U.S. ENVIRONMENTAL PROTECTION AGENCY
REGION I
1 CONGRESS STREET, BOSTON, MA 02114-2023

MEMORANDUM

DATE: March 22, 1999

SUBJ: ACTION MEMORANDUM: Request for a Non-Time-Critical Removal Action at the Pownal Tannery Superfund Site, Pownal, Vermont

FROM: Leslie McVickar, Remedial Project Manager
ME/VT/CT Superfund Section

THRU: MaryJane O'Donnell, Chief
ME/VT/CT Superfund Section

Don Berger, Chief
OSRR II Branch

Steve Novick, Acting Chief
Emergency Planning and Response Branch

Patricia Meaney, Director
Office of Site Remediation and Restoration

I. PURPOSE

This Action Memorandum requests and documents your approval of the Non-Time-Critical Removal Action (NTCRA) described herein for the Pownal Tannery Superfund Site (the "Site"), located on Route 346 in North Pownal, Vermont. This Action Memorandum also requests and documents the approval of a "consistency" exemption from the $2 million and 12 month statutory limits. This removal action is expected to be completed within 12 to 24 months of mobilization and will require approximately $7.7 million in funding. This will bring the total removal ceiling for the Site to approximately $8.2 million and the time needed to conduct all removal action activities to approximately 2.5 years.

The overall objective of the NTCRA is to eliminate the source of the soil, groundwater, and sediment contamination at two of the three source areas on-site, to protect current and future users of the Site, future users of the groundwater, and ecological receptors. In general terms, the NTCRA consists of the decontamination of tannery buildings, partial demolition of the decontaminated buildings and disposal of the uncontaminated materials off-site, excavation of soils and sludges contaminated above specified cleanup levels

within tannery buildings, and disposal of the materials at an on-site landfill that will be capped. This NTCRA will be performed by EPA using fund money as no PRP is available to implement the response action in a timely manner.

This Action Memorandum does not include a request to fund any Post-Removal Site Control (PRSC). The State of Vermont will finance PRSC up to the limits of the funds committed to this NTRCA through the September 1996 Memorandum of Agreement (i.e., $300,000). The remedial program as part of the ROD will determine the need for additional long-term operation and maintenance activities associated with the sludge landfill cover and leachate collection system that exceeds the funds the State of Vermont committed to pursuant to the MOA.

This NTCRA will ensure that EPA can provide a timely response to effectively minimize threats to public health or welfare or the environment which may result from the continuing release and/or threat of release of hazardous substances at and from the Site, and is consistent with EPA's Superfund Accelerated Cleanup Model (SACM).

While this NTCRA will accelerate the overall Site cleanup by containing and reducing site contamination, it may not constitute the complete and final cleanup plan for the Site. EPA may select additional response actions in a ROD, scheduled for the Fall of 2000. The ROD will define the levels of contaminant reduction necessary for long-term public health and environmental protection, and define what steps, if any, are necessary to address lagoon sludge and restoration of the contaminated groundwater, Hoosic River surface water/ sediments, and wetlands.

II. SITE CONDITIONS AND BACKGROUND

A. Site Description

CERCLIS ID No.:	VTD069910354
Site ID. No.:	**N9**
Category	**Non-time-critical**

1. Removal Site Evaluation

Between 1988 and 1993 preliminary evaluations of the Site were conducted by EPA and the VT DEC. In 1993 EPA completed a

Preliminary Assessment/Site Investigation. Based on the results of this inspection and due to threats to potential human health and the environment posed by on-site hazardous substances, a removal action was recommended. EPA approved an Action Memorandum to undertake a Time-Critical Removal Action in March 1993. The removal action commenced in April 1993 and ended in May 1994, and included the removal of: compressed gas cylinders and asbestos-containing materials, tank contents, cans of tetrahydrofuran, suspected dioxin-containing wastes, and one drum containing pentachlorophenol. Underground storage tanks were sealed to prevent public access. A breach in the berm of Lagoon 4 was repaired in 1993. This removal action was completed In 1994.

In 1994 EPA identified the Site as a National Priorities List (NPL) Caliber site and determined that the Site would be addressed under the Superfund Accelerated Cleanup Model (SACM) initiative. Under SACM, EPA conducted field investigations in 1995 to provide limited characterization of contamination at the lagoons, landfill and buildings on-Site. A subsequent investigation was performed in 1997 to further characterize the nature and extent of contamination within the tannery buildings. Based upon the results of these investigations, in 1998 EPA approved the initiation of an Engineering Evaluation/Cost Analysis (EE/CA) to assess various options for controlling and containing the source of contamination at the Site (see Attachment 2, EE/CA Approval Memorandum). The Site was proposed for addition to the NPL in September 1998 and was finalized on January 11, 1999.

2. Physical Location and Site History

The Pownal Tannery Superfund Site is located in the village of North Pownal, Bennington County, which is located in the southwestern portion of Vermont (see Figure 1). The Pownal Tanning Company, Inc. operated a cow- and sheep-hide tanning and finishing facility at the Site between 1935 and 1988, when the company ceased operations and declared bankruptcy. Three areas of concern have been identified at the Site: the tannery building complex, a lagoon system, and the tannery's sludge landfill. In total, the Pownal Tannery Site encompasses approximately 28 acres.

North Pownal is a rural community with approximately 3,500 residents. Several residential properties are located near the building complex and the tannery landfill. The nearest residences are approximately 200 feet from the Site. Local residents use groundwater from private wells for their water supply. Data collected to date indicate that Site contamination has not impacted the nearest residential wells. The town is currently assessing alternative water supplies.

From approximately 1937 until 1962, untreated tanning process wastewater was directly discharged from the tannery building, which is situated between Route 346 and the Hoosic River, into the Hoosic River through trenches dug in the basement of the tannery building complex. The primary tannery building (occupying approximately 169,000 square feet) and a separate screen house located to the northwest of the tannery building, are bound by the Hoosic River to the west, by the Boston and Maine (B&M) railroad to the east and by undeveloped land to the south. The building complex is situated on approximately 3 acres.

A 16 acre lagoon system comprising of six unlined lagoons occupies a 22 acre parcel of land situated northwest of the tannery building complex. A screen house and the lagoon system were constructed in several stages between 1962 through 1971 to receive and provide limited physical treatment of the tannery's wastewater (see Figure 2). A clarifier process building was constructed in 1978 in the lagoon area. An estimated 250,000 to 300,000 gallons per day of wastewater were discharged to the lagoon system. The wastewater was conveyed from the tannery complex by approximately 800 feet of piping to the lagoon system; the piping is believed to remain in place.

By the 1980s, Lagoons 1, 3A, 3B, and a portion of Lagoon 4 were filled with the settled sludge. Discharged wastewater bypassed these lagoons and was channeled through the remaining lagoon system. In 1982, a state-permitted lined landfill was constructed on-site, and started to receive dewatered sludge dredged from the lagoons. Lagoon 1 was never dredged; it was covered in 1983 with a 1-foot layer of silt. An unknown quantity of sludge was removed from Lagoon 2 and sent to the tannery landfill. However, sludge remains in Lagoon 2 based on investigations conducted by EPA's

contractor. Lagoons 3A and 3B were reportedly dewatered and capped; whether these lagoons were dredged is uncertain because of conflicting information presented in several reports. Lagoon 4, the largest unit, is of unknown depth. This lagoon was reportedly dredged and the dewatered sludge was sent to the landfill. Subsequent investigations have identified the presence of sludge remaining in Lagoon 4. Precipitation or flood water that accumulates in Lagoon 5 is known to periodically discharge to the Hoosic River through an outfall pipe.

The tannery landfill is situated on Will Dean Road on a 3-acre parcel of land across the Hoosic River and southeast of the tannery building complex. Two of the three lined cells were closed and capped by the Pownal Tannery (also the property owner) at the direction of the state. Cell 3 was partially filled with dewatered sludge and has approximately 2500 cubic yards of remaining capacity. At the time the Pownal Tanning Company ceased operations in 1988, Cell 3 remained uncapped and is currently uncapped. A planned Cell 4 was never constructed. Based on available data and evaluations by the VT DEC, it appears that the cap covering Cells 1 and 2 has been damaged by deep-rooted vegetation, and the bottom liner integrity may be damaged. Evaluation of groundwater analytical data supports this assessment. Because Cell 3 is uncapped, it continues to receive precipitation infiltration and generate leachate. The leachate collection system is no longer being pumped out and accumulated leachate is believed to back into Cells 1 and 2 and overflows into groundwater.

The Site is currently unoccupied and access is unrestricted. While measures have been taken by the VT DEC and EPA since 1988 to restrict access to the buildings and lagoons, youth trespassers have consistently circumvented these efforts. As discussed in this section, past disposal operations at the tannery has resulted in the release of hazardous substances to the soil, groundwater, and surface waters/sediments of the Hoosic River. As discussed in Section B.1, previous removal actions removed the hazardous substances that were contained in drums and tanks stored within the buildings.

3. Release or Threatened Release into the Environment of a Ha zardous Substance, or Pollutant or Contaminant

As a result of improper operation and disposal of tannery waste products, many hazardous substances have come to be released into the environment. Site investigations, as further documented below, have detected a variety of hazardous substances in the soils, groundwater, and sediments within and adjacent to the Site. In particular, chromium, semi-volatile organic compounds (SVOCs) and dioxins have been detected at concentrations above those acceptable for human and ecological exposure. All of the compounds of concern are "hazardous substances" as defined by CERCA Section 101(14) and 40 C.F.R. Section 300.5.

The release of the hazardous substances into the environment has resulted in the contamination of soils, groundwater, surface water and sediments. While no fire or explosion threat is present, significant human health and environmental risks may occur as a result of the hazardous substances found on Site.

4. Nature and Extent of Contamination

A variety of chemicals and metals have been detected in the tannery building interior surfaces, tanks and trenches, Site soils, lagoon sludges, landfill contents, and groundwater. Numerous chemicals have been released to the Site due primarily to past activities. Because the soils, sludges, and landfill contents are subject to flooding and erosion and precipitation infiltration, contaminants are mobilized into the environment and cause continuing contamination to the groundwater and to Hoosic River sediments and surface water. Summaries of contaminant presence are presented as follows:

a. *Tannery Building Complex*: The basement soils, interior surfaces, sludges from floor drains/sludges, sumps and trenches, and wood and concrete were sampled during several EPA investigations. Analytical results indicate the presence of dioxins, polynuclear aromatic hydrocarbons (PAHs), pentachlorophenol, and numerous toxic metals in the basement soils. Some or all of these constituents were also detected in the sludge samples and on surface dusts (through wipe sampling). Paint chips were analyzed and determined to contain lead and chromium. Samples of wood

flooring indicated the presence of pentachlorophenol and metals. PAHs and metals were detected in standing water samples obtained from tanks and drains.

The screen house and clarifier buildings, which are separate structures located north of the tannery complex, contain several metals, including chromium, lead, zinc, and dioxin on interior surfaces. Samples of sludge contained within these buildings indicate the presence of chromium, cadmium and dioxin. See Tables 1-3 through 1-5 of the EE/CA.

b. *Lagoons:* While the lagoons are not being addressed through this action, Dioxins, PAHs, VOCs, and numerous metals (arsenic, cadmium, chromium, lead, mercury, and zinc) were identified in the lagoon sludges. Concentrations of metals exceeded several sediment quality criteria or benchmarks used to assess whether the sludges may pose threats to ecological receptors. Standing water collected from several lagoons indicated the presence of toxic metals. See Table 1-7 of the EE/CA.

c. *Landfill:* Dewatered lagoon sludges were placed in the landfill from approximately 1982 until 1987. Sampling of the landfill materials identified the presence of dioxins, metals, pentachlorophenol, VOCs and phenols. Arsenic, cadmium, chromium, lead, mercury, nickel, and zinc were detected in all landfill sediment samples. Metals (arsenic, chromium, lead, nickel, and zinc) appear to be present in Cells 1 and 2 at higher concentrations than in Cell 3, which may be the result of Cell 3 being uncapped and subjected to precipitation infiltration and leaching. Sediment samples collected from a run-off area downslope of the landfill and in a wetland area contained several toxic metals. Analytical results for the leachate tank sample indicated the presence of arsenic and chromium. See Table 1-9 of the EE/CA.

d. *Groundwater:* Chromium, nickel, thallium, and zinc were detected in groundwater throughout the vicinity of the lagoon system. These metals have also been detected in lagoon sludges. Chromium and thallium exceeded the MCLs and the Vermont Enforcement Standards (VTES) for groundwater quality. Several VOCs (chlorobenzene and xylenes) were also detected.

Sampling results for landfill area groundwater indicated that arsenic, chromium, and nickel were detected in excess of the federal MCLs and the state groundwater quality standards. Aluminum, arsenic, chromium, iron, manganese, and nickel were detected in excess of the state standards. See Tables 1-12 and 1-13 of the EE/CA.

e. *Sediments and Surface Water:* Samples were collected from portions of the Hoosic River, adjacent to the tannery building complex and the lagoon system and from a wetlands area downslope of the landfill. Analytical results indicate the presence of several toxic metals including arsenic, chromium, copper, lead, nickel, manganese, mercury, and zinc. Several metals exceeded sediment quality criteria or benchmarks. Surface water samples indicated the presence of metals, some at concentrations that exceeded the Ambient Water Quality Criteria, indicating potential adverse effects to aquatic organisms. See Tables 1-10, 1-14, and 1-15 of the EE/CA.

Based on the data compiled to date, it is evident that organic and metal contaminants present within the tannery building, the lagoon system, and the landfill cells are migrating or may potentially be mobilized, causing further degradation of the environment and continuing to pose potential risks to humans and to ecological receptors.

5. NPL Status

The Site was proposed for inclusion on the National Priorities List (NPL) on September 29, 1998 (60 Fed. Reg. 51882) and was listed on the NPL on January 11, 1999. In accordance with statutory requirements for NPL sites, the Agency for Toxic Substances and Disease Registry (ATSDR) has initiated a Preliminary Health Assessment for the Site. EPA plans to initiate remedial investigation and feasibility activities in the Spring of 1999. A ROD is anticipated for the Fall of 2000.

6. Maps, Pictures and Other Graphic Representations

Attachment 1 - Figures and Tables

Attachment 2 - EE/CA Approval Memo

Attachment 3 - Site Chronology

Attachment 4 - ARAR Tables

Attachment 5 - EE/CA Fact Sheet (Proposed Plan)

Attachment 6 - Response to Comments

Attachment 7- Administrative Record Index

B. Other Actions to Date

1. Previous Actions

An EPA Emergency Planning and Response Branch (EPRB) Preliminary Assessment/Site Inspection (PA/SI) was conducted at the Site on January 11, 1993, at the request of the State of Vermont Agency for Natural Resources (VT ANR). Compressed gas cylinders, drums of chemical wastes, tanks and vessels of process wastes, friable asbestos, and sludges in the plant's wastewater treatment system were found at the Site. Due to threats to human health and the environment posed by hazardous substances located at the Site, the EPA On-Scene Coordinator recommended that a removal action be conducted. In March 1993, a time-critical removal action was authorized by the EPA Region I Acting Regional Administrator. The removal action commenced in April 1993 and ended in May 1994. The following activities were completed during the removal action.

a. Compressed gas cylinders and asbestos-containing materials were removed.
b. Small laboratory containers were packaged and disposed of off-site.
c. Tanks, drums, floor drain sludges, soil, solid waste piles, and smoke stack debris were sampled and analyzed for the presence of hazardous materials.

d. Tanks containing hazardous materials and/or tanks in poor condition were drained into drums for disposal.
e. Three 1-gallon cans of tetrahydrofuran were incinerated on-site.
f. Suspected dioxin-containing wastes were disposed of off-site, and underground storage tanks located in the lagoon area and all of the Site buildings were sealed to prevent public access and potential exposure.
g. A breach in the Lagoon 4 berm was repaired
h. One drum containing pentachlorophenol was sent for off-site disposal.

The removal action was temporarily suspended in August 1993 as a result of budgetary constraints; it resumed in April 1994. On-site activities were completed on May 18, 1994. A summary listing of these prior actions is presented in Table 1-2.

The Approval Memorandum (Appendix A) for a non-time-critical removal action to control contamination sources was issued on January 14, 1998.

2. Current Actions

To address the primary source of contamination to the groundwater and to the surface water, sediments and wetland soils of the Hoosic River, EPA completed an EE/CA in November 1998 to support a NTCRA (see EE/CA Approval Memorandum, Attachment 2). The EE/CA evaluated various response actions to control the source of contamination at the Site, based upon cost, effectiveness, and implementability. The EE/CA was completed by an EPA contractor under EPA oversight. While the EE/CA evaluated all three known contamination source areas at the Site, EPA determined that insufficient data was available to address the sludge lagoons. This source area will be reevaluated during the upcoming Remedial Investigation which is scheduled to begin at the Site in the Spring of 1999.

The final EE/CA Report was placed into the Site file in December 1998. EPA mailed copies of the EE/CA Fact Sheet describing the proposed NTCRA to the State of Vermont, local officials, local residents, and other interested parties. EPA published a notice of the proposed NTCRA and the public meetings in two newspapers of

general circulation in the Site area. EPA held a public informational meeting on December 3, 1998 to present the EE/CA and EPA's preferred alternative (see EE/CA Fact Sheet, Attachment 5). The public comment period began on December 3 and ended on January 4. The NTCRA selected in this Action Memorandum is EPA's formal decision stemming from the EE/CA process. All comments received during the public comment period were in support of the EPA proposed action.

EPA will select a final remedial action for this Site in a ROD, scheduled for fiscal year 2000. The ROD will define the levels of contaminant reduction which are necessary for long-term public health and environmental protection. The ROD will also define what specific steps, if any, are necessary to address contamination of the lagoons, groundwater and surface water/sediments and wetlands associated with the Hoosic River. The NTCRA will be consistent with the RI/FS and long-term remedial response at the Site.

C. State and Local Authorities' Role

1. State and Local Actions to Date

The State of Vermont has performed various response actions at the Site. The State supported the inclusion of the Site on the NPL and has since reviewed and commented on the various components of the RI/FS. EPA consulted with the State regarding the performance of a NTCRA at the Site, and the State has indicated its full support for this expedited approach to Site cleanup.

Local authorities have been actively involved in the Site. The Town of Pownal supports Superfund listing and, generally, the removal measures to be undertaken pursuant to this document.

2. Potential for Continued State/Local Response

The State and local authorities are expected to maintain a high level of interest in the Site. The State is expected to review and comment on the remaining RI/FS activities as well as the final selection of a remedial action. The State has concurred with the NTCRA (see Attachment 6) and is expected to participate in the implementation of the post-removal site control measures associated with the NTCRA.

III. THREATS TO PUBLIC HEALTH OR WELFARE OR THE ENVIRONMENT, AND STATUTORY AND REGULATORY AUTHORITIES

A. Regulatory Factors for Appropriateness of the Removal Action

Section 300.415(b)(2) of the NCP lists a number of factors for EPA to consider in determining whether a removal action is appropriate, including:

- (i) Actual or potential exposure to nearby human populations, animals, or the food chain from hazardous substances or pollutants or contaminants;
- (ii) Actual or potential contamination of drinking water supplies or sensitive ecosystems;
- (v) Weather conditions that may cause hazardous substances or pollutants or contaminants to migrate or be released;
- (vii) The availability of other appropriate federal or state response mechanisms to respond to the release; and
- (viii) Other situations or factors that may pose threats to public health or welfare or the environment.

An evaluation of the conditions at the Pownal Tannery Site conclude's that the above listed factors are applicable as described below.

(i) Actual or potential exposure to nearby human populations, animals, or the food chain from hazardous substances or pollutants or contaminants: There is both the current and future potential for direct human exposure to contaminants in the leachate seep at the landfill and at each of the three buildings on-site which are contaminated with a wide variety of VOCs, SVOCs, dioxin, pesticides and inorganics. While past measures were taken to prevent access to the buildings, these security measures, which included fences and doors, have been breached by youth trespassers and the Site is currently unrestricted. Additionally, surface water and sediments in the Hoosic River have been contaminated with copper, mercury, chromium and other contaminants by direct discharge from the tannery building. Therefore, there is a current and future potential for human exposure through the consumption of fish and recreational use of the river, as well as the potential for animal exposure. Groundwater in the vicinity of the lagoons is

contaminated with chromium, thallium, tetrachloroethene, and pentachlorophenol above drinking water standards. Limited hydrogeologic studies performed indicate that the groundwater is moving toward and discharging to the Hoosic River.

(ii) Actual or potential contamination of drinking water supplies or sensitive ecosystems: While very low levels of several site-specific contaminants were identified in residential drinking water wells on the southern side of the Hoosic River prior to 1988, testing of all residential wells since that time has indicated no detection of contaminants above drinking water standards. While Site groundwater is known to be migrating toward the river, little information regarding its vicinity to public drinking water wells is known at this time. Various ecosystems in river and wetlands sediments may be adversely impacted by the contaminants that have been discharged from the tannery and the migration of leachate from the landfill to the river, and releases from the contaminated soils under the buildings during flooding conditions.

(v) Weather conditions that may cause hazardous substances or pollutants or contaminants to migrate or be released: The tannery building is in the 100-year flood zone, and there have been numerous occurrences of flooding in this area. Precipitation into the tannery building is believed to mobilize contaminants to the basement of the building, from which contaminants are released to the Hoosic River during flooding events. Additionally, groundwater which infiltrates the tannery building collects in trenches in the basement and discharges to the river. All floors of the tannery building are known to contain a wide variety of contaminants including dioxin, arsenic, chromium, copper, lead, pentachlorophenol, and many other SVOCs. The Hoosic River is utilized for fishing and recreational boating. In addition, landfill leachate seeps are mobilized through precipitation to the surface water and sediments to the Hoosic River and wetlands. Data from 1996 indicates that there are elevated levels of iron, zinc, copper and lead above Ambient Water Quality Criteria in surface water samples and elevated levels of copper, nickel and zinc in sediment samples above the appropriate sediment quality standards.

(vii) The availability of other appropriate federal or state response mechanisms to respond to the release: There are no other known federal or state funds or response mechanisms available to finance this action. EPA and the VT DEC signed a Memorandum of Agreement (MOA) in September 1996 establishing responsibilities for both EPA and the DEC for the completion of the NTCRA, the investigation and characterization of the

tannery building, which was subsequently performed in March 1997, and for implementation of a response action. This MOA indicated the DEC's commitment of $300,000 toward the implementation of the ultimate response action.

(viii) Other situations or factors that may pose threats to public health or welfare or the environment: The former tannery building is a four-story brick building built in the 1880's which is currently in a dilapidated state. The roof and walls allow precipitation to infiltrate the building which has caused a tremendous damage to the internal structure of the building. One section of the brick wall, adjacent to the Hoosic River, has collapsed. It is probable that this building will continue to deteriorate over time and that other portions of this building will collapse, resulting in an increased potential for hazardous substance releases to the river. Additionally, measures to secure the Site have been routinely compromised by local youth trespassers who are at risk of exposure to contaminants and of being harmed by the poor physical condition of this facility. While additional measures are planned to provide limited added security, vandalism and trespassing will continue to be an issue.

Consequently, based upon the NCP factors listed and described above, a potential threat exists to public health or welfare or the environment. This removal action was therefore approved to abate, prevent, minimize, stabilize, mitigate, or eliminate such threat(s). In particular, this removal action was approved to control and contain the release of hazardous substances from the Site through source control measures.

B. Risk Screening

As part of the EE/CA developed for the site, a human health risk screening was performed to assess potential human health risks that could result from exposure to contaminants in soils, sediments, sludges, surface water and particulates at the Site. The following exposures were evaluated:

- Trespassers and future employees exposed to soils, standing water, and particulates in the tannery buildings.
- Trespassers exposed to landfill sediments and soils from the area of the clarifier building.

The results of the streamlined risk evaluation (Volume II of the EE/CA) are

presented on Table 1-17 of the EE/CA. Cancer risks were estimated to be above the acceptable risk range (10^{-4} to 10^{-6}) for adolescent trespassers in the northern tannery building. Cancer risks were above acceptable limits for future adult employees in the northern and central tannery buildings. Primary contributors to carcinogenic risks (posing risk of 10^{-6} or greater) were dioxins (as 2,3,7,8 - TCDD toxicity equivalents), carcinogenic PAHs, and pentachlorophenol.

Maximum lead concentrations in each study area were compared to residential and industrial lead screening concentrations. The maximum lead concentrations in the soil from the northern and central tannery buildings, the clarifier building, and sediments from the landfill exceed the lead benchmarks for trespassers to nearby residential sites noted in OSWER Directive #9355.4-12 (400 ppm). The maximum lead concentrations in the soil from the northern tannery, central tannery, and the clarifier buildings exceed the lead benchmarks for industrial sites (1,000 ppm). While these benchmarks may not be strictly applicable to receptors of concern for the Site, the exceedances are one indication that receptors are potentially at risk if exposed to the lead concentrations in the Site media.

Based on the results of the risk evaluation, it was determined that the buildings and the landfill were two of three source areas of the Pownal Tannery Site that posed unacceptable risks to human health and should be addressed.

C. Preliminary Removal Goals

A set of preliminary removal goals (PRGs) relevant to the proposed removal action were developed for each source area and for the specific media of concern (tannery buildings and landfill soils/sludges and building surface particulates and sediments). [1] Protection of human health and the environment can be achieved once a response action has addressed environmental media that contain contaminants in excess of PRGs. PRGs may be developed on a site-specific basis, if there are sufficient analytical

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[1] PRGs were not developed for groundwater, for the Hoosic River sediments and surface water, or for protection of ecological receptors because these are not part of the source control action. These contaminated media will be further evaluated under a more comprehensive remedial investigation and will, as deemed necessary, be addressed under a future remedial action.

data available. Otherwise, using available default screening criteria, regulatory standards, or guidances are acceptable methods for establishing PRGs that are consistent with the purpose of a NTCRA. Only risk-based PRGs and numerical limits dictated by EPA policy were selected for use in the EE/CA. For this NTCRA, soil PRGs were specifically developed based on protecting human health from direct contact exposures.[2] PRGs for selected contaminants of concern were used to develop volume estimates for the Site's contaminated media. Table 3 presents the list of selected PRGs and the basis for the selection of each.

EPA's, Approaches for Addressing Dioxins in Soil at CERCLA and RCRA Sites, OSWER Directive 9200.4-26 (April 13, 1998), was taken into consideration in developing preliminary remediation goals for dioxin. A preliminary remediation goal of 5 ug/kg (ppb) of dioxin (as 2,3,8-TCDD TE) was established in areas reasonably expected to be used as commercial and industrial property, for soil and sludge to be excavated from the basement of the tannery buildings during the NTCRA. Also taking this policy into consideration, a preliminary remediation goal of 1 ug/kg (ppb) of dioxin (as 2,3,7,8-TCDD TE) has been established in areas where exposure to residential trespassers to surficial soil and sludge at the landfill could reasonably by expected.

As documented in the EE/CA, a final cleanup level of 5 ug/kg (ppb) of dioxin (as 2,3,7,8-TCDD TE) was established for soil and sludge to be excavated from beneath the tannery buildings during the NTCRA, and a final cleanup level of 1 ug/kg (ppb) of dioxin (as 2,3,7,8-TCDD TE) has been established for surficial soil and sludge at the landfill, based on an evaluation of a range of cleanup alternatives using EPA's nine remedy selection criteria. The final cleanup levels of 5 ppb (ug/kg) of dioxin (as 2,3,7,8-TCDD TE) for commercial/industrial soil and sludge in the tannery buildings and 1 ug/kg (ppb) of dioxin (as 2,3,7,8-TCDD) for surficial residential soil and sludge at the landfill is considered protective for human health and environment at the Site.

The maximum lead concentrations in the soil from the northern tannery, central tannery, and the clarifier buildings exceeded the lead benchmarks for

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[2] There are insufficient data to develop soil PRGs for protecting groundwater quality (through leaching). Additional evaluations will be conducted in a pre-design investigation during the NTCRA to determine appropriate soil action levels.

industrial sites (1,000 mg/kg or ppm) set by OSWER Directive #9355.4-12. While these benchmarks may not be strictly applicable to receptors of concern for the Site, the exceedances are one indication that receptors are potentially at risk if exposed to the lead concentrations in the Site media. Therefore, a PRG of 1,000 ppm was set as the cleanup goal for soils/sludge in the buildings. This directive also sets a benchmark for residential exposure at 400 ppm. Therefore, the PRG for soil and sludge at the landfill has been set at 400 ppm.

IV. ENDANGERMENT DETERMINATION

Actual or threatened releases of hazardous substances, pollutants, or contaminants, from this Site, if not addressed by implementing the response action selected in this Action Memorandum, may present an imminent and substantial endangerment to public health, or welfare, or the environment.

V. EXEMPTION FROM STATUTORY LIMITS

This removal will require funding above the statutory ceiling of $2 million and will require more than 1 year to implement. The previous time-critical removal action cost approximately $540,000 and took 14 months to complete. The proposed NTCRA is projected to cost approximately $7.7 million and take 12 to 24 months to complete. Taken together, the statutory ceilings with respect to funding and duration will be exceeded. A "consistency" exemption is sought to exceed the $2 million ceiling and 12-month limit in order to implement the NTCRA proposed in this Action Memorandum.

The proposed continued response actions, as described in this Action Memorandum, are otherwise appropriate and consistent with the remedial action to be taken. The NTCRA included in this Action Memorandum will eliminate direct contact exposure to trespassers from contaminated building material and soil/sludge, will mitigate a release of contaminants to the groundwater, and will eliminate the source of contaminants to the Hoosic River. Building decontamination, soil excavation and on-site landfilling and capping are consistent with the type of actions that would be considered as part of the remedial response and do not preclude any future remedial response that may be necessary.

The implementation of the NTCRA is necessary to prevent further-direct contact exposure to contaminated building surfaces and soils/sludges to trespassers, and

migration of contaminated soils/sludges into the groundwater and to Hoosic River. Authorization is, therefore, hereby requested for a "consistency" exemption to exceed the statutory limits of $2 million and 1 year on removal actions in order to implement the NTCRA as described in this Action Memorandum.

VI. PROPOSED ACTIONS AND ESTIMATED COSTS

A. Proposed Action Description

1 Primary Objectives: The following primary removal action objectives have been developed for the Site;

- Prevent direct contact with, ingestion of, and inhalation of contaminants in the on-site buildings.
- Prevent direct contact with and ingestion of leachate from the landfill.
- Prevent continued ecological impacts from the release of contaminants in the buildings and the landfill into the Hoosic River and associated wetlands.

2. Secondary Objectives: The secondary objectives are goals that should be achieved under any proposed NTCRA, if practicable, and include;

- Prevent the release of contaminants from the tannery building and screen house into the Hoosic River that occurs through flooding and could occur through the collapse of the tannery building into the river.
- Prevent the further release of landfill contaminants into the groundwater, surface water, and sediments.
- Prevent the discharge of the groundwater plume to the Hoosic River (through source control measures).

Section 2.4 of the EE/CA presents a preliminary summary of ARARs and other guidance that were considered in developing the removal action objectives and general response actions.

To meet the removal action objectives, EPA has selected a cleanup plan that uses decontamination of building materials, off-site disposal of demolished clean debris, excavation and on-site disposal of

contaminated soil and sludge from beneath the tannery buildings, and construction of a multi-layer cap over contaminated soil and sludge at the on-site landfill. The selected alternatives are designated as B-1A and LF-2. The major components of the proposed actions are explained below and summarized in Figures 3 and 4.

Alternative B-1A: Building Decontamination, Partial Building Demolition, Excavation of Contaminated Soil/Sludge and Disposal at an On-Site Landfill

Pre-Design Investigation (PDI): An extensive PDI will be required prior to building decontamination and soil excavation. Because a complete remedial investigation was never performed for the tannery complex buildings, additional sampling and analysis to identify the extent of the remaining contamination throughout the structures needs to be performed. In addition, the structural integrity of the primary tannery building is questionable, with portions of it severely deteriorated (see Figure 5), and the PDI will include a structural assessment to establish whether a safe working environment exists for decontamination activities and/or what portion of the building needs to be demolished. Structural reinforcement for the central portion of the primary tannery building may be necessary prior to commencing decontamination activities, or contingency measures for decontamination, demolition and disposal will need to be further evaluated during the design.

Site Preparation: Appropriate work areas around the tannery buildings will be cleared and grubbed as necessary, and erosion and sediment controls will be established around these cleared areas. A fence will be installed around the demolition areas. Traffic control measures will be implemented due to the proximity of the Site to Route 346 and Airway Place Road and the location of a railroad immediately adjacent to the primary tannery building. Significant coordination of truck traffic and space management by the demolition contractor is necessary. To reduce the potential for accidents due to collisions, it may be necessary to post speed limit and warning signs. Site activities cannot impact railroad activities, and flagmen may be required during truck or heavy machinery movement in work areas that cross the railroad line.

Building Decontamination: Building surfaces would be decontaminated below the level that could threaten public health (.000016 ug/100cm^2 dioxin as 2,3,7,8-TCDD TE or 16 x 10^{-6} ppb) or to levels suitable for off-site disposal following building demolition. Decontamination of the tannery building complex, screen house, and clarifier building involves removing and disposing of contaminated media in excess of the cleanup goal, including residual tank sludge material, wood, concrete, soils and ponded water. The remaining asbestos-containing material (ACM) will also be removed in the tannery building and any damaged or loose ACM will be removed from the remaining buildings. Decontamination also includes removing contaminated dust and paint (lead and chromium), which may cause a direct exposure or inhalation hazard.

To remove residual contamination from the surfaces in the buildings, the following processes may include vacuuming and/or wiping, scarification, scraping, steam cleaning, power washing and gritblasting. Contaminated porous media such as concrete and wood may be scraped or scarified to remove approximately one-quarter inch from the surface.

Equipment in the buildings would be decontaminated by steam cleaning, scrubbing, and/or wet rinsing. After the building has been decontaminated, confirmation sampling would be conducted to verify the effectiveness of the action and to ensure the cleanup goals have been achieved.

All analytical results for decontamination waste will be evaluated against the criteria and definitions of hazardous waste to determine proper disposal selection, in compliance with State requirements for identifying and listing hazardous wastes. Decontaminated wastewater may be transported to a local Publicly-Owned Treatment Works (POTW). Disposal of solid non-hazardous wastes generated or handled during implementation of B-1A will comply with Vermont solid waste management rules.

Building Demolition: After decontaminating the structurally unsound buildings and removing all contaminated media and ACM, the demolition of the buildings would consist of:

a. Sorting and placing building contents (electrical equipment,

fluorescent lighting, etc.) and trash and debris in 55-gallon drums and rolloffs for disposal. All salvageable materials (equipment, recyclable metal, etc.) would be segregated and stored separately.

b. Demolishing the built-up, tar and gravel roof and loading the debris into rolloffs for disposal.
c. Demolishing the brick walls and tile/hardwood floors and loading the debris into rolloffs for disposal.
d. Demolishing the brick and concrete foundation. It is possible that this material may be left in place or that it may be reused as structural backfill material for future construction projects. However, this demolition waste can also be disposed of in a landfill. The feasibility of leaving all or part of the foundation and other construction debris in place or at the on-site landfill will be evaluated during the (PDI).
e. Stabilizing the river bank slope and regrading the Site.
f. Characterizing waste and debris streams.
g. Disposing of the waste and debris streams based on the waste analysis results.

The volume of demolition waste for the northern building structure is estimated at 3,615 cubic yards; however, a more accurate volume will be determined during the PDI (estimate does not account for the interior contents of the building such as equipment, tanks, etc). Decontaminated demolition debris will be disposed of at an off-site demolition debris landfill or utilized on-site in accordance with State disposal requirements. Asbestos from the tannery building will be disposed of in an asbestos waste disposal site in accordance with Federal and State regulations. On and off-site disposal options for any building materials that cannot be decontaminated below the cleanup levels will be evaluated during the NTCRA. The disposal of any contaminated material will be carried out in accordance with the substantive requirements of all Federal and State disposal requirements identified for this site.

Fugitive dust and particulate emissions will be monitored during demolition activities and will be controlled or reduced using water sprays or other wetting agents. Appropriate health and safety protocol will be developed and implemented within the work areas to protect workers and community residents.

The central tannery building is a State-designated historic structure, so decontamination or demolition of this structure (if necessary) would comply with historical preservation standards, if practicable. In addition, should other significant historical and archeological data or resources be encountered during the removal action, then steps would be taken to recover, protect, or preserve these resources, in compliance with the appropriate federal and state requirements, if practicable.

Soil Excavation: All contaminated soils/sludges in the tannery building complex above the cleanup levels listed in Table 3 will be excavated. Excavation will proceed horizontally and vertically until all of the contaminated soils are removed. The volume of contaminated soil for removal is estimated to be 3,200 cubic yards. The volume of sludge in the floor and trench drains is estimated to be 305 cubic yards. Determination of the actual quantities of sludge and contaminated soil to be excavated, and the potential need for dewatering, will be evaluated during the PDI. Following demolition of the structurally unsound tannery buildings, temporary shoring of the slope may be necessary to allow excavation of contaminated soils within the northern tannery basement, prior to slope grading. Grading of the slope would need to minimize disturbance of the remaining tannery foundation structure.

The excavated tannery basement soils would be processed through a screen to remove debris, stones, and oversized materials. Stones and boulders would be decontaminated and stockpiled on-site and may be used to backfill the excavation. Excavation of contaminated soils below the tannery buildings will be accomplished using standard excavation equipment, such as a backhoe. Use of smaller equipment, such as a Bobcat, may be necessary due to structural and height limitations. In addition, some areas may require excavation by hand due to the location of support beams and foundation footings. The use of smaller equipment and possibly hand labor would be feasible but would extend the duration of the excavation within the central tannery basement. Confirmatory samples will be collected to determine whether any additional excavation is needed. Samples will be analyzed for SVOCs, metals, and dioxins. Additional soil removal and testing will continue until the confirmatory samples indicate that the cleanup goals have been met.

Once the final extent of the excavation at the tannery building has been reached and confirmed, the excavation would be backfilled with clean common fill or building debris in accordance with Federal and State disposal standards. The backfill would be placed, graded, and compacted. It is anticipated that the surface would be seeded to re-establish vegetation, and erosion control measures (i.e., placement of rip-rap along the river bank) would be implemented to prevent erosion. Based on the results of the PDI, alternate measures that meet the substantive requirements of all Federal and State standards may be evaluated.

Because a portion of the tannery complex is located within the 100-year floodplain and is subject to flooding, decontamination activities within the tannery basement, excavation of foundation soils, and Site restoration will be restricted to seasons with low flooding probability (i.e., summer and fall) to reduce potential migration of contaminated soils during excavation activities and protect on-site workers. Demolition and removal of the tannery buildings and excavation of soils beneath the tannery basement will occur along the Hoosic River streambank. Building demolition may result in some debris falling into the Hoosic River. Measures will be taken through proper demolition procedures and care in materials handling to minimize such occurrences. Erosion control measures along the streambank, such as silt fencing and hay bales, would be necessary during excavation activities to prevent the migration of contaminated soils.[3]

Post-removal site measures would include quarterly inspection and repair of fencing, erosion control, and slope reinforcement for a period of 5 years.

Alternative LF-2: Construction of On-Site Landfill Cap

PDI and Site Preparation: A PDI will be performed to evaluate the condition of the existing landfill cap, the leachate collection alarm system, the access road alignment (including regrading), the chain-link fence and the surface water diversion problems (see Figure 6). A

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[3] Long-term control measures will be re-evaluated during the Remedial Investigation/Feasibility Study phase of the Site and addressed in the future Record of Decision.

closure and post-closure plan will be prepared. To provide access for trucks and heavy machinery necessary to implement the removal action at the landfill, Site vegetation and trees will be grubbed and cleared and the landfill access road will be repaired and reinforced. The road would be graded to an even surface and crushed stone and gravel will be placed, graded, and compacted. The equipment and material staging areas will also be cleared and grubbed.

Silt fences and other erosion control measures, as necessary, would be installed along the edges of the cleared/disturbed areas of the Site, around any soil stockpiles, and around decontamination pads. A reinforced silt fence and hay bales would be placed along the upper edge of the slope that descends to the Hoosic River.

Since it is suspected that leachate has backed up into Cell 3 (and potentially Cells 1 and 2), the tank would be pumped until all the leachate within the collection system is removed. Any ponded water that has accumulated in the area of the landfill cells would be removed. The leachate collection system cleanouts and manholes would be inspected and any accumulated materials would be removed, analyzed, and disposed off-site.

Excavation/Site Work: It is likely that the deep-rooted woody vegetation growing on the landfill cap has penetrated the 2 feet of cover soil and damaged the PVC liner in the cap. The current integrity of the bottom liner of Cells 1 and 2 is questionable due to the construction of the liner system (gravel placed directly above the 36-mil Hypalon liner). To minimize the generation of leachate and protect the environment, the existing cover soil and PVC liner would be removed from Cells 1 and 2 and replaced with a RCRA Subtitle C-quality composite cap. This cap would be continuous and would cover Cell 3. The existing cover soil would be stockpiled on-site for reuse in the new cap.

The proposed cap design, as shown in Figure 7, meets RCRA Subtitle C requirements. A RCRA C-quality cap was selected because it offers a greater degree of protection. It would greatly reduce the amount of precipitation that can infiltrate the landfill sludges, thereby reducing contaminant leaching. Because of the questionable condition of the tannery landfill's liner system, a more effective cap system would offset the liner system's deficiencies.

According to the EE/CA, the major cap components are as follows (from bottom to top):

- A base layer of at least 6 inches for rough cap grading.
- A gas vent layer of at least 12 inches of sand or gravel with a permeability greater than $1x10^{-2}$ cm/sec.
- A bottom low-permeability (no greater than $1x10^{-4}$ sec) soil layer of
- at least 12 inches.
- A linear low-density polyethylene geomembrane of at least 60 mils.
- A drainage geocomposite layer consisting of two non-woven geotextiles heat-bonded to a drain core with a hydraulic transmissivity no less than 3×10^{-4} m^2/sec.
- A protective soil layer capable of sustaining a vegetative cover through dry periods and protect lower layers from frost damage or excessive loads.
- A topsoil (sand/silt/loam) layer to support vegetative growth. The final cover would have a minimum slope of 3 percent to promote surface runoff during rain events while minimizing erosion.

Site Restoration: Upon completion of the landfill construction activities, cleared and denuded areas would be graded and seeded. Sediment and erosion control devices would be kept on-site and maintained until the vegetation is established. The loss of any potential wetland in the vicinity of the landfill would be mitigated as part of the final remedy for the Site, which will be documented in a future Record of Decision.

Post-Removal Site Control Measures: The Site would be inspected on a quarterly basis for a period of up to 5 years following the removal action. The Site inspection will focus on the integrity of the cap, revegetation, wetland restoration, and erosion controls. If necessary, repairs will be made to these items. Groundwater monitoring to assess the effectiveness of the removal action will be conducted under the Remedial Investigation.

Leachate removal from the leachate collection tank will be required on a periodic basis. The leachate levels in the tank would initially be checked on a semi-weekly basis since the backed-up leachate within

the collection system has potentially caused the moisture content of the sludge to significantly increase. After the leachate production has reached a steady-state condition, the production rate would dictate the frequency of future inspections and leachate removal. It is estimated that 36,000 gallons will be produced annually and will require off-site treatment and disposal.

B. Contribution to Remedial Performance

The NTCRA proposed in this document is expected to contribute significantly to the long-term remedial action. The remedial goal for this Site is to protect public health and the environment. More specifically, the remedial response will seek to restore the Site to a condition that will allow for future Site use and minimize any long-term threats to the Hoosic River ecosystem, the groundwater and private water supplies. The removal of the source of the contamination at the tannery building complex and the permanent containment of the on-site landfill is entirely consistent with all potential future remedial responses.

The initiation and completion of the RI/FS will focus on the need for additional source control actions beyond the NTCRA to address the lagoons and the need for long-term groundwater response.

C. Description of Alternative Technologies

In addition to the selected NTCRA described above, which utilizes building decontamination, soil/sludge excavation, partial building demolition and on-site disposal and capping at the existing landfill to protect human health and the environment at the Site, other general response measures were identified, screened, and analyzed in the EE/CA for potential applicability at the Site. These alternative response measures included off-site disposal of contaminated soils and sludge from the tannery building following decontamination and partial building demolition (B-1), on-site solidification of soils under the tannery building following decontamination and partial building demolition (B-2), and off-site disposal of contaminated soil and sludge from the on-site landfill (LF-1). Section 3 of the EE/CA describes each of these alternatives in detail.

During the EE/CA process, all of the alternatives were evaluated independently based upon cost, effectiveness, and implementability. Cost was used to assess options of similar effectiveness and implementability.

The direct capital, indirect capital, and post-removal site control costs (operation and maintenance) were estimated for each alternative. Effectiveness was based upon the ability of the alternative to meet the removal action objectives. The effectiveness evaluation also involved the assessment of federal and state ARARS, the short-term risks associated with the alternative, timeliness, and the overall protection of human health in the environment. Implementability involved the assessment of constructability and operational issues.

In the EE/CA's independent analysis of each alternative, all of the alternatives were deemed effective in terms of overall protectiveness by reducing potential long-term risks at the Site. The two alternatives that involved off-site disposal of contaminated soils and sludge (B-1 and LF-1) were determined not to be implementable because no off-site treatment facility could be located to dispose of dioxin-containing waste. While these two alternatives would constitute more permanent measures by removing the contaminated materials permanently off-site, EPA's selected alternatives met the primary and secondary removal objectives and would be permanently protective of human health and the environment at a reduced cost. Although LF-1 constituted a more permanent measure due to fewer post-removal Site control requirements, both LF-1 and the selected alternative (LF-2) were determined to be permanent and effective measures in the long term and the selected alternative is significantly less costly than LF-1.

Alternative B-2, which includes solidification of soils beneath the tannery buildings, is the only alternative that satisfies the statutory preference for treatment. However, all alternatives evaluated would reduce contaminant mobility through containment, and all would comply with applicable or relevant and appropriate federal and state standards (see section 5 below). The costs associated with solidification of tannery building soil and sludge (B-2) and off-site disposal of the landfill soil and sludge (LF-1) were both higher than the selected alternatives to excavate the tannery building soil and sludge (B-1A) and to consolidate that material with the existing contaminated material in the landfill (LF-2).

The preferred alternatives fully satisfy all of the criteria noted above and provides the best balance of the evaluation criteria. See the EE/CA for a more detailed presentation of the cost and the basic components of each alternative.

D. EE/CA

Attachment 2 is the EE/CA Approval Memorandum, Attachment 5 is the EE/CA Fact Sheet (EPA's Proposed Plan), and Attachment 6 is EPA's Response to Comments on the EE/CA and EE/CA fact Sheet. The EE/CA Report itself is found in the Administrative Record for the Site, which is Attachment 7.

E. Applicable or Relevant and Appropriate Requirements

Through the EE/CA process, EPA has evaluated the universe of federal and state ARARS which are within the scope of this NTCRA. Attachment 4 is a list of all such ARARS. EPA has determined that the selected NTCRA will be designed, constructed, operated, and maintained to attain all of the identified ARARS, in accordance with 40 C.F.R. § 300.415(j).

F. Project Schedule

Upon the signature of the Director of the Office of Site Remediation and Restoration of this Action Memorandum, EPA intends to implement the NTCRA with federal funds in 1999. EPA is also in the process of initiating a comprehensive RI/FS to evaluate those portions of the Site not addressed by this NTCRA . The RI/FS will also be implemented by EPA, as no financially viable PRPs have been identified at the Site. The NTCRA construction activities are anticipated to be completed in early 2000. The RI/FS will be conducted concurrently with the NTCRA and is expected to be completed by the summer of 2000 , with the Record of Decision planned in late 2000.

G. **Estimated Costs**[4]

B-1A	
Capital Costs	$4, 917,035
LF-2	
Capital Costs	$1,505,080
Total Capital Costs (B-1A& LF-2)	**$6,422,115**
20% Contingency Factor on Capital Costs Only[5]	$1,284,423
Total Removal Projected Ceiling for this action	**$7,706,538**
Previous Removal Expenditures (1983-1984)	$537,000
Total Removal Costs	**$8,243,538**

VII. EXPECTED CHANGE IN THE SITUATION SHOULD ACTION BE DELAYED OR NOT TAKEN

If the NTCRA is not implemented, the VOCs and metals will continue to leach from the soils into the groundwater further contributing to the groundwater contamination and the contamination in the surface and subsurface soils will continue to represent a threat to the Hoosic River and to Site visitors. If EPA were to delay a response then further exposures to human health and further degradation of the environment could result.

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[4] The estimated cost to perform 5 years of post-removal operation and maintenance activities at the Site is $450,146. A discount rate of 7 % was used to estimate costs.

[5] A contingency factor has been applied to account for expanded efforts related to the results of the PDI.

VIII. OUTSTANDING POLICY ISSUES

There are no outstanding policy issues at this Site. The actions addressed in this memorandum to address contaminants at two source areas at the site are entirely consistent with national and regional practices. The regional case team has consulted with headquarters regarding all aspects of the NTCRA. Headquarters is supportive of the NTCRA.

IX. ENFORCEMENT

No financially viable PRPs have been identified at this site. The Pownal Tannery Company became bankrupt in 1988.

X. RECOMMENDATION

This decision document represents the selected removal action for the Pownal Tannery Superfund Site, in Pownal, Vermont, Bennington County, Vermont, developed in accordance with CERCLA as amended, and is not inconsistent with the NCP. This decision is based upon the Administrative Record for the Site.

Conditions at the Site meet the NCP criteria for a removal action as specified at 40 C.F.R. § 300.415(b)(2). I recommend your approval of the proposed removal action. The total project ceiling for the NTCRA, if approved, will be $7,706,538. The total project ceiling for all removals at the Site would then be $8,243,538. I also recommend and request your approval of a "consistency" exemption to the statutory limits of $2 million and one year on removal actions.

Approve ✓ Disapprove _____

Patricia L. Meaney, Director
Office of Site Remediation and Restoration

Date: 3/22/99

Pownal Tannery Superfund Site - Action Memorandum

List of Attachments

Attachment 1 - Figures and Tables

Attachment 2 - EE/CA Approval Memo

Attachment 3 - Site Chronology

Attachment 4 - ARAR Tables

Attachment 5 - EE/CA Fact Sheet (Proposed Plan)

Attachment 6 - Response to Comments

Attachment 7- Administrative Record Index

Attachment 1 - Figures and Tables

TABLE 1

Summary of Primary Contaminants of Concern, Maximum Concentrations Detected

Tannery Building Complex

Soils/Sludge

arsenic (mg/kg)	**63**	parts per million
antimony (mg/kg)	**232**	
barium (mg/kg)	**8,270**	
cadmium (mg/kg)	**33**	
chromium (mg/kg)	**126,000**	
lead (mg/kg)	**1,380**	
manganese (mg/kg)	**2,140**	
nickel (mg/kg)	**606**	
vanadium (mg/kg)	**1,640**	
benzo(a)anthracene (ug/kg)	**56,000**	parts per billion
benzo(a)pyrene (ug/kg)	**63,000**	
benzo(b)fluoranthene (ug/kg)	**74,000**	
benzo(k)fluoranthene (ug/kg)	**45,000**	
indeno(1,2,3-cd)pyrene (ug/kg)	**22,000**	
pentachlorophenol (ug/kg)	**33,000**	
dioxin (ng/kg)	**459**	parts per trillion

Landfill

	sludge	Runoff Sediments	
arsenic (mg/kg)	**10**	**9**	parts per million
cadmium (mg/kg)	**76**	NA	
chromium (mg/kg)	**18,900**	**60**	
lead (mg/kg)	**975**	**22**	
manganese (mg/kg)	**3,640**	**3,110**	
mercury (mg/kg)	**39**	**.11**	
zinc (mg/kg)	**171**	**620**	
pentachlorophenol (mg/kg)	**100**	NS	
2,4,5-trichlorophenol "	**51**	NS	
4-methylphenol (mg/kg)	**500**	NS	
phenol (mg/kg)	**200**	NS	
2-butanone (ug/kg)	**740**	NS	parts per billion
dioxin (ug/kg)	**7**	NA	

TABLE 2
SUMMARY OF RECEPTOR RISKS, HAZARDS, AND LIMITATIONS
ENGINEERING EVALUATION/COST ANALYSIS
POWNAL TANNERY SITE, N. POWNAL, VERMONT

Area	Sampling Limitations		High Lead (3)	Scenario/Receptor	RME or CTE	Total Cancer Risks	Total Noncancer Risks	Media > 1E-04 or HI > 1	Major contributors to risk (> 1E-06, HI > 0.1)
	Low Sample Number (1)	Analyses Not Performed (2)							
Northern Tannery	SL-DX SW-SVOC,MT	SL-P/P,VOC SW-DX,P/P,VOC PT-P/P,VOC	YES	Current/Future Adolescent Trespasser	RME	***5.4E-04***	0.08	particulates	(NC)-NA (C)-Dioxin, PAHs
				Future Adult Employee	RME	***1.9E-02***	0.26	soil particulates	(NC)-V (C)-Dioxin, PAHs, PCP
Central Tannery	SW-SVOC,MT	SL-P/P,VOC SW-DX,P/P,VOC PT-DX,P/P,VOC	YES	Current/Future Adolescent Trespasser	RME	3.8E-05	0.03		(NC)-NA (C)-Dioxin, PAHs
				Future Adult Employee	RME	***1.3E-03***	0.093	soil	(NC)-NA (C)-Dioxin, PAHs, As
Block House Tannery	SL-SVOC,MT,DX PT-SVOC,MT	SL-P/P,VOC PT-DX,P/P,VOC	NO	Current/Future Adolescent Trespasser	RME	3.1E-06	0.1		(NC)-NA (C)-BEHP
				Future Adult Employee	RME	2.6E-05	0.35		(NC)-Cd, BEHP (C)-As, Dioxin, BEHP
Screen House	PT-SVOC,MT	SL-No Data PT-DX,P/P,VOC	NE	Current/Future Adolescent Trespasser	RME	NA(4)	0.0000029		NA
				Future Adult Employee	RME	NA(4)	0.000019		NA
Clarifier Building		SL-DX	YES	Current/Future Adolescent Trespasser	RME CTE	6.2E-07 1.0E-07	0.042 0.003		(NC)-NA (C)-NA
Landfill		SD-SVOC	YES	Current/Future Adolescent Trespasser	RME CTE	6.2E-05 3.7E-06	0.24 0.18		(NC)-NA (C)-Dioxin
River	SD-P/P,SVOC,VOC SW-P/P,SVOC,VOC	SD-DX SW-DX,P/P	NO	Current/Future Adolescent Recreational Use	RME CTE	1.8E-06 1.1E-07	0.042 0.0057		(NC)-NA (C)-As

Notes:
(1) Low quantity of Samples (1-2, only)
(2) Samples not collected for following analyses, by media
(3) Lead > 400 mg/kg Screening Level in soils or sediments
(4) No carcinogenic contaminants of potential concern detected
(5) No noncarcinogenic contaminants of potential concern detected
(6) Chromium listed as a major contributor is based on Chromium III toxicity values

NA- Not Applicable
NE- Not Evaluated due to lack of data
C- Carcinogenic
NC- Noncarcinogenic

SL- Soil or Sludge
SD- Sediment
SW- Surface Water
PT- Particulates
CTE- Central tendency exp.
RME- reasonable maximum exp.

DX- Dioxins
MT- Metals
P/P- Pesticides/PCBs
SVOC- Semivolatile organics
VOC- Volatile organics
PCP- Pentachlorophanol
BEHP- Bis(2-ethylhexyl)phthalate

Cancer risks exceeding 1.0E-04 and noncancer risks exceeding 1.0 are shown in bold, italicized print.

TABLE 3
SELECTED PRELIMINARY REMEDIATION GOALS
ENGINEERING EVALUATION/COST ANALYSIS
POWNAL TANNERY SITE, NORTH POWNAL, VERMONT

Area of Concern & Media	Contaminant of Concern	PRG	Basis of Selection
Tannery Building Complex			
Soils	Arsenic (mg/kg)	1.7	human health protection
	Antimony (mg/kg)	tbd	groundwater protection [1]
	Barium (mg/kg)	tbd	groundwater protection [1]
	Cadmium (mg/kg)	tbd	groundwater protection [1]
	Chromium (mg/kg)	tbd	groundwater protection [1]
	Lead (mg/kg)	1,000 [2]	default human health limit
	Nickel (mg/kg)	tbd	groundwater protection [1]
	Bis(2-ethylhexyl)phthalate (ug/kg)	tbd	groundwater protection [1]
	Benz(a)anthracene (ug/kg)	2,600	human health protection
	Benzo(a)pyrene (ug/kg)	300	human health protection
	Benzo(b)fluoranthene (ug/kg)	2,600	human health protection
	Benzo(k)fluoranthene (ug/kg)	25,800	human health protection
	Indeno(1,2,3-cd)pyrene (ug/kg)	2,600	human health protection
	Dibenz(a,h)anthracene (ug/kg)	300	human health protection
	Pentachlorophenol	11,900	human health protection
	Dioxins (as 2,3,7,8-TCDD TE) (ug/kg)	5 [3]	human health protection
Interior Surfaces			
	Dioxins (as 2,3,7,8-TCDD TE) (ug/100 cm2)	0.000016	human health protection
Lagoons & Clarifier			
Sludges/Soils	Antimony (mg/kg)	65.9	human health protection
	Arsenic (mg/kg)	0.7	human health protection
	Cadmium (mg/kg)	42.5	human health protection
	Chromium (mg/kg)	tbd	groundwater protection [1]
	Lead (mg/kg)	400 [4]	human health protection
	Manganese (mg/kg)	tbd	groundwater protection [1]
	Mercury (mg/kg)	49.4	human health protection
	Thallium (mg/kg)	13.2	human health protection
	Dioxins (as 2,3,7,8-TCDD TE) (ug/kg)	1 [3]	human health protection
Landfill			
Dewatered Sludges (Sediments)	Arsenic (mg/kg)	tbd	groundwater protection [1]
	Chromium (mg/kg)	tbd	groundwater protection [1]
	Lead (mg/kg)	400 [4]	human health protection
	Manganese (mg/kg)	tbd	groundwater protection [1]
	Nickel (mg/kg)	tbd	groundwater protection [1]
	Dioxins (as 2,3,7,8-TCDD TE) (ug/kg)	1 [3]	human health protection

Notes:

(1) COCs tentatively identified as posing potential threat to groundwater quality will be further assessed during the NTCRA implementation. Actual soil PRGs to protect groundwater quality will be developed based on site-specific factors during the NTCRA, if warranted.

(2) Based on default EPA screening level of 1000 mg/kg.

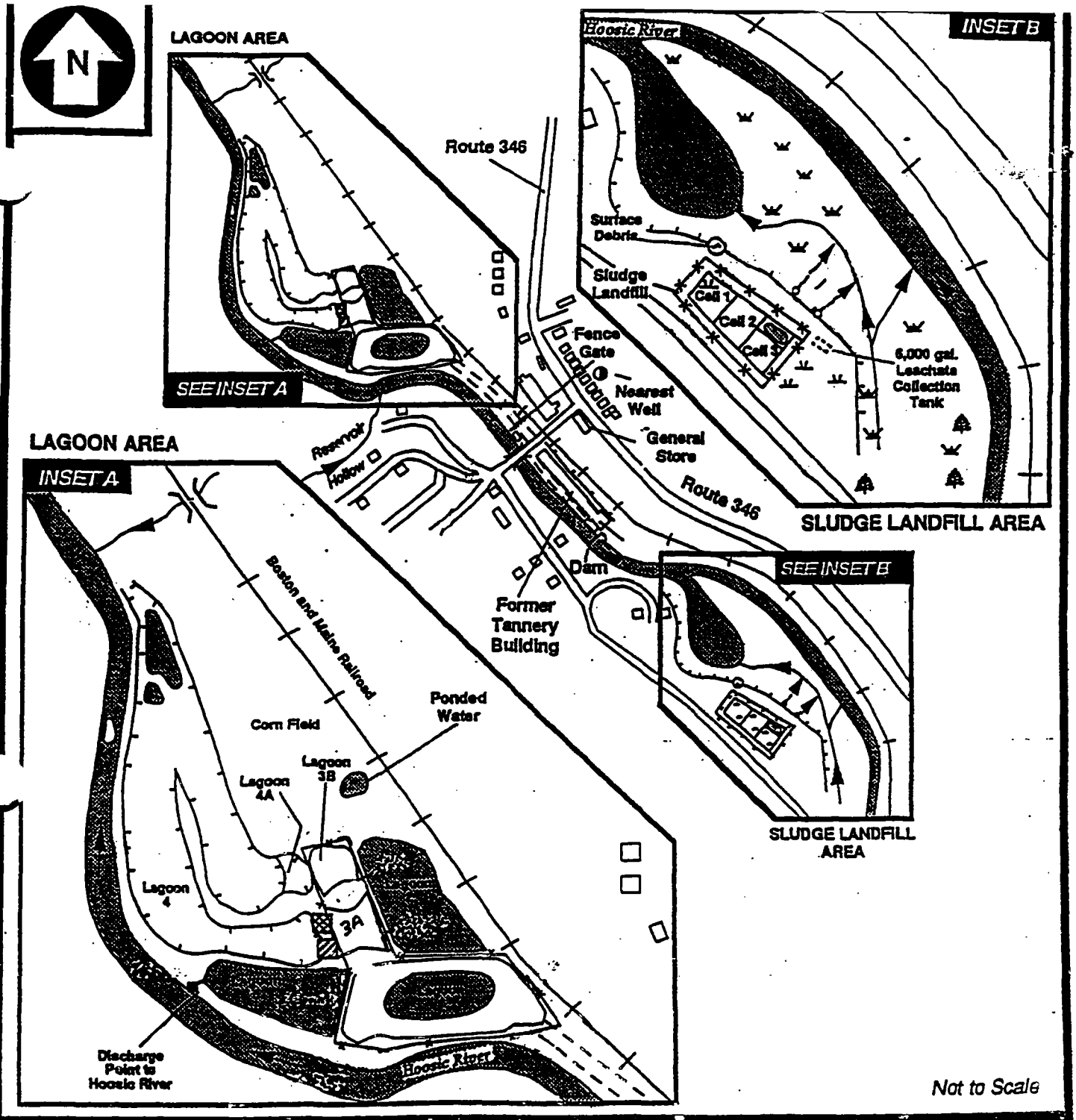
(3) Based on ***OSWER Dir. 9200.4-26, Approaches for Addressing Dioxins in Soil at CERCLA and RCRA Sites (Apr 13, 1998).***

(4) Based on ***Revised Interim Lead Guidance for CERCLA Sites and RCRA Corrective Action Facilities, US EPA, 1994.***

TE - Toxicity Equivalent

tbd - to be determined

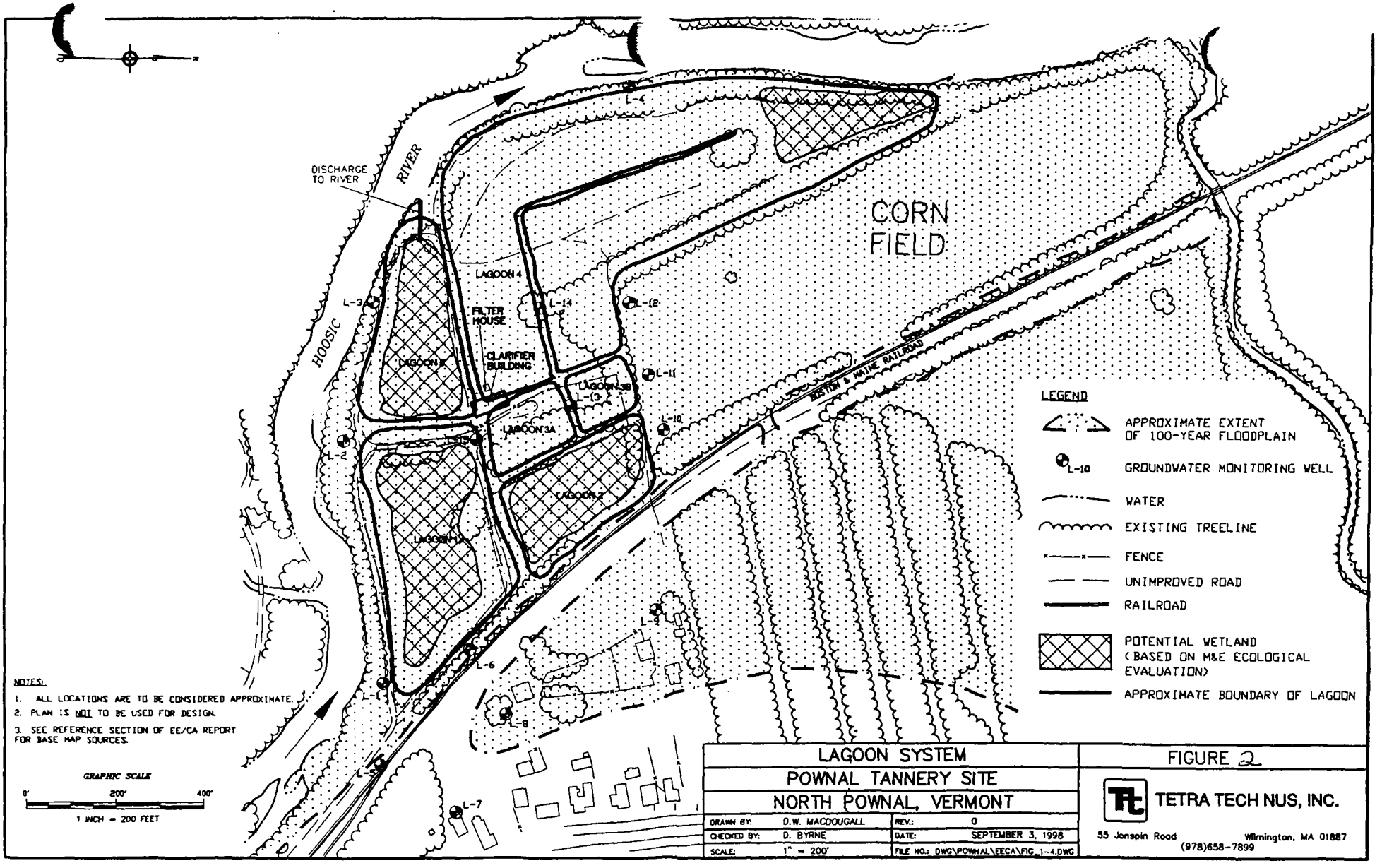
★ TO BE ADDRESSED DURING THE R1/FS



SITE SKETCH

POWNAL TANNERY
POWNAL, VERMONT

Figure 1



LAGOON SYSTEM
POWNAL TANNERY SITE
NORTH POWNAL, VERMONT

FIGURE 2

DRAWN BY:	O.W. MACDOUGALL	REV.:	0
CHECKED BY:	D. BYRNE	DATE:	SEPTEMBER 3, 1998
SCALE:	1" = 200'	FILE NO.:	DWG\POWNAL\EECA\FIG_1-4.DWG

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(978)658-7899

ALTERNATIVE B-1A
DECONTAMINATION, DEMOLITION, AND ON-SITE SOIL DISPOSAL

PRE-DESIGN INVESTIGATION (PDI)

- Perform structural assessment of northern and central buildings
- Perform building survey of tannery building, screen house, and clarifier building to estimate remaining contaminated media (including ACM), equipment, and debris
- Perform soil sampling in tannery building basement and exterior to determine extent of soil contamination
- Inspect Cell 3 of on-site landfill and complete compliance evaluation

SITE PREPARATION

- Clear and grub appropriate work areas
- Establish erosion and sediment control around cleared areas
- Install fence around demolition area

BUILDING DECONTAMINATION

- Decontaminate tannery building complex, screen house, and clarifier building
- Remove ACM from northern building
- Dispose of equipment and loose debris at recycling facility or off-site landfill
- Dispose of decontamination waste at an off-site RCRA Subtitle D or C facility according to waste analysis results

BUILDING DEMOLITION

- Demolish northern building
- Dispose of demolition debris at an off-site solid waste landfill

EXCAVATION/SITE WORK

- Excavate contaminated soil and floor drain/trench sludge (as determined by PDI) from tannery basement and backfill with clean fill
- Dispose of contaminated soils and sludge at Cell 3 of the on-site landfill according to PDI analyses

SITE RESTORATION

- Grade northern building area and place layer of topsoil for vegetation growth
- Reinforce Hoosic River streambank
- Hydroseed cleared/disturbed areas

POST-REMOVAL SITE CONTROL MEASURES

- Inspect and repair fencing, erosion control, and slope reinforcements for up to 2 years

KEY COMPONENTS OF ALTERNATIVE B-1A
ENGINEERING EVALUATION/COST ANALYSIS
POWNAL TANNERY SITE
NORTH POWNAL, VERMONT

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FIGURE 3

ALTERNATIVE LF-2
CAP REPLACEMENT AND CONSTRUCTION

PREDESIGN INVESTIGATION

- Conduct an inspection of the landfill to determine necessary repairs
- Delineate wetlands

SITE PREPARATION

- Clear and grub appropriate work areas
- Establish erosion and sediment controls around cleared areas
- Repair landfill access road
- Remove leachate and standing water
- Remove accumulated material from leachate collection system cleanouts and manholes

EXCAVATION/SITE WORK

- Remove existing cover soil and PVC liner from Cells 1 and 2
- Place layers of modified RCRA Subtitle C cap over Cells 1, 2, and 3
- Repair leachate collection alarm system and chain-link fence
- Correct the surface water diversion problems

SITE RESTORATION

- Grade, apply seed, and mulch the former landfill area and all other cleared and denuded

COMPENSATORY WETLANDS MITIGATION

- Create 0.4 acres of wetland on another portion of Pownal Tannery property

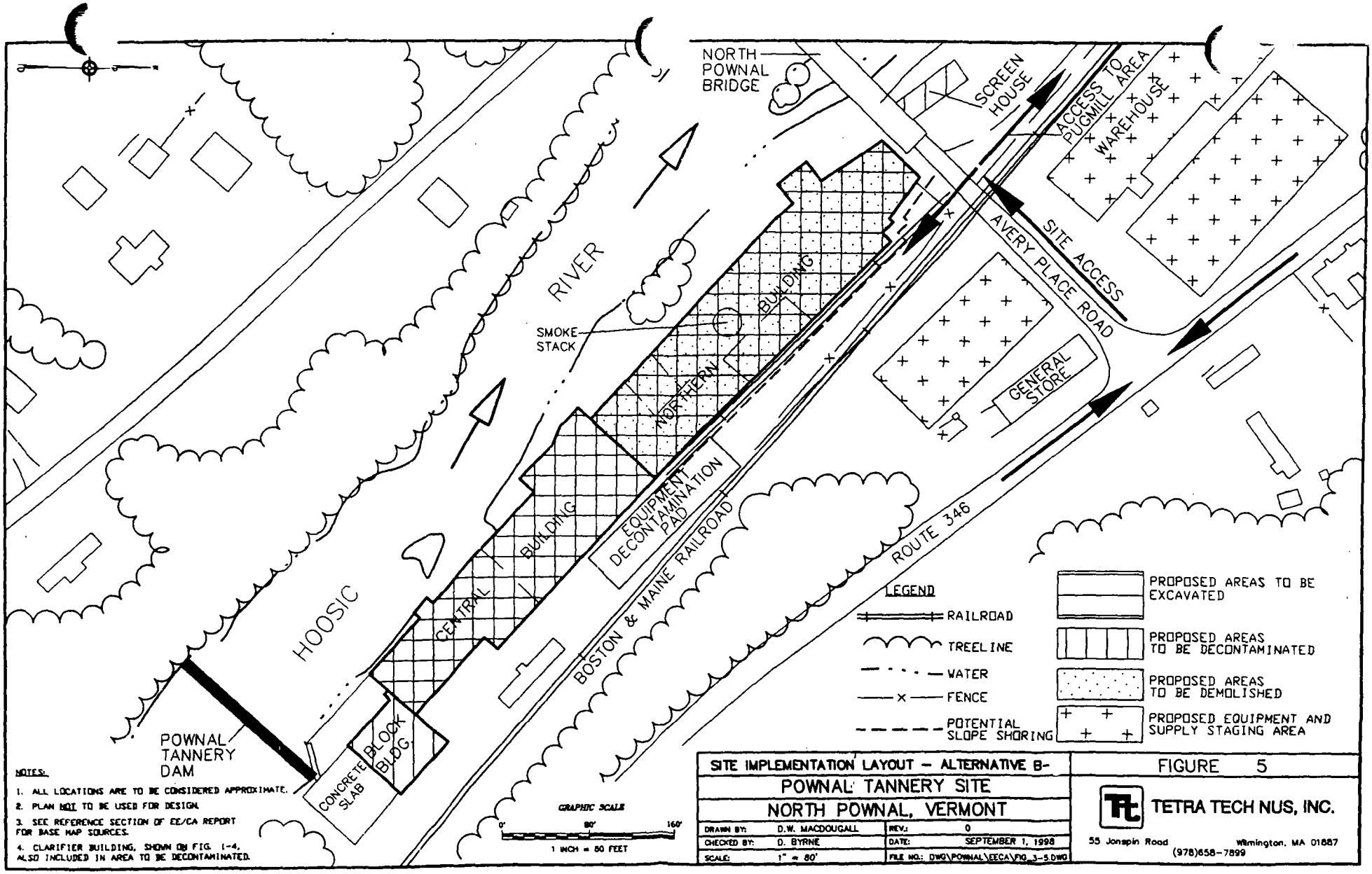
POST-REMOVAL SITE CONTROL MEASURES

- Inspect site quarterly for up to 2 years, including repair and maintenance of erosion controls, cap, vegetative growth, and compensatory wetlands
- Remove collected leachate annually and dispose off site

KEY COMPONENTS OF ALTERNATIVE LF-2
ENGINEERING EVALUATION/COST ANALYSIS
POWNAL TANNERY SITE
NORTH POWNAL, VERMONT

Tetra Tech NUS, Inc.

FIGURE 4



NOTES:

1. ALL LOCATIONS ARE TO BE CONSIDERED APPROXIMATE.
2. PLAN NOT TO BE USED FOR DESIGN.
3. SEE REFERENCE SECTION OF EE/CA REPORT FOR BASE MAP SOURCES.
4. CLARIFIER BUILDING, SHOWN ON FIG. 1-4, ALSO INCLUDED IN AREA TO BE DECONTAMINATED.

SITE IMPLEMENTATION LAYOUT – ALTERNATIVE B-

POWNAL TANNERY SITE

NORTH POWNAL, VERMONT

DRAWN BY:	D.W. MACDOUGALL	REV.:	0
CHECKED BY:	D. BYRNE	DATE:	SEPTEMBER 1, 1998
SCALE:	1" = 80'	FILE NO.:	DWG\POWNAL\EECA\FIG_3-5.DWG

FIGURE 5

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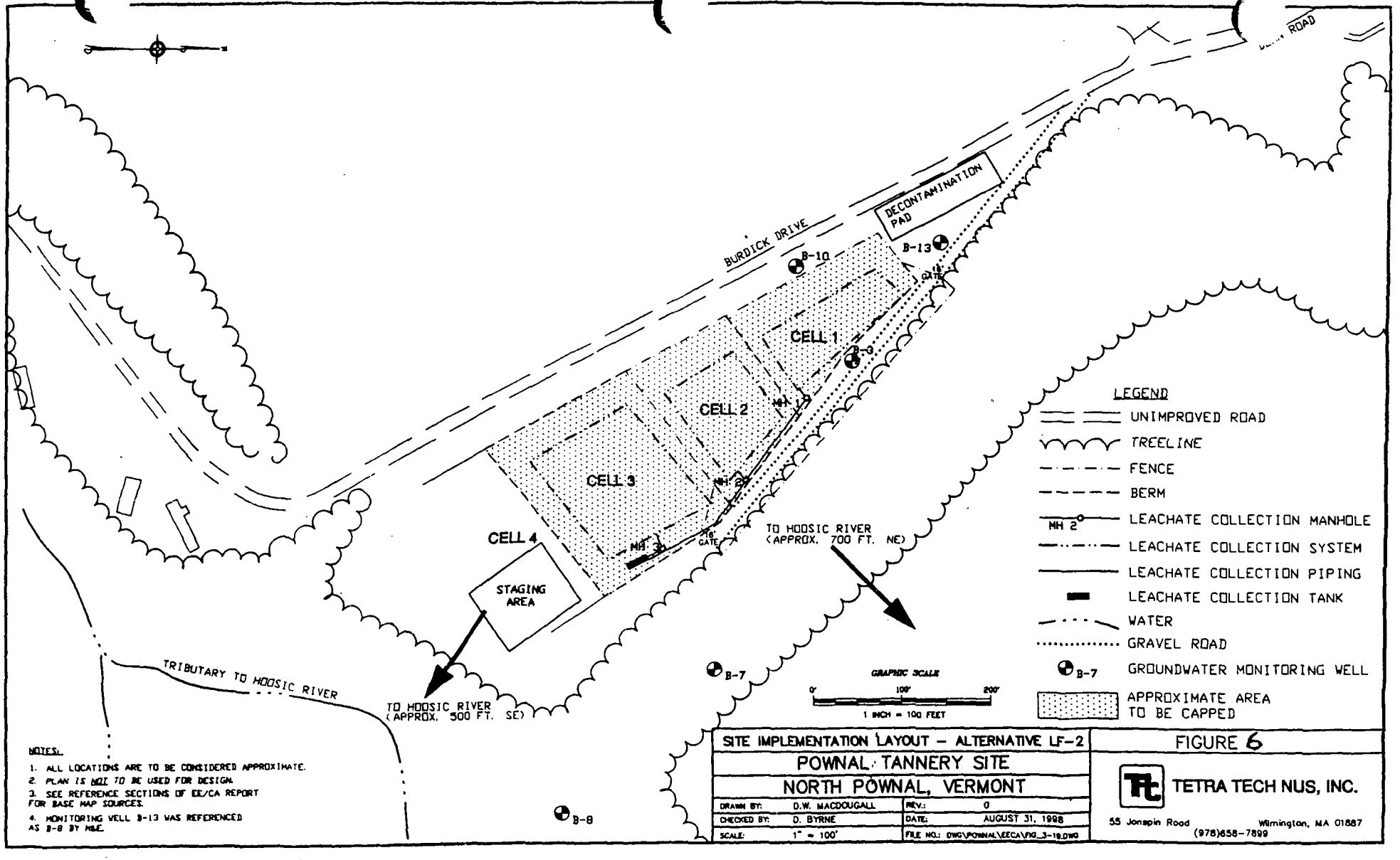

NOTES:

1. ALL LOCATIONS ARE TO BE CONSIDERED APPROXIMATE.
2. PLAN IS NOT TO BE USED FOR DESIGN.
3. SEE REFERENCE SECTIONS OF EE/CA REPORT FOR BASE MAP SOURCES.
4. MONITORING WELL B-13 WAS REFERENCED AS B-8 BY M&E.

SITE IMPLEMENTATION LAYOUT – ALTERNATIVE LF-2

POWNAL TANNERY SITE

NORTH POWNAL, VERMONT

DRAWN BY:	D.W. MACDOUGALL	REV.:	0
CHECKED BY:	D. BYRNE	DATE:	AUGUST 31, 1998
SCALE:	1" = 100'	FILE NO.:	DWG\POWNAL\EECA\FIG_3-18.DWG

FIGURE 6

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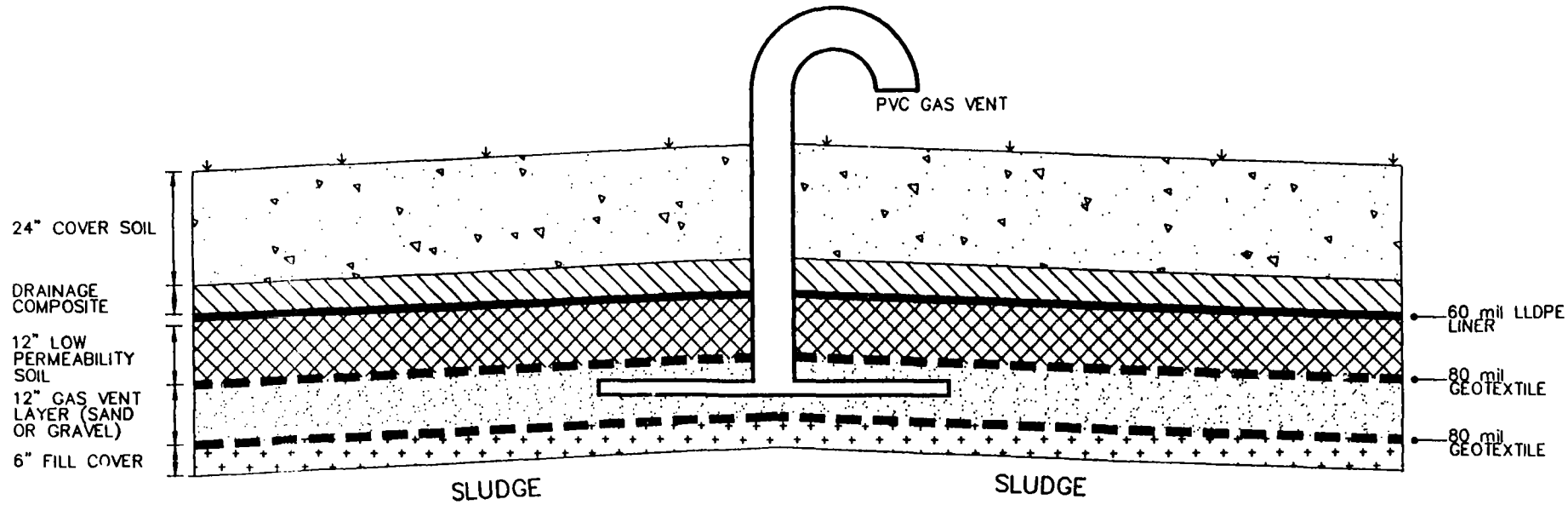
ALTERNATIVES LGN-3A AND LF-2
CONCEPTUAL CAP DESIGN



N O T E S :

1. CONCEPTUAL DESIGN, ONLY.
2. PLAN NOT TO BE USED FOR DESIGN.

ALTERNATIVES LGN-3A AND LF-2		FIGURE #7	
CONCEPTUAL CAP DESIGN			
POWNAL TANNERY SITE			
NORTH POWNAL, VERMONT			
DRAWN BY:	D.W. MACDOUGALL	REV.:	0
CHECKED BY:	E. CURRY	DATE:	SEPTEMBER 8, 1998
SCALE:	NOT TO SCALE	FILE NO.:	DWG\POWNAL\EECA\FIG_3-14.DWG

TETRA TECH NUS, INC.
55 Jonspin Road Wilmington, MA 01887
(978)658-7899

Attachment 2 - EE/CA Approval Memo

ATTACHMENT 2

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION I

MEMORANDUM

DATE: January 14, 1998

SUBJ: Executive Summary: NTCRA Approval Memo for the Pownal Tannery NPL Caliber Site, Pownal, Vermont

FROM: Leslie McVickar,
Remedial Project Manager

TO: Harley Laing, Director
Office of Site Remediation and Restoration

Summary of Action The proposed action is the signing of an Approval Memo to obligate funds for the completion of an Engineering Evaluation/Cost Analysis (EE/CA) to develop alternatives for the implementation of a non-time critical removal action (NTCRA) to address source control components at the above referenced Site. The cost of the EE/CA is estimated at $110,000.

Once the EE/CA is completed, EPA will issue a proposed plan for public comment. An Action Memorandum will be signed at the completion of the public comment process to select the NTCRA. While this Site has sufficient ranking to list on the NPL, it has not been listed at the request of Governor Dean of Vermont. Assuming the availability of federal funds, and approximately $300,000 set aside for a response action by the State of Vermont (pursuant to a MOA with EPA), the NTCRA could result in cleanup of the source control components, which would otherwise not occur given its current non-NPL status.

Description of the Site The Pownal Tannery Site encompasses approximately 30 acres along Route 346 in Pownal, Vermont. Pownal is located in the southwestern portion of the state, just south of Bennington. Pownal is a rural community of approximately 3,500 people. The Site consists of a former tannery process building, clarifier building, screen house, a lagoon system and landfill. The Site is located adjacent to the Hoosic River, which flows north from Massachusetts, past the Site, and into New York. The tannery buildings and lagoon system are on the east side of the river, while the one acre landfill is located on the west site. Both the buildings and the lagoons are located in the flood plain. The nearest resident lives approximately 75 feet from the Site and relies upon groundwater for their public drinking water supply.

The Pownal Tanning Company operated a cow and sheep hide tanning operation from 1937 until 1988, when they declared bankruptcy and abandoned the facility. There are no other PRPs at the Site. Between 1937 and 1962, the tannery discharged raw untreated tanning wastes which included solvents, tanning sludges with high concentrations of chromium and lead, and process waste water directly into the Hoosic River. Between 1962 and 1971 a twenty-two acre lagoon

system was built to precipitate solids out of waste water prior to discharge to the river. Also during this time a clarifier building was added for additional clarification and flocculation of the sludge. In 1982 a state permitted landfill was constructed on Site to dispose of dewatered pressed sludge from the lagoons. This landfill has three cells all of which are lined. However, only cells 1 and 2 are capped. There is an underground 6,000 gallon leachate collection tank. The buildings, lagoons and landfill all represent a source of contamination to the Hoosic River and adjacent wetlands, as well as pose a current potential human health concern.

In 1993 EPA performed a time-critical removal action to address approximately 13,000 pounds of hazardous material left in the former tannery building. Subsequent sampling of building materials indicates that residual contamination is present in the building.

Headquarters Perspective or Involvement Headquarters was involved with the decision to pursue a NTCRA/SACM at this Site back in 1992-1993. HQ provided funding at this time for the Site. HQ has not been involved in Site activities since that time. They will be informed of the NTCRA prior to the Action Memorandum.

Public Involvement The public was involved at the Site during the 1993 removal effort. Meetings were held with the Pownal Health Department, State and local Police, the Fire Department, local officials and the public. A newsletter regarding EPA's actions were distributed to the local residents by the VT DEC. An Administrative Record was established for the Site and is at the Pownal Town Library. Since that time, no community relations efforts have been conducted. To address issues of public safety, EPA and the VT DEC are working with the Town of Pownal to install additional fencing and locks to re-establish security measures that had been vandalized by local youth. EPA is currently reviewing bid documents to implement these measures. A meeting is planned with the assigned EPA Community Relations Coordinator to develop a strategy for public involvement which will include community interviews to solicit their concerns.

Media/Congressional Involvement There is limited interest from the local media regarding primarily future Site usage. The town and local development groups want to see the tannery building removed so that the parcel can be redeveloped. In the past, State officials and the Governor have expressed their concern that the Site not be listed on the NPL; citing the perceived length of time it would take to cleanup up the Site under Superfund. They wanted to see the Site addressed by the VT DEC with some federal funding. There has been little interest since the 1993 removal effort.

State Coordination The VT DEC has been very involved with Site activities. They worked with the Pownal Tanning Company while they were still in operation to get them into compliance. They required the excavation of sludge from one of the lagoons to a newly constructed landfill and required the tannery to perform soil, groundwater and residential well sampling. Since the Site has been abandoned they have coordinated with EPA on all investigations and assumed responsibility for a portion of the 1993 removal action. In 1996, EPA signed a Memorandum of Agreement with the VT DEC which established responsibilities for each party and designated $300,000 of VT money to the ultimate NTCRA. They are

currently involve with instituting site security measures with the Town of Pownal, and are expected to reimburse the town for their efforts.

U.S. ENVIRONMENTAL PROTECTION AGENCY
REGION I
JFK FEDERAL BUILDING, BOSTON, MA 02203

MEMORANDUM

DATE: January 14, 1998

SUBJ: Pownal Tannery NPL Caliber Site,
Approval Memorandum to Perform an Engineering
Evaluation/Cost Analysis for a Non-Time Critical Removal Action

FROM: Leslie McVickar, RPM
Antoinette Powell, Assistant Regional Counsel

THRU: MaryJane O'Donnell, Chief
ME/VT/CT Superfund Section

Donald Berger, Chief
Remediation and Restoration II Branch

Richard Cavagnero, Chief
Emergency Planning and Response Branch

TO: Harley Laing, Director
Office of Site Remediation and Restoration

I. Subject

Investigations have determined that there has been a release of hazardous substances to the environment at the Pownal Tannery site (the "Site") in Pownal, Vermont. While this Site ranks high enough to be an NPL site, it has not been proposed to the NPL at the request of the Governor of Vermont, and has therefore been designated as an NPL Caliber Site. This memorandum documents the decision to proceed with an engineering evaluation/cost analysis (EE/CA) for a non-time critical removal action at the Site. The EE/CA will be limited to evaluating alternatives for the source control components at this Site. The EE/CA will determine if EPA needs to provide a timely response to effectively minimize threats to public health or welfare or the environment, which may result from the continuing release and threat of release of hazardous substances at and from the Site.

This memorandum is not a final Agency decision regarding the selection of a removal action for this Site.

II. Background

a. Site Description and History

The Pownal Tannery site (the Site) is located on Route 346 in North Pownal, Vermont, approximately 20 miles south of Bennington, as shown in Figure 1. The Pownal Tanning Company operated a cow and sheep hide tanning operation from 1937 until 1988, and is currently inactive. The company is currently bankrupt and the property has been abandoned. The property consists of five lagoons, a screen house, a clarifier building, a tanning building, a warehouse and a landfill, as shown on Figure 2.

The property consists of approximately 30 acres and is bordered by the Hoosic River to the east, railroad tracks and a residential area to the west, and cornfields to the north. The landfill was constructed and used by the tannery to receive sludge from the clarifier and lagoons, and is located on a separate parcel of property one half mile south of the tannery process building. The community consists of approximately 3,500 residents and the nearest residence is approximately 75 feet from the Site. The Site is unforested land consisting of disturbed areas, wetlands, and uplands. The lagoons and the tannery facility are within the 100 year floodplain.

Between 1937 and 1962, the tannery discharged raw untreated tanning wastes including solvents, lubricating oils, tanning sludges with high concentrations of lead and chromium, and process waste water directly to the Hoosic River. Between 1962 and 1963, a ten acre lagoon system consisting of a screen house and two unlined lagoons was constructed to precipitate solids out of waste water prior to discharge to the river. In 1971, the lagoon system was expanded to five lagoons covering 22 acres. A clarifier building was added in 1978 for added clarification and flocculation of the sludge. Solids from the clarifier were disposed of in lagoons # 1 and # 2.

Landfill

In 1982 a lined State permitted landfill was constructed on-Site to dispose of dewatered pressed sludge from the lagoons. The landfill is approximately 54,100 square feet and consists of three cells, two of which were capped in 1987 with local material and are vegetated. The landfill is approximately 400 feet long and varies from 80 to 200 feet wide. The landfill was constructed so that the liner beneath the sludge landfill was at least 10 feet above the local water table. The landfill liner consists of a 36-mil Hypalon liner overlain by 12 inches of sand cushion. Above this layer, 4-inch diameter perforated PVC leachate collection pipes were placed within an 18 inch layer of crushed stone, and covered with 6 inches of gravel. Sludge was placed above the liner in a layer that is between 6 to 13 feet thick. The sludge in Cell's #1 and #2 are covered with 20 mil PVC and covered by 2 feet of silty sand which is vegetated with grass and weeds. While

the third cell is lined, it is incomplete and the uncapped portion forms a depression where wetland vegetation grows. It is estimated that the remaining capacity of Cell 3 is approximately 2,500 cubic yards. Leachate generated by the landfill collection system is directed to a 6,000 gallon steel underground storage tank. The leachate had been collected by the VT DEC and trucked to Lagoon # 5 where the solids settled out and were discharged to the river pursuant to a NPDES permit. However, this practice has been eliminated.

It is believed that the leachate system beneath the landfill may leak, and may be discharging leachate to the subsurface. Leachate and/or groundwater beneath the landfill comes to the surface in seeps that have been observed along the slope downhill of the landfill. Surface water runoff from the landfill combines with groundwater seeps at the base of the slope below the landfill and flows through wetlands located adjacent to the Hoosic River for approximately 350 feet to discharge to the river.

Lagoons

Pursuant to a Consent Order with the VT DEC, Lagoon #1 was closed in place in 1983. Its surface water was removed and it was capped with a layer of lime and 12-18 inches of clay. The surface of Lagoon #1 subsequently sank, forming a depression on the top of the cover, and the depression is currently filled with water in which wetland vegetation lives. The VT DEC required EP toxicity testing of all lagoon sludge, which revealed that sludge in lagoon #1 failed for lead, rendering it by definition hazardous under 40 CFR 261.24(a). An undocumented amount of sludge was removed from Lagoon #2 and disposed of in the landfill. Existing data shows that some sludge does still exist at this location which is currently uncapped and contains ponded water.

In 1993, Lagoon #3 was also capped in place with lime and 12-18 inches of clay. Containers of fuel oil, sawdust, rags, lignosulfonate filler, finishing materials (including solvents), burned wood and chromium III crystals were discovered in Lagoon # 3 in 1987 and were removed by the Pownal Tannery. A portion of Lagoon #4 (4A) was limed and covered with a foot of clay and is mostly without water. Section #4B is unlined. Lagoon #5 is also uncovered and is filled with water. An outflow channel exists at Lagoon # 5 which periodically allows water to discharge to the Hoosic River.

Buildings

The former tannery building is approximately 170,000 square feet and was built in approximately 1880 which was used as a woolen mill until 1937. Included is a 13,000 square foot modern concrete block addition. The original northern and central portion of the building is primarily of brick construction with a partially earthen floor. The building is four stories tall, including the basement. The building is in poor condition, with broken windows, missing doors, and a leaking roof which allow precipitation to infiltrate the building. Water migrates through the building from top to bottom and collects in a trench which runs the length of the older portion of the

building. Because the basement floor is partially earthen, and rising river water often flows through it.

Following bankruptcy of the Pownal Tanning Company, approximately 12,830 pounds of hazardous materials were abandoned within the former tannery building. The materials were stored throughout the building in containers of various sizes, and were subject to releases of hazardous substances to the Hoosic River. At the request of the VT DEC, EPA conducted a PA/SI at the Site on January 11, 1993. Compressed gas cylinders, drums of chemical wastes, tanks and vessels of process wastes, friable asbestos, and sludges in the plant's wastewater treatment system were found at the Site. On March 15, 1993 an Action Memorandum was signed to initiate a time-critical removal action which commenced on April 12, 1993. During this removal action, the following activities were performed: compressed gas cylinders and asbestos-containing materials were disposed of off-Site; small containers were transported off-Site; tanks, drums, sludges and waste piles were sampled and all hazardous contents were disposed of off-Site; three 1-gallon cans of tetrahydrofuran were detonated on-Site; covers were welded on five open topped in-ground tanks located in the lagoon area; all buildings were sealed to prevent public access and potential exposure; all tanks were cleaned and wastes sent off-Site, a breach in a berm at Lagoon # 4 was repaired; and samples of sludge on floor drains and smoke stack debris were sampled. On-site activities were completed on May 18, 1994.

Studies

Between 1980 and 1988 a limited groundwater monitoring well network (16 wells) was installed around the lagoons and landfill, and samples were periodically sampled and analyzed by the Pownal Tannery. Pursuant to a August 20, 1986 order issued by the VT DEC to the Pownal Tannery, a limited hydrogeological assessment was conducted. Also during this period miscellaneous sampling and analysis of residential wells and lagoon sludge was conducted (including EP Toxicity testing), and a preliminary magnetometer survey was conducted and documented in a subsurface hazardous waste investigation report prepared by the tannery. Adjacent residents rely upon a mix of public and private groundwater sources for drinking water. Within a mile radius from the Site, approximately 275 people are served by groundwater. Private drinking water sources in the area are completed in either the overburden or bedrock.

Following the above noted PA/SI and removal conducted by EPA, an ecological inventory of the lagoon and landfill areas was conducted by EPA contractors (M&E), which included the review of off-Site mapping to identify the presence of wetlands, floodplains, and other natural features of the Site, as well as a on-Site ecological survey which provided a limited assessment of the plant and animal species inhabiting the Site. Also during the summer of 1995, M&E conducted a limited investigation of the clarifier building, landfill and lagoons, collecting soil, river sediments, leachate, groundwater and surface water samples (i.e., in the Hoosic River and lagoons). In March of 1997, EPA contractors (Weston) conducted an additional investigation to further characterize the tannery building and screen house building. This investigation included sampling and analysis of wood, concrete, soil, sludge, debris and standing water within the

buildings.

III. Nature and Extent of Contamination

a. Landfill

Analytical results of the landfill sludge and leachate samples indicate the presence of hazardous substances. Samples collected in 1995 indicate the following contamination:

Landfill Leachate: Acetone (190 ppb), arsenic (7.8 ppb), antimony (22 ppb), chromium (126 ppb), barium (142 ppb), manganese (1,350 ppb), and diethylphthalate (4 ppb).

Landfill sludge: arsenic (10 ppm), chromium (18,900 ppm), barium (208 ppm), manganese (3,640 ppm), cadmium (76 ppm), copper (182 ppm), lead (975 ppm), zinc (171 ppm), methylene chloride (2.8 ppm), carbon disulfide (.034 ppb), 2-butanone (.740 ppm), PCE (.029 ppm), toluene (7.6 ppm), ethylbenzene (.440 ppm), xylene (2.3 ppm), TCE (.024 ppm), phenol (240 ppm), 4-methylphenol (460 ppm), 2,4,5-trichlorophenol (51 ppm), pentachlorophenol (100 ppm), and endosulfin I (.093 ppm).

Sediment from the Landfill Run-Off Area: arsenic (9.4 ppm), barium (98 ppm), beryllium (.28 ppm), chromium (60.4 ppm), cobalt (12.6 ppm), copper (50.2 ppm), lead (21.8 ppm), manganese (3,110 ppm), mercury (.11 ppm), nickel (27 ppm), vanadium (14.8 ppm) and zinc (620 ppm).

Sludge landfill leachate is not treated, but had been periodically removed from the holding tank and transferred to Lagoon #5 where it discharged to the Hoosic River. The sludge landfill cover is incomplete in the area of Cell # 3, which provides a potential route for the infiltration of precipitation and subsequent leachate generation. Leachate and rain water are ponded on Cell #3, therefore the run-on/run-off control management system is not functioning properly. In 1993, groundwater seeps were identified at several points along the base of the slope between the landfill and the wetlands along the Hoosic River.

b. Lagoons

All lagoons but # 5 were treated with lime during the 1980's. As stated above Lagoon's #1, #3A, # 3B, and #4A have been covered with 12-18 inches of clay. Only lagoon's #2, #4B and #5 are uncovered. In general, the nature of the waste sludge found in the lagoons does not differ significantly between lagoons. Chromium is the dominant inorganic contaminant detected in the sludge with a maximum concentration of 44,500 ppm (total chromium). Lower maximum concentrations of lead (2,870 ppm), arsenic (10 ppm), barium (194 ppm), cadmium (51 ppm), copper (86 ppm), manganese (3,780 ppm), and zinc (229 ppm) were detected during EPA's sampling event in August 1995. The sludge also contains maximum concentrations of dioxin (11.564 ppb), DEHP (100 ppb), 2-butanone (190 ppb), methylene chloride (35 ppb), 1,2-DCE

(70 ppb), and a large variety of pesticides at low concentrations, including 4,4-DDD (46 ppb) and 4,4-DDE (45 ppb). The sludge extends to a maximum depth of 14 feet below ground surface and at some locations below the groundwater table.

c. Tannery, Screen House and Clarifier Buildings

EPA sampling in August 1993 from drains, smoke stack debris, and debris piles in the basement floor of the tannery building indicated the presence of pentachlorophenol, dioxin, lead, chromium, acetone, and 2-butanone. 1995 and 1997 investigations of the buildings included the collection of samples from wood, soil, sludge, debris and standing water. This investigation shows that the buildings are contaminated with a wide variety of inorganics, semi-volatiles, volatiles and dioxin. The following maximum detections in the buildings are listed below:

Constituent	Soil (ppm)	Sludge (ppm)	Wood (ppm)	Water (ppm)
antimony	8.6	232		
arsenic	7.8	63.5		
barium	4,580	8,270	4,100	326
cadmium	33.4	16.2	73.9	2.8
chromium	64,000	126,000	2,170	11,000
cobalt	61.5	44	12.1	43.6
copper	1,990	883	131	5,480
lead	1,380	619	9,500	650
manganese	ND	1,516	304	1,600
nickel	606	202	14.7	112
vanadium	1,640	130	33	119
zinc	8,180	7,060	13,000	7,530
iron	424,000	115,000	53,500	188,000

acenaphthene	1.5	.12	7	.012
anthracene	35	.11	12	.013
benzo(a)anthracene	56	.47	4.1	.130
benzo(b)flouranthene	74	. 93	2.6	.160
benzo(k) flouranthene	45	.37		.057
benzo(a)pyrene	63	.54		.100
benzo(g,h,i)perylene	22	2.6		.009
bis(2ethylhexyl)phthalate	98			.008
butylbenzophthalate	1.7		21	
carbazole	23	.14	2.8	.018
chrysene	63	.64	4	.140
dibenzofuran	18	.066	29	
dibenzo(a,h)anthracene		2.6		.006
di-n-butylphthalate	230		2.4	

dioxin	.000459	.000191	.00017	
flouranthene	130	.950	18	.19
flourene	30	.096	9	
ideno(1,2,3-cd)pyrene	22	2.6		.016
2-methylphenol			2.3	
4-methylphenol			16	
2-methylnapthalene		.057	22	
napthalene		.043	49	
n-nitrosodphenylamine			22	
pentachlorophenol	33	4.4	42	.002
phenanthrene	10	.70		.013
phenol			54	
pyrene	120	1.1		.160
2,4,5-trichlorophenol				.001

Soil samples collected in August 1995 from the floor of the clarifier building indicated the following additional detections of VOCs, pesticides and PCBs: acetone (1,500 ppb), 2-butanone (590 ppb), alpha BHC (1 ppb), heptachlor (1 ppb), heptachlor epoxide (2.3 ppb), 4,4-DDE (3.8 ppb), endrin ketone (1.8 ppb), alpha chlordane (2.7 ppb), arochlor 1254 (160 ppb)

d. Groundwater

Limited hydrogeological studies indicate that groundwater flow in the vicinity of the lagoons and buildings is in a westerly direction toward the Hoosic River. The rate of flow is estimated to be between 0.2 and 0.9 feet per day. Groundwater mounding in the vicinity of the uncovered lagoon's has not shown a reversal of groundwater flow in this area. However, the hydrogeology has not been well characterized to date.

Ongoing degradation of groundwater quality has been observed at the lagoons. Results indicated exceedances of groundwater quality standards for total chromium, lead, and chlorides. 15 monitoring wells were sampled in 1993 for VOCs, SVOCs, chromium and lead. Two exceedances of the lead action level of 15 ppb and of the MCL for chromium of 100 ppb occurred in two wells at 33 ppb/24 ppb and 240 ppb/350 ppb, respectively. Groundwater samples collected at the landfill indicated exceedances of water quality criteria for 4,4-DDT (.014 ppb), arsenic (56 ppb), chromium (681 ppb), manganese (9,240 ppb), nickel (597 ppb) and zinc (461).

Drinking water samples collected from adjacent residences prior to 1989 indicated very low levels of 1,1,1-trichloroethene, methylene chloride, chloroform, chlorobenzene, 1,1-dichloroethene, bromobenzene, 2-chlorotoluene, 4-chlorotoluene, chromium, lead, and dioxin (all below health advisory levels). Sampling and analyses of residential wells between 1989 and 1992 indicate that no compounds have been detected above detection limits. However, it should be noted that regular sampling and analysis of private water supplies in the area has not been

conducted. Many of the detected constituents have also been detected in on-site samples and the presence of these contaminants may have been the result of a release from the Site. However, because of the general lack of information regarding site hydrogeology and the actual completed interval of most of the downgradient private drinking water wells, no absolute conclusions can be derived.

e. Hoosic River Surface Water/Sediment

Over a distance of approximately 1.5 miles, there are three source areas at the Site, including the landfill, tannery building and the lagoon system. The Hoosic River is a moderate to large stream and is classified by the State of Vermont as Class C, which means that it is suitable for fishing, irrigation, boating and industrial purposes. The river is a cold-water fishery for brook trout and brown trout along its length. Adolescents have been observed fishing in the Hoosic from the bank opposite the former tannery building. In addition, the river is known to be used for recreational boating.

The lagoons were designed to release effluent water to the Hoosic River from a channel located at the southwestern corner of Lagoon # 5. Lagoon # 5 periodically releases surface water to the river and lead was detected in the final effluent to the Hoosic River. A breach in Lagoon # 4 had developed in the 1990's which caused releases of surface water to the river until it was repaired during the EPA removal action in 1994. Test pit data in Lagoon # 1 indicate that the sludge is located below the groundwater elevation. All of the lagoons are located below the 100 year flood elevation. Existing data show that there has been a release of lagoon contaminants to the groundwater which flows toward the Hoosic River, which is a potential discharge point for Site groundwater.

Surface water sampled adjacent to the landfill for the analysis of inorganics in August of 1996 indicate elevated levels of copper and lead above Ambient Water Quality Criteria. All surface water samples collected adjacent to the lagoons show no elevations of inorganics above acceptable levels. Sediment samples collected in August of 1996 adjacent to the landfill indicated the detection of copper (21 ppm), nickel (17 ppm), and zinc (246 ppm) above sediment quality criteria (NOAA LEL). 1993 Sediment sampling in this vicinity indicated higher levels of copper (99 ppm) and the presence of mercury at 2.4 ppm. Sediment samples collected adjacent to the tannery building in 1996 showed slightly elevated levels of copper (30 ppm), mercury (210 ppb), and cadmium (820 ppb). Sediment samples collected adjacent to the lagoons showed slightly elevated levels of nickel (20 ppm), lead (322 ppm), and arsenic (8 ppm). 1993 sediment samples collected from the outfall from Lagoon #5 indicated detections of benzo(a)fluoranthene (790 ppb), benzo(k)fluoranthene (790 ppb) and PCBs (170 ppb of Aroclor-1254). In all samples collected, higher levels of iron were detected (i.e., approximately 29,000 ppm). While chromium was detected in site sediments adjacent to the landfill, tannery building and lagoons, it was detected at levels below the sediment quality criteria of 26 ppm.

f. Ecological Assessment

The tannery lagoons and landfill areas include a mixture of upland and wetland habitat types. The landfill area is primarily a mixture of upland successional forest and old field areas, with one small isolated wetland depression. The lagoons include upland forest and scrub-shrub habitat with one area of open water and some areas dominated by emergent wetland vegetation. A jurisdictional wetland delineation was not conducted at either the landfill or the lagoons. Because the Site has been altered by human activities and is close to large expanses of open and undeveloped land, the Site is not anticipated to provide significant habitat for wildlife. However, a variety of birds and small mammal species may utilize the Site as well as the Hoosic River. The aquatic habitat at lagoon # 5 supports amphibians, reptiles and a limited community of benthic invertebrates. No federally-listed or proposed threatened or endangered species are known to occur in the vicinity of the Site. However the state of Vermont has not evaluated the area for protected species. The area of the lagoons and landfill have a high potential for containing archeological resources, and the tannery complex itself is included on the Vermont State Historic Register.

IV. Preliminary Risk Screening

In 1992 EPA performed a risk screening analysis for the Site lagoons, using data collected from the Site prior to 1988. The risk screening was conservatively conducted for residential exposure to VOCs, SVOCs, dioxin and select inorganics. This risk screening analysis was updated in 1993 to reflect updates in dioxin/furan toxic equivalency factors. Using the April and August 1995 sampling data, an updated risk screening analysis for each individual lagoon, the screen house and the tannery building was conducted. It should be noted that the risk screening analysis used the available data which was limited and its data quality was either not known or was lower than what is typically required for standard risk assessments. Additionally, only the maximum concentrations were utilized and absent data on the particular form of chromium present, it was conservatively assumed that hexavalent chromium was present. However existing information regarding the tannery process indicates that the less toxic trivalent chromium was the form of chromium utilized during operations. Therefore, the resulting risks presented in this section could be over- or underestimates of the true risk. An updated risk screening, using the data collected since 1995 will be performed concurrently with the proposed EE/CA. Additional samples will be collected in January to identify/confirm the form of chromium at the Site. If it is confirmed that hexavalent chromium is absent from the Site, the potential risks identified in the above noted risk screening may be considerably lower.

Table 1 summarizes the existing risk screening analysis for this Site. The analysis indicates that contaminant levels may result in an exceedance of Superfund's acceptable cancer risk range, HI or risk-based levels in all of the Lagoons, the tannery building and the screen house.

V. Threat to Public Health, Welfare, or the Environment

Section 300.415(b)(2) of the NCP lists a number of factors for EPA to consider in determining whether a removal action is appropriate, including:

* (i) Actual or potential exposure to nearby human populations, animals, or the food chain from hazardous substances or pollutants or contaminants;
* (ii) Actual or potential contamination of drinking water supplies or sensitive ecosystems;
* (v) Weather conditions that may cause hazardous substances or pollutants or contaminants to migrate or be released;
* (vii) The availability of other appropriate federal or state response mechanisms to respond to the release; and
* (viii) Other situations or factors that may pose threats to public health or welfare or the environment.

An evaluation of the conditions at the Pownal Tannery Site conclude that the above listed factors are applicable as described below.

(i) Actual or potential exposure to nearby human populations, animals, or the food chain from hazardous substances or pollutants or contaminants - There is both the current and future potential for direct human exposure to contaminants in the uncovered lagoons, the leachate seep at the landfill and at each of the three buildings on-site which are contaminated with a wide variety of VOCs, SVOCs, dioxin, pesticides and inorganics. While past measures were taken to prevent access to the lagoons and the building, security measures including fences and doors have been breached by youth trespassers and the Site is currently unrestricted. Additionally, surface water and sediments in the Hoosic River have been contaminated with copper, mercury, chromium and other contaminants by direct discharge from the tannery and subsequently from lagoon #5. Therefore, there is a current and future potential for human exposure through the consumption of fish and recreational use of the river, as well as the potential for animal exposure. Groundwater in the vicinity of the lagoons is contaminated with chromium, lead and pentachlorophenol above drinking water standards. Limited hydrogeologic studies performed indicate that the groundwater is moving toward and discharging to the Hoosic River.

(ii) Actual or potential contamination of drinking water supplies or sensitive ecosystems - While very low levels of several site specific contaminants were identified in residential drinking water wells on the southern side of the Hoosic River prior to 1988, testing of all residential wells since that time has indicated no detections of contaminants above drinking water standards. Existing information on hydrogeology is very limited, and while there is no current risk to drinking water supplies from the Site, Site groundwater is known to be migrating toward the river and could potentially flow under the river to contaminate private water supplies in the future. The ecological assessment performed in 1997 indicated that the aquatic habitat at Lagoon #5 supports amphibians, reptiles and a limited community of benthic invertebrates which may be adversely impacted by the contaminants in that lagoon. Similarly various ecosystems in river and wetlands sediments may be adversely impacted by the contaminants that were discharged from the tannery, Lagoon #5, the migration of leachate from the landfill to the river, and releases from the

tannery building during flooding conditions.

(v) Weather conditions that may cause hazardous substances or pollutants or contaminants to migrate or be released - The tannery building and the lagoon system are in the 100 year flood zone and there have been numerous occurrences of flooding in both of these areas. Precipitation into the tannery building is believed to mobilize contaminants to the basement of the building, where releases occur to the Hoosic River during flooding events. Additionally, groundwater which infiltrates the tannery building collects in trenches in the basement and discharge to the river. All floors of the tannery building are known to contain a wide variety of contaminants including dioxin, arsenic, chromium, copper, lead, pentachlorophenol, and many other SVOCs. The lagoons have been observed to be inundated with water, thereby mobilizing the contaminants in the unlined lagoons, as well as from the release of contaminants into the groundwater which discharges to the Hoosic River. Sludge and precipitation which collects in Lagoon #5 periodically discharges to the river at the channel from this lagoon. The Hoosic River is utilized for fishing and recreational boating. In addition, landfill leachate seeps are mobilized through precipitation to the surface water and sediments to the Hoosic River and wetlands. 1996 data indicates that there are elevated levels of copper and lead above Ambient Water Quality Criteria in surface water samples, and elevated levels of copper, nickel and zinc in sediment samples above NOAA LEL's.

(vii) The availability of other appropriate federal or state response mechanisms to respond to the release - There are no other known federal or state funds or response mechanisms available to finance this action. EPA and the VT DEC signed a Memorandum of Agreement (MOA) in September 1996 establishing responsibilities for both EPA and the DEC for the completion of the NTCRA, the investigation and characterization of the tannery building which was subsequently performed in March 1997, and for implementation of a response action. This MOA indicated the DEC's commitment of $300,000 toward the implementation of the ultimate response action.

(viii) Other situations or factors that may pose threats to public health or welfare or the environment - The former tannery building is a four story brick building built in the 1880's which is currently in a dilapidated state. The roof and walls allow precipitation to infiltrate the building which has caused a tremendous damage to the internal structure of the building. One section of the brick wall, adjacent to the Hoosic River has collapsed. It is probable that this building will continue to deteriorate over time and that other portions of this building will collapse, causing additional releases to the river. Additionally, measures to secure the site have been routinely compromised by local youth trespassers who are at risk of exposure and of being harmed by the poor physical condition of this facility. While additional measures are planned to provide limited added security, it is likely that the vandalism and trespassing will continue.

Consequently, based upon the NCP factors listed and described above, a potential threat exists to public health or welfare or the environment. A removal action is therefore appropriate to abate, prevent, minimize, stabilize, mitigate, or eliminate such threat(s). In particular, a removal action

is necessary to control and contain the release of hazardous substances from the Site through source control measures.

This removal action is designated as non-time critical because more than six months planning time is available before on-site activities must be initiated. As a result, EPA will require the completion of an engineering evaluation/cost analysis (EE/CA) pursuant to 40 C.F.R. Section 300.415(b)(4)(i).

VI. Scope of the Proposed EE/CA

The purpose of the EE/CA is to evaluate alternatives for source control measures at the Site, including 1) the five lagoons that make up the lagoon system, 2) the tannery building, screen house building and clarifier building, and 3) the landfill. The EE/CA will consider alternatives which meet the following removal action objectives:

* Prevent, to the extent practicable, the further release of lagoon and landfill contaminants into the groundwater, surface water and sediments;

* Prevent, to the extent practicable, the discharge of the plume to the Hoosic River;

* Prevent, to the extent practicable, direct contact with and ingestion of sludge in the lagoons and the landfill;

* Prevent, to the extent practicable, direct contact with and ingestion to leachate from the landfill:

* Prevent, to the extent practicable, direct contact with, ingestion of, and inhalation of contaminants in the on-Site buildings;

* Prevent, to the extent practicable, the release of contaminants from the tannery building and screen house into the Hoosic River that occurs through flooding and could occur through the collapse of the tannery building into the river; and

* Prevent, to the extent practicable, continued ecological impacts from the release of contaminants in the lagoons, buildings and landfill into the Hoosic River and associated wetlands.

Pursuant to EPA guidance on performing EE/CA's, alternatives will be evaluated based upon relative effectiveness, implementability, cost and compliance with ARARs to the extent practicable. Further, alternatives which exceed $2 million dollars will be evaluated to determine their consistency with future remedial actions to be taken at the Site.

VII. Estimated Costs

The EE/CA for the proposed NTCRA at the Site will be developed by an EPA contractor under the Response Action Contracts (RACs) program. The EPA contractor will also be responsible for procurement and oversight of the response contractor.

Extramural costs associated with the preparation of an EE/CA for this Site are expected to be $110,000. The costs associated with the response action are unknown but could exceed $5 million dollars. The costs will largely be dependent upon the completion of an updated risk screening which would be developed concurrently with the EE/CA.

VIII. Enforcement Strategy

Only one party has been identified as a PRP. Pownal Tanning Company, inc. is the current owner of the Site and was the owner/operator at the time of disposal of hazardous substances. John Flynn and Sons, Inc. owned 100% of the voting shares of Pownal Tanning which initiated bankruptcy in 1988. The Chapter 7 bankruptcy case, which indicates that there is no corporate property of value or funds to liquidate or distribute, closed as a no-asset case on July 31, 1991. Additionally, the Vermont Secretary of State's office has revoked the charters of both the Pownal Tanning Company, Inc. and of John Flynn and Sons, Inc.

IV. Recommendation

In light of the facts discussed above, the case team recommends that you approve the inititiation of an EE/CA for this Site.

1-27-98
Date

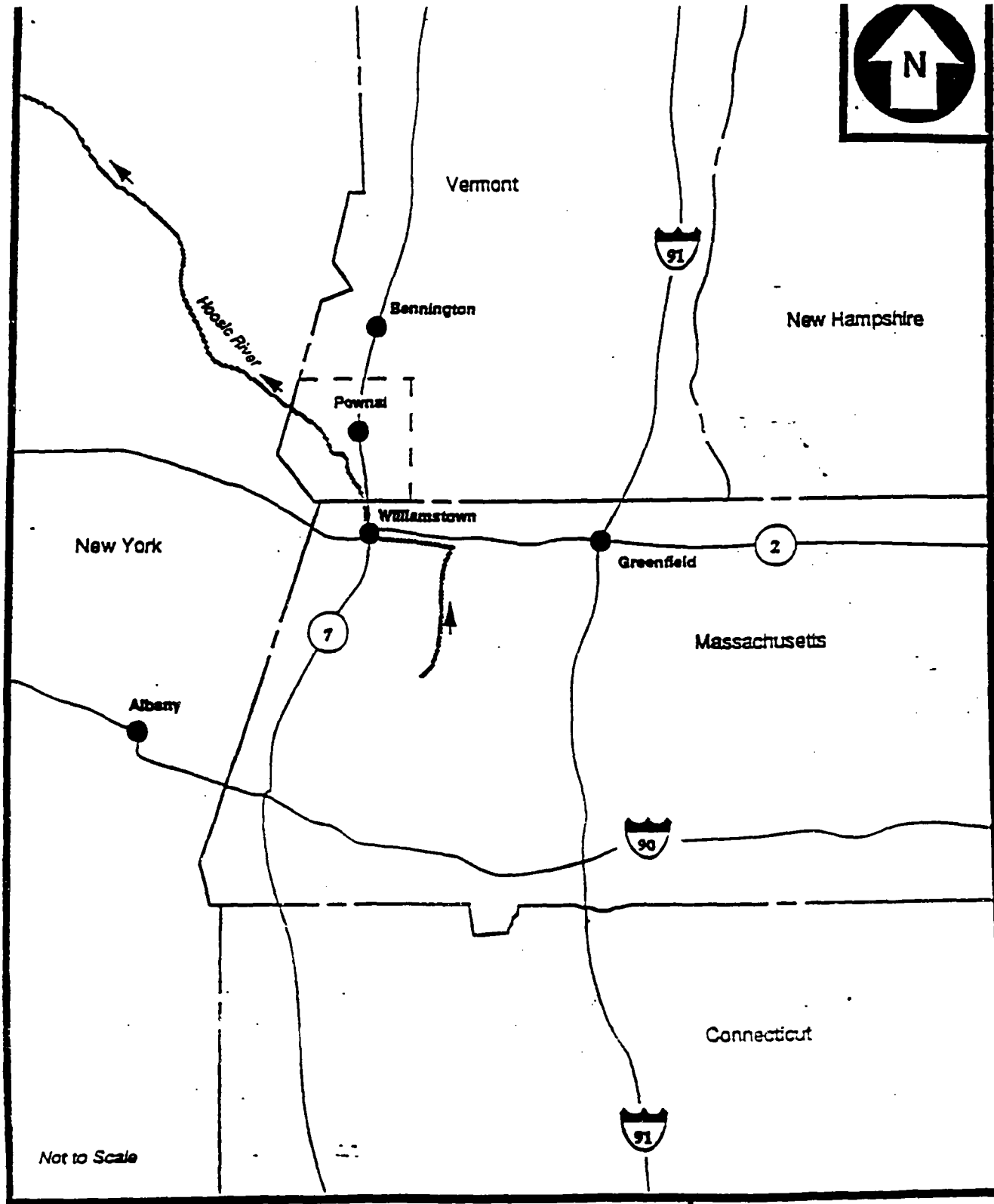
Harley F. Laing, Director
Office of Site Remediation and Restoration

TABLE 1

RISK SCREENING SUMMARY FOR THE POWNAL TANNERY SITE – SLUDGES

AREA	RISK SCREENING RESULTS 1988	1993
Lagoon 1	Cr – exceeds hh risk-based level Pb – exceeds hh risk-based level Dioxin/furans: cancer risk = 6E-04	No samples collected.
Lagoon 2	No exceedances of risk-based levels.	Total cancer risk = 2.8E-05 (due mainly to diox/fur) HI=22 (due mainly to Mn(*) and Cr)
Lagoon 3A	Cr – exceeds hh risk-based level Dioxin/furan: cancer risk = 1E-02	Total cancer risk = 4.2E-04 (due mainly to dioxan/furans) HI = 30 (due to Cr* and Mn) Pb exceeds action level.
Lagoon 3B	Pb – exceeds hh risk-based level Dioxin/furan: cancer risk = 8.6E-02	No samples collected.
Lagoon 4	No samples collected in Lagoon 4. 4A Dioxin/furans: cancer risk=8.9E-05	Total cancer risk = 2.6E-05 (due mainly to cPAHs) HI = 16 (due mainly to Cr* and Mn)
Lagoon 5	No dioxin/furans analyzed Cr – exceeds hh risk-based level Pb – exceeds hh risk-based level	Total cancer risk = 8E-05 (due mainly to diox/fur) HI = 34 (due mainly to Cr* and Mn)
Screenhouse	No samples collected	Total cancer risk = 8.8E-04 (due mainly to diox/fur) HI = 29 (due mainly to Cr* and Mn) Pb exceeds action level.
Tannery Bldg.	No samples collected	Dioxin/furan: Results not back from lab. Other compounds: cancer risk= 1.3E-04 (due mainly to PCP and As) HI = 432(due to Cr*, Cd*, Mn and Hg) Pb exceeds action level.

* – This compound was the major contributor to the noncardnogenic risks.

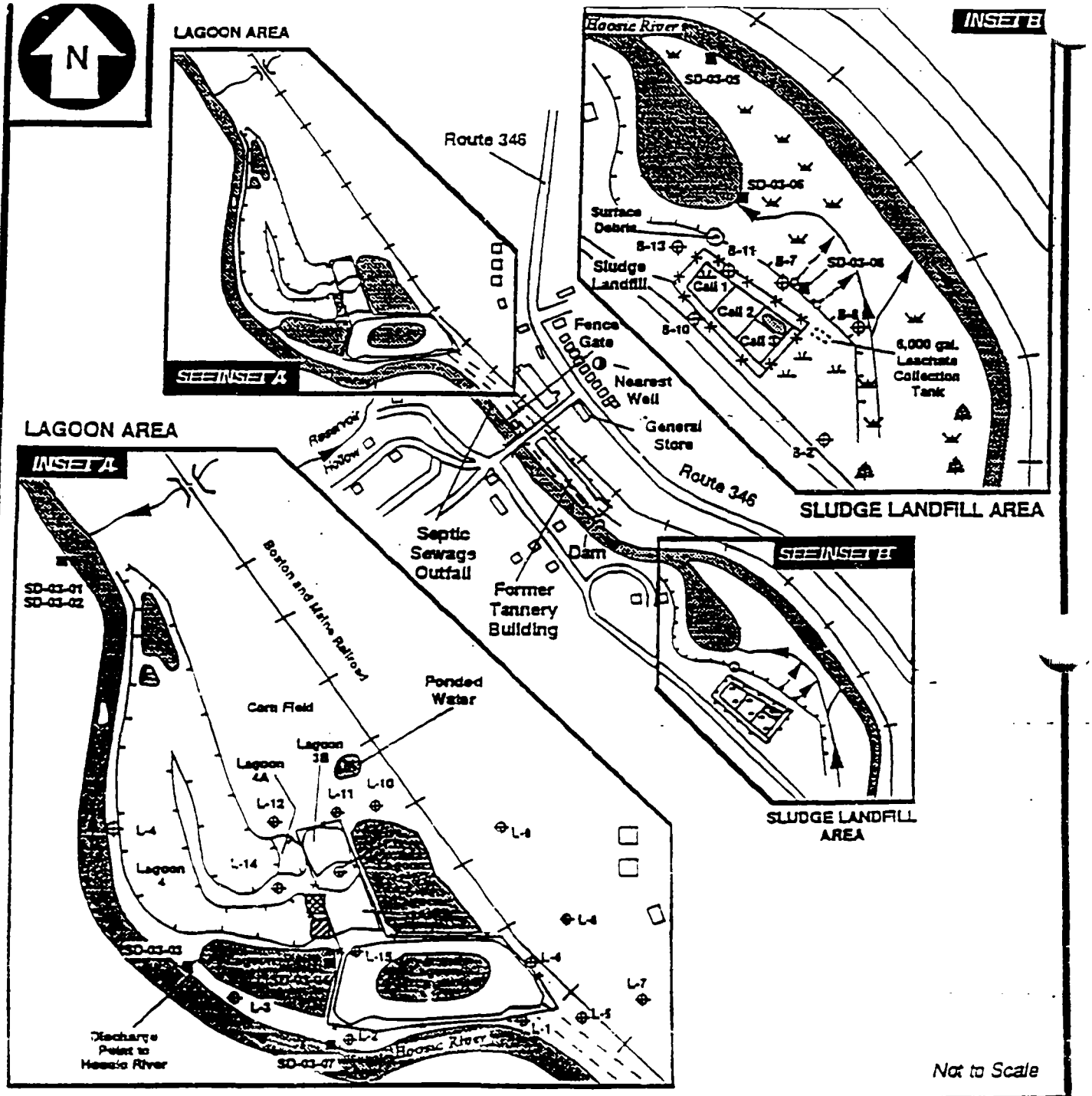


LOCATION MAP

POWNAL TANNERY
POWNAL, VERMONT

TRC Companies, Inc.

Figure 1.



SITE SKETCH

POWNAL TANNERY
POWNAL, VERMONT

TRC Companies, Inc.

Figure 2

Attachment 3 - Site Chronology

ATTACHMENT 3

SITE CHRONOLOGY
ENGINEERING EVALUATION/COST ANALYSIS
POWNAL TANNERY SITE, NORTH POWNAL, VERMONT

1937-1988: John Flynn and Sons, Inc. operated the Pownal Tanning Company in Pownal, Vermont.

1937-1962: Process wastewater discharged directly into the Hoosic River.

Prior to 1962: Aerial photos show a possible refuse dumping area west of the Boston and Maine railroad tracks in the vicinity of Lagoon 2.

1962: Construction of two lagoons encompassing approximately 10 acres.

1960s: Complaints from local residents of noxious odors emanating from the lagoons were received by VT AEC.

1971: Construction of additional lagoons expanding to approximately 22.5 acres.

1980: Lagoon 1 reached its capacity, but continued to receive waste until 1981. It contained 50,000 cubic yards of sludge up to 12 feet deep.

Aug. 1, 1980: A Consent Order was signed that required the dewatering Lagoon 1 and covering with one-half inch of lime.

Aug. 7, 1980: Pownal Tanning Co. submitted the Part A of a RCRA permit application; however, it was withdrawn because certain criteria were not met.

Aug. 1980: Vermont ANR letter to Pownal Tanning Co. requiring the toxicity testing of sludges from Lagoons 1 and 3.

Sep. 24,1980: Sludge samples collected from Lagoons 1,2, and 3.

Oct. 10, 1980: Results of EP Toxicity test on the sludge samples collected on Sep. 24 indicated Lagoons 2 and 3 sludges did not exceed allowable levels, and were considered not to be hazardous; however, the sludge in Lagoon I exceeded the levels for lead and chromium.

1980: Lagoon 1 is covered with 150 tons of lime. It contains 50,000 cubic yards of sludge up to 12 feet deep. EP toxicity testing is done on sludges from Lagoons 1,2, and 3.

Mar. 10, 1981: Pownal Tanning Company submitted a Notification Of Hazardous Waste Activity.

Apr. 1981: Monitoring wells (B1A, B2A, B3A) were installed by Pownal Tanning Co. between the Hoosic River and the lagoons, at the request of the VT ANR.

May 1981: Surface water samples collected from the Hoosic River by the VT ANR. Results indicate an increase in conductivity, an increase in lead and chloride concentrations, and decreasing pH from upstream to downstream.

TABLE 1-1
SITE CHRONOLOGY
ENGINEERING EVALUATION/COST ANALYSIS
POWNAL TANNERY SITE, N. POWNAL, VERMONT

Sep. 1981:	Pownal Tanning Company submitted a petition to delist the sludge in Lagoons 2, 3, 4, and 5, and the sludge tat was being produced.
1981-1982:	According to a report entitled "Subsurface Hazardous Waste Investigations at Pownal Tanning" submitted by Pownal Tanning Co.'s consultant; Lagoons 3A, 3B, and 4A were covered with lime and sealed with 12 - 18 inches of clay.
1982:	On-site landfill is constructed.
Aug., 1982:	VT ANR requested that Pownal Tanning Co. close Lagoon 1 as a hazardous waste disposal unit, and required covering the lagoon with 2 feet of impermeable material, the installing additional monitoring wells, and a instituting quarterly monitoring program.
1982-1988:	Monitoring wells in the vicinity of lagoon 1 were monitored twice in 1982, once in 1983, once in 1984, and three times in 1986. Early results indicate the presence of lead, chromium, and chloride above drinking water standards. Later results have indicated a decrease in lead levels and chromium levels were below drinking water standards.
Spring 1983:	Pownal Tanning Co. sent a letter to VT ANR that indicated Lagoon 1 was closed with a one foot thick cover and two additional monitoring wells (L1 and L2) had been installed.
1983:	Landfill Cell 1 is capped by Pownal Tanning Co. with 20-mil PVC and covered by two feet of silty sand.
1984:	Water samples collected by the Vermont Dept. of Water Resources and analyzed for COD, metals, pH, conductivity and temperature.
May 22, '86:	VT ANR staff inspected Lagoon 1. The cover had subsided 7 feet at its center. Ponding and cracking of the surface was observed. Pownal Tannery Co. was informed that the Lagoon 1 had not been properly maintained and that the cover needed repair.
Jun 29, '86:	Composite core sludge samples were collected from six locations in Lagoon 1 and were tested using the EF Toxicity procedure. The analytical results indicated a decrease since 1980 in lead and chromium levels.
Jun 1986:	Two upgradient monitoring wells (L5 and L6) were installed.
Jul 20, '86:	Three shallow private were tested and were found to be clean.
Aug. 20, 86:	An order was issued by VT ANR to Pownal Tanning Co. requiring the company to perform a hydrogeologic assessment of the property and submit a proposal for a closure and post-closure plan.

TABLE 1-1
SITE CHRONOLOGY
ENGINEERING EVALUATION/COST ANALYSIS
POWNAL TANNERY SITE, N. POWNAL, VERMONT

1986:	Groundwater samples collected for water quality parameters and selected metals and EP Toxicity analysis performed on sludge samples by Pownal Tanning Co.'s consultants. Water samples collected for metals and VOC analyses by VT Dept. of Water Resources.
Apr. 15, '87:	VT ANR staff oversee drum removal from Lagoon 3A by Pownal Tanning Co.'s consultant. Six 55-gallon drums containing lignosulfate, two 55-gallon drums containing No. 6 fuel oil, two broken 30-gallon fiber drums, and several fragmented drums containing solvents were removed. Containers with rags, sawdust, finishing materials, and chromium III crystals were removed. There was visible evidence of soil staining. During the excavation, Photovac readings of up to 70 ppm were observed.
Apr. 1987	VOC and EP Toxicity analyses conducted on samples from some of the barrels that were excavated from Lagoon 3A. Toluene, ethylbenzene, benzene, and total xylenes were detected.
May 1987:	Well water from adjacent residences were sampled by the Vermont Dept. of Water Resources and analyzed for VOCs, barium, mercury, arsenic, selenium, chromium, cadmium, lead, silver, and zinc. Barium, zinc, and cadmium were detected.
May 1987:	Samples from monitoring wells L1-L6 as well as a sample of the final effluent to the Hoosic River were analyzed for pH, conductivity, chloride, sulfides, oils and grease, BOD, COD, ammonia (as nitrogen), hexavalent chromium, total chromium, and lead. Chloride, BOD, COD, and lead were detected.
Jun 2, 1987:	An order was issued to the Pownal Tanning Co. by VT ANR requiring that, on or before August 1, 1987, Pownal Tanning Co. complete a thorough hydrogeologic site assessment. The order also required that, on or before August 1, 1987, Pownal Tanning complete an "Extent of Contamination" and that on or before September 1, 1987 Pownal Tanning submit a plan for closing Lagoon 1.
Aug. 1987:	Aquatec Environmental Services analyzed water samples from monitoring wells L2-L6 and surface water samples submitted by the VT ANR.
Nov. 1987:	Samples from monitoring wells L1-L15 were collected and analyzed.
1987:	Landfill Cell 2 is capped by Pownal Tanning Co. with 20-mil PVC and 2feet of silty sand.
1987:	Groundwater samples collected for water quality parameters and selected metals and composite soil samples collected for EP Toxicity, bulk metal, VOCs, and PCB analyses by Pownal Tanning Co.'s consultants.
Feb. 1988:	Composite water samples were collected from Lagoons 2, 4, and 5 and were analyzed for SVOCs. The Lagoon 2 sample was also analyzed for pesticides and PCBs. Several compounds were detected.

Feb. 1988: A hydrogeologic assessment was conducted by Saunders Associates for Pownal Tanning Co. Monitoring wells L7-L15 were installed both on and off site to assess groundwater flow and environmental impact. All wells were screened in the overburden at depths from 16 to 41 feet below land surface. A magnetometry survey was also conducted to identify any additional buried objects; several anomalies were noted.

Feb. 1988: Samples collected by the VT AEC from the lagoons indicated the presence of pentachlorophenol.

Mar. 1988: Two residential wells were sampled and analyzed for VOCs by the Department of Health. Organic compounds were detected in concentrations of less than 1 ppb to 3.1 ppb; however, the concentrations were below health advisory levels, the DOH recommends that the residents drink bottled water.

Mar. 1988: EPA FIT contractor (NUS Corporation) performed a Preliminary Assessment of Pownal Tanning and recommended that a Screening Site Inspection be conducted.

Mar. & Apr. 88: Samples collected by Pownal Tanning Co.'s contractor, SP, Inc., from Lagoon 5 were found to contain 0.4 to 1.7 mg/L of pentachlorophenol. An order was issued by the VT DEC to terminate discharge to the Hoosic River.

May 1988: Composite sludge samples were collected from Lagoons 2, 4, and 5 and were analyzed for EP Toxicity metals, VOCs, and SVOCs. Seven residential well samples were analyzed for VOCs. Groundwater samples collected from monitoring wells L1-L15 and surface water samples from Lagoons 4 and 5 were analyzed for VOCs. Organic compounds were detected in all media.

May 1988: Magnetometer survey conducted by Saunders Associates for Pownal Tanning Co. in Lagoons 1, 3, and 4. Numerous anomalies were noted; many attributable to the presence of buried pipes, scrap metal, and perforated drainage barrels. Three areas were determined to contain buried drums. The southeastern corner of lagoon 1 contained numerous crushed 5-gallon drums. Lagoon 3A contained 14 55-gallon drums and several, crushed 5-gallon drums. Drums were also removed at this time.

TABLE 1-1
SITE CHRONOLOGY
ENGINEERING EVALUATION/COST ANALYSIS
POWNAL TANNERY SITE, N. POWNAL, VERMONT

Oct. 1988:	Aquatec, the VT DEC's contractor, sampled various media. Groundwater from the monitoring wells and residential wells was collected. Sludge samples from the lagoons were collected. These samples were analyzed for VOCs, SVOCs, and metals. Sludge samples were also analyzed for dioxins and furans.
1988:	Pownal Tanning Co.'s consultant removes sludges from Lagoons 2 and 4 and deposits them in the on-site landfill.
	Composite water sample of Lagoons 2, 4, and 5 collected for VT DEC and analyzed for SVOCs, pesticides and PCBs.
	Composite sludge and sediment samples collected at Lagoons 2, 4, and 5 and analyzed for SVOCs, VOCs, and EP Toxicity metal; groundwater samples and sludge samples analyzed for VOCs and SVOCs; soil samples analyzed for TCLP for VT DEC.
1989:	A preliminary Remedial Investigation/Feasibility Study (RI/FS) is prepared for the State of Vermont by Randy S. McDermott.
1989:	EPA FIT contractor performed a Screening Site Inspection.
1989	Groundwater samples collected from monitoring wells by VT DEC and sampled for selected metals, VOCs, SVOCs.
1990:	Historical aerial photography interpretation of the Pownal Tannery Site during the period between 1935 and 1980 performed by the EPA EMSL.
	Water samples collected by VT DEC and analyzed for chromium, lead, VOCs and SVOCs.
1991:	Water samples collected from residential wells by VT DEC and analyzed for VOCs.
1992:	VT DEC performed HNU PID monitoring of tannery buildings and tanks. Samples collected from electrical switching, tanks, sumps and residences.
	Water samples collected by VT DEC and analyzed for VOCs and SVOCs.
1993:	U.S.EPA TAT Team performed a Preliminary Assessment/Site Investigation. Samples taken from three drums inside the tannery building. Action Memorandum for a Time Critical Removal Action (TCRA) approved.
	Environmental sampling consisting of eight sediment/soil samples from various sites on the property by EPA contractor.
	Lagoon 3 is capped in place with lime and 12 - 18 inches of clay.
	Water samples collected by VT DEC and analyzed for selected metals, VOCs and SVOCs.
	Water level and water quality data collected by VT DEC consultant.

1993 - 1994: EPA Time Critical Removal Action - See details in Table 1-2.

1994: Water samples collected from residential wells by VT DEC and analyzed for selected metals, VOCs and SVOCs.

EPA collected sludge samples from Lagoon 1.

1995: EPA Superfund Accelerated Cleanup Model (SACM) field investigations of the clarifier building, landfill, and lagoons and collected soil, sediment, leachate, groundwater, and surface water samples.

Water samples collected from residential wells by VT DEC and analyzed for selected metals, VOCs and SVOCs.

1996: The Water Supply Division of the VT DEC perform a site visit to discuss the current status and condition of the Pownal Tannery water system.

Water samples collected from residential wells by VT DEC and analyzed for selected metals, VOCs and SVOCs.

1997: EPA Superfund Technical Assessment and Response Team (START) field investigations collected eight soil samples, seven floor drain sludge samples, one tank sludge sample, three standing/surface water samples, five paint samples, 17 wood samples, eight concrete samples and 37 wipe samples. Air monitoring performed to characterize air quality. Determined influent and effluent of water inside the building.

Water samples collected from residential wells by VT DEC and analyzed for selected metals, VOC and SVOC.

Mar 1998: Sludge samples collected from Lagoon 3 for TCLP analysis by EPA START contractor. Analytical results indicate no exceedance of regulatory levels.

Sep 1998: Pownal Tannery Site proposed for listing on the National Priorities List.

Information Sources:

U.S. EPA Site Analysis Pownal Tannery Pownal, Vermont TS-PIC-90010, May 1990.

Memorandum to Pownal Tannery File # 770066 dated April 13, 1992.

Draft Copy of Preliminary Investigation/Feasibility Study for Tannery Waste Lagoon Site, Pownal, Vermont prepared by Randy S. McDermott dated January 1989.

Information Sources (Cont'd):

NUS Corporation Final Screening Site Inspection Report Pownal Tannery, Pownal, Vermont, document number C-583-11-9-110 dated December 20, 1989.

TRC Environmental Corporation Trip Report - Onsite Reconnaissance and Environmental Sampling, dated June 15, 1993.

Data Summary Package SACM Pownal Tannery Company Site, Pownal, Vermont prepared by Metcalf and Eddy Inc., dated November 1992.

Removal Program Preliminary Assessment/Site Investigation for the Pownal Tanning Company, Pownal, Vermont, January 11, 1993 submitted by Roy F. Weston Inc., January 1993.

Remedial Investigation Summary Report for the Pownal Tannery Site 3 through 7 March 1997 submitted by Roy F. Weston Inc., July 1997.

Memorandum to Bruce Marshall from Barbara O'Toole - Cost Recovery Strategy and Enforcement Support dated September 30, 1996.

Letters from VT DEC to Pownal residents regarding: Results of Residential Well Sampling Events.

TABLE 1-2
SUMMARY OF REMOVAL ACTIONS
ENGINEERING EVALUATION/COST ANALYSIS
POWNAL TANNERY SITE, NORTH POWNAL, VERMONT

- March 1993: U.S. EPA Emergency Planning and Response Branch (EPRB) Actions
  An Action Memorandum was signed for the initiation of a Superfund Time-Critical Removal Action at the Pownal Tannery Site.

- April 1993: U.S. EPA EPRB Actions
  Staged drums and small containers and overpacked drums in poor condition.
  Samples collected from tanks, drums, sludges, soil, and solid waste piles.
  Removed abandoned transformers from poles.
  Sampled asbestos containing material (ACM).
  Inspected and documented all tanks on site.

- May 1993: U.S. EPA EPRB Actions
  Several tanks drained and cleaned and drums sampled.
  Three 1-gallon cans of tetrahydrofuran (THF) are detonated
  Labpack waste transported off site.
  Friable ACM removed and shipped off site for disposal.
  100 pound propane cylinder shipped off site.

- June 1993: U.S. EPA EPRB Actions
  Unknown containers consolidated and air monitoring performed.
  Suspected dioxin containing drums staged.
  Steel covers welded on four below ground tanks.
  Clarifier building was sealed.
  Tannery building was sealed.
  Bypass pipe installed in the screen house to prevent water flowing in the screen house from coming in contact with sludge in pit.
  Asbestos warning signs were posted.

- August 1993: U.S. EPA EPRB Actions
  Air monitoring performed and samples collected.
  Temporary suspension of removal activities due to budget constraints.

- March 1994: U.S. EPA EPRB Actions
  Several tanks cleaned and drums sampled.

- April 1994: U.S. EPA EPRB Actions
  Drums staged and shipped off-site for disposal.
  Repaired the breach in the berm of Lagoon 4.

- May 1994: U.S. EPA EPRB Actions
  Shipped one drum of pentachlorophenol off site for incineration.

Information Source: U.S. EPA Region I On-Scene Coordinator's Report, Pownal Tannery Site, March 1993 to May 1994.

Attachment 4 - ARAR Tables

ATTACHMENT 4

ACTION-SPECIFIC ARARs for ALTERNATIVE LF-2 - CAP REPLACEMENT AND CONSTRUCTION
ENGINEERING EVALUATION/COST ANALYSIS
POWNAL TANNERY SITE
NORTH POWNAL, VERMONT

AUTHORITY	REQUIREMENT	STATUS	REQUIREMENT SYNOPSIS	ACTIONS TO BE TAKEN TO ATTAIN REQUIREMENT
Federal Regulatory Requirements	CWA - Pre-treatment Regulations (40 CFR 403)	Applicable	These regulations impose restrictions on the discharge of pollutants to Publicly Owned Treatment Works (POTW) and mandate that discharges must comply with the local pretreatment program.	Landfill leachate that would be discharged or disposed of at a POTW would be tested to ensure compliance with these regulations. Alternative LF-2 would comply.
State Regulatory Requirements	Vermont Hazardous Waste Management Rules (Vermont Agency of Natural Resources, Department of Environmental Conservation, Solid Waste Management Division, 12 032 001)	Applicable	These rules set forth Vermont's definitions and criteria for establishing whether waste materials are hazardous and subject to associated hazardous waste regulations. These rules also identify requirements for hazardous waste generators and land disposal restrictions. The Vermont Rules do not adopt the federal RCRA exemption for tannery wastes containing trivalent chromium, that are not hazardous by characteristic (exceeding federal toxicity standards).	Alternative LF-2 would comply with these requirements by identifying and properly disposing of hazardous wastes through capping the landfill with a RCRA C-quality cap.
	Vermont Solid Waste Management Rules (Vermont Agency of Natural Resources, Department of Environmental Conservation, Solid Waste Management Division, 12 036 003)	Applicable	These rules govern the management and handling of non-hazardous waste.	Closure of landfill Cells 1 and 2, and capping of Cell 3 would be completed in accordance with these regulations. Alternative LF-2 would comply with the substantive requirements of this regulation.

TABLE 4-6C
ACTION-SPECIFIC ARARs for ALTERNATIVE LF-2 - CAP REPLACEMENT AND CONSTRUCTION
ENGINEERING EVALUATION/COST ANALYSIS
POWNAL TANNERY SITE
NORTH POWNAL, VERMONT

AUTHORITY	REQUIREMENT	STATUS	REQUIREMENT SYNOPSIS	ACTIONS TO BE TAKEN TO ATTAIN REQUIREMENT
State Regulatory Requirements	Vermont Water Quality Standards	Applicable	These standards establish water quality criteria for the maintenance of water quality and rules for determining acceptable point- and non point-source discharges to the state's surface waters.	Any point or non-point discharges from the site, such as decontamination effluent, will be managed or treated prior to discharge on site. Alternative LF-2 would comply with these requirements.
	Vermont Air Pollution Control Regulations (Vermont Agency of Natural Resources, Department of Environmental Conservation, Air Pollution Control Division, 12 031 001, Chapter 5, Subchapter V, 5-501)	Applicable	Requires new sources of air emissions to demonstrate that its emissions do not violate ambient air quality standards.	Alternative LF-2, which may generate air emissions during excavation of landfill waste and repair of the landfill cap, would comply with the substantive requirements of this regulation.

LOCATION-SPECIFIC ARARs for ALTERNATIVE LF-2 - CAP REPLACEMENT AND CONSTRUCTION
ENGINEERING EVALUATION/COST ANALYSIS
POWNAL TANNERY SITE
NORTH POWNAL, VERMONT

AUTHORITY	REQUIREMENT	STATUS	REQUIREMENT SYNOPSIS	ACTIONS TO BE TAKEN TO ATTAIN REQUIREMENT
	An Act Relating to the Preservation of Historical and Archeological Data (16 USC 469a-1)	Relevant and Appropriate	This statute requires that, whenever any federal agency finds or is made aware that its activity in connection with any construction project or federally licensed project, activity, or program may cause irreparable loss or destruction of significant scientific, prehistorical, historical, or archeological data, such agency shall undertake the recovery, protection, and preservation of such data or notify the Secretary of the Interior. The undertaking could include a preliminary survey (or other investigation as needed) and analysis and publication of the reports resulting from such investigation.	Records indicate that protected resources are in the area of the Site. If significant scientific, prehistorical, historical, or archeological data are encountered during LF-2's implementation, then steps would be implemented to recover, protect, and preserve such data. Alternative LF-2 would comply with this ARAR.
	Archeological Resources Protection Act (16 USC 470aa-mm, 36 CFR 296, 32 CFR 229, 43 CFR 7, and 18 CFR 1312	Relevant and Appropriate	This regulation develops procedures for protecting archeological resources.	Records indicate that protected resources are in the vicinity of the Site. If archeological resources are encountered during Alternative B-1A soil excavation activities, then the requirements would be applicable. Federal and state archaeologists would be notified and steps will be taken to protect these resources. Alternative B-1A would comply with this ARAR.

TABLE 4-6B
LOCATION-SPECIFIC ARARs for ALTERNATIVE LF-2 - CAP REPLACEMENT AND CONSTRUCTION
ENGINEERING EVALUATION/COST ANALYSIS
POWNAL TANNERY SITE
NORTH POWNAL, VERMONT

AUTHORITY	REQUIREMENT	STATUS	REQUIREMENT SYNOPSIS	ACTIONS TO BE TAKEN TO ATTAIN REQUIREMENT
State Regulatory Requirements	Solid Waste Management - Prohibited Areas	Applicable	Waste facilities are restricted from being located in a 100-year floodplain or floodway.	Alternative B-1A would comply with this regulation. B-1A would involve building demolition and excavation activities within the 100-year floodplain, which would not permanently reduce flood storage capacity or impede flooding.
	Vermont Wetlands Rules (Vermont Agency of Natural Resources, Water Resources Board, 12 004 056)	Relevant and Appropriate	These regulations establish criteria for delineating Class One and Class Two wetlands which are considered significant wetlands and sets forth allowed and conditional uses for these wetlands. The uses must not have undue adverse impacts on the significant functions of the wetland. Class Three wetlands are not protected under these rules; however, they may be protected by other federal, state, or local regulations.	Additional survey work need to be conducted as part of the PDI to determine whether there are any wetlands on or adjacent to the site are regulated under state authority and would be altered by Alternative LF-2. If state-regulated wetlands are present, then these regulations are applicable. Any alteration of state-regulated wetlands would comply with the substantive requirements of these rules.
	Land Use and Development (Act 250) (10 VSA 6088)	Relevant and Appropriate	This statute requires that developments protect a number of land use criteria including: streams, floodways, shorelines, wetlands, erosion control, and historic sites.	Alternative LF-2 will comply with the substantive environmental provisions of this statute, including protecting streams, floodways, and shorelines.

CHEMICAL-SPECIFIC ARARs for ALTERNATIVE LF-2 - CAP REPLACEMENT AND CONSTRUCTION
ENGINEERING EVALUATION/COST ANALYSIS
POWNAL TANNERY SITE
NORTH POWNAL, VERMONT

AUTHORITY	REQUIREMENT	STATUS	REQUIREMENT SYNOPSIS	ACTIONS TO BE TAKEN TO ATTAIN REQUIREMENT
Criteria, Advisories and Guidance	SDWA- Maximum Contaminant Levels (MCLs) (40 CFR 141.11-141.16)	To be Considered	MCLs have been promulgated for a number of common organic and inorganic contaminants to regulate the concentration of contaminants in public drinking water supply systems. MCLs may be used to evaluate groundwater quality at the Pownal Tannery Site because the aquifer is used by nearby local residents for drinking water.	MCLs were used to evaluate whether groundwater quality has been degraded by contaminated site soils, sludges, and sediments.
	EPA Region III Risk-Based Concentrations (Oct 1997)	To be Considered	RBCs are human-health-based allowable exposure guidance levels developed for carcinogenic and noncarcinogenic compounds, using reference doses and carcinogenic potency slopes obtained from EPA's Integrated Risk Information System (IRIS) database, EPA's Health Effects Assessment Summary Tables (HEAST), and standard exposure scenarios. RBCs are chemical concentrations corresponding to a fixed level of risk in various media.	RBCs were used in the EE/CA's human health risk evaluation to identify and select potential contaminants of concern.
	OSWER Directive 9200.4-26, Approaches for Addressing Dioxins in Soil at CERCLA and RCRA Sites (Apr. 13, 1998)	To be Considered	This Directive provides guidance in establishing cleanup levels for dioxins. A 1 µg/kg (ppb) concentration of dioxins (as 2,3,7,8-TCDD TE) has been established for surficial soils involving residential exposure scenarios. A cleanup range of 5 to 20 µg/kg of dioxin (as 2,3,7,8-TCDD TE) was established for commercial and industrial exposure scenarios.	This OSWER policy was used to establish dioxin PRGs for the EE/CA.
	Vermont Groundwater Protection Rule-Enforcement Standards (VTES) (CVR 12 032 001)	To be Considered	This regulation establishes Vermont's primary (enforcement) and secondary groundwater quality standards and preventive action levels.	The VTES were used to evaluate whether groundwater quality has been degraded by contaminated site soils, sludges, and sediments.

TABLE 4-6B
LOCATION-SPECIFIC ARARs for ALTERNATIVE LF-2 - CAP REPLACEMENT AND CONSTRUCTION
ENGINEERING EVALUATION/COST ANALYSIS
POWNAL TANNERY SITE
NORTH POWNAL, VERMONT

AUTHORITY	REQUIREMENT	STATUS	REQUIREMENT SYNOPSIS	ACTIONS TO BE TAKEN TO ATTAIN REQUIREMENT
Federal Regulatory Requirements	Protection of Wetlands (Executive Order 11990), 40 CFR 6.302(a) and 40 CFR 6, App. A (Policy on Implementing E.O. 11990)	Relevant and Appropriate	Federal agencies are required to avoid undertaking or providing assistance for new construction located in wetlands unless there is no practicable alternative and the proposed action includes all practicable measures to minimize harm to wetlands that may result from such use.	Additional survey work need to be conducted as part of the PDI to determine whether there are any wetlands on or adjacent to the site that are regulated under federal authority that would be altered by Alternative LF-2. If federally regulated wetlands are present, then these regulations may be becomes applicable.
	Clean Water Act - Section 404 (b) (i) Guidelines	Applicable	These guidelines (also as regulations 40 CFR 230) outline requirements for the discharge of dredged or fill materials into surface waters, including wetlands. Under these requirements, no activity that impacts a wetland shall be permitted if a practicable alternative that would have less adverse impact exists.	Additional survey work need to be conducted as part of the PDI to determine whether there are any wetlands on or adjacent to the site that are regulated under federal authority that would be altered by Alternative LF-2. If federally regulated wetlands are present, then these regulations may be becomes applicable. Any alteration of federally regulated wetlands would comply with the substantive requirements of this Act.
Federal Regulatory Requirements (Cont.)	Fish and Wildlife Coordination Act (16 U.S.C. 661)	Relevant and Appropriate	This regulation requires that any federal agency proposing to modify a body of water must consult with the U.S. Fish and Wildlife Service (USFWS), National Marine Fisheries Service, and other related state agencies. That federal agency must also take action to prevent, mitigate, or compensate for project-related losses of fish and wildlife resources.	Additional survey work need to be conducted as part of the PDI to determine whether there are any federally regulated wetlands on or adjacent to the Site that provide fish and wildlife habitat. If wetland wildlife habitat is present, the status is applicable and EPA will consult with the USFWS regarding potential mitigation measures. Any alteration of federally regulated wetland would comply with the substantive requirements of the Act.

ACTION-SPECIFIC ARARs for ALTERNATIVE B-1A - DECONTAMINATION, DEMOLITION, AND ON-SITE SOIL DISPOSAL
ENGINEERING EVALUATION/COST ANALYSIS
POWNAL TANNERY SITE
NORTH POWNAL, VERMONT

AUTHORITY	REQUIREMENT	STATUS	REQUIREMENT SYNOPSIS	ACTIONS TO BE TAKEN TO ATTAIN REQUIREMENT
Federal Regulatory Requirements	CWA Section 402, National Pollution Discharge Elimination System (NPDES) (40 CFR Part 122 and 125)	Applicable	This EPA-administered permit program imposes limitations on the discharge of pollutants from a point source into the waters of the U.S.	Any point or non-point discharges from the site, such as decontamination effluent, will be managed or treated prior to discharge into the Hoosic River. Alternative B-1A would comply with these requirements.
State Regulatory Requirements	Vermont Hazardous Waste Management Rules (Vermont Agency of Natural Resources, Department of Environmental Conservation, Solid Waste Management Division, 12 032 001)	Applicable	These rules set forth Vermont's definitions and criteria for establishing whether waste materials are hazardous and subject to associated hazardous waste regulations. These rules also identify requirements for hazardous waste generators and land disposal restrictions. The Vermont Rules do not adopt the federal RCRA exemption for tannery wastes containing trivalent chromium, that are not hazardous by characteristic (exceeding federal toxicity standards).	Alternative B-1A would comply with these requirements by identifying and properly disposing of hazardous wastes expected to be generated during building decontamination and demolition.
	Vermont Solid Waste Management Rules (Vermont Agency of Natural Resources, Department of Environmental Conservation, Rule 97P015, July 1, 1998)	Applicable	These rules govern the management and handling of non-hazardous waste.	Alternative B-1A would comply by handling and disposing of non-hazardous wastes generated during building decontamination and demolition in accordance with these rules.

TABLE 4-4C
ACTION-SPECIFIC ARARs for ALTERNATIVE B-1A - DECONTAMINATION, DEMOLITION, AND ON-SITE DISPOSAL
ENGINEERING EVALUATION/COST ANALYSIS
POWNAL TANNERY SITE
NORTH POWNAL, VERMONT

AUTHORITY	REQUIREMENT	STATUS	REQUIREMENT SYNOPSIS	ACTIONS TO BE TAKEN TO ATTAIN REQUIREMENT
State Regulatory Requirements (cont.)	Vermont Water Quality Standards	Applicable	These standards establish water quality criteria for the maintenance of water quality and rules for determining acceptable point- and non point-source discharges to the state's surface waters.	Any point or non-point discharges from the site, such as decontamination effluent, will be managed or treated prior to discharge into the Hoosic River. Alternative B-1A would comply with these requirements.
	Vermont Air Pollution Control Regulations (Vermont Agency of Natural Resources, Department of Environmental Conservation, Air Pollution Control Division, 12 031 001, Chapter 5, Subchapter V, 5-501)	Applicable	Requires new sources of air emissions to demonstrate that its emissions do not violate ambient air quality standards.	Alternative B-1A, which may generate air emissions during either the decontamination, demolition or excavation activities, would be implemented to comply with the substantive requirements of this regulation.

CHEMICAL-SPECIFIC ARARs for ALTERNATIVE B-1A - DECONTAMINATION, DEMOLITION, AND ON-SITE SOIL DISPOSAL
ENGINEERING EVALUATION/COST ANALYSIS
POWNAL TANNERY SITE
NORTH POWNAL, VERMONT

AUTHORITY	REQUIREMENT	STATUS	REQUIREMENT SYNOPSIS	ACTIONS TO BE TAKEN TO ATTAIN REQUIREMENT
Criteria, Advisories and Guidance	SDWA- Maximum Contaminant Levels (MCLs) (40 CFR 141.11-141.16)	To be Considered	MCLs have been promulgated for a number of common organic and inorganic contaminants to regulate the concentration of contaminants in public drinking water supply systems. MCLs may be used to evaluate groundwater quality at the Pownal Tannery Site because the aquifer is used by nearby local residents for drinking water.	MCLs were used to evaluate whether groundwater quality has been degraded by contaminated site soils, sludges, and sediments.
	EPA Region III Risk-Based Concentrations (Oct 1997)	To be Considered	RBCs are human-health-based allowable exposure guidance levels developed for carcinogenic and noncarcinogenic compounds, using reference doses and carcinogenic potency slopes obtained from EPA's Integrated Risk Information System (IRIS) database, EPA's Health Effects Assessment Summary Tables (HEAST), and standard exposure scenarios. RBCs are chemical concentrations corresponding to a fixed level of risk in various media.	RBCs were used in the EE/CA's human health risk evaluation to identify and select potential contaminants of concern.
	OSWER Directive 9200.4-26 Approaches for Addressing Dioxins in Soil at CERCLA and RCRA Sites (Apr. 13, 1998)	To be Considered	This Directive provides guidance in establishing cleanup levels for dioxins. A 1 µg/kg (ppb) concentration of dioxins (as 2,3,7,8-TCDD TE) has been established for surficial soils involving residential exposure scenarios. A cleanup range of 5 to 20 µg/kg of dioxin (as 2,3,7,8-TCDD TE) was established for commercial and industrial exposure scenarios.	This OSWER policy was used to establish dioxin PRGs for the EE/CA.
	Vermont Groundwater Protection Rule-Enforcement Standards (VTES) (CVR 12 032 001)	To be Considered	This regulation establishes Vermont's primary (enforcement) and secondary groundwater quality standards and preventive action levels.	The VTES were used to evaluate whether groundwater quality has been degraded by contaminated site soils, sludges, and sediments.

TABLE 4-4B
LOCATION-SPECIFIC ARARs for ALTERNATIVE B-1A - DECONTAMINATION, DEMOLITION AND ON-SITE SOIL DISPOSAL
ENGINEERING EVALUATION/COST ANALYSIS
POWNAL TANNERY SITE
NORTH POWNAL, VERMONT

AUTHORITY	REQUIREMENT	STATUS	REQUIREMENT SYNOPSIS	ACTIONS TO BE TAKEN TO ATTAIN REQUIREMENT
Federal Regulatory Requirements	An Act Relating to the Preservation of Historical and Archeological Data (16 USC 469a-1)	Applicable	This statute requires that, whenever any federal agency finds or is made aware that its activity in connection with any construction project or federally licensed project, activity, or program may cause irreparable loss or destruction of significant scientific, prehistorical, historical, or archeological data, such agency shall undertake the recovery, protection, and preservation of such data or notify the Secretary of the Interior. The undertaking could include a preliminary survey (or other investigation as needed) and analysis and publication of the reports resulting from such investigation.	The central tannery building is a state-designated historic structure; work on the building will comply with historic preservation standards. In addition, if significant scientific, prehistorical, historical, or archeological data are encountered during implementation of Alternative B-1A, then steps will be implemented to recover, protect, and preserve such data. Alternative B-1A would comply with this ARAR.
	Archeological Resources Protection Act (16 USC 470aa-mm, 36 CFR 296, 32 CFR 229, 43 CFR 7, and 18 CFR 1312	Relevant and Appropriate	This regulation develops procedures for protecting archeological resources.	Records indicate that protected resources are in the area of the Site. If archeological resources are encountered during Alternative B-1A soil excavation activities, then the requirements would be applicable. Federal and state archaeologists would be notified and steps will be taken to protect these resources. Alternative B-1A would comply with this ARAR.
State Regulatory Requirements	Solid Waste Management Rules - Prohibited Areas Rule 97P015, Subchap. 6-502	Applicable	Waste facilities are restricted from being located in a 100-year floodplain or floodway.	Alternative B-1A would comply with this regulation. B-1A would involve building demolition and excavation activities within the 100-year floodplain, which would not permanently reduce flood storage capacity or impede flooding.
	Land Use and Development (Act 250) (10 VSA 6086)	Relevant and Appropriate	This statute requires that developments protect a number of land use criteria including: streams, floodways, shorelines, wetlands, erosion control, and historic sites.	Alternative B-1A will comply with the substantive environmental provisions of this statute, including protecting streams, floodways, and shorelines.

Attachment 5 - EE/CA Fact Sheet (Proposed Plan)

ATTACHMENT 3

EPA Region I, New England **Superfund Program** ◘ **November, 1998**

EPA Plans Cleanup in 1999

Pownal Tannery Site
North Pownal, Vermont

The Cleanup Proposal...

Based upon the detection of unacceptable levels of contaminants in and under the tannery buildings at the Pownal Tannery Site (currently proposed for Superfund listing), EPA proposes the following early cleanup plan to reduce risks from site contamination:

- **Decontaminate the tannery buildings, demolish the northern portion of the primary tannery building and dispose of the debris at an off-site solid waste disposal facility.**
- **Excavate contaminated soil and sludge under the tannery buildings that present the highest risks to human health and dispose of this material in an existing landfill on site.**
- **Construct a multi-layer cover over the contaminated soil and sludge at the landfill, and repair a leachate collection system.**

More on page 2

How would the cleanup affect the local area?

Find out about the proposed cleanup plan and how it compares with other cleanup options for the site at a public informational meeting on December 3, 1998. At the meeting, EPA will respond to your questions and concerns about the proposed cleanup and how it may affect you.

For further information on the meeting, call Sarah White, EPA Community Involvement Coordinator toll free at 1-888-372-7341.

EPA invites you to participate in a meeting on the proposed cleanup plan for the Pownal Tannery Site!

Thursday, December 3, 1998

at 7:30 p.m.

Pownal Elementary School Library
Route 7
(School House Road)
Pownal, VT

Come learn more about the proposed plan and how you can comment!

What do you think?

EPA is accepting public comment on this proposal from December 3, 1998 through January 4, 1999. You don't have to be a technical expert to comment; if you have a concern or preference, then EPA would like to hear from you before making a final decision on how to protect your community.

To comment, you can:

✔**Submit oral comments** during the informal comment portion of the public information session on Wednesday, Dec. 3, 1998 (see page 6 for details).

✔**Send written comments** postmarked no later than January 4 to:

Leslie McVickar
Remedial Project Manager
U.S.EPA Region I, HBT
One Congress Street
Boston, MA 02114

FAX: (617) 918-1294

✔**e-mail comments by** January 4, 1999 to:

mcvickar.leslie@epamail.epa.gov

A Closer Look at EPA's Proposal...

EPA's proposal involves decontamination of the tannery buildings, demolition of a portion of the primary tannery building, off site removal of clean building debris, excavation and removal of contaminated soils under the tannery building to the existing tannery landfill, and a new cover system over contaminated soil and sludge at the landfill. Contaminants found at the tannery buildings which will be transferred to the landfill are a direct contact threat to humans and an ongoing source of contamination to the environment. The primary contaminants of concern include dioxins, semi-volatile organic compounds (semi VOCs) and metals.

The primary goal of EPA's proposed cleanup is to remove the source of contamination in and under the tannery buildings, to prevent exposure of humans and ecological receptors(for example local plant and animal life) to contaminants at the landfill, and to significantly reduce the migration of contaminants from the landfill to human and ecological receptors. EPA will further evaluate the nature and extent of contamination at the tannery lagoons, in the groundwater, and in the surface water and sediments of the Hoosic River during a future investigation planned for 1999. An additional cleanup proposal will be presented in the year 2000 to address these other areas of the site. The major cleanup activities currently proposed are described below.

1. Site preparation, contaminant sampling, and surveys

- Clear and grub appropriate work areas, establishing erosion and sediment controls around cleared areas.
- Perform a structural assessment of the tannery building, and perform a building survey to estimate amounts of remaining contaminated media, equipment and debris.
- Perform soil sampling in building basements and exterior to refine the extent of soil contamination.
- Repair the landfill access road and remove accumulated material from the leachate collection system.
- Install a fence around the building demolition area.
- Inspect the landfill to determine what repairs are needed and establish erosion controls.

2. Building decontamination and demolition

- Decontaminate tannery buildings and remove all identified contaminated materials.
- Dispose of equipment and loose debris at a recycling facility or off-site landfill.
- Dispose of decontamination waste at an off-site licensed disposal facility.
- Demolish northern tannery building and other portions deemed to be structurally unsound and dispose of clean demolition debris at an off-site solid waste landfill.

3. Excavation/site work

- Excavate contaminated soil and sludge from beneath the tannery buildings and backfill with clean fill.
- Remove existing cover soil and liner from the on-site landfill, and dispose of tannery building soils and sludge at the landfill.
- Place multi-layered cap over the landfill.
- Repair the existing landfill leachate collection system, repair the leachate collection alarm system and the chain-link fence.

4. Site Restoration and post-cleanup control measures

- Grade northern tannery building area, place topsoil, reinforce the river stream bank, and apply seed.
- Grade, apply mulch and seed the landfill and all cleared and denuded areas.
- Inspect and repair fencing, erosion control, cap and vegetative growth.
- Perform regular maintenance of the landfill, including mowing and regular removal of collected leachate.

Cost

- The total cost of this action is estimated to be approximately $7 million.

Schedule

The decontamination, demolition, and excavation should be completed in 1999. All activities associated with construction of the multi-layer cap at the landfill are expected to be completed by the Spring of 2000.

Pownal Tannery Site History

The Pownal Tannery site is an abandoned former tannery site which consists of approximately 30 acres and includes a sludge lagoon system, four buildings and a landfill. It's located in North Pownal adjacent to the Hoosic River (Figure 1).

1937-1988 Pownal Tannery operated a cow/sheep hide tanning operation.

1962-1988 process wastewater was disposed of in a series of settling lagoons (previously discharged to river).

1982-1988 an on-site landfill was constructed to take sludge from the lagoon system.

1993 EPA completed a Preliminary Assessment/Site Investigation and approved a Time-Critical Removal Action (TCRA).

1994 EPA completed the TCRA to remove 13,000 pounds of contaminated material left in the primary tannery building.

1995 EPA collected groundwater, soil, sediment, surface water, and leachate samples at the site.

1997 EPA characterized the nature and extent of contamination within three tannery buildings.

1997-1988 EPA develops the Engineering Evaluation/Cost Analysis (EE/CA) to evaluate options to address the primary sources of contamination at the site.

1998 EPA proposes site to the National Priorities list of Superfund sites.

1998 EPA proposes early cleanup to address 2 of 3 known source areas and initiates continued site characterization.

Why is cleanup needed?

The Pownal Tannery site is contaminated with elevated levels of hazardous constituents. The contaminants of most concern to EPA are dioxin, semi-VOCs (volatile organic chemicals), and metals which are present in areas of the site at levels that could potentially harm human health and the environment from frequent or long-term exposure to the contaminants **(See Table 1)**.

To protect neighboring residents, EPA recommends reducing, through appropriate cleanup measures, the chances that people could be exposed to the current site contaminants.

After reviewing the information collected during the 1995 and 1997 investigations, EPA determined that the levels of contaminants in the soils in the landfill, under the buildings and on building materials represent a hazard that should be addressed in a timely manner. The buildings are currently accessible to trespassers and the contaminants pose a threat of direct contact exposure to humans and act as an ongoing threat to the environment through continued migration to groundwater and to the adjacent Hoosic River watershed.

If the contaminated soils are not removed from beneath the buildings and contained within a newly capped landfill, these materials will act as a continued threat to human health and source of contamination to the environment. Groundwater, surface water and sediment, and leachate sampling to date has documented an unacceptable release of contaminants from the existing landfill.

Scope and Role of Action

The Superfund law allows EPA to implement cleanup actions under the "removal" or "remedial" authorities specified in the statute. The approach selected depends upon a variety of factors. Removal actions are often used to respond to emergency or time critical situations.

EPA may, however, perform a removal action at a site when ***prompt action is necessary***, but more than six months of planning and preparation time is available before on-site cleanup work must begin. Such a removal is called a non-time critical removal action (NTCRA).

The contamination of soil and building materials at the Site qualifies for a NTCRA because timely control of the source material is necessary to protect the surrounding community and environment and to prevent further contamination of the groundwater and the Hoosic River. A study called, the Engineering Evaluation/ Cost Analysis (EE/CA), has been prepared to evaluate different options for controlling the source of contamination.

A NTCRA does not always result in an actual physical "removal" of contamination from a site. Rather, a NTCRA may involve various treatment or containment technologies to deal with the contamination on-site.

A common theme for NTCRAs is that EPA will generally use this authority to accelerate its response to address the source of the contamination at a site. This is consistent with EPA's Superfund Accelerated Cleanup Model (SACM). EPA developed the SACM model to speed up Superfund cleanups and make them more timely and efficient. In particular, SACM authorizes the use of removal and remedial authorities earlier in the Superfund process to achieve rapid risk reduction as compared with more traditional Superfund cleanups.

At the Pownal site, EPA proposes to use the NTCRA authority and the SACM approach to address the mill building area and the tannery landfill during 1999. If the standard remedial Superfund approach had been followed at this site, cleanup of the buildings and landfill would not have been initiated until the year 2000 at the earliest.

Cleanup Actions Beyond the NTCRA

While the proposed action will accelerate the overall site cleanup by eliminating the source of the contamination at the tannery buildings and closing the landfill, it does not alone constitute the complete cleanup plan for the Site (See Figure 1).

During 1999 EPA will begin the Remedial Investigation / Feasibility Study (RI/FS) for the entire Site. The results of these investigations and the human health and ecological risk assessments will be used to determine what cleanup measures may be needed to address the remaining contamination at the site.

The EPA will address the following issues after the NTCRA is completed:

- sludge lagoons that pose threats to human health and the environment;
- contaminated groundwater, sediment and/or surface water;
- future controls on groundwater and land use in the vicinity of the Site; and
- wetlands mitigation that may be required as a result of any losses that will occur through the proposed cleanup measures.

The RI Report should be available to the public by the end of 1999. The Feasibility Study should be available in the year 2000.

Studies indicate that nearby residential wells are not contaminated above safe drinking water standards.

Annual sampling of nearby residential wells by the Vermont Department of Environmental Conservation (VT DEC) will continue. Monitoring of these wells over time will ensure that residents are not exposed to unsafe levels of contaminants should the contaminated groundwater beneath the site be migrating. Additional investigations into the nature and extent of groundwater contamination at the site will begin during 1999 as part of the Superfund Remedial Investigation. These tests will better define the flow direction and potential to affect nearby water supply wells.

Table 1: Levels of Contaminants Found On site Compared to Acceptable Human Health Based Levels *

Site Contaminants of Concern for Soil/Sludge	Acceptable Level for Direct Contact and Ingestion (parts per million)	Maximum concentration found in building soils/sludge (parts per million)
Arsenic	1.7	63.5
Lead	1,000	1,380
Benzo(a)pyrene	0.3	63
Benzo(b)flouranthene	2.6	74
Benzo(k)flouranthene	25.8	45
Ideno(1,2,3-cd)pyrene	2.6	22
Dioxins (2,3,7,8-TCDD TE)	0.005	0.006
Benzo (a) anthracene	2.6	56
Pentachlorophenol	11.9	33
Dibenz (a,h) anthracene	0.3	0.79

* Cleanup levels for additional contaminants of concern will be determined during the design phase of the NTCRA when additional data becomes available

What's a Formal Comment?

During the 30-day public comment period, EPA will accept formal written comments. EPA uses public comments to improve the cleanup proposal.

To make a **formal** comment you need to submit a written comment during the 30-day comment period.

Federal regulations require EPA to distinguish between "formal" and "informal" comments. While EPA considers all your comments throughout the development of site investigations and cleanup, **EPA is only required to respond to formal comments submitted in writing.**

EPA will respond to your informal comments and questions during the December 3, 1998 information session, but urges you to submit your concerns in writing.

EPA will review all written comments received during the formal comment period before making a final cleanup decision. EPA will then prepare a written response to all formal written comments.

Your formal comments will become part of the official public record. The transcript of comments and EPA's written responses will be issued in a document called a Responsiveness Summary when EPA releases the final cleanup decision.

For More Detailed Information

To help you understand and comment on the proposal for the site, this publication summarizes a number of reports and studies. All of the technical and public information publications prepared to date for the site are available at the at these Pownal Tannery site information repositories:

Solomon Wright
Public Library
Pownal, Vermont 05261
(802) 823-4070
Hours: Open daily during the week
Call ahead for schedule.

EPA Records Center
90 Canal Street
Boston, MA 02114
(617) 573-5729
Hours: 10:00 am-noon
and 2:00 pm-5:00 pm

You may also contact:

Leslie McVickar, EPA Project Manager
USEPA One Congress Street; Boston, MA 02114
617/ 918-1374 Toll free: 1/888/372-7341

Brian Woods, Vermont DEC
VT ANR, 103 So. Main Street; Waterbury, VT 05671
802/241-3879

Internet users may access general Superfund information on EPA's Superfund web page at:
http://www.epa.gov/superfund

The Criteria for Choosing a Cleanup

EPA uses three criteria to balance the pros and cons of cleanup alternatives. EPA has already evaluated how well each of the cleanup alternatives developed for the Pownal Tannery Site meet these criteria (See **Table 2**). Once comments from the state and the community are received, EPA will select the cleanup plan.

A. **Effectiveness: This criteria evaluates five specific subcriteria**

(1) **Overall protection of human health and the environment:** Will it protect you and the plant and animal life on and near the site? EPA will not choose a plan that does not meet this basic criterion.

(2) **Compliance with Applicable or Relevant and Appropriate Requirements (ARARs):** Does the alternative meet all federal and state environmental statutes, regulations and requirements on site?

(3) **Long-term effectiveness and permanence:** Will the effects of the cleanup plan last or could contamination cause future risk?

(4) **Reduction of toxicity, mobility or volume through treatment:** Does the alternative reduce the harmful effects of the contaminants, the spread of contaminants, and the amount of contaminated material?

(5) **Short-term effectiveness:** How soon will site risks be adequately reduced? Could the cleanup cause short-term hazards to workers, residents or the environment?

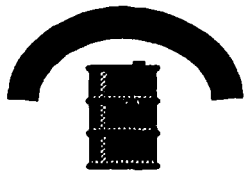
B. **Implementability:** Is the alternative technically and administratively feasible? Are the right goods and services (i.e. treatment machinery, space at an approved disposal facility) available for the plan? What are the administrative barriers to proceeding?

C. Cost: What is the total cost of an alternative over time? EPA must find a plan that gives necessary protection for a reasonable cost.

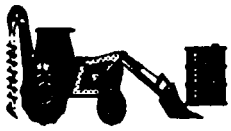
EPA also strongly considers state and community input prior to finalizing the selection of the cleanup alternative.

Four Kinds of Cleanup

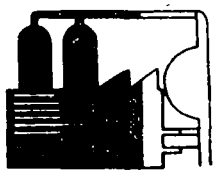
EPA looks at numerous technical approaches to determine the best way to reduce the risks presented by a Superfund site. The EPA then narrows the possibilities to approaches that would protect human health and the environment. Although reducing risks often involves combinations of highly technical processes, there are really only four basic options.



Contain contamination: Leave contamination where it is and cover or contain it in some way to prevent exposure to, or spread of, contaminants. This method reduces risks from exposure to contamination, but does not destroy or reduce it.



Move contamination off site: Remove contaminated material (soil, groundwater etc.) and dispose of it or treat it elsewhere.



Treat contamination on site: Use a chemical or physical process on the site to destroy or remove the contaminants. Treated material can be left on-site. Contaminants captured by the treatment process are disposed in an off-site hazardous waste facility.

Cleanup Alternatives for the Pownal Tannery Site

The Pownal Tannery Site Engineering Evaluation/Cost Analysis (EE/CA) report reviewed the options EPA considered for cleanup, as well as EPA's proposed cleanup plan. The options, referred to as "cleanup alternatives," are different combinations of plans to **contain**, **remove**, or **treat** contamination to protect public health and the environment.

EPA developed separate sets of options to deal with soil/sludge and building contamination (the source of contamination at the site). While the lagoon sludge was evaluated in the EE/CA, EPA determined that insufficient data was available to select a cleanup alternative. This area of the site will be evaluated during an upcoming investigation to begin in the spring of 1999.

During the upcoming comment period, EPA welcomes your comments on the proposed cleanup plan as well as the other technical approaches EPA evaluated. These alternatives are summarized below. Please consult the Pownal Tannery Site EE/CA for more detailed information.

Move contaminants off site

During development of the EE/CA, EPA could not locate an off-site disposal facility within the United States that would accept dioxin contaminated soil. While it's possible that in the future a facility may become available, none are available at this time.

Alternative B-1: ***Building decontamination, partial building demolition and off-site disposal of clean debris, excavation of soil/sludge under the buildings and off-site disposal at a chemical waste landfill***

- Decontaminate all building surfaces below the level that could threaten public health (.000016 ug/cm2 dioxin)
- Demolish the northern portion of the tannery building (and those determined to be structurally unsound) and dispose of decontaminated debris at an off-site solid waste disposal facility.
- Excavate soil and sludge under tannery buildings with contaminant concentrations above levels which could threaten public health (see table 1) and dispose of at a licensed disposal facility.
- Grade northern tannery building area, reinforce the Hoosic River streambank, place clean fill and topsoil in excavated area, and apply seed.

Alternative B-1A:** ***Building decontamination, demolition of the northern tannery building, off-site disposal of clean debris, excavation of soil/sludge under the buildings and on-site disposal at the landfill **This alternative, described in more detail on pages 1 and 2, is the EPA preferred alternative**

Alternative LF-1: ***Excavation of landfill soil/sludge and off-site disposal***

Excavate and stockpile uncontaminated soil that currently covers a portion of the landfill sludge.

- Excavate soil/sludge contaminated above specified cleanup levels (**1,000 parts per million of lead**) and dispose of off-site at a hazardous waste disposal facility.
- Dispose of leachate off site and decontaminate existing leachate collection system.
- Remove bottom liner and excavate soils with contamination above the cleanup levels.
- Backfill excavations, grade, apply seed, and mulch the former landfill area.

Treat contaminants on site

Alternative B-2: ***Solidification***
This alternative differs from Alternative's B-1 and B1-A only in that the excavated soil and sludge from beneath the tannery buildings would be treated using a process called solidification. Contaminated material would be excavated and mixed with a cement mixture to bind and immobilize the contaminants. The solidified material would be placed back into the ground on-site, covered with topsoil and seeded. This process would prevent the contaminants from leaching into the groundwater and Hoosic River.

Contain contaminants on site

Alternative LF-2: ***On-Site Multi-Layer Cap***
This alternative, described in more detail on pages 1 and 2, is the EPA preferred alternative

What impacts would the cleanup have on the local community?

- Any action that disturbs the contamination during cleanup could present short-term risks during excavation. As a result, EPA will monitor air and other emissions to ensure that unsafe levels of contaminants are not released beyond the Site boundary. Airborne dust emissions would be controlled using wetting agents and odor emissions that could occur during soil/sludge movement would be controlled with agents such as lime.

- Both off-site and on-site disposal options would require the use of a large portion of the site to provide space to manage and temporarily store the contaminated and clean soil.

- For both on-site and off-site treatment options careful traffic management will be required to ensure the safe transport of contaminated soil off-site or within the site. An increase in heavy truck traffic into and out of the site would be expected along Route 347, Avery Place Road, Dean Road and Burdick Road. To reduce the risk of vehicular accidents, it may be necessary to post speed limit and warning signs.

- An increase in noise levels during building demolition would be expected. Efforts would be made to minimize the potential impact to the community by working during regular hours and coordinating with nearby residents.

Why Does EPA Recommend this Proposed Plan?

The EPA recommends a cleanup plan that uses decontamination of building materials, off-site disposal of demolished clean debris, excavation and on-site disposal of contaminated soil and sludge from beneath tannery buildings, and construction of a multi-layer cap over contaminated soil and sludge at the on-site landfill site because this approach:

- Meets the 3 criteria of cost, effectiveness, and implementability, including protecting public health and the environment;
- Results in a permanent removal of the contaminants from the buildings and contaminated soil from beneath the tannery buildings, allowing potential redevelopment of the former tannery building, and significantly reducing leaching and mobilization of contaminants at the landfill;
- Provides the necessary level of protection for the cost;
- Provides the most cost-effective balance of effectiveness and implementability;
- Protects the public from further direct contact exposures to contaminants in the buildings and at the landfill, and prevents further mobilization of contaminants to the Hoosic River and environmental receptors.

Next Steps

In January 1999, EPA expects to have reviewed all comments and signed the Action Memorandum document describing the chosen cleanup plan. The Action Memorandum and a summary of responses to public comments will then be made available to the public at the Solomon Wright Public Library and through EPA's Records Center in Boston. EPA will announce the decision to the community through the local news media and a general mailing.

Next Steps: Initiation of the Remedial Investigation /Feasibility Study

EPA will initiate work on a comprehensive investigation to fully evaluated the nature and extent of contamination at the site in the spring of 1999. Detailed Human Health and Ecological Risk Assessments will be developed based upon the data documented in the Remedial Investigation Report. The risk assessments will determine the need for any additional cleanup actions at the site with respect to the lagoons, the groundwater, the Hoosic River and adjacent wetlands. If there are any areas that represent a potential threat to human health or the environment, then a Feasibility Study will be developed to evaluate a set of cleanup alternatives.

The need for a cleanup of the lagoons, the groundwater, the Hoosic River and its adjacent wetlands will not be known until the completion of the future risk assessments and RI/FS. The final decision regarding the long-term cleanup and management of the site will be described in another Proposed Plan, which is expected to be released during the year 2000. The final decision will be documented in a Record of Decision.

Revised 1

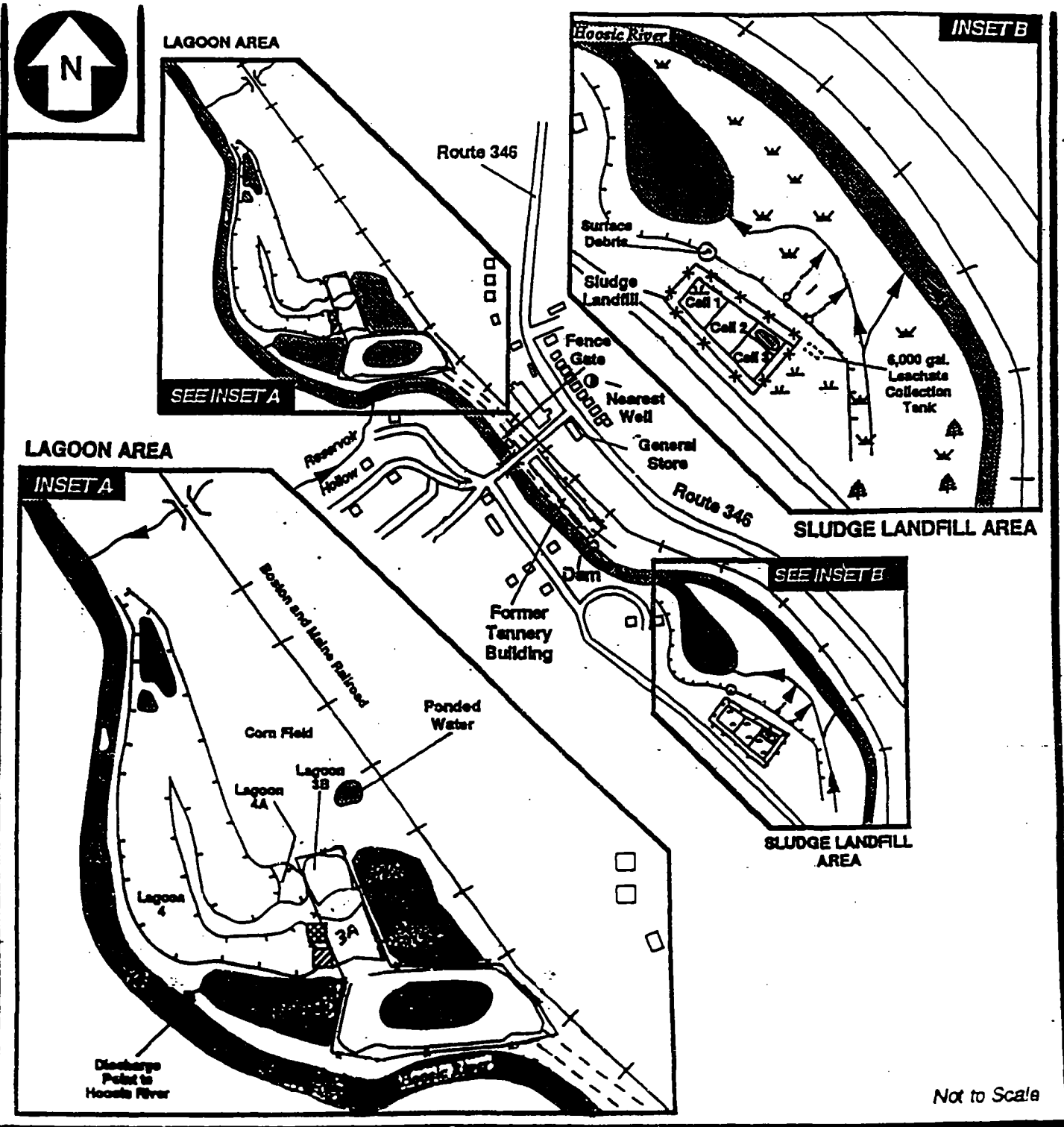
TABLE 2: Comparis Removal Cleanup Activities

Nine Criteria	Alt. B-1: Partial bldg demolition, bldg decontam, excavation and off site disposal	Alt. B-1A: Demolition of Northern Bldg, soil excavation and on site disposal *	Alt. B-2: Solidification of contaminated soil and sludge on site	Alt. LF-1: Excavation of landfill soil and sludge and off site disposal	Alt. LF-2: On site multilayer cap *
Protects human health and the environment	✔	✔	✔	✔	✔
Meets federal and State Regulatory Requirements	✔	✔	✔	✔☆	✔☆
Provides long term protection	✔	✔	✔	✔	✔
Reduces mobility, toxicity and volume	✓	✓	✔	✔	✓
Provides short term protection	✔	✔	✔	✔	✔
Implementability	✖	✔	✔	✖	✔
Cost	$17 million	$ 5 million	$5.5 million	$41.5 million	$2 million
State Acceptance	To be determined after public comment				
Community Acceptance	To be determined after public comment				
Time frame	15 months	15 months	15 months	13 months	14 months

* EPA's preferred alternative ✔ meets or exceeds criterion

✓ Partially meets criterion ✖ Does not meet criterion

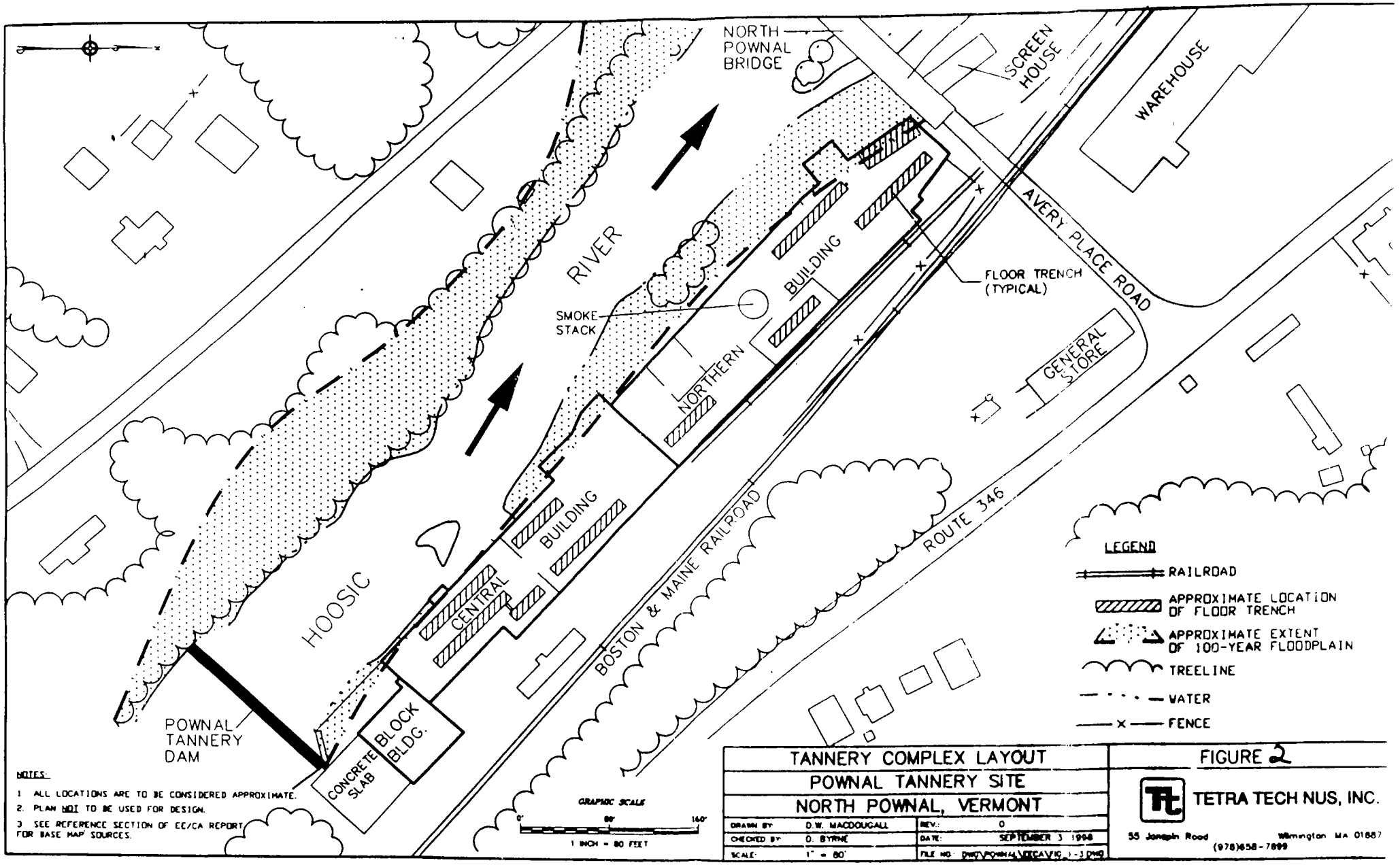
☆: An unavoidable loss of a small potential wetland located on the existing landfill cap may occur. Wetland mitigation efforts would be will be assessed during the upcoming Remedial Invesigation and addressed in a future decision document.



SITE SKETCH

POWNAL TANNERY
POWNAL, VERMONT

Figure 1



TANNERY COMPLEX LAYOUT			
POWNAL TANNERY SITE			
NORTH POWNAL, VERMONT			
DRAWN BY:	D.W. MACDOUGALL	REV.:	0
CHECKED BY:	D. BYRNE	DATE:	SEPTEMBER 3 1998
SCALE:	1" = 80'	FILE NO:	DWG\POWNAL\EECAVIS_1-3.DWG

FIGURE 2

TETRA TECH NUS, INC.
55 Jonspin Road Wilmington MA 01887
(978)658-7899

Use This Space to Write Your Comments

or to be added to the mailing list

EPA wants your written comments on the options under consideration for dealing with the contamination at the Pownal Tannery site. You can use the form below to send written comments. If you have questions about how to comment, please call EPA Community Involvement Coordinator Sarah White at 617/ 565-3033. This form is provided for your convenience. Please mail this form or additional sheets of written comments, postmarked no later than, **January 4, 1999**, to:

Leslie McVickar
Remedial Project Manager
U.S. Environmental Protection Agency
Region I, (HBT)
One Congress Street
Boston, MA 02114 -2023
FAX: 617/ 918-1294
or send E-mail to:
mcvickar.leslie@epamail.epa.gov

(Attach sheets as needed)

Comment Submitted by: *January 4, 1998*

Mailing list additions, deletions or changes

I would like to:

- ☐ **be added to the site mailing list**
- ☐ **note a change of address**
- ☐ **be deleted from the mailing list**

Name :_____

Address:_____

Pownal Tannery Site
Public Comment Sheet (cont....)

Fold, staple, stamp, and mail----------

Place Stamp Here

Leslie McVickar
Remedial Project Manager
U.S. Environmental Protection Agency
Region I (HBT)
One Congress Street
Boston, MA 02114-2023

Please Post

EPA to Hold Public Meeting on Cleanup Activities at the Pownal Tannery Site

The U.S. Environmental Protection Agency in cooperation with the Vermont Department of Environmental Conservation will hold an informational meeting in Pownal, VT to provide interested community members with an update on cleanup activities at the Pownal Tannery site. This is an open meeting.

Where: Pownal Elementary School Library
Route 7
School House Road
(Behind Storey Communications)
Pownal, Vermont

When: Thursday, December 3, 1998 at 7:30 pm.

Directions: Pownal Elementary School is on Route 7. Heading North: Go past the Pownal View Barn Gift Shop on right. The Pownal Fire station is on the left. Approximately 1/4 mile on right is Storey Communications located on the corner of Route 7 and School House Road. Take right onto School House Road. The Pownal Elementary School is behind Storey communications. The meeting is in the school library.

For more information call:

Sarah White, EPA Superfund Community Relations Office, toll free -1(888)372-7341
Leslie McVickar, EPA Project Manager, 617/918-1374

EPA
Region 1, New England

Attachment 6 - Response to Comments

RESPONSIVENESS SUMMARY

POWNAL TANNERY SUPERFUND SITE

POWNAL, VERMONT

March 1999

U.S. Environmental Protection Agency

Region I

POWNAL TANNERY SUPERFUND SITE
RESPONSIVENESS SUMMARY
POWNAL, VERMONT

TABLE OF CONTENTS

RESPONSIVENESS SUMMARY
POWNAL TANNERY SUPERFUND SITE
NORTH POWNAL, VERMONT
Preface

The U.S. Environmental Protection Agency (EPA) held a 30-day public comment period from December 3, 1998 to January 4, 1999 to provide an opportunity for the public to comment on the Engineering Evaluation/Cost Analysis (EE/CA) and the Proposed Plan developed for the Pownal Tannery Superfund site in North Pownal, Vermont (the Site). The EE/CA examined and evaluated various options, called removal alternatives, to address contamination at the Site. EPA made a preliminary recommendation of its Preferred Alternative for a Non-Time Critical Removal Action (NTRCA) in the Proposed Plan issued on December 3, 1998 at the start of the comment period. All documents on which the preferred alternative was based have been placed in the Administrative Record for public review. The Administrative Record is a collection of all the documents considered by EPA to select the remedy for the Site. It is available at the EPA Records Center at 90 Canal Street in Boston, Massachusetts and at the Solomon Wright Public Library in Pownal, Vermont.

The purpose of this Responsiveness Summary is to document EPA responses to the questions and comments raised during the public comment period. EPA has considered all of the comments in this document before selecting a final removal alternative to address a portion of contamination at the Site.

The Responsiveness Summary is organized into the following sections:

I. **Overview of Removal Alternatives Considered in the Engineering Evaluation/Cost Analysis, including the Preferred Alternative** - This section briefly outlines the removal alternatives evaluated in the EE/CA and the Proposed Plan, including EPA's Preferred Alternative.

II. **Site History and Background on Community Involvement and Concerns** - This section provides a brief Site history and a general overview of community interests and concerns regarding the Site.

III. **Summary of Comments Received During the Public Comment Period and EPA Responses** - This section summarizes and provides EPA's responses to the comments received from the public during the public comment period. In Part I of this Section, the written comments received from citizens are presented. Part II summarizes the significant comments received during the December 3, 1998 public meeting, and Part III presents the written comments from State officials.

Attached to this document as Attachment A is a chronology of community relations activities at the Site to date. The comments submitted during the public comment period are available in the

Administrative Record for the Pownal Tannery Site.

I. OVERVIEW OF REMOVAL ALTERNATIVES CONSIDERED IN THE ENGINEERING EVALUATION/COST ANALYSIS

Using the information gathered during site investigations activities, EPA identified several objectives for the cleanup of the Pownal Tannery Site. The primary cleanup objective is to reduce the risks to human health and the environment posed by potential future exposure to contaminated soil and sludge under the tannery buildings and in the existing landfill, to contaminants on building surfaces, and to prevent continued migration of contamination to the groundwater and surface water and sediments of the Hoosic River. Cleanup levels for soil and building materials are set at levels that EPA considers to be protective of human health and the environment.

After identifying the cleanup objectives, EPA developed and evaluated potential cleanup alternatives, called removal alternatives. The EE/CA describes the contaminants of concern and the pathways in which they pose a potential threat, and outlines the removal alternatives considered to address the contaminants of concern and the pathways in which they pose a threat. The EE/CA also describes the criteria EPA used to narrow the range of alternatives to five potential source control (SC) removal alternatives to address the tannery buildings and the landfill. While alternatives were developed for the lagoons, it was determined that insufficient information was available to make a cleanup decision for that portion of the Site. The lagoons will be further investigated during the upcoming Remedial Investigation scheduled to begin during the Spring of 1999.

The five source control removal alternatives considered were:

B-1	Decontamination of the tannery buildings, partial building demolition, excavation of contaminated soils and sludges under the tannery buildings and OFF-SITE disposal at a licensed facility
B-1A	Decontamination of the tannery buildings, partial building demolition, excavation of contaminated soils and sludges under the tannery buildings and ON-SITE disposal at the existing tannery landfill
B-2	Decontamination of the tannery buildings, partial building demolition, excavation of contaminated soils and sludges under the tannery buildings and SOLIDIFICATION of this material
LF-1	Excavation of landfill soil and sludge and OFF-SITE disposal at a licensed waste disposal facility
LF-2	Installation of a multi-layer cap on the existing landfill

The preferred alternative selected by EPA to address Site contamination includes B-1A and LF-2, and includes decontamination of the tannery buildings, demolition of the structurally unsound tannery buildings which include the northern and, potentially the central, tannery building, off-site disposal or recycling of building materials, excavation of contaminated soil and sludge under the tannery buildings and disposal at the on-site tannery landfill, and placing a multi-layer cap over the landfill to aid in reducing further leaching of contaminants.

After a careful review of the comments made during the public comment period, EPA documented the selected remedy in the Action Memorandum. The selected remedy shows no significant changes from the preferred alternative. Descriptions of all of the removal alternatives considered for implementation at this Site can be found in the Action Memorandum, the Proposed Plan, and the EE/CA.

II. SITE HISTORY AND BACKGROUND ON COMMUNITY INVOLVEMENT AND CONCERNS

The Pownal Tanning Company operated the facility from approximately 1935 until 1988 when it ceased operations, after filing for Chapter 11 bankruptcy in 1987. The tanning of cow and sheep hides used a variety of processes and chemicals to remove animal tissues and fats from the hides, and to prepare the hides for tanning, coloring, and finishing. From approximately 1937 until 1962, untreated tanning process wastewater were directly discharged into the Hoosic River through trenches dug in the basement of the building complex. A screen house and a lagoon system comprising six lagoons were constructed in several stages between 1962 through 1971 to receive and provide limited physical treatment of the tannery's wastewater. In 1982, a state permitted lined landfill was constructed on Site which received dewatered sludge dredged from the a portion of the lagoons. In 1983 a portion of the lagoon system was covered.

The tannery landfill is situated on a parcel of land across the Hoosic River and southeast of the tannery building complex. In 1987, two-thirds of the landfill was closed and covered by the Pownal Tannery (also the property owner) at the direction of the state. The remaining portion was partially filled with sludge from the lagoons.

A Preliminary Assessment was completed by EPA in March 1988. A final Site Screening Inspection was completed in December 1989. Several other limited investigations have been completed by EPA and its contractors to assess the contamination in the tannery building complex, to evaluate the ecological conditions, and assess the lagoon system and the landfill. An EPA Emergency Planning and Response Branch (EPRB) Preliminary Assessment Site Investigation was prepared in January 1993, at the request of the State of Vermont. Due to threats to human health and the environment posed by on-site hazardous substances, a time-critical removal action was authorized by the Region I Acting Regional Administrator in March 1993. The removal action commenced in April 1993 and ended in May 1994, and included the removal of: compressed gas cylinders and asbestos-containing materials, tank

contents, cans of tetrahydrofuran, suspected dioxin-containing wastes, and one drum containing pentachlorophenol. Underground storage tanks were sealed to prevent public access. A breach in the berm of Lagoon 4 was also repaired in 1993.

Based on subsequent sampling and analysis of building materials and lagoon and landfill sludge, EPA determined that the remaining site contaminants are sources posing continuing threats to human health and the environment and that there are ongoing releases of contaminants into the groundwater, wetlands, surface water and sediments. Utilizing the data collected to date, an Engineering Evaluation/Cost Analysis (EE/CA) report was developed in support of a potential NTCRA to address the three primary source areas at the site. The site was proposed to the NPL on September 29, 1998 and was finalized on January 11, 1999. The Remedial Investigation will commence in the Spring of 1999, which will further address contamination in the lagoons (it was determined that additional data is necessary to fully evaluate this source area and to select an appropriate response action), site groundwater, surface water and sediments.

During the 1993 time-critical removal effort to remove bulk hazardous waste inside the tannery buildings, EPA and the State kept the public informed of site activities through the Pownal Health Department, State and local Police, the Fire Department, and local officials. A newsletter regarding EPA's actions were distributed to the local residents by the Vermont Department of Environmental Conservation (VT DEC) to keep them informed during this activity. EPA also kept citizens informed of Site activities through the media and an Administrative Record was established for the Site. There were no organized citizens groups during this emergency removal effort. Since then, EPA has kept the community and other interested parties informed of Site activities through fact sheets, press releases, communication with members of the Pownal Select Board and a public meeting. While historically there has been minimal interest by the public in site activities, there was increased interest by the community since the Site was proposed to the Superfund list in September 1998.

While the Site has been vacant since 1988 it has been utilized by trespassers for recreational purposes. EPA and the VT DEC formerly erected fences at the Site and boarded up entrances to Site buildings, however, access restrictions have been compromised over the years by site trespassers and there are currently no restrictions. Additionally, warning signs posted at the Site have been removed by trespassers. Results of EPA's community interviews with local residents and town officials in 1998 indicated that the community is concerned with Site access and the delay in making a cleanup decision. In 1998, to address these concerns, EPA, the VT DEC and the town of Pownal determined that Site access restrictions should be implemented. Through this NTCRA action and the RI/FS, access restrictions to the Site will be addressed.

The VT DEC has been very involved with Site activities. They worked with the Pownal Tanning Company while they were still in operation to get them into compliance. They required the excavation of sludge from one of the lagoons to a newly constructed landfill and required the tannery to perform soil, groundwater and residential well sampling. Since the Site has been abandoned they have coordinated with EPA on all investigations and assumed responsibility for a

portion of the 1993 removal action. In 1996, EPA signed a Memorandum of Agreement with the VT DEC which established responsibilities for each party and designated $300,000 of Vermont money to the ultimate NTCRA.

In November 1998, EPA issued the Proposed Plan for addressing two source areas of contamination at the Site. The Proposed Plan was made available to local residents and town officials by mailing copies of this document to the mailing list and placing a copy in the Solomon Wright Public Library in Pownal. At this time, EPA made the EE/CA report available for public review at EPA's offices in Boston and at the Solomon Wright Public Library. On December 3, 1998, EPA held an informational public meeting at the Pownal Elementary School to discuss the results of the EE/CA report and the cleanup alternatives presented in the EE/CA and to present the Agency's Proposed Plan. From December 3, 1998 to January 4, 1999, the Agency held a 30 day public comment period to accept public comment on the alternatives presented in the EE/CA and the Proposed Plan and on any other documents previously released to the public.

III. SUMMARY OF COMMENTS RECEIVED DURING THE PUBLIC COMMENT PERIOD AND EPA RESPONSES

This Responsiveness Summary addresses comments received by EPA during the public comment period. Four parties provided written comments to EPA during the public comment period including: local residents and the Vermont Department of Environmental Conservation. Numerous questions and concerns were raised and addressed during the public meeting.

Part I - Citizen Comments

Comment 1: One resident located adjacent to the Site indicated his support for EPA's preferred plan for addressing Site contaminants at the tannery buildings and the landfill.

EPA Response: NA

Comment 2: A property owner adjacent to the sludge lagoons at the Site expressed his concern regarding: (1) the impact of the cleanup activities on his property, as the Proposed Plan indicated that a portion of the Site would be used to manage and temporarily store contaminated and clean soil; (2) who would perform the "Site restoration and post cleanup measures" and the length and cost of taking these measures; and (3) numerous general questions and concerns regarding the lack of existing information regarding the lagoons, the delay in making a removal decision with respect to the lagoons, future timing, extent and adequacy of additional investigation and cleanup work, and the potential risks due to exposure to contaminated groundwater and surface water.

EPA Response: Precise locations of staging areas for contaminated and uncontaminated materials will be determined during the Remedial Design phase of the cleanup activities to be performed. However, Figures 5 and 6 of the Action Memorandum show potential locations of staging areas in the vicinity of both the primary tannery building and the landfill. EPA does not anticipate that the

activities associated with the response measures to be taken to address contamination at two of these source areas will impact the use and operation of this individual's property, which is a corn field located just north of the sludge lagoons. The U.S. Army Corps of Engineers and their contractors will take measures to prevent releases of dusts and other potential emissions during the removal.

Post-removal Site restoration and cleanup measures will be initially addressed by the Vermont Department of Environmental Protection (VT DEC), pursuant to a 1996 Memorandum of Agreement signed by EPA and the VT DEC. The estimated cost of performing five years of post-removal operation and maintenance activities is approximately $450,000. Long-term post-removal maintenance activities associated with the entire Site will be addressed by EPA during the upcoming Remedial Investigation and Feasibility Study (RI/FS). EPA's preferred alternative for the second phase of the cleanup work will be released to the public in a second Proposed Plan following the completion of the RI/FS, currently scheduled for the Fall of 2000.

While samples were collected from the waste lagoons, and EPA has a limited understanding of the nature and extent of contamination in that area, it was determined that a more complete understanding of this source area, and how the sludge has affected the surrounding groundwater, the Hoosic River and associated wetlands, is necessary to adequately consider how to address it. EPA feels strongly that the measures to address contamination at the tannery buildings and the landfill should not be delayed to gain an expanded understanding of the remainder of the Site. Sufficient information regarding those two areas exist to proceed with the cleanup measures detailed in the Action Memorandum.

EPA shares your concern regarding the potential impacts of source area contamination to the groundwater and to the Hoosic River. A human health and ecological risk assessment will be prepared in 1999 as part of the RI/FS. The additional data to be collected with respect to the remaining sources of contamination and their impact to other media (i.e., groundwater and surface water) will be utilized to identify potential exposures to local residents and the environmental community. This information will be used to determine the need to take additional cleanup measures to mitigate these potential risks. A residential well sampling program, as well as surface water and sediment sampling, will be conducted during the RI/FS to characterize the nature and extent of the contaminant releases from the existing source areas.

Comment # 3: A resident from Bennington expressed support for addressing contamination at the tannery buildings, but is opposed to the proposal to rebuild the on-Site landfill. The commentor feels that insufficient information exists regarding the contents of the landfill and that "more information is needed before predictions of what, if any deleterious effect moving the existing landfill materials may have on groundwater contamination plumes or surrounding soils." An additional concern was expressed that there is insufficient information regarding groundwater quality under the landfill and the effect a disturbance of the landfill may have on further groundwater contamination and migration.

The commentor believes that EPA has inappropriately proposed to site "an essentially new landfill" in an unsuitable location within a floodplain (adjacent to a wetland), and that the landfill will present a threat to public health and the environment. It is believed that another "environmentally-sound disposal option" should be identified. It was also expressed that the re-building of the new landfill may be more extensive than EPA has estimated, and that EPA did not address the environmental costs of locating a hazardous waste landfill at this location.

The accuracy of the cost estimates for the selected alternative which addresses the building contamination was questioned. A concern was expressed that EPA cannot justify the cost of implementing Alternatives B-1 or B-1A, as the extent of the soil contamination is unknown

EPA Response: EPA has determined that neither alternative's LF-1 or B-1 (excavation and off-site disposal of contaminated soil and sludge from the landfill and from beneath the tannery buildings) would yield results that are proportionate to the selected remedy in terms of their overall protectiveness, implementability, effectiveness and cost. Section 121(b)(1) of CERCLA presents several factors that EPA is required to consider at a minimum in its assessment of alternatives. Building upon these specific statutory mandates, the National Contingency Plan articulates evaluation criteria to be used in assessing the individual removal alternatives. A detailed analysis is performed on the alternatives using these evaluation criteria in order to select a remedy. [A summary of the comparison of each alternative's strength and weakness with respect to the evaluation criteria is found in Section IV of the EE/CA]. While each of the alternatives considered would provide adequate and reasonable protection to human health and the environment by preventing both current and future unacceptable exposures to site contaminants, the selected alternatives have far fewer logistical and administrative barriers, and can be implemented for significantly less money.

EPA believes that sufficient information is known about the nature and extent of contamination at the landfill, and the potential risks to human health and the environment, to fully support the decision to cap the existing sludge as well as those contaminated soils and sludge to be transferred from the tannery building. The data which supports EPA's decision is provided in the EE/CA and the Administrative Record compiled for this Site. The current landfill was not properly completed or maintained. As a result, precipitation is infiltrating through the landfill sludge and contaminants are leaching into the groundwater and causing leachate seeps to the downgradient wetlands. While the calculated risks to human health from direct contact with landfill materials do not exceed EPA's acceptable risk range, the potential risks calculated from direct contact to soil from the tannery building, which will be transferred to the landfill, does exceed EPA's acceptable range. A permanent multi-layered cap will effectively prevent further leaching of contaminants from the contaminated sludge and soil to the groundwater and adjacent wetlands, and will prevent potential exposures to human health and the environment. EPA is not proposing to "re-build" the landfill. The removal action will make use of an existing cell previously approved by the State and will properly close the landfill, which will result in a long-term solution to the current problem.

The existing landfill is not located in a floodplain. It is located in an area which meets the

siting requirements in the Vermont Solid Waste Rules. The bottom liner of the landfill is located ten feet above the groundwater table. The anticipated disturbance to the existing landfill includes removing the existing partial cover materials, adding the soil and sludge from beneath the tannery building to it, grading the soil and sludge, placing multiple barrier layers on it, cleaning out and repairing the leachate collection tank, and mulching and seeding the cap. This disturbance will not adversely effect groundwater quality. As stated above, it will only help to improve groundwater quality by greatly reducing leaching of contaminants to the groundwater. EPA believes that the location of the existing landfill, and the actions chosen to mitigate risks of exposure and to reduce continued migration of contaminants, is environmentally sound and acceptable.

As discussed in the Proposed Plan and the EE/CA, the only other option for disposal was to excavate the existing landfill sludge and contaminated materials under tannery buildings and to send it off-site to a licensed hazardous waste disposal facility. EPA was unable to located a facility which would accept this material because it contains low levels of dioxin. In addition, the cost of disposal for these options was prohibitively high. Even if a disposal facility could be located, it was estimated that excavation and disposal of the landfill sludge would cost $ 41.5 million. The approximate cost to dispose of the materials under the tannery buildings was estimated at $12 million. In addition, it is EPA's policy to treat or contain waste in place if human health and the environment can be protected. The selected cleanup measures will mitigate the risks to human health and the environment.

While the cost figures are merely estimates for the work to be performed, the estimates found in Appendix C of the EE/CA were were conservatively calculated, account for all aspects of the work to be performed and are based on known expenditures for similar services performed at other sites. EPA has confidence that the estimates provided in the EE/CA to perform the selected cleanup are reasonably accurate based on the information known regarding the nature and extent of the work to be performed. Prior to the completion of the remedial design and implementation of the construction and cleanup effort, it is impossible to provide exact estimates of the cost to complete the project. As a result, contingency factors were built into EPA's estimates. Every effort will be made to minimize expenditures during the cleanup process. EPA defends the expenditures as necessary and reasonable to ensure the current and future protection of human health and the environment at this Site.

Part II - Significant Oral Comments Addressed During the 12/3/98 Public Meeting

Comment # 1: When will we know when the project is funded, is it a political process, and when will we be notified?

EPA Response: The release of funds estimated to be necessary to complete the NTCRA have been approved by Washington and will be made available to meet the project schedule. Approval of funding is based solely on a process of prioritizing Sites nationally, by level of risk, necessity and budget. It is not a politically based process.

The initial approval for release of these funds came in December 1998. EPA notified town officials when the information was received. A press release and fact sheet will be mailed to recipients on the Site mailing list following approval of the Action Memorandum.

Comment # 2: Will Site access restrictions be restored?

EPA Response: Following completion of the work to be completed on the tannery buildings no access restrictions will be necessary because they will no longer pose an unacceptable risk to human health or the environment. While the landfill currently poses no unacceptable risk to human health and the environment, following construction of the new cap, a fence will be built around the facility and maintained to ensure its future integrity.

Comment # 3: Will there be any impact to the railroad?

EPA Response: EPA, the Army Corps of Engineers and their contractors will work closely with the railroad company to ensure that adequate safety measures are implemented to ensure the protection of Site construction and cleanup workers, rail cars and their occupants/cargo, and the public.

Comment # 4: Will EPA be evaluating the nature and extent of groundwater contamination and the potential human health and environmental risks posed by site contamination?

EPA Response: EPA will be fully evaluating the nature and extent of contamination in all affected media of the Site, including the groundwater, surface water, sediments, and lagoon soil and sludges. The Remedial Investigation (RI) is schedule to begin during 1999 and be completed in the year 2000. Included in the RI phase is the development of a human health and environmental risk assessment which will estimate the current and future potential risks to the public and the environment from exposure to Site contaminants. This information will be used to develop the Feasibility Study which will identify the potential alternatives for addressing site contaminants. EPA will subsequently select its preferred alternative and release it to the public in a second Proposed Plan. Following a public comment period, EPA will release a Record of Decision fully documenting the basis for its decision.

Comment # 5: Will accumulated leachate in the underground leachate collection tank at the landfill be periodically collected and disposed of, and who will do this?

EPA Response: Existing leachate in the collection system at the landfill will be removed and disposed of in a manner consistent with the analytical results of samples. However, it is anticipated that the leachate will be disposed of at an off-site licensed disposal facility. The State of Vermont will be responsible for operation and maintenance of the renovated landfill, including the periodic removal of leachate, as necessary. Long-term operation and maintenance activities for the entire Site will be determined during the RI/FS.

Comment # 6: Are residents of North Pownal using the former tannery water supply?

EPA Response: To EPA's knowledge there are no remaining connections to the former tannery water supply, which is unsuitable to drink due to elevated levels of bacteria. While the VT DEC conducts annual sampling and analysis on tap water collected from the nearest residents to the Site, EPA will be conducting a residential well sampling program during the upcoming RI to evaluate water quality in the vicinity of the Site. The Town of Pownal is currently exploring options for new drinking water supplies.

Comment # 7: One resident expressed his concern about animal intrusion on the Site and the safety of local wildlife.

EPA Response: EPA is also concerned about exposures of wildlife to site contaminants. This concern will be addressed in the human health and ecological risk assessment to be conducted during the RI.

Part III - State Officials

Written comments were received from the VT DEC. The VT DEC concurs with the selected the cleanup plan and has expressed its intent to work with EPA to implement the cleanup.

Attachment 7- Administrative Record Index

Pownal Tannery
Non-Time Critical Removal Action

Administrative Record

Index

Compiled: January xx, 1999

Prepared by
EPA-New England
Office of Site Remediation and Restoration

With Assistance From
ads
2070 Chain Bridge Road
Vienna, VA 22182

INTRODUCTION

This document is the Index to the Administrative Record compiled for the non-time critical removal action at the Pownal Tannery Superfund Site, North Pownal, Vermont. The citations in the Index are for the documents used by Environmental Protection Agency (EPA) Staff in the process of selecting the response action at the Site. Within the Administrative Record, documents are arranged in order by the Document Number that appears at the end of each citation in the Index.

The Administrative Record is available for public review at the EPA Region I Office of Site Remediation and Restoration (OSRR) Records Center, 90 Canal Street, Boston, MA, 02114 [(617) 918-1440], and the Solomon Wright Public Library, P.O. Box 400, Pownal, VT 05621 [(802) 823-5400]. The Staff of the OSRR Records Center recommends that you set up an appointment prior to your visit.

Questions concerning the Administrative Record should be addressed to the EPA project manager for the Pownal Tannery Superfund Site.

An Administrative Record is required by the Comprehensive Environmental response, Compensation and Liability Act (CERCLA), as amended by the Superfund Amendments and Reauthorization Act (SARA).

ADMINISTRATIVE RECORD INDEX 01/15/99
POWNAL TANNERY Page 1

01.03 SITE ASSESSMENT - SITE INSPECTION/INVESTIGATION

Title:	Site Inspection Prioritarization, Final Report, Pownal Tannery, Pownal, VT.		
Addressee:	ENVIRONMENTAL PROTECTION AGENCY/REGION 1		
Authors:	TRC COMPANIES, INC.		
Date:	December 1993		
Format:	REPORT, STUDY	No. Pgs:	112
AR No.	01.03.1	Document No.	000003

01.06 SITE ASSESSMENT - HAZARD RANKING SYSTEM PACKAGES

Title:	Final Hazard Ranking System Package, Pownal Tannery, Pownal, Vermont, Volumes I-IV.		
Addressee:	ENVIRONMENTAL PROTECTION AGENCY/REGION 1		
Authors:	ROY F. WESTON INC.		
Date:	September 4, 1998		
Format:	REPORT, STUDY	No. Pgs:	1656
AR No.	01.06.1	Document No.	000004

Title:	National Priorities List for Uncontrolled Hazardous Waste Sites, Proposed Rule No. 26.		
Authors:	ENVIRO PROTECTION AGENCY/HEADQUARTERS		
Date:	September 29, 1998		
Format:	FEDERAL REGISTER	No. Pgs:	7
AR No.	01.06.2	Document No.	000005

02.01 REMOVAL RESPONSE - CORRESPONDENCE

Title:	Governor Asks that EPA Include Pownal Tannery on the NPL.		
Addressee:	JOHN DEVILLARS - ENVIRONMENTAL PROTECTION AGENCY/REGION 1		
Authors:	HOWARD DEAN - VERMONT OFFICE OF THE GOVERNOR		
Date:	August 26, 1998		
Format:	LETTER	No. Pgs:	1
AR No.	02.01.1	Document No.	000006

Title:	Sanders, Leahy and Jeffords Support Superfund Designation for Pownal Tannery Site.		
Authors:	JAMES M. JEFFORDS, PATRICK LEAHY, BERNARD SANDERS - UNITED STATES CONGRESS		
Date:	September 30, 1998		
Format:	FACT SHEET, PRESS RELEASE	No. Pgs:	1
AR No.	02.01.2	Document No.	000007

Title:	Vermont Congressional Delegation Urges EPA Headquarters to Approve Funding for the Proposed Cleanup Plan for Pownal Tannery.		
Addressee:	CAROL BROWNER - ENVIRO PROTECTION AGENCY/HEADQUARTERS		
Authors:	JAMES M. JEFFORDS, PATRICK LEAHY, BERNARD SANDERS - UNITED STATES CONGRESS		
Date:	September 30, 1998		
Format:	LETTER	No. Pgs:	1
AR No.	02.01.3	Document No.	000008

Title:	Local Government in Pownal Requests that EPA Proceed with Proposed Cleanup Plan for Pownal Tannery.		
Addressee:	CAROL BROWNER - ENVIRO PROTECTION AGENCY/HEADQUARTERS		
Authors:	FRANK LAMB - TOWN OF POWNAL BOARD OF SELECTMEN		
Date:	October 1, 1998		
Format:	LETTER	No. Pgs:	1
AR No.	02.01.4	Document No.	000009

02.02 REMOVAL RESPONSE - REMOVAL RESPONSE REPORTS

Title:	Health Consultation, Pownal Tannery Lagoons, Pownal, Bennington County, Vermont.		
Addressee:	ENVIRONMENTAL PROTECTION AGENCY/REGION 1		
Authors:	AGENCY FOR TOXIC SUBS & DISEASE REGISTRY		
Format:	REPORT, STUDY	No. Pgs:	48
AR No.	02.02.1	Document No.	000011

ADMINISTRATIVE RECORD INDEX 01/15/99
POWNAL TANNERY Page 3

Title:	Request for a Health Consultation for the Pownal Tannery Site.		
Addressee:	SUZANNE SIMON - AGENCY FOR TOXIC SUBS & DISEASE REGISTRY		
Authors:	LISA A. DANEK - ENVIRONMENTAL PROTECTION AGENCY/REGION 1		
Date:	May 14, 1993		
Format:	MEMORANDUM	No. Pgs:	4
AR No.	02.02.2	Document No.	000010

Title:	ATSDR Record of Activity, Pownal Tannery, North Pownal, VT.		
Addressee:	LISA A. DANEK - ENVIRONMENTAL PROTECTION AGENCY/REGION 1		
Authors:	KENNETH ORLOFF - AGENCY FOR TOXIC SUBS & DISEASE REGISTRY		
Date:	May 20, 1993		
Format:	MEMORANDUM	No. Pgs:	2
AR No.	02.02.3	Document No.	000012

Title:	ATSDR Record of Activity, Pownal Tannery, North Pownal, VT.		
Addressee:	LISA A. DANEK - ENVIRONMENTAL PROTECTION AGENCY/REGION 1		
Authors:	AGENCY FOR TOXIC SUBS & DISEASE REGISTRY		
Date:	September 28, 1993		
Format:	MEMORANDUM	No. Pgs:	3
AR No.	02.02.4	Document No.	000013

Title:	Ecological Evaluation, On-Site Investigation Performed in August 1995, Pownal Tannery Site, North Pownal, VT.		
Addressee:	ENVIRONMENTAL PROTECTION AGENCY/REGION 1		
Authors:	METCALF & EDDY		
Date:	February 1997		
Format:	REPORT, STUDY	No. Pgs:	19
AR No.	02.02.5	Document No.	000014

Title:	EPA Plans Cleanup in 1999.		
Authors:	ENVIRONMENTAL PROTECTION AGENCY/REGION 1		
Date:	November 1998		
Format:	FACT SHEET, PRESS RELEASE	No. Pgs:	15
AR No.	02.02.8	Document No.	000001

Title:	Final Engineering Evaluation/Cost Analysis, Volumes I & II.		
Addressee:	ENVIRONMENTAL PROTECTION AGENCY/REGION 1		
Authors:	TETRA TECH NUS, INC.		
Date:	November 1998		
Format:	REPORT, STUDY	No. Pgs:	875
AR No.	02.02.9	Document No.	000002