface with a cap and manhole for access while the remaining seventeen wells screens are plugged before they reach the surface. A shallow well with a float switch is located in the middle of the trench to monitor the elevation of the water in the infiltration gallery. The groundwater extraction wells are set to turn off whenever the water reaches the elevation of the float switch.

There are no permit requirements and discharge limitations for the effluent into the infiltration gallery. During the design, the PRPs determined that the granular activated carbon units would treat the groundwater to near nondetectable levels and that the treated groundwater would be reintroduced into the aquifer.

This Third ESD will modify the Selected Remedy to document the discharge of treated groundwater to the infiltration gallery. The 1988 ROD required discharge to Bald Eagle Creek or a sewage treatment facility. The discharge and infiltration maintenance activities shall be consistent with the Operation and Maintenance Plan, Monitoring and Maintenance Plan, dated February 26, 2001 and revised March 6, 2014, and all revised or future operation and maintenance plans approved by EPA. AC&C and Beazer East, as part of operation and maintenance requirements, change the carbon units and sample the effluent monthly.

The modification described in this Third ESD, represents a significant change to the Selected Remedy with respect to scope and performance. Considering the change that has been made to the Selected Remedy under this Third ESD, EPA has determined that the Selected Remedy will remain protective of human health and the environment, will comply with Federal and State requirements that are applicable or relevant and appropriate, and will be cost effective. The groundwater extraction and treatment system remains protective of human health and the environment because the extraction wells provide capture of the groundwater plume and the treated groundwater is returned to the groundwater at near nondetectable levels.

IV. SUPPORT AGENCY COMMENTS

In accordance with 40 C.F.R. § 300.435(c)(2), EPA has consulted with PADEP concerning the change to the Selected Remedy as described in this Third ESD. By letter to EPA dated February 19, 2019 PADEP concurred with this ESD. PADEP's concurrence letter can be found in the Administrative Record.

V. STATUTORY DETERMINATIONS

EPA has determined that the modification to the Selected Remedy described in this Third ESD complies with the statutory requirements of Section 121 of CERCLA, 42 U.S.C. § 9621. EPA has determined that the Selected Remedy, as modified by this Third ESD, will remain protective of human health and the environment, will comply with Federal and State requirements that are applicable or relevant and appropriate to this remedial action, and will be cost-effective. The 1988 ROD included the Safe Drinking Water Act Underground Injection Control (UIC) Regulations 40 C.F.R. § 144, 145, 146, and 147 as an Applicable or Relevant and Appropriate Requirement (ARAR). To satisfy the requirements of this ARAR, the discharge to the infiltration gallery has been reported to EPA's UIC program. EPA has the primacy for the UIC program in Pennsylvania.

VI. PUBLIC PARTICIPATION

As required, EPA will publish a notice of availability and a brief description of this Third ESD. In accordance with CERCLA § 117(d) and NCP § 300.825(a), this Third ESD and supporting information will become part of the Site's Administrative Record which is available for review at the local repository and at EPA Region III office.

VII. SIGNATURE

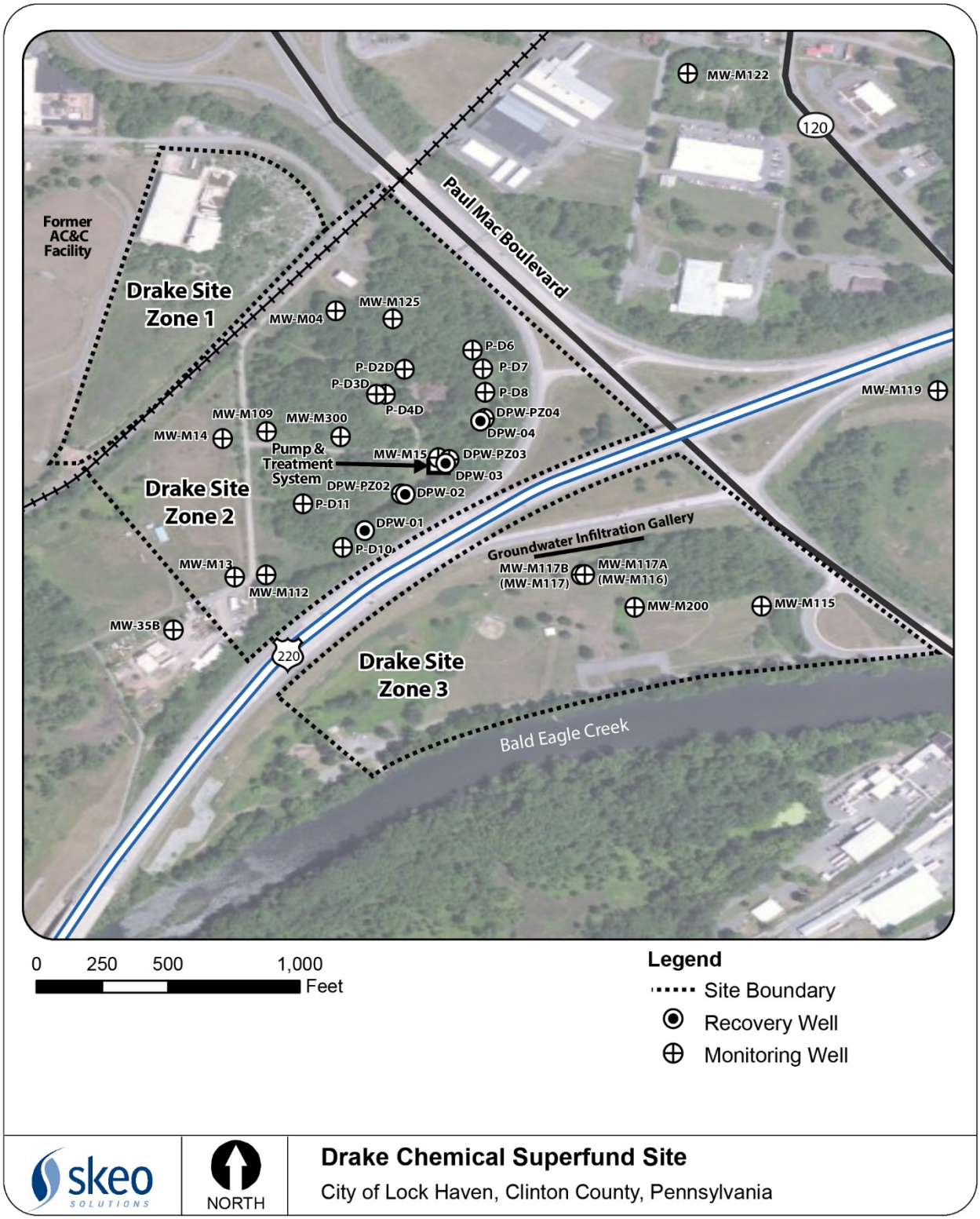
This Third Explanation of Significant Differences modifies the Selected Remedy set forth in the three RODs (1984 ROD, 1986 ROD, 1988 ROD) and the two ESDs (1995 ESD and 2016 ESD) for the Drake Chemical Superfund Site to document the discharge of treated groundwater to the operating infiltration gallery.

Approved by:

Paul Leonard, Acting Director
Hazardous Site Cleanup Division
EPA Region III

March 19, 2019
Date

Figure 1:


MW-M122
120
Paul Mac Boulevard
Former AC&C Facility
Drake Site Zone 1
MW-M04
MW-M125
P-D6
P-D7
P-D8
P-D2D
P-D3D
P-D4D
MW-M119
DPW-PZ04
DPW-04
MW-M109
MW-M300
MW-M14
Pump & Treatment System
MW-M15
DPW-PZ03
DPW-03
DPW-PZ02
DPW-02
Drake Site Zone 2
P-D11
DPW-01
P-D10
Groundwater Infiltration Gallery
MW-M13
MW-M112
MW-M117B (MW-M117)
MW-M117A (MW-M116)
MW-M200
MW-M115
MW-35B
220
Drake Site Zone 3
Bald Eagle Creek
0 250 500 1,000
Feet
Legend
Site Boundary
Recovery Well
Monitoring Well
skeo SOLUTIONS
NORTH
Drake Chemical Superfund Site
City of Lock Haven, Clinton County, Pennsylvania