

**SIXTH FIVE-YEAR REVIEW REPORT FOR
IDAHO POLE CO. SUPERFUND SITE
GALLATIN COUNTY, MONTANA**



Prepared by

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LIST OF ABBREVIATIONS AND ACRONYMS

ARAR	Applicable or Relevant and Appropriate Requirement
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act
CFR	Code of Federal Regulations
CGWA	Controlled Groundwater Area
COC	Contaminant of Concern
EPA	U.S. Environmental Protection Agency
ESD	Explanation of Significant Difference
FFS	Focused Feasibility Study
FS	Feasibility Study
FYR	Five-Year Review
HI	Hazard Index
HQ	Hazard Quotient
IC	Institutional Control
LNAPL	Light Non-Aqueous Phase Liquid
LTU	Land Treatment Unit
MCL	Maximum Contaminant Level
MDEQ	Montana Department of Environmental Quality
mg/kg	Milligrams per Kilogram
µg/kg	Micrograms per Kilogram
µg/L	Micrograms per Liter
NENA	Northeast Neighborhood Association
ng/kg	Nanograms per Kilogram
NPL	National Priorities List
O&M	Operation and Maintenance
OU	Operable Unit
PAH	Polycyclic Aromatic Hydrocarbon
PCDD	Polychlorinated Dibenzo-p-dioxins
PCDF	Polychlorinated Dibenzofurans
PCP	Pentachlorophenol
pg/L	Picograms per Liter
PRB	Permeable Reactive Barrier
PRP	Potentially Responsible Party
RAO	Remedial Action Objective
RI	Remedial Investigation
ROD	Record of Decision
TCDD	Tetrachlorophenol dibenzo-p-dioxin
TEQ	Toxicity Equivalence
TSAs	Treated Soils Areas
UU/UE	Unlimited Use and Unrestricted Exposure

I. INTRODUCTION

The purpose of a five-year review (FYR) is to evaluate the implementation and performance of a remedy to determine if the remedy is, and will continue to be, protective of human health and the environment. The methods, findings and conclusions of reviews are documented in FYR reports such as this one. In addition, FYR reports identify issues found during the review, if any, and document recommendations to address them.

The U.S. Environmental Protection Agency (EPA) is preparing this FYR pursuant to Section 121 of the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA), consistent with the National Oil and Hazardous Substances Pollution Contingency Plan (40 Code of Federal Regulations Section 300.430(f)(4)(ii)) and considering EPA policy.

This is the sixth FYR for the Idaho Pole Co. Superfund site (Site). The triggering action for this statutory review is the completion date of the previous FYR. The FYR has been prepared because hazardous substances, pollutants or contaminants remain at the Site above levels that allow for unlimited use and unrestricted exposure.

The Site consists of one operable unit (OU), addressed in this FYR. OU-1 consists of soil and groundwater remedies.

The EPA's Remedial Project Manager, Jessica Smith, led the FYR. Participants included Ben Mathieu (the EPA's Site Attorney), Beth Archer (the EPA's Community Involvement Coordinator), Jacob Wheeling (Montana Department of Environmental Quality (MDEQ) Project Manager), Lee McKenna (MDEQ Attorney), Nolan Lister (MDEQ Public Relations Specialist), and Alison Cattani and Kirby Webster from EPA contractor Skeo. The Potentially Responsible Party, Idaho Pole Co. (IPC), was notified of the initiation of the FYR. The review began on 10/9/2024. Appendix A provides additional resources and Appendix B includes the Site's chronology of events.

The EPA has determined in the five-year review that the cleanup at the Idaho Pole Co. Superfund Site is protective in the short term. This means that the current remedy is protective of human health and the environment and allows for recreational and commercial reuse. Land use restrictions prevent construction on Treated Soils Areas (TSAs). Residential use, on areas outside the TSAs, is subject to EPA and MDEQ approval. Controls are in place which do not allow new wells on the Site with the exception of monitoring wells used for the cleanup. Monitoring is ongoing. The monitoring results will inform next steps for the groundwater cleanup. Soil management evaluations are ongoing to determine how to address the soils within the TSAs that are currently within the 100-year floodplain.

Site Background

The 87-acre Site is located near the northern limits of Bozeman in Gallatin County, Montana (Figure 1). Between the late 1800s and early 1940s the predecessor of Burlington Northern Santa Fe Railway Company ran a five-stall roundhouse, on the Site, south of Cedar Street. In 1945, IPC began operating a wood treating facility using creosote to preserve wooden poles. In 1952, the facility switched to pentachlorophenol in carrier oil (similar to fuel oil like diesel) for the wood treating solution. Historically, IPC treated poles in butt vats, later adding pressurized heated retort equipment. The pole treatment included pole-peeling. Waste from the pole-peeling was placed in a bark-fill area north of Cedar Street. IPC continued wood treating with a pressurized heated retort and butt-dipping until September 1997 when the company stopped wood treatment. All former wood treating infrastructure was dismantled in 1999. On-site operations contaminated soil and groundwater. The Site currently consists of a Treated Soils Areas (TSAs) and vacant buildings along with groundwater remediation infrastructure. Northwest Energy has a substation on the Site. While the Site is currently not in use, a portion of it (36.039 acres) was purchased in 2022 by a developer (Scout DAC, LLC) who has plans to develop that portion of the Site.

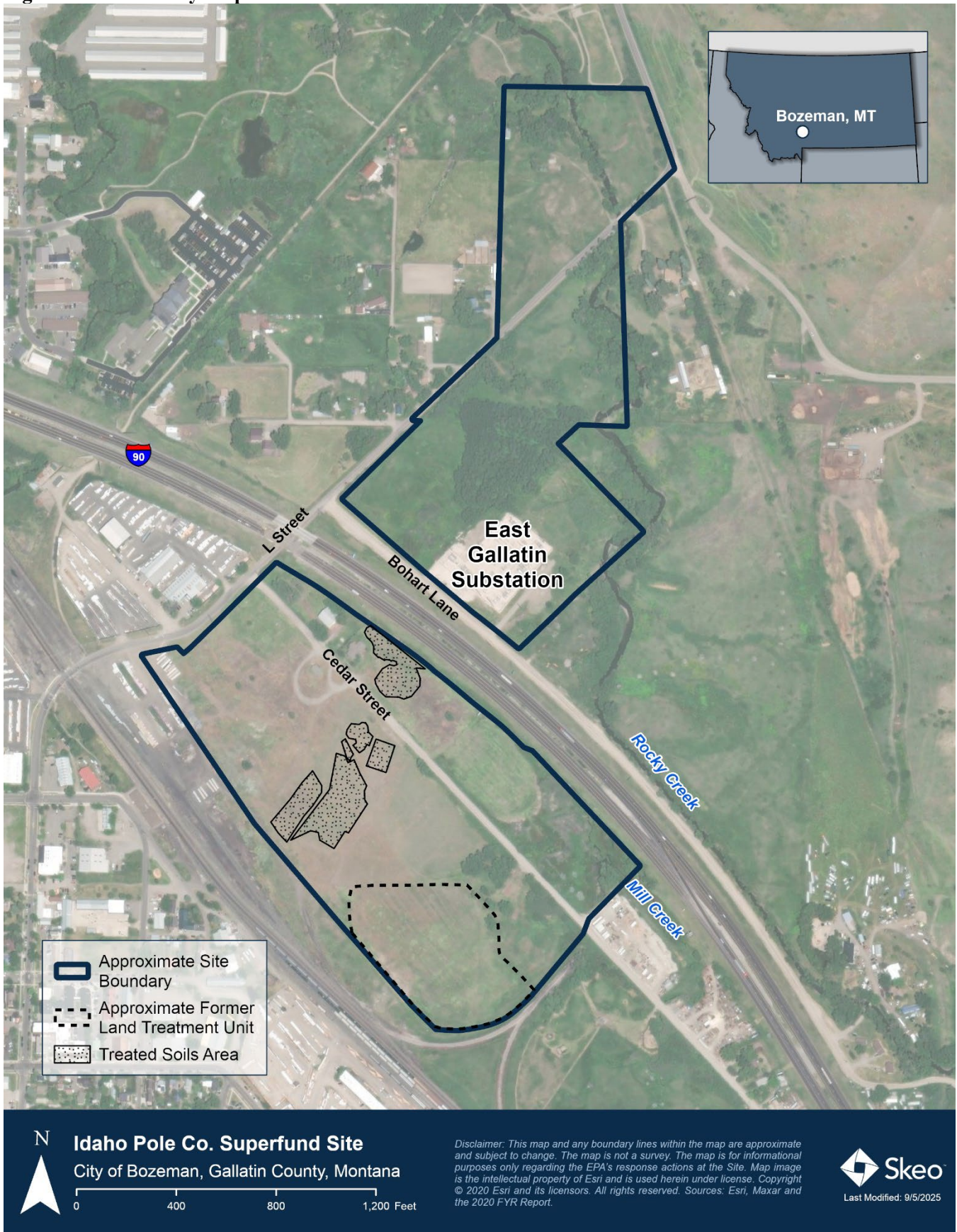
The Site is bounded by railroad tracks on the south, L Street on the west, and Rocky Creek on the east and north. A small section of Interstate 90 (I-90) crosses the property. A portion of the Site is located in the floodplain (Figure 2). Groundwater is present in the shallow, uppermost sand and gravel water-bearing zone (A Zone), in the

intermediate sandy/gravel water-bearing unit (B Zone) and in the water-bearing units below the intermediate B Zone (C and D Zones). Groundwater flows northeast towards Rocky Creek. Rocky Creek also receives water from Mill Creek. Further downstream, Rocky Creek combines with Bozeman Creek to form the East Gallatin River. Groundwater use is restricted by the Montana Division of Natural Resources Controlled Groundwater Area. Drinking water wells are present in the vicinity of the Site and are sampled regularly (Figure 2).

FIVE-YEAR REVIEW SUMMARY FORM

SITE IDENTIFICATION		
Site Name: Idaho Pole Co.		
EPA ID: MTD006232276		
Region: 8	State: Montana	City/County: Bozeman/Gallatin
SITE STATUS		
NPL Status: Final		
Multiple OUs? No	Has the Site achieved construction completion? Yes	
REVIEW STATUS		
Lead agency: EPA		
Author name: Jessica Smith, RPM with contractor support provided by Skeo		
Author affiliation: The EPA's Region 8 and Skeo		
Review period: 10/9/2024 - 8/1/2025		
Date of site inspection: 12/6/2024		
Type of review: Statutory		
Review number: 6		
Triggering action date: 9/30/2020		
Due date (five years after triggering action date): 9/30/2025		

Figure 1: Site Vicinity Map



II. RESPONSE ACTION SUMMARY

Basis for Taking Action

In 1978, the Montana Department of Fish, Wildlife and Parks notified the Montana Department of Health & Environmental Services (MDHES), which is now the MDEQ, of a suspected release of oily wood-treating fluid (later referred to as light non-aqueous phase liquid (LNAPL)) from the IPC facility. The MDHES found evidence of a release in ditches near the facility and near Rocky Creek. The MDHES issued a compliance order, notifying IPC of statutory violations and directing them to stop uncontrolled releases and to clean up spilled treating fluid. To slow or eliminate movement of the LNAPL through ground and surface water and into private wells, IPC installed and operated an interceptor drain with a sump and an interceptor trench adjacent to and south of I-90. The LNAPL was collected with an oil skimmer placed in a sump connected to the drain. An unknown quantity of LNAPL was collected from the drain and trench. Absorbent pads were placed in the culverts and ditches to intercept and collect oily wood-treating fluid. Culverts under I-90 were also dammed to prevent runoff of contaminated surface water to Rocky Creek.

In 1984, IPC conducted a remedial investigation without MDEQ or EPA oversight to identify the sources and extent of contamination at the Site. IPC drilled monitoring wells to collect groundwater samples. They also collected soil and surface water samples. The MDEQ and the EPA concluded that IPC's remedial investigation was insufficient to identify contaminant sources and to characterize the nature and extent of contamination.

The EPA listed the Site on the National Priorities List (NPL) in 1986. In March 1989, the MDEQ requested and received the lead agency role for a fund-financed Remedial Investigation/Feasibility Study (RI/FS) for the Site. As part of the RI/FS, human health and ecological risk assessments were completed. The risk assessments indicated that principal threats stem from subsurface soils, oily wood-treating fluid and, to a lesser extent, surface soils. The low-level threats stem from ditch and creek sediments. The primary pathways for exposure are ingestion of and direct contact with contaminated groundwater, ingestion of or direct contact with soils, and inhalation of air entrained in soils; the secondary pathways are ingestion of and direct contact with surface water and ingestion of vegetation. Potentially affected receptors include human beings (industrial use for soil and residential use for groundwater) and terrestrial and aquatic biota.

The contaminants of concern (COCs) for the soils, sediment and groundwater are pentachlorophenol (PCP), polycyclic aromatic hydrocarbons (PAHs), and polychlorinated dibenzo-p-dioxins and polychlorinated dibenzofurans. The PCP was historically dissolved in a carrier fuel similar in consistency to a diesel range organic with a carbon fraction between C₁₀ and C₂₈. While carrier fuel is not a COC identified in the Record of Decision (ROD), PAHs are typically associated with carrier fuels and can be used as indicator constituents for the carrier fuel that has undergone weathering, and dioxins and furans normally form during the incomplete combustion during PCP manufacturing. The primary groundwater COC is PCP, with sporadic detections of PAHs and PCBs that appear to be limited to the source area south of I-90.

Response Actions

The EPA selected the Site's remedy in the 1992 ROD. The ROD remedy addresses the remaining principal threats and selects treatment of contaminated soils, sediments and groundwater. The selected remedy indicated that some treatment residuals and soil contaminated at lower levels will remain on Site, such that the Site will require long-term management. The 1992 ROD did not identify any remedial action objectives (RAOs) but described that the purpose of the remedy was to control risks posed by direct contact, ingestion and inhalation of soils and groundwater, and to minimize migration of contaminants to groundwater, surface water, and air. The 1992 ROD was modified by the 1996 and 1998 Explanations of Significant Differences (ESDs). Table 1 provides remedy components identified in the decision documents. Table 2 shows the cleanup levels.

Table 1: Remedy Components

	1992 ROD	1996 ESD	1998 ESD
Soil and sediment	<ul style="list-style-type: none"> • Excavation and surface land biological treatment of contaminated soils and sediments from the pasture area and the area between Cedar Street and I-90, including ditch sediments or bottoms and the former roundhouse area. • Hot water and steam flushing of soils underlying the facility and I-90 to recover hazardous substances. • Separation and disposal of oily wood-treating fluid extracted from soils. • Closure of on-Site treatment unit in compliance with Resource Conservation and Recovery Act Subtitle C requirements (Figure 1). 	<ul style="list-style-type: none"> • Use of ambient water (instead of hot water/steam) for flushing inaccessible areas. • Additional excavation and treatment of soils from under Cedar Street and from the pole facility to the levels required in the ROD. • Sediments in the Substation Ditch will not be excavated because they do not exceed cleanup levels. • The Land Treatment Unit (LTU) will be located in the southeast corner of the facility and will receive all of the excavated soil. Soil will be treated in one-foot lifts and will be used for backfill on Site when PCP and PAH cleanup levels have been achieved. • Soil flushing component for the inaccessible areas of the Site will be designed with the groundwater remedy. 	<ul style="list-style-type: none"> • Demolition of facility structures including concrete pads, piping, vaults, etc. • Excavation and treatment of soils underlying the structures.
Groundwater	<ul style="list-style-type: none"> • Extraction and biological treatment and return of water to the groundwater aquifer to enhance in-situ biological degradation and to control potential migration of contaminants. • Treatment of contaminated residential wells exceeding MCLs or risk-based concentrations of COCs at the distribution point in addition to institutional controls preventing new access to contaminated groundwater. • Continued residential and groundwater monitoring to determine movement of contaminants and compliance with remedial action requirements. 	<ul style="list-style-type: none"> • Use of granular activated carbon in place of biological treatment. • The groundwater treatment system will be designed to enhance in-situ biological degradation and to control contaminant migration in a phased manner. 	<ul style="list-style-type: none"> • No changes.

	1992 ROD	1996 ESD	1998 ESD
Institutional Controls	<ul style="list-style-type: none"> Fencing and posting of areas where active remediation is occurring will be required to prevent unauthorized access to contaminated media or to remedial action areas. Prevention of domestic or commercial water well drilling in the contaminated groundwater plume area to prevent additional receptors of contaminated groundwater or an expansion of the plume. Land use and deed restrictions for the closed LTU to preserve the integrity of the closed LTU. 	<ul style="list-style-type: none"> No changes 	<ul style="list-style-type: none"> No changes

Table 2: COC Cleanup Levels

Media	COC	ROD Cleanup Level ^a	Basis
Soil and Sediments (mg/kg)	PCP	48	Risk
	Total B2 PAHs ^b	15	Risk
	Total D PAHs ^c	145	Hazard quotient
	TCDD TE ^d	0.001	Risk
Groundwater (µg/L)	PCP	1	MCL
	B2 PAHs:		
	Benzo(a)pyrene	0.2	MCL
	Benz(a)anthracene	0.1	MCL
	Benzo(b)fluoranthene	0.2	MCL
	Chrysene	0.2	MCL
	Dibenz(a,h)anthracene	0.3	MCL
	Indeno(1,2,3-CD)pyrene	0.4	MCL
Total D PAHs	146	Hazard quotient	
2,3,7,8-TCDD (Dioxin)	0.00003	MCL	

Notes:

- Cleanup levels are based on industrial use for soil and residential use for groundwater.
- Total B2 PAHs include benz(a)pyrene, benzo(a)anthracene, benzo(b)fluoranthene, chrysene, dibenz(a,h)anthracene and indeno(1,2,3-CD)pyrene.
- Total D PAHs include naphthalene, fluorene, phenanthrene, anthracene, fluoranthene, pyrene and benzo (g,h,i)perylene.
- Refers to sum of toxicity equivalents for individual polychlorinated dibenzo-p-dioxins (PCDDs) and polychlorinated dibenzofurans (PCDFs), expressed as concentration of 2,3,7,8-tetrachlorophenol dibenzo-p-dioxin (TCDD).

MCL = maximum contaminant level
mg/kg = milligram per kilogram
µg/L = microgram per liter
Source: Table 13 of the 1992 ROD, PDF page 42.

Status of Implementation

Soil and Sediment

IPC began the soil excavation portion of the cleanup in 1995. IPC dug up soils and constructed an LTU on Site. Contaminated soils were excavated from six areas at the Site: the Pressure Plant Area, the area beneath Cedar Street, the Barkfill Area, the Roundhouse Area, the Cedar Street Ditch (sediment) and the Pasture Area (Figure C-1). In 1999, IPC demolished and disposed of structures and excavated contaminated soil from underneath the

demolished structures. Approximately 19,000 cubic yards of contaminated soil were excavated and placed in the LTU for biological land treatment.¹ LTU operations continued through October 2000.

The LTU was dismantled in 2002. In addition to the excavated areas south of Cedar Street, two pits were excavated on Site near these excavated areas. Treated soil with PAH and PCP concentrations below the ROD soil cleanup standards, along with the filter sand from the LTU, were placed in the excavated areas (Barkfill and Pressure Plant Areas) and the two pits. However, these soils also contained dioxins and furans above the soil cleanup standards identified in the ROD. Therefore, the treated soil was placed above historic high groundwater levels and covered with 12 to 18 inches of clean soil to prevent direct human contact with treated soils in the TSAs (Figure 1). All the construction requirements for the treatment of the soils have been met as described in the 2002 Remedial Action Completion Report. Based on pre- and post-treatment sample analysis, the minimum amount of PCP mass removed by soil treatment is estimated at about 10,000 pounds.

The EPA and MDEQ approved a Soils Management Plan in March 2011. If Site soils must be disturbed, and approval has been granted by the EPA and MDEQ, the Soils Management Plan provides guidance as to the general health and safety precautions that must be in place to protect human health and the environment. Within the Controlled Groundwater Area (CGWA), no excavation shall be allowed where that excavation reaches saturated soil or groundwater, unless authorization is obtained from the EPA and MDEQ and a soils and groundwater management plan specific to the activities is approved by the EPA and MDEQ. Since the soils remedial action was completed, a number of investigation activities have occurred:

- In 2014, an investigation to determine the nature and extent of residual wood-treating fluids that remain in subsurface soils in the Barkfill Area and to determine the need for additional source or groundwater remediation efforts was conducted. The investigation efforts found that PCP concentrations in subsurface soil ranged from non-detect to 57 milligrams per kilogram and total petroleum hydrocarbons ranged from non-detect to 7,200 mg/kg. Based on these results and the accompanying groundwater concentrations, two pilot studies were conducted in 2015 and 2016. See below in the Groundwater Section for more information.
- In 2017, five soil composite samples were collected at depth from the TSAs and analyzed for dioxins and furans. Samples collected at four of the five sample locations exceeded the ROD cleanup standards of 1 microgram per kilogram ($\mu\text{g}/\text{kg}$). Values ranged from 0.69 $\mu\text{g}/\text{kg}$ to 2.9 $\mu\text{g}/\text{kg}$. These results supported the need to continue to have institutional controls and a protective cover in place, as well as a robust inspection and maintenance program, to ensure the soil remedy remains protective of human health and the environment.
- In 2018, soil samples were collected from 0 to 6 inches for dioxin analysis because the EPA and MDEQ determined that additional analyses of dioxins were needed to compare to recently revised EPA regional screening levels (RSLs) for residential and industrial use.

Based on a review of the historical Site record and collected samples, the agencies determined that the soils have been well characterized and proceeded with issuing a Notice of Intent of Partial Deletion from the NPL of the surface and unsaturated subsurface soils outside of the 4.5-acre TSAs. The Notice of Intent of Partial Deletion was placed in the Federal Register on July 19, 2019, under Docket Identification No. EPA-HQ-SFUND-1986-0005.

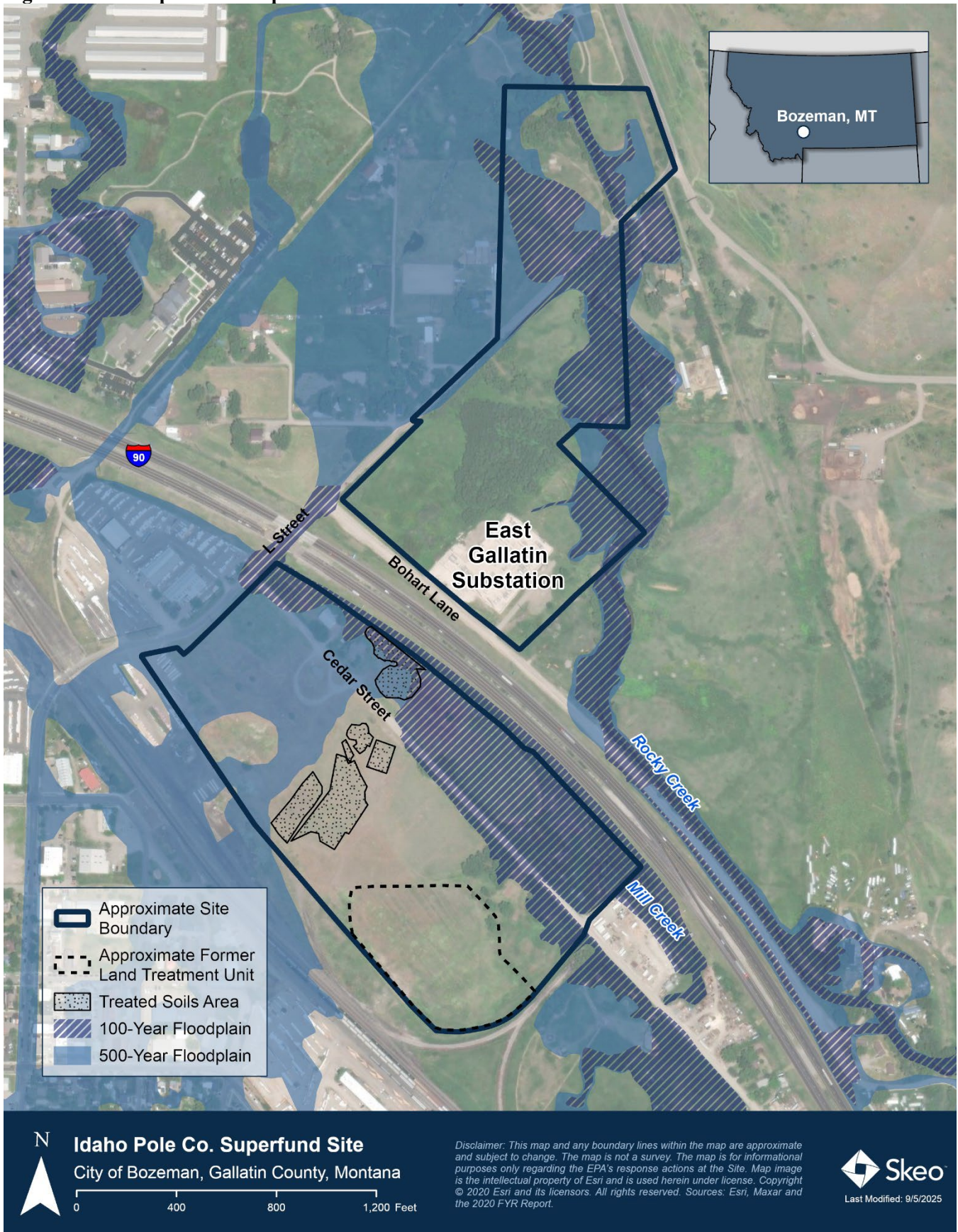
Concerns were raised during the partial deletion public comment period that the soils were not appropriately characterized to allow for partial deletion. In 2019, additional soil samples were collected from 0 to 6 inches from the former roundhouse area, the LTU area and the TSAs, and analyzed for PCP and PAHs. Two additional samples were also taken from the ditch along the south side of Bohart Lane between monitoring wells GM-4 and GM-5 from the 0-to-6-inch and 6-to-12-inch intervals. Analytical results were below cleanup levels established in

¹ Treatment takes place in the unit by enhancing the conditions in which naturally occurring microorganisms live and reproduce. Plowing adds oxygen to the soil and irrigation and nutrient addition (nitrogen and phosphorus) serves to promote biodegradation.

the 1992 ROD and appropriate chemical contaminant RSLs for industrial use. The Notice of Partial Deletion was published in the Federal Register in January 2022 and included a responsiveness summary and supporting material that addressed the public comments received. The partial deletion only pertains to the surface and unsaturated subsurface soils outside of the 4.5-acre TSAs. Groundwater, sediments and saturated subsurface soils, as well as the 4.5-acre TSAs, are still on the Final NPL.

As a result of the proposal for partial deletion, redevelopment of the southern portion of the Site was considered. The area that presents the greatest potential for Site redevelopment is the 35.5-acre area consisting of four parcels owned by IPC. Although the soil samples met the cleanup criteria outlined in the ROD, some toxicity values for site COCs have become more stringent since 1992. In 2021, a prospective purchaser conducted an investigation to analyze composite surface soil samples at specific locations in the southern portion of the Site for PAH, PCP and furan (Figure C-2). Laboratory data indicated that all the soil samples had PCP and PAH concentrations below the ROD cleanup levels, commercial/industrial RSLs, construction worker RSLs, and screening values. Dioxin/furan concentrations for all the soil samples were below the ROD and construction worker RSLs; however, dioxin/furan concentrations in five of the soil samples exceed the commercial/industrial RSL. These locations are primarily located adjacent to the TSAs (Figure C-3). In 2022, Scout DAC, LLC purchased four parcels owned by IPC. Scout DAC, LLC negotiated a Prospective Purchaser Agreement with the federal and Montana state governments. In the resulting Administrative Settlement Agreement, Scout DAC, LLC agreed to the following removal actions: 1) removal of treated soils from north of Cedar Street and consolidation of these soils with the treated soils south of Cedar Street; 2) additional clean cover and composite cap over the resulting TSAs; 3) improved stormwater management; and 4) establishment of the utility corridor to avoid contact with the TSAs or with the groundwater contamination. Scout DAC, LLC is currently conducting a treatability study to investigate soil treatment that could reduce the remaining contaminant levels in the TSAs to below the established risk-based threshold concentrations. New floodplain maps show some of the treated soils are in the floodplain. To ensure no treated soils remain in the newly delineated floodplain, Scout DAC, LLC has agreed to either remove and consolidate treated soils on Site or treat the residual contamination in place, thus reducing the need to move soils. See Figure 2 for the updated floodplain boundaries.

Figure 2: Site Map with Floodplain Boundaries



Groundwater

Construction of the groundwater recovery system began in August 1996 and was completed in January 1997. The groundwater recovery system began treating groundwater on February 5, 1997. Groundwater was extracted and treated via granular activated carbon filtration. Nutrients were added to the treated water before it was injected downgradient and upgradient of the source area. The treatment of groundwater was conducted at the Site from 1997 through 2016 by the groundwater recovery system and injected downgradient (Barkfill Injection Gallery) and upgradient (Pressure Plan Injection Gallery) of the source areas. Over 624 million gallons of groundwater were treated by the groundwater recovery system from 1997 to 2016 with no reported exceedances of discharge limits. Approximately 60 pounds of total PAH compounds and 290 pounds of PCP were removed by the groundwater recovery system during operations.

An additional component of the groundwater remedy was an oil recovery interceptor trench located on the north side of I-90. The occurrence and volume of oil diminished significantly between 2012 and 2015 when the trench was closed and reclaimed per the EPA-approved Trench Closure Work Plan.

In an effort to enhance degradation of PCP, IPC conducted two pilot studies. In 2015, nitrate-rich nutrients were injected into the Barkfill Area. In 2016, IPC injected CBN™ and a non-ionic/biodegradable surfactant (PetroSolv™) into the Barkfill Injection Gallery, temporary injection wells, and through direct push boreholes. Results of the 2015 and 2016 pilot studies indicate PCP concentrations were reduced in source area wells for a short period until all bio-amendments were consumed, at which time PCP concentrations rebounded at source area wells. Based on the results of the pilot studies, the EPA approved the decommissioning of the groundwater recovery system. The groundwater recovery system, including pumps and carbon filters, was dismantled in August 2018. The building and its foundation remained intact after all equipment was removed.

With the termination of the groundwater recovery system, the Statement of Work that accompanied the 1993 Unilateral Administrative Order was amended in August 2019 to require screening technologies, process options, and development of remedial alternatives to address the remaining groundwater contamination at the Site. A draft Focused Feasibility Study (FFS) was submitted to the EPA and MDEQ on February 28, 2020. It evaluated the following alternatives: no action; monitored natural attenuation; in-situ treatment with biological and/or chemical enhancements; and monitored attenuation with contingency in-situ biological/chemical treatments. Except for the no-action alternative, all alternatives include institutional and engineering controls. As part of the FFS, IPC prepared a work plan to provide for the implementation of in-situ amendments to treat residual wood treating fluids in the Barkfill Area and to place downgradient passive reactive barriers along Bohart Lane and near wells 25A/B and 27A/B. In-situ amendments were conducted in August and September 2022 in four targeted areas including the Barkfill Area, Mid Permeable Reactive Barrier, 25-A/B PRB and 27-A/B PRB areas (Figure C-4). Additional injections were conducted in January 2024. Performance monitoring started in 2023 and will continue for seven years to evaluate the post-treatment groundwater conditions. The groundwater remedy will be documented in a final FFS, once any changes to the groundwater remedy are determined.

Institutional Control (IC) Review

The 1992 ROD required ICs for the following purposes:

- Prevention of domestic or commercial water well drilling in the contaminated groundwater plume area to prevent additional receptors of contaminated groundwater or an expansion of the plume.
- Land use and deed restrictions for the closed LTUs to preserve the integrity of the closed LTUs.

A Notice of Institutional Controls was recorded in Gallatin County on September 9, 2010, and reinstated and amended on August 15, 2016, and August 30, 2017, which includes the following restrictions:

- Construction (other than surface paving, landscaping curbs, light standards, traffic signs and greenways) is prohibited in the TSAs, except as authorized by the EPA or MDEQ or provided in the Remedial Action.
- Excavation deeper than 12 inches in the TSAs, except as provided in the Remedial Action.
- Excavation within the CGWA without EPA and MDEQ authorization.

- Groundwater use or development within the CGWA (which presumably includes dewatering), except as provided in the Remedial Action or authorized by the EPA and MDEQ, and
- No residential development or residential use of the property, unless approved by the EPA and MDEQ.

The Notice of Institutional Controls that was reinstated and amended on August 15, 2016, prohibits residential development or residential use of the property owned by IPC. This restriction was determined to be overly restrictive for the two properties designated as sub-district Agriculture Suburban in the Gallatin County-Bozeman Area zoning district north of I-90, so the Notice of Institutional Controls was reinstated and amended on August 30, 2017, to allow for residential use on these properties. The 1992 Human Health Risk Assessment evaluated risk to future residents residing on these properties. The exposure media evaluated were soils and consumption of garden produce using municipal water, and the exposure routes evaluated were ingestion, direct contact, and inhalation of particulates. The corresponding cancer risk to the future off-site resident was within the EPA’s acceptable risk management range of 10^{-4} and 10^{-6} and the noncancer hazard quotient was <1 . This is consistent with the ROD, which did not contain language that restricts future residential use on the Site. However, to ensure continued protection of human health and the environment, should these properties be redeveloped, the Notice of Institutional Controls includes prohibitions on groundwater use or development and excavation within the CGWA without EPA and MDEQ approval.

Montana Department of Natural Resources (Decision 41H-114172) issued a CGWA designation in 2001 pursuant to Section 85-2-506 and 508, ARM, as amended. The CGWA restricts use of groundwater for any purpose except as provided in the remedial action or as otherwise authorized by the EPA and MDEQ.

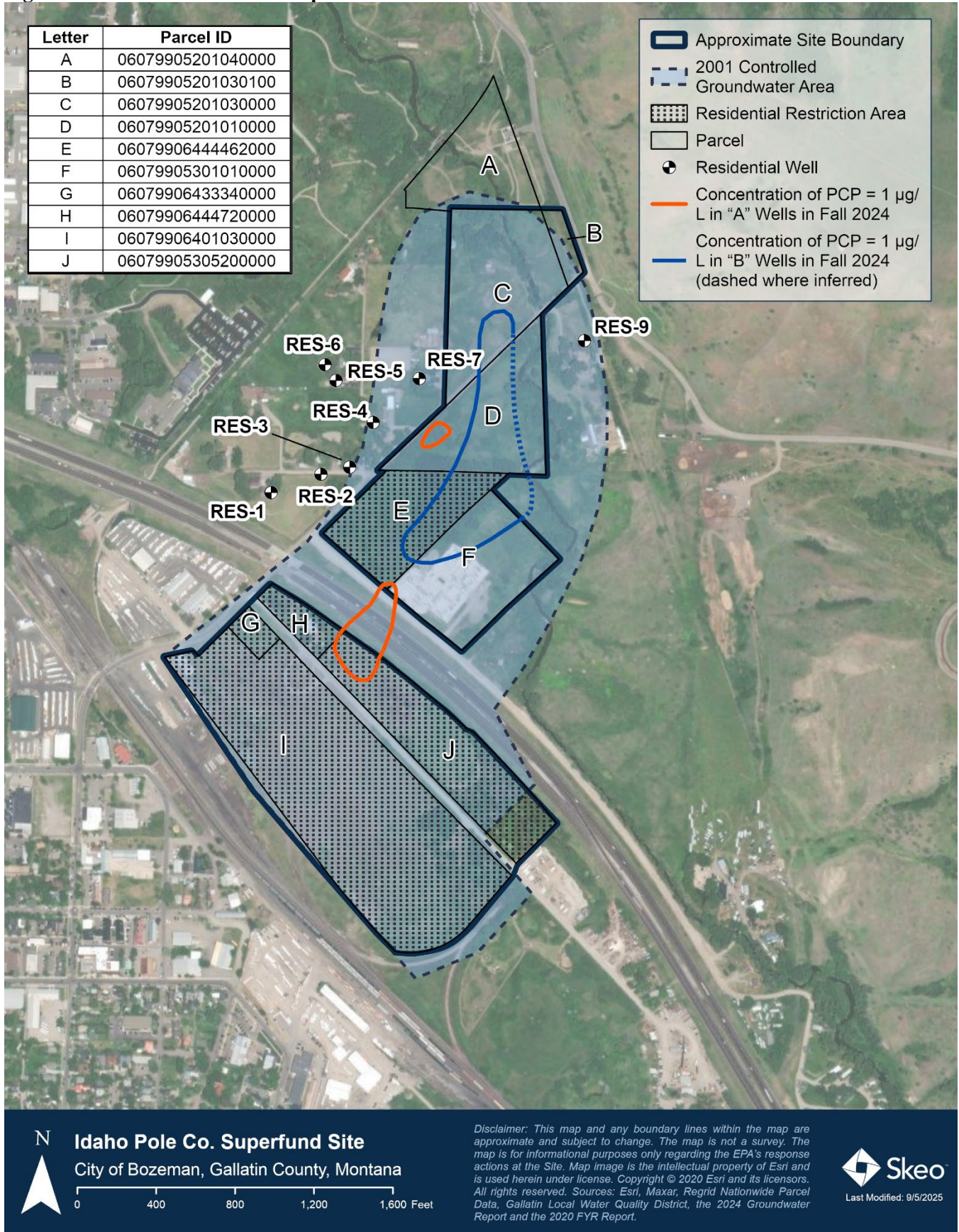
Table 3 and Figure 3 summarize the ICs at the Site.

Table 3: Summary of Planned and/or Implemented ICs

Media, Engineered Controls and Areas That Do Not Support UU/UE Based on Current Conditions	ICs Needed	ICs Called for in the Decision Documents	Impacted Parcel(s)	IC Objective	Title of IC Instrument Implemented and Date (or planned)
Soils	Yes	Yes	See Figure 3; parcels E, G, H, I, J	Preserve the integrity of the closed LTU; restrict residential use; restrict construction on TSAs	2010 Notice of Institutional Controls Instrument Number 2369872 ^a 2016 Notice of Institutional Controls Instrument Number 2554371 ^a 2017 Notice of Institutional Controls Instrument Number 2591158 ^a
Groundwater	Yes	Yes	IPC property and buffer zone	Restrict use of groundwater; restrict excavations within CGWA	2001 CGWA ^b

Media, Engineered Controls and Areas That Do Not Support UU/UE Based on Current Conditions	ICs Needed	ICs Called for in the Decision Documents	Impacted Parcel(s)	IC Objective	Title of IC Instrument Implemented and Date (or planned)
			See Figure 3; parcels E, G, H, I, J	Restrict groundwater use or development within the CGWA, except as provided in the Remedial Action or authorized by the EPA and MDEQ	2010 Notice of Institutional Controls Instrument Number 2369872 ^a 2016 Notice of Institutional Controls Instrument Number 2554371 ^a 2017 Notice of Institutional Controls Instrument Number 2591158 ^a
<p>Notes:</p> <ol style="list-style-type: none"> Located at: https://eagleweb.gallatin.mt.gov/recorder/eagleweb/docSearch.jsp, accessed 3/4/2024. This link is for the general landing page. Once logged in, the institutional controls can be located by searching for the document number. Located at: https://gis.gallatin.mt.gov/webmaps/?map=glwqd, accessed 3/4/2024. 					

Figure 3: Institutional Control Map



Systems Operations/Operation and Maintenance (O&M)

A Sitewide groundwater monitoring program was implemented in 1996. The program has evolved over time and in response to Site remedies and declining concentrations of PCP and PAHs in groundwater. The current monitoring program incorporates semi-annual sampling and analysis of groundwater collected from on-Site and off-Site monitoring wells. The groundwater recovery system was shut down and decommissioned in 2016. With the groundwater recovery system shutdown, a revised groundwater monitoring work plan was submitted and reviewed by the EPA and MDEQ and approved on July 20, 2018. Groundwater monitoring is currently conducted per the “In-Situ Amendments and Performance Monitoring in Support of Focused Feasibility Study Work Plan Amendment 1 dated September 29, 2023.” In May 2025, IPC submitted a draft Amendment 2 with revisions to the groundwater monitoring. The EPA and MDEQ are currently reviewing this document.

There is no O&M plan in place for the TSAs and there has never been an O&M Plan. The O&M requirements were not specified in the decision documents for the Site. However, these requirements should be documented in an O&M Plan to ensure the integrity of the cap. As noted during the 2020 FYR, there is no formal schedule for inspection of the TSAs, and woody vegetation may be growing on the edges of the TSAs. An O&M plan will be developed by 2026.

III. PROGRESS SINCE THE PREVIOUS REVIEW

This section includes the protectiveness determinations and statements from the previous FYR Report as well as the recommendations from the previous FYR Report and the status of those recommendations.

Table 4: Protectiveness Determinations/Statements from the 2020 FYR Report

OU #	Protectiveness Determination	Protectiveness Statement
1	Short-term Protective	The remedy currently protects human health and the environment because ICs are in place such as a deed restriction on the IPC property and a CGWA that restricts potable use of the groundwater. In order to be protective in the long term, the following actions are needed: install and sample additional wells in the groundwater portion of the plume; complete the FFS and modify the remedy to address residual source area contamination; and draft the O&M Plan, which identified a formal schedule for inspection and how any identified deficiencies will be addressed.
Sitewide	Short-term Protective	The remedy currently protects human health and the environment because ICs are in place such as a deed restriction on the IPC property and a CGWA that restricts potable use of the groundwater. In order to be protective in the long term, the following actions are needed: install and sample additional wells in the groundwater portion of the plume; complete the FFS and modify the remedy to address residual source area contamination; and draft the O&M Plan which identified a formal schedule for inspection and how any identified deficiencies will be addressed.

Table 5: Status of Recommendations from the 2020 FYR Report

OU #	Issue	Recommendations	Current Status	Current Implementation Status Description	Completion Date (if applicable)
1	PCP concentrations in groundwater have decreased significantly in the downgradient portion of the plume and continue to decline in general, but there has been an increase in PCP detected in monitoring wells 25-B, 26-B and 27-B since 2017.	Install and sample three additional wells in the downgradient portion of the plume and along the boundary of the CGWA to determine whether additional remediation measures are necessary should the plume migrate beyond the CGWA boundary.	Completed	In October 2020, downgradient wells 30-B, 31-A and 31B were installed and sampled.	10/1/2020
1	Residual soil and groundwater contamination in the source area continue to feed a plume that is migrating downgradient.	Complete the FFS and modify the remedy to address residual source area contamination.	Ongoing	An FFS was submitted to the Agencies on February 28, 2020. IPC conducted injections as a result of the FFS. Monitoring is ongoing. The remedy has not yet been modified in a decision document. This issue will be included as an issue in this FYR.	Not applicable
1	There is no formal schedule for inspection of the TSAs and that wood vegetation may be growing on the edges of the TSAs.	Draft the O&M Plan to identify a formal schedule for inspection and how any identified deficiencies will be addressed.	Under Discussion	An O&M Plan which identifies a formal schedule for inspection of the TSAs has not been prepared. This issue will be included as an issue in this FYR.	Not applicable

IV. FIVE-YEAR REVIEW PROCESS

Community Notification, Community Involvement and Site Interviews

A public notice was made available on 1/28/2025 and 2/1/2025 in the Bozeman Daily Chronicle (Appendix D). It stated that the FYR was underway and invited the public to submit any comments to the EPA. The results of the review and the report will be made available at the Site’s information repositories, the Bozeman Public Library (220 East Lamme Street, Bozeman, Montana 59715) and the Helena EPA office (10 West 15th St, Suite 3000, Helena, MT 59626).

During the FYR process, interviews were conducted to document any perceived problems or successes with the remedy implemented to date. The interviews are summarized below and included in Appendix E.

Jacob Wheeling, with MDEQ, stated that overall, they think the project is moving in the right direction. Outstanding items include the removal of capped soils in the flood plain and the development project. Following the persulfate injections there has been a substantial reduction of PCP in the groundwater plume. The soil treatment was effective at reducing the contamination enough to be capped. The surface of the site looks healthy with good vegetation and a healthy wildlife population. Mr. Wheeling stated that MDEQ is concerned about dioxins in groundwater at the Site. MDEQ recommends updating the 2,3,7,8-TCDD cleanup level to account for the other 16 congeners by using the toxicity equivalence (TEQ) model. Additionally, since the signing of the ROD, the state of Montana has adopted the Circular DEQ-7 Water Quality Standards (2019). MDEQ recommends lowering the dioxin cleanup level to the state standard of 2 picograms per liter (pg/L) for groundwater using the TEQ method. MDEQ recommends restarting monitoring of dioxins in groundwater to ensure protectiveness of the remedy.

Travis Horton and Lori Christenson with the Gallatin City-County Health Department stated they are aware of the former environmental issues at the Site and the cleanup to date. Cleanup actions seem to have helped mitigate the pollution. The area is covered by a CGWA as a result of the contaminants. They said that in recent years, efforts to provide information regarding the Site's activities have been sufficient and improved from years past. They met with the potential developers, Scout DAC, LLC, and the city of Bozeman regarding proposed development of the area and protective measures that would be employed.

Mayor Cunningham, mayor of Bozeman, stated that they are aware of the contamination from the wood treating facility. The community is generally concerned about dust controls and building into the treated soils. Additionally, there is concern about whether controls will be followed once construction begins. They are also concerned with the creep of the contaminated groundwater to the north and infiltration into drinking water wells. They have been impressed with the transparent process and have found updates to be timely and factual. Mayor Cunningham suggested keeping the City of Bozeman up to date with all of the Site issues.

Les Lonning, with IPC, stated that their opinion is that the Site is nearing the end of its cleanup process. Roughly 66% of the groundwater wells meet the cleanup standard (for PCP). The only outstanding piece of the cleanup is the groundwater. They are not sure the cleanup goal will be achieved, except through natural attenuation. There have been several issues with unhoused individuals on the property. Police Reports were filed because both offices have been vandalized.

Heidi Kaiser, with IPC Contractor Hydrometrics, stated that IPC has applied a variety of practical remedies at the Site with positive outcomes. The logical option going forward is long-term monitoring. ICs in place eliminate risk from any remaining contamination. Enhancement of natural attenuation with the 2022 injections at the Site has helped to continue downward concentration trends in downgradient areas.

Amy Kelley Hoitsma, president of the Northeast Neighborhood Association, stated that they are mostly aware of the former environmental issues at the Site and the cleanup activities that have taken place to date. They stated the cleanup sounds like it has been thorough. They have not heard of any Site-related updates and suggested that the EPA send out the 2024 groundwater results via email or a simple postcard or fact sheet. As the development goes forward, they want to know what is happening, including information about the moving of soils and related dust, and where the soils will be located.

Data Review

Groundwater flows northeast (Figure C-5 in Appendix C). The groundwater recovery system operated and injected downgradient (Barkfill Injection Gallery) and upgradient (Pressure Plan Injection Gallery) of the source areas until 2016. In-situ amendments were conducted in August and September 2022 in four targeted areas including the Barkfill Area, Mid PRB, 25-A/B PRB, and 27-A/B PRB areas. Performance monitoring is conducted in accordance with the 2022 In-situ Amendments and Performance Monitoring in Support of Focused Feasibility Study Work Plan. Performance monitoring will be conducted over the next seven years to evaluate the post-treatment groundwater conditions. Additional injections were conducted in January 2024. This section reviews data collected in 2022, 2023 and 2024 as summarized in the 2024 Groundwater Report.

PCP is the main groundwater COC remaining. Figures 3, 4 and 5 show the October 2024 PCP groundwater plumes. The plumes are delineated. The extent of PCP at the Site has declined since May 2022 (pre-injections) and October 2024 from 4.6 acres to 2.2 acres in the A zone and 12.7 acres to 8.4 acres in the B Zone. Ongoing monitoring will determine whether groundwater will meet remedial goals or if additional remediation actions will be necessary. Concentrations of PAHs are generally below cleanup goals in groundwater. Concentrations of dioxins and furans were below detection in October 2022 and October 2024; however, the detection limit for the October 2024 sampling event was above the ROD cleanup goal.

Groundwater

Groundwater monitoring is conducted in the source area, mid-plume, and boundary area. Wells with an “A” designation are screened in the shallow uppermost sand and gravel water-bearing zone. Most of the A wells are less than 15 feet in total depth. “B” designated wells are screened in the intermediate sandy/gravel water-bearing unit. In some locations the B zone is separated from the shallow A zone by a layer of fine sand and silty clay materials. However, this finer grained unit is laterally discontinuous across the Site. Most B wells are screened between 20 and 30 feet below the ground surface. The “C” designation indicates the well is screened in the water-bearing unit below the intermediate B Zone. The “D” designation indicates the well is screened in the water-bearing unit below the deeper C Zone. The “B” and “C” units are separated by a five- to ten-foot-thick layer of silty clay. C and D zone wells are sampled on a five-year monitoring schedule.

PAHs and Dioxins/Furans

PAH and dioxin/furan sampling is conducted only in monitoring well 5-A. Table 6 shows PAH concentrations compared to cleanup goals (maximums in each year). Concentrations of PAHs were below cleanup goals in October 2024 with the exception of chrysene and benz(a)anthracene.

During the October 2022 and October 2024 sampling events, the sample results at 5-A were non-detect for 2,3,7,8-TCDD.

Table 6: PAH Sampling in Monitoring Well 5-A

COC	Cleanup Goal	2022	2023	2024
Benzo(a)pyrene	0.2	<1 U,D	<0.17 U	<1 U
Benz(a)anthracene	0.1	0.65 D,J	<0.14 U	0.16
Benzo(b)fluoranthene	0.2	<1 U	<0.26 U	0.19
Chrysene	0.2	0.86 D,J	0.18 J,D	0.24
Dibenz(a,h)anthracene	0.3	<1 U, D	<0.5 U	<0.1 U
Indeno(1,2,3-CD)pyrene	0.4	<1 U	0.06 J,D	<0.1 U
Naphthalene	146 ^a	4.28 D	3.93 D	0.87
Fluorene	146 ^a	11.8 D	11.5 D	7.43
Phenanthrene	146 ^a	10.2 D	9.32 D, J	<0.05 U
Anthracene	146 ^a	0.78 D,J	0.96 D	0.86
Fluoranthene	146 ^a	3.31 D	1.64 D	2.24
Pyrene	146 ^a	2.73 D	1.37 D	1.79 Q
Benzo(g,h,i)perylene	146 ^a	<1 U, D	<1 U	<0.1 U

Notes:

All values presented in µg/L

Bold = concentration is greater than cleanup goal

D = Reported value is from a dilution

U = Analyte not detected above reporting limit

J = Field duplicate exceedance

Q = Matrix interference, estimated value, surrogate outside of control limits

a. Cleanup goal is for Total D PAHs.

Source: Table 2-3 of the December 2024 Groundwater Monitoring Report.

PCP

Of the 53 monitoring wells sampled in most recent sampling event in October 2024, 20 of the wells had concentrations above the cleanup goal of 1 µg/L. The highest concentrations of PCP were observed at IW-1 (349 µg/L), P-4 (293 µg/L), and 5-A (232 µg/L). All three of these wells are located in the Barkfill Area, south of I-90. In May 2022 these three wells had concentrations of 179 µg/L, 146 µg/L, and 204 µg/L, respectively. Wells with increased PCP concentrations during October 2024 as compared to May, 2022 include downgradient wells GM-4,

16-B and 26-A, and source area wells 5-A, EW1, IW1, P2 and P4. Continued monitoring will determine if concentrations decrease post injection.

All but two of the eleven plume boundary wells (12-A, 13-A, 16-A, 25-B, 26-B, 27-A, 27-B, 30-B, 31-A, 31-B and GM-5) reported PCP concentrations as either non-detect or below the remedial goal of 1 µg/L during the October 2024 sampling event. Concentrations of PCP at 25-B (11.7µg/L) and 27-B (11.1 and 11.4 µg/L) were reported above the remedial goal in October 2024. Previously, these two wells had reported concentrations below detection levels between 2014 and 2017, but all have had measurable PCP at some time since 2017 (Figure 6). Mann-Kendall statistical evaluation of the PCP concentrations at 25-B and 27-B from 2018 through October 2024 indicates concentrations are decreasing at both wells with confidence factors of 98.2% and 100%, respectively. Monitoring wells 30-B and 31-B are located downgradient of 25-B and 27-B (see Figure 4).

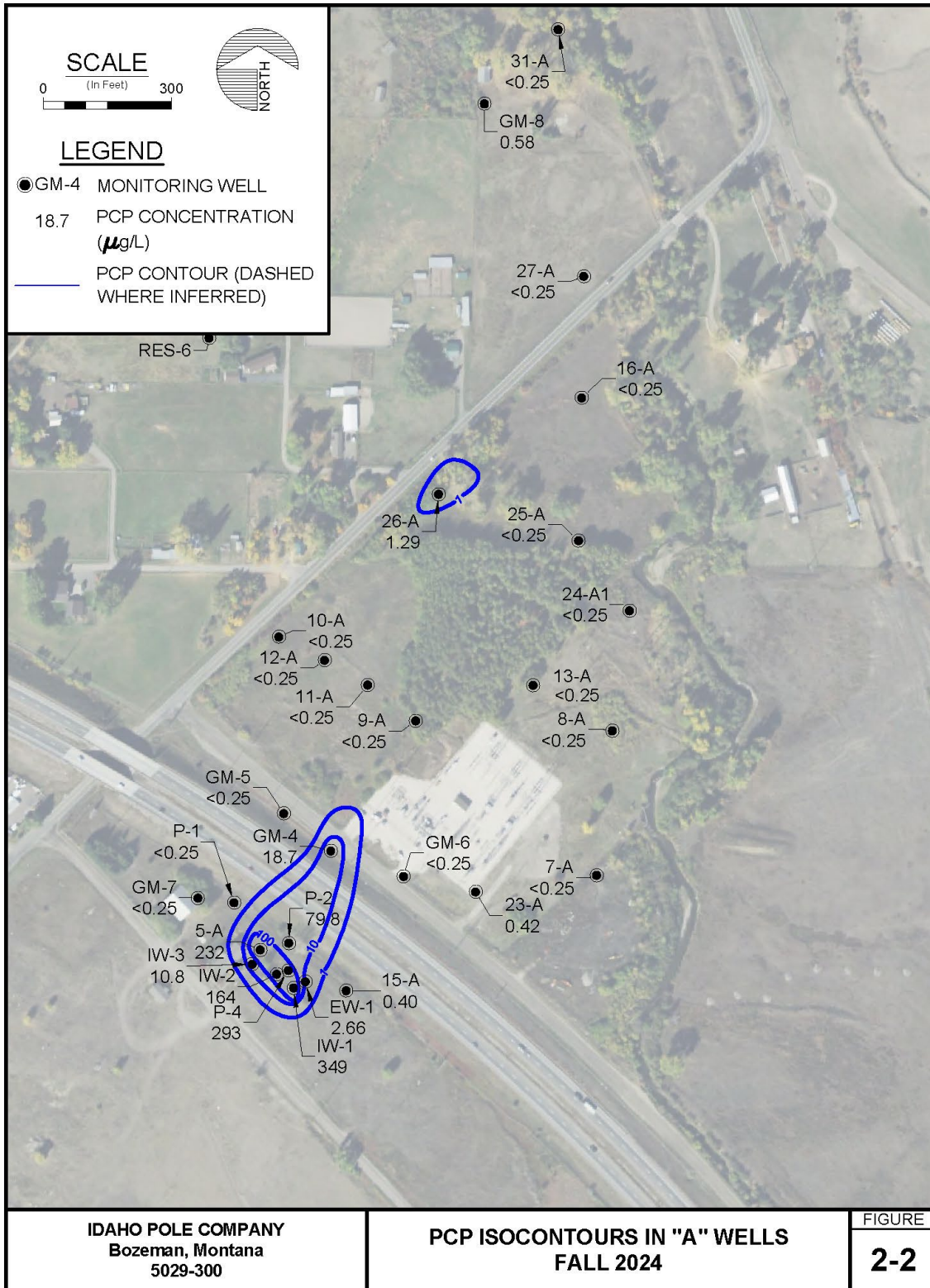
All four “C” wells sampled in October (5-C, 9-C, 23-C, and 26-C) had detectable quantities of PCP, with concentrations greater than the cleanup goal at three of the wells (wells 9-C, 23-C and 5-C) (Figure 5). All PCP concentrations at the C wells were within historical ranges for these wells. Prior to the Fall 2024 sampling, these wells were last sampled in 2019 for the last FYR. PCP concentrations at the “C” wells declined in 2024 by between 21% and 57% as compared to the 2019 concentrations.

Residential Well Sampling

A residential well monitoring program has been conducted at the Site since 1989. Residential monitoring was conducted in coordination with site-wide groundwater monitoring to evaluate the presence of PCP concentrations in wells downgradient of the Site. The current residential well monitoring network consists of eight wells (Wells Res-1 through Res-7 and Res-9). These wells are currently a source of residential water supplies, and all meet drinking water standards for PCP.

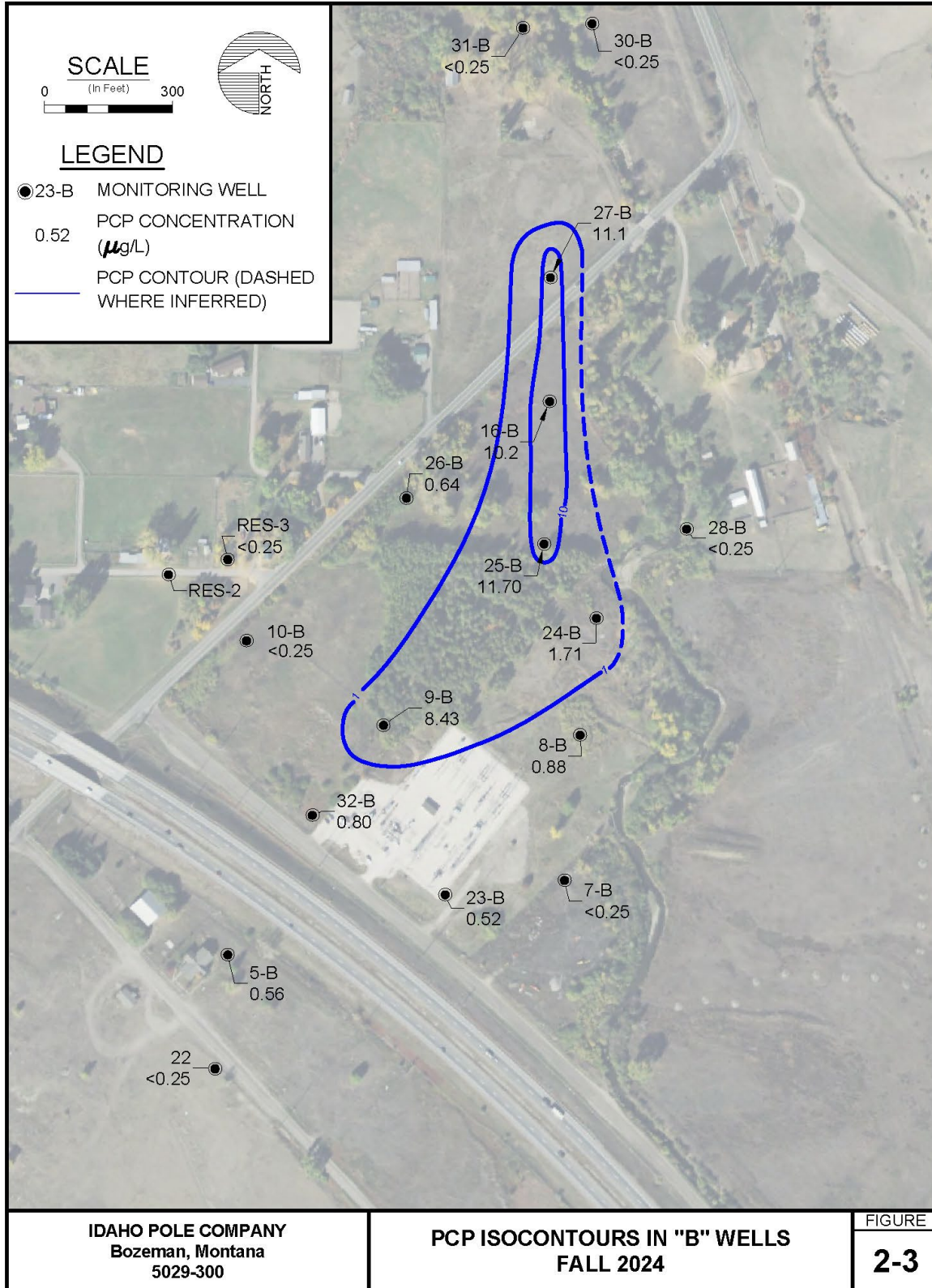
In October 2021 and 2022, samples from the residential wells all reported concentrations of PCP less than 0.25 µg/L, which is below the Site cleanup level. Two of the eight residential wells were not sampled either at the request of the landowner or due to the absence of power to the well pump. In October 2023 and October 2024, samples from the residential wells all reported PCP concentrations of less than 0.25 µg/L at all wells. Three of the eight residential wells were not sampled either at the request of the landowner or due to the absence of power to the well pump.

Figure 3: PCP in "A" Wells (October 2024)



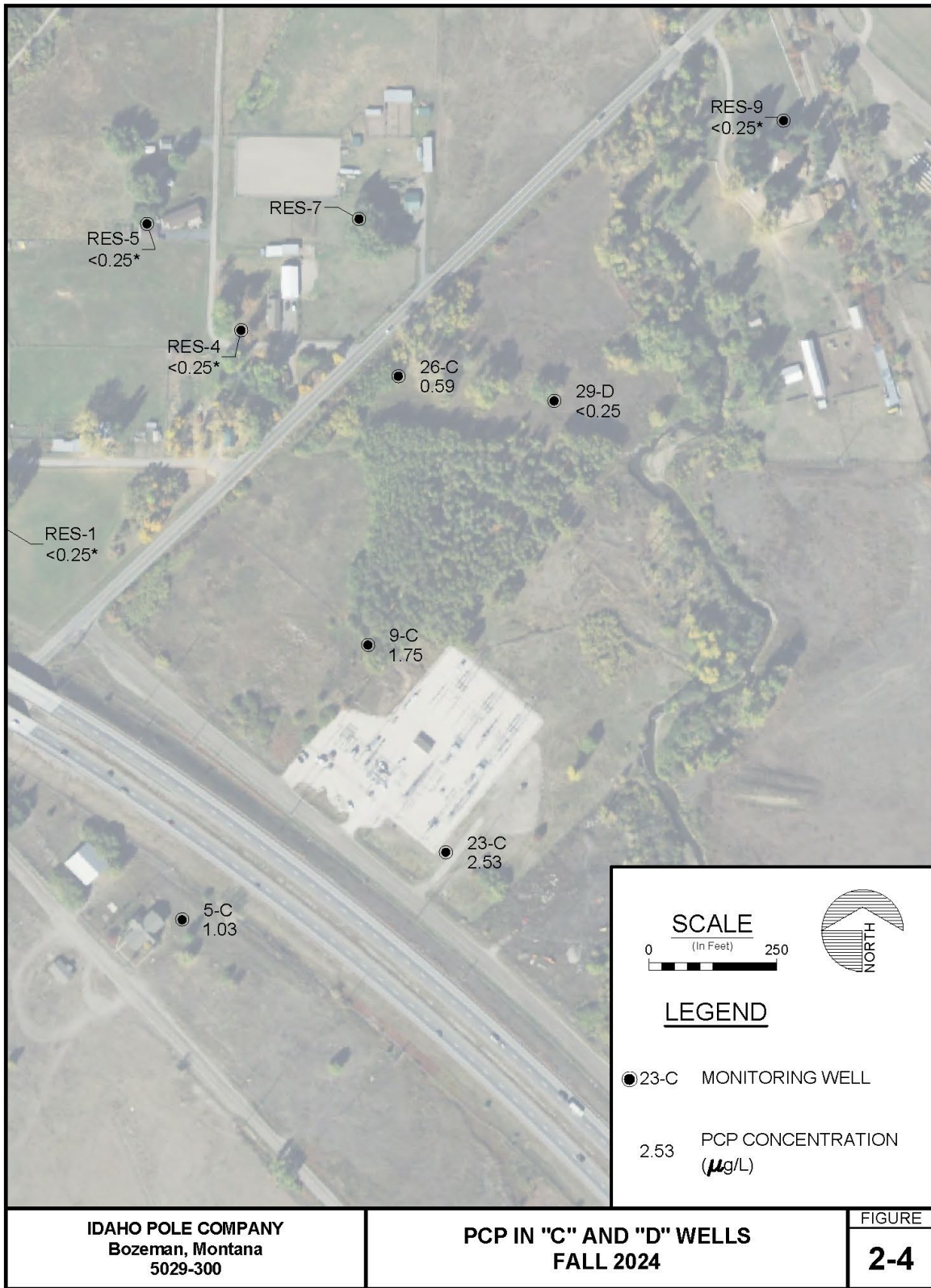
Source: Figure 2-2 of the October 2024 Groundwater Monitoring Report

Figure 4: PCP in “B” Wells (October 2024)



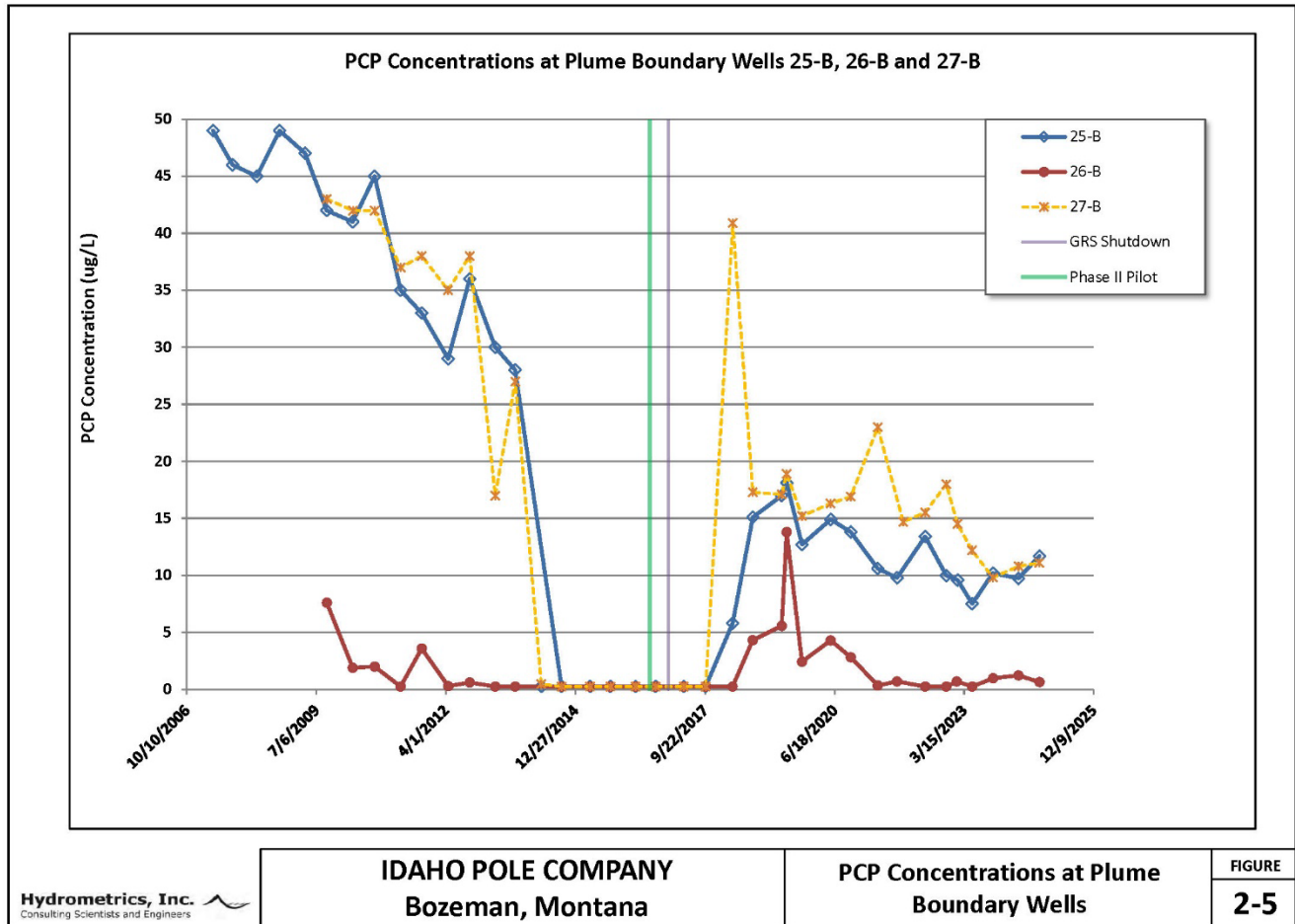
Source: Figure 2-3 of the October 2024 Groundwater Monitoring Report

Figure 5: PCP in “C” and “D” Wells (October 2024)



Source: Figure 2-4 of the October 2024 Groundwater Monitoring Report

Figure 6: PCP Concentrations at Plume Boundary Wells 25-B, 26-B and 27-B



Source: Figure 2-5 of the October 2024 Groundwater Monitoring Report

Site Inspection

The Site inspection took place on 12/6/2024. Participants included Jess Smith, Layla Landeros, and Max Tolstedt from the EPA, Jacob Wheeling and Nolan Lister from MDEQ, Jackson Bruff, IPC representative, Heidi Kaiser and Chris Johnson from IPC contractor Hydrometrics, and Alison Cattani from EPA FYR support contractor Skeo. The purpose of the inspection was to assess the protectiveness of the remedy. Appendix F includes the Site inspection checklist. Appendix G includes the Site inspection photos.

Participants met on Site and observed the TSAs on both sides of Cedar Street. The area looked generally undisturbed. Woody vegetation was noted in several areas close to, but not compromising, the TSAs through visual observation. Participants observed the Barkfill Area and associated extraction, injection and monitoring wells. Tire tracks were noted in the grass in this area. Also noted were several long black hoses that were likely leftover from Site-related activities in 2022. In addition, the fence between the Site and interstate had a large hole. Trees were noted in the area that is likely part of the TSAs within the newly delineated floodplain. South of Cedar Street, several soil piles were observed, which may have been newly deposited. A large rubble pile, which has been in place for several years, was located near the rail line. In addition, railroad debris and railroad ties were noted along the rail line in the southeast corner of the Site boundary. Participants observed several wells, all of which were in good condition and secure. There are no current Site activities. Several buildings remain on the Site but are not in use, including the former groundwater treatment building. With the exception of some indication of Site access (hole in fence, rubble piles and tire tracks), there were no issues noted during the inspection.

V. TECHNICAL ASSESSMENT

QUESTION A: Is the remedy functioning as intended by the decision documents?

Question A Summary:

The soil component of the remedy is functioning as intended. Excavation, treatment in the LTU, and on-Site disposal at the TSAs have addressed contaminated soils. Where needed, ICs prevent the use of specific areas of the Site for residential purposes. Post-ROD investigations were conducted in 2014, 2017, 2018, and 2019. Based on the sampling results, a partial deletion from the NPL occurred for the surface and unsaturated subsurface soils outside of the 4.5-acre TSAs. As a result of the partial deletion, redevelopment of the southern portion of the Site was considered. In 2022, Scout DAC, LLC purchased four parcels owned by IPC. Scout DAC, LLC is currently conducting a treatability study to investigate soil treatment that could reduce the remaining contaminant levels in the TSAs below the established risk-based threshold concentrations. If the treatment is not successful, Scout DAC, LLC has agreed to remove contaminated soils from within the floodplain and consolidate treated soils on Site. Once soil treatments and/or actions have been completed, ICs and the Soils Management Plan may need to be updated. Additionally, while an O&M Plan is not required for the TSAs, an O&M Plan is needed to ensure the integrity of the cap. As noted during the 2020 FYR, there is no formal schedule for inspection of the TSAs, and woody vegetation may be growing on the edges of the TSAs.

The groundwater component of the remedy is not functioning as intended. The groundwater component of the remedy included a groundwater recovery system that operated from 1997 through 2016 and an interceptor trench that was closed and reclaimed in 2015. In an effort to enhance degradation of PCP, IPC conducted two pilot studies in 2015 and 2016 injecting nutrients into the Barkfill Area. Results of the 2015 and 2016 pilot studies indicate PCP concentrations were reduced in source area wells. An FFS was submitted to the EPA and MDEQ on February 28, 2020. It evaluated the following alternatives: no action; monitored natural attenuation; in-situ treatment with biological and/or chemical enhancements; and monitored attenuation with contingency in-situ biological/chemical treatments. Except for the no-action alternative, all alternatives include institutional and engineering controls. As part of the FFS, the PRP prepared a work plan to provide for the implementation of in-situ amendments to treat residual wood treating fluids in the Barkfill Area and to place downgradient passive reactive barriers along Bohart Lane and near wells 25A/B and 27A/B. In-situ amendments were conducted in August and September 2022 in four targeted areas including the Barkfill Area, Mid PRB, 25-A/B PRB and 27-A/B PRB areas. Performance monitoring started in 2023 and will continue for seven years to evaluate the post-treatment groundwater conditions. The groundwater remedy will be documented in a final FFS, once any changes to the groundwater remedy are determined. Groundwater use is restricted by the Montana Division of Natural Resources Controlled Groundwater Area, including the restriction of no new wells.

QUESTION B: Are the exposure assumptions, toxicity data, cleanup levels and RAOs used at the time of the remedy selection still valid?

Question B Summary:

The 1992 ROD did not identify any RAOs but stated that the purpose of the remedy was to control risks posed by direct contact, ingestion and inhalation of soils and groundwater and to minimize migration of contaminants to groundwater and surface water and air. The current remedy in place has controlled risks posed by soils and groundwater and has minimized migration of contaminants.

The exposure assumptions, toxicity data and cleanup levels used at the time of the remedy selection are generally still valid. Multiple toxicity values have changed since the 1992 ROD, including TCDD, benzo[a]pyrene (and relative potency factors for other PAHs based on B[a]P), and naphthalene; however, current ICs render exposure pathways incomplete. The ROD's risk-based cleanup level for soil and sediment at the Site was based on a Site-specific risk assessment and remains valid (Table I-1). The groundwater cleanup goals were based on federal MCLs. For this FYR, the ROD groundwater cleanup levels were compared to current Montana DEQ-7 numeric

water quality criteria and federal maximum contaminant levels for Site COCs (Table H-1). As shown in Table H-1, there have been no changes since the 1992 ROD. For contaminants that do not have a federal MCL, Table I-2 of this document provides a screening level risk review using the EPA's RSLs. Naphthalene is the only COC that has an HQ greater than 1. In 2024, naphthalene had a concentration of 0.87 µg/L, which is within the EPA's acceptable risk range using the RSLs (Hazard Index = 0.1). Although not identified as an ARAR in the 1992 ROD, Table H-1 provides a comparison of the 1992 groundwater cleanup goals with the Montana DEQ-7.

The cleanup goals for some of the PAHs and dioxins are less stringent than current Montana water quality standards. The EPA reassessed all groundwater standards as part of the draft FFS and is considering using the more stringent maximum contaminant level or DEQ-7 human health standards as preliminary remediation goals. The EPA and MDEQ will be evaluating dioxin groundwater clean-up levels. If it's determined that the revisions to the cleanup standards are warranted, any revisions to the groundwater cleanup standards will be discussed in the Proposed Plan that identifies the revised groundwater remedy. In the interim, due to ICs, there are no completed exposure pathways to the remaining contamination.

The 1992 ROD identified 40 CFR Part 6, Appendix A, Executive Order No. 11988 as an ARAR, which mandates that federally funded or authorized actions within the 100-year floodplain avoid, to the maximum extent possible, adverse impacts associated with development of a floodplain. Federal regulations at 40 CFR Part 6, Appendix A identified in the ROD were withdrawn. Furthermore, these regulations, and therefore the current CERCLA remedy, only addressed potential floodplain impacts up to the 100-year flood elevation. Current federal floodplain regulations at 40 CFR Part 9 require a greater assessment of potential floodplain impacts, including preventing the release of contamination from waste management units and other remedial infrastructure up to the 500-year floodplain elevation. The EPA will evaluate if this change in regulation affects the Site's remedy.

As of the Site's January 2024 Site Update, new floodplain maps show some of the treated soils are in the 100-year floodplain. To ensure no treated soils remain in the newly delineated floodplain, Scout DAC, LLC has agreed to either remove and consolidate treated soils on Site or treat the residual contamination in place, thus eliminating the need to move the soils.

Table I-3 provides a screening level vapor intrusion risk evaluation using concentrations from Well 5-A in 2024. It shows that there is the potential for unacceptable risk from concentrations of 1-methylnaphthalene. Given the proximity of Well 5-A to the proposed redevelopment, a vapor intrusion study may be appropriate to determine if the redevelopment requires vapor mitigation.

QUESTION C: Has any other information come to light that could call into question the protectiveness of the remedy?

No other information has come to light that could call into question the protectiveness of the remedy.

VI. ISSUES/RECOMMENDATIONS

Issues/Recommendations	
OU(s) without Issues/Recommendations Identified by the FYR:	
None	

Issues and Recommendations Identified by the FYR:	
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OU(s): 1	Issue Category: Operations and Maintenance			
	Issue: There is no formal schedule for inspection of the TSAs, and woody vegetation may be growing on the edges of the TSAs.			
	Recommendation: Prepare and implement an O&M Plan that identifies a formal schedule for inspection of the TSAs and how any identified deficiencies will be addressed.			
Affect Current Protectiveness	Affect Future Protectiveness	Party Responsible	Oversight Party	Milestone Date
No	Yes	PRP/Developer	EPA/State	9/30/2026

OU(s): 1	Issue Category: Remedy Performance			
	Issue: New floodplain maps show some of the treated soils are in the floodplain.			
	Recommendation: Determine if additional remedial action is needed to protect the remedy based on new floodplain maps and to meet ARARS (floodplains, solid waste disposal/management).			
Affect Current Protectiveness	Affect Future Protectiveness	Party Responsible	Oversight Party	Milestone Date
No	Yes	PRP/Developer	EPA/State	5/31/2026

OU(s): 1	Issue Category: Changed Site Conditions			
	Issue: 1-Methylnaphthalene is present in groundwater at concentrations that may result in unacceptable vapor intrusion risk if buildings were to ever be constructed near groundwater contaminated with 1-methylnaphthalene.			
	Recommendation: Conduct a vapor intrusion study to determine if vapor mitigation is necessary.			
Affect Current Protectiveness	Affect Future Protectiveness	Party Responsible	Oversight Party	Milestone Date
No	Yes	PRP/Developer	EPA/State	5/31/2028

OTHER FINDINGS

Several additional recommendations were identified during the FYR. These recommendations do not affect current and/or future protectiveness.

- Determine if unauthorized access (vehicle tracks and unknown soil piles) presents an issue at the Site, take action as appropriate, and determine if the fence should be repaired to deter access from I-90.
- Determine if PAHs and dioxins/furans need to be sampled at additional wells beyond 5-A. The EPA and MDEQ will be evaluating dioxins in groundwater to ensure cleanup levels are maintained.
- In-situ groundwater amendments have been conducted in accordance with EPA and MDEQ approved workplans, but they are not formally identified as a remedy component. Finalize the groundwater remedy in a final FFS once any changes to the groundwater remedy are determined.
- In preparation for redevelopment, the ICs and Soil Management Plan should be updated accordingly.
- As the development goes forward, the EPA should provide information to the Northeast Neighborhood Association about the moving of soils and related dust and about where the soils will be located.
- Mayor Cunningham suggested keeping the City of Bozeman up-to-date with all of the site issues to address concerns from the community about reuse and migration of contaminated groundwater.

VII. PROTECTIVENESS STATEMENT

Protectiveness Statement(s)	
<i>Operable Unit: 1</i>	<i>Protectiveness Determination:</i> Short-term Protective
<i>Protectiveness Statement:</i> The remedy at OU-1 currently protects human health and the environment because there are no completed exposure pathways to remaining contamination. However, in order for the remedy to be protective in the long-term, the following actions need to be taken: prepare and implement an O&M Plan that identifies a formal schedule for inspection of the TSAs and how any identified deficiencies will be addressed; determine if additional remedial action is needed to protect the remedy based on new floodplain maps and to meet ARARS (floodplains, solid waste disposal/management); and conduct a vapor intrusion study to determine if vapor mitigation is necessary.	

Sitewide Protectiveness Statement
<i>Protectiveness Determination:</i> Short-term Protective
<i>Protectiveness Statement:</i> The remedy at the Site currently protects human health and the environment because there are no completed exposure pathways to remaining contamination. However, in order for the remedy to be protective in the long-term, the following actions need to be taken: prepare and implement an O&M Plan that identifies a formal schedule for inspection of the TSAs and how any identified deficiencies will be addressed; determine if additional remedial action is needed to protect the remedy based on new floodplain maps and to meet ARARS (floodplains, solid waste disposal/management); and conduct a vapor intrusion study to determine if vapor mitigation is necessary.

VIII. NEXT REVIEW

The next FYR Report for the Idaho Pole Co. Superfund Site is required five years from the completion date of this review.

APPENDIX A – REFERENCE LIST

1992. Record of Decision. Idaho Pole National Priorities List Site. Bozeman, Montana. Montana Department of Health & Environmental Sciences, Solid & Hazardous Waste Bureau in cooperation with the United States Environmental Protection Agency. September 1992. SEMS ID #1089461
1996. Explanation of Significant Differences for the Idaho Pole Company Site. United States Environmental Protection Agency. May 15, 1996. SEMS ID #1060139
1998. Superfund Preliminary Site Close Out Report (Long Term Remedial Action). Idaho Pole Company. U.S. EPA. March 1998. SEMS ID #132301
1998. Explanation of Significant Differences. Idaho Pole Co. United States Environmental Protection Agency. November 27, 1998. SEMS ID # 1050082
2001. Final Order for Designation of a Controlled Groundwater Area in Gallatin County. December 4, 2001. SEMS ID #1050078
2002. Remedial Action Completion Report. Idaho Pole Company Superfund Site. Soil Remediation Phase. December 23, 2002. SEMS ID #1090274
2015. Idaho Pole Company Site Bozeman, Montana – Pilot Scale Test – Nitrate-Rich Nutrient Injection – Revised Work Plan. Hydrometrics, Inc. June 18, 2015. SEMS ID #1549400
2015. Fourth Five-Year Review Report for the Idaho Pole Company Site, Bozeman, Gallatin County, Montana. Prepared by U.S. Environmental Protection Agency, Region 8, September 2020. SEMS ID # 100006019
2016. Idaho Pole Company Proposed In-Situ Enhanced Biodegradation Phase II Pilot Study Work Plan. Prepared for Idaho Pole Company and BNSF Railway Company by Hydrometrics, Inc., Olympus Technical Services, Inc. and GSI Environmental Inc. June 2016. SEMS ID #1817889
2016. Idaho Pole Company Site Bozeman, Montana – Request for Temporary GRS Shutdown. Hydrometrics, Inc. November 21, 2016. SEMS ID #1817890
2018. Idaho Pole Company Site Bozeman, Montana – Report of Surface Soil Sampling June 2018. Hydrometrics. July 2, 2018. SEMS ID # 1895160
2018. Idaho Pole Site Groundwater Remedy System Decommissioning Work Plan. Hydrometrics, Inc. July 3, 2018. SEMS ID #1895161
2020. Fifth Five-Year Review Report for the Idaho Pole Co. Site. Bozeman, Gallatin County, Montana. Prepared by U.S. Environmental Protection Agency, Region 8. September 2020. SEMS ID #100008842
2021. 2020 Groundwater Assessment Report. Idaho Pole Company Site. Bozeman, Montana. Prepared for Idaho Pole Company and BNSF Railway Company by Hydrometrics, Inc. June 2021 (Revised July 2021). SEMS ID # 100010833
2021. Idaho Pole Site Semi-Annual Groundwater Report – Spring 2021. Hydrometrics, Inc. August 4, 2021.
2022. Idaho Pole Site Semi-Annual Groundwater Report – Fall 2021. Hydrometrics, Inc. January 17, 2022.
2022. Idaho Pole Superfund Site Soils Characterization Report. Gallatin County, Bozeman, Montana. Prepared by Weston Solutions, Inc. for Scout DAC, LLC. March 2022. SEMS ID #100012760

2022. Idaho Pole Site Semi-Annual Groundwater Report – Spring 2022. Hydrometrics, Inc. July 21, 2022. SEMS ID # 100012761

2022. Administrative Settlement Agreement and Order on Consent for In Situ Amendments in Support of Focused Feasibility Study. United States Environmental Protection Agency. Region 8. July 26, 2022. SEMS ID #100011921

2022. Component 1 Completion Report. Idaho Pole Site. Bozeman, Gallatin County, Montana. Prepared by Hydrometrics, Inc. for U.S. Environmental Protection Agency. November 2022. SEMS ID #100012753

2023. Idaho Pole Site Semi-Annual Groundwater Report – Fall 2022. Hydrometrics, Inc. December 29, 2023. SEMS ID #100014226

2023. TSA Soils Treatability Study Sampling and Analysis Plan/Quality Assurance Project Plan/Work Plan. Idaho Pole Superfund Site. Bozeman, Gallatin County, Montana. Prepared by Weston Solutions, Inc. for United States Environmental Protection Agency. December 2023. SEMS ID #100014229

2024. Idaho Pole Company Superfund Site January 2024 Site Update. Bozeman, MT, Region 8. January 2024. SEMS ID # 100014377

2024. Idaho Pole Superfund Site Public Presentation. January 18, 2024. SEMS ID #100014379

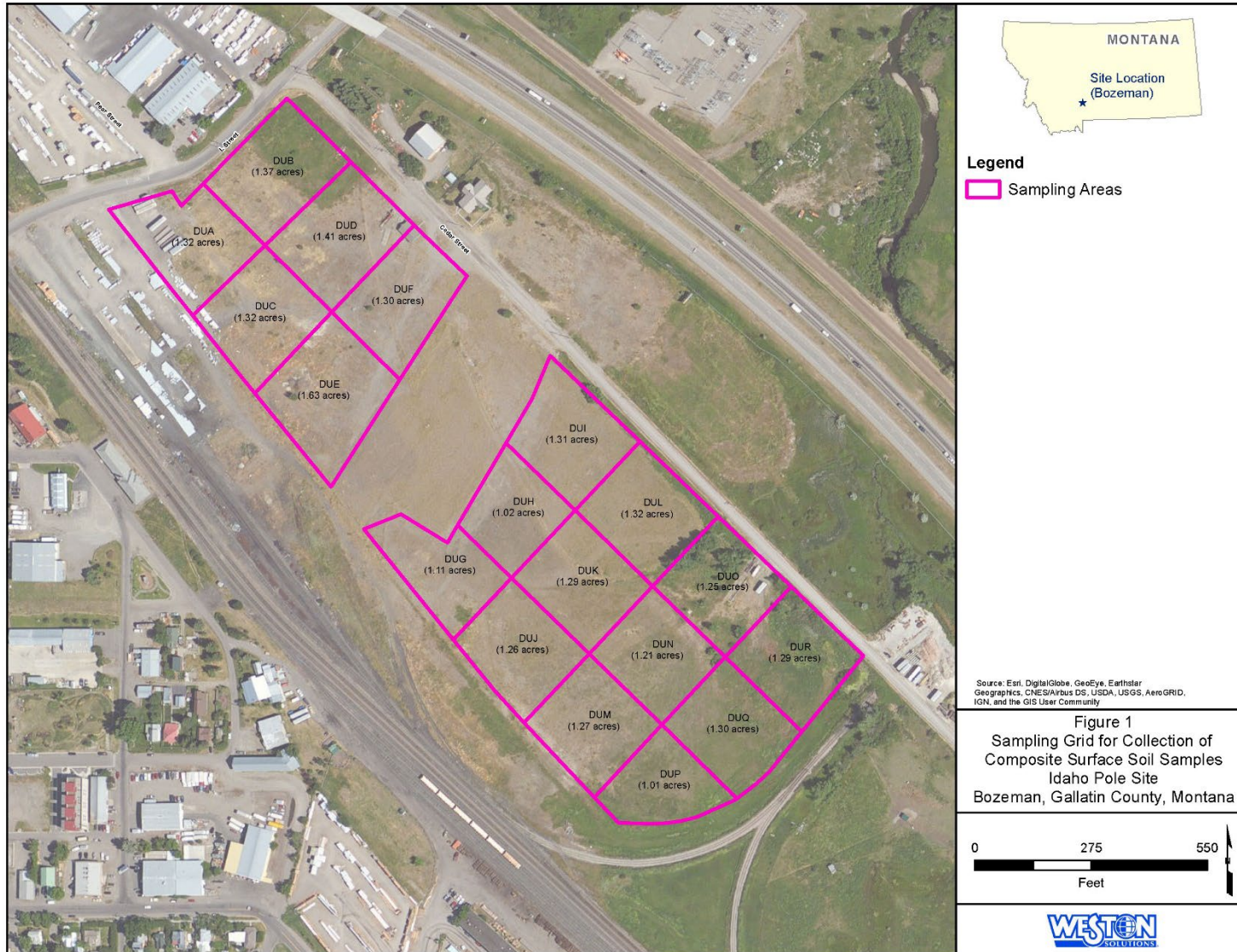
2024. Idaho Pole Site Groundwater Report – 2024. Prepared by Hydrometrics, Inc. for Idaho Pole Company. February 2025.

APPENDIX B – SITE CHRONOLOGY

Table B-1: Site Chronology

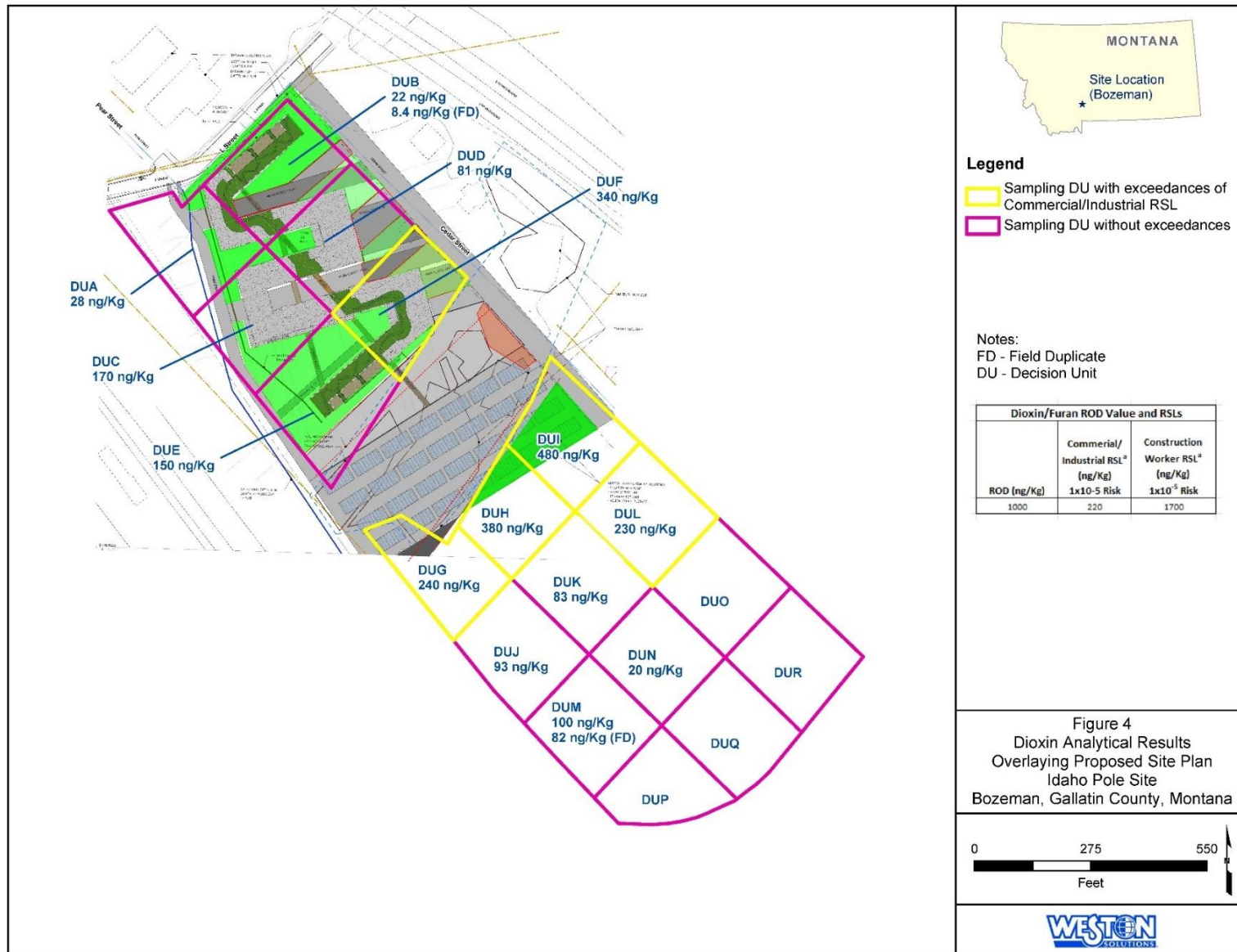
Event	Date
The predecessor of Burlington Northern Sante Fe Railway Company ran a five-stall roundhouse on-Site, south of Cedar Street.	Late 1800s – 1940s
Wood treating operations occurred on-site	1945 - 1997
Initial discovery of the contamination	1978
The EPA listed the Site on the NPL	June 10, 1986
The EPA signed the Site's OU-1 ROD	September 28, 1992
The EPA issued a Unilateral Administrative Order	August 26, 1993
Remedial Design start for the soil and groundwater component	September 8, 1993
Completion of the Remedial Design for the soil Component	June 29, 1995
Soil remedy began	July 17, 1995
The EPA signed the Site's Explanation of Significant Differences	May 21, 1996
Completion of the Remedial Design for the Groundwater Component	August 22, 1996
Groundwater remedy began	August 23, 1996
Operation of the groundwater treatment system began	February 1997
Construction completion for the soil and groundwater remedy	March 26, 1998
The EPA signed the Site's second Explanation of Significant Differences	November 27, 1998
Additional remedial design activities began	March 3, 1999
Additional remedial design activities completed	June 8, 1999
Additional remedial action completed	October 21, 1999
The EPA completed the Site's first FYR	September 30, 2000
Controlled Groundwater Use Area established	November 30, 2001
Land Treatment Unit decommissioned	September 2002
Remedial action completion for the soil component	March 4, 2003
The EPA completed the Site's second FYR	September 30, 2005
Approval to shut off Pressure Plant Extraction Gallery component of the groundwater system	November 17, 2009
Remediation System Evaluation Report completed	February 11, 2010
Approval to modify groundwater monitoring	March 24, 2010
Notice of Institutional Controls placed on property where treated soils are located and on the Controlled Groundwater Area	September 9, 2010
The EPA completed the Site's third FYR	September 20, 2010
Soil Management Plan completed	March 2011
The EPA completed the Site's fourth FYR	September 30, 2015
Shut down of the groundwater treatment system	2016
Partial deletion of the Site from the NPL	2019
Draft Focused Feasibility Study	February 28, 2020
The EPA completed the Site's fifth FYR	September 30, 2020
In-situ injection of groundwater amendments	August and September 2022
In-situ injection of groundwater amendments	January 2024

Figure C-2: 2022 Site Soils Characterization



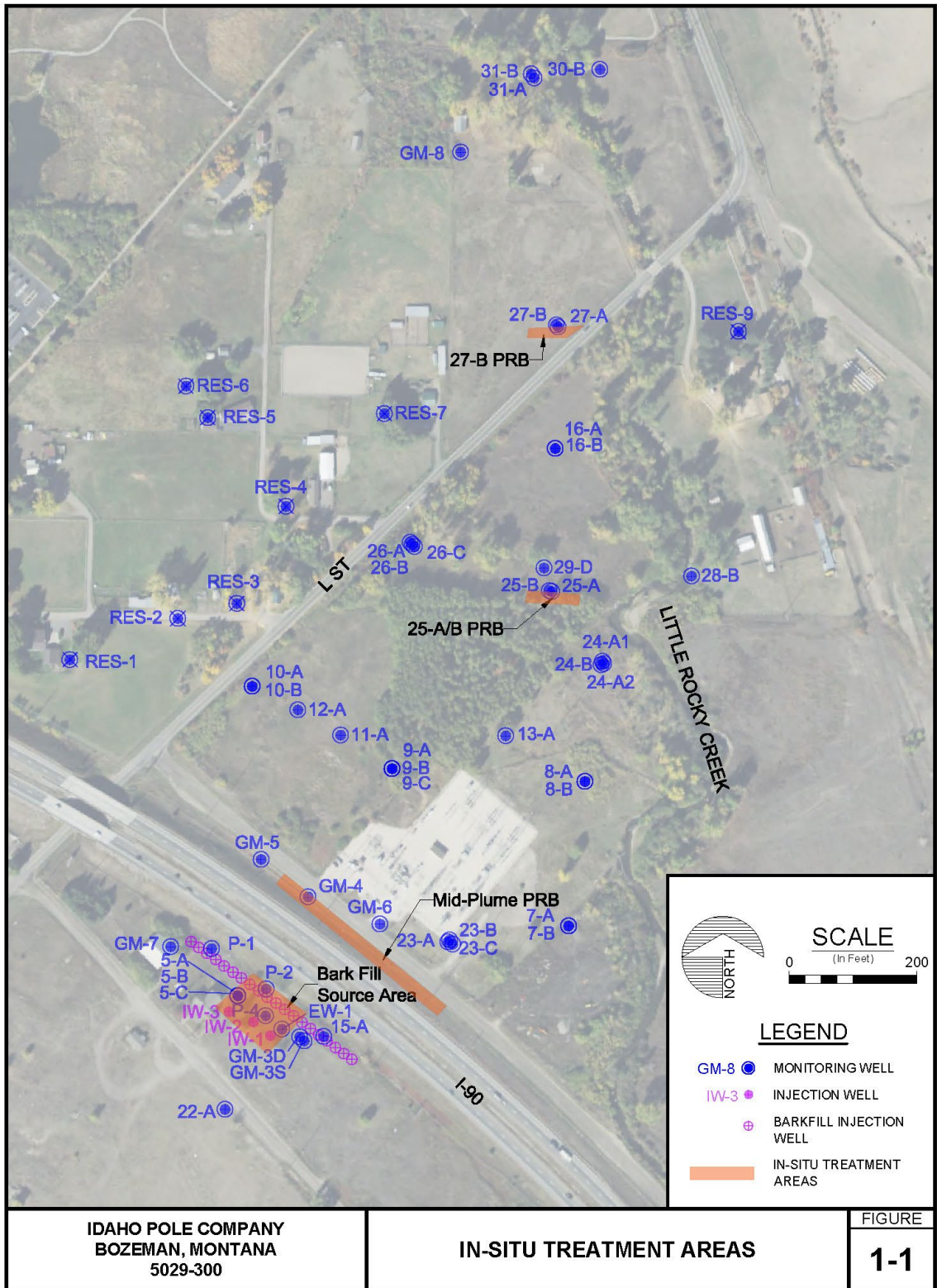
Source: Figure 2 of the 2022 Site Soils Characterization Report

Figure C-3: 2022 Dioxin Characterization Results



Source: Figure 4 of the 2022 Site Soils Characterization Report showing dioxin analytical results overlaying proposed site plan

Figure C-4: In-Situ Treatment Areas

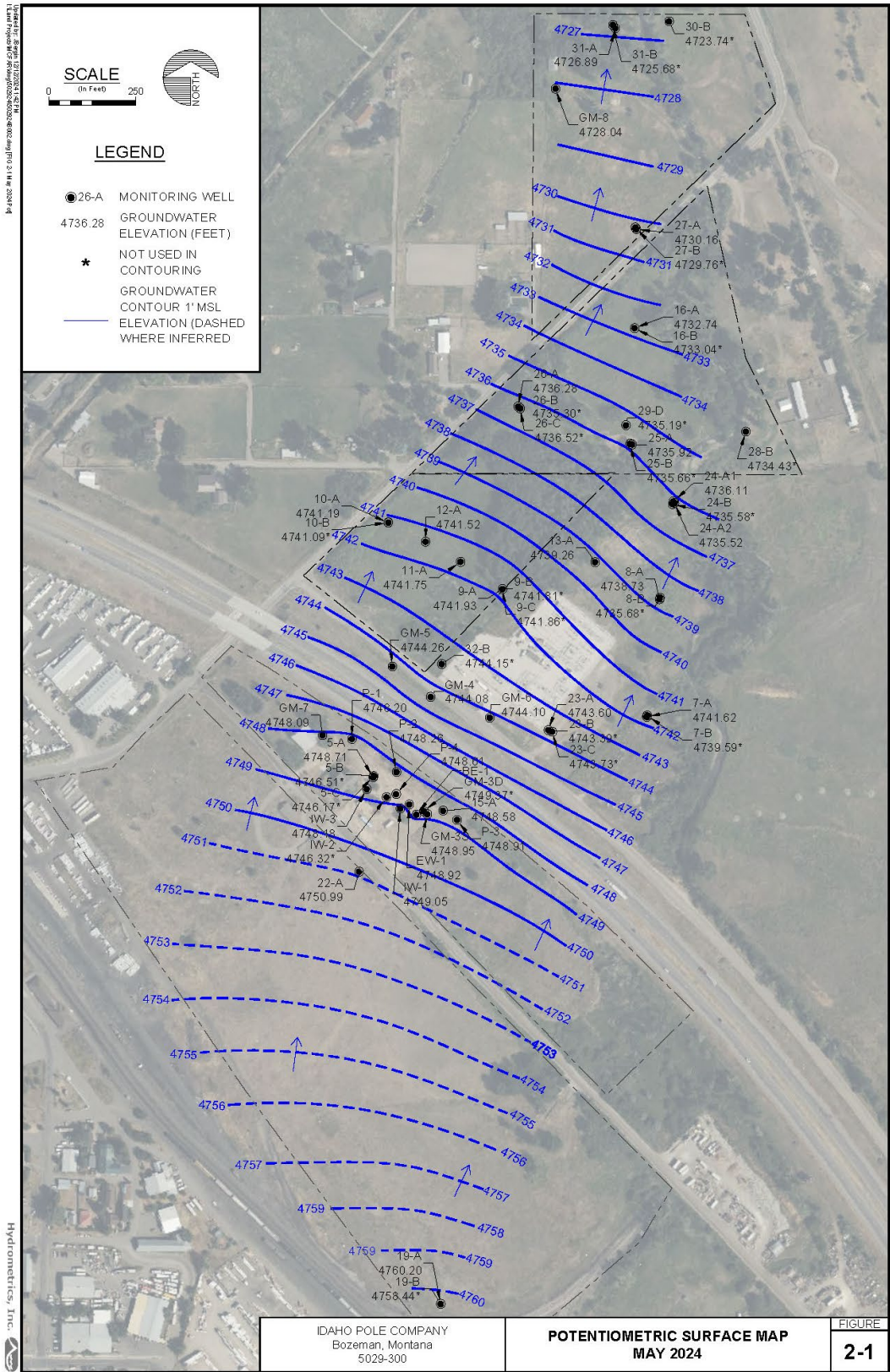


Updated by: jBengin 2/26/2025 1:11 PM
 I:\Land Projects\IWC\FAR\dwg\5029322\5029322B004.dwg [FIG 1-1 IN-SITU TREATMENT AREAS]

Hydrometrics, Inc. 

Source: Figure 1-1 of the December 2024 Groundwater Monitoring Report

Figure C-5: 2024 Potentiometric Surface Map



Source: Figure 2-1 of the December 2024 Groundwater Monitoring Report

APPENDIX D – PRESS NOTICE

Review of Cleanup at the Idaho Pole Superfund Site

EPA and the state of Montana are reviewing the cleanup at the Idaho Pole Company Superfund Site. This review evaluates remedies (cleanup) to see if they continue to protect human health and the environment. This is the sixth Five-Year review and will be released in 2025.

The Idaho Pole Superfund Site is located near the northern limits of Bozeman, Montana. A small portion of I-90 runs through the site. Historic wood treating operations contaminated soil and groundwater. EPA has been working to address the contamination since the early 1990s. The 2020 Five-Year review showed that the site is currently protective. However, to be protective long-term, the review recommended additional sampling, revised inspection schedules, and additional treatment of contamination feeding the groundwater plume.

We want to hear from you! If you have information you think may be helpful for the five-year review, please contact EPA by **June 30, 2025**.

Beth Archer, EPA Community Involvement Coordinator
Phone: 720-512-1917 Email: archer.elizabeth@epa.gov

More information is available online:

www.epa.gov/superfund/idaho-pole.

Pub Jan 28, 31, Feb 1, 2025

591328

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APPENDIX E – INTERVIEW FORMS

IDAHO POLE CO. SUPERFUND SITE FIVE-YEAR REVIEW INTERVIEW FORM	
Site Name: Idaho Pole Co.	
EPA ID: MTD006232276	
Interviewer name:	Interviewer affiliation:
Subject name: Jacob Wheeling	Subject affiliation: MDEQ
Subject contact information: jacob.wheeling@mt.gov	
Interview date: 2/21/25	Interview time:
Interview location: Email	
Interview format (circle one): In Person Phone Mail Email Other:	
Interview category: State Agency	

1. What is your overall impression of the project, including cleanup, maintenance and reuse activities (as appropriate)?
Overall, I think the project is moving in the right direction. There are a few outstanding projects that need to be addressed including the removal of capped soils in the flood plain, and the development project.
2. What is your assessment of the current performance of the remedy in place at the Site?
The remedy is working. Following the persulfate injections there has been a substantial reduction of PCP in the groundwater plume. The soil treatment was effective at reducing the contamination enough to be capped. The surface of the site looks healthy with good vegetation and a healthy wildlife population.
3. Are you aware of any complaints or inquiries regarding site-related environmental issues or remedial activities from residents in the past five years?
No, not since I have taken over the site. Before my take over date, I have heard of nearby residents concerned about contamination in their wells, but they are now regularly sampled, and showing no contamination.
4. Has your office conducted any site-related activities or communications in the past five years? If so, please describe the purpose and results of these activities.
Not to my knowledge.
5. Are you aware of any changes to state laws that might affect the protectiveness of the Site’s remedy?
No new changes. See below for comment on DEQ-7 groundwater standards.
6. Are you comfortable with the status of the institutional controls at the Site? If not, what are the associated outstanding issues?
Yes, I am comfortable with the status of ICs on site. This will need to be watched as the future development is planned. Also see below for comment on dioxin monitoring.
7. Are you aware of any changes in projected land use(s) at the Site?
No, the ongoing project with Scout DAC, LLC is the projected land use I am familiar with.
8. Do you have any comments, suggestions or recommendations regarding the management or operation of the Site’s remedy?
The major concern I have is with the dioxins in groundwater on site. This concern can be broken into three parts:
 - *TEQ model*
The ROD lists the cleanup level on site as 30 pg/L which is the federal MCL. Currently the cleanup level is only for 2,3,7,8-TCDD. While 2,3,7,8-TCDD is by far the most toxic congener, there are 16 others that pose a major human health concern. These can be accounted for using a TEQ model. MDEQ recommends that we update the clean up number to use a TEQ model.

- *DEQ-7*

Since the signing of the ROD the state of Montana has adopted the Circular DEQ-7 Water Quality Standards. MDEQ recommends lowering the dioxin cleanup level to the state standard of 2 pg/L for groundwater using the TEQ method.

- *Dioxin Monitoring*

Since the cleanup level of 30 pg/L of 2,3,7,8-TCDD in groundwater has been met in 2016, dioxins have not been monitored, as they have met the cleanup number. As stated above while the listed cleanup number was met, a mixture of dioxin congeners is still present on site. MDEQ recommends restarting monitoring of dioxins in groundwater to ensure protectiveness of the remedy.

9. Do you consent to have your name included along with your responses to this questionnaire in the FYR report?

Yes

Idaho Pole Superfund Site Five Year Review Interview Form

Site: Idaho Pole

EPA ID No. MTD006232276

Interviewer and affiliation: Travis Horton and Lori Christenson Gallatin City-County Health Department

Subject and affiliation: Public Health

County Health Department

Subject contact information: 406-582-3120

Date: 01/31/2025

Time:1300

Location: Click or tap here to enter text.

Interview Format:

In Person

Phone

Mail

Other

Interview Category: Lori and Travis Filled this out in word

1. Are you aware of the former environmental issues at the Site and the cleanup activities that have taken place to date?

Yes.

2. What effect have site operations had on the surrounding community?

The area is covered by a controlled groundwater area as a result of the contaminants.

3. What is your overall impression of the project, including cleanup, maintenance, and reuse activities (as appropriate)?

Cleanup actions seem to have helped mitigate the pollution. Future use as covered by protective measures appears to be protective of public health.

4. Have there been any complaints, violations or other incidents related to the site requiring a responses by your office? If so, please give details of the events and the results of the responses?

None that we are aware of.

5. Do you feel well-informed regarding the Site's activities and remedial progress? If not, how can EPA best provide site-related information in the future?

In recent years, efforts to provide information regarding the sites activities have been sufficient and improved from years past.

6. Are you aware of any changes to state laws or local regulations that might affect the protectiveness of the Site's remedy?

No

7. Are you aware of any changes in projected land use(s) at the Site?

Yes, we met with the potential developers and the City of Bozeman regarding proposed development of the area and protective measures that would be employed.

8. Do you consent to have your name included along with your responses to this questionnaire in the five-

year review report?

Ok.

9. Is there anyone else we should talk to?

City of Bozeman.

Idaho Pole Superfund Site Five Year Review Interview Form

Site: Idaho Pole

EPA ID No. MTD006232276

Interviewer and affiliation: Mayor Terry Cunningham

Subject and affiliation: Mayor of Bozeman

Click or tap here to enter text.

Subject contact information: tcunningham@bozeman.net

Date: 12/6/2024

Time: 2:58 pm

Location: Bozeman City Hall

Interview Format:

In Person

Phone

Mail

Other

Interview Category: Local Government-City of Bozeman

1. Are you aware of the former environmental issues at the Site and the cleanup activities that have taken place to date?

Yes, aware that contamination was identified as far back as 87 years ago as a wood treating facility. Declared at some point a Superfund site. Attended public meetings. Know about the potential transfer with land to develop the land. Soils in an area that are controlled. Groundwater not meeting cleanup levels. Introduction of treatment to try to help remediate groundwater.

2. What effect have site operations had on the surrounding community?

General community concerns: Concern on dust controls. Building into the treated soils. This sounds great, but what happens when construction really happens? Will controls be followed.

Concern with the creep of the contaminated groundwater to the north, basin for overflow of Bozeman creek. Infiltration to drinking water wells.

3. What is your overall impression of the project, including cleanup, maintenance, and reuse activities (as appropriate)?

I have been impressed with the transparent process. Public meetings are trying to get the public feedback, wanting to know concerns. Updates are timely and factual. The process has been transparent. Keep us up-to-date of all of the issues out there.

4. Have there been any complaints, violations or other incidents related to the site requiring a responses by your office? If so, please give details of the events and the results of the responses?

Not aware of anything. Were worried about someone breaking the cap, but it has not been an issue.

5. Do you feel well-informed regarding the Site's activities and remedial progress? If not, how can EPA best provide site-related information in the future?

Yes, I feel well informed. Fact sheet would be useful.

6. Are you aware of any changes to state laws or local regulations that might affect the protectiveness of the Site's remedy?

Have been some changes to permitting potentially engineers doing things that were submitted to MDEQ. Also the change in the floodplain. SB382-MT Land Use Planning Act- community participation

7. Are you aware of any changes in projected land use(s) at the Site?

Yes, asked for an analysis of railroad crossings. Significant complaints of getting shutoff from the rest of the community. Overpass on Wallace, some talk of the developer to execute.

8. Do you consent to have your name included along with your responses to this questionnaire in the five-year review report?

Yes

9. Is there anyone else we should talk to?

Brit Fontenot or David Fine, Gallatin Watershed Council (Holly Hill), City of Bozeman Community Development

Idaho Pole Superfund Site Five Year Review Interview Form

Site: Idaho Pole

EPA ID No. MTD006232276

Interviewer and affiliation:

Subject and affiliation: Idaho Pole Company

Les Lonning

Subject contact information: les.lonning@gmail.com

Date: 12/16/2024

Time: [time]

Location: Via email

Interview Format:

In Person

Phone

Mail

Other

Interview Category: Idaho Pole 5 year review

1. What is your overall impression of the project, including cleanup, maintenance, and reuse activities (as appropriate)?

My opinion is that the site is near the end of its cleanup process, the soils portion of the site have been delisted from the Superfund designation, the Groundwater treatment system has been decommissioned with approval of EPA/MDEQ. In 2022 IPC undertook additional measures to clean up groundwater by injecting permanganate into wells both on the old plant site and down gradient. This was followed by 4 quarters of sampling of the 54 wells to show how they reacted. Today 36 wells or roughly 66% of the wells meet the cleanup standard of 1ppb. In addition 7 wells or 13% of the wells have concentrations between 1.0ppb and 2.0ppb. and of the remaining 11 wells, 20%, are in the single digit PPB range. The old plant site portion of the property was sold in 2022. The only remaining property owned by Idaho Pole are the parcels located north of the interstate.

2. What is your assessment of the current performance of the remedy in place at the Site?

My opinion is that the remedy is almost complete, the only outstanding piece left is the groundwater, and at a required cleanup standard of 1ppb I am not sure it will be achieved, except through natural attenuation

3. Have there been opportunities to optimize O&M, or sampling efforts? Please describe changes and resultant or desired cost savings or improved efficiency.

none

4. What does the monitoring data show? Are there any trends that show contaminant levels are decreasing?

See comments in question 1. Containment levels are decreasing except for several wells, and these wells were subjected to the permanganate injection in 2022.

5. Have there been any problems with unusual or unexpected activities at the Site, such as emergency response, vandalism, or trespassing?

Several issues with homeless on the property, and both offices were broken into, police report were made

6. Has EPA kept involved parties and surrounding neighbors informed of activities at the Site? How can EPA best provide site-related information in the future?

Public meeting have been held in the past with neighbors and other stake holders in the community, i.e City, Public county Health, and the building Department

7. Do you have any comments, suggestions, or recommendations regarding any aspects of the project?

None

8. Do you consent to have your name included along with your responses to this questionnaire in the five-year review report?

yes

IDAHO POLE CO. SUPERFUND SITE FIVE-YEAR REVIEW INTERVIEW FORM	
Site Name: Idaho Pole Co.	
EPA ID: MTD006232276	
Interviewer name:	Interviewer affiliation:
Subject name: Heidi Kaiser	Subject affiliation: Hydrometrics
Subject contact information:	
Interview date: December 2024	Interview time:
Interview location:	
Interview format (circle one): In Person Phone Mail X Email Other:	
Interview category: O&M Contractor	

1. What is your overall impression of the project, including cleanup, maintenance and reuse activities (as appropriate)? **I believe IPC has applied a variety of practical remedies to the site with positive outcomes. The logical option going forward is long term monitoring. Institutional controls in place eliminate risk from any remaining contamination. I look forward to seeing reuse of the site by new and future owners of the property.**
2. What is your assessment of the current performance of the remedy in place at the Site? **Natural attenuation is the primary remedy at this time. Enhancement of NA with the 2022 injections at the site has helped to continue downward concentration trends in downgradient areas.**
3. What are the findings from the monitoring data? What are the key trends in contaminant levels that are being documented over time at the Site? **Contaminant levels are declining across the site. The bark fill area is showing the slowest rate of contaminate decline.**
4. Is there a continuous on-site O&M presence? **NO** If so, please describe staff responsibilities and activities. Alternatively, please describe staff responsibilities and the frequency of site inspections and activities if there is not a continuous on-site O&M presence.
5. Have there been any significant changes in site O&M requirements, maintenance schedules or sampling routines since start-up or in the last five years? If so, do they affect the protectiveness or effectiveness of the remedy? Please describe changes and impacts. **Sampling routines have varied to track remediation progress after the 2022 injections. This included quarterly sampling and the addition of extra water quality parameters. No changes to O&M schedules or requirements have been implemented.**
6. Have there been unexpected O&M difficulties or costs at the Site since start-up or in the last five years? If so, please provide details. **No**
7. Have there been opportunities to optimize O&M activities or sampling efforts? Please describe changes and any resulting or desired cost savings or improved efficiencies. **Not in the last 5 years, other than alterations to sampling schedules to track remedy progress, mentioned earlier.**

8. Do you have any comments, suggestions or recommendations regarding O&M activities and schedules at the Site?

9. Do you consent to have your name included along with your responses to this questionnaire in the FYR report? **Yes**

Idaho Pole Superfund Site Five Year Review Interview Form

Site: Idaho Pole Company

EPA ID No. MTD006232276

Interviewer and affiliation: Amy Kelley Hoitsma

Subject and affiliation: NENA- President

Click or tap here to enter text.

Subject contact information:

Date: 12/6/2024

Time: 2:03 pm

Location: The Daily Café, Bozeman, MT

Interview Format:

In Person

Phone

Mail

Other

Interview Category: Click or tap here to enter text.

- 1. Are you aware of the former environmental issues at the Site and the cleanup activities that have taken place to date?**

Yes, mostly.

- 2. What is your overall impression of the project, including cleanup, maintenance, and reuse activities (as appropriate)?**

No reuse activities. Cleanup sounds like it has been thorough. The numbers have gone down over the year, aware of the treatment installations.

- 3. What have been the effects of this Site on the surrounding community, if any?**

Right now, not much. Montana Crane at the end of the road, other than that no impact

- 4. Have there been any problems with unusual or unexpected activities at the Site, such as emergency response, vandalism, or trespassing?**

Not that I know. Though there was somebody urban camping near the sub-station.

- 5. Has EPA kept involved parties and surrounding neighbors informed of activities at the Site? How can EPA best provide site-related information in the future?**

Yes, to date. Have not heard anything since Jan. Suggest sending out 2024's groundwater results.

Email or a simple postcard or a simple factsheet. The city has the list for the NENA (i.e. People who would be interested).

- 6. Do you have any comments, suggestions, or recommendations regarding any aspects of the project?**

We want to know what is going to happen in the future. It would be good to be updated on what is happening now. As the development goes forward, we want to know what is happening (specific concern, moving soils, both the movement (dust) and where the soils will come to be located).

- 7. Do you consent to have your name included along with your responses to this questionnaire in the five-year review report?**

Yes

Agency _____ Contact _____	Name _____ Title _____	Date _____	Phone _____	
Problems/suggestions <input type="checkbox"/> Report attached: _____				
4. Other Interviews (optional) <input type="checkbox"/> Report attached: _____				
Les Lonning, IPC				
Amy Kelley Hoitsma, Northeast Neighborhood Association				
III. ON-SITE DOCUMENTS AND RECORDS VERIFIED (check all that apply)				
1. O&M Documents				
<input checked="" type="checkbox"/> O&M manual	<input checked="" type="checkbox"/> Readily available	<input checked="" type="checkbox"/> Up to date	<input type="checkbox"/> N/A	
<input checked="" type="checkbox"/> As-built drawings	<input checked="" type="checkbox"/> Readily available	<input checked="" type="checkbox"/> Up to date	<input type="checkbox"/> N/A	
<input checked="" type="checkbox"/> Maintenance logs	<input checked="" type="checkbox"/> Readily available	<input checked="" type="checkbox"/> Up to date	<input type="checkbox"/> N/A	
Remarks: _____				
2. Site-Specific Health and Safety Plan				
	<input checked="" type="checkbox"/> Readily available	<input checked="" type="checkbox"/> Up to date	<input type="checkbox"/> N/A	
<input checked="" type="checkbox"/> Contingency plan/emergency response plan	<input checked="" type="checkbox"/> Readily available	<input checked="" type="checkbox"/> Up to date	<input type="checkbox"/> N/A	
Remarks: _____				
3. O&M and OSHA Training Records				
	<input checked="" type="checkbox"/> Readily available	<input type="checkbox"/> Up to date	<input type="checkbox"/> N/A	
Remarks: _____				
4. Permits and Service Agreements				
<input type="checkbox"/> Air discharge permit	<input type="checkbox"/> Readily available	<input type="checkbox"/> Up to date	<input checked="" type="checkbox"/> N/A	
<input type="checkbox"/> Effluent discharge	<input type="checkbox"/> Readily available	<input type="checkbox"/> Up to date	<input checked="" type="checkbox"/> N/A	
<input type="checkbox"/> Waste disposal, POTW	<input type="checkbox"/> Readily available	<input type="checkbox"/> Up to date	<input checked="" type="checkbox"/> N/A	
<input type="checkbox"/> Other permits: _____	<input type="checkbox"/> Readily available	<input type="checkbox"/> Up to date	<input checked="" type="checkbox"/> N/A	
Remarks: _____				
5. Gas Generation Records				
	<input type="checkbox"/> Readily available	<input type="checkbox"/> Up to date	<input checked="" type="checkbox"/> N/A	
Remarks: _____				
6. Settlement Monument Records				
	<input type="checkbox"/> Readily available	<input type="checkbox"/> Up to date	<input checked="" type="checkbox"/> N/A	
Remarks: _____				
7. Groundwater Monitoring Records				
	<input checked="" type="checkbox"/> Readily available	<input checked="" type="checkbox"/> Up to date	<input type="checkbox"/> N/A	
Remarks: _____				
8. Leachate Extraction Records				
	<input type="checkbox"/> Readily available	<input type="checkbox"/> Up to date	<input checked="" type="checkbox"/> N/A	
Remarks: _____				
9. Discharge Compliance Records				
<input type="checkbox"/> Air	<input type="checkbox"/> Readily available	<input type="checkbox"/> Up to date	<input checked="" type="checkbox"/> N/A	
<input type="checkbox"/> Water (effluent)	<input type="checkbox"/> Readily available	<input type="checkbox"/> Up to date	<input checked="" type="checkbox"/> N/A	
Remarks: _____				
10. Daily Access/Security Logs				
	<input type="checkbox"/> Readily available	<input type="checkbox"/> Up to date	<input checked="" type="checkbox"/> N/A	

Remarks: _____			
IV. O&M COSTS			
1.	O&M Organization		
	<input type="checkbox"/> State in-house	<input type="checkbox"/> Contractor for state	
	<input type="checkbox"/> PRP in-house	<input checked="" type="checkbox"/> Contractor for PRP	
	<input type="checkbox"/> Federal facility in-house	<input type="checkbox"/> Contractor for Federal facility	
	<input type="checkbox"/> _____		
2.	O&M Cost Records		
	<input type="checkbox"/> Readily available	<input type="checkbox"/> Up to date	
	<input type="checkbox"/> Funding mechanism/agreement in place	<input checked="" type="checkbox"/> Unavailable	
	Original O&M cost estimate: _____ <input type="checkbox"/> Breakdown attached		
	Total annual cost by year for review period if available		
	From: _____ Date	To: _____ Date	_____ <input type="checkbox"/> Breakdown attached Total cost
	From: _____ Date	To: _____ Date	_____ <input type="checkbox"/> Breakdown attached Total cost
	From: _____ Date	To: _____ Date	_____ <input type="checkbox"/> Breakdown attached Total cost
	From: _____ Date	To: _____ Date	_____ <input type="checkbox"/> Breakdown attached Total cost
	From: _____ Date	To: _____ Date	_____ <input type="checkbox"/> Breakdown attached Total cost
3.	Unanticipated or Unusually High O&M Costs during Review Period		
	Describe costs and reasons: _____		
V. ACCESS AND INSTITUTIONAL CONTROLS <input checked="" type="checkbox"/> Applicable <input type="checkbox"/> N/A			
A. Fencing			
1.	Fencing Damaged	<input type="checkbox"/> Location shown on site map	<input checked="" type="checkbox"/> Gates secured <input type="checkbox"/> N/A
	Remarks: <u>Hole in the fence was noted during inspection.</u>		
B. Other Access Restrictions			
1.	Signs and Other Security Measures	<input type="checkbox"/> Location shown on site map	<input checked="" type="checkbox"/> N/A
	Remarks: _____		
C. Institutional Controls (ICs)			

1. Implementation and Enforcement			
Site conditions imply ICs not properly implemented	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No	<input type="checkbox"/> N/A
Site conditions imply ICs not being fully enforced	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No	<input type="checkbox"/> N/A
Type of monitoring (e.g., self-reporting, drive by): _____			
Frequency: _____			
Responsible party/agency: _____			
Contact _____	_____	_____	_____
Name	Title	Date	Phone
Reporting is up to date	<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input checked="" type="checkbox"/> N/A
Reports are verified by the lead agency	<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input checked="" type="checkbox"/> N/A
Specific requirements in deed or decision documents have been met	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> N/A
Violations have been reported	<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input checked="" type="checkbox"/> N/A
Other problems or suggestions: <input type="checkbox"/> Report attached			
2. Adequacy <input checked="" type="checkbox"/> ICs are adequate <input type="checkbox"/> ICs are inadequate <input type="checkbox"/> N/A			
Remarks: _____			
D. General			
1. Vandalism/Trespassing <input type="checkbox"/> Location shown on site map <input checked="" type="checkbox"/> No vandalism evident			
Remarks: <u>PRP contractor noted that there have been issues in the past with vandalism and trespassing.</u>			
2. Land Use Changes On-Site <input checked="" type="checkbox"/> N/A			
Remarks: <u>Redevelopment planning is ongoing.</u>			
3. Land Use Changes Off-Site <input checked="" type="checkbox"/> N/A			
Remarks: _____			
VI. GENERAL SITE CONDITIONS			
A. Roads <input type="checkbox"/> Applicable <input checked="" type="checkbox"/> N/A			
1. Roads Damaged <input type="checkbox"/> Location shown on site map <input type="checkbox"/> Roads adequate <input type="checkbox"/> N/A			
Remarks: _____			
B. Other Site Conditions			
Remarks: _____			
VII. LANDFILL COVERS <input checked="" type="checkbox"/> Applicable <input type="checkbox"/> N/A			
A. Landfill Surface			
1. Settlement (low spots) <input type="checkbox"/> Location shown on site map <input checked="" type="checkbox"/> Settlement not evident			
Area extent: _____		Depth: _____	
Remarks: _____			
2. Cracks <input type="checkbox"/> Location shown on site map <input checked="" type="checkbox"/> Cracking not evident			
Lengths: _____		Widths: _____	
		Depths: _____	
Remarks: _____			

3.	Erosion	<input type="checkbox"/> Location shown on site map	<input checked="" type="checkbox"/> Erosion not evident
	Area extent: _____		Depth: _____
	Remarks: _____		
4.	Holes	<input type="checkbox"/> Location shown on site map	<input checked="" type="checkbox"/> Holes not evident
	Area extent: _____		Depth: _____
	Remarks: _____		
5.	Vegetative Cover	<input checked="" type="checkbox"/> Grass	<input checked="" type="checkbox"/> Cover properly established
	<input type="checkbox"/> No signs of stress	<input type="checkbox"/> Trees/shrubs (indicate size and locations on a diagram)	
	Remarks: _____		
6.	Alternative Cover (e.g., armored rock, concrete)		<input checked="" type="checkbox"/> N/A
	Remarks: _____		
7.	Bulges	<input type="checkbox"/> Location shown on site map	<input checked="" type="checkbox"/> Bulges not evident
	Area extent: _____		Height: _____
	Remarks: _____		
8.	Wet Areas/Water Damage	<input checked="" type="checkbox"/> Wet areas/water damage not evident	
	<input type="checkbox"/> Wet areas	<input type="checkbox"/> Location shown on site map	Area extent: _____
	<input type="checkbox"/> Ponding	<input type="checkbox"/> Location shown on site map	Area extent: _____
	<input type="checkbox"/> Seeps	<input type="checkbox"/> Location shown on site map	Area extent: _____
	<input type="checkbox"/> Soft subgrade	<input type="checkbox"/> Location shown on site map	Area extent: _____
	Remarks: _____		
9.	Slope Instability	<input type="checkbox"/> Slides	<input type="checkbox"/> Location shown on site map
	<input checked="" type="checkbox"/> No evidence of slope instability		
	Area extent: _____		
	Remarks: _____		
B. Benches <input type="checkbox"/> Applicable <input checked="" type="checkbox"/> N/A			
(Horizontally constructed mounds of earth placed across a steep landfill side slope to interrupt the slope in order to slow down the velocity of surface runoff and intercept and convey the runoff to a lined channel.)			
C. Letdown Channels <input type="checkbox"/> Applicable <input checked="" type="checkbox"/> N/A			
(Channel lined with erosion control mats, riprap, grout bags or gabions that descend down the steep side slope of the cover and will allow the runoff water collected by the benches to move off of the landfill cover without creating erosion gullies.)			
D. Cover Penetrations <input type="checkbox"/> Applicable <input checked="" type="checkbox"/> N/A			
E. Gas Collection and Treatment <input type="checkbox"/> Applicable <input checked="" type="checkbox"/> N/A			
F. Cover Drainage Layer <input type="checkbox"/> Applicable <input checked="" type="checkbox"/> N/A			
G. Detention/Sedimentation Ponds <input type="checkbox"/> Applicable <input checked="" type="checkbox"/> N/A			
H. Retaining Walls <input type="checkbox"/> Applicable <input checked="" type="checkbox"/> N/A			
I. Perimeter Ditches/Off-Site Discharge <input type="checkbox"/> Applicable <input checked="" type="checkbox"/> N/A			

VIII. VERTICAL BARRIER WALLS	<input type="checkbox"/> Applicable	<input checked="" type="checkbox"/> N/A
IX. GROUNDWATER/SURFACE WATER REMEDIES	<input checked="" type="checkbox"/> Applicable	<input type="checkbox"/> N/A
A. Groundwater Extraction Wells, Pumps and Pipelines	<input type="checkbox"/> Applicable	<input checked="" type="checkbox"/> N/A
1. Pumps, Wellhead Plumbing and Electrical <input type="checkbox"/> Good condition <input type="checkbox"/> All required wells properly operating <input type="checkbox"/> Needs maintenance <input type="checkbox"/> N/A Remarks: _____		
2. Extraction System Pipelines, Valves, Valve Boxes and Other Appurtenances <input type="checkbox"/> Good condition <input type="checkbox"/> Needs maintenance Remarks: _____		
3. Spare Parts and Equipment <input type="checkbox"/> Readily available <input type="checkbox"/> Good condition <input type="checkbox"/> Requires upgrade <input type="checkbox"/> Needs to be provided Remarks: _____		
B. Surface Water Collection Structures, Pumps and Pipelines	<input type="checkbox"/> Applicable	<input checked="" type="checkbox"/> N/A
1. Collection Structures, Pumps and Electrical <input type="checkbox"/> Good condition <input type="checkbox"/> Needs maintenance Remarks: _____		
2. Surface Water Collection System Pipelines, Valves, Valve Boxes and Other Appurtenances <input type="checkbox"/> Good condition <input type="checkbox"/> Needs maintenance Remarks: _____		
3. Spare Parts and Equipment <input type="checkbox"/> Readily available <input type="checkbox"/> Good condition <input type="checkbox"/> Requires upgrade <input type="checkbox"/> Needs to be provided Remarks: _____		
C. Treatment System	<input type="checkbox"/> Applicable	<input checked="" type="checkbox"/> N/A
D. Monitoring Data		
1. Monitoring Data <input checked="" type="checkbox"/> Is routinely submitted on time <input type="checkbox"/> Is of acceptable quality		
2. Monitoring Data Suggests: <input checked="" type="checkbox"/> Groundwater plume is effectively contained <input checked="" type="checkbox"/> Contaminant concentrations are declining		
E. Monitored Natural Attenuation		
1. Monitoring Wells (natural attenuation remedy) <input type="checkbox"/> Properly secured/locked <input type="checkbox"/> Functioning <input type="checkbox"/> Routinely sampled <input type="checkbox"/> Good condition <input type="checkbox"/> All required wells located <input type="checkbox"/> Needs maintenance <input checked="" type="checkbox"/> N/A Remarks: _____		
X. OTHER REMEDIES		
If there are remedies applied at the site and not covered above, attach an inspection sheet describing the physical nature and condition of any facility associated with the remedy. An example would be soil vapor extraction.		
XI. OVERALL OBSERVATIONS		
A. Implementation of the Remedy		

Describe issues and observations relating to whether the remedy is effective and functioning as designed. Begin with a brief statement of what the remedy is designed to accomplish (e.g., to contain contaminant plume, minimize infiltration and gas emissions).

The soil component of the remedy is functioning as intended. Excavation, treatment in the LTU, and on-Site disposal at the TSA have addressed contaminated soils. Where needed, institutional controls prevent the use of specific areas of the Site for residential purposes. Post-ROD investigations were conducted in 2014, 2017, 2018, and 2019. Based on the sampling results, a partial deletion occurred for the surface and unsaturated subsurface soils outside of the 4.5-acre TSA from the NPL. As a result of the partial deletion, redevelopment of the southern portion of the Site was considered. In 2022, Scout DAC, LLC purchased four parcels owned by IPC., Scout DAC, LLC is currently conducting a treatability study to investigate soil treatment that could reduce the remaining contaminant levels in the TSA below the established risk-based threshold concentrations. If the treatment is not successful, Scout DAC, LLC has agreed to remove contaminated soils from within the floodplain and consolidate treated soils on-site. Once soil treatments and/or actions have been completed, ICs and the Soils Management Plan may need to be updated.

The groundwater component of the remedy is not functioning as intended. The groundwater component of the remedy included a groundwater recovery system that operated from 1997 through 2016 and an interceptor trench that was closed and reclaimed in 2015. In an effort to enhance degradation of PCP, IPC conducted two pilot studies in 2015 and 2016, injecting nutrients into the Barkfill Area. Results of the 2015 and 2016 pilot studies indicate PCP concentrations were reduced in source area wells. An FFS was submitted to the EPA and MDEQ on February 28, 2020. It evaluated the following alternatives: no action; monitored natural attenuation; in-situ treatment with biological and/or chemical enhancements; and monitored attenuation with contingency in-situ biological/chemical treatments. Except for the no-action alternative, all alternatives include institutional and engineering controls. As part of the FFS, the PRP prepared a work plan to provide for the implementation of in-situ amendments to treat residual wood treating fluids in the Barkfill Area and to place downgradient passive reactive barriers along Bohart Lane and near wells 25A/B and 27A/B. In-situ amendments were conducted in August and September 2022 in four targeted areas including the Barkfill Area, Mid PRB, 25-A/B PRB and 27-A/B PRB areas. Performance monitoring started in 2023 and will continue for seven years to evaluate the post-treatment groundwater conditions. The groundwater remedy will be documented in a final FFS, once any changes to the groundwater remedy are determined. Groundwater use is restricted by the Montana Division of Natural Resources Controlled Groundwater Area, including the restriction of no new wells.

B. Adequacy of O&M

Describe issues and observations related to the implementation and scope of O&M procedures. In particular, discuss their relationship to the current and long-term protectiveness of the remedy. While O&M Plan is not required for the TSA, an O&M Plan is needed to ensure the integrity of the cap. As noted during the 2020 FYR, there is no formal schedule for inspection of the TSA, and woody vegetation may be growing on the edges of the TSA.

C. Early Indicators of Potential Remedy Problems

Describe issues and observations such as unexpected changes in the cost or scope of O&M or a high frequency of unscheduled repairs that suggest that the protectiveness of the remedy may be compromised in the future.
No indicators of potential remedy problems have been identified.

D. Opportunities for Optimization

Describe possible opportunities for optimization in monitoring tasks or the operation of the remedy.
No additional optimization is needed outside of those previously discussed under Part A.

APPENDIX G – SITE INSPECTION PHOTOS



Treated Soils Area looking south



Tire tracks in the Barkfill Area



TSA looking west



Former groundwater treatment plant building



Hole in the fenceline



Barkfill Injection Gallery



Soil pile observed south of Cedar Street



Soil pile observed south of Cedar Street



Large rubble pile located near the rail line



Railroad debris and railroad ties along the rail line



Monitoring well GM-4

APPENDIX H – DETAILED ARARS REVIEW TABLES

CERCLA Section 121(d)(1) requires that Superfund remedial actions attain “a degree of cleanup of hazardous substances, pollutants, and contaminants released into the environment and control of further release at a minimum which assures protection of human health and the environment.” The remedial action must achieve a level of cleanup that at least attains those requirements that are legally applicable or relevant and appropriate. In performing the FYR for compliance with ARARs, only those ARARs that address the protectiveness of the remedy are reviewed.

Table H-1: Evaluation of Groundwater Cleanup Levels

COC	1992 ROD Cleanup Levels (µg/L) ^a	Current MCL (µg/L) ^b	Montana DEQ-7 (µg/L)
PCP	1	1	1
Benzo(a)pyrene	0.2	0.2	0.05
Benz(a)anthracene	0.1	--	0.5
Benzo(b)fluoranthene	0.2	--	0.5
Benzo(k)fluoranthene	0.2	--	5
Chrysene	0.2	--	50
Dibenz(a,h)anthracene	0.3	--	0.05
Indeno(1,2,3-CD)pyrene	0.4	--	0.5
Total D PAHs	146	--	--
Naphthalene			100
Fluorene			50
Phenanthrene			--
Anthracene			2,100
Fluoranthene			20
Pyrene			20
Benzo(g,h,i)perylene			--
2,3,7,8-TCDD (dioxin)	3×10^{-5}	3×10^{-5}	2×10^{-6}
<i>Notes:</i> a. Table 13 of the 1992 ROD. b. National Primary Drinking Water Regulations available at: https://www.epa.gov/ground-water-and-drinking-water/national-primary-drinking-water-regulations , (accessed 2/12/2025). c. Montana DEQ-7 available at: https://deq.mt.gov/water/Programs/standards , (accessed 3/5/2025). -- = not applicable; toxicity criteria not established			

The 1992 ROD identified 40 CFR Part 6, Appendix A, Executive Order No. 11988 as an ARAR, which mandates that federally funded or authorized actions within the 100-year floodplain avoid, to the maximum extent possible, adverse impacts associated with development of a floodplain. Federal regulations at 40 CFR Part 6, Appendix A identified in the ROD were withdrawn. Furthermore, these regulations, and therefore the current CERCLA remedy, only addressed potential floodplain impacts up to the 100-year flood elevation. Current federal floodplain regulations at 40 CFR Part 9 require a greater assessment of potential floodplain impacts, including preventing the release of contamination from waste management units and other remedial infrastructure up to the 500-year floodplain elevation. As of the Site’s January 2024 Site Update, new floodplain maps show some of the treated soils are in the 100-year floodplain. To ensure no treated soils remain in the newly delineated floodplain, Scout DAC, LLC has agreed to either remove and consolidate treated soils on-site or treat the residual contamination in place, thus eliminating the need to move the soils.

APPENDIX I – SCREENING-LEVEL RISK REVIEW

Table I-1: Screening-Level Risk Review of Soil Cleanup Levels

COC	1992 ROD Cleanup Level (mg/kg)	Commercial/Industrial RSL ^a (mg/kg)		Cancer Risk ^b	Noncancer HQ ^c
		1 x 10 ⁻⁶ Risk	HQ = 1.0		
PCP	48	4	2,800	1 x 10 ⁻⁵	0.02
Total B2 PAHs	15	--	--	--	--
- Benzo(a)pyrene		2.1	220	7 x 10 ⁻⁶	0.07
- Benz(a)anthracene		21	--	7 x 10 ⁻⁷	--
- Benzo(b)fluoranthene		21	--	7 x 10 ⁻⁷	--
- Benzo(k)fluoranthene		210	--	7 x 10 ⁻⁸	--
- Chrysene		2,100	--	7 x 10 ⁻⁹	--
- Dibenz(a,h)anthracene		2.1	--	7 x 10 ⁻⁶	--
- Indeno(1,2,3-CD) pyrene		21	--	7 x 10 ⁻⁷	--
Total D PAHs	145	--	--	--	--
- Naphthalene		8.6	590	2 x 10 ⁻⁵	0.2
- Fluorene		--	30,000	--	0.005
- Phenanthrene		--	--	--	--
- Anthracene		--	230,000	--	0.0006
- Fluoranthene		--	30,000	--	0.005
- Pyrene		--	23,000	--	0.006
- Benzo(g,h,i)perylene		--	--	--	--
TCDD TE	0.001	0.000022	0.00072	5 x 10 ⁻⁵	1
<p><i>Notes:</i></p> <p>a. Current EPA RSLs, dated November 2024, are available at https://www.epa.gov/risk/regional-screening-levels-rsls-generic-tables (accessed 2/12/2025).</p> <p>b. The cancer risks were calculated using the following equation, based on the fact that RSLs are derived based on 1 x 10⁻⁶ risk: cancer risk = (cleanup level ÷ cancer-based RSL) × 10⁻⁶.</p> <p>c. The noncancer HQ was calculated using the following equation: HQ = cleanup level ÷ noncancer-based RSL.</p> <p>HQ = hazard quotient -- = not applicable; toxicity criteria not established</p>					

Table I-2: Screening-Level Risk Review of Groundwater Cleanup Levels

COC	1992 ROD Cleanup Level (µg/L)	Resident Tap Water RSL ^a (µg/L)		Cancer Risk ^b	Noncancer HQ ^c
		1 x 10 ⁻⁶ Risk	HQ = 1.0		
Benzo(a)anthracene	0.1	0.03	--	3 x 10 ⁻⁶	--
Benzo(b)fluoranthene	0.2	0.25	--	8 x 10 ⁻⁷	--
Benzo(k)fluoranthene	0.2	2.5	--	8 x 10 ⁻⁸	--
Chrysene	0.2	25	--	8 x 10 ⁻⁹	--
Dibenz(a,h)anthracene	0.3	0.025	--	1 x 10 ⁻⁵	--
Indeno(1,2,3-CD)pyrene	0.4	0.25	--	2 x 10 ⁻⁶	--
Total D PAHs	146	--	--	--	--
- Naphthalene		0.12	6.1	1 x 10 ⁻³	24
- Fluorene		--	290	--	0.5
- Phenanthrene		--	--	--	--
- Anthracene		--	1,800	--	0.08
- Fluoranthene		--	800	--	0.2
- Pyrene		--	120	--	1
- Benzo(g,h,i)perylene		--	--	--	--

Notes:

a. Current EPA RSLs, dated November 2024, are available at <https://www.epa.gov/risk/regional-screening-levels-rsls-generic-tables> (accessed 2/12/2025).

b. The cancer risks were calculated using the following equation, based on the fact that RSLs are derived based on 1 x 10⁻⁶ risk: cancer risk = (cleanup level ÷ cancer-based RSL) × 10⁻⁶.

c. The noncancer HQ was calculated using the following equation: HQ = cleanup level ÷ noncancer-based RSL.

HQ = hazard quotient
 -- = not applicable; toxicity criteria not established

Table I-3: Screening-Level Vapor Intrusion Risk Using Well 5-A

Chemical	2024 Groundwater Concentration (µg/L) ^a	Cancer Risk ^a	Non-cancer HQ ^a
1-Methylnaphthalene	9.07	--	15
Benz(a)anthracene	0.16	4 x 10 ⁻¹⁰	--
Naphthalene	0.87	4 x 10 ⁻⁸	0.001
2,3,7,8-TCDD Equivalence	0.0000663	4 x 10 ⁻⁷	0.0008
Cumulative Total		5 x 10 ⁻⁷	15

Notes:

a. Risk and hazard quotient calculated using the EPA’s Vapor Intrusion Screening Level calculator (<https://www.epa.gov/vaporintrusion/vapor-intrusion-screening-level-calculator>) assuming a commercial/industrial exposure and default groundwater temperature of 25 degrees Celsius.
 -- = not applicable; toxicity criteria not established

Source: Table 2-3 of the 2024 Groundwater Monitoring Report (PDF page 30)