UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 8, MONTANA OFFICE
FEDERAL BUILDING, 301 S. PARK, DRAWER 10096
HELENA, MONTANA 59626-0096

SUPERFUND PRELIMINARY SITE CLOSE OUT REPORT
(Long Term Remedial Action)

Idaho Pole Company
Bozeman, Montana
March 1998

I. INTRODUCTION

The purpose of this Preliminary Site Close Out Report is to document the completion of construction activities at the Idaho Pole Company Superfund Site in accordance with OSWER Directives 9320.2-3C and 9320.2-06. EPA conducted a pre-final inspection of the Site, located on Cedar Street in Bozeman, Montana, on March 9, 1998 and determined that the Idaho Pole Company has constructed the remedy in accordance with the Remedial Design specifications.

II. SUMMARY OF SITE CONDITIONS

Location

The Idaho Pole Company site (the Site) is located near the northern limits of Bozeman, Montana (approximately 28,522 inhabitants) and occupies approximately 50 acres in the east half of Section 6 and the west half of Section 5, Township 2S, Range 6E of Gallatin County. The Site, illustrated in Figure 1, is located in a light industrial use area. The Site is bounded by the Montana Rail Link railroad tracks to the south. Commercial property is west of the Site. Rocky and Mill Creeks are to the north and east. North of the pole plant is a semirural neighborhood of twelve residences with a population of about 30 individuals. Most residences have a few acres of land used for pasture, hay or grass production and vegetable gardens. Seven of the residences continue to use ground water for domestic purposes.

Rocky Creek flows along the northern edge of the Site. It combines with Bozeman Creek about ½ mile from the Site to form the East Gallatin River. Wetlands exist within the Site, generally near Rocky Creek; the 100 year floodplain is close to Rocky and Mill Creeks and is within Site boundaries. Figure 1 shows the Site relative to the town and surrounding area.

Significant features of the Site include the Idaho Pole Company (IPC) pole plant and surrounding land as shown in Figure 2. The Site also includes Burlington Northern Santa Fe Railroad (BNSF) property, Montana Rail Link property, land owned by the Montana Power Company (MPC), including the East Gallatin substation, privately owned land west and east of Rocky Creek, and a portion of U.S. Interstate 90 (I-90).

The Idaho Pole Company ceased active wood treating operations at the plant in October 1997, however, operation of the treatment facilities will continue under the direction of IPC and BNSF.

Site History

The IPC wood treating facility began operation in 1945 using creosote to preserve wood. In 1952, the company switched to pentachlorophenol in carrier oil (similar to fuel oil) for the wood treating solution. IPC wood treating equipment has included butt and pole length treating vats. In 1975, a pressurized heated retort was added for treating full length poles. The pole length vats were removed in the early 1980's. There is also a drying area where treated poles are stored prior to shipment. IPC continued wood treating with a pressurized heated retort and butt dipping vat until July, 1997 and continued to market the products until October 1997 as noted above.

The Montana Department of Fish, Wildlife and Parks notified the Montana Department of Environmental Quality (MDEQ) (formerly the Montana Department of Health & Environmental Sciences (MDHES)) of a suspected release of oily wood treating fluid from the plant in 1978. MDEQ found evidence of a release in ditches near the facility and near Rocky Creek. Consequently, MDEQ issued a compliance order on September 29, 1978, notifying IPC of statutory violations and directing the company to stop uncontrolled releases and to clean up spilled treating fluid.

In an attempt to slow or eliminate movement of the oily wood treating fluid 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 I-90. Absorbent pads were also used in the culverts and ditches to intercept and collect oily wood treating fluid. Culverts under I-90 were dammed to prevent runoff of contaminated surface water to Rocky Creek, however, during high runoff periods, discharge through the culverts has occurred.

IPC conducted a remedial investigation without MDEQ or EPA oversight to identify the sources and extent of contamination at the Site in 1984. IPC drilled monitoring wells to collect ground water samples and also collected soil and surface water samples. MDEQ and EPA concluded that IPC's remedial investigation report was not sufficient to identify contaminant sources and to characterize the nature and extent of contamination.

EPA proposed the facility for the National Priorities List of Superfund sites in 1984. The listing was final in 1986, making the site eligible for federal funds for enforcement, investigation and remediation.

In 1989, MDEQ assumed the lead agency role through a cooperative agreement with EPA and began the Remedial Investigation and Feasibility Study (RI/FS) following the EPA approved Work Plan and EPA guidance. The RI defined the nature and extent of contamination and provided data to complete the baseline Health and Ecological Risk Assessments. The FS included the development, screening and evaluation of potential site remedies.

A Record of Decision (ROD) was issued in September 1992 that selected final cleanup methods for the affected media including soils/source area and site groundwater. A Unilateral Administrative Order (UAO) was issued in August 1993 by EPA requiring that IPC and BNSF implement the Remedial Design/Remedial Action (RD/RA) phase of the project. An Explanation of Significant Differences (ESD) was issued in May 1996 that modified components of the remedy based on additional information obtained fr. . .tudies conducted after the UAO was issued.

The contaminants of concern at the Site are pentachlorophenol (PCP), polynuclear aromatic hydrocarbons (PAHs), polychlorinated dibenzo-p-dioxins and polychlorinated dibenzofurans. The Record of Decision established cleanup levels for those contaminants of concern at the Site. The major components of the selected remedy include:

Soils Component

- Excavation and surface land biological treatment of approximately 19,000 cubic yards of contaminated soils from the pasture area and the area between Cedar Street and U.S. Interstate Highway 90 (I-90) including ditch sediments or bottoms, and the former roundhouse area;
- Hot water and steam flushing of soils underlying the pole plant facility and I-90 in order to recover hazardous substances;
- Separation and disposal of oily wood treating fluid extracted from soils;
- Closure of onsite treatment units in compliance with RCRA Subtitle C requirements;

Ground Water Component

- Ground water cleanup using extraction and biological treatment and return of water to the ground water aquifer to enhance *in situ* biological degradation and

to control potential migration of contaminants;

- Treatment of contaminated residential wells exceeding maximum contaminant levels (MCLs) or risk based concentrations of the contaminants of concern at the distribution point in addition to institutional controls preventing new access to contaminated ground water; and

- Continued residential and ground water monitoring to determine movement of contaminants and compliance with remedial action requirements.

The Remedial Design process for the soil and ground water components of the remedy, which began after EPA issued the ROD, identified the following changes to the remedies which were adopted in the 1996 ESD:

Soil Remedy

- Hot Water/Steam will not be used for flushing the inaccessible areas under the pole plant facility and I-90. Ambient temperature water will be used for flushing inaccessible areas.

- Additional excavation and treatment of soils from under Cedar Street and from the pole plant facility to the levels required in the ROD will take place.

- 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 Plant 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 pentachlorophenol (PCP) and polycyclic aromatic hydrocarbon (PAH) cleanup levels have been reached.

Ground Water Remedy

- The soil flushing component for the inaccessible areas of the site will be designed with the ground water remedy.

- Granular Activated Carbon (GAC) treatment will be used in place of biological treatment.

- The ground water treatment system will be designed to enhance *in-situ* biological degradation and to control contaminant migration in a phased manner. The first phase will be installed in the Plant and areas south of I-90. Phase II will consist of an evaluation of Phase I and adjustments to the system

to optimize ground water remediation. Possible adjustments could include additional wells for extraction and injection on either side of I-90.

The Remedial Design was completed in two phases: the soil component and the groundwater component. The soil RD was approved in June 1995 and construction of the soil component of the remedy took place from July until November 1995. The groundwater component RD was approved in August 1996 and construction occurred from August 1996 until January 1997.

Remedial Construction Activities

The objective of the remedy selected in the 1992 ROD and 1996 ESD is to reduce human exposure to both the soil and groundwater contaminants of concern. The major components of the remedy consist of excavation and biological treatment of contaminated soils in an onsite Land Treatment Unit (LTU), and the *in situ* biological treatment of contaminated groundwater underlying and down gradient of the IPC facility using extraction and injection wells with carbon treatment.

A brief summary of the remedial actions that have been completed at the Site is included in the following excerpts:

- Contaminated soil from the identified source areas (14,000 cubic yards) was excavated, derocked and placed in a lined Land Treatment Unit (LTU) (16 to 18 inches deep) with a leachate collection system and a center pivot irrigator. The soils are tilled with agricultural equipment and irrigated as necessary. When the upper lift of soil on the LTU (8 to 10 inches) reaches the cleanup level through biological degradation, the upper lift will be removed and used for back-fill on-site and the lower lift will be tilled and irrigated until the prescribed remediation levels are achieved.

Sampling data has indicated that the upper lift should reach the prescribed cleanup levels by June 1998. The remediated soil will be placed in the original excavation and will be covered with a minimum of 18 inches of soil. The remaining lift on the LTU should reach cleanup levels in one to two treating seasons (years) and will also be placed in the original excavation and covered with 18 inches of soil. The previously excavated area will be contoured to match the surrounding terrain. Two other wood treating sites in Montana are currently using the identical soil bioremediation techniques being used at the IPC site and are achieving remediation levels within one to two treating seasons.

The LTU will be decommissioned after sampling the drainage layer and liner and a final disposition method will be determined based on the sampling results.

- The property owner has added language to the current registered deed identifying the locations of the hazardous substances disposal and treatment areas, and has restricted the future

land use of these areas. This deed restriction is considered part of the selected remedy for the soils/source area.

- A combination of *in situ* bioremediation and activated carbon treatment processes are being utilized to degrade and remove organic contaminants in the groundwater down gradient of the contaminant source . Groundwater is extracted from the aquifer at two galleries with five extraction wells each and injected at two galleries with fifteen and twenty injection wells respectively (Figure 3). The design extraction rate is 180 gallons per minute total with both galleries operating.

- Extracted ground water is treated by a two vessel activated carbon system. Nutrients and atmospheric oxygen can be added to the treated water prior to reinjection.

- Monitoring activities required to assess the performance of the components of the remedy will be performed throughout the life of the remedial activities at the Site. Data collected during the first year of operation of the groundwater and soils components of the remedy indicates that the systems are performing as anticipated.

- A residential well monitoring program was established in1992 and will continue on a semiannual frequency until the ground water remediation levels have been achieved.

- The Site conditions will be reviewed no less often than each five years after initiation of remedial action to ensure that human health and the environment are being protected by the remedy. The first review will take place during the 4th Quarter of FY 2000.

Pre-Final Site Inspection

The soil component of the Remedial Action and the groundwater component of the Remedial Action were completed at different times and two separate Pre-certification Inspections, as required in Sections 3.3.3.1 and 3.3.3.3 of the Administrative Order for RD/RA, EPA Docket No. CERCLA VIII-93-26, were conducted. The inspections were conducted on August 20, 1996 and January 30, 1997. Approval to begin the Construction Completion Report, which is required by the Order, was given to IPC on February 11, 1997 and a draft report was submitted in October 1997.

The final ***Construction Completion Report, Idaho Pole Company*** dated January 1998, prepared for IPC by Geraghty and Miller, Inc., was approved by EPA on March 9, 1998 and contains the final As-Built construction drawings for both the soil and groundwater components of the remedy. The final report has been placed in both the Bozeman, Montana Public Library and the Superfund Records Center at the EPA Montana Office in Helena, Montana.

A pre-final inspection of the Idaho Pole Company Remedial Action was performed on March 9, 1998 by Jim Harris, P.E., the EPA Remedial Project Manager responsible for the implementation of the Remedial Design and the Remedial Action. The inspection included a site visit and a review of operational data for the groundwater treatment system, the Land Treatment Unit and the Residential Well Monitoring Program. The inspection results confirmed that the remedial systems have been constructed as designed and continue to be operated in accordance with the ***Remedial Actions Operations Plan Soil Remedy*** and the ***Remedial Actions Operations Plan Groundwater Remedy*** prepared by Geraghty and Miller, Inc. The Remedial Action Operations Plans were submitted in June 1995 and November 1996 respectively and were subsequently approved by EPA.

III. DEMONSTRATION OF QA/QC FROM CLEANUP ACTIVITIES

During both the Remedial Design process and the Remedial Action Construction activities, the Jacobs Engineering Group provided oversight through document review and through on-site field observation. Jacobs provided comment on document review during the Remedial Design phase to the EPA Remedial Project Manager (RPM) and the comments were transmitted to the Idaho Pole Company for incorporation into the final documents.

Field oversight during the Remedial Action Construction was provided by a representative of the Jacobs Engineering Group experienced in the construction of remediation systems. The EPA RPM was in daily contact with the Jacobs representative during the construction project and was provided weekly evaluation reports.

Remedial Action construction activities at the Site were completed in conformance with the ROD and all Remedial Action Work Plans. EPA Quality Assurance/Quality Control (QA/QC) procedures were followed during Remedial Action Construction and during the collection of monitoring data. Soil and ground water sampling were performed in accordance with EPA's "Test Methods for Evaluating Solid Wastes, Physical/Chemical Methods (SW846)". Only EPA methods were used for data validation and sample analysis during RA Construction activities.

The QA/QC program utilized throughout RA Construction was sufficiently rigorous and was adequately implemented to enable EPA to determine that all analytical results were accurate to the required level to assure satisfactory execution of RA Construction consistent with the ROD and RD plans and specifications.

IV. ACTIVITIES AND SCHEDULE FOR SITE COMPLETION

The Idaho Pole Company Site employs bioremedation technologies for cleanup of both contaminated soils and contaminated ground water. Although physical construction of the

remedy has been completed and the bioremediation processes are operating as designed, all of the ROD cleanup levels have not been achieved. Studies of the soil and ground water treatment systems have indicated that the technologies are capable of meeting cleanup goals.

The ***Remedial Actions Operations Plans*** for the soil and groundwater components of the remedy, containing the Operation and Maintenance Plans for each component, were approved by EPA on June 29,1995 and January 6, 1997.

The Remedial Action will not be complete until cleanup goals specified in the 1992 ROD are achieved and a Remedial Action report is submitted to and approved by EPA.

Additional activities that remain for Site Completion include O&F Period determination, Facility Demobilization, Final Inspection, Remedial Action Report approval, Final Close Out Report approval and NPL Deletion. The estimated time period for completion of the groundwater remedy from the 1992 Record of Decision is 15 years, however, due to the uncertainties of ground water cleanup, estimated completion dates for the above tasks have not been determined.

The U.S. Environmental Protection Agency (EPA) will conduct a statutory Five-Year Review for the IPC site in accordance with Section 121(c) of the Comprehensive Environmental Response, Compensation, and Liability Act of 1980 (CERCLA), as amended by the Superfund Amendments and Reauthorization Act of 1986, 42 U.S.C. Section 9601, et seq. (SARA), and Section 300.430 (f) (4) (ii) of the National Oil and Hazardous Substances Pollution Contingency Plan (NCP). As described in these laws and regulations, a Five-Year Review is required when EPA selects a remedial action that results in any hazardous substances, pollutants, or contaminants remaining on-site at levels that do not allow for unlimited use and unrestricted exposure.

Because the remedy will require greater than 5 years to achieve the remediation levels, a five-year review will be performed at the required intervals. The first 5-year review will be conducted during the 4th quarter in the year 2000. The reviews will be conducted in accordance with OSWER Directive 9355.7-02, ***Structure and Components of Five-Year Reviews*** (May 23,1991) and OSWER Directive 9355.702A, ***Supplemental Five-Year Review Guidance***, July 26, 1994.

Max H. Dodson, ARA
Office of Ecosystems Protection and Remediation
USEPA Region VIII

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Date

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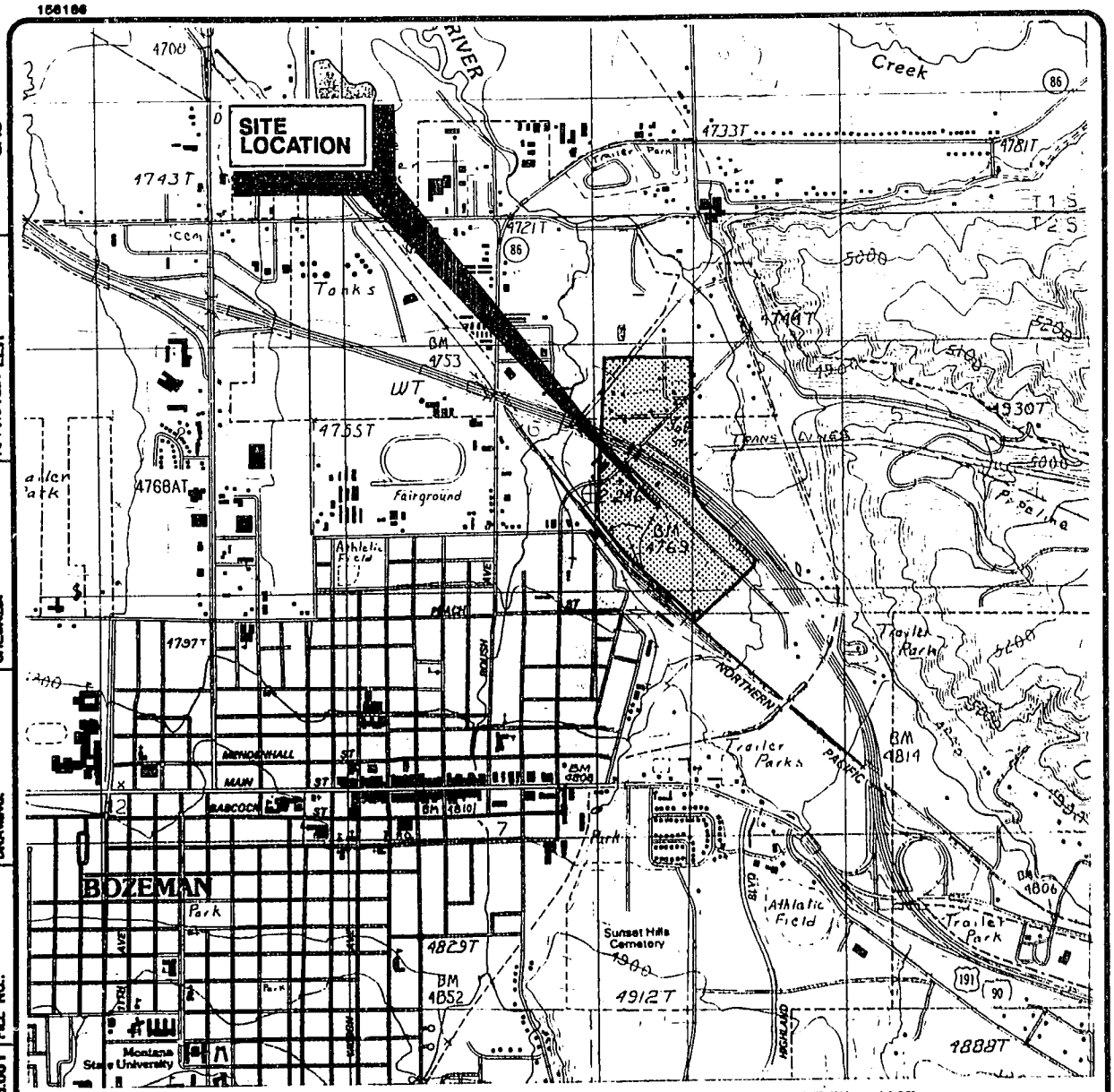

SOURCE: USGS 7.5 Minute Topographic Map, BOZEMAN, MONTANA Quadrangle, Provisional Edition 1987.

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GERAGHTY & MILLER, INC.
Environmental Services

SITE LOCATION MAP

Idaho Pole Company

Bozeman, Montana

FIGURE

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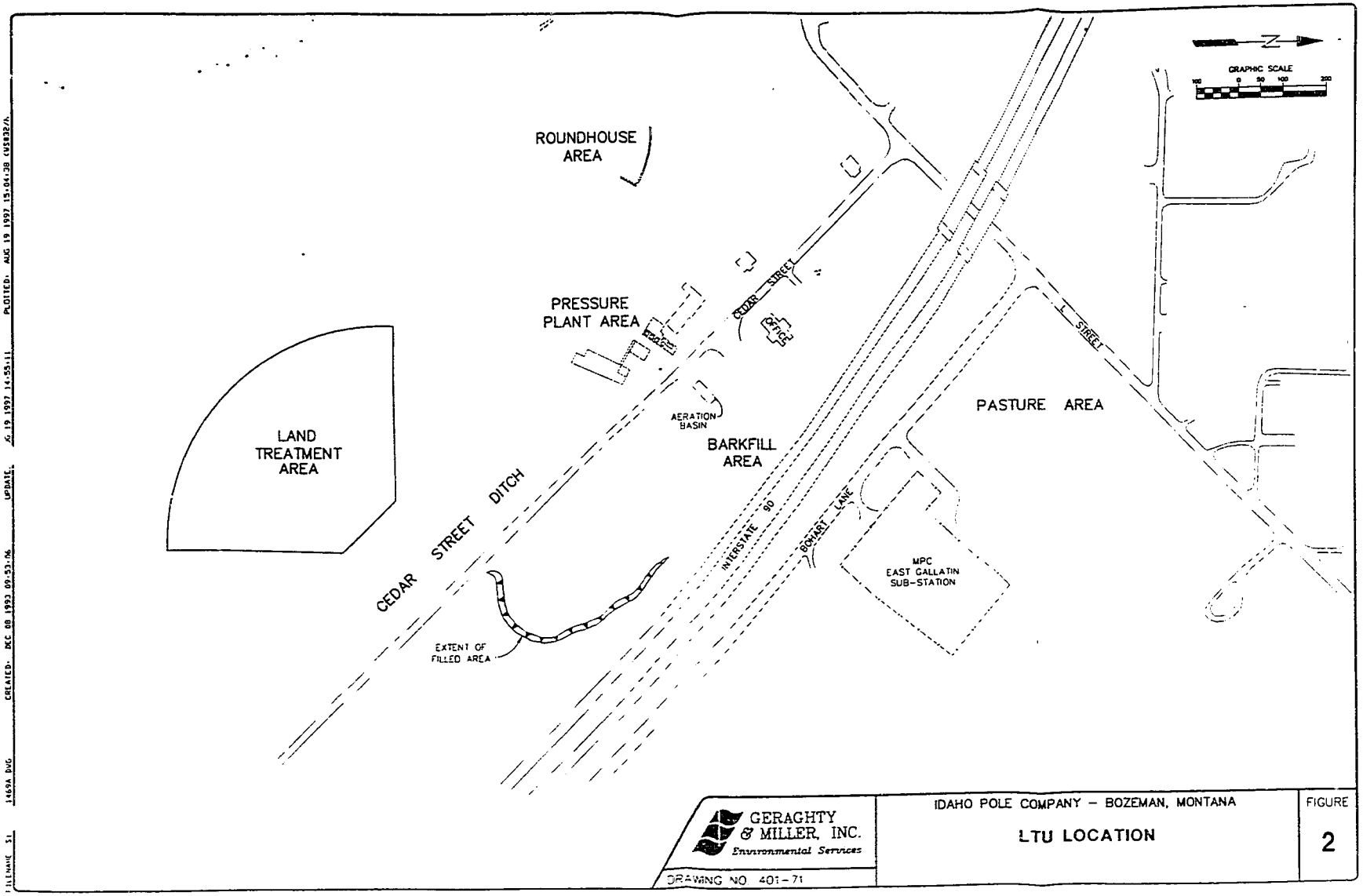

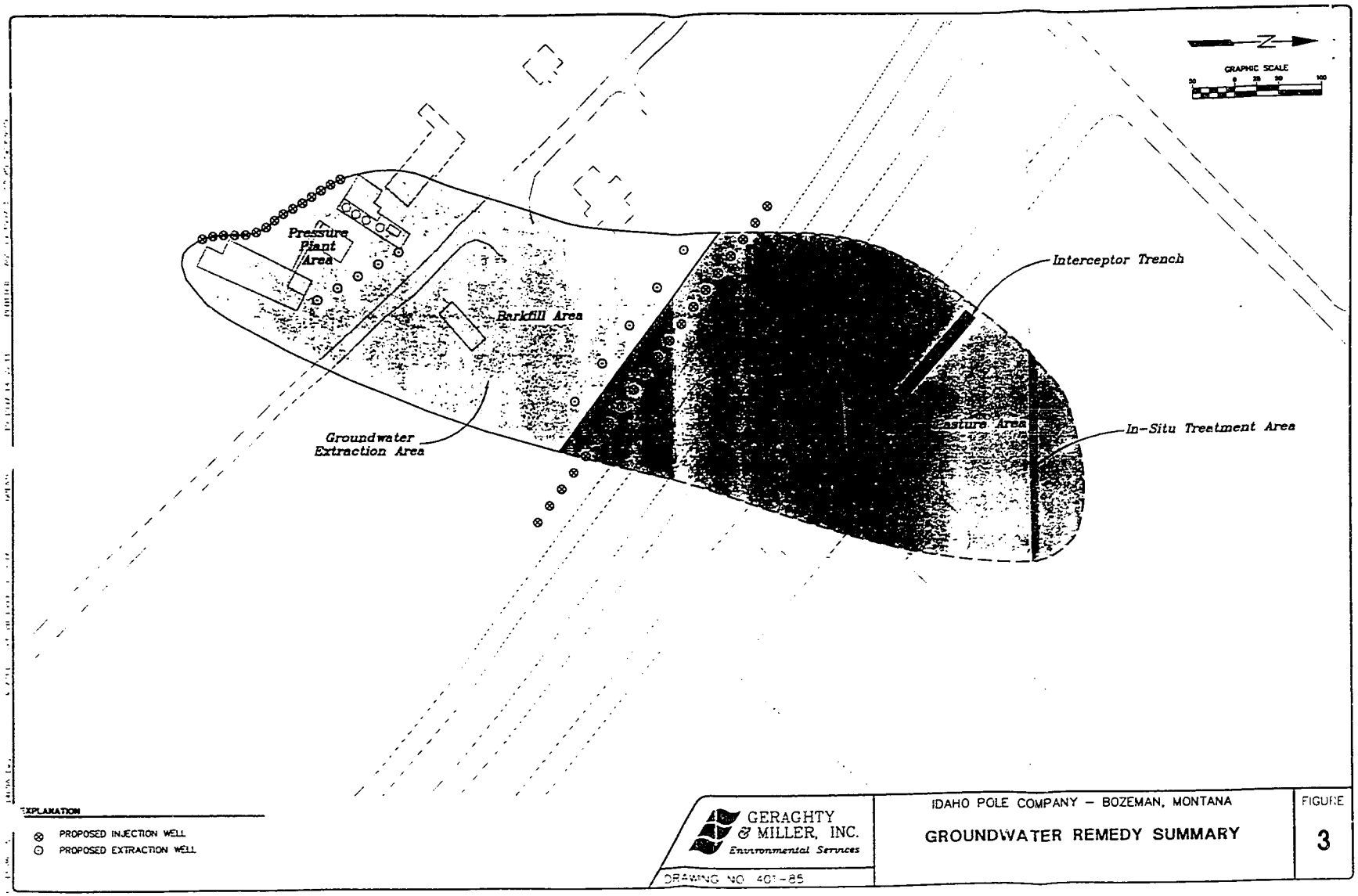
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GRAPHIC SCALE
50 0 25 50 100
Pressure Plant Area
Backfill Area
Interceptor Trench
Groundwater Extraction Area
Pasture Area
In-Situ Treatment Area
EXPLANATION
PROPOSED INJECTION WELL
PROPOSED EXTRACTION WELL
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IDAHO POLE COMPANY – BOZEMAN, MONTANA
GROUNDWATER REMEDY SUMMARY
FIGURE
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