Remedial Action Completion Report
Idaho Pole Company Superfund Site
Soil Remediation Phase

December 23, 2002

U. S. Environmental Protection Agency
Region 8 - Montana Office
Helena, Montana

Robert L. Fox
Robert L. Fox, Superfund Branch Chief

12/23/02
Date

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
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December 23, 2002

To: Bob Fox, Superfund Branch Chief

From: Jim Harris

Subject: Remedial Action Completion Report for the Soil Remediation Phase at the Idaho Pole Company Superfund Site

The ***Remedial Action Completion Report, Idaho Pole Company Superfund Site, Soil Remediation Phase,*** dated December 23, 2002, prepared for the Idaho Pole Company and the Burlington Northern Santa Fe Railway by the RETEC Group, Inc., is attached. Your signature on the cover page will verify the completion of the Soil Remediation Phase of the Remedial Action.

Attachments:

Remedial Action Completion Report
Soil Remediation Phase

Idaho Pole Company
Bozeman, Montana

Prepared by:

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RETEC Project Number: MCFR2-03423-400

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December 2002

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1 Introduction

On behalf of the Idaho Pole Company (IPC) and The Burlington Northern Santa Fe Railway Company (BNSF), The RETEC Group, Inc. (RETEC) is submitting this Land Treatment Unit Closure Completion Report for the IPC facility in Bozeman, Montana. This Report summarizes the facility regulatory background, operational monitoring data for the IPC land treatment unit (LTU), as well as details of the LTU closure activities.

1.1 Report Organization

Section 1 of this report presents a brief introduction. Section 2 presents LTU regulatory history. Summary information of remedial actions is presented in Section 3. LTU operation monitoring data is presented in Section 4. LTU closure activities and certification are discussed in Section 5. References are provided in Section 6.

Section 2

2 LTU Regulatory History

The IPC facility in Bozeman, Montana (Site) used pentachlorophenol (PCP) in carrier oil and creosote to preserve wooden poles from 1945 until 1997. Figure 1 shows the Site location and the Site layout is illustrated in Figure 2. In 1978, the Montana Department of Environmental Quality (MDEQ) found evidence of a release of oily wood treating fluid in ditches near the site.

2.1 1992 Record of Decision

In September 1992 the United States Environmental Protection Agency (EPA) issued a Record of Decision (ROD) for the Site. The ROD identified constituents of concern (COCs), the associated clean-up levels for the Site and described the selected remedy. The general components of the soil remedy are outlined below:

- Soils located primarily in the areas between Cedar Street and I-90, around the plant buildings, the Pasture Area north of I-90 and ditch sediments would be excavated and biologically treated onsite in an above ground LTU.

- Soil treatment levels from Table 13 of the ROD are:

  - Pentachlorophenol (PCP) < 48 mg/kg
  - Total B2 polycyclic aromatic hydrocarbon (PAHs) < 15 mg/kg
  - Total D PAHs < 145 mg/kg
  - TCDD TEQ (dioxins) < 1.0×10^{-3} mg/kg

- Hot water/steam flushing of soils underlying the wood treating facility and the interstate.

- Closure of on-site treatment units in compliance with RCRA Subtitle C requirements

2.2 1995 Remedial Action Operations Plan

The Remedial Actions Operations Plan (RAO) Soil Remedy (Geraghty & Miller, June 1995) described the requirements of the soil remedy portion of Site remedial actions. The RAO presented the requirements for LTU construction, LTU operations and monitoring requirements as well as LTU closure and post-closure activities. Three separate LTU closure options were presented in the RAO.

The second RAO LTU closure option was chosen for the Site, which requires that ROD-specified soil treatment levels are met for PCP and PAH, but not for dioxin at the time of closure; or if all soil criteria are met but the leachate

quality criteria are not met. The LTU closure requirements for Option 2 are as follows:

- Remove all soils and drainage sands from the LTU and use as fill material in a location within the ROD-designated groundwater plume.
- To prevent direct contact risk with treated soil, treated LTU soil containing dioxin concentrations above the ROD-specified soil treatment goal must be covered by a minimum of 12 inches of fill material.
- Following soil removal, gross contamination will be removed from the retention pond and LTU liners and leachate collection piping. Adequately sized samples will be collected from each of the liners and the leachate collection piping and submitted to the laboratory for analysis of PCP and PAH concentrations by EPA Method-8270, and dioxin concentrations by EPA Method-8290.
- The LTU perimeter berms will be graded flat to allow for reuse of the location.
- No post closure groundwater monitoring or post closure care of the treatment facility will be required under this scenario.

2.3 1996 Explanation of Significant Differences

In May 1996, EPA released an Explanation of Significant Differences (ESD) describing the differences between the soil remedy and the ROD. The ESD was issued by the EPA based on additional studies conducted at the Site. The findings of the additional studies and the modifications to the design of the soil remedy are listed below:

- Based on the subsurface conditions under I-90 and the Pressure Plant, it was determined that the hot water/steam flushing system called for in the ROD could not be designed. These subsurface conditions include the site geology, a lesser amount of oily wood-treating fluid than originally expected and foundation obstructions under the Pressure Plant.
- Additional soil excavations were performed in 1995 under Cedar Street and in the Pressure Plant area. These areas now meet the cleanup levels required in the ROD and no further excavation is necessary.
- Sediments in the substation ditch were not excavated because they did not exceed soil cleanup levels stated in the ROD.

- Soils exceeding ROD cleanup levels were placed in the LTU. Soils were treated in one-foot lifts; after the soils met the ROD soil treatment levels, they were used on site as backfill.

The site wide remedy identified in the ROD and supplemented in the ESD was implemented between July 1995 and January 1997. The soil portion of the remedy, which includes construction of the LTU and retention pond, excavation of soils, de-rocking and transportation of excavated soils, was completed between July 1995 and November 1995, and is discussed in Section 3.1.

2.4 1998 Explanation of Significant Differences

On November 27, 1998, EPA issued an additional ESD for the Site. The EPA determined that additional work was necessary at the Site because IPC had ceased wood-treating operations in September 1997. The 1998 ESD required that the facility structures, including buildings, tanks, concrete pads, piping and vaults be demolished and impacted soils underlying the structures be excavated and treated in the LTU. The resulting additional remedial action activities are discussed in Section 3.2.

Section 3

3 Remedial Action

3.1 Initial Remedial Action

The soil remedy was implemented with LTU construction and loading between July and November 1995. The LTU was constructed per EPA-approved plans and specifications. Modifications to the plans were documented in the monthly progress reports and on the as-built drawings presented in the Construction Completion Report, Idaho Pole Company, Bozeman, MT, Volumes 1, 2, 3 (Geraghty and Miller, January 1998). Appendix D of the Construction Completion Report presents the construction chronology of the activities that were conducted during the initial remedial action of excavation and LTU construction.

3.1.1 LTU Construction

The LTU was constructed southeast of the Pressure Plant (Figure 2) and occupied approximately 5.25 acres. Approximately 3.64 acres of the LTU is farmable, and located within the perimeter of the berm. The LTU included a liner, leachate collection system, center-pivot irrigation system and retention pond. Figure 1 shows a detailed drawing of the LTU. A complete set of As-Built drawings are located in the Construction Completion Report, Idaho Pole Company, Bozeman, MT, Volume 2 (Geraghty and Miller, January 1998).

The liner system consisted of a 60-mil-thick high-density polyethylene (HDPE) geomembrane liner covered with a medium weight geotextile filter fabric. The liner system was underlain by a layer of compacted native fill, and was comprised of a 6-inch-thick layer of compacted silt/clay. The LTU leachate collection system included a network of drainage piping within a 12-inch-thick layer of clean drainage sand (5,240 cubic yards (cy)), graded to a collection sump. The water collected in the leachate collection system was used for irrigation of the LTU soils. Water run-on/run-off was controlled with berms around the perimeter of the LTU. Any water which leached through the soils of the LTU was collected in the leachate collection system. The water was then drained via a pipe to the LTU leachate collection sump, located next to the center point of the irrigation center pivot. Water that entered the sump was pumped to the retention pond where it was stored and used to irrigate the LTU surface through the center pivot irrigation system.

3.1.2 Soil Excavation and Placement

Approximately 14,000 cy of contaminated soil was excavated and placed in the LTU for treatment. The soils were excavated from six areas at the site: the Pressure Plant Area, beneath Cedar Street, the Barkfill Area, the Roundhouse Area, the Cedar Street Ditch and the Pasture Area (Figure 1). These areas were identified during previous investigations.

The extent of excavation was determined by employing the visual criteria, established with the EPA, during the additional studies performed to support the design. All visual determinations were confirmed, agreed upon, and verified by the EPA representative on-site during soil excavation activities. Soil confirmation samples were collected during the excavation activities and submitted to the laboratory for analysis. The results of the soil excavation sampling and the bounds of the excavations are presented in Appendix I of the Construction Completion Report, Idaho Pole Company, Bozeman, MT, Volumes 1, 2, 3 (Geraghty & Miller Environmental Services, January 1998). These samples were collected to document the levels of the COCs remaining in inaccessible areas (beneath and near structures and utilities).

The excavated soils were derocked to the extent possible prior to placement in the LTU. The rocks were cleaned and used as backfill for the excavation in the Barkfill Area. Also, during excavation activities, minor amounts of LNAPL that accumulated in the soil excavations were collected using a vacuum truck and transferred to the treating plant. Air monitoring activities were conducted during the soil excavation and soil handling activities. The air monitoring activities did not detect target airborne contaminants at or above action levels.

Once all of the excavated soil was placed on the LTU, biological soil treatment was initiated. Soil treatment included tilling the soil with a chisel plow, the addition of fertilizer and watering with the irrigation system. The irrigation system used water from accumulated precipitation in the retention pond and from the onsite groundwater treatment plant. The pumping well installed by the LTU center-pivot was not required to supply additional water. The soils were treated in approximately one-foot thick lifts from the top down. The operation and monitoring of the LTU is described in more detail in Section 4. At the completion of treatment, the top lift of soil was removed and used as backfill on site (Section 3.3).

3.2 Additional Remedial Action

The 1998 ESD required additional remedial actions which included demolition of the plant structures. The additional remedial actions enabled excavation access to impacted soil. Demolition activities were initiated in May 1999 and the excavated soils were placed on the LTU for treatment in August 1999. The additional remedial action details are presented in the Construction Completion Report, Idaho Pole Company Site, Bozeman, MT (Maul Foster & Alongi, Inc., November 19, 1999).

3.3 Removal of LTU Upper Lift of Soil - 1999

In January 1999, ThermoRetec presented to the EPA the Work Plan to Remove the Upper Lift From Idaho Pole Company Land Treatment Unit. This work plan was approved by the EPA on March 2, 1999. Removal of

treated material from the LTU was conducted during the remedial action demolition project, prior to application of impacted soil discussed in Section 3.2.3.

The soil removal project took a total of 10 days to remove the soil, and was completed on June 22, 1999. Approximately 4,890 cy of material was removed from the upper lift of the LTU and used as backfill in the Barkfill (3,195 cy) and Pressure Plant (1,695 cy) areas. The treated soils were covered with a minimum of 12-inches of clean material. A letter summarizing the completion of soil removal from the LTU (ThermoRetec, October 5, 1999) was sent to the EPA summarizing the soil removal activities. The letter was previously included in Appendix D of the 1999 LTU Operations Report. The additional soil application from demolition activities was completed and LTU treatment began in August 1999.

4 LTU Operations

IPC has operated the LTU since construction completion in 1995. The LTU construction includes a liner, leachate collection system, center-pivot irrigation system and a retention pond. The LTU covers approximately 5.25 acres and is contained by a run-on/run-off berm. Approximately 3.64 acres of the LTU area is farmable, and located within the perimeter of the berm. The LTU is located southeast of the former Pressure Plant as seen in Figure 2.

4.1 LTU Soil Application and Removal

During remedial action activities in November 1995, the first application of soil to the LTU consisted of approximately 14,000 cy. In June 1999, approximately 4,890 cy of soil from the upper lift of the LTU was removed and placed in the Barkfill and Pressure Plant areas and covered with a minimum 12-inches of clean material. During the same operating season, demolition of plant structures was conducted to access additional impacted soils. In August 1999, approximately 4,900 cy of impacted soils under the pressure plant were excavated and loaded on the LTU for treatment. This final soil application resulted in a total volume of approximately 19,250 cy of in-place soil/sand within the LTU. Soil treatment operations commenced immediately upon completion of the re-application activities. A summary of soil application and removal is as follows:

Volume Summary of Soil Application/Removal of LTU

Date	Applied	Removed	Description
• November 1995	5,240 cy		Drainage sand for LTU construction.
• November 1995	14,000 cy		Excavated soils areas discussed in Section 3.1.2.
	19,240 cy		**Subtotal of soils and drainage sand applied to LTU**
• June 1999		4,890 cy	Removal of upper lift of LTU soil to Barkfill (Pit 4 - 3,195 cy), Pressure Plant (Pit 1, 2, 3 - 1,695cy)
• August 1999	4,900 cy		Soil under Pressure Plant area.
	19,250 cy		**Subtotal of soils and drainage sand remaining on LTU**
• November 2002		19,250 cy	Complete LTU soil Removal to Pit 5 (10,717 cy), Pit 6 (8,533).

The final soil application was completed and LTU treatment began in August 1999. Normal LTU operations continued through October 2000. September 2000 LTU soil sample results were below the ROD cleanup levels for PCP and PAHs for both the upper and lower LTU lifts. LTU operations ceased in October 2000, having met cleanup goals and plans were made for LTU closure. LTU activities in 2001 consisted of irrigation and tilling of LTU soil while the LTU closure work plan was in the approval process.

4.2 Monitoring Data

Baseline soil samples collected from the LTU in 1995 are presented in Appendix L of the Construction Completion Report, (Geraghty & Miller, Inc., January 1998). Since startup of the LTU in the spring of 1997, LTU operations have consisted of tilling, irrigation and annual fertilization. On behalf of IPC and BNSF, RETEC has performed LTU monitoring from July 1998 through the 2001 operating season. LTU monitoring consisted of soil, groundwater and retention pond samples.

4.2.1 LTU Soil Data

Soil samples were collected from the LTU for operation monitoring from July 1998 to September 2000. The LTU was divided into four subplots and random composite soil samples were obtained from four quadrants within each subplot. The soil samples were analyzed for PCP (EPA Method-8040), PAH (EPA Method-8270) and Dioxins (EPA Method-8290).

Soils samples were collected in July, August and September of 1998. The July soil samples from the upper lift were below the soil treatment goals for PCP and PAH. The dioxin concentrations for the upper lift collected in September 1998 were above the dioxin toxicity equivalence (TCDD TE) level. The August 1998 soil samples from the lower lift were above the treatment goals for PCP and below the goals for PAH compounds. Samples for dioxin analysis were not collected from the lower lift due to additional treatment time needed for PCP.

The upper lift of the LTU was removed during May and June 1999 and placed in both the Barkfill and Pressure Plant areas. LTU re-application of soils from under the Pressure Plant area was completed in August 1999. Additionally, in August 1999, soil samples were collected from the upper lift and analyzed for PCP and PAH compounds. The PCP and PAH levels were both below treatment goals.

Soil samples were collected in September 2000 from the upper and lower lift. The upper lift samples were below PCP and PAH treatment goals but above the dioxin cleanup level. The lower lift samples were below PCP and PAH treatment goals. Dioxins were not collected from the lower lift since previous samples from the upper lifts collected in September 1998 and September 2000

were assumed to be representative of the lower lift dioxin concentration. Appendix A of the Land Treatment Unit Closure Work Plan, (RETEC, July 2002) presents historical soil data from July 1998 to September 2000.

4.2.2 Groundwater Data

Three down-gradient wells (LTU-1, LTU-2 and 2-A) and one up-gradient well (19A), shown in Figure 1-2, were monitored semi-annually for PCP (EPA Method-8040) and PAH compounds (EPA Method-8270). These groundwater wells were sampled in July and December 1998, June and December 1999 and July and December 2000. PCP or PAH compounds were not detected in any of the six sampling events. All analyte concentrations from 1998 through 2000 were below detection limits and the cleanup levels indicated in Table 13 of the ROD. The data from the six LTU groundwater sampling events are included in Appendix A of the Land Treatment Unit Closure Work Plan, (RETEC, July 2002).

4.2.3 Retention Pond Data

Two retention pond samples have been collected since 1997. Retention pond sampling results were presented in Appendix C of the Land Treatment Unit Closure Work Plan, (RETEC, July 2002). These samples were collected due to excessive precipitation, which accumulated on the LTU in the winter 1998 and 1999. Water samples were collected from the retention pond for EPA review and approval to pump the water to the Barkfill area. The April 21, 1998 retention pond sample was approved by EPA, for discharge to the Barkfill area, in a letter dated May 14, 1998. The March 31, 1999 retention pond sample was approved by EPA, for discharge to the Barkfill area, in a letter dated April 1, 1999.

4.3 LTU Closure Work Plan

Based on the September 2000 LTU soil sampling results, soil treatment was complete having met the ROD-specified performance standards. Soil analyses of the final lift indicated that concentrations were below the ROD performance standard for PCP, total B2 PAHs and total D PAHs. Concentrations of dioxins were above the performance standard for dioxin (TCDD TE) (1.0 x 10-3 mg/kg). LTU treatment operations ceased in October 2000. EPA requested a proposed closure plan outline from IPC in a letter dated October 27, 2000.

A LTU Closure Work Plan was submitted to the EPA in February 2002 and was approved in July 2002. The EPA approval letter, for the LTU Closure Work Plan, is included in Appendix A of this report.

5 LTU Closure Activities

LTU closure activities were conducted in accordance with the RAO and the approved LTU Closure Work Plan. Closure activities were based on the September 2000 soil data meeting the ROD soil treatment goals for PCP and PAHs, but not for dioxins.

The LTU closure activities described in this section include irrigation system removal, fence removal, LTU treated soil removal, treated soil placement and clean cover, liner removal and decontamination, site restoration and post closure compliance. Appendix B presents a chronological pictorial history of closure activities. The pictures include removal of the irrigation system, various closure activities and restoration of the site at completion.

5.1 Closure Schedule

LTU Closure activities commenced with heavy equipment mobilization on October 1, 2002. A kick-off meeting and site walk were performed on the same day to review the scheduled closure activities. The LTU soil removal and placement activities were completed on November 6, 2002 and site restoration activities were completed on November 22, 2002. The LTU closure activities were finalized with equipment demobilization on November 25, 2002. The schedule of closure activities is presented in Figure 5.

5.2 Irrigation System

The irrigation system was decontaminated, dismantled and removed from the LTU during closure. On August 27, 2002, the irrigation system was flushed with 2,335 gallons of clean municipal water and decontaminated with a pressure washer by RETEC and TREC personnel. The irrigation system was completely drained in the LTU and moved outside of the LTU for dismantling. AquaTech Irrigation, Inc. of Belgrade, MT, purchased the irrigation system. The system was dismantled in sections, and placed on a trailer for relocation and reassembly off-site. Irrigation system removal was complete by August 28, 2002.

5.3 Fence Removal

The welded wire fence along the perimeter of the LTU berms was disassembled on October 8, 2002. The wooden fence posts, the 16-foot tube-gate and the wire fence were removed from the LTU and sold locally.

The chain link fence around the retention pond was disassembled on November 6, 2002. The chain link fence was removed from the retention pond area, and will be sold locally in the future. The 16-foot chain link rolling gate was reused on-site to replace the gate in front of the Groundwater Remediation System (GRS) building.

5.4 Soil Excavation and Placement

In order for treated soil to be removed from the LTU, an area (pit) needed to be excavated to accommodate the treated soil. After soil placement, a minimum of 12-inches of clean fill needed to be placed over the treated soil to prevent direct contact.

5.4.1 Excavation of Pits 5 and 6

The area south of the pressure plant injection gallery was excavated for placement of treated soil (Figure 6). Approximately 19,250 cy of soil was excavated from two areas, Pits 5 and 6, to accommodate the volume of treated soil and drainage sand from the LTU. Excavation of Pits 5 and 6 commenced on October 2, 2002. A track-hoe excavator was used to remove clean soil and stockpile the soil near the excavation. The excavated soils were stockpiled for use as clean cover and to level off low-lying areas on the Site. The area between the Pits contains active city water and electrical piping, which were left in-place.

A laser level was used to measure the bottom of the excavation; depths ranged from 5 to 7 feet below ground surface depending on the topography the area. The elevation of the bottom of the excavation ranged from 4,752 feet above mean sea level (FTMSL) to 4,754 FTMSL, which is at least one-foot above the historic high groundwater level at the site. This excavation depth, one foot above the saturation zone, was designated to prevent soil contact with the groundwater in that area. The final excavation area of the Pits was 76,711 square feet. Approximately 10,717 cy of soil was excavated from Pit 5 and 8,533 cy of soil from Pit 6.

The peeler building was located in the middle of the Pit Area before LTU closure activities commenced (Figure 6). In order to use the area beneath the structure, the peeler building was dismantled, removed and sold locally. The concrete foundation was left in place, covered with LTU soil and a 12-inch clean soil cover and brought to final grade.

5.4.2 Treated Soil Removal and Placement

Envirocon started removing treated soil from the LTU on October 2, 2002. Treated soil was pushed into piles on the LTU using a dozer. The dozer cut away the soils on the LTU in layers until the geotextile fabric and liner were uncovered. The treated soil stockpiles were then transferred to haul trucks with loaders to be brought to the Pit Area.

Placement of LTU soil into the Pits began on October 8, 2002. The Pits were continually being excavated and filled with treated soil to prevent over excavation of clean soil. Soil was placed in the bottom of the excavation via ramps into and out of the excavation. A dozer inside the excavation was used to compact and level the soil in approximately one-foot lifts. A fence was

assembled around the perimeter of the open excavation at the end of each shift to provide security and a safety precaution.

The haul trucks followed a designated haul route to the backfill area (Figure 6). A water truck was used to control dust along the haul route. The haul route was scraped after completion of treated soil placement, and material placed in the Pits with the treated soil. The loaders and haul trucks were decontaminated with a high-pressure washer or steam cleaner prior to switching tasks and after completion of the soil activities.

Treated LTU soil removal and backfill activities were complete on November 6, 2002. Approximately 19,250 cy of treated soil and drainage sands were removed from the LTU and placed in the Pit Area. An as-built drawing showing a cross section of the Pit Area is provided as Figure 7. This figure illustrates a cross section of the Pit Area including placement of treated LTU soils with drainage sand, placement of the geotextile fabric and the clean soil cover. The LTU liner was disposed offsite as discussed in Section 5.5.2.

5.4.3 Monitoring During Soil Removal Activities

Random air monitoring was performed during soil excavation and placement activities. Air monitoring was conducted along the perimeter of the LTU for respirable particulates less than 10 micrometers (PM-10) using a hand held MIE personal/DATARAM. Particulate concentrations detected during LTU soil removal activities ranged between 0.012 mg/m^3 and 0.092 mg/m^3, which were below the health criteria of 150 $\mu g/m^3$ established in the RAO. Photoionozation detector (PID) readings for volatile organic compounds were taken in the first week of soil removal activities. No concentrations were detected with the PID during soil removal, therefore the PID monitoring was discontinued. Air monitoring results are include in RETEC field notes in Appendix C.

5.5 LTU and Retention Pond Deconstruction

During soil removal from the LTU, the leachate collection system, liner and geotextile filter fabric were exposed. The following sections discuss removal of the leachate collection system, removal of liner from the LTU and retention pond and relocation of geo-textile filter fabric. Approximately, 48 tons of liner, leachate collection piping and miscellaneous debris were disposed at the Valley View Landfill (City-County Sanitation Services, Inc) in East Helena, Montana. The LTU berms were then graded flat for reuse of the property.

5.5.1 Leachate Collection System

The leachate collection system consisted of the leachate collection system sump, pump and piping. The sump and pump were removed, decontaminated and remain on site for possible reuse. The piping was removed,

decontaminated with a pressure-washer and disposed of at the Valley View Landfill in East Helena.

5.5.2 LTU Liner

The entire 5.25 acre LTU (including the retention pond) was lined with 60 mil thick HDPE. During construction of the LTU, liner was placed on top of a silt/clay layer to prevent migration of hazardous constituents to the underlying soils and groundwater. During LTU operations, only the top surface of the liner was exposed to the impacted soils, whereas the bottom surface was in contact with the silt/clay layer.

Once the LTU soils were removed, the LTU liner was cut into strips, to facilitate removal, and stockpiled. To confirm that only the top surface of the liner required decontamination, samples of the underlying silt/clay were analyzed for PCP and PAH compounds. The composite soil samples were non-detect for PAH and PCP compounds (Table 1). On November 14, 2002, based on sample data, EPA approved decontamination of only the top surface of the liner before disposal. The top surface of the LTU liner was decontaminated using high-pressure washers to meet BDAT requirements.

The liner was loaded into a semi-truck trailer with a belt-driven bottom and hauled to the Valley View Landfill in East Helena for disposal beginning on November 20, 2002. Liner disposal was complete by November 25, 2002.

5.5.3 Geo-textile Filter Fabric

The geo-textile filter fabric was exposed during treated soil and drainage sand removal activities with the dozer. The filter fabric appeared to be unsoiled from the treatment of LTU soils. Three composite soil samples were collected from the sand layer above the filter fabric, and were analyzed for PCP and PAH compounds to evaluate the potential leaching of hazardous constituents during soil treatment. Summary analytical results in Table 2 indicate PCP concentrations below the performance standard of 48 mg/kg, and non-detect for PAH compounds. Complete analytical results are included in Appendix D.

As a result, a request was made to the EPA on October 18, 2002, to place the filter fabric in the Pit Area in layers on top of treated soil. Based on EPA approval on October 24, 2002 (Appendix A), the filter fabric was placed in layers on top of the treated soil in the Pit Area, prior to placement of 12-inches of clean fill. Photographs of filter fabric placement activities are included in Appendix B.

5.5.4 Retention Pond Liner

Surface water samples were collected from standing water on the LTU and the retention pond in June 2002. The samples were analyzed for PCP and PAH

compounds. The results indicated no PAH compounds detected and PCP was detected in one sample from the LTU retention pond (15 µg/L) (Table 3). The complete analytical report is included in Appendix D. Based on analytical data, EPA approved pumping the water to the French drain near the former pressure plant, in preparation of LTU closure activities in August 2002.

During closure activities, the retention pond liner was brushed clean of soil and algae. The brushed soils were combined with the treated LTU soils prior to removal of the liner. The liner was cut into strips and decontaminated with a pressure washer. The liner was stockpiled, loaded into a truck trailer and disposed at the Valley View Landfill in East Helena on November 25, 2002.

5.5.5 LTU Berms

The soil berms around the LTU and retention pond were graded flat upon removal of leachate collection system, filter fabric and liner. Approximately, 15,000 cy of clean berm soils were placed across the LTU area and re-contoured for drainage control, and reuse of the location. Photographs of this activity are included in Appendix B.

5.6 Clean Soil Cover and Final Grade

After treated soil, sand and filter fabric were placed in the Pit Area and compacted, a 12 to 15-inch cover of clean fill material was placed over the Pit Area (Figure 7). Approximately 4,440 cy of clean fill material excavated originally from the Pit Area, was placed as the final soil cover. The soil cover was placed to prevent direct contact risk with the treated soil as described in the RAO. Cap thickness was verified with a pre and post excavation survey of the Pit Area.

The soil cover was compacted to prevent soil subsidence using heavy equipment and water trucks. The soil cover was seeded to prevent erosion of the newly placed soils. A broadcast application dispersed 250 pounds of grass seed across the area, south and east of the pressure plant gallery, over all of the disturbed soil areas. The grass seed mixture purchased in Conrad, Montana included 50% Hard fescue, 20% Sheep fescue, 20% Western and 10% Blue bunch. The seed was left to vegetate naturally requiring no further maintenance.

The extra stockpiled Pit soil was placed over the area where the LTU berms had been graded flat to cover the clay material used for berm construction. Extra soil was also placed in low-lying areas around the site to provide adequate drainage. Drainage ditches were contoured into the final grade to control run-off water into the natural drainage. Figure 8 shows the grading and drainage flows from the site. Also, extra soil was placed around the extraction wells to provide improved access for the GRS operator. Aerial

photos were taken upon completion of the final site grade and are included with the photographs of the soil cover activities in Appendix B.

5.7 Decontamination and Demobilization

Upon completion of LTU closure activities, all equipment was decontaminated with the pressure-washers or steam-cleaner. Decontaminated equipment was demobilized off-site by November 25, 2002.

5.8 Structure and Equipment Removal

During LTU closure activities several items were dismantled and removed from the Site; they were:

- Pivot Irrigation System – Decontaminated by RETEC and TREC. AquaTech Irrigation, Inc purchased the system and dismantled for relocation at another site location.
- Welded wire fence along perimeter of LTU – Disassembled and sold locally.
- Wood fence posts – Removed and sold locally.
- Tube gate (16 foot) – Removed and sold locally.
- Chain link fence – Disassembled and sold locally.
- Chain link rolling gate (16 foot) – Removed from Retention pond and relocated at the entrance of the perimeter fence around groundwater treatment building.
- Peeler building – Disassembled and sold locally.
- Sump Pump – Decontaminated and stored on-site for reuse.
- Manhole sump – Decontaminated and stored on-site for reuse.

5.9 Miscellaneous Debris

In addition to the liner, several old weathered railroad ties, treated pole ends and miscellaneous piping from the old wigwam burner were shipped to the Valley View Landfill in East Helena for disposal. This miscellaneous debris was material from the site that was exposed during excavation of Pit Area. This area was all clean soil therefore no decontamination was required. Disposal of approximately 18 tons of debris was completed by November 25, 2002.

5.10 Closure Certification

LTU closure activities were conducted in accordance with EPA and MDEQ closure performance requirements applicable to hazardous waste land treatment facilities and conducted as specified in the RAO. The closure option implemented at the Site required all the soil and sand from the LTU to be located within the ROD designated area of the groundwater plume and covered with a minimum of 12 inches of clean fill. According to the RAO, no post-closure groundwater monitoring or post-closure care of the facility is required.

IPC has submitted a certification by a registered professional engineer that the LTU closure activities were conducted in accordance with EPA and MDEQ requirements, the RAO and the LTU Closure Work Plan. This certification was sent to Jim Harris of EPA under separate cover on December 6, 2002 and is included as Appendix E.

5.11 Survey Plat

A survey plat and as-built drawing with the location, type and quantity of hazardous waste relocated from the LTU is presented in Figure 9. This document will be filed with the local zoning authority after EPA and MDEQ approval of closure certification. The legal description of the Site occupies approximately 62 acres in the east half of Section 6 and the west half of Section 5, Township 2S, Range 6E of Gallatin County.

5.12 Well Abandonment

The LTU has been closed in accordance with the RAO and the approved LTU Closure Work Plan. Therefore, no post-closure groundwater monitoring is required. As a result, monitor wells LTU-1 and LTU-2, located north of the former LTU (Figure 9) will be abandoned in accordance with Montana Monitoring Well Regulations Title 36, Chapter 21, Administrative Rules of Montana and Rule 36.21.810 (Montana Board of Water Well Contractors 1991) when weather permits. Monitoring well 19A will not be abandoned at this time and may be used as part of the site wide groundwater monitoring program.

In addition to the two LTU wells, IPC requested to abandon 13 other wells at the site on November 13, 2002. EPA approved this well abandonment on November 21, 2002 (Appendix A) including the LTU wells (LTU-1, LTU-2).

5.13 ARARs for LTU Closure and Post Closure

The LTU Closure was conducted in accordance with EPA and MDEQ requirements. The guidelines established in 40 CFR 264.280 and in the RAO Plan discuss closure and post closure requirements. The requirements were followed as indicated in Tables 4 and 5.

Both federal and state applicable or relevant and appropriate requirements (ARARs) were reviewed for compliance with closure and post closure requirements of the IPC LTU closure activities. Results from this review are presented in Table 4 and Table 5. Within these tables, each ARAR is identified with the proper federal citation and a description of the regulatory requirement. Compliance activities are described and referenced with the appropriate section of this LTU Closure Completion Report.

6 References

Record of Decision: Idaho Pile Site, Bozeman, Montana. September 1992.

ARCADIS Geraghty & Miller, May 1995. Final Design Report Soil Remedy for the Idaho Pole Site, Bozeman, Montana

Geraghty & Miller, June 1995. Remedial Actions Operations Plan Soil Remedy for the Idaho Pole Site, Bozeman, Montana

US Environmental Protection Agency, May 1996. Explanation of Significant Differences, Idaho Pole Site, Bozeman, Montana

Geraghty & Miller Environmental Services, January 1998. Construction Completion Report for the Idaho Pole Site, Bozeman, Montana

ThermoRetec Consulting Corporation, 1998-2000, Idaho Pole Land Treatment Unit Operations Reports for the Idaho Pole Site, Bozeman, Montana.

ThermoRetec Consulting Corporation, January 1999, Workplan to Remove Upper Lift From Idaho Pole Company Land Treatment Unit, Bozeman, Montana.

ThermoRetec Consulting Corporation, October 1999. Completion of Soil Removal from LTU, Bozeman, Montana.

Maul Foster & Alongi, Inc., November 1999, Construction Completion Report for Idaho Pole Site, Bozeman, Montana.

The RETEC Group, Inc., July 2002, Land Treatment Unit Closure Work Plan, Bozeman, Montana.

Tables

Table 1
Soil Sample from LTU Liner
November 2002
IPC - Bozeman, Montana

Sample ID: / Sample Date:	BLClay-1 11/7/02	Method Blank
PAH-Method 8270 (µg/kg)		
Naphthalene	< 76	< 67
2-Methylnaphthalene	< 76	< 67
Acenaphthylene	< 76	< 67
Acenaphthene	< 76	< 67
Dibenzofuran	< 76	< 67
Fluorene	< 76	< 67
Pentachlorophenol	< 380	< 330
Phenanthrene	< 76	< 67
Anthracene	< 76	< 67
Fluoranthene	< 76	< 67
Pyrene	< 76	< 67
Benzo (a) anthracene	< 76	< 67
Chrysene	< 76	< 67
Benzo (b) fluoranthene	< 76	< 67
Benzo (k) fluoranthene	< 76	< 67
Benzo (a) pyrene	< 76	< 67
Indeno (1,2,3-cd) pyrene	< 76	< 67
Dibenzo (a,h) anthracene	< 76	< 67
Benzo (g,h,i) perylene	< 76	< 67

BLClay - Indicates clay soil sample below liner.

Table 2
Soil Samples for Geotextile Filter Fabric Disposal
October 2002
IPC - Bozeman, Montana

Sample ID: / Sample Date:	LTU Sand-1 10/8/02	LTU Sand-2 10/8/02	LTU Sand-3 10/8/02	Method Blank	Level
PCP-Method 8040 (mg/kg)					
Pentachlorophenol	19	14	< 6.8	< 6.2	**48**
PAH-Method 8270 (mg/kg)					
Acenaphthylene	< 83	< 83	< 82	< 75	
Acenaphthene	< 50	< 50	< 49	< 45	
D PAH Compounds					
Naphthalene	< 50	< 50	< 49	< 45	
Fluorene	< 8.3	< 8.3	< 8.2	< 7.5	
Phenanthrene	< 12	< 12	< 11	< 10	
Anthracene	< 12	< 12	< 11	< 10	
Fluoranthene	< 8.9	< 8.9	< 8.8	< 8.0	
Pyrene	< 5.0	< 5.0	< 4.9	< 4.5	
Benzo (g,h,i) perylene	< 2.8	< 2.8	< 2.7	< 2.5	
Total D PAHs (non-carcinogenic)	0	0	0	0	**145**
B2 PAH Compounds					
Benzo (a) anthracene	< 0.94	< 0.94	< 0.93	< 0.85	
Chrysene	< 3.3	< 3.3	< 3.3	< 3.0	
Benzo (b) fluoranthene	< 0.72	< 0.72	< 0.71	< 0.65	
Benzo (k) fluoranthene	< 1.1	< 1.1	< 1.1	< 1.0	
Benzo (a) pyrene	< 1.3	< 1.3	< 1.3	< 1.2	
Indeno (1,2,3-cd) pyrene	< 1.4	< 1.4	< 1.4	< 1.2	
Dibenzo (a,h) anthracene	< 1.7	< 1.7	< 1.6	< 1.5	
Total B2 PAHs (carcinogenic)	0	0	0	0	**15**

NOTE: Cleanup levels are based on Table 13 of the ROD

Table 3
Retention Pond Surface Water Sample
June 2002
IPC - Bozeman, Montana

Sample ID: Sample Date:	LTU 1 6/21/2002	LTU 2 6/21/2002	LTU 1-4 6/21/2002	Retention Basin 1-2 6/21/2002	Retention Basin 1-4 6/21/2002
PCP-Method 8040 (µg/L)					
Pentachlorophenol	NA	NA	0.84	NA	15
PAH-Method 8270 (µg/L)					
Acenaphthylene	< 5.3	< 5.3	NA	< 5.3	NA
Acenaphthene	< 1.8	< 1.8	NA	< 1.8	NA
D PAHs - Non Carcinogenic (µg/L)					
Naphthalene	< 2.5	< 2.5	NA	< 2.5	NA
Fluorene	< 0.46	< 0.46	NA	< 0.46	NA
Phenanthrene	< 0.64	< 0.64	NA	< 0.64	NA
Anthracene	< 0.66	< 0.66	NA	< 0.66	NA
Fluoranthene	< 0.49	< 0.49	NA	< 0.49	NA
Pyrene	< 0.27	< 0.27	NA	< 0.27	NA
Benzo (g,h,i) perylene	< 0.11	< 0.11	NA	< 0.11	NA
Total D PAHs	0	0	NA	0	NA
B2 PAHs - Carcinogenic (µg/L)					
Benzo (a) anthracene	< 0.05	< 0.05	NA	< 0.05	NA
Chrysene	< 0.15	< 0.15	NA	< 0.15	NA
Benzo (b) fluoranthene	< 0.04	< 0.04	NA	< 0.04	NA
Benzo (k) fluoranthene	< 0.06	< 0.06	NA	< 0.06	NA
Benzo (a) pyrene	< 0.07	< 0.07	NA	< 0.07	NA
Indeno (1,2,3-cd) pyrene	< 0.07	< 0.07	NA	< 0.07	NA
Dibenz (a,h) anthracene	< 0.10	< 0.10	NA	< 0.10	NA

NOTE: Cleanup levels are based on Table 13 of the ROD

Table 4
Summary of Closure Regulatory Requirements and Compliance Activities
IPC – Bozeman, MT

Federal Citation (40 CFR)[1]	Regulatory Requirement	Compliance Activities	Completion Report Section
264.111(a)	Minimize need for maintenance	LTU was dismantled – no need for maintenance	5.0
264.111(b)	Control post-closure escape of waste	12 to 15-inch cover over treated soils	5.6
264.111(c)	Comply with other requirements in Subpart G	Requirements of 264.280 addressed below	---
264.112(a)	Develop written closure plan	Closure Completion Report (CCR) describes all closure activities	4.3
264.112(b)(1)	Plan must describe wastes in unit	Pentachlorophenol and creosote impacted soil from several areas at the facility are described in the CCR	2.3
264.112(b)(2)	Plan must describe compliance with 264.111	Requirements of 264.111 are addressed in the CCR noted above	---
264.112(b)(3)	Plan must estimate amount of waste in unit	19,250 CY of backfilled soil described in the CCR	5.4
264.112(b)(4)	Plan must describe steps to remove or decontaminate waste	Decontamination of soil in the LTU, decontamination of debris and equipment during closure described in CCR	5.4, 5.5, 5.6, 5.7
264.112(b)(5)	Plan must describe other activities required during closure	Other closure activities in CCR include installing vegetative cover, removal or perforating liner, dismantling irrigation, dismantle leachate collection system, managing debris and sediments, and filing survey plat	5.0
264.112(b)(6)	Plan must include a closure schedule	Closure began within 30 days of Work Plan approval and was completed within 90 days	5.1
264.112(b)(7)	Plan must estimate date of final closure	Final closure was within 120 days after Work Plan was approved	5.10
264.112(b)(8)	Plan must describe any alternative requirements	None proposed	---

[1] Each Federal rule cited in the Table is incorporated by reference by Administrative Rules of Montana Section 17.53.801.

Table 4 (Continued)
Summary of Closure Regulatory Requirements and Compliance Activities
IPC – Bozeman, MT

Federal Citation (40 CFR)[1]	Regulatory Requirement	Compliance Activities	Completion Report Section
264.112(c)	Submit written amendments to closure plan to EPA	None proposed	---
264.112(d)	Notify EPA prior to beginning closure	The Work Plan, once approved, constitutes notice that closure will begin in 30 days	4.3
264.112(e)	Owner may remove waste prior to closure	None proposed	---
264.113(a)	Commence closure within 90 days of completing treatment operations	Contaminant degradation was on-going, treatment goals were achieved, closure commenced within 30 days after Work Plan approval	4.3, 5.1
264.113(b)	Complete closure within 180 of completing treatment operations	Contaminant degradation was on-going, treatment goals were achieved, closure completed within 120 days after Work Plan approval	5.1, 5.10
264.113(c)	Extensions of time to commence and complete closure	None proposed	---
264.113(d)	Disposal of non-hazardous waste after closure	LTU and retention pond liners were disposed of at an industrial landfill if the BDAT performance standards are met	5.5, 5.7, 5.8
264.113(e)	Closure of impoundments without liners	None proposed	---
264.114	Dispose or decontaminate equipment, soil and debris	Soil in the LTU has been decontaminated, debris generated will be decontaminated and disposed on site, equipment will be decontaminated and removed	5.4, 5.5, 5.7
264.115	Certify closure within 60 days of completion	Closure certification was submitted within 60 days of completing closure	5.10
264.116	File survey plat prior to certification	A survey plat was filed for certification of closure	5.11
264.280(a)(1)	Enhance degradation of hazardous constituents	Contaminant degradation was on-going, treatment goals were achieved	4.0

Table 4 (Continued)
Summary of Closure Regulatory Requirements and Compliance Activities
IPC – Bozeman, MT

Federal Citation (40 CFR)[1]	Regulatory Requirement	Compliance Activities	Completion Report Section
264.280(a)(2)	Minimize run-off	LTU was dismantled – no additional controls required	5.5.5, 5.6
264.280(a)(3)	Maintain run-off controls	LTU was dismantled – no additional controls required	5.5.5, 5.6
264.280(a)(4)	Maintain run-on controls	LTU was dismantled – no additional controls required	5.5.5, 5.6
264.280(a)(5)	Control wind erosion	LTU was dismantled – no additional controls required	5.5.5, 5.6
264.280(a)(6)	Prohibit food-chain crops	Survey plat and property deed notations, along with facility inspections will prohibit food chain crops	5.10, 5.11
264.280(a)(7)	Monitor unsaturated zone	LTU was completely unloaded – no additional controls required	4.3, 5.12
264.280(a)(8)	Establish vegetative cover	Vegetation seed was broadcast across disturbed soil for erosion protection.	5.6
264.280(b)	Alternative closure certification	None proposed	---
264.280(d)	Vegetative cover not required if background achieved	LTU was completely unloaded – no additional controls required	5.6
264.280(e)	Groundwater monitoring not required if background achieved	Post closure groundwater monitoring is not required under RAO	2.2.2, 5.12

Table 5
Summary of Post-Closure Regulatory Requirements and Compliance Activities
IPC – Bozeman, MT

Federal Citation (40 CFR)[1]	Regulatory Requirement	Compliance Activities	Completion Report Section
264.117(a)	Begin post-closure after closure and continue for 30 years	Post closure care is not required under RAO	2.2.2, 5.0
264.117(b)	Continue security measures	LTU to be dismantled – no additional controls are required	2.2.2, 5.0
264.117(c)	Maintain integrity of cover systems	LTU to be dismantled – no additional controls are required	2.2.2, 5.0
264.117(d)	Follow written post-closure plan	Post closure care is not required under RAO	2.2
264.118(a)	Develop written post-closure plan	Post closure care is not required under RAO	2.2
264.118(b)(1)	Plan must describe monitoring activities and schedule	Post closure care is not required under RAO	2.2
264.118(b)(2)	Plan must describe maintenance activities and schedule	Post closure care is not required under RAO	2.2
264.118(b)(3)	Plan must identify contact person	Post closure care is not required under RAO	2.2
264.118(b)(4)	Plan must describe any alternative requirements	Post closure care is not required under RAO	2.2
264.118(c)	Submit plan to EPA	Post closure care is not required under RAO	2.2

[1] Each Federal rule cited in the Table is incorporated by reference by Administrative Rules of Montana Section 17.53.801.

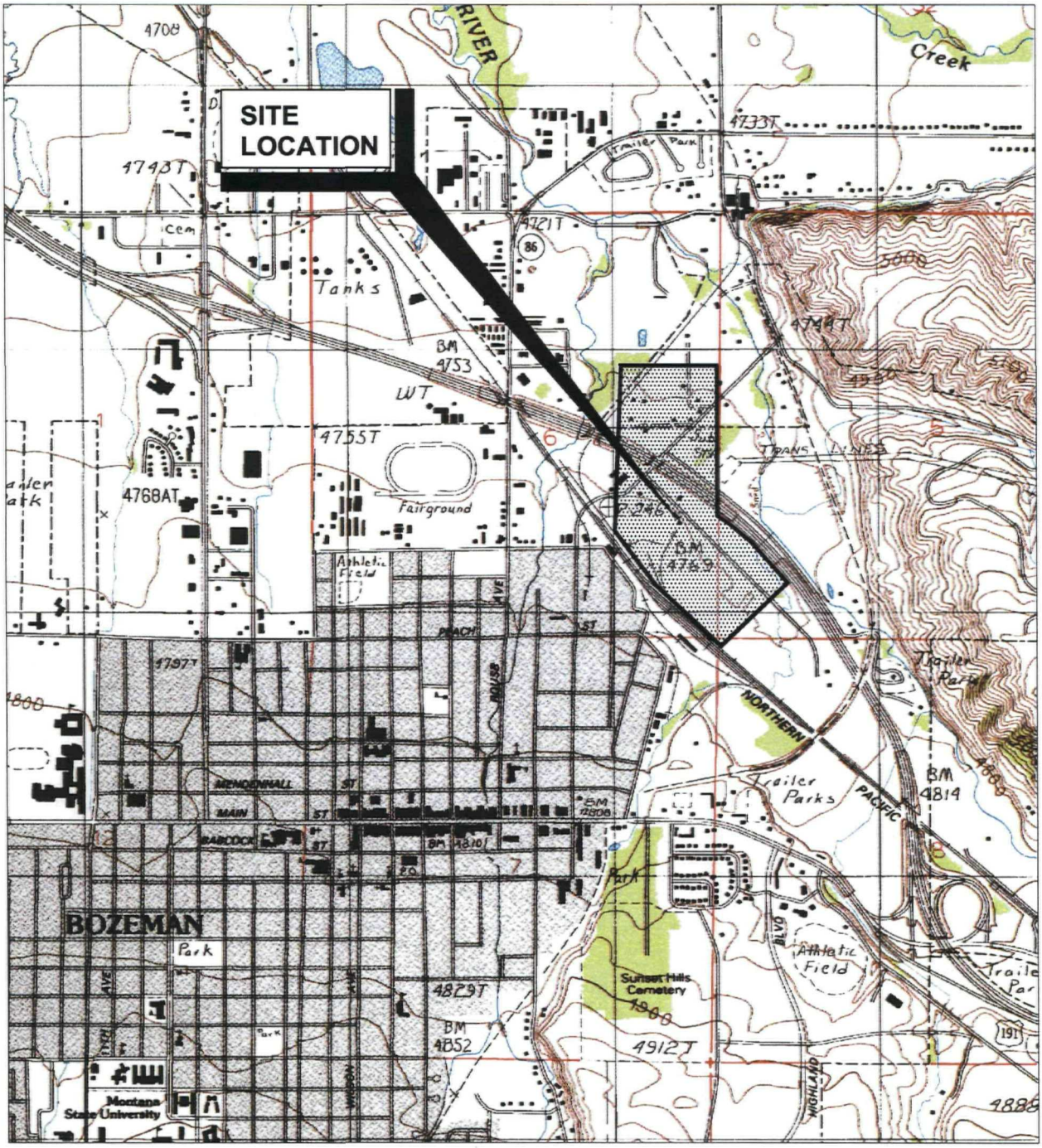
Table 5 (Continued)
Summary of Post-Closure Regulatory Requirements and Compliance Activities
IPC – Bozeman, MT

Federal Citation (40 CFR)[1]	Regulatory Requirement	Compliance Activities	Completion Report Section
264.118(d)	Submit written amendments to plan to EPA	Post closure care is not required under RAO	2.2
264.119(a)	File notice with zoning authority within 60 days of closure certification	Zoning notice will be filed within 60 days of closure certification	5.10, 5.11
264.119(b)	File deed restriction within 60 days of closure certification	Deed restriction will be filed within 60 days of closure certification	5.10, 5.11
264.119(c)	Amend plan prior to removing wastes from unit	Post closure care is not required under RAO	2.2
264.120	Certify post-closure within 60 days of completion	Post closure care is not required under RAO	2.2
264.280(c)(1)	Enhance degradation of hazardous constituents	Containment degradation was on-going, treatment goals were achieved	4.0
264.280(c)(2)	Maintain vegetative cover	None proposed	5.6
264.280(c)(3)	Maintain run-on controls	LTU was dismantled – no additional controls required	5.5.5, 5.6
264.280(c)(4)	Maintain run-off controls	LTU was dismantled – no additional controls required	5.5.5, 5.6
264.280(c)(5)	Control wind erosion	LTU was dismantled – no additional controls required	5.5.5, 5.6
264.280(c)(6)	Prohibit food-chain crops	Survey plat and property deed notations along with facility inspections will prohibit food-chain-crops	5.10, 5.11

Table 5 (Continued)
Summary of Post-Closure Regulatory Requirements and Compliance Activities
IPC – Bozeman, MT

Federal Citation (40 CFR)[1]	Regulatory Requirement	Compliance Activities	Completion Report Section
264.280(c)(7)	Monitor unsaturated zone	LTU was dismantled – no additional controls required	2.2.2, 5.12
264.280(d)	Vegetative cover not required if background achieved	LTU was dismantled – no additional controls required	2.2.2, 5.0
264.280(e)	Groundwater monitoring not required if background achieved	Post closure groundwater monitoring is not required under RAO	2.2.2, 5.12

Figures



UNITED STATES GEOLOGIC SURVEY
BOZEMAN QUADRANGLE
BOZEMAN, MONTANA

1987
7.5 MINUTE SERIES (TOPOGRAPHIC)

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IDAHO POLE COMPANY	SITE LOCATION MAP
MCFR2-03423-400	IPC - BOZEMAN, MT
DATE: 2/18/03 DRWN: MAW/BIL	FIGURE 1

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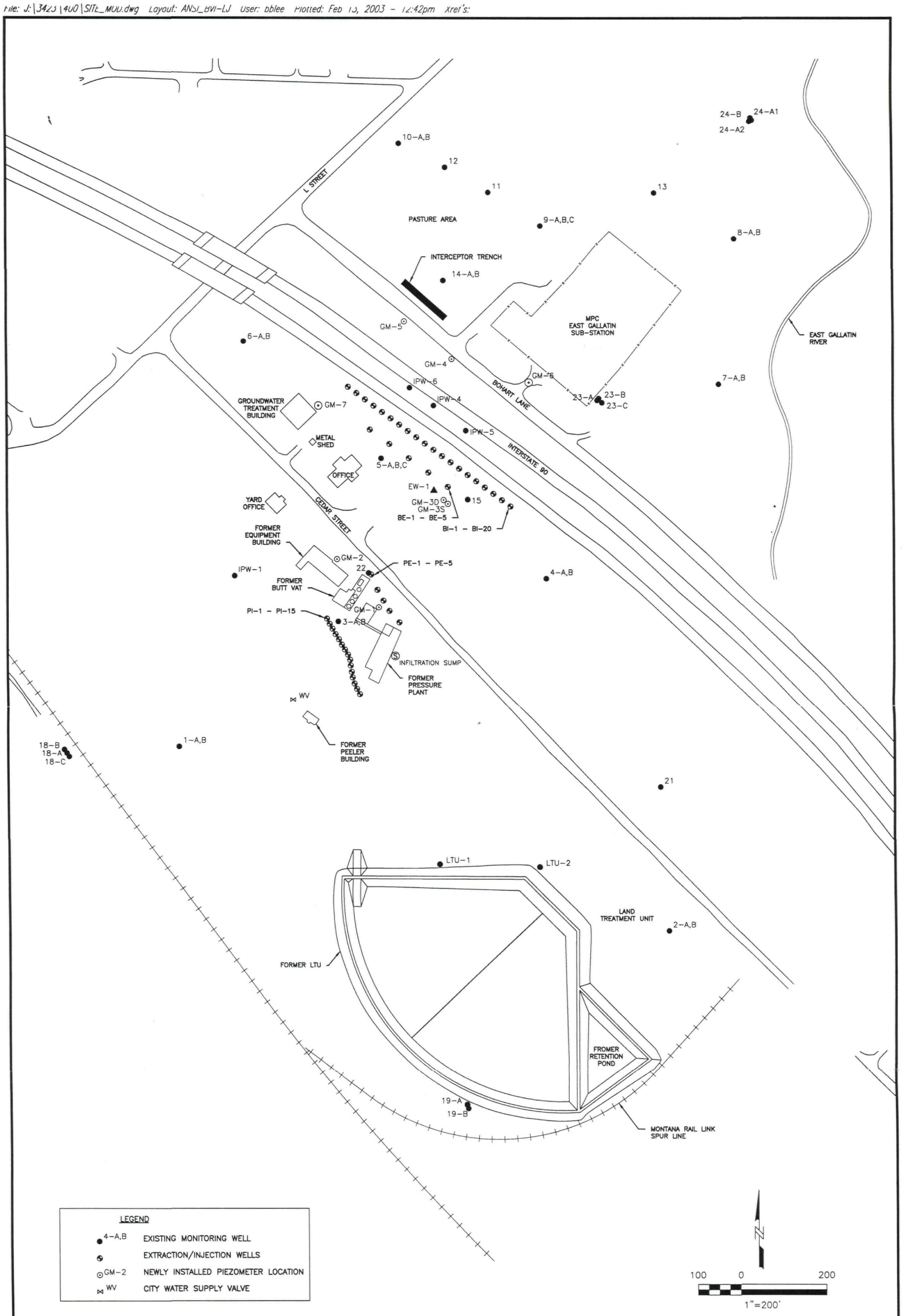
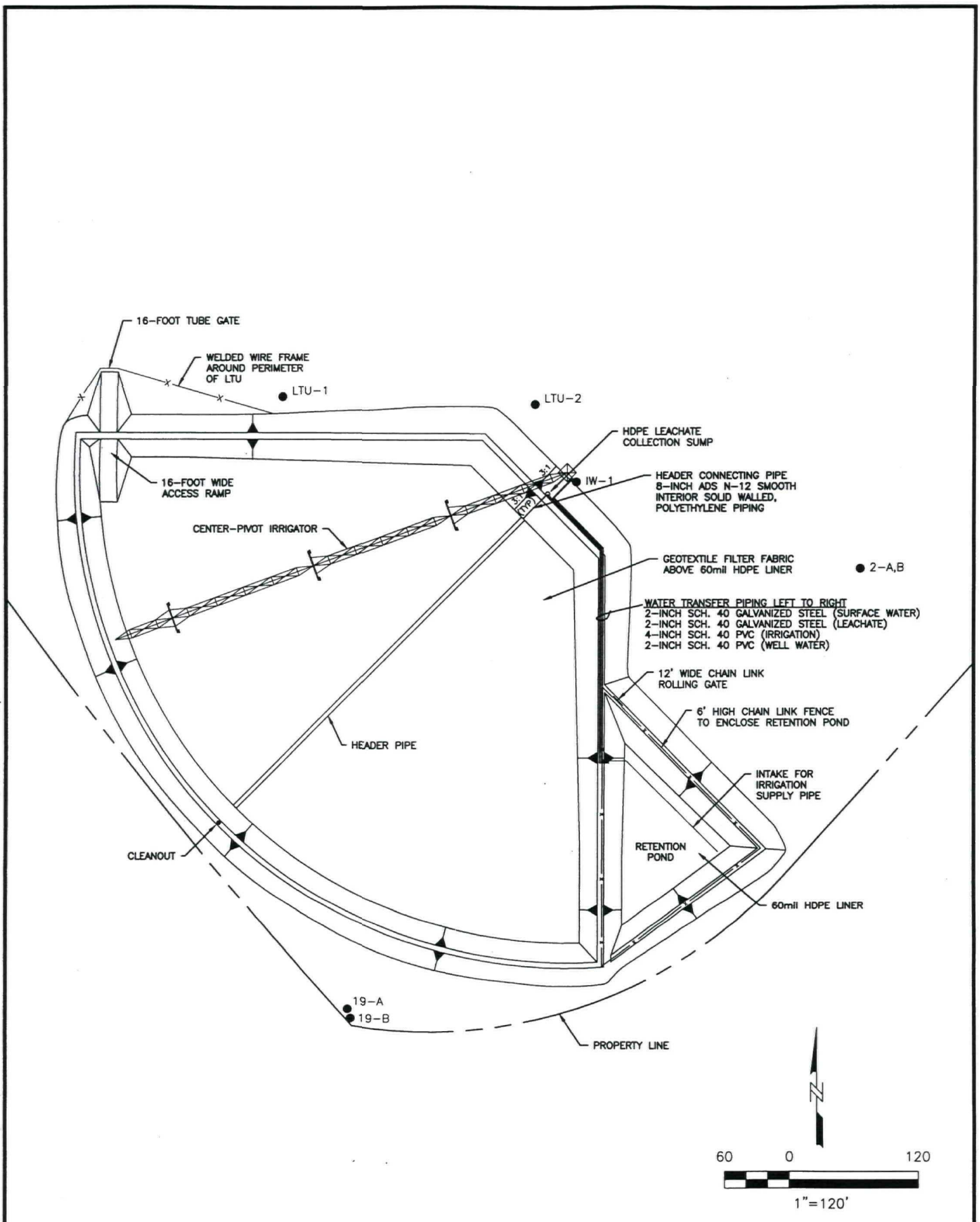


RETEC

IDAHO POLE COMPANY			SITE LAYOUT MAP
MCFR2-03423-400			IPC - BOZEMAN, MT
DATE: 2/13/03	DRWN: MAW/BIL		FIGURE 2



RETEC	IDAHO POLE COMPANY MCFR2-03423-400	LTU DETAILS IPC - BOZEMAN, MT
	DATE: 2/13/03 DRWN: MAW/BIL	FIGURE 3

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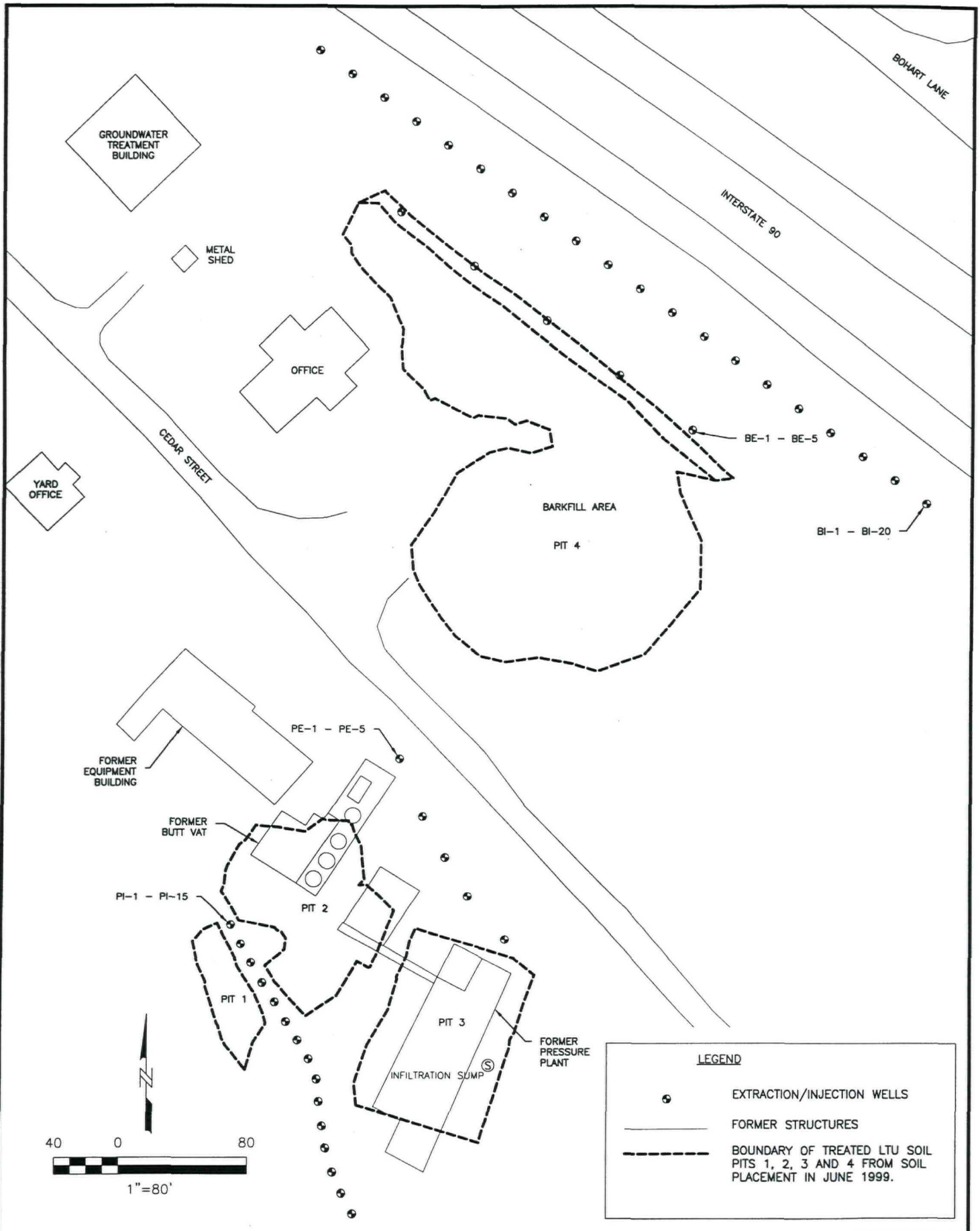

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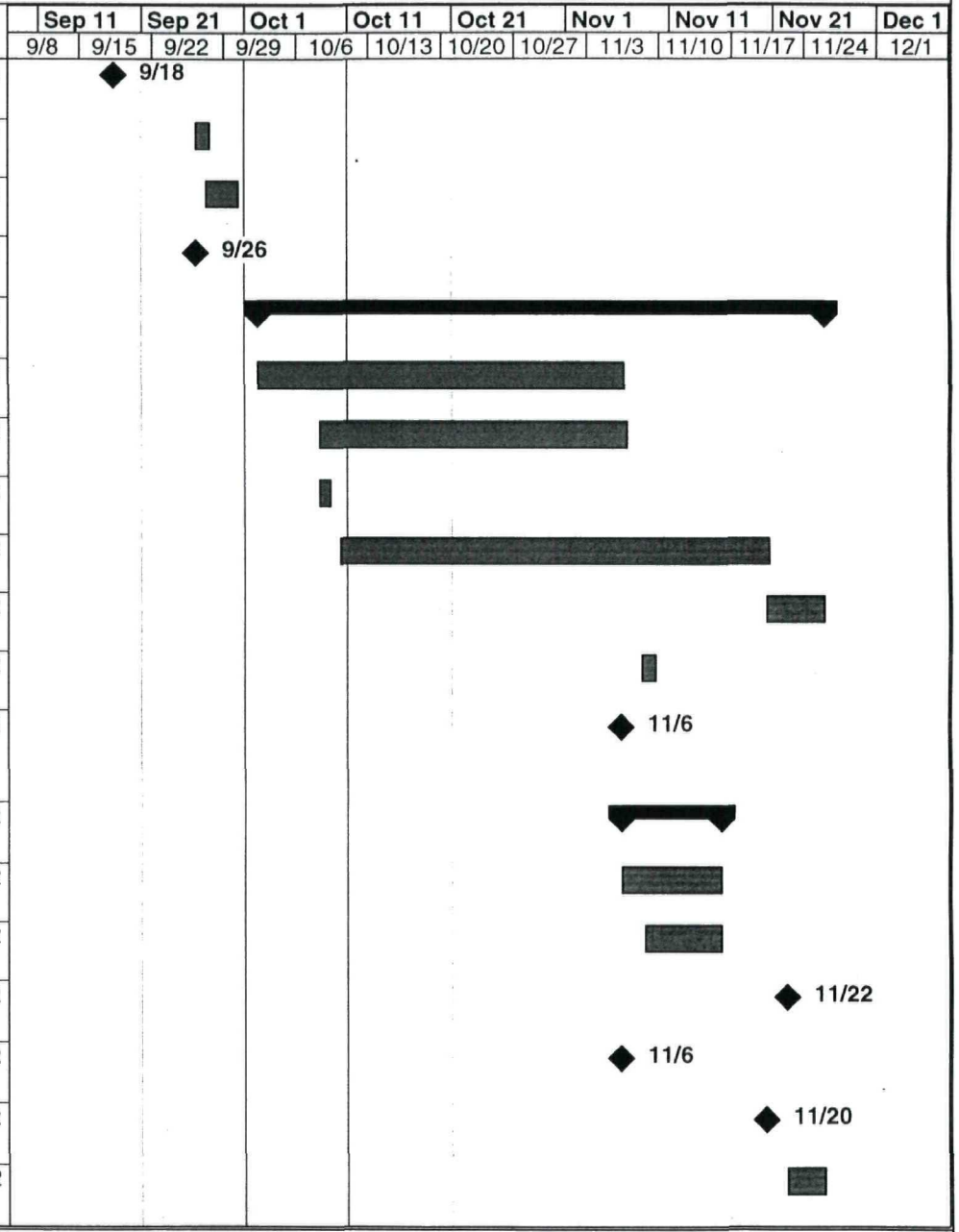
RETEC

IDAHO POLE COMPANY			PLACEMENT OF UPPER LIFT OF LTU SOILS AFTER BUILDING DEMOLITION IPC - BOZEMAN, MT
MCFR2-03423-400			
DATE: 2/13/03	DRWN: MAW/BIL		FIGURE 4

FIGURE 5
Schedule of LTU Closure Activities
Idaho Pole Company

ID	Task Name	Start	Finish
1	**Contract Award**	**Wed 9/18/02**	**Wed 9/18/02**
2	Contract Notice to Proceed	Thu 9/26/02	Fri 9/27/02
3	Finalize H&S Plan	Fri 9/27/02	Mon 9/30/02
4	**Mobilization and Site Prep**	**Thu 9/26/02**	**Fri 9/27/02**
5	**Excavation and Placement**	**Wed 10/2/02**	**Mon 11/25/02**
6	Excavation of Backfill Area	Wed 10/2/02	Wed 11/6/02
7	Treated LTU Soil Placement in Backfill Area	Tue 10/8/02	Wed 11/6/02
8	Dismantle Welded Fencing	Tue 10/8/02	Wed 10/9/02
9	Liner/Pipe Decontamination	Thu 10/10/02	Wed 11/20/02
10	Liner/Pipe Transport & Disposal	Wed 11/20/02	Mon 11/25/02
11	Dismantle Chain Link Fence	Fri 11/8/02	Sat 11/9/02
12	**Completion of Excavation and Placement of LTU Soils**	**Wed 11/6/02**	**Wed 11/6/02**
13	**Backfill and Regrading**	**Wed 11/6/02**	**Fri 11/15/02**
14	Spread Excess Material for Cap	Wed 11/6/02	Fri 11/15/02
15	Regrade Berms	Fri 11/8/02	Fri 11/15/02
16	**Site Restoration Complete**	**Fri 11/22/02**	**Fri 11/22/02**
17	**Perform As-Built Survey of Treated LTU soils**	**Wed 11/6/02**	**Wed 11/6/02**
18	**Perform As-Built Survey of Site Topo**	**Wed 11/20/02**	**Thu 11/21/02**
19	Cleanup and Demob	Fri 11/22/02	Mon 11/25/02



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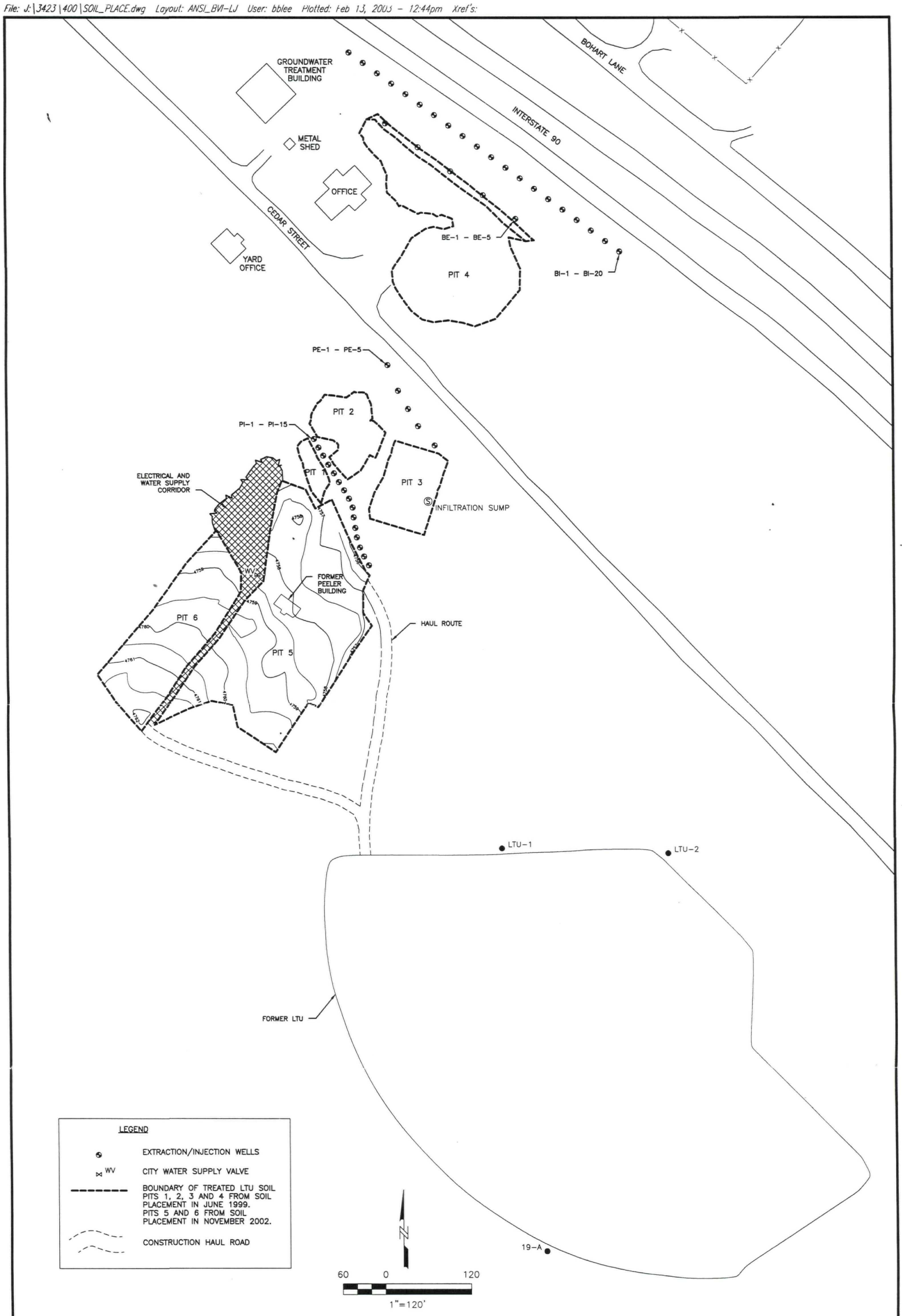

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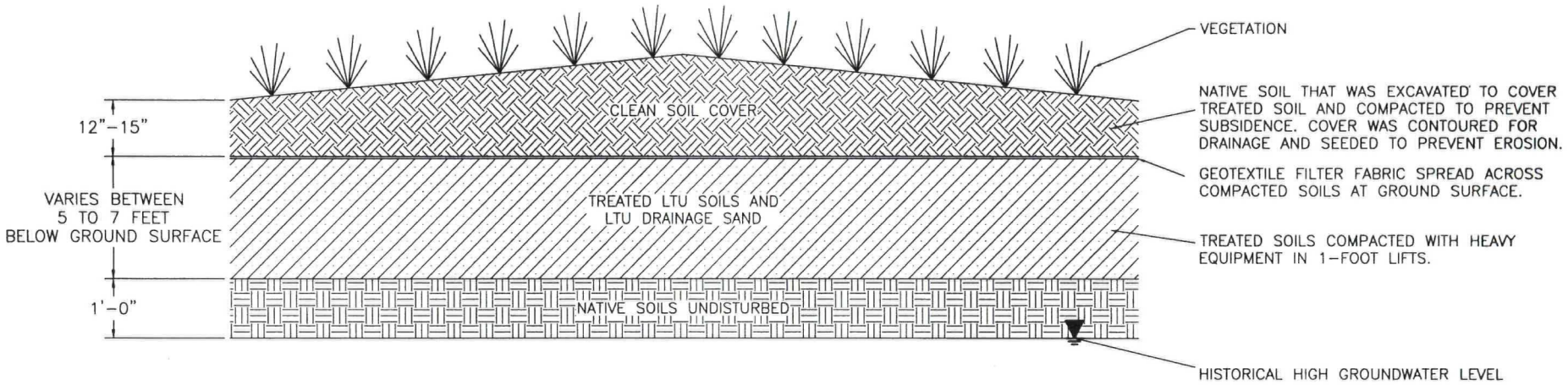
IDAHO POLE COMPANY			TREATED LTU SOIL REMOVAL AND BACKFILL LOCATION
MCFR2-03423-400			IPC - BOZEMAN, MT
DATE: 2/13/03	DRWN: MAW/BIL		FIGURE 6

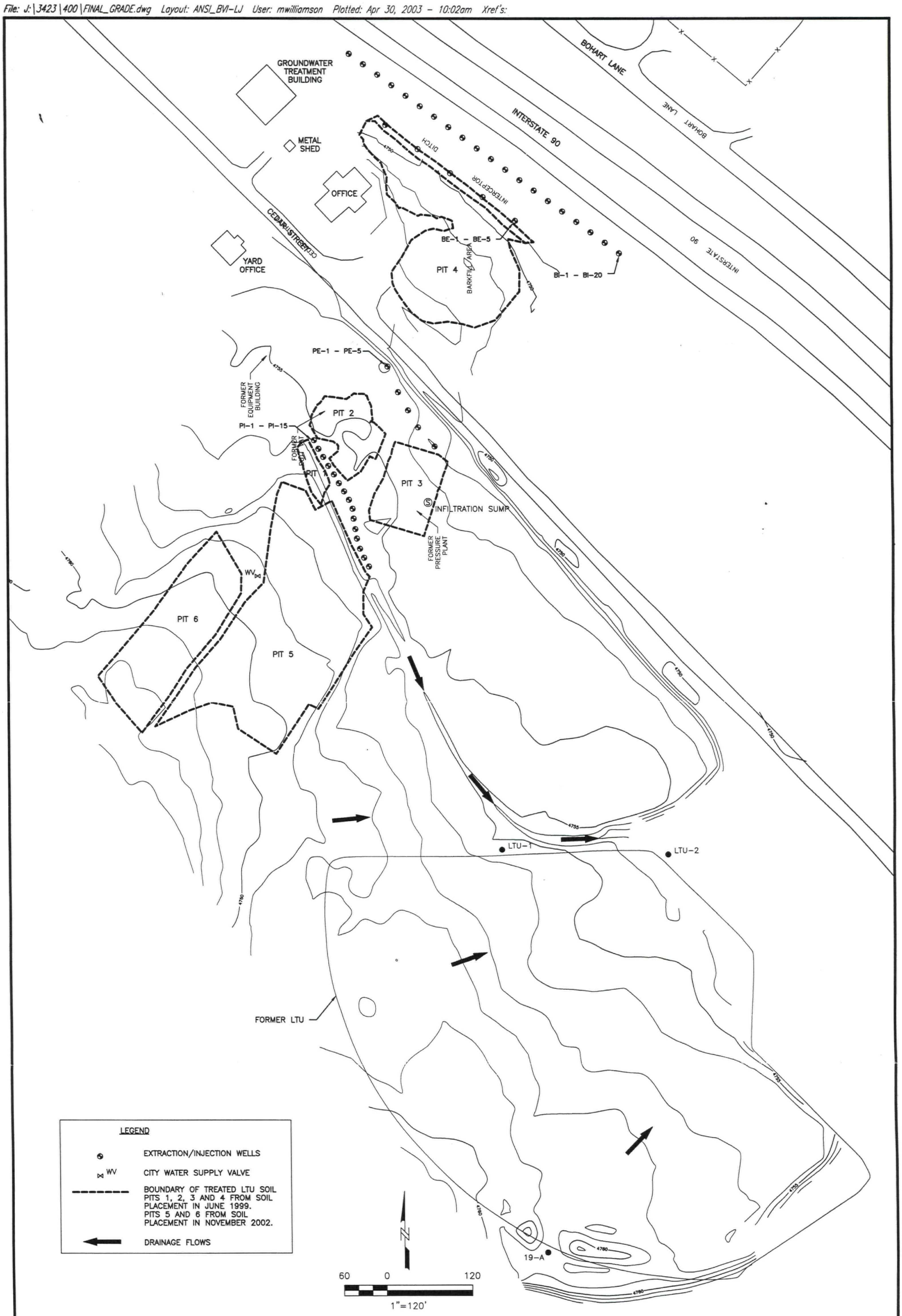


FINAL CROSS SECTION OF PIT AREAS

SCALE: NOT TO SCALE

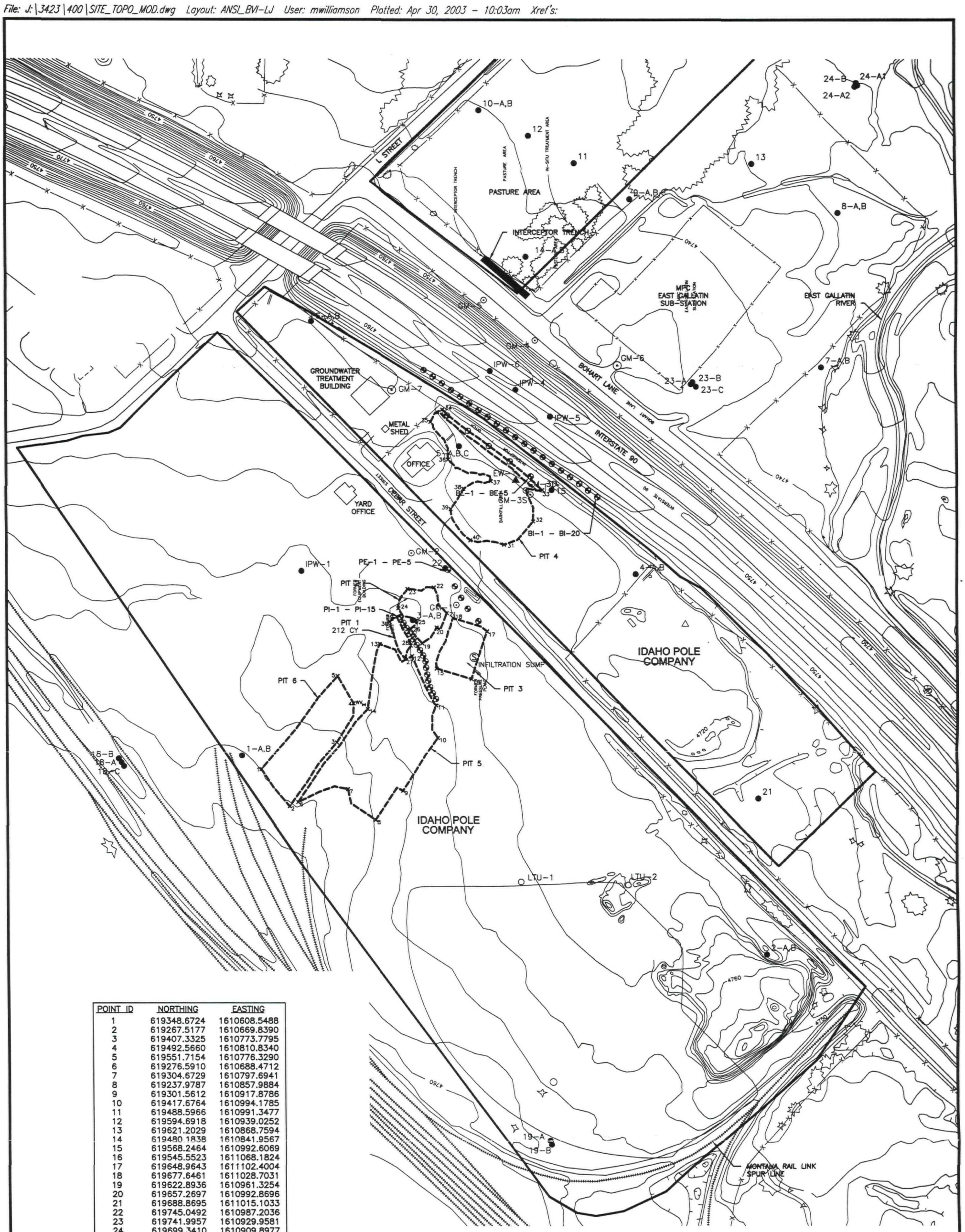
RETEC

IDAHO POLE COMPANY			AS-BUILT CROSS SECTION OF PIT AREA
MCFR2-03423-400			IPC - BOZEMAN, MT
DATE: 5/01/03	DRWN: MAW/BIL		FIGURE 7



RETEC

IDAHO POLE COMPANY			FINAL GRADE AFTER LTU CLOSURE COMPLETION
MCFR2-03423-400			IPC - BOZEMAN, MT
DATE: 4/30/03	DRWN: MAW/BIL		FIGURE 8



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2	619267.5177	1610669.8390
3	619407.3325	1610773.7795
4	619492.5660	1610810.8340
5	619551.7154	1610776.3290
6	619276.5910	1610688.4712
7	619304.6729	1610797.6941
8	619237.9787	1610857.9884
9	619301.5612	1610917.8786
10	619417.6764	1610994.1785
11	619488.5966	1610991.3477
12	619594.6918	1610939.0252
13	619621.2029	1610868.7594
14	619480.1838	1610841.9567
15	619568.2464	1610992.6069
16	619545.5523	1611068.1824
17	619648.9643	1611102.4004
18	619677.6461	1611028.7031
19	619622.8936	1610961.3254
20	619657.2697	1610992.8696
21	619688.8695	1611015.1033
22	619745.0492	1610987.2036
23	619741.9957	1610929.9581
24	619699.3410	1610909.8977
25	619671.6836	1610948.6988
26	619654.3461	1610936.1248
27	619589.3355	1610923.7723
28	619617.6786	1610936.2733
29	619680.9034	1610906.0073
30	619669.5978	1610890.8295
31	619837.9805	1611140.6035
32	619888.8314	1611203.7767
33	619957.4897	1611224.1318
34	620134.2030	1611007.1577
35	620107.2854	1610981.2063
36	620024.6120	1611019.1541
37	619977.2467	1611111.6911
38	619960.6002	1611052.9842
39	619916.1782	1611024.9397
40	619847.4836	1611067.3356

LEGEND

- EXTRACTION/INJECTION WELLS
- LTU-1 — PROPOSED LTU WELL ABANDONMENT
- WV — CITY WATER SUPPLY VALVE
- BOUNDARY OF TREATED LTU SOIL CONTAINED PAH, PCP AND DIOXINS
- IPC PROPERTY BOUNDARY

N

100 0 200

1"=200'

RETEC

IDAHO POLE COMPANY			IPC PROPERTY BOUNDARIES AND FINAL LOCATION OF TREATED LTU SOILS IPC - BOZEMAN, MT
MCFR2-03423-400			
DATE: 4/30/03	DRWN: MAW/BIL		FIGURE 9

Appendix A

Appendix A

EPA Approval Letters for LTU Closure Activities

FIC

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 8, MONTANA OFFICE
FEDERAL BUILDING, 10 W. 15th STREET, SUITE 3200
HELENA, MONTANA 59626

JUL 23 2002

July 22, 2002

Les D. Lonning
Manager Technical and
Environmental Affairs
Idaho Pole Company
1640 East Marc Street
Tacoma, WA 98421-2939

Dear Mr. Lonning:

The final ***Land Treatment Unit Closure Work Plan*** for the Idaho Pole Company site in Bozeman, Montana, prepared by RETEC, Inc., has been received and reviewed by EPA. The Plan is hereby approved. Please provide this office with an updated construction schedule when a contractor has been secured.

Let me know if you have any questions concerning this approval.

Sincerely,

James C. Harris, P.E.
Remedial Project Manager

cc: D. Smith, BNSF
K. Large, MDEQ
K. Kirley, MDEQ
Dan Stremcha, RETEC, Billings

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 8, MONTANA OFFICE
FEDERAL BUILDING, 10 W. 15th STREET, SUITE 3200
HELENA, MONTANA 59626

October 24, 2002

Les D. Lonning
Manager Technical and
Environmental Affairs
Idaho Pole Company
1640 East Marc Street
Tacoma, WA 98421-2939

Dear Mr. Lonning:

The request prepared by the Retec Group, Inc. (Retec), for the Idaho Pole Company and Burlington Northern Santa Fe Railway for management of the geo-textile fabric beneath the land treatment unit at the Idaho Pole Company site has been received and reviewed. The request to place the geo-textile on top of the treated soil prior to placement of the clean cover material is hereby approved. Appropriate documentation of the closure process should include photographs of the geo-textile placement.

Please let me know if you have questions concerning this approval.

Sincerely,

Jim Harris

James C. Harris, P.E.
Remedial Project Manager

cc: D. Smith, BNSF
D. Stremcha, Retec, Billings
L. DeWitt, MDEQ

harris.jim@epamail.epa.gov
11/14/2002 02:45 PM

To: lesl@ldm.com
cc: dstremcha@thermoretec.com, lidewitt@state mt us
Subject: Idaho Pole Company LTU liner cleaning

Les,

I have received the analytical results for the sample taken from the underside of the Idaho Pole Company LTU HDPE liner material. The results indicate that the soil on the underside of the liner is "clean". Therefore only the top of the liner (the side that was in contact with the drainage layer) requires cleaning in accordance with the approved LTU closure plan. The disposal site receiving the liner must agree that this procedure is acceptable. Please let me know if you have questions concerning this approval.

Jim Harris, P.E.
U.S. EPA
10 West 15th Street
Suite 3200
Helena, MT 59626
406 457-5032
FAX 406 457-5056

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 8, MONTANA OFFICE
FEDERAL BUILDING, 10 W. 15th STREET, SUITE 3200
HELENA, MONTANA 59626

November 21, 2002

Les D. Lonning
Manager Technical and
Environmental Affairs
Idaho Pole Company
P.O. Box 1496
Tacoma, WA 98421-1496

Dear Mr. Lonning:

The request from the RETEC Group, Inc., on behalf of the Idaho Pole Company (IPC) and the Burlington Northern Santa Fe Railway (BNSF), concerning abandonment of wells at the IPC site in Bozeman, Montana, has been received and reviewed by EPA. The request is hereby approved with the condition that all wells and piezometers must be abandoned in accordance with the procedures required by the State of Montana.

A report sumarizing the well and piezometer abandonment should be provided to EPA and the Montana Department of Environmental Quality once the project is completed. The report may be attached to or may be included in the quarterly progress report for the period following completion.

Please let me know if you have any questions concerning this approval.

Sincerely,

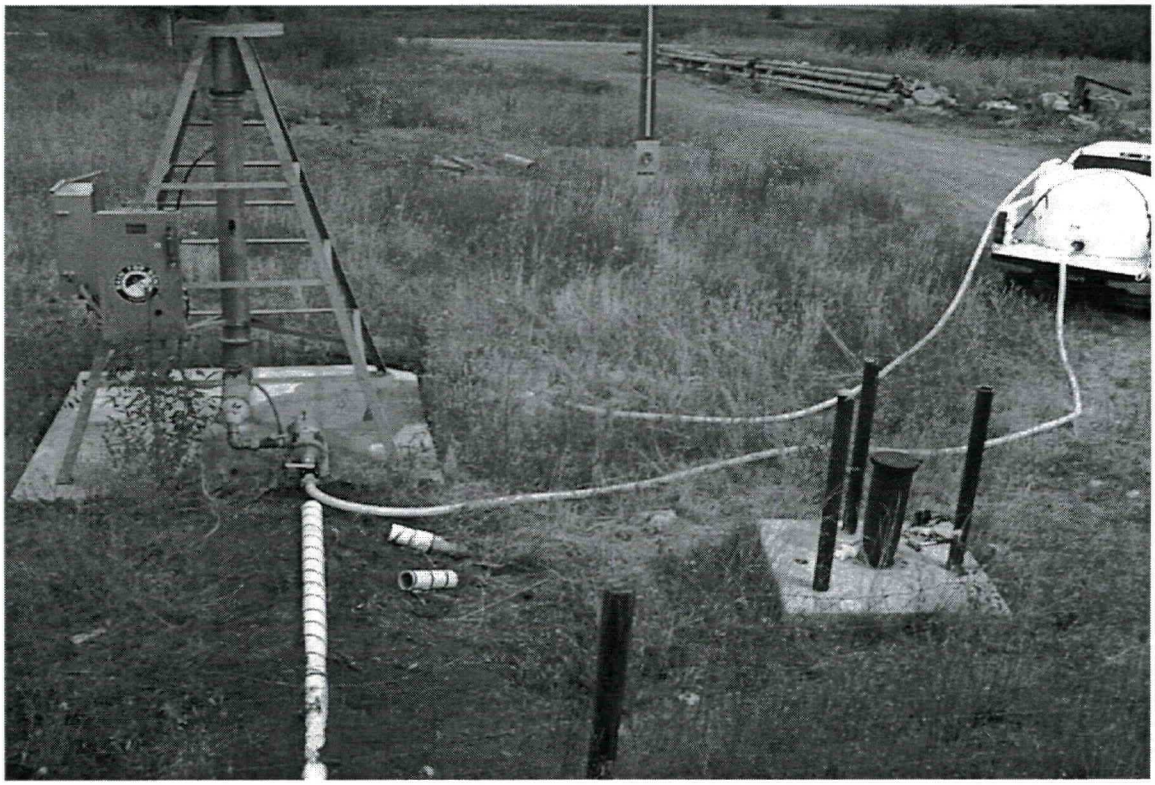
James C. Harris, P.E.
Remedial Project Manager

cc: D. Smith, BNSF
D. Ludwick, RETEC, Billings
D. Stremcha, RETEC, Billings
L. DeWitt, MDEQ

Appendix B

Appendix B

Photographs



Flushing pivot system with fresh water.

Flushing entire pivot system inside LTU prior to dismantle and removal.

Pressure wash pivot wheels prior to removal from LTU.

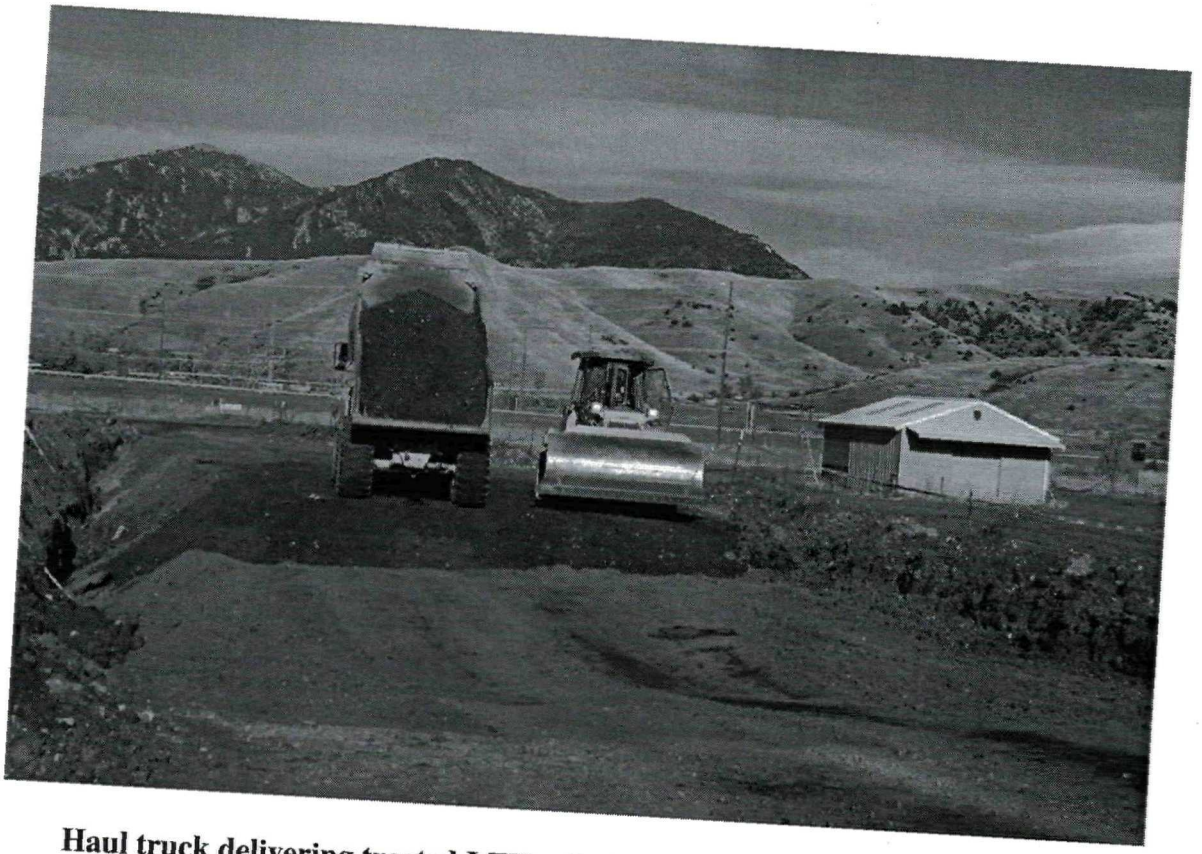
Begin excavation of Pit areas North of Peeler building.

Excavation of Pit areas around peeler building.

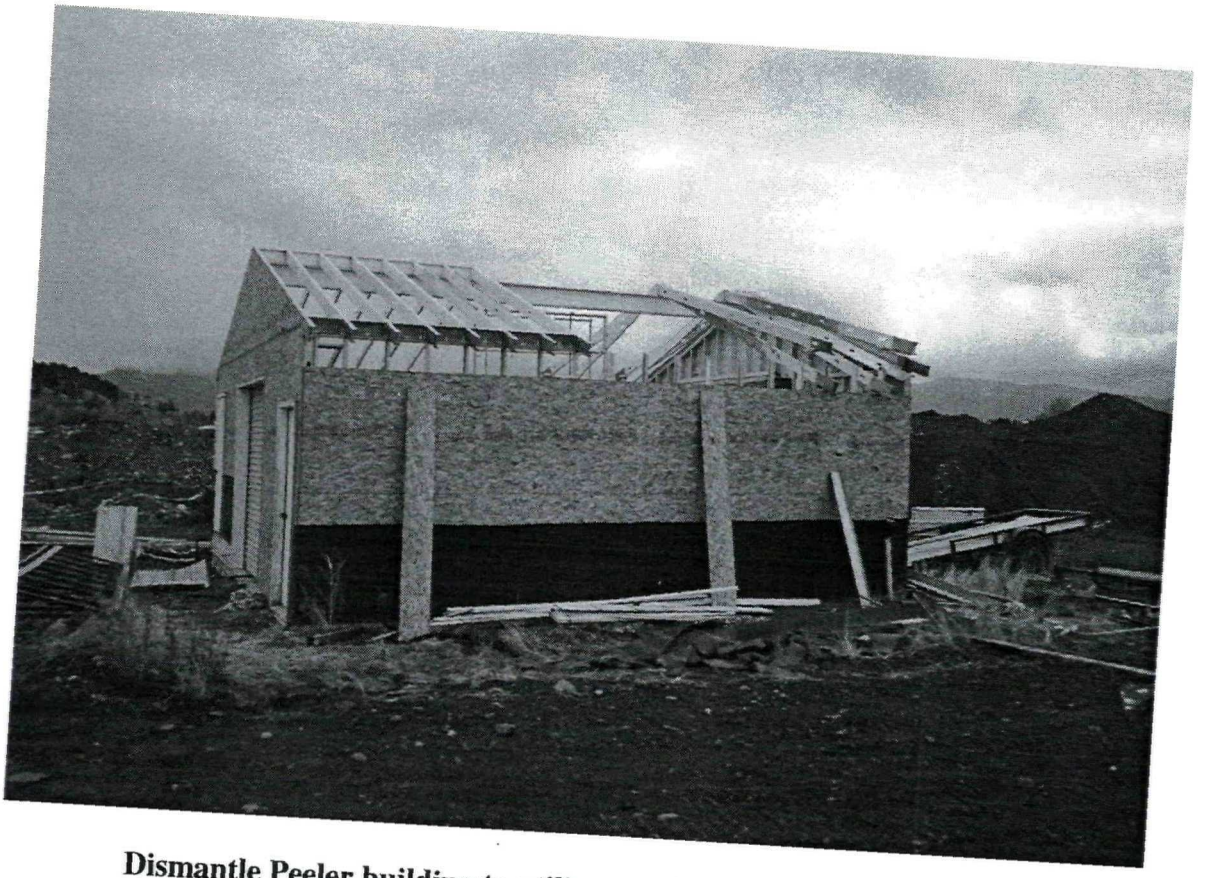
Excavation of Pit areas South of Peeler building.

Treated LTU soils backfilled into Pits 5 & 6 (Day 7).

Haul route for relocation of Treated LTU soils into excavated Pit areas.



Haul truck delivering treated LTU soils for dozer to grade to ground surface.



Dismantle Peeler building to utilize area below building for backfill.

Surveying surface of treated LTU soil placement South of PP-Injection Gallery.

Removing geo-textile fabric from treated LTU soils in LTU.

Placement of Geo-textile fabric on treated LTU soils in Pit areas.

Dozer pushing clean soil cover over geo-textile above backfilled treated LTU soils.

Dozer grading clean soil cover above treated LTU soils.

Final clean soil cover in place South of the PP-Injection gallery.

Clean fill excavated from Pits 5 & 6, and placed in low area East of PP-Injection gallery.

Grading clean soil East of PP-Injection gallery and North of LTU area.

Stockpile LTU liner prior to pressure washing.

Original liner washing area in the bottom of the Retention Pond.

Removing liner from Retention pond.

Second liner washing area upon removal of Retention Pond.

Pressure washing liner stockpiled in the background.

Removal of decontamination water from liner washing area.

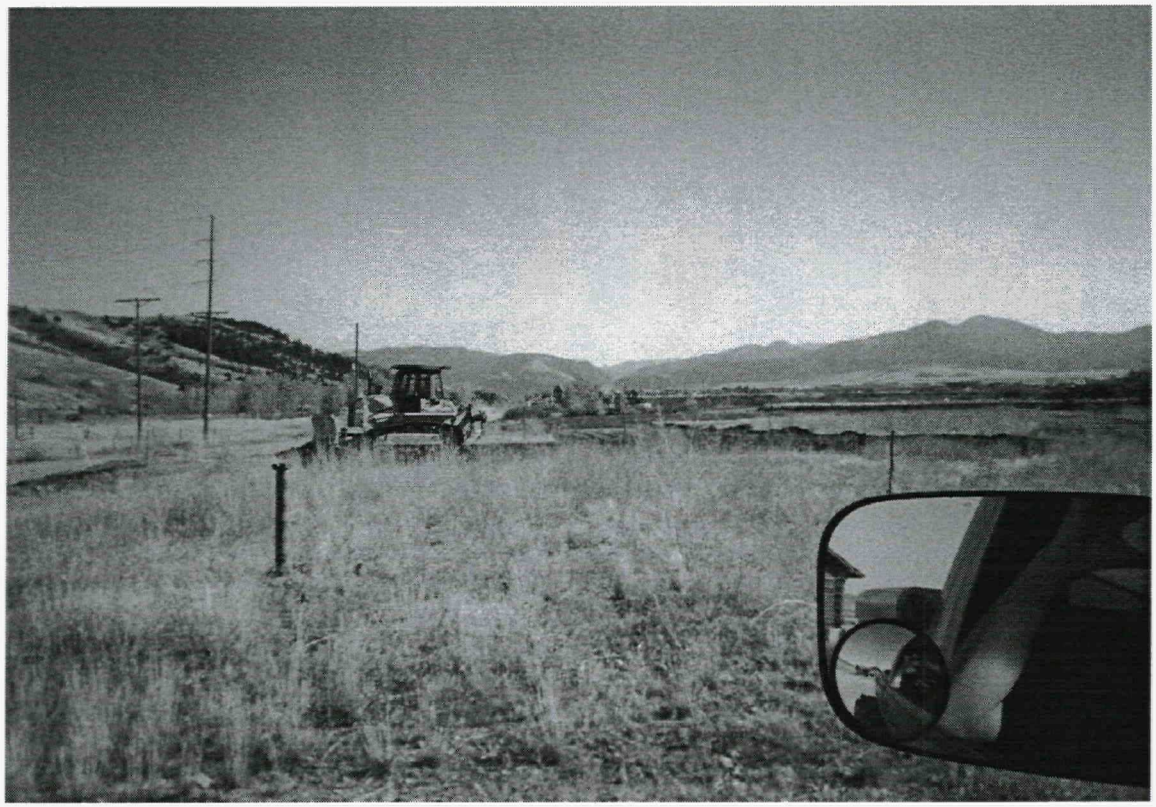
Dozer pushing in LTU berms upon completion of soil removal.

Dozer pushing in berms of LTU for final grade.

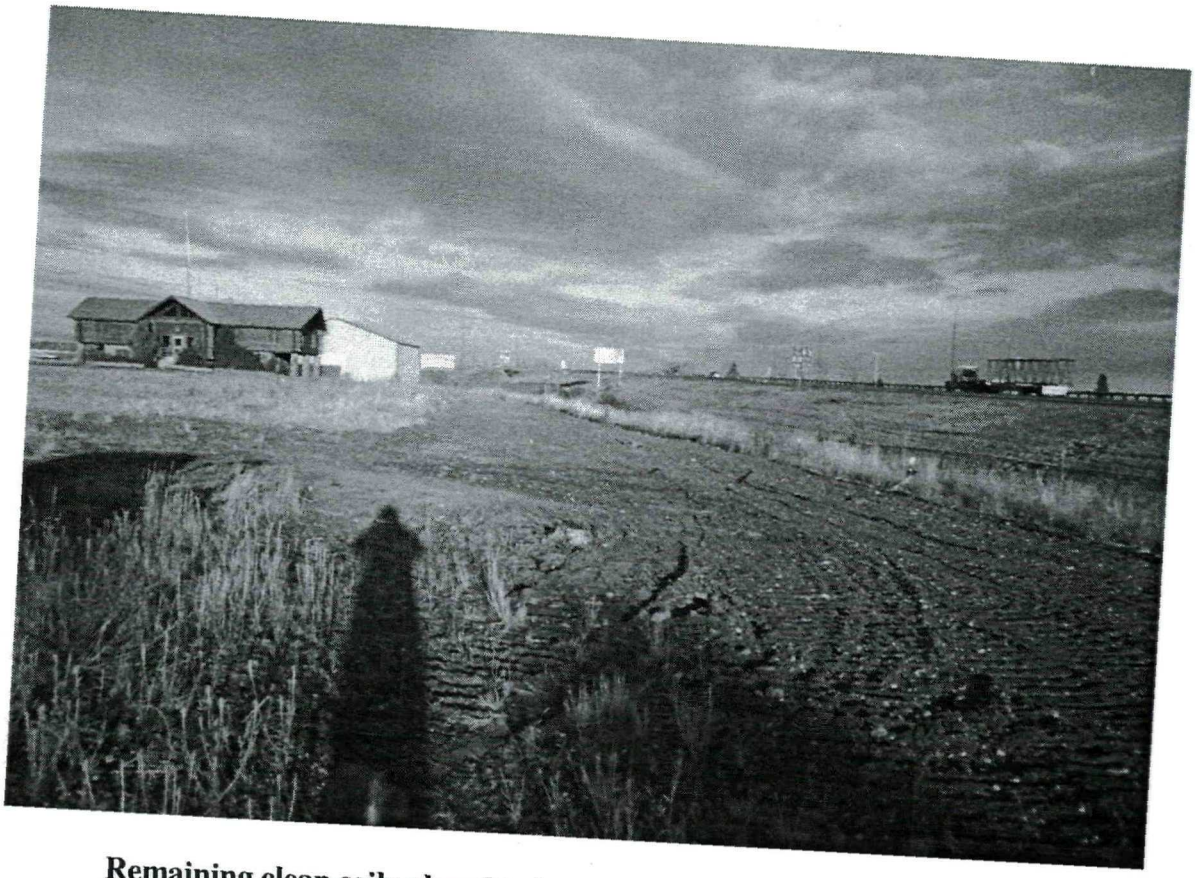
Clean soils staged on LTU area for final grade.

Finish grade of LTU area.

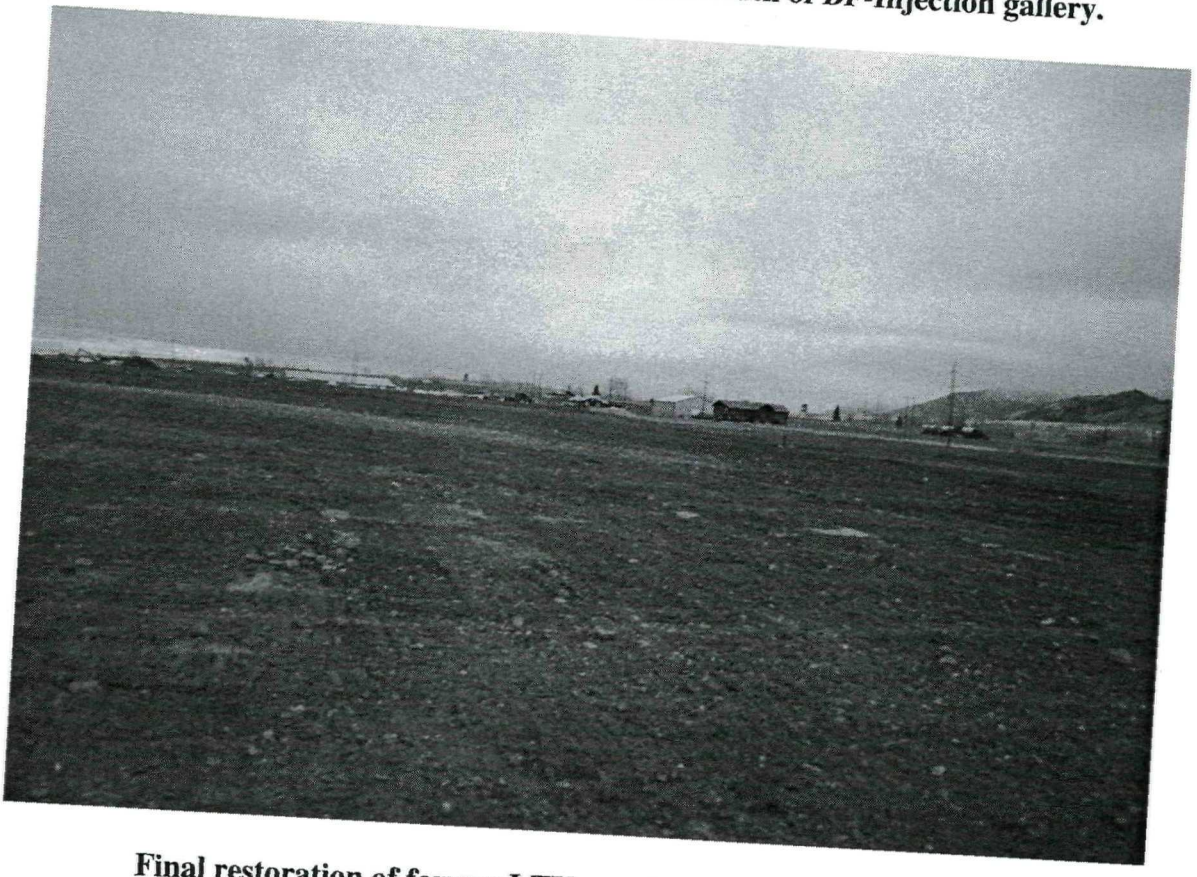
Finished grade of area North of LTU and East of PP-Injection gallery.



Remaining clean soil placed in low area North of PP-Injection gallery.



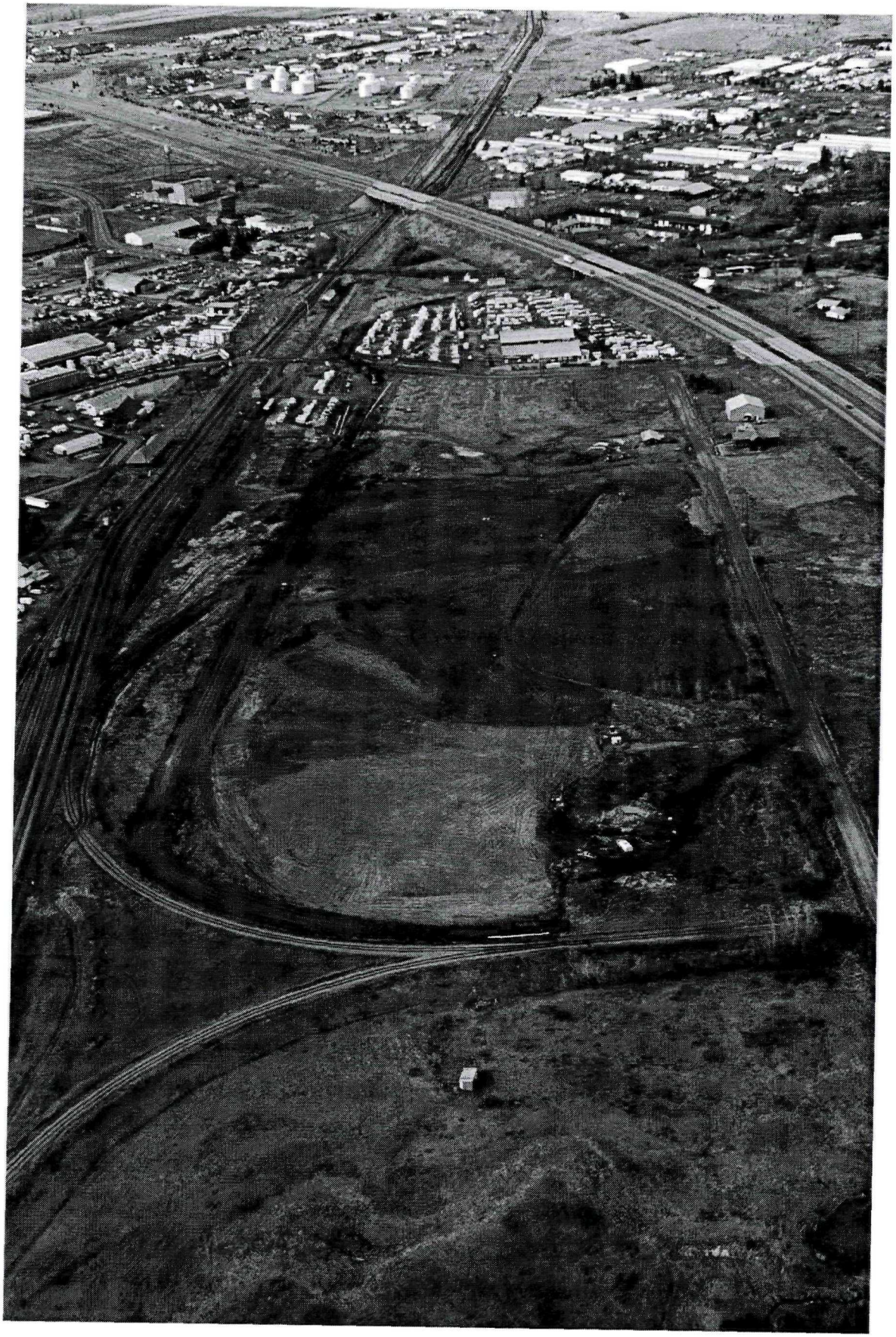
Remaining clean soils placed in low area South of BF-Injection gallery.



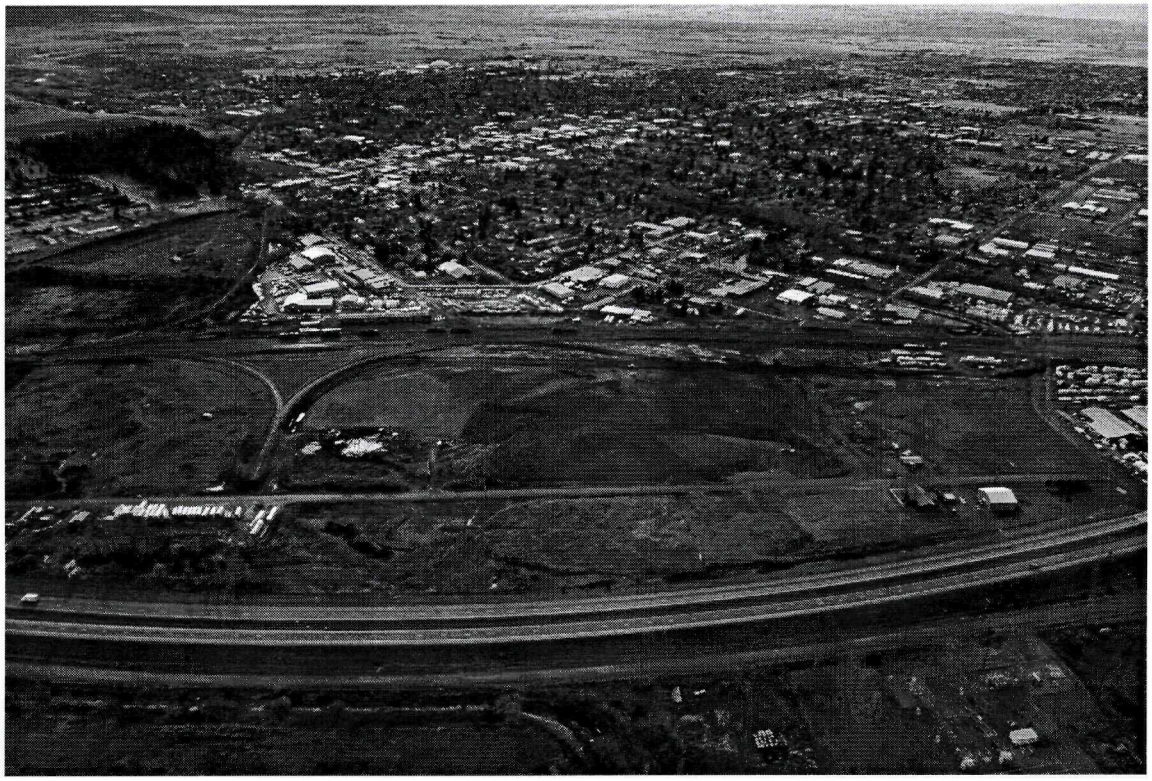
Final restoration of former LTU area looking toward Log office.

Final restoration of site looking East across former LTU area.

Soils across former LTU area after seed mix application.



Aerial photo of IPC site after final grade of LTU area and final liner washing.



Aerial view of IPC site viewed from the North.

Aerial photo of IPC viewed from the West.

Aerial photo of IPC site viewed from the South.

Aerial photo of IPC viewed from the East.

Appendix C

Appendix C

Field Notes

Thou art become (O worst imprisonment!)
The dungeon of thyself.
— John Milton

Idaho Falls - center pivot Deco

27
Tuesday
August 2002

Daily Record of Events

239th Day 126 Left Week 35

5:30 - 9:00 Am = To Greycliff & back due to ER (Fuel spill) call. Swapped tank etc to Rental Truck

9:00 - left office for IFC

11:30 Am arrived at IFC site

13:30 Plumed tank & pipe for potable water triple Rinse. Can't get flow through 2" line from plant

14:45

100 gal to 200 gal = 1.5 min (Total of potable water) = 66.7 gpm

15:00 Began running water through system

$\frac{200 \text{ gallons}}{66.7 \text{ gpm}} = 29.98 \text{ min}$

* Will run water through for 30 min
* All sprinklers have flow

15:35 - Done Cycling water through sprinkler System.

35 min (66.7 gpm) = 2334.5 gallons

15:35 => 17:30 hrs Stop

Cleaned all fires on center pivot system

16:30 - Off Site

To Butte

14 hrs

RETEC

FIELD ACTIVITY DAILY LOG

Project	MCFR2-03423-400	**Completed**	D. Ludwick
Project Number	IPC-Bozeman	**Approved By**	
Day & Date	Wed 10/2/02	**Sheet**	1 of

Field Activity Subject: LTU Closure - excavation & backfill area

Description of Daily Activities and Events:

Day 1 - LTU Closure Activities

Time	
0640	Arrived on site - conduct H+S meeting / Kickoff mtg.
	Introduce new employees to site - Go over Envirocon H+S plan
	& Injuries
0800	Les Arrived on-site
0900	Walk on site - excavation area & LTU - plan activities
	Excavation first w/trucks & Excavator
	Dozer push treated soils in LTU - Stockpile - leave sand down to
	travel across
0950	Done w/site walk - Excavator start opening backfill area
	at NE corner - Load clean excavated soils into haul truck
	& dump East of excavation in low area of site
1015	Dozer entering LTU to move treated soils into stockpile for transport
	Excavation Area -
	level 1'8 + 5' = 6'8 (NE end of PP injection gallery) = EA depth of excavata
11:00	Les Lonning - off site
1200	Pump water off LTU - w/sump pump - water release from soils
1215	Envirocon - lunch break 1230 Retec, TREC offsite for lunch
1330	Retec + Trec on site - check history water levels - pictures of excavation area
	& LTU activities. Maintain 5 ft depth - maintain a level bottom going
	Approximately 6 ft deep as you move for South in excavation (S of Peeler)
1700	Stop excavation - build fence around excavation pit - Debris stockpiled
	for later disposal - concrete debris left in pit.
1730	Envirocon crew finished for day + offsite. Retec, TREC
	offsite.

Visitors On Site: Les Lonning 8 am - 11 am	**Changes From Plans and Specifications, and Other Special Orders and Important Decisions:**
Weather Conditions: Cold, 30°, Overcast	**Important Telephone Calls:**

Personnel On Site: Envirocon crew, RETEC, TREC (Rebecca, Monika)

(Field Engineer)

RETEC

FIELD ACTIVITY DAILY LOG

Project	IPC- Bozeman	**Completed**	D. Ludwick
Project Number	MCFR2-03123-100	**Approved By**	
Day & Date	Thurs 10/3/02	**Sheet**	1 of

Field Activity Subject: LTU Closure Activities

Description of Daily Activities and Events:

Time	Day 2 -
0630	Arrive on-site - attend H+S meeting and daily tailgate meeting. Continue excavation of backfill pit today and push LTU soils to south end of cell.
0730	Excavation commenced - digging East of Peeler to the South
	88 truck haul loads (13 yds) yesterday excavation 1144+ yds
1000	Used Laser level to measure 5 ft depth in excavation
1200	Lunch break
1330	Envirocon continue to excavate backfill pit (South),
	Take pictures of excavation.
1420	Debbie offsite
1644	Excavation stopped
1658	Began to put up tarps on excavation backfill pit
1715	Work stopped

Visitors On Site:	**Changes From Plans and Specifications, and Ot Special Orders and Important Decisions:**
Weather Conditions:	**Important Telephone Calls:**

Personnel On Site: Envirocon crew, Debbie - RETEC, Rebecca - TREC

(Field Engineer)

RA 587-4875

RETEC

FIELD ACTIVITY DAILY LOG

Project	IPC Bozeman	Completed	R. Johnson
Project Number	MCFR2 - 03423 - 400	Approved By	
Day & Date	Fri 10/4/02	Sheet	1 of

Field Activity Subject: LTU Closure Activities

Description of Daily Activities and Events:

Time	Day 3
0700	Arrive on site - Attend meeting, Excavation only 100ft²
	Locate for water lines will arrive today. Need to
	dug further West to make pit 300 ft². Will have to remove
	some track & ties. Next week (Tues) washing liner.
	Wood & pipe dug up from excavation will go w/ liner
	to E. Helena. Kurt wants to go deeper will survey
	out deeper sections to keep track. Today will keep
	excavating South.
0720	Excavation of backfill began. Moving further South
	until locate arrives so we can also dig further West.
	LTU, further excavation pushing soil South &
	also pushing west from East side. Yesterday 12 loads
	x13 yds = 1768 yds from clean excavation. Total clean
	excavation 2912 yds.
0930	Measured depth of excavation of backfill every 20ft in pit
	heading South.
1310	200ft from starting point heading south ran into dump site
	100ft x 60ft. Dug test pits to determine size & resumed digging
	60ft over heading west until further notice from Dan.
1430	Not going to dig in the SE corner. Moving SW
1700	Stopped excavation. Started to put up fence around pit
1715	Fence done. Done for the day.

Visitors On Site:	**Changes From Plans and Specifications, and Other Special Orders and Important Decisions:**
Weather Conditions: Cloudy. AM 10 am → Partly Cloudy	**Important Telephone Calls:** 582-3200

Personnel On Site: Envirocon Crew, Rebecca - Tree

(Field Engineer)

RETEC

FIELD ACTIVITY DAILY LOG

Project	IPC Bozeman	Completed	R. Johnson
Project Number	MCFR2-03423-400	Approved By	
Day & Date	Mon 10/7/02	Sheet	1 of 1

Field Activity Subject: LTU Closure Activities

Description of Daily Activities and Events:

Time	Day 4
0700	Safety meeting. Locate did not arrive on site Friday. Still need to move west of pedestal & need to know location of water line. Jim Harris arriving at 10:30. Friday 88 loads x 13 yds = 1144 yds clean excavation. Total is 4056 yds.
0730	Second dozer arrived & started to doze over clean soil from backfill excavator. Excavating west of pedestal & LTU excavator is closing soil west from SE corner. Rick Nuffel arrived to operate second dozer.
1030	Jim Harris arrived on site, looked how the excavation for backfill was going. Also, looked how the LTU excavation looked. Wants 2 or 3 excavators & loaders out here. Fence around LTU can come down now.
1318	Digging in between pedestal & backflow preventer today. Jim work pedestal removed.
1500	Filled water truck & began to water down haul route. Used plant water, but from now on can use city water. Water was turned back on at 1500
1615	Compressor arrived for Carbon replacement tomorrow
1710	Stopped work & began to put up fence around dig
1726	Fenced up & done for the day.

Visitors On Site: Jim Harris

Changes From Plans and Specifications, and Other Special Orders and Important Decisions:

Weather Conditions: Sunny - Brl

Important Telephone Calls:

Personnel On Site: Enviro con crew, Rebecca - Trec

(Field Engineer)

RETEC

FIELD ACTIVITY DAILY LOG

Project: IPC Bozeman
Project Number: MCFR2-03423-HOU
Day & Date: Tues 10/8/02
Completed: R. Johnson
Approved By:
Sheet: 1 of 1

Field Activity Subject: LTU Closure Activities

Description of Daily Activities and Events:

Time	Day 5
0700	Safety Meeting. Today will start to remove LTU soil & backfill it into the backfill excavation. Will also keep moving west, after water line finally located, in the backfill excavation. Might pull fence around LTU down. For safety, people need to stay left away from side walls when in the excavation pits. Water trucks will be used today & emphasis today on hard routes. We will be handling clean & treated soil, so do not cross routes.
0720	Began to move LTU treated soil to pit, pulling up geotextile liner & removing posts
0800	Locate for water line arrived.
1600	Dan, Debbie & I took 3 soil samples of the LTU treated soil.
1710	Stopped work & began to secure fence around backfill excavation
1726	Done for the day

Visitors On Site: Water locater

Changes From Plans and Specifications, and Other Special Orders and Important Decisions:

Weather Conditions: Sunny

Important Telephone Calls:

Personnel On Site: Enviroscon crew, Rebecca - Trec, Dan & Debbie - Retec (Field Engineer)

RETEC

FIELD ACTIVITY DAILY LOG

Project	IPC Bozeman	Completed	R. Johnson
Project Number	MCFR2-03423-700	Approved By	
Day & Date	Wed 10/9/02	Sheet	1 of

Field Activity Subject: LTU Closure Activities

Description of Daily Activities and Events:

Time	Day 6
0700	Safety meeting. Modified liner removal by using the excavator instead of laborers utility knife. Located waterline & now will excavate west of waterline. Move soil in LTU than thought. Will go back to excavating backfill pit. Using water truck everywhere but in the LTU. Don't fill haul trucks so much that treated soil can spill out. Will start to clean liner. Yesterday moved 150 loads x 13yds = 1950 yds material from LTU to clean excavation.
1000	Began shoveling sediment at the bottom of the excavation into one corner. Laborers muddy our masks to work around the sediment.
1715	Stopped work & Secured fencing.
1730	Done for the day

Visitors On Site:	**Changes From Plans and Specifications, and Other Special Orders and Important Decisions:**
Weather Conditions:	**Important Telephone Calls:**

Personnel On Site: Environcon - Crew, Rebecca Trey, Dan & Debbie - Retec (Field Engineer)

RETEC

FIELD ACTIVITY DAILY LOG

Project: IPC Bozeman
Project Number: MCFR2-03423-400
Day & Date: Thur 10/10/02
Completed: R Johnson
Approved By:
Sheet: 1 of 1

Field Activity Subject: LTU Closure activities

Description of Daily Activities and Events:

Time	Day 9
0700	Safety Meeting. Continue to move treated soil to backfill pit. Begin backfill excavation again moving South & West. Also, Set up a decon pad at entrance to retention & start to pressure wash liner.
0720	Began removing more LTU treated soil to backfill pit & Continued w/ Backfill excavation on the otherside of the back flow preventor line. Will pressure wash liner today. Before weather gets cold. Using nutrition as decon & containment area.
1330	Kurt had a conference about the Peeler building coming down. Also, Laborers began to pressure wash the LTU liner in the retention
1715	Work Stopped. Fence's went up
1730	Done For the day

Visitors On Site:	Changes From Plans and Specifications, and Other Special Orders and Important Decisions:
Weather Conditions: Sunny & Windy	Important Telephone Calls:

Personnel On Site: Envirocon - Crew, Rebecca - Tree

(Field Engineer)

RETEC

FIELD ACTIVITY DAILY LOG

Project	IPC Bozeman	Completed	R. Johnson
Project Number	MCFR2-03423+400	Approved By	
Day & Date	Fri 10/11/02	Sheet	1 of 1

Field Activity Subject: LTU Closure Activities

Description of Daily Activities and Events:

Time	Day 8
0700	Safety meeting. Peeler coming down two weekends from now. Very cold today, be careful w/ being wet & ice on retention. Keep to path on haul route & maintain haul routes. Will work next Saturday.
0720	Began excavating backfill West of the backflow preventor & South of the Peeler. Continued dozing & hauling treated soil from the LTU to backfill pit. Also pressure washing LTU liner in the retention. Had to clean the South corner of retention first before cleaned LTU liner in retention.
1330	Wally almost hit main water line. Locator was off by more than 6 feet. Replaced backfill so line does not freeze & repainted water line locates.
1715	Stopped work to fence around backfill excavation
1730	Done for the day.

Visitors On Site:	**Changes From Plans and Specifications, and Other Special Orders and Important Decisions:**
Weather Conditions: Sunny am - Cloudy & Snow aftrn 10 am	**Important Telephone Calls:**
Personnel On Site: Envirocon - Crew, Tree - Rebecca (Field Engineer)	

RETEC

FIELD ACTIVITY DAILY LOG

Project	IPC Bozeman	Completed	R. Johnson
Project Number	MCFRZ - 03423 - 400	Approved By	
Day & Date	Mon 10/14/02	Sheet	1 of 1

Field Activity Subject: LTU Closure activities

Description of Daily Activities and Events:

Time	Day 9
0700	Safety meeting. Was a request for another hauler. Kurt - felt not needed. Haul drivers need to speed it up more, another hauler would just sit around waiting all day. Will continue excavating backfill area around water lines heading South & West. Might have to remove more track south of excavation. Continue w/ treated soil removal & liner removal. Also continue with pressure washing the liner in retention. Kurt will set up a trailer w/ heaters in it to keep laborers washing liner warm during the day.
0720	Work began.
1130	Found second water line. Need to call city for proper locate.
1720	Put up fencing
1730	Done for the day

Visitors On Site:	Changes From Plans and Specifications, and Other Special Orders and Important Decisions:
Weather Conditions: Sunny	**Important Telephone Calls:**

Personnel On Site: Envirocon - Crew, Trec - Rebecca

(Field Engineer)

RETEC

FIELD ACTIVITY DAILY LOG

Project	IPC Bozeman	**Completed**	R. Johnson
Project Number	MCFR2.03423.400	**Approved By**	
Day & Date	Tues 10/15/02	**Sheet**	1 of 1

Field Activity Subject: LTU Washing Activities

Description of Daily Activities and Events:

Time	
	Day 10
0700	Safety meeting. Be careful of utility lines, until properly located. Will Keep excavating where we can. Need third Laborer for LTU Liner washing, need two people washing & one person cutting.
1200	Kevin Strickler first showed up to discuss locating water lines
1400	Kevin returned to locate water line leading into green office. No Luck
1700	Wally filled in soil where water line exposed
1720	Fence went up
1730	Done for the day

Visitors On Site:	**Changes From Plans and Specifications, and Other Special Orders and Important Decisions:**
Weather Conditions: Sunny	**Important Telephone Calls:** 582-3200 / 595-7019

Personnel On Site: Envirocon - Crew (Kurt gone), TRC - Rebecca

(Field Engineer)

RETEC

FIELD ACTIVITY DAILY LOG

Project	IPC Bozeman	**Completed**	R Johnson
Project Number	MCFR2-03423-400	**Approved By**	
Day & Date	Wed 10/16/02	**Sheet**	1 of 1

Field Activity Subject: LTU closure Activities

Description of Daily Activities and Events:

Time	Day 11
0700	Safety Meeting. Need more pallets for washing liner,
	Dan wants Kurt to take a look at water line to make sure no
	stress on line. Will be backfilling w/ treated LTU soil
	today. Not much digging in backfill excavation today
0720	Work began. Cleaning liner & moving treated LTU soil
	to backfill excavation. Kurt will return today around
	noon. If he wants the locate back Kevin will come back
0830	Picked up 4 more pallets, from Kenyon Noble, to wash
	liner on.
1200	Kurt returned back on site. Need to go over where we
	want to dig next.
1715	Stopped work. Put fencing where it needed.
1730	Done for the day

Visitors On Site:	**Changes From Plans and Specifications, and Other Special Orders and Important Decisions:**
Weather Conditions: Sunny	**Important Telephone Calls:** 595-7019

Personnel On Site: Envirocon - Crew, IRC - Rebecca

(Field Engineer)

RETEC

FIELD ACTIVITY DAILY LOG

Project	IPC Bozeman	**Completed**	R Johnson
Project Number	MCFRZ - 03123-400	**Approved By**	
Day & Date	Thur 10/17/02	**Sheet**	1 of 1

Field Activity Subject: LTH Closure Activities

Description of Daily Activities and Events:

Time	Day 12
0700	Safety meeting. Running out of room to dig. A lot more LTH soil than expected. Need to discuss where to dig next. Who ever wants to work Saturday can, Kurd won't be there nor Shane. Need to push on getting the liner washed
0710	Dan & Debbie arrive on site to help w/ Carbon pickup.
0720	Work began. Cutting & pressure washing LTH liner. Moving LTH heated soil to backfill excavation
1400	Dan & Kurd walk through site to determine where the backfill excavation should move next.
1420	Rebecca & Debbie check for all potential wells to be abandoned.
1600	Dan & Debbie leave site.
1640	Back to excavating clean soil from backfill excavation
1775	Began putting up fencing
1730	Work Done for the day

Visitors On Site:	**Changes From Plans and Specifications, and Other Special Orders and Important Decisions:**
Weather Conditions: Sunny	**Important Telephone Calls:**

Personnel On Site: Enviracon - Crew, Trec - Rebecca, Retec - Dan & Debbie

(Field Engineer)

RETEC

FIELD ACTIVITY DAILY LOG

Project	~~BB~~ IPC	**Completed**	D. Ludewick
Project Number	MCFR2-03423-400	**Approved By**	
Day & Date	Thurs 10/17/02	**Sheet**	____ of ____

Field Activity Subject:

Description of Daily Activities and Events:

Time	
1320	Calibrate Miniram - Walk around LTU take instant readings - North of LTU on Sump well 0.070 mg/m^3 NE of backfill area 0.092 mg/m^3. TWA 0.063 mg/m^3
1500	Leave Site

Visitors On Site:

Changes From Plans and Specifications, and Oth Special Orders and Important Decisions:

Weather Conditions:

Important Telephone Calls:

Personnel On Site:

(Field Engineer)

RETEC

FIELD ACTIVITY DAILY LOG

Project	IPC Bozeman	**Completed**	R. Johnson
Project Number	MCFRZ-03423-400	**Approved By**	
Day & Date	Fri 10/18/02	**Sheet**	1 of 1

Field Activity Subject: LTU closure activities

Description of Daily Activities and Events:

Time	Day 13
0700	Safety Meeting. Need to check on Property lines & run as far South as we can. Water in plume runs at an angle heading NW so we can still go a little further east & only go as far west as the injection wells are. Will be excavating clean & stockpiling & pressure washing liner. Letter was submitted to Jim Harris about placing geotextile liner in w/ the treated LTU soil. If approved will start next week
0720	Day begins. Excavating backfill area & placing clean soil close to pit for cover soil. Also, pressure washing liner.
1320	Mike w/ Retec faxed to Kurt copies of the property lines for Idaho pole & Burlington Northern. Kurt today or Monday will mark off lines to show how far South we can dig.
1720	Excavation stopped & fences were put up
1730	Done for the day. Guys who want to work Saturday can. Will only be a half day.

Visitors On Site:	**Changes From Plans and Specifications, and Other Special Orders and Important Decisions:**
Weather Conditions: Sunny	**Important Telephone Calls:**

Personnel On Site: Envirocon - Crew, Trec - Rebecca

(Field Engineer)

RETEC

FIELD ACTIVITY DAILY LOG

Project	IPC Bozeman	**Completed**	R Johnson
Project Number	MCFR2-03123.400	**Approved By**	
Day & Date	Mon 10/21/02	**Sheet**	1 of 1

Field Activity Subject: LTU Closure activities

Description of Daily Activities and Events:

Time	Day 15
0700	Safety Meeting. Located property lines. We will go as far south as we can. Can go a little further East because of the direction of ground water flow & no further west than the last extraction well. Will keep excavating today & stockpiling clean plus around pit for cover. Also, pressure washing LTU liner.
0720	Began at SE edge and extended backfill excavation South. Charlene & Both Bills pressure washing liner.
1240	Kurt & I had the excavator dug on the backfill side of the road for a pipe access that was supposed to go under the road. Could not find it. Replaced soil back in hole
1300	Kurt off-site. Alan w/ Envirocon should arrive later today or at least by tomorrow morning.
1715	Done excavations. Fences were put up
1730	Done for the day.

Visitors On Site:	**Changes From Plans and Specifications, and Other Special Orders and Important Decisions:**
Weather Conditions: Sunny	**Important Telephone Calls:**
Personnel On Site: Envirocon - Crew, TRC - Rebecca	
	(Field Engineer)

RETEC

FIELD ACTIVITY DAILY LOG

Project	IR Bozeman	**Completed**	R. Johnson
Project Number	MCFR2-03423-4100	**Approved By**	
Day & Date	Tues 10/22/02	**Sheet**	1 of 1

Field Activity Subject: LTU closure activities

Description of Daily Activities and Events:

Time	Day 16
0700	Safety Meeting. Today hauling LTU treated soil to backfill pit & dozing soil into backfill. Excavating LTU soil today & stockpiling geotextile liner. Liner will eventually be placed in backfill as a defining layer. Also, pressure washing LTU liner.
0718	Loading LTU treated soil in haul trucks & hauling to backfill pit where Big Wally is dozing in soil. Wally excavating LTU & stockpiling geotextile liner. Charlene & both Burt pressure washing LTU liner.
0920	Started to haul geotextile liner over to backfill pit for defining layer.
1720	Stopped work. Put up fence around excavation pit.
1730	Done for the Day.

Visitors On Site:	**Changes From Plans and Specifications, and Other Special Orders and Important Decisions:**
Weather Conditions: overcast, windy, temp lower 20's	**Important Telephone Calls:**
Personnel On Site: Tvcc - Rebecca, Environcon - Crew (Kurt gone)	
	(Field Engineer)

RETEC

FIELD ACTIVITY DAILY LOG

Project	IPC Bozeman	**Completed**	L. Johnson
Project Number	MCFRZ-03423-400	**Approved By**	
Day & Date	Wed 10/23/02	**Sheet**	1 of 1

Field Activity Subject: LTU closure Activities

Description of Daily Activities and Events:

Time	Day 17
0700	Safety meeting. Kurt & Allan both on site. Pressure washers really froze yesterday. They need to take more breaks in heated trailer & be careful. Let us know if we can get them anything. Lets keep excavating today & moving LTU treated soil to backfill excavation.
0720	Work started. Pressure washing crew needs 4 more pallets.
0940	Debbie from Retec arrives on site
1100	Dan, Debbie, Kurt & I have a conference call about where we have backfilled, how much is left in LTU, & where can we dig next.
1400	Miniram readings (15 min each) - perimeter of excavation & LTU berms. Excavation TWA = 0.012 mg/m³ LTU = TWA 0.023 mg/m³
1720	Stopped work. Berms around excavation
1730	Off site.

Visitors On Site:	**Changes From Plans and Specifications, and Other Special Orders and Important Decisions:**
Weather Conditions: Cloudy, Windy, temp lower 20's	**Important Telephone Calls:**

Personnel On Site: Envirocon - Crew, Rebecca - True, Debbie - Retec

(Field Engineer)

RETEC

FIELD ACTIVITY DAILY LOG

Project: IPC- Bozeman
Project Number: MCFR2-03423-400
Day & Date: Thurs 10/24/02
Completed: DL, Rebecca Johnson
Approved By:
Sheet: 1 of 1

Field Activity Subject: LTU Closure activities

Description of Daily Activities and Events:

Time	Day 18
0700	Safety meeting. Cut liner off berms. Clearing options will be notified. Haul treated soil in am & change to haul clean soils afternoon. Excavate triangle, strip north of peeler building - south of extraction wells & misc areas. Fill treated soils to surface.
0940	Miniram readings collected: N of Excavation area & truck haul road (15 minute at each location) TWA = 0.017 mg/m³ S. of excavation & truck haul road TWA = 0.023 mg/m³, North berm of LTU (sump area) TWA = 0.046 mg/m³
1015	Talk w/ Dan - verbal approval from Jim Harris to put geotextile on top of treated soils in hole. (Sent letter in mail)
1215	Debbie off-site
1430	Big Willy will move some of the clean piles that are over a new spot to excavate SE corner of excavation
1715	Stop work. Put up fence
1730	Done for the day.

Visitors On Site:

Changes From Plans and Specifications, and Other Special Orders and Important Decisions:

Weather Conditions: Cold, Sunny, temp below 20's

Important Telephone Calls:

Personnel On Site: Environcon crew, TREC-Rebecca, Retec-Debbie

(Field Engineer)

RETEC

FIELD ACTIVITY DAILY LOG

Project: IPC Bozeman
Project Number: MCFRZ-03423-400
Day & Date: Fri 10/25/02
Completed: Rebecca Johnson
Approved By:
Sheet: 1 of 1

Field Activity Subject: LTU closure Activities

Description of Daily Activities and Events:

Time	Day 19
0700	Safety meeting. Pressure wash a excavate haul road behind injection gallery and up East side of last backfill. Also, finish moving clean pile that is on top of the SE corner of where we want to excavate
0720	Both dozers moving clean pile from SE corner & backfill excavation of haul road & Eastern side. Dan, Bill, & Charlie pressure washing.
1320	Big willy dozing clean soil around pressure plant extraction wells in order to make area level.
1714	Stopped work. Put up fence around excavation. Pressure washing crew will be back Sat & Shane to work on Loader.

Visitors On Site:

Changes From Plans and Specifications, and Other Special Orders and Important Decisions:

Weather Conditions: Sunny, lower 30's

Important Telephone Calls:

Personnel On Site: Environ Crew, Rebecca-TRC

(Field Engineer)

RETEC

FIELD ACTIVITY DAILY LOG

Project: IPC Bozeman
Project Number: MCFR2-03423-400
Day & Date: Mon 10/28/02

Completed: Rebecca Johnson
Approved By:
Sheet 1 of 1

Field Activity Subject: LTU closure activities

Description of Daily Activities and Events:

Time	Day 26
0700	Safety Meeting. Dan hit MW-20 on Sat. Not a big deal going to be abandoned. Continue pressure washing. Finish excavating Eastern strip of backfill excavation. Big Willy needs to have pulled down by Fri.
0720	Excavating eastern strip & clean piles in front of extraction gallery. Pressure washing
1100	Now unloading clean loads east of excavation.
1200	Lunch
1330	Kurt discovered old haul road we excavated next to injection wells is an old LTU backfill & not clean soil. Now crew is moving soil back into backfill excavation. Soil was placed over by extraction wells but is now being removed
1500	Envirocon brought over a new pressure washer.
1720	Done working. Put up fencing
1730	Done for the Day.

Visitors On Site:

Changes From Plans and Specifications, and Other Special Orders and Important Decisions:

Weather Conditions: Snow on grnd a.m. - sunny after 9:00 overcast lower 30's

Important Telephone Calls:

Personnel On Site: Envirocon - Crew, Retec - Rebecca

(Field Engineer)

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RETEC

FIELD ACTIVITY DAILY LOG

Project: IR Bozeman
Project Number: MCFR2-03423-400
Day & Date: Tues 10/29/02
Completed: Rebecca Johnson
Approved By:
Sheet: 1 of 1

Field Activity Subject: LTU closure activities

Description of Daily Activities and Events:

Time	Day 22
0700	Safety Meeting. No liner ducon - too cold. Kurt wants to build a metal platform to place liner on instead of pallets. Pressure washing crew will be removing fence around retention today. Today moving LTU treated soil to backfill excavation.
0720	Started hauling LTU material & removing retention fence.
1240	Montana Ready mix started to grade the road, so Kurt used water truck to water the road.
1525	all soil removed from old haul route & placed around pressure plant extraction wells to back in place.
1648	Stopped work & put up fencing
1700	Kurt wants everyone gone by 1700 because of weather.

Visitors On Site:

Changes From Plans and Specifications, and Other Special Orders and Important Decisions:

Weather Conditions: Lower teens, Overcast & Windy

Important Telephone Calls:

Personnel On Site: Envirocon - Crew, TRC - Rebecca (Field Engineer)

RETEC

FIELD ACTIVITY DAILY LOG

Project: IPC Bozeman
Project Number: MCFR2-03423-400
Day & Date: Wed 10/30/02
Completed: Rebecca Johnson
Approved By:
Sheet: 1 of

Field Activity Subject: LTU closure activities

Description of Daily Activities and Events:

Time	Day 23
0700	Safety Meeting. No pressure washing today, just cutting liner. Shane working on Loader, work around it. Need 270 LF of 2" PVC to place in excavation. For excavation move a little further East.
0715	Work began for the day.
0930	Wally & I moved a 150 LF section of 2" PVC over in front of Pressure plant injection. Couldn't find section 270 LF long. Will have to weld another section together.
0945	Big willy drug PVC pipe next where he wants it placed. Went downs both ends daylighted
1715	Done for the Day. Fencing put up
1730	Done for the Day

Visitors On Site:

Changes From Plans and Specifications, and Other Special Orders and Important Decisions:

Weather Conditions: Lower 40's today, windy & overcast

Important Telephone Calls:

Personnel On Site: Environcon - Crew, TML - Rebecca

(Field Engineer)

RETEC

FIELD ACTIVITY DAILY LOG

Project	IPC Bozeman	Completed	Rebecca Johnson
Project Number	MCFR2-03423-400	Approved By	
Day & Date	Thur 10/31/02	Sheet	1 of

Field Activity Subject: LTU Closure Activities

Description of Daily Activities and Events:

Time	Day 24
0700	Safety meeting. Kurt wants to move a little further east for the backfill excavation, otherwise current backfill will be built up 8-10" plus clean cover. Decon crew might have to help Wiley remove pulley. He has been staying behind every night & working in the dark, but it is getting just too cold.
0720	Work began. Semi truck dead. Shane & Bill Brothers couldn't get it jump started for awhile. Loader should be up & running today. Pressure washing crew working on new decon pad. Hauled LTU material to backfill excavation
0800	Started to excavate new backfill area east of pulley shed. Had to move clean piles in order to get to it.
1700	Stopped work & put up fencing
1730	Done for the day.

Visitors On Site:	**Changes From Plans and Specifications, and Other Special Orders and Important Decisions:**
Weather Conditions: 9°F - Sunny & Windy (miserable)	**Important Telephone Calls:**
Personnel On Site: Environcon - Crew, TRC - Rebecca	
	(Field Engineer)

RETEC

FIELD ACTIVITY DAILY LOG

Project	IPC Bozeman	**Completed**	Rebecca Johnson
Project Number	MCFRZ-03423-400	**Approved By**	
Day & Date	Fri 11/1/02	**Sheet**	1 of

Field Activity Subject: LTU closure Activities

Description of Daily Activities and Events:

Time	Day 25
0700	Safety Meeting. Losing Rick (Dozer) today at noon, Truck drivers might have to load their own trucks because we need two guys dozing. Will haul the rest of the LTU treated soil out of LTU.
0720	Moved LTU treated soil to backfill excavation. Also placed clean soil around PPE-4 wells. Big Willy dozing &
0930	Pressure washing crew & Shane finishing up new decon pad. Looking good. Miniram - Side LTU . 014 mg/m^3 Excavated along Eastern side of Peeler & excavation Guys to help Willy remove the peeler
1720	Done working. Put up fences
1730	Done for the day.

Visitors On Site:	**Changes From Plans and Specifications, and Other Special Orders and Important Decisions:**
Weather Conditions: Sunny upper 20's	**Important Telephone Calls:**
Personnel On Site: Envirocon - Crew, TNC - Rebecca	
	(Field Engineer)

RETEC

FIELD ACTIVITY DAILY LOG

Project	IPC Bozeman	**Completed**	Rebecca Johnson
Project Number	MCER2-03423-400	**Approved By**	
Day & Date	Mon 11/4/02	**Sheet**	1 of

Field Activity Subject: LTU closure Activities

Description of Daily Activities and Events:

Time	Day 26
0700	Safety Meeting. Remove the MSB of the LTU-treated Soil today. Take down Berms around LTU. Trench in 2" PVC for the new backflush line going to french drain. Pressure washing - need to get going w/ cleaning lines, behind w/ LTU & extension liner. Should go faster w/ new drum pad
0720	Moving LTU soil to backfill & pressure washing liner. Removed concrete foundation of press.
1315	Placed the rest of the 2" PVC over by injection wells to be buried
1720	Stopped work. Put up fencing. Most of Southern side of LTU berm pushed in. Need to make more level.
1730	Done for the day.

Visitors On Site:	**Changes From Plans and Specifications, and Other Special Orders and Important Decisions:**
Weather Conditions: Sunny - Upper 20's	**Important Telephone Calls:**
Personnel On Site: Enirocon - Crew, True - Rebecca	
	(Field Engineer)

RETEC

FIELD ACTIVITY DAILY LOG

Project: IPC Bozeman
Project Number: MCFRZ-03423.400
Day & Date: Tues 11/5/02
Completed: Rebecca Johnson
Approved By:
Sheet: 1 of

Field Activity Subject: LTU Closure Activities

Description of Daily Activities and Events:

Time	Day 27
0700	Safety Meeting. Push all LTU berms in except eastern side next to Attention. All LTU soil out & in backfill excavation, but push all berms in around backfill area & mark w/ stakes. Surveyor need flat surface. Waiting to hear back from Don about LTU samples. We need to know if we can pressure wash just one side of liner or both. Also going to extend casing for B-A, It was a flush mount, but are raising and so need to bring further out. Waiting to hear from Jim Harris on what wells will be abandoned, so we can either fix or have the rig that Don ran over.
0920	Started work, Pushing in LTU berms, Laying out geotextile in backfill excavation & pressure washing LTU liner, Also, moving right along on setting up backflush line to the trench drain.
1500	Surveyor's arrived to take measurements for map of complete excavation
1720	Stop work

Visitors On Site:

Changes From Plans and Specifications, and Other Special Orders and Important Decisions:

Weather Conditions: Sunny - upper 30's

Important Telephone Calls:

Personnel On Site: Environ - Crew, True - Rebecca (Field Engineer)

RETEC

FIELD ACTIVITY DAILY LOG

Project	IPC Bozeman	Completed	Rebecca Johnson
Project Number	MCFR2-03423-400	Approved By	
Day & Date	Wed 11/6/02	Sheet	1 of

Field Activity Subject: LTU Closure Activities

Description of Daily Activities and Events:

Time	Day 28
0700	Safety meeting. Spread out geotextile over backfill so clean soil can be placed over it. Lets remove all LTU berms & piping that goes from front of LTU to retention. Build up an area in backfill in front of retention for a new decon area. Remove retention fence & take down retention berm as well.
0720	Work began. Berm removal & Retention fence removal. Haul drivers spreading out geotextile over backfill. Canvas crew dozing 10 ft past right away.
1130	Removed sump & sump pump.
1240	Excavator removing fence posts
1630	Pulled big chunk of retention liner out to new decon area & built up sides around it. Will place metal decon pad at last side.
1730	Done for the day

Visitors On Site:	**Changes From Plans and Specifications, and Other Special Orders and Important Decisions:**
Weather Conditions: Sunny upper 40s	**Important Telephone Calls:**
Personnel On Site: Environcon - Crew, TRC - Rebecca (Field Engineer)	

RETEC

FIELD ACTIVITY DAILY LOG

Project	IPC Bozeman	Completed	L Johnson
Project Number	MCFR2-03423-404	Approved By	
Day & Date	Thur 11/7/02	Sheet	1 of 1

Field Activity Subject: LTU closure activities

Description of Daily Activities and Events:

Time	Day 29
0700	Safety meeting. Finish moving metal decon pad to new decon area outside retention, Get the liner pulled in front of it. Doze clean soil over geotextile & backfill. Finish pushing in LTU berms.
0720	Started Work
0900	Dubbie arrived on site.
1030	Took sample of the LTU liner's bottom side. Placed the clay from several different shots in different areas in one sample jar, Fedex overnight to ARI lab. If tests are clean will only need to wash one side of the liner
1200	Lunch
1330	Picked up Photos from Costco & double checked all w/ the log. Got pictures on disk & paper.
1500	Dubbie off-site
1515	Ran soil sample to Fedex
1730	Done for the day.

Visitors On Site:	**Changes From Plans and Specifications, and Other Special Orders and Important Decisions:**
Weather Conditions: Cloudy - upper 30's	**Important Telephone Calls:**

Personnel On Site: Envirocon - crew, Tric - Rebecca, Retec - Dubbie

(Field Engineer)

RETEC

FIELD ACTIVITY DAILY LOG

Project	MCFR2-03423-400	**Completed**	D. Ludwick
Project Number	IPC-Bozeman	**Approved By**	
Day & Date	Thurs 11-7-02	**Sheet**	1 of

Field Activity Subject: LTU Closure

Description of Daily Activities and Events:

Time	
0820	Arrive on site - travel from Billings
0900	Drive around site w/ Kurt - look at liner & geotextile liner on top of backfill - covered by clean cover
1000	Drive to observe new decon area for liner
1045	Meet w/ C. Boyd (Enviracon) to discuss requirements for sampling clay below liner. If clean - will need to decon liner that was in contact w/ waste. Can be considered non-haz & send to subtitle D.
	Lab-ARI called - they can turnaround analysis by Mon or Tues w/ method 8270. Called Dan/Lane to make that levels met LDR levels to dispose liner.
1128	Drive to LTU for sample of clay on liner. - Sample BLClay-1 collected @ 1140 - clay below liner for PCP+PAH method 8270. Called lab to notify sending one sample for 2 day turnaround as soon as possible
1200	Break for lunch
1320	Package sample for fed ex delivery. Drop off at airport.
1415	Safety observation

Visitors On Site:	**Changes From Plans and Specifications, and Oth Special Orders and Important Decisions:**
Weather Conditions: Overcast 40's	**Important Telephone Calls:**

Personnel On Site: Enviracon Crew, Trec-Rebecca, Debbie Retec

(Field Engineer)

RETEC

FIELD ACTIVITY DAILY LOG

Project	IPC Bozeman	Completed	R Johnson
Project Number	MCFRZ-03423-400	Approved By	
Day & Date	Fri 11/8/02	Sheet	1 of 1

Field Activity Subject: LTU Closure Activities

Description of Daily Activities and Events:

Time	Day 30
0700	Safety meeting. Pressure wash liner, Pile clean in LTU for more of a cover & lots dozing the LTU. Finish dozing over geotextile & backfill w/ cover soil. LTU 8 Backfill should be dozed by the end of next week. Les will be here Monday. Should have only pressure washing last week. Rick done today.
0720	Started work
0900	Set white pipe over flush mount coverings on water shut off & well D-5. Shane pumping water from washing liner into water tank & dumping into trench drain.
1600	Shane & I move 2" PVC pipe from decon area to trench drain will be a lot easier to drain decon area.
1720	Done for the day.

Visitors On Site:

Changes From Plans and Specifications, and Other Special Orders and Important Decisions:

Weather Conditions: Cloudy - mid 40s

Important Telephone Calls:

Personnel On Site: Envirocon - Crew, Rebecca - Tree

(Field Engineer)

KETEC

FIELD ACTIVITY DAILY LOG

Project	IPC Bozeman	**Completed**	R Johnson
Project Number	MCFR2 - 03423 - 400	**Approved By**	
Day & Date	Mon 11/11/02	**Sheet**	1 of 1

Field Activity Subject: LTU closure activities

Description of Daily Activities and Events:

Time	Day 31
0700	Safety meeting a little dirt left, so finish cap off & scatter the rest elsewhere. Also, want a little cap on clay in LTU. Trucks are leaving late today so we'll get done & clean them up.
0720	Started work
0830	Dan arrived on site
1430	Les arrived on site & we walked through excavation & LTU area.
1500	Meeting w/ Les, Dan, & Kurt
1520	Trucks arrived to pick up both haul trucks.
1700	Dan off site
1730	Done for the day

Visitors On Site:

Changes From Plans and Specifications, and Other Special Orders and Important Decisions:

Weather Conditions: Cloudy - mid 30's

Important Telephone Calls:

Personnel On Site: Envirocon - crew, TREC - Rebecca, Retec - Dan McFarland - Les

(Field Engineer)

KETEC

FIELD ACTIVITY DAILY LOG

Project	IPC Bozeman	**Completed**	RJohnson
Project Number	MCFR2-03423-400	**Approved By**	
Day & Date	Tues 11/12/02	**Sheet**	1 of 1

Field Activity Subject: LTU closure activities

Description of Daily Activities and Events:

Time	Day 32
0700	Safety meeting Loosing loader at 12 30 Wed Keep dozing berms & pressure washing. Installing shutoff valve for new backflush line today. Dirt work hopefully done end of week. End of week only need 5 to 6 people.
0720	Started work for the day
0830	Les arrived on site. He walked through site again
1130	Les, Kurt & I went to lunch
1300	Les off site. Backflush line will not go in until Thursday. Crew pressure washing & dozers finishing cap, drainage & LTU grading
1730	Done for the day

Visitors On Site:	**Changes From Plans and Specifications, and Other Special Orders and Important Decisions:**
Weather Conditions: Cloudy - mid 30's	**Important Telephone Calls:**

Personnel On Site: Enviro Con - Crew, TRC - Rebecca, McFarland - les

(Field Engineer)

KETEC

FIELD ACTIVITY DAILY LOG

Project	IPC Bozeman	**Completed**	L Johnson
Project Number	MCFR2 - 03423-400	**Approved By**	
Day & Date	Wed 11/13/02	**Sheet**	1 of 1

Field Activity Subject: LTU closure activities

Description of Daily Activities and Events:

Time	
	Day 33
0700	Safety meeting. Continue pressure washing liner & LTU grading. Les wants what we have left of clean cover to go more in the center, but it was already graded into Southern edge. Loader being picked up today.
0720	Work begun
1220	Loader picked up.
1230	Crew back from lunch. Still pressure washing & drying
1730	Done for the day

Visitors On Site:	**Changes From Plans and Specifications, and Other Special Orders and Important Decisions:**
Weather Conditions: Cloudy - mid 30s	**Important Telephone Calls:**

Personnel On Site: Envirocon - crew, Trc - Rebecca

(Field Engineer)

KETEL

FIELD ACTIVITY DAILY LOG

Project	IPC Bozeman	**Completed**	R. Johnson
Project Number	MCFR2-03423.4100	**Approved By**	
Day & Date	Thur 11/14/02	**Sheet**	1 of 1

Field Activity Subject: LTU closure activities

Description of Daily Activities and Events:

Time	Day 34
0700	Safety meeting. Pressure washing & dozing LTU today. Equipment on Left is excavator & 2 dozers.
	Will install backflush line today.
0720	Started pressure washing & dozing.
1300	Began Excavating to the West of PPI 6. Found injection line only three feet down. Shut plant down & drained line before we began. Had to cut out a 15 ft because we broke some of the line in the dig. Welded the 5 ft section in & then the 10 ft nipple w/ the two valves
1700	Done for the day

Visitors On Site:	**Changes From Plans and Specifications, and Other Special Orders and Important Decisions:**
Weather Conditions: Cloudy - low 20's, Snow	**Important Telephone Calls:**

Personnel On Site: Envirocon crew, TMC - Rebecca

(Field Engineer)

KETEC

FIELD ACTIVITY DAILY LOG

Project	IPC Bozeman	**Completed**	R. Johnson
Project Number	MCFR2-03423-401	**Approved By**	
Day & Date	Fr. 11/15/02	**Sheet**	1 of 1

Field Activity Subject: LTU closure activities

Description of Daily Activities and Events:

Time	Day 35
0700	Safety Meeting. Pressure washing & grading LTU.
0720	Finish Backflush line installation. Had to re-weld one section because it leaked. Then we welded on a 2" PVC pipe to the second valve. This 2" line runs parallel w/ injection gallery & then daylights & end. Shane welded two rods that fit into shut off valves & ran up through perforated pipe to the surface. We then buried the line & dozed the surface.
1330	Finished attaching line to injection line. We then dug to the West of the french drain & installed a T. So the 2" line would feed into the buried 4" perforated pipe that feeds into the French drain. Excavated a trench from the french drain to the daylighted 2" at end of injection gallery. Then welded another 2" PVC section to the daylighted pipe & connected it all the french drain pipe. Then buried the line. Then dozed over it.
1700	Done for the day.

Visitors On Site:	**Changes From Plans and Specifications, and Other Special Orders and Important Decisions:**
Weather Conditions:	**Important Telephone Calls:**

Personnel On Site:

(Field Engineer)

KETEC

FIELD ACTIVITY DAILY LOG

Project	IPC Bozeman	**Completed**	R Johnson
Project Number	MCFR2-03423-400	**Approved By**	
Day & Date	Mon 11/18/02	**Sheet**	1 of 1

Field Activity Subject: LTU closure activities

Description of Daily Activities and Events:

Time	Day 36
0700	Safety Meeting. Continue pressure washing. Will try to start seeding today.
0720	started work
1100	Kurt & I did a broadcast seed.
1330	Kurt Rolled over seed w/ a 5 iron bar w/ horseshoes welded to it.
1430	Surveyors on site to discuss what we need from them tomorrow
1700	Done for the day

Visitors On Site:	**Changes From Plans and Specifications, and Other Special Orders and Important Decisions:**
Weather Conditions: overcast upper 40's	**Important Telephone Calls:**

Personnel On Site: Environcon - crew, TRC - Rebecca

(Field Engineer)

KETEL

FIELD ACTIVITY DAILY LOG

Project: IR Bozeman
Project Number: MCFR2-08423-400
Day & Date: Tues 11/19/02
Completed: R Johnson
Approved By:
Sheet: 1 of 1

Field Activity Subject: LTU closure activities

Description of Daily Activities and Events:

Time	Day 37
0700	Safety meeting. Pressure washing today, Seal South end of backfill & LTU.
0720	Work began
1230	Surveyors arrived w/ four wheeler to get an accurate reading of entire site.
1400	Aerial photo of site was taken
1430	Kurt & I finished seeding (5 bags total)
1530	Kurt rolled over seed w/ Iron bear
1700	Done for the day

Visitors On Site:

Changes From Plans and Specifications, and Other Special Orders and Important Decisions:

Weather Conditions: Overcast upper 40's

Important Telephone Calls:

Personnel On Site: Environcon - crew, TREC - Rebecca

(Field Engineer)

KETEC

FIELD ACTIVITY DAILY LOG

Project	IFE Bozeman	**Completed**	K. [illegible]
Project Number	MCFKE - 0342[illegible]	**Approved By**	
Day & Date	Wed 11/20/02	**Sheet**	1 of 1

Field Activity Subject: LTU closure activities

Description of Daily Activities and Events:

Time	Day 38
0700	Safety meeting, Pressure washing today
0920	Work started
830	Truck [illegible] to pick up [illegible]. [illegible]
	to pick up [illegible] is here.
1100	Done w/ work.
1500	Off - site

Visitors On Site:

Changes From Plans and Specifications, and Other Special Orders and Important Decisions:

Weather Conditions: Sunny - upper 40's

Important Telephone Calls:

Personnel On Site: Trec - [illegible] Envirocon - crew

(Field Engineer)

ENVIROCON

Daily Activity Log

Idaho Pole Bozeman

Date:	10/1/2002	Average Temp:	60
Working Day #	1	Wind Speed:	0-15
Scheduled Shift:	7:00 - 5:30	Precipitation:	Am Cloudy - PM Sunny

Activities		Personnel		Equipment		Subcontractors
Excavation	1	Project Manager	1	Pickup	1	
LTU Excavation	1	Operator	3	Excavator	1	
Backfill		Truck Driver	2	25T Volvo	2	
Decon		Laborer		Water Truck	1	
				Service Truck	1	
				Dozer	1	
				Loader	1	

Today's Activities:

Project Kickoff Safety Meeting and Site Orientation - 7 - 8:30

Start excavation North of peeler shed

Pushing up LTU material N - S

MATERIALS AND QUANTITIES

Clean fill excavated - 88 loads x 13yds = 1144yds

	Clean Fill	LTU Material
Today	1144	
Total	1144	

By: _____ Title: PM

ENVIROCON

Daily Activity Log

Idaho Pole Bozeman

Date:	10/3/2002 Thur	Average Temp:	50
Working Day #	25	Wind Speed:	0 - 15
Scheduled Shift:	7:00 - 5:30	Precipitation:	Light Rain

Activities		Personnel		Equipment		Subcontractors
Excavation	x	Project Manager	1	Pickup	1	
LTU Excavation	x	Operator	2	Excavator	1	
Backfill		Truck Driver	3	25T Volvo	2	
Decon		Laborer		Water Truck	1	
		Laborer		Service Truck	1	
				Dozer	1	
				Loader	1	

Today's Activities:

7am Safety Meeting

Continue excavation around pesler shed

Prep work for liner decon

MATERIALS AND QUANTITIES

	Clean Fill	LTU Material
136 loads x 13yds = 1768 yds from clean excavation		
Today	1768	
Total Yds	2912	

By: _____ Title: PM

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ENVIROCON

Daily Activity Log

Idaho Pole Bozeman

Date:	10/4/2002	Average Temp:	55
Working Day #	3	Wind Speed:	0 - 15
Scheduled Shift:	7:00 - 5:30	Precipitation:	Light Showers

Activities		Personnel		Equipment		Subcontractors
Excavation	x	Project Manager	1	Pickup	1	
LTU Excavation	x	Operator	2	Excavator	1	
Backfill		Truck Driver	3	25T Volvo	2	
Decon		Laborer		Water Truck	1	
		Laborer		Service Truck	1	
				Dozer	1	
				Loader	1	

Today's Activities:

7AM Safety Meeting
Continue excavation S. of peeler shed
1 Volvo down with tire problems - fixed 5pm
Continue stockpiling LTU material

MATERIALS AND QUANTITIES

88 loads x 13yds = 1144yds clean excavation

	Clean Fill	LTU Material
Today	1144	
Total Yds	4056	

By: _____ Title: PM

ENVIROCON

Daily Activity Log

Idaho Pole Bozeman

Date:	10/7/2002	Average Temp:	65
Working Day #	4	Wind Speed:	0 - 15
Scheduled Shift:	7:00 - 5:30	Precipitation:	Sunny

Activities		Personnel		Equipment		Subcontractors
Excavation	x	Project Manager	1	Pickup	1	
LTU Excavation	x	Operator	2	Excavator	1	
Backfill		Truck Driver	3	25T Volvo	2	
Decon		Laborer		Water Truck	1	
		Laborer		Service Truck	1	
				Dozer	2	
				Loader	1	

Today's Activities:

7AM Safety Meeting
Continue excavation S. of peeler shed
Continue stockpiling LTU material
Dozer on site working on spreading clean fill.

MATERIALS AND QUANTITIES

123 loads x 13yds = 1599yds		Clean Fill	LTU Material
	Today	1599	
	Total Yds	5655	

By: _____ Title: PM

ENVIROCON

Daily Activity Log

Idaho Pole Bozeman

Date:	10/8/2002	Average Temp:	65
Working Day #	5	Wind Speed:	0 - 15
Scheduled Shift:	7:00 - 5:30	Precipitation:	Sunny

Activities		Personnel		Equipment		Subcontractors
Excavation		Project Manager	1	Pickup	1	
LTU Excavation	x	Operator	4	Excavator	1	
Backfill	x	Truck Driver	3	25T Volvo	2	
Decon	x	Laborer	2	Water Truck	1	
				Service Truck	1	
				Dozer	2	
				Loader	1	

Today's Activities:

Transport material from LTU and start backfill of clean excavation
Remove fence around LTU
Carbon Change out

MATERIALS AND QUANTITIES

150 loads x 13yds = 1950yds material from LTU to clean excavation

	Clean Fill	LTU Material
Today		1950
Total Yds	5855	1950

By: _____ Title: _____

ENVIROCON

Daily Activity Log

Idaho Pole Bozeman

Date:	10/9/2002 Wed	Average Temp:	85
Working Day #	6	Wind Speed:	0-15
Scheduled Shift:	7:00 - 5:30	Precipitation:	Sunny

Activities		Personnel		Equipment		Subcontractors
Excavation		Project Manager	1	Pickup	1	
LTU Excavation	x	Operator	4	Excavator	1	
Backfill	x	Truck Driver	3	25T Volvo	2	
Decon	x	Laborer	2	Water Truck	1	
				Service Truck	1	
				Dozer	2	
				Loader	1	

Today's Activities:

Continue excavtion of LTU material and placement in the clean excavation

Remove and stockpile liner and Geotextile

Remove sediment from Retention Pond

Assist with carbon change out

MATERIALS AND QUANTITIES

	Clean Fill	LTU Material
160 loads x 13yds = 2080yds LTU material hauled to clean excavation		
Today		2080
Total	5655	4030

By: _____ Title: PM

ENVIROCON

Daily Activity Log

Idaho Pole Bozeman

Date:	########## Thur	Average Temp:	65
Working Day #	7	Wind Speed:	0 - 15
Scheduled Shift:	7:00 - 5:30	Precipitation:	Sunny

Activities		Personnel		Equipment		Subcontractors
Excavation	x	Project Manager	1	Pickup	1	
LTU Excavation	x	Operator	4	Excavator	1	
Backfill	x	Truck Driver	3	25T Volvo	2	
Decon	x	Laborer	2	Water Truck	1	
		Laborer		Service Truck	1	
				Dozer	2	
				Loader	1	

Today's Activities:

7am Safety Meeting

Am excavate and haul from LTU to clean excavation

Decon equipment and start clean excavation and haul

Remove stockpiled sediment from Retention Pond

Set up liner decon station

Start liner decon 1pm

MATERIALS AND QUANTITIES

		Clean Fill	LTU Material
50 loads x 13yds = 650yds hauled form LTU to clean excavation			
98 loads x 13yds = 1274yds clean fill excavated and placed	Today	1274	650
	Total Yds	6929	4680

By:_____ Title: _____

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ENVIROCON

Daily Activity Log

Idaho Pole Bozeman

Date:	10/11/2002	Average Temp:	55
Working Day #	8	Wind Speed:	0 - 15
Scheduled Shift:	7:00 - 5:30	Precipitation:	Showers

Activities		Personnel		Equipment		Subcontractors
Excavation	x	Project Manager	1	Pickup	1	
LTU Excavation	x	Operator	4	Excavator	1	
Backfill	x	Truck Driver	3	25T Volvo	2	
Decon	x	Laborer	2	Water Truck	1	
		Laborer		Service Truck	1	
				Dozer	2	
				Loader	1	

Today's Activities:

7AM Safety Meeting

Excavate clean material NW of Peeler Shed

Decon liner

MATERIALS AND QUANTITIES

123 loads x 13yds = 1599yds clean fill excavated

	Clean Fill	LTU Material
Today	1599	
Total Yds	8528	4680

By: _____ Title: PM

ENVIROCON

Daily Activity Log

Idaho Pole Bozeman

Date:	10/14/2002 Mon	Average Temp:	65
Working Day #	9	Wind Speed:	0 -15
Scheduled Shift:	7:00 - 5:30	Precipitation:	Sunny

Activities		Personnel		Equipment		Subcontractors
Excavation	x	Project Manager	1	Pickup	1	
LTU Excavation		Operator	4	Excavator	1	
Backfill	x	Truck Driver	3	25T Volvo	2	
Decon	x	Laborer	2	Water Truck	1	
		Laborer		Service Truck	1	
				Dozer	2	
				Loader	1	

Today's Activities:

7AM Safety Meeting
Excavsted clean materil NW of Peeler Shed
Liner Decon

MATERIALS AND QUANTITIES

127 loads x 13yds = 1651yds clean excavation

	Clean Fill	LTU Material
Today	1651	
Total Yds	10179	4680

By: _____ Title: PM

ENVIROCON

Daily Activity Log

Idaho Pole Bozeman

Date:	10/15/2002 Tue	Average Temp:	65
Working Day #	10	Wind Speed:	0 -15
Scheduled Shift:	7:00 - 5:30	Precipitation:	Sunny

Activities		Personnel		Equipment		Subcontractors
Excavation	x	Project Manager	1	Pickup	1	
LTU Excavation	x	Operator	4	Excavator	1	
Backfill	x	Truck Driver	3	25T Volvo	2	
Decon	x	Laborer	2	Water Truck	1	
		Laborer		Service Truck	1	
				Dozer	2	
				Loader	1	

Today's Activities:

7AM Safety Meeting
Continue excavation of clean soil West of Peeler Shed 7am - 12
Afternoon switch to hauling LTU material for backfill in Peeler excavation

MATERIALS AND QUANTITIES

92 loads x 13yds = 1196yds clean material excavated
66 loads x 13yds = 858yds LTU material hauled and placed in Peeler excavation

	Clean Fill	LTU Material
Today	1196	858
Total Yds	11375	5538

By: _____ Title: _____

ENVIROCON

Daily Activity Log

Idaho Pole Bozeman

Date:	10/16/2002 Wed	Average Temp:	65
Working Day #	11	Wind Speed:	0-15
Scheduled Shift:	7:00 - 5:30	Precipitation:	Sunny

Activities		Personnel		Equipment		Subcontractors
Excavation		Project Manager	1	Pickup	1	
LTU Excavation	x	Operator	4	Excavator	1	
Backfill	x	Truck Driver	3	25T Volvo	2	
Decon	x	Laborer	3	Water Truck	1	
		Laborer		Service Truck	1	
				Dozer	2	
				Loader	1	

Today's Activities:

7AM Safety Meeting

Haul material from LTU to Peeler excavation

Decon liner

New employee today - Bill Brothers

MATERIALS AND QUANTITIES

191 loads x 13yds = 2483yds hauled from LTU to Peeler excavation

	Clean Fill	LTU Material
Today		2483
Total	11375	8021

By: _____ Title: PM

ENVIROCON

Daily Activity Log

Idaho Pole Bozeman

Date:	10/17/2002 Thur	Average Temp:	65
Working Day #	12	Wind Speed:	0 - 15
Scheduled Shift:	7:00 - 5:30	Precipitation:	Sunny

Activities		Personnel		Equipment		Subcontractors
Excavation	x	Project Manager	1	Pickup	1	
LTU Excavation	x	Operator	4	Excavator	1	
Backfill	x	Truck Driver	3	25T Volvo	2	
Decon	x	Laborer	3	Water Truck	1	
		Laborer		Service Truck	1	
				Dozer	2	
				Loader	1	

Today's Activities:

7am Safety Meeting

Backfill LTU material in Peeler excavation

4 PM decon and start clean excavation West of Peeler Shed

Liner Decon

MATERIALS AND QUANTITIES

		Clean Fill	LTU Material
159 loads x 13yds = 2067yds LTU material hauled to Peeler excavation			
12 loads x 13yds = 156yds clean excavated	Today	156	20
	Total Yds	11531	10088

By: _____ Title: PM

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ENVIROCON

Daily Activity Log

Idaho Pole Bozeman

Date:	10/18/2002 Fri	Average Temp:	65
Working Day #	13	Wind Speed:	0 - 15
Scheduled Shift:	7:00 - 5:30	Precipitation:	Sunny

Activities		Personnel		Equipment		Subcontractors
Excavation	x	Project Manager	1	Pickup	1	
LTU Excavation	x	Operator	4	Excavator	1	
Backfill	x	Truck Driver	3	25T Volvo	2	
Decon	x	Laborer	3	Water Truck	1	
		Laborer		Service Truck	1	
				Dozer	2	
				Loader	1	

Today's Activities:

7AM Safety Meeting

Excavate and stockpile clean material from Peeler excavation for use as cap material

Liner Decon

PID check of all site soils and work zones - all readings 0ppm.

MATERIALS AND QUANTITIES

140 loads x 13yds = 1820yds clean fill excavated and stockpiled from Peeler Excavation

Estimated 300yds clean fill stockpiled with dozer from Peeler Excavation

	Clean Fill	LTU Material
Today	2120	
Total Yds	13651	10088

By: _____ Title: PM

ENVIROCON

Daily Activity Log

Idaho Pole Bozeman

Date:	10/19/2002	Average Temp:	60
Working Day #	14	Wind Speed:	0 - 15
Scheduled Shift:	7:00 - 5:30	Precipitation:	Sunny

Activities		Personnel		Equipment		Subcontractors
Excavation	x	Project Manager	1	Pickup	1	
LTU Excavation		Operator	3	Excavator	1	
Backfill		Truck Driver	2	25T Volvo	2	
Decon	x	Laborer	3	Water Truck	1	
		Laborer		Service Truck		
				Dozer	1	
				Loader	1	

Today's Activities:

7AM Safety Meeting

Short day - 7.5 hrs

Excavate and stockpile clean material from Peeler excavation for use as cap material

1 truck down 1/2 day

1 dozer not working

MATERIALS AND QUANTITIES

65 loads x 13yds = 845yds clean fill excavated and stockpiled from Peeler Excavation

	Clean Fill	LTU Material
Today	845	
Total Yds	14496	10088

By: _____ Title: pm

ENVIROCON

Daily Activity Log

Idaho Pole Bozeman

Date:	10/21/2002 Mon	Average Temp:	55
Working Day #	15	Wind Speed:	0 - 15
Scheduled Shift:	7:00 - 5:30	Precipitation:	P Sunny

Activities		Personnel		Equipment		Subcontractors
Excavation	x	Project Manager	1	Pickup	1	
LTU Excavation		Operator	4	Excavator	1	
Backfill		Truck Driver	3	25T Volvo	2	
Decon	x	Laborer	3	Water Truck	1	
		Laborer		Service Truck	1	
				Dozer	2	
				Loader	1	

Today's Activities:

7AM Safety Meeting
Continue excavation of clean material Soutn of Peeler Shed
Continue decon of liner
Al Brule in 5pm

MATERIALS AND QUANTITIES

		Clean Fill	LTU Material
112 loads x 13yds = 1456 yds clean materila excavated and stockpiled	Today	1456	
	Total Yds	15952	10088

By: _____ Title: PM

ENVIROCON

Daily Activity Log

Idaho Pole Bozeman

Date:	10/22/2002 Tue	Average Temp:	30
Working Day #	16	Wind Speed:	20 - 30
Scheduled Shift:	7:00 - 5:30	Precipitation:	Cold, high winds, snow

Activities		Personnel		Equipment		Subcontractors
Excavation		Project Manager	1	Pickup	1	
LTU Excavation	x	Operator	4	Excavator	1	
Backfill	x	Truck Driver	3	25T Volvo	2	
Decon	x	Laborer	3	Water Truck	1	
		Laborer		Service Truck	1	
				Dozer	2	
				Loader	1	

Today's Activities:

7AM Safety Meeting
Haul LTU material for placement in Peeler Excavation
Continue liner decon
Al Brule on site

MATERIALS AND QUANTITIES

174 loads x 13yds = 2262yds LTU material hauled and placed in Peeler Excavation

	Clean Fill	LTU Material
Today		2262
Total Yds	15952	12350

By: _____ Title: PM

ENVIROCON

Daily Activity Log

Idaho Pole Bozeman

Date: 10/23/2002 Wed
Working Day #
Scheduled Shift: 7:00 - 5:30

Average Temp: 35
Wind Speed: 0-15
Precipitation: Cool / Cloudy

Activities		Personnel		Equipment		Subcontractors
Excavation		Project Manager	1	Pickup	1	
LTU Excavation	x	Operator	4	Excavator	1	
Backfill	x	Truck Driver	3	25T Volvo	2	
Decon	x	Laborer	3	Water Truck	1	
		Laborer		Service Truck	1	
				Dozer	2	
				Loader	1	

Today's Activities:

7 Am Safety Meeting
Excavate material and place material in clean excavation
No water decon due to cold temperatures
Liner crew sorting and cutting liner

MATERIALS AND QUANTITIES

169 loads x 13yds = 2197yds LTU material hauled to Peeler Excavation

	Clean Fill	LTU Material
Today		2197
Total	15952	14547

By: _____ Title: PM

ENVIROCON

Daily Activity Log

Idaho Pole Bozeman

Date:	10/24/2002 Thur	Average Temp:	48
Working Day #	18	Wind Speed:	0 - 15
Scheduled Shift:	7:00 - 5:30	Precipitation:	Sunny

Activities		Personnel		Equipment		Subcontractors
Excavation	x	Project Manager	1	Pickup	1	
LTU Excavation	x	Operator	4	Excavator	1	
Backfill	x	Truck Driver	3	25T Volvo	2	
Decon	x	Laborer	3	Water Truck	1	
		Laborer		Service Truck	1	
				Dozer	2	
				Loader	1	

Today's Activities:

7am Safety Meeting

AM haul material from LTU for placement in Peeler Excavation

Decon equipment and excavate clean material from N. end of Peeler Excavation

Decon Liner

MATERIALS AND QUANTITIES

		Clean Fill	LTU Material
78 loads x 13yds = 1014yds LTU material hauled and placed in Peeler Excavation			
50 loads x 13yds = 650yds clean material excavated from N. of the Peeler Shed and :	Today	650	101
	Total Yds	18602	15561

By: _____ Title: PM

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ENVIROCON

Daily Activity Log

Idaho Pole Bozeman

Date:	10/25/2002 Fri	Average Temp:	50
Working Day #	19	Wind Speed:	0 - 15
Scheduled Shift:	7:00 - 5:30	Precipitation:	Sunny

Activities		Personnel		Equipment		Subcontractors
Excavation	x	Project Manager	1	Pickup	1	
LTU Excavation		Operator	4	Excavator	1	
Backfill		Truck Driver	3	25T Volvo	2	
Decon	x	Laborer	3	Water Truck	1	
		Laborer		Service Truck	1	
				Dozer	2	
				Loader	1	

Today's Activities:

7AM Safety Meeting
Continue excavation of clean material.
Clean material used to grade area around extraction wells S. of Cedar St.

MATERIALS AND QUANTITIES

130 loads x 13yds = 1690yds clean fill excavated and stockpiles

Estimated clean material excavated with dozers from east edge = 750yds

	Clean Fill	LTU Material
Today	2440	
Total Yds	19042	15561

By: _____ Title: PM

ENVIROCON

Daily Activity Log

Idaho Pole Bozeman

Date:	10/26/2002 Sat	Average Temp:	52
Working Day #	20	Wind Speed:	0 -15
Scheduled Shift:	7:00 - 5:30	Precipitation:	Sunny

Activities		Personnel		Equipment		Subcontractors
Excavation		Project Manager		Pickup		
LTU Excavation		Operator	1	Excavator	1	
Backfill		Truck Driver	1	25T Volvo		
Decon	x	Laborer	3	Water Truck		
		Laborer		Service Truck	1	
				Dozer		
				Loader		

Today's Activities:

Partial crew in for liner decon

Equipment service

MATERIALS AND QUANTITIES

	Clean Fill	LTU Material
Today		
Total Yds	19042	15561

By: _____ Title: PM

ENVIROCON

Daily Activity Log

Idaho Pole Bozeman

Date:	10/28/2002 Mon	Average Temp:	35
Working Day #	21	Wind Speed:	0 -15
Scheduled Shift:	7:00 - 5:30	Precipitation:	AM Snow Showers

Activities		Personnel		Equipment		Subcontractors
Excavation	x	Project Manager	1	Pickup	1	
LTU Excavation		Operator	4	Excavator	1	
Backfill		Truck Driver	3	26T Volvo	2	
Decon	x	Laborer	3	Water Truck	1	
		Laborer		Service Truck	1	
				Dozer	2	
				Loader	1	

Today's Activities:

7AM Safety Meeting
Continue clean excavation SE of Peeler shed.
Liner Decon

MATERIALS AND QUANTITIES

74 loads x 13yds = 962yds clean material excavated and stockpiled
4 loads x 13yds = 52yds LTU material backfilled in Peeler Excavation

	Clean Fill	LTU Material
Today	962	52
Total Yds	20004	15613

By: _____ Title: PM

ENVIROCON

Daily Activity Log

Idaho Pole Bozeman

Date:	10/29/2002 Tue	Average Temp:	15
Working Day #	22	Wind Speed:	15 - 25
Scheduled Shift:	7:00 - 5:30	Precipitation:	Light Snow - Wind

Activities		Personnel		Equipment		Subcontractors
Excavation		Project Manager	1	Pickup	1	
LTU Excavation	x	Operator	4	Excavator	1	
Backfill	x	Truck Driver	3	25T Volvo	2	
Decon		Laborer	3	Water Truck	1	
		Laborer		Service Truck	1	
				Dozer	2	
				Loader	1	

Today's Activities:

7AM Safety Meeting
Haul LTU material to Peeler excavation
No liner decon due to cold temperatures
Rebuild decon station
Remove chain link fence around retention pond

MATERIALS AND QUANTITIES

167 loads x 13yds = 2171yds LTU material hauled and placed in Peeler excavation

	Clean Fill	LTU Material
Today		2171
Total Yds	20004	17784

By: _____ Title: PM

ENVIROCON

Daily Activity Log

Idaho Pole Bozeman

Date:	10/30/2002 Wed	Average Temp:	7
Working Day #	23	Wind Speed:	10 - 20
Scheduled Shift:	7:00 - 5:30	Precipitation:	Light snow - very cold

Activities		Personnel		Equipment		Subcontractors
Excavation		Project Manager	1	Pickup	1	
LTU Excavation	x	Operator	4	Excavator	1	
Backfill	x	Truck Driver	3	25T Volvo	2	
Decon		Laborer	3	Water Truck	1	
		Laborer		Service Truck	1	
				Dozer	2	
				Loader	1	

Today's Activities:

Haul LTU material to Peeler excavation

Install 2" french drain line in Peeler excavation.

Temperature to low for liner decon - crew sizing liner all day

MATERIALS AND QUANTITIES

150 loads x 13yds = 1950yds LTU material hauled to Peeler excavation

	Clean Fill	LTU Material
Today		1950
Total	20004	19734

By: _____ Title: _____

ENVIROCON

Daily Activity Log

Idaho Pole Bozeman

Date:	########## Thur	Average Temp:	15
Working Day #	24	Wind Speed:	0 - 15
Scheduled Shift:	7:00 - 5:30	Precipitation:	Sunny - Very Cold

Activities		Personnel		Equipment		Subcontractors
Excavation	x	Project Manager	1	Pickup	1	
LTU Excavation	x	Operator	4	Excavator	1	
Backfill	x	Truck Driver	3	25T Volvo	2	
Decon	x	Laborer	3	Water Truck	1	
		Laborer		Service Truck	1	
				Dozer	2	
				Loader	1	

Today's Activities:

7am Safety Meeting

Haul LTU material and Backfill in Peeler Excavation

Start clean excavation East of Peeler Shed

Work on new decon pad

MATERIALS AND QUANTITIES

60 loads x 13yds = 780yds LTU material hauled to Peeler Excavation

66 yds clean material excavated and stockpiled with excavator

	Clean Fill	LTU Material
Today	66	78
Total Yds	20070	20514

By: _____ Title: PM

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ENVIROCON

Daily Activity Log

Idaho Pole Bozeman

Date:	11/1/2002 Fri	Average Temp:	22
Working Day #	25	Wind Speed:	0 -15
Scheduled Shift:	7:00 - 5:30	Precipitation:	Sunny - cool

Activities		Personnel		Equipment		Subcontractors
Excavation		Project Manager	1	Pickup	1	
LTU Excavation	x	Operator	4	Excavator	1	
Backfill	x	Truck Driver	3	25T Volvo	2	
Decon	x	Laborer	2	Water Truck	1	
		Laborer		Service Truck	1	
				Dozer	2	
				Loader	1	

Today's Activities:

7AM Safety Meeting
Excavate and backfill along East side of peerler excavation
Finish new decon pad
Building demo

MATERIALS AND QUANTITIES

46 loads x 13yds = 598yds clean material excavated and placed along cedar st wells
22 loads x 13yds = 286 yds LTU material hauled to peeler excavation

	Clean Fill	LTU Material
Today	598	286
Total Yds	20688	20780

By: _____ Title: PM

ENVIROCON

Daily Activity Log

Idaho Pole Bozeman

Date:	11/4/2002 Mon	Average Temp:	35
Working Day #	26	Wind Speed:	0 -15
Scheduled Shift:	7:00 - 5:30	Precipitation:	P Cloudy

Activities		Personnel		Equipment		Subcontractors
Excavation	x	Project Manager	1	Pickup	1	
LTU Excavation	x	Operator	4	Excavator	1	
Backfill	x	Truck Driver	3	25T Volvo	2	
Decon	x	Laborer	3	Water Truck	1	
				Service Truck	1	
				Dozer	2	
				Loader	1	

Today's Activities:

7AM Safety Meeting
Remove peeler shed foundation and excavate clean soil underneath
Haul LTU soils to peeler excavation
Liner Decon
Sort geotextile

MATERIALS AND QUANTITIES

		Clean Fill	LTU Material
34 loads x 13yds = 442yds clean material hauled from peeler excavation			
39 loads x 13yds = 507yds LTU material hauled to peeler excavatio	Today	442	507
	Total Yds	21110	21287

By: _____ Title: _____

ENVIROCON

Daily Activity Log

Idaho Pole Bozeman

Date:	11/6/2002 Tue	Average Temp:	40
Working Day #	27	Wind Speed:	0 - 15
Scheduled Shift:	7:00 - 5:30	Precipitation:	Sunny

Activities		Personnel		Equipment		Subcontractors
Excavation	x	Project Manager	1	Pickup	1	
LTU Excavation	x	Operator	4	Excavator	1	
Backfill	x	Truck Driver	3	25T Volvo	2	
Decon	x	Laborer	3	Water Truck	1	
		Laborer		Service Truck	1	
				Dozer	2	
				Loader	1	

Today's Activities:

7AM Safety Meeting
Finish hauling last of the soil from the LTU
Push in LTU berms
Liner Decon
Geotextile sorting
Survey boundary and surface of peeler excavation

MATERIALS AND QUANTITIES

39 loads x 13yds = 507 yds hauled from LTU to Peeler excavation

	Clean Fill	LTU Material
Today		507
Total Yds	21110	21287

By: _____ Title: PM

ENVIROCON

Daily Activity Log

Idaho Pole Bozeman

Date:	11/6/2002 Wed	Average Temp:	40
Working Day #	28	Wind Speed:	0-15
Scheduled Shift:	7:00 - 5:30	Precipitation:	Sunny

Activities		Personnel		Equipment		Subcontractors
Excavation	x	Project Manager	1	Pickup	1	
LTU Excavation	x	Operator	4	Excavator	1	
Backfill	x	Truck Driver	3	25T Volvo	2	
Decon	x	Laborer	3	Water Truck	1	
		Laborer		Service Truck	1	
				Dozer	2	
				Loader	1	

Today's Activities:

Deploy geotextile on top of peeler excavation

Start 15" cap on peeler excavation

Move decon pad to bark pile area

Excavate LTU sump

Push in LTU berms

Pipeline company working on right of way for new liner

MATERIALS AND QUANTITIES

	Clean Fill	LTU Material
Today		
Total		

By: _____ Title: PM

ENVIROCON

Daily Activity Log

Idaho Pole Bozeman

Date:	11/7/2002 Thur	Average Temp:	45
Working Day #	29	Wind Speed:	0 -15
Scheduled Shift:	7:00 - 5:30	Precipitation:	Sunny

Activities		Personnel		Equipment		Subcontractors
Excavation	x	Project Manager	1	Pickup	1	
LTU Excavation	x	Operator	4	Excavator	1	
Backfill	x	Truck Driver	3	25T Volvo	2	
Decon	x	Laborer	3	Water Truck	1	
		Laborer		Service Truck	1	
				Dozer	2	
				Loader	1	

Today's Activities:

7am Safety Meeting

Finish moving and set up decon pad

Cap Peeler excavation

Remove LTU Berms

MATERIALS AND QUANTITIES

Material used for capping excavation cannot be measured	Clean Fill	LTU Material
Today		
Total Yds	21110	21287

By: K. Wing Title: PM

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ENVIROCON

Daily Activity Log

Idaho Pole Bozeman

Date:	Fri	Average Temp:	45
Working Day #	30	Wind Speed:	15 - 30
Scheduled Shift:	7:00 - 5:30	Precipitation:	Cloudy

Activities		Personnel		Equipment		Subcontractors
Excavation	x	Project Manager	1	Pickup	1	
LTU Excavation		Operator	4	Excavator	1	
Backfill	x	Truck Driver	3	25T Volvo	2	
Decon	x	Laborer	3	Water Truck	1	
		Laborer		Service Truck	1	
				Dozer	2	
				Loader	1	

Today's Activities:

7AM Safety Meeting
Continue cap on peeler excavation
Push in LTU berms
Decon Liner
Set utility accesses over water and electrical near back flow prevented

MATERIALS AND QUANTITIES

	Clean Fill	LTU Material
Today		
Total Yds	21110	21287

By: _____ Title: PM

ENVIROCON

Daily Activity Log

Idaho Pole Bozeman

Date:	11/11/2002 Mon	Average Temp:	40
Working Day #	31	Wind Speed:	0 - 15
Scheduled Shift:	7:00 - 5:30	Precipitation:	Cloudy

Activities		Personnel		Equipment		Subcontractors
Excavation	x	Project Manager	1	Pickup	1	
LTU Excavation	x	Operator	4	Excavator	1	
Backfill	x	Truck Driver	3	25T Volvo	2	
Decon	x	Laborer	3	Water Truck	1	
		Laborer		Service Truck	1	
				Dozer	2	
				Loader	1	

Today's Activities:

7AM Safety Meeting
Finish cap on peeler excavation
Haul excess clean fill from peeler excavation to LTU
LTU berm re-grading
Liner Washing
Work on new backwash line

MATERIALS AND QUANTITIES

	Clean Fill	LTU Material
Today		
Total Yds	21110	21287

By: _____ Title: _____

ENVIROCON

Daily Activity Log

Idaho Pole Bozeman

Date:	11/12/2002 Tue	Average Temp:	40
Working Day #	32	Wind Speed:	0 -15
Scheduled Shift:	7:00 - 5:30	Precipitation:	Light rain

Activities		Personnel		Equipment		Subcontractors
Excavation	x	Project Manager	1	Pickup	1	
LTU Excavation	x	Operator	4	Excavator	1	
Backfill	x	Truck Driver	3	25T Volvo	2	
Decon	x	Laborer	3	Water Truck	1	
		Laborer		Service Truck	1	
				Dozer	2	
				Loader	1	

Today's Activities:

7AM Safety Meeting
Continue LTU grading
Finish Peeler cap and drainage
Continue liner washing
Demob Haul Trucks

MATERIALS AND QUANTITIES

	Clean Fill	LTU Material
Today		
Total Yds	21110	21287

By: _____ Title: Dry

ENVIROCON

Daily Activity Log

Idaho Pole Bozeman

Date:	11/13/2002 Wed	Average Temp:	45
Working Day #	33	Wind Speed:	0-15
Scheduled Shift:	7:00 - 5:30	Precipitation:	P Cloudy - Lt rain

Activities		Personnel		Equipment		Subcontractors
Excavation	x	Project Manager	1	Pickup	1	
LTU Excavation	x	Operator	4	Excavator	1	
Backfill	x	Truck Driver	3	25T Volvo	2	
Decon	x	Laborer	3	Water Truck	1	
		Laborer		Service Truck	1	
				Dozer	2	
				Loader	1	

Today's Activities:

7AM Safety Meeting

Continue LTU grading

Continue liner washing

Demob loader

Work on back wash line manifold

MATERIALS AND QUANTITIES

	Clean Fill	LTU Material
Today		
Total	21110	21287

By: _____ Title: PM

ENVIROCON

Daily Activity Log

Idaho Pole Bozeman

Date:	11/15/2002 Thur	Average Temp:	40
Working Day #	34	Wind Speed:	0 - 15
Scheduled Shift:	7:00 - 5:30	Precipitation:	Cloudy - PM Snow

Activities		Personnel		Equipment		Subcontractors
Excavation	x	Project Manager	1	Pickup	1	
LTU Excavation	x	Operator	4	Excavator	1	
Backfill	x	Truck Driver	3	25T Volvo	2	
Decon	x	Laborer	2	Water Truck	1	
		Laborer		Service Truck	1	
				Dozer	2	
				Loader	1	

Today's Activities:

7am Safety Meeting

Grade LTU

Decon liner

Install backwash valves

MATERIALS AND QUANTITIES

	Clean Fill	LTU Material
Today		
Total Yds	21110	21287

By: _____ Title: PM

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ENVIROCON

Daily Activity Log

Idaho Pole Bozeman

Date:	11/15/2002 Fri	Average Temp:	45
Working Day #	35	Wind Speed:	0 - 15
Scheduled Shift:	7:00 - 5:30	Precipitation:	Sunny

Activities		Personnel		Equipment		Subcontractors
Excavation	x	Project Manager	1	Pickup	1	
LTU Excavation	x	Operator	4	Excavator	1	
Backfill	x	Truck Driver	3	25T Volvo	2	
Decon	x	Laborer	3	Water Truck	1	
		Laborer		Service Truck	1	
				Dozer	2	
				Loader	1	

Today's Activities:

7AM Safety Meeting
Finish site grading
Finish install of backwash line to french drain
Liner washing

MATERIALS AND QUANTITIES

	Clean Fill	LTU Material
Today		
Total Yds	21110	21287

By: _____ Title: PM

ENVIROCON

Daily Activity Log

Idaho Pole Bozeman

Date:	11/19/2002	Mon	Average Temp:	45	
Working Day #	36		Wind Speed:	0 - 15	
Scheduled Shift:	7:00 - 5:30		Precipitation:	Cloudy - wind	

Activities		Personnel		Equipment		Subcontractors
Excavation		Project Manager	1	Pickup	1	
LTU Excavation		Operator		Excavator	1	
Backfill		Truck Driver		25T Volvo		
Decon	x	Laborer	5	Water Truck	1	
		Laborer		Service Truck		
				Dozer		
				Loader		

Today's Activities:

7AM Safety Meeting
Seed Northern half of graded area
Liner Decon

MATERIALS AND QUANTITIES

Survey data on LTU excavation 17941yds

	Clean Fill	LTU Material
Today		
Total Yds		17941

By: _____ Title: PM

ENVIROCON

Daily Activity Log

Idaho Pole Bozeman

Date:	11/19/2002 Tue	Average Temp:	45
Working Day #	37	Wind Speed:	0 - 15
Scheduled Shift:	7:00 - 5:30	Precipitation:	Cloudy

Activities		Personnel		Equipment		Subcontractors
Excavation		Project Manager	1	Pickup	1	
LTU Excavation		Operator		Excavator	1	
Backfill		Truck Driver		25T Volvo		
Decon	x	Laborer	6	Water Truck	1	
		Laborer		Service Truck		
				Dozer		
				Loader		

Today's Activities:

7AM Safety Meeting
Continue liner decon
Seed southern half of graded area
Aerial photos

MATERIALS AND QUANTITIES

	Clean Fill	LTU Material
Today		
Total Yds		17941

By: K Wing Title: PM

ENVIROCON

Daily Activity Log

Idaho Pole Bozeman

Date:	11/21/2002 Thur	Average Temp:	50
Working Day #	39	Wind Speed:	0 - 15
Scheduled Shift:	7:00 - 5:30	Precipitation:	Sunny

Activities		Personnel		Equipment		Subcontractors
Excavation		Project Manager	1	Pickup	1	
LTU Excavation		Operator	1	Excavator	1	
Backfill		Truck Driver		25T Volvo		
Decon		Laborer		Water Truck		
		Laborer		Service Truck		
				Dozer		
				Loader		

Today's Activities:

7am Safety Meeting

Sort and ship debris and liner

2 loads shipped to east Helena

Off site 3pm

MATERIALS AND QUANTITIES

	Clean Fill	LTU Material
Today		
Total Yds		

By: _____ Title: PM

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ENVIROCON

Daily Activity Log

Idaho Pole Bozeman

Date:	11/11/2002 Fri	Average Temp:	45
Working Day #	40	Wind Speed:	0 - 15
Scheduled Shift:	7:00 - 5:30	Precipitation:	Sunny

Activities		Personnel		Equipment		Subcontractors
Excavation		Project Manager	1	Pickup	1	
LTU Excavation		Operator	1	Excavator	1	
Backfill		Truck Driver		25T Volvo		
Decon		Laborer		Water Truck		
		Laborer		Service Truck		
				Dozer		
				Loader		

Today's Activities:

7AM Safety Meeting
Sort and ship debris and liner
2 loads shipped to East Helena
Off site by 3PM
Will return Monday for last load of liner and debris

MATERIALS AND QUANTITIES

	Clean Fill	LTU Material
7 total loads of liner and debris		
Today		
Total Yds		

By: _____ Title: PM

Appendix D

Appendix D

Analytical Data

Soil Analytical

Analytical Resources, Incorporated
Analytical Chemists and Consultants

23 October 2002

Debbie Ludwick
Retec, Inc.
2048 Overland Avenue
Suite 101
Billings, MT 59102

RE: Client Project: MCFR2-03423-400, IPC
ARI Job No.: EW59

Dear Debbie:

Please find enclosed the original Chain-of-Custody (COC) record and the final results for the samples from the project referenced above. Three soil samples were received on October 10, 2002. The samples were received intact and there were no discrepancies in the paperwork. The samples were analyzed for PCP and PNAs as requested.

These analyses proceeded without incident of note.

A copy of these reports and all raw data will be kept on file at ARI. Should you have any questions regarding these results, please feel free to contact me at your convenience.

Sincerely,

ANALYTICAL RESOURCES, INC.

Mark D. Harris
Project Manager
206/695-6210
mark@arilabs.com

Enclosures

cc: File EW59

MDH/ej

EW59

Analytical Resources, Incorporated
Analytical Chemists and Consultants
4611 South 134th Place, Suite 100
Tukwila WA 98168
206-695-6200 206-695-6201 (fax)

Chain of Custody Record & Laboratory Analysis Request

Page 1 of 1

Turn Around Requested: Routine

Report to: Debbie Ludwick	Proj Name: MCFR2-03423-400
Company: RETEC	Proj Number: IPC-Bozeman
Address: 2048 Overland Ave	Sampler: Debbie Ludwick
Ste 101, Billings MT 59102	
Phone: 406 652-7481	Shipping Method: Fed Ex
Fax: 406 652-7485	AirBill: 834193837374

Sample ID	Sample Date	Sample Time	Sample Matrix	No Containers	PCP-8040	PAH-8310	Notes/Comments
LTU Sand-1	10-8-02	1700	Soil	1	X	X	
LTU Sand-2	↓	1715	↓	↓	X	X	
LTU Sand-3	↓	1730	↓	↓	X	X	

Analyses Requested

Relinquished:	Received by:
(Signature) [signature]	(Signature) [signature]
Printed name: Debra Ludwick	Printed name: Joshua L. Kennerly
Company: RETEC	Company: ARI
Date: 10-9-02 ~~10-11-02~~ Time: 08:50	Date: 10/10/02 Time: 14:35

Special Instructions/Notes: Invoice McFarland Cascade-Les Lonning

Number of Coolers:	1
Cooler Temp(s):	12.5
COC Seals Intact?	
Bottles Intact?	

Limits of Liability: Analytical Resources, Inc. (ARI) will perform all requested services in accordance with appropriate methodology follow ARI Standard Operating Procedures and Quality Assurance Program. This program meets standards for the industry. The total liability of ARI, its officers, agents, employees, or successors, arising out of or in connection with the requested services, shall not exceed the invoiced amount for said services. The acceptance by the client of a proposal for services by ARI releases ARI from any liability in excess thereof, not withstanding any provision to the contrary in any contract, purchase order or co-signed agreement between ARI and the client.

Please sign here if you would like these samples disposed of after expiration of standard archive times (60 days for waters 90 days for soils, sediments per contract). If you do not want these samples discarded we will begin charging you for storage after the disposal date. Samples to be discarded after expiration:

ORGANICS ANALYSIS DATA SHEET
Polynuclear Aromatic Hydrocarbons by HPLC

ANALYTICAL RESOURCES INCORPORATED

Sample No: Method Blank

Lab Sample ID: EW59MB
LIMS ID: 02-15091
Matrix: Soil

QC Report No: EW59-The Retec Group
Project: IPC-Bozeman
MCFR2-03423-400
Date Sampled: NA
Date Received: NA

Data Release Authorized:
Reported: 10/22/02

Date extracted: 10/11/02
Date analyzed: 10/16/02
Sample Amount: 30.0 g-dry-wt
Final Ext Vol: 1.0 mL
pH: NA

Alumina Cleanup: Yes
GPC Cleanup: No
Conc/Dilution Factor: 1:1

Percent Moisture: NA

CAS Number	Analyte	ug/kg
91-20-3	Naphthalene	45 U
208-96-8	Acenaphthylene	75 U
83-32-9	Acenaphthene	45 U
86-73-7	Fluorene	7.5 U
85-01-8	Phenanthrene	10 U
120-12-7	Anthracene	10 U
206-44-0	Fluoranthene	8.0 U
129-00-0	Pyrene	4.5 U
56-55-3	Benzo(a)anthracene	0.85 U
218-01-9	Chrysene	3.0 U
205-99-2	Benzo(b)fluoranthene	0.65 U
207-08-9	Benzo(k)fluoranthene	1.0 U
50-32-8	Benzo(a)pyrene	1.2 U
53-70-3	Dibenzo(a,h)anthracene	1.5 U
191-24-2	Benzo(g,h,i)perylene	2.5 U
193-39-5	Indeno(1,2,3-cd)pyrene	1.2 U

Surrogate Recoveries

Diphenyl	79.1%
Terphenyl	117%

Data Qualifiers

- U Indicates compound was analyzed for, but not detected at the given detection limit.
- J Indicates an estimated value when that result is less than the calculated detection limit.
- E Indicates a value above the linear range of the detector. Dilution Required
- S Indicates no value reported due to saturation of the detector.
- D Indicates the surrogate was diluted out.
- B Found in associated method blank.
- Y Indicates a raised reporting limit due to matrix interferences. The analyte may be present at or below the listed concentration, but in the opinion of the analyst, confirmation was inadequate.
- NA Indicates compound was not analyzed.
- NR Indicates no recovery due to interferences.

ORGANICS ANALYSIS DATA SHEET
Polynuclear Aromatic Hydrocarbons by HPLC

ANALYTICAL RESOURCES INCORPORATED

Sample No: LTU Sand-1

Lab Sample ID: EW59A
LIMS ID: 02-15091
Matrix: Soil

Data Release Authorized:
Reported: 10/22/02

QC Report No: EW59-The Retec Group
Project: IPC-Bozeman
MCFR2-03423-400
Date Sampled: 10/08/02
Date Received: 10/10/02

Date extracted: 10/11/02
Date analyzed: 10/16/02
Sample Amount: 27.1 g-dry-wt
Final Ext Vol: 1.0 mL
pH: 8.5

Alumina Cleanup: Yes
GPC Cleanup: No
Conc/Dilution Factor: 1:1

Percent Moisture: 9.6 %

CAS Number	Analyte	ug/kg
91-20-3	Naphthalene	50 U
208-96-8	Acenaphthylene	83 U
83-32-9	Acenaphthene	50 U
86-73-7	Fluorene	8.3 U
85-01-8	Phenanthrene	12 U
120-12-7	Anthracene	12 U
206-44-0	Fluoranthene	8.9 U
129-00-0	Pyrene	5.0 U
56-55-3	Benzo(a)anthracene	0.94 U
218-01-9	Chrysene	3.3 U
205-99-2	Benzo(b)fluoranthene	0.72 U
207-08-9	Benzo(k)fluoranthene	1.1 U
50-32-8	Benzo(a)pyrene	1.3 U
53-70-3	Dibenzo(a,h)anthracene	1.7 U
191-24-2	Benzo(g,h,i)perylene	2.8 U
193-39-5	Indeno(1,2,3-cd)pyrene	1.4 U

Surrogate Recoveries

Diphenyl	74.1%
Terphenyl	116%

Data Qualifiers

U Indicates compound was analyzed for, but not detected at the given detection limit.
J Indicates an estimated value when that result is less than the calculated detection limit.
E Indicates a value above the linear range of the detector. Dilution Required
S Indicates no value reported due to saturation of the detector.
D Indicates the surrogate was diluted out.
B Found in associated method blank.
Y Indicates a raised reporting limit due to matrix interferences. The analyte may be present at or below the listed concentration, but in the opinion of the analyst, confirmation was inadequate.
NA Indicates compound was not analyzed.
NR Indicates no recovery due to interferences.

ORGANICS ANALYSIS DATA SHEET
Polynuclear Aromatic Hydrocarbons by HPLC

ANALYTICAL RESOURCES INCORPORATED

Sample No: LTU Sand-2

Lab Sample ID: EW59B
LIMS ID: 02-15092
Matrix: Soil

Data Release Authorized:
Reported: 10/22/02

QC Report No: EW59-The Retec Group
Project: IPC-Bozeman
MCFR2-03423-400
Date Sampled: 10/08/02
Date Received: 10/10/02

Date extracted: 10/11/02
Date analyzed: 10/16/02
Sample Amount: 27.0 g-dry-wt
Final Ext Vol: 1.0 mL
pH: 8.6

Alumina Cleanup: Yes
GPC Cleanup: No
Conc/Dilution Factor: 1:1

Percent Moisture: 10.0%

CAS Number	Analyte	ug/kg
91-20-3	Naphthalene	50 U
208-96-8	Acenaphthylene	83 U
83-32-9	Acenaphthene	50 U
86-73-7	Fluorene	8.3 U
85-01-8	Phenanthrene	12 U
120-12-7	Anthracene	12 U
206-44-0	Fluoranthene	8.9 U
129-00-0	Pyrene	5.0 U
56-55-3	Benzo(a)anthracene	0.94 U
218-01-9	Chrysene	3.3 U
205-99-2	Benzo(b)fluoranthene	0.72 U
207-08-9	Benzo(k)fluoranthene	1.1 U
50-32-8	Benzo(a)pyrene	1.3 U
53-70-3	Dibenzo(a,h)anthracene	1.7 U
191-24-2	Benzo(g,h,i)perylene	2.8 U
193-39-5	Indeno(1,2,3-cd)pyrene	1.4 U

Surrogate Recoveries

Diphenyl	71.8%
Terphenyl	117%

Data Qualifiers

U Indicates compound was analyzed for, but not detected at the given detection limit.
J Indicates an estimated value when that result is less than the calculated detection limit.
E Indicates a value above the linear range of the detector. Dilution Required
S Indicates no value reported due to saturation of the detector.
D Indicates the surrogate was diluted out.
B Found in associated method blank.
Y Indicates a raised reporting limit due to matrix interferences. The analyte may be present at or below the listed concentration, but in the opinion of the analyst, confirmation was inadequate.
NA Indicates compound was not analyzed.
NR Indicates no recovery due to interferences.

ORGANICS ANALYSIS DATA SHEET
Polynuclear Aromatic Hydrocarbons by HPLC

ANALYTICAL RESOURCES INCORPORATED

Sample No: LTU Sand-3

Lab Sample ID: EW59C
LIMS ID: 02-15093
Matrix: Soil

QC Report No: EW59-The Retec Group
Project: IPC-Bozeman
MCFR2-03423-400
Date Sampled: 10/08/02
Date Received: 10/10/02

Data Release Authorized:
Reported: 10/22/02

Date extracted: 10/11/02
Date analyzed: 10/16/02
Sample Amount: 27.4 g-dry-wt
Final Ext Vol: 1.0 mL
pH: 8.5

Alumina Cleanup: Yes
GPC Cleanup: No
Conc/Dilution Factor: 1:1

Percent Moisture: 8.9 %

CAS Number	Analyte	ug/kg
91-20-3	Naphthalene	49 U
208-96-8	Acenaphthylene	82 U
83-32-9	Acenaphthene	49 U
86-73-7	Fluorene	8.2 U
85-01-8	Phenanthrene	11 U
120-12-7	Anthracene	11 U
206-44-0	Fluoranthene	8.8 U
129-00-0	Pyrene	4.9 U
56-55-3	Benzo(a)anthracene	0.93 U
218-01-9	Chrysene	3.3 U
205-99-2	Benzo(b)fluoranthene	0.71 U
207-08-9	Benzo(k)fluoranthene	1.1 U
50-32-8	Benzo(a)pyrene	1.3 U
53-70-3	Dibenzo(a,h)anthracene	1.6 U
191-24-2	Benzo(g,h,i)perylene	2.7 U
193-39-5	Indeno(1,2,3-cd)pyrene	1.4 U

Surrogate Recoveries

Diphenyl	69.6%
Terphenyl	115%

Data Qualifiers

U Indicates compound was analyzed for, but not detected at the given detection limit.
J Indicates an estimated value when that result is less than the calculated detection limit.
E Indicates a value above the linear range of the detector. Dilution Required
S Indicates no value reported due to saturation of the detector.
D Indicates the surrogate was diluted out.
B Found in associated method blank.
Y Indicates a raised reporting limit due to matrix interferences. The analyte may be present at or below the listed concentration, but in the opinion of the analyst, confirmation was inadequate.
NA Indicates compound was not analyzed.
NR Indicates no recovery due to interferences.

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
Polynuclear Aromatic Hydrocarbons by HPLC

Lab Sample ID: EW59SB
LIMS ID: 02-15091
Matrix: Soil

QC Report No: EW59-The Retec Group
Project: IPC-Bozeman
MCFR2-03423-400

Data Release Authorized:
Reported: 10/22/02

Date extracted: 10/11/02
Date analyzed: 10/16/02

LABORATORY CONTROL SAMPLE CONSTITUENT	SPIKE VALUE	SPIKE ADDED	% RECOVERY
Acenaphthene	113	133	84.8%
Fluoranthene	101	133	75.8%
Benzo(a)anthracene	103	133	77.2%

Spike Blank Surrogate Recovery

Diphenyl	68.9%
Terphenyl	99.4%

Values reported in ug/kg

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET **Sample No: Method Blank**
Chlorophenolics by GC/ECD

Lab Sample ID: EW59MB
LIMS ID: 02-15091
Matrix: Soil

QC Report No: EW59-The Retec Group
Project: IPC-Bozeman
MCFR2-03423-400
Date Sampled: NA
Date Received: NA

Data Release Authorized:
Reported: 10/16/02

Date extracted: 10/11/02
Date analyzed: 10/15/02

Sample Amount: 10.0 g
Final Extract Volume: 25 mL
Dilution Factor: 1:1

CAS Number	Analyte	µg/kg
87-86-5	Pentachlorophenol	6.2 U

Surrogate Recovery

2,4,6-Tribromophenol	84.7%

Data Qualifiers

J	Indicates an estimated value when that result is less than the calculated detection limit.
E	Indicates a value above the linear range of the detector. Dilution Required
S	Indicates no value reported due to saturation of the detector.
D	Indicates the surrogate was diluted out.
U	Indicates compound was analyzed for, but not detected at the given detection limit.
B	Found in associated method blank
NA	Indicates compound was not analyzed.
NR	Indicates no recovery due to interferences.
Y	Indicates a raised reporting limit due to matrix interferences. The analyte may be present at or below the listed concentration, but in the opinion of the analyst, confirmation was inadequate.

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET **Sample No: LTU Sand-1**
Chlorophenolics by GC/ECD

Lab Sample ID: EW59A
LIMS ID: 02-15091
Matrix: Soil

QC Report No: EW59-The Retec Group
Project: IPC-Bozeman
MCFR2-03423-400
Date Sampled: 10/08/02
Date Received: 10/10/02

Data Release Authorized:
Reported: 10/16/02

Date extracted: 10/11/02
Date analyzed: 10/15/02

Sample Amount: 9.06 g-dry-wt
Final Extract Volume: 25 mL
Dilution Factor: 1:1

CAS Number	Analyte	µg/kg
87-86-5	Pentachlorophenol	19

Surrogate Recovery

2,4,6-Tribromophenol	80.1%

Data Qualifiers

J	Indicates an estimated value when that result is less than the calculated detection limit.
E	Indicates a value above the linear range of the detector. Dilution Required
S	Indicates no value reported due to saturation of the detector.
D	Indicates the surrogate was diluted out.
U	Indicates compound was analyzed for, but not detected at the given detection limit.
B	Found in associated method blank
NA	Indicates compound was not analyzed.
NR	Indicates no recovery due to interferences.
Y	Indicates a raised reporting limit due to matrix interferences. The analyte may be present at or below the listed concentration, but in the opinion of the analyst, confirmation was inadequate.

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET **Sample No: LTU Sand-2**
Chlorophenolics by GC/ECD

Lab Sample ID: EW59B
LIMS ID: 02-15092
Matrix: Soil

QC Report No: EW59-The Retec Group
Project: IPC-Bozeman
MCFR2-03423-400
Date Sampled: 10/08/02
Date Received: 10/10/02

Data Release Authorized: K
Reported: 10/16/02

Date extracted: 10/11/02
Date analyzed: 10/15/02

Sample Amount: 9.03 g-dry-wt
Final Extract Volume: 25 mL
Dilution Factor: 1:1

CAS Number	Analyte	µg/kg
87-86-5	Pentachlorophenol	14

Surrogate Recovery

2,4,6-Tribromophenol	86.9%

Data Qualifiers

J	Indicates an estimated value when that result is less than the calculated detection limit.
E	Indicates a value above the linear range of the detector. Dilution Required
S	Indicates no value reported due to saturation of the detector.
D	Indicates the surrogate was diluted out.
U	Indicates compound was analyzed for, but not detected at the given detection limit.
B	Found in associated method blank
NA	Indicates compound was not analyzed.
NR	Indicates no recovery due to interferences.
Y	Indicates a raised reporting limit due to matrix interferences. The analyte may be present at or below the listed concentration, but in the opinion of the analyst, confirmation was inadequate.

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET **Sample No: LTU Sand-3**
Chlorophenolics by GC/ECD

Lab Sample ID: EW59C
LIMS ID: 02-15093
Matrix: Soil

QC Report No: EW59-The Retec Group
Project: IPC-Bozeman
MCFR2-03423-400
Date Sampled: 10/08/02
Date Received: 10/10/02

Data Release Authorized:
Reported: 10/16/02

Date extracted: 10/11/02
Date analyzed: 10/15/02

Sample Amount: 9.16 g-dry-wt
Final Extract Volume: 25 mL
Dilution Factor: 1:1

CAS Number	Analyte	µg/kg
87-86-5	Pentachlorophenol	6.8 U

Surrogate Recovery

2,4,6-Tribromophenol	81.7%

Data Qualifiers

J	Indicates an estimated value when that result is less than the calculated detection limit.
E	Indicates a value above the linear range of the detector. Dilution Required
S	Indicates no value reported due to saturation of the detector.
D	Indicates the surrogate was diluted out.
U	Indicates compound was analyzed for, but not detected at the given detection limit.
B	Found in associated method blank
NA	Indicates compound was not analyzed.
NR	Indicates no recovery due to interferences.
Y	Indicates a raised reporting limit due to matrix interferences. The analyte may be present at or below the listed concentration, but in the opinion of the analyst, confirmation was inadequate.

ORGANICS ANALYSIS DATA SHEET
Chlorophenolics by GC/ECD

Lab Sample ID: EW59LCS
LIMS ID: 02-15091
Matrix: Soil

QC Report No: EW59-The Retec Group
Project: IPC-Bozeman
MCFR2-03423-400

Data Release Authorized:
Reported: 10/16/02

Date extracted: 10/11/02
Date analyzed: 10/15/02

LABORATORY CONTROL SAMPLE CONSTITUENT	SPIKE VALUE	SPIKE ADDED	% RECOVERY
Pentachlorophenol	72.2	62.5	116%

Spike Blank Surrogate Recovery

2,4,6-Tribromophenol	84.9%

Values reported in ug/kg

Analytical Resources, Incorporated
Analytical Chemists and Consultants

12 November 2002

Debbie Ludwick
Retec, Inc.
2048 Overland Avenue
Suite 101
Billings, MT 59102

RE: Client Project: MCFR2-03423-400, IPC-Bozeman LTU
ARI Job No.: EY62

Dear Debbie:

Please find enclosed the original Chain-of-Custody (COC) record and the final results for the samples from the project referenced above. One soil sample was received on November 8, 2002. The sample was received intact and there were no discrepancies in the paperwork. The sample was analyzed for PCP and PNAs as requested.

There were no problems with this analysisys

A copy of these reports and all raw data will be kept on file at ARI. Should you have any questions regarding these results, please feel free to contact me at your convenience.

Sincerely,

ANALYTICAL RESOURCES, INC.

Mark D. Harris
Project Manager
206/695-6210
mark@arilabs.com

Enclosures

cc: File EY62

MDH/ej

E462

Chain of Custody Record & Laboratory Analysis Request

Analytical Resources, Incorporated
Analytical Chemists and Consultants
4611 South 134th Place, Suite 100
Tukwila WA 98168
206-695-6200 206-695-6201 (fax)

Page 1 of 1

02-16444

Turn Around Requested: 2day

Report to: Debbie Ludwick	Proj Name: IPC-Bozeman LTU				Analyses Requested	Notes/Comments
Company: RETEC	Proj Number: MCFR2-03423-400					
Address: 2048 Overland Ave	Sampler: Debbie Ludwick					
Ste101 Billings MT59102						
Phone: 406 652-7481	Shipping Method: Fed Ex					
Fax: 406 652-7485	AirBill: 834193837422					
Sample ID	Sample Date	Sample Time	Sample Matrix	No Containers	8270 (PAH+PCP)	
BLClay-1	11-7-02	1140	Soil	1 (8oz)	X	

Relinquished:	Received by:	Special Instructions/Notes
(Signature) [signature]	(Signature) [signature]	Invoice to: Les Lonning McFarland Cascade
Printed name: Debra Ludwick	Printed name: Deborah Johnson	
Company: RETEC	Company: ARI	Number of Coolers: Cooler Temp(s): 4.5
Date: 11-7-02 Time: 1345	Date: 11/8/02 Time: 9:45	COC Seals Intact? Bottles Intact?

Limits of Liability: Analytical Resources, Inc. (ARI) will perform all requested services in accordance with appropriate methodology follow ARI Standard Operating Procedures and Quality Assurance Program. This program meets standards for the industry. The total liability of ARI, its officers, agents, employees, or successors, arising out of or in connection with the requested services, shall not exceed the invoiced amount for said services. The acceptance by the client of a proposal for services by ARI releases ARI from any liability in excess thereof, not withstanding any provision to the contrary in any contract, purchase order or co-signed agreement between ARI and the client.

Please sign here if you would like these samples disposed of after expiration of standard archive times (60 days for waters 90 days for soils, sediments per contract). If you do not want these samples discarded we will begin charging you for storage after the disposal date. Samples to be discarded after expiration:

Analytical Resources, Incorporated
Analytical Chemists and Consultants

ORGANIC COMPOUND
DATA REPORTING QUALIFIERS

U	Indicates the compound was undetected at the reported concentration. (Same as ND).
J	Indicates an estimated concentration when the value is less than the calculated reporting limit.
D	Indicates the surrogate/spike(s) was not detected, due to dilution of extract.
NR	Indicates the surrogate recovery cannot be reported due to matrix interference.
E	Indicates a value above the linear range of the detector. Sample dilution required.
S	Indicates no value reported due to saturation of the detector. Sample dilution required.
NA	Indicates compound not analyzed for.
M	Indicates an estimated value of analyte found and confirmed by analyst but with low spectral match.
B	Indicates possible/probable blank contamination. Flagged when the analyte is detected in the blank as well as the sample.
Y	Indicates raised reporting limit due to background interference or to activity on the instrument. Compound is still not detected at or above the raised level.
C	Indicates a probable hit that cannot be confirmed due to matrix interference (GC).

4611 South 134th Place, Suite 100 • Tukwila WA 98168 • **206-695-6200** • **206-695-6201** fax

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
Semivolatiles by GC/MS
Page 1 of 1

Sample ID: MB-110802
METHOD BLANK

Lab Sample ID: MB-110802
LIMS ID: 02-16444
Matrix: Soil
Data Release Authorized: [signature]
Reported: 11/11/02

QC Report No: EY62-The Retec Group
Project: IPC-Bozeman LTU
MCFR2-03423-400
Date Sampled: 11/07/02
Date Received: 11/08/02

Date Extracted: 11/08/02
Date Analyzed: 11/11/02 10:23
Instrument/Analyst: NT6/LJR
GPC Cleanup: NO

Sample Amount: 7.50 g
Final Extract Volume: 0.5 mL
Dilution Factor: 1.00
Percent Moisture: NA
pH: NA

CAS Number	Analyte	µg/kg
91-20-3	Naphthalene	67 U
91-57-6	2-Methylnaphthalene	67 U
208-96-8	Acenaphthylene	67 U
83-32-9	Acenaphthene	67 U
132-64-9	Dibenzofuran	67 U
86-73-7	Fluorene	67 U
87-86-5	Pentachlorophenol	330 U
85-01-8	Phenanthrene	67 U
86-74-8	Carbazole	67 U
120-12-7	Anthracene	67 U
206-44-0	Fluoranthene	67 U
129-00-0	Pyrene	67 U
56-55-3	Benzo(a)anthracene	67 U
218-01-9	Chrysene	67 U
205-99-2	Benzo(b)fluoranthene	67 U
207-08-9	Benzo(k)fluoranthene	67 U
50-32-8	Benzo(a)pyrene	67 U
193-39-5	Indeno(1,2,3-cd)pyrene	67 U
53-70-3	Dibenz(a,h)anthracene	67 U
191-24-2	Benzo(g,h,i)perylene	67 U

Semivolatile Surrogate Recovery

d5-Nitrobenzene	79.2 %	2-Fluorobiphenyl	82.1 %
d14-p-Terphenyl	108 %	d4-1,2-Dichlorobenzene	73.1 %
d5-Phenol	85.2 %	2-Fluorophenol	79.2 %
2,4,6-Tribromophenol	87.8 %	d4-2-Chlorophenol	80.7 %

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
Semivolatiles by GC/MS
Page 1 of 1

Sample ID: BLClay-1
SAMPLE

Lab Sample ID: EY62A
LIMS ID: 02-16444
Matrix: Soil
Data Release Authorized:
Reported: 11/11/02

QC Report No: EY62-The Retec Group
Project: IPC-Bozeman LTU
MCFR2-03423-400
Date Sampled: 11/07/02
Date Received: 11/08/02

Date Extracted: 11/08/02
Date Analyzed: 11/11/02 11:34
Instrument/Analyst: NT6/LJR
GPC Cleanup: NO

Sample Amount: 6.62 g-dry-wt
Final Extract Volume: 0.5 mL
Dilution Factor: 1.00
Percent Moisture: 12.0 %
pH: 8.1

CAS Number	Analyte	µg/kg
91-20-3	Naphthalene	76 U
91-57-6	2-Methylnaphthalene	76 U
208-96-8	Acenaphthylene	76 U
83-32-9	Acenaphthene	76 U
132-64-9	Dibenzofuran	76 U
86-73-7	Fluorene	76 U
87-86-5	Pentachlorophenol	380 U
85-01-8	Phenanthrene	76 U
86-74-8	Carbazole	76 U
120-12-7	Anthracene	76 U
206-44-0	Fluoranthene	76 U
129-00-0	Pyrene	76 U
56-55-3	Benzo(a)anthracene	76 U
218-01-9	Chrysene	76 U
205-99-2	Benzo(b)fluoranthene	76 U
207-08-9	Benzo(k)fluoranthene	76 U
50-32-8	Benzo(a)pyrene	76 U
193-39-5	Indeno(1,2,3-cd)pyrene	76 U
53-70-3	Dibenz(a,h)anthracene	76 U
191-24-2	Benzo(g,h,i)perylene	76 U

Semivolatile Surrogate Recovery

d5-Nitrobenzene	78.4 %	2-Fluorobiphenyl	87.6 %
d14-p-Terphenyl	111 %	d4-1,2-Dichlorobenzene	71.7 %
d5-Phenol	89.3 %	2-Fluorophenol	84.4 %
2,4,6-Tribromophenol	98.3 %	d4-2-Chlorophenol	85.4 %

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
Semivolatiles by GC/MS
Page 1 of 1

Sample ID: LCS-110802
LAB CONTROL

Lab Sample ID: LCS-110802
LIMS ID: 02-16444
Matrix: Soil
Data Release Authorized:
Reported: 11/12/02

QC Report No: EY62-The Retec Group
Project: IPC-Bozeman LTU
MCFR2-03423-400
Date Sampled: 11/07/02
Date Received: 11/08/02

Date Extracted: 11/08/02
Date Analyzed: 11/11/02 12:09
Instrument/Analyst: NT6/LJR
GPC Cleanup: NO

Sample Amount: 7.50 g
Final Extract Volume: 0.5 mL
Dilution Factor: 1.00
Percent Moisture: NA
pH: NA

Analyte	Lab Control	Spike Added	Recovery
Acenaphthene	1600	1670	95.8%
Pentachlorophenol	2910	2500	116%
Pyrene	1720	1670	103%

Semivolatile Surrogate Recovery

d5-Nitrobenzene	80.6%
2-Fluorobiphenyl	86.5%
d14-p-Terphenyl	106%
d4-1,2-Dichlorobenzene	76.8%
d5-Phenol	85.7%
2-Fluorophenol	81.4%
2,4,6-Tribromophenol	92.6%
d4-2-Chlorophenol	84.2%

Results reported in µg/kg

Surface Water Analytical

Analytical Resources, Incorporated
Analytical Chemists and Consultants

10 July 2002

Dan Stremcha
Retec, Inc.
2048 Overland Avenue
Suite 101
Billings, MT 59102

RE: Client Project: 1-3423-300, Idaho Pole Co.
ARI Job No.: EM55

Dear Dan:

Please find enclosed the original Chain-of-Custody (COC) record and the final results for the samples from the project referenced above. Five water samples were received on June 22, 2002. The samples were received intact and there were no discrepancies in the paperwork. The samples were analyzed for PCP and PAHs as requested.

These analyses proceeded without incident of note.

As always, a copy of these reports and all the supporting data will be kept on file at ARI. Should you have any questions regarding these results, please feel free to contact me at your convenience.

Sincerely,

ANALYTICAL RESOURCES, INC.

Mark D. Harris
Project Manager
206/695-6210
<mark@arilabs.com>

Enclosures

cc: File EM55

MDH/ej

EM55

Chain of Custody Record & Laboratory Analysis Request

Page 1 of 1

Turn Around Requested: _____

Analytical Resources, Incorporated
Analytical Chemists and Consultants
4611 South 134th Place, Suite 100
Tukwila WA 98168
206-695-6200 206-695-6201 (fax)

Report to: Dan Stremcha	Proj Name: Idaho Pole	Analyses Requested											Notes/Comments
Company: ReTec	Proj Number:												
Address: 2048 Overland Dr. Billings, MT 59102	Sampler: RJ												
Phone: 406 652-7481	Shipping Method: Fed Ex												
Fax:	AirBill:	PCP	PAH										
Sample ID	Sample Date / Sample Time / Sample Matrix / No Containers												
LTU 1	6/21/02 10:10 H_2O 1		✓										
LTU 2	6/21/02 10:10 " 1		✓										
LTU 1-4	↓ 10:15 " 4	✓											
Retention Basin 1-2	↓ 10:43 " 2		✓										
Retention Basin 1-4	↓ 10:43 ↓ 4	✓											

Relinquished: (Signature) Monika Stemhorn	Received by: (Signature) Deborah Johnson	Special Instructions/Notes
Printed name: Monika Stemhorn	Printed name: Deborah Johnson	
Company: TREC, Inc	Company: ARI	Number of Coolers:
Date: 6/21/02 Time: 11:13	Date: 6/22/02 Time: 11:30	Cooler Temp(s): 3.0, 4.5
		COC Seals Intact?
		Bottles Intact?

Please sign here if you would like these samples disposed of after expiration of standard archive times (60 days for waters 90 days for soils, sediments per contract). If you do not want these samples discarded we will begin charging you for storage after the disposal date. Samples to be discarded after expiration:

ORGANICS ANALYSIS DATA SHEET
Polynuclear Aromatic Hydrocarbons by HPLC

ANALYTICAL RESOURCES INCORPORATED

Sample No: Method Blank

Lab Sample ID: EM55MB
LIMS ID: 02-8423
Matrix: Water
Data Release Authorized:
Reported: 07/09/02

QC Report No: EM55-The Retec Group
Project: Idaho Pole
1-3423-300
Date Sampled: NA
Date Received: NA

Date extracted: 06/24/02
Date analyzed: 07/03/02
Sample Amount: 1000 mL
Final Ext Vol: 1.0 mL

Alumina Cleanup: Yes
GPC Cleanup: No
Conc/Dilution Factor: 1:1

CAS Number	Analyte	ug/L
91-20-3	Naphthalene	2.5 U
208-96-8	Acenaphthylene	5.3 U
83-32-9	Acenaphthene	1.8 U
86-73-7	Fluorene	0.46 U
85-01-8	Phenanthrene	0.64 U
120-12-7	Anthracene	0.66 U
206-44-0	Fluoranthene	0.49 U
129-00-0	Pyrene	0.27 U
56-55-3	Benzo(a)anthracene	0.05 U
218-01-9	Chrysene	0.15 U
205-99-2	Benzo(b)fluoranthene	0.04 U
207-08-9	Benzo(k)fluoranthene	0.06 U
50-32-8	Benzo(a)pyrene	0.07 U
53-70-3	Dibenzo(a,h)anthracene	0.10 U
191-24-2	Benzo(g,h,i)perylene	0.11 U
193-39-5	Indeno(1,2,3-cd)pyrene	0.07 U

Surrogate Recoveries

Diphenyl	79.6%
Terphenyl	107%

Data Qualifiers

U Indicates compound was analyzed for, but not detected at the given detection limit.
J Indicates an estimated value when that result is less than the calculated detection limit.
E Indicates a value above the linear range of the detector. Dilution Required
S Indicates no value reported due to saturation of the detector.
D Indicates the surrogate was diluted out.
B Found in associated method blank.
Y Indicates a raised reporting limit due to matrix interferences. The analyte may be present at or below the listed concentration, but in the opinion of the analyst, confirmation was inadequate.
NA Indicates compound was not analyzed.
NR Indicates no recovery due to interferences.

ORGANICS ANALYSIS DATA SHEET
Polynuclear Aromatic Hydrocarbons by HPLC

ANALYTICAL RESOURCES INCORPORATED

Sample No: LTU 1

Lab Sample ID: EM55A
LIMS ID: 02-8423
Matrix: Water
Data Release Authorized:
Reported: 07/09/02

QC Report No: EM55-The Retec Group
Project: Idaho Pole
1-3423-300
Date Sampled: 06/21/02
Date Received: 06/22/02

Date extracted: 06/24/02
Date analyzed: 07/03/02
Sample Amount: 1000 mL
Final Ext Vol: 1.0 mL

Alumina Cleanup: Yes
GPC Cleanup: No
Conc/Dilution Factor: 1:1

CAS Number	Analyte	ug/L
91-20-3	Naphthalene	2.5 U
208-96-8	Acenaphthylene	5.3 U
83-32-9	Acenaphthene	1.8 U
86-73-7	Fluorene	0.46 U
85-01-8	Phenanthrene	0.64 U
120-12-7	Anthracene	0.66 U
206-44-0	Fluoranthene	0.49 U
129-00-0	Pyrene	0.27 U
56-55-3	Benzo(a)anthracene	0.05 U
218-01-9	Chrysene	0.15 U
205-99-2	Benzo(b)fluoranthene	0.04 U
207-08-9	Benzo(k)fluoranthene	0.06 U
50-32-8	Benzo(a)pyrene	0.07 U
53-70-3	Dibenzo(a,h)anthracene	0.10 U
191-24-2	Benzo(g,h,i)perylene	0.11 U
193-39-5	Indeno(1,2,3-cd)pyrene	0.07 U

Surrogate Recoveries

Diphenyl	69.8%
Terphenyl	100%

Data Qualifiers

U Indicates compound was analyzed for, but not detected at the given detection limit.
J Indicates an estimated value when that result is less than the calculated detection limit.
E Indicates a value above the linear range of the detector. Dilution Required
S Indicates no value reported due to saturation of the detector.
D Indicates the surrogate was diluted out.
B Found in associated method blank.
Y Indicates a raised reporting limit due to matrix interferences. The analyte may be present at or below the listed concentration, but in the opinion of the analyst, confirmation was inadequate.
NA Indicates compound was not analyzed.
NR Indicates no recovery due to interferences.

ORGANICS ANALYSIS DATA SHEET
Polynuclear Aromatic Hydrocarbons by HPLC

ANALYTICAL RESOURCES INCORPORATED

Sample No: LTU 2

Lab Sample ID: EM55B
LIMS ID: 02-8424
Matrix: Water
Data Release Authorized:
Reported: 07/09/02

QC Report No: EM55-The Retec Group
Project: Idaho Pole
1-3423-300
Date Sampled: 06/21/02
Date Received: 06/22/02

Date extracted: 06/24/02
Date analyzed: 07/03/02
Sample Amount: 1000 mL
Final Ext Vol: 1.0 mL

Alumina Cleanup: Yes
GPC Cleanup: No
Conc/Dilution Factor: 1:1

CAS Number	Analyte	ug/L
91-20-3	Naphthalene	2.5 U
208-96-8	Acenaphthylene	5.3 U
83-32-9	Acenaphthene	1.8 U
86-73-7	Fluorene	0.46 U
85-01-8	Phenanthrene	0.64 U
120-12-7	Anthracene	0.66 U
206-44-0	Fluoranthene	0.49 U
129-00-0	Pyrene	0.27 U
56-55-3	Benzo(a)anthracene	0.05 U
218-01-9	Chrysene	0.15 U
205-99-2	Benzo(b)fluoranthene	0.04 U
207-08-9	Benzo(k)fluoranthene	0.06 U
50-32-8	Benzo(a)pyrene	0.07 U
53-70-3	Dibenzo(a,h)anthracene	0.10 U
191-24-2	Benzo(g,h,i)perylene	0.11 U
193-39-5	Indeno(1,2,3-cd)pyrene	0.07 U

Surrogate Recoveries

Diphenyl	64.9%
Terphenyl	88.3%

Data Qualifiers

- **U** Indicates compound was analyzed for, but not detected at the given detection limit.
- **J** Indicates an estimated value when that result is less than the calculated detection limit.
- **E** Indicates a value above the linear range of the detector. Dilution Required
- **S** Indicates no value reported due to saturation of the detector.
- **D** Indicates the surrogate was diluted out.
- **B** Found in associated method blank.
- **Y** Indicates a raised reporting limit due to matrix interferences. The analyte may be present at or below the listed concentration, but in the opinion of the analyst, confirmation was inadequate.
- **NA** Indicates compound was not analyzed.
- **NR** Indicates no recovery due to interferences.

ORGANICS ANALYSIS DATA SHEET
Polynuclear Aromatic Hydrocarbons by HPLC

ANALYTICAL RESOURCES INCORPORATED

Sample No: Retention Basin 1-2

Lab Sample ID: EM55D
LIMS ID: 02-8426
Matrix: Water
Data Release Authorized:
Reported: 07/09/02

QC Report No: EM55-The Retec Group
Project: Idaho Pole
1-3423-300
Date Sampled: 06/21/02
Date Received: 06/22/02

Date extracted: 06/24/02
Date analyzed: 07/03/02
Sample Amount: 1000 mL
Final Ext Vol: 1.0 mL

Alumina Cleanup: Yes
GPC Cleanup: No
Conc/Dilution Factor: 1:1

CAS Number	Analyte	ug/L
91-20-3	Naphthalene	2.5 U
208-96-8	Acenaphthylene	5.3 U
83-32-9	Acenaphthene	1.8 U
86-73-7	Fluorene	0.46 U
85-01-8	Phenanthrene	0.64 U
120-12-7	Anthracene	0.66 U
206-44-0	Fluoranthene	0.49 U
129-00-0	Pyrene	0.27 U
56-55-3	Benzo(a)anthracene	0.05 U
218-01-9	Chrysene	0.15 U
205-99-2	Benzo(b)fluoranthene	0.04 U
207-08-9	Benzo(k)fluoranthene	0.06 U
50-32-8	Benzo(a)pyrene	0.07 U
53-70-3	Dibenzo(a,h)anthracene	0.10 U
191-24-2	Benzo(g,h,i)perylene	0.11 U
193-39-5	Indeno(1,2,3-cd)pyrene	0.07 U

Surrogate Recoveries

Diphenyl	58.8%
Terphenyl	79.8%

Data Qualifiers

U Indicates compound was analyzed for, but not detected at the given detection limit.
J Indicates an estimated value when that result is less than the calculated detection limit.
E Indicates a value above the linear range of the detector. Dilution Required
S Indicates no value reported due to saturation of the detector.
D Indicates the surrogate was diluted out.
B Found in associated method blank.
Y Indicates a raised reporting limit due to matrix interferences. The analyte may be present at or below the listed concentration, but in the opinion of the analyst, confirmation was inadequate.
NA Indicates compound was not analyzed.
NR Indicates no recovery due to interferences.

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
Polynuclear Aromatic Hydrocarbons by Method 8310

Lab Sample ID: EM55SB
LIMS ID: 02-8423
Matrix: Water

QC Report No: EM55-The Retec Group
Project: Idaho Pole
1-3423-300

Data Release Authorized:
Reported: 07/09/02

Date extracted: 06/24/02
Date analyzed: 07/03/02

LABORATORY CONTROL SAMPLE CONSTITUENT	SPIKE VALUE	SPIKE ADDED	% RECOVERY
Acenaphthene	1.22	2.00	61.0%
Fluoranthene	1.75	2.00	87.5%
Benzo(a)anthracene	1.70	2.00	85.0%

Spike Blank Surrogate Recovery

Diphenyl	71.0%
Terphenyl	106.%

Values reported in ug/L

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET **Sample No: Method Blank**
Chlorophenolics by GC/ECD

Lab Sample ID: EM55MB
LIMS ID: 02-8425
Matrix: Water

QC Report No: EM55-The Retec Group
Project: Idaho Pole
1-3423-300
Date Sampled: NA
Date Received: NA

Data Release Authorized:
Reported: 07/01/02

Date extracted: 06/26/02
Date analyzed: 06/28/02 17:22

Sample Amount: 500 mL
Final Extract Volume: 50 mL
Dilution Factor: 1:1

CAS Number	Analyte	ug/L
87-86-5	Pentachlorophenol	0.25 U

Surrogate Recovery

2,4,6-Tribromophenol	67.4%

Data Qualifiers

- J Indicates an estimated value when that result is less than the calculated detection limit.
- E Indicates a value above the linear range of the detector. Dilution Required
- S Indicates no value reported due to saturation of the detector.
- D Indicates the surrogate was diluted out.
- U Indicates compound was analyzed for, but not detected at the given detection limit.
- B Found in associated method blank
- NA Indicates compound was not analyzed.
- NR Indicates no recovery due to interferences.
- Y Indicates a raised reporting limit due to matrix interferences. The analyte may be present at or below the listed concentration, but in the opinion of the analyst, confirmation was inadequate.

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET **Sample No: LTU 1-4**
Chlorophenolics by GC/ECD

Lab Sample ID: EM55C
LIMS ID: 02-8425
Matrix: Water

QC Report No: EM55-The Retec Group
Project: Idaho Pole
1-3423-300
Date Sampled: 06/21/02
Date Received: 06/22/02

Data Release Authorized:
Reported: 07/01/02

Date extracted: 06/26/02
Date analyzed: 06/28/02 21:20

Sample Amount: 500 mL
Final Extract Volume: 50 mL
Dilution Factor: 1:1

CAS Number	Analyte	ug/L
87-86-5	**Pentachlorophenol**	**0.84**

Surrogate Recovery

2,4,6-Tribromophenol	65.9%

Data Qualifiers

- J Indicates an estimated value when that result is less than the calculated detection limit.
- E Indicates a value above the linear range of the detector. Dilution Required
- S Indicates no value reported due to saturation of the detector.
- D Indicates the surrogate was diluted out.
- U Indicates compound was analyzed for, but not detected at the given detection limit.
- B Found in associated method blank
- NA Indicates compound was not analyzed.
- NR Indicates no recovery due to interferences.
- Y Indicates a raised reporting limit due to matrix interferences. The analyte may be present at or below the listed concentration, but in the opinion of the analyst, confirmation was inadequate.

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET **Sample No: Retention Basin 1-4**
Chlorophenolics by GC/ECD

Lab Sample ID: EM55E
LIMS ID: 02-8427
Matrix: Water

QC Report No: EM55-The Retec Group
Project: Idaho Pole
1-3423-300
Date Sampled: 06/21/02
Date Received: 06/22/02

Data Release Authorized:
Reported: 07/01/02

Date extracted: 06/26/02
Date analyzed: 06/28/02 21:42

Sample Amount: 500 mL
Final Extract Volume: 50 mL
Dilution Factor: 1:1

CAS Number	Analyte	ug/L
87-86-5	Pentachlorophenol	15

Surrogate Recovery

2,4,6-Tribromophenol	74.6%

Data Qualifiers

- J Indicates an estimated value when that result is less than the calculated detection limit.
- E Indicates a value above the linear range of the detector. Dilution Required
- S Indicates no value reported due to saturation of the detector.
- D Indicates the surrogate was diluted out.
- U Indicates compound was analyzed for, but not detected at the given detection limit.
- B Found in associated method blank
- NA Indicates compound was not analyzed.
- NR Indicates no recovery due to interferences.
- Y Indicates a raised reporting limit due to matrix interferences. The analyte may be present at or below the listed concentration, but in the opinion of the analyst, confirmation was inadequate.

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
Chlorophenolics by GC/ECD

Lab Sample ID: EM55LCD
LIMS ID: 02-8425
Matrix: Water

QC Report No: EM55-The Retec Group
Project: Idaho Pole
1-3423-300

Data Release Authorized:
Reported: 07/01/02

LABORATORY CONTROL SAMPLE
Date extracted: 06/26/02
Date analyzed: 06/28/02

CONSTITUENT	SPIKE VALUE	SPIKE ADDED	% REC	% RPD
LAB CONTROL				
Pentachlorophenol	0.95	2.50	38.0%	
LC DUPLICATE				
Pentachlorophenol	0.82	2.50	32.8%	15.0%

Spike Blank Surrogate Recovery

LC-2,4,6-Tribromophenol	77.9%
LCD-2,4,6-Tribromophenol	80.1%

Values reported in ug/L

Appendix E

Appendix E

Closure Certification

The RETEC Group, Inc.
2048 Overland Avenue, Suite 101
Billings, MT 59102-7428

(406) 652-7481 Phone
(406) 652-7485 Fax
www.retec.com

May 2, 2003

Mr. James Harris
US EPA Montana Operations
301 South Park, Drawer 10096
Helena, MT 59626-0096

RE: LTU Closure Certification - Idaho Pole Company, Bozeman, Montana

Dear Mr. Harris:

On behalf of the Idaho Pole Company (IPC) and The Burlington Northern and Santa Fe Railway Company (BNSF), The RETEC Group, Inc. (RETEC) has prepared this letter to serve as certification that closure was performed in accordance with the United States Environmental Protection Agency (EPA) and Montana Department of Environmental Quality (MDEQ) requirements, the Remedial Action Operation Plan and The Land Treatment Unit Closure Work Plan.

In certifying closure, RETEC conducted the following:

- Reviewed the approved closure workplan and verified with the project manager that closure was conducted in accordance with the plan.
- Reviewed groundwater monitoring data in the area of the former land treatment unit (LTU).
- Reviewed daily activity logs.
- Reviewed the contents of the LTU Closure Completion Report prepared by RETEC.
- Reviewed the requirements for post-closure activities as identified in the Remedial Action Operations Plan, Option 2.

Final inspection was conducted by the project manager, IPC representative, oversight engineer and contractor representative. The inspection determined that all work required by the LTU Closure Work Plan was substantially completed, and as of today, all items have been complete with the exception of the abandonment of the two LTU wells.

Observations and inspections during the LTU closure activities determined no significant problems or changes from the approved LTU Closure Work Plan.

If you have any questions or comments, please feel free to call.

Sincerely,

Idaho Pole Company

Les Lonning
Manager
Environmental Affairs

The RETEC Group, Inc.

Debra Ludwick

Debra Ludwick
Project Manager

The RETEC Group, Inc.

MONTANA
BRADLEY L. KIMBLE
No. 14875 PE
LICENSED
PROFESSIONAL ENGINEER

cc: Jim Harris, EPA (3 copies)
File