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United States
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Agency

Office of
Emergency and
Remedial Response

EPA/ROD/R05-90/132
March 1990

EPA

Superfund Record of Decision:

[redacted]

Pristine, OH

50272-101

REPORT DOCUMENTATION PAGE	1. REPORT NO. EPA/ROD/R05-90/132	2.	3. Recipient's Accession No.
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15. Supplementary Notes

16. Abstract (Limit: 200 words)

The 2-acre Pristine site is in Reading, Hamilton County, Ohio. The site is bordered by industrial and residential areas, including a trailer park three hundred feet northeast of the site. Eight municipal supply wells serving the citizens of Reading are located approximately 300 feet northwest of the site. Prior to 1974, this site was used for the manufacture of sulfuric acid. Subsequently, Pristine began liquid waste disposal operations at the site, and in 1977, obtained a permit to operate an onsite liquid waste incinerator. An onsite concrete lined pit (the magic pit) was used to store and treat hazardous materials during liquid waste disposal operations. In 1979, State investigations identified as many as 8,000 to 10,000 drums and several thousand gallons of liquid wastes onsite. Types of waste included acids, solvents, pesticides, and PCBs. Over 90 hazardous compounds were detected onsite in the soil, ground water, surface water, sediment, and debris as a result of past disposal activities. In 1981, the State ordered all onsite disposal operations to cease. From 1980 to 1983, EPA and Pristine removed onsite wastes including paint and solvent sludge, solvents, pesticides, organics, PCB-contaminated soil, and incinerator ash. During 1984, the PRPs removed contaminated soil and waste as a means to address the immediate site hazards. A 1987

(See Attached Page)

17. Document Analysis a. Descriptors

Record of Decision - Pristine, OH
First Remedial Action (Amendment) - Final
Contaminated Media: soil, sediment, debris, gw
Key Contaminants: VOCs (benzene, PCE, TCE, xylenes), other organics (dioxin, pesticides), metals (arsenic, chromium, lead), other inorganics

b. Identifiers/Open-Ended Terms

c. COSATI Field/Group

18. Availability Statement	19. Security Class (This Report) None	21. No. of Pages 24
	20. Security Class (This Page) None	22. Price

(See ANSI-Z39.18) See Instructions on Reverse OPTIONAL FORM 272 (4-77) (Formerly NTIS-35) Department of Commerce

Abstract (Continued)

Record of Decision (ROD) documents the selection of in-situ vitrification of the upper 12 feet of soil across the site. This ROD amends the soil component remedy of the 1987 ROD from in-situ vitrification to incineration and soil vapor extraction. The primary contaminants of concern affecting the soil, sediment, debris, and ground water are VOCs including benzene, PCE, TCE, and xylenes; other organics including dioxin and pesticides such as DDT; metals including lead, chromium, and arsenic; and other inorganics.

The selected amended remedial action for this site includes excavating and incinerating the top one foot of contaminated soil from across the site (a total of 3,598 cubic yards) and 1,799 cubic yards of contaminated soil to a depth of four feet in areas that contain semi-volatile organic compounds and pesticides in excess of performance goals; incinerating 600 cubic yards of contaminated sediment and 1,125 cubic yards of contaminated soil surrounding the magic pit; testing the residual ash and placing the ash onsite if it meets standards for delisting; performing in-situ soil vapor extraction with an off-gas control system to extract VOCs from onsite soil to a depth of 12 feet; dewatering the upper aquifer, and onsite treatment of the extracted ground water using carbon adsorption; capping the soil with a RCRA multi-layer cap; pumping and treatment of ground water from the lower and upper aquifer and lower outwash lens of the upper aquifer using air stripping and carbon adsorption; decontaminating and demolishing all onsite structures and disposing of the debris offsite; monitoring ground water; and implementing institutional controls including deed restrictions, and site access restrictions such as fencing. The estimated present worth cost for this remedial action is $13,500,000, which includes an O&M cost of $6,000,000.

PERFORMANCE STANDARDS OR GOALS: Chemical-specific goals for soil/sediment were based on a cumulative 10^{-6} incremental lifetime cancer risk of eleven indicator compounds including aldrin 15 ug/kg, benzene 116 ug/kg, chloroform 2,043 mg/kg, DDT 487 ug/kg, 1,2-DCA 19 ug/kg, 1,1-DCE 285 ug/kg, dieldrin 6 ug/kg, PAHs 14 ug/kg, dioxin 0 ug/kg, PCE 3,244 ug/kg, and TCE 175 ug/kg.

DECLARATION FOR THE RECORD OF DECISION AMENDMENT

Site Name and Location

Pristine, Inc.
Reading, Ohio

Statement of Basis and Purpose

This decision document presents the new soil component of the Pristine, Inc. remedial action in Reading, Ohio. The Record of Decision (ROD) is being amended for the soil component in accordance with the requirements of the Comprehensive Environmental Response, Compensation and Liability Act of 1980 (CERCLA), as amended by the Superfund Amendments and Reauthorization Act of 1986 (SARA) and to the extent practicable, the National Oil and Hazardous Substances Pollution Contingency Plan (NCP). This decision document explains the factual and legal basis for amending the soil component for the Pristine, Inc. site. The remaining components of the remedy are identical to the ROD executed on December 31, 1987.

The Ohio Environmental Protection Agency concurs with amending the Pristine, Inc. ROD.

Assessment of the Site

Actual or threatened releases of hazardous substances from this site, if not addressed by implementing the response actions selected in this Record of Decision (ROD) Amendment, may present an imminent and substantial threat to public health, welfare, or the environment.

Description of the Revised Remedy

The overall remedy components are now as follows:

1. On-site incineration of the top one foot of soil across the site and all other soils from the present ground surface to four feet below ground surface that contain semi-volatile organic compounds and pesticides in excess of Performance Goals and Standards. In addition, on-site incineration of sediments and, if necessary, soils surrounding the Magic Pit will occur. The Magic Pit is a concrete lined pit which was used to store and treat hazardous materials on-site. Incinerator residue will be placed back on the site under the RCRA multi-media cap if it meets substantive RCRA delisting criteria;

2. In-situ soil vapor extraction of on-site soils to a depth of approximately 12 feet. The in-situ soil vapor extraction system will be used to dewater the upper

aquifer. The extracted groundwater will be treated at the site using carbon adsorption;

3. Performance of an additional groundwater investigation to delineate fully the lower aquifer contamination associated with the Pristine site in order to design and construct an extraction and treatment system. The conceptual design, based on current information, calls for the installation of a groundwater extraction well to withdraw contaminated groundwater from the lower aquifer and lower outwash lens of the upper aquifer;

4. Construction and operation of an air stripping system to treat lower aquifer groundwater and a carbon adsorption system to treat upper aquifer groundwater;

5. Decontamination and demolition of all on-site structures and disposal of the debris in a sanitary landfill;

6. Construction of a fence along the western edge of the property to restrict access;

7. Deed restriction; and

8. Installation of a groundwater monitoring system on and near the site to monitor groundwater flow and quality.

Declaration of Statutory Determinations

The selected remedy is protective of human health and the environment, complies with Federal and State requirements that are legally applicable or relevant and appropriate to the remedial action, and is cost effective. This remedy utilizes permanent solutions and alternative treatment technologies to the maximum extent practicable for this site. Treatment of the principal threats of the site are achieved and the remedy satisfies the statutory preference for treatment as a principal element.

A review will be conducted within five years after commencement of remedial action to ensure that the remedy continues to provide adequate protection of human health and the environment. A five year review is necessary because this remedy will result in hazardous substances remaining on-site above health based levels.

Valdas V. Adamkus
Regional Administrator
U.S. EPA, Region V

3/30/90
Date

Decision Summary for the Record of Decision Amendment

1. Site Background

In November 1987, U.S. EPA notified over 130 Potentially Responsible Parties (PRPs) of their liability at Pristine, Inc. and invited them to negotiate with U.S. EPA for the design and construction of the final remedy. A 120-day negotiation period was established and ended March 29, 1988 without an agreement. The remedial design was begun with the initiation of an Interagency Agreement with the U.S. Army Corps of Engineers (U.S.A.C.O.E.).

On March 31, 1988, the PRPs proposed the use of in-situ soil vapor extraction technology instead of in-situ vitrification, claiming that in-situ soil vapor extraction would be equivalent to the performance of in-situ vitrification. The U.S. EPA and the U.S.A.C.O.E. evaluated the PRPs' proposal and determined that while in-situ soil vapor extraction would address the volatile organic compounds, it would not, however, mitigate the threats from semi-volatile organic compounds and pesticide contamination in the surface soils.

Upon incorporation of incineration as a means of addressing the non-volatile contaminants and pesticides, negotiations were reopened with the Pristine PRPs and an agreement was reached between U.S. EPA and the Pristine PRPs in December 1988, contingent upon U.S. EPA amending the December 1987 ROD by replacing in-situ vitrification with incineration/soil vapor extraction as the soil component of the remedy.

2. Highlights of Community Participation

The Proposed ROD Amendment and technical review documents have been made available to the public in the administrative record located at the Valley Public Library, Reading, Ohio and the Reading City Hall. The notice of availability of these documents was published in the Cincinnati and Reading newspapers. A public comment period on the documents was held from November 6, 1989 to December 6, 1989. In addition, a public meeting was held on November 30, 1989. At this meeting, representatives from U.S. EPA answered questions about problems at the site and the ROD Amendment under consideration. A response to the comments received during this period is included in the Responsiveness Summary which is part of this ROD Amendment.

3. Description of Soil Remedy Change

The soil component of the December 1987 ROD consisted of in-situ vitrification for the upper twelve (12) feet of soil

across the site. The in-situ vitrification will be replaced with incineration/soil vapor extraction. See Figure 1 and Figure 2 for a layout of the Pristine, Inc. Site and a Zone location map. The following are the major components for the soil component of the remedy:

1. Excavation and incineration (mobile on-site thermal treatment) of:

   a) the top one (1) foot of soil across Zone A (the volume to be incinerated will be determined by a boundary survey);

   b) sediment from the drainage ditches along the northwest boundary of Zone A and along the northern boundary of Cincinnati Drum Service (existing data and additional sampling will be used to delineate the volume of sediment to be treated);

   c) all Zone A soils that contain non-volatile contaminants above the Performance Goals and Standards outlined in Table 1 from a level of one (1) foot below present grade to a level of four (4) feet below present grade;

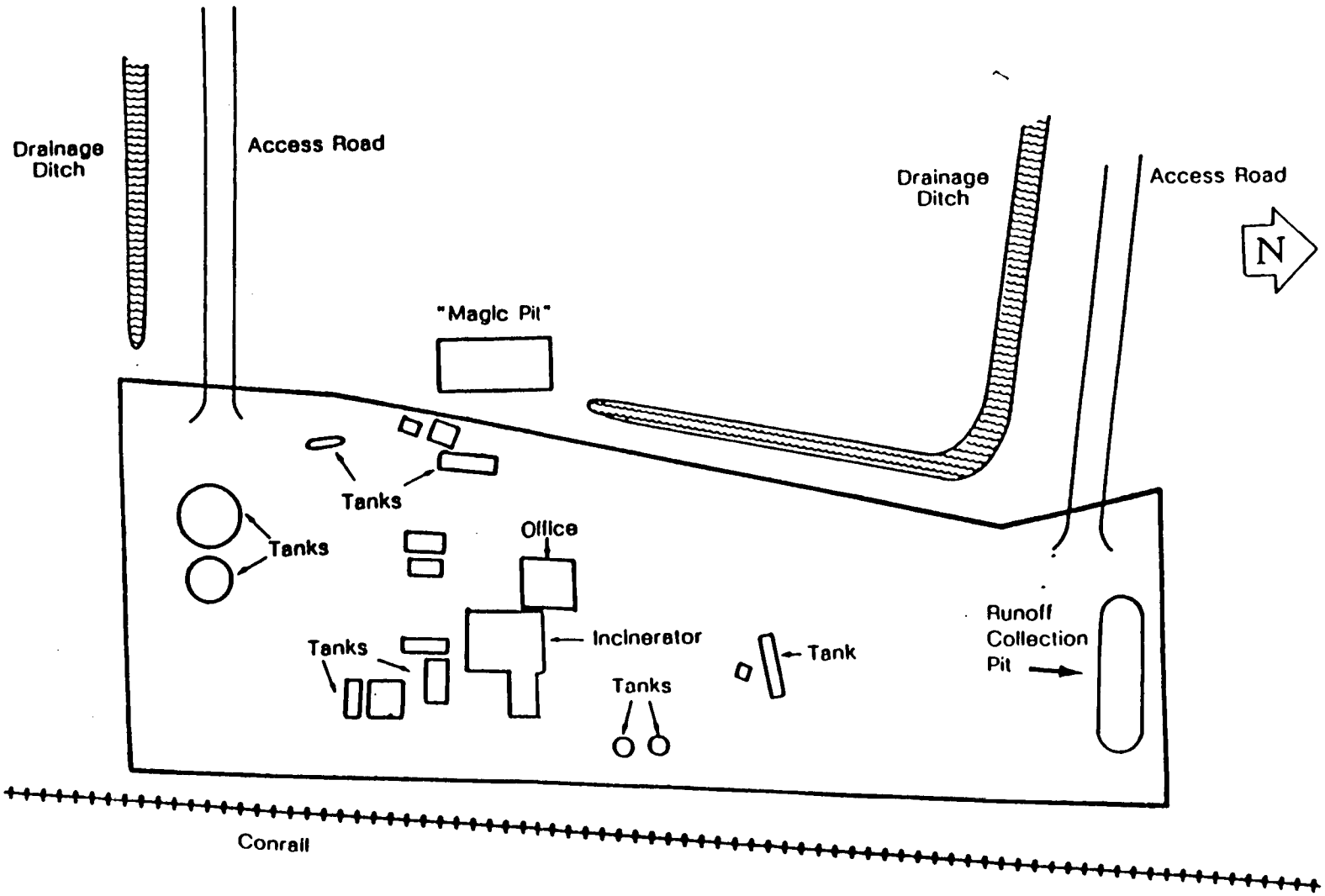
   d) all Zone B soils that contain non-volatile contaminants above Performance Goals and Standards in Table 1 from present grade to a level of four (4) feet; and

   e) Magic Pit (located in Zone B) soils that contain non-volatile contaminants above Performance Goals and Standards in Table 1 to a level of four (4) feet below and to a level of four (4) feet onto the three unexposed side walls of the Magic Pit itself.

2. The incinerator ash will be tested to determine if the ash meets delisting criteria established under RCRA and Ohio Solid Waste Regulations. If the delisting criteria are met, the ash will be disposed of as a solid waste on Zone A under the RCRA multi-media cap. Alternative treatment/disposal methods will be required if portions of the ash do not meet delisting criteria; and

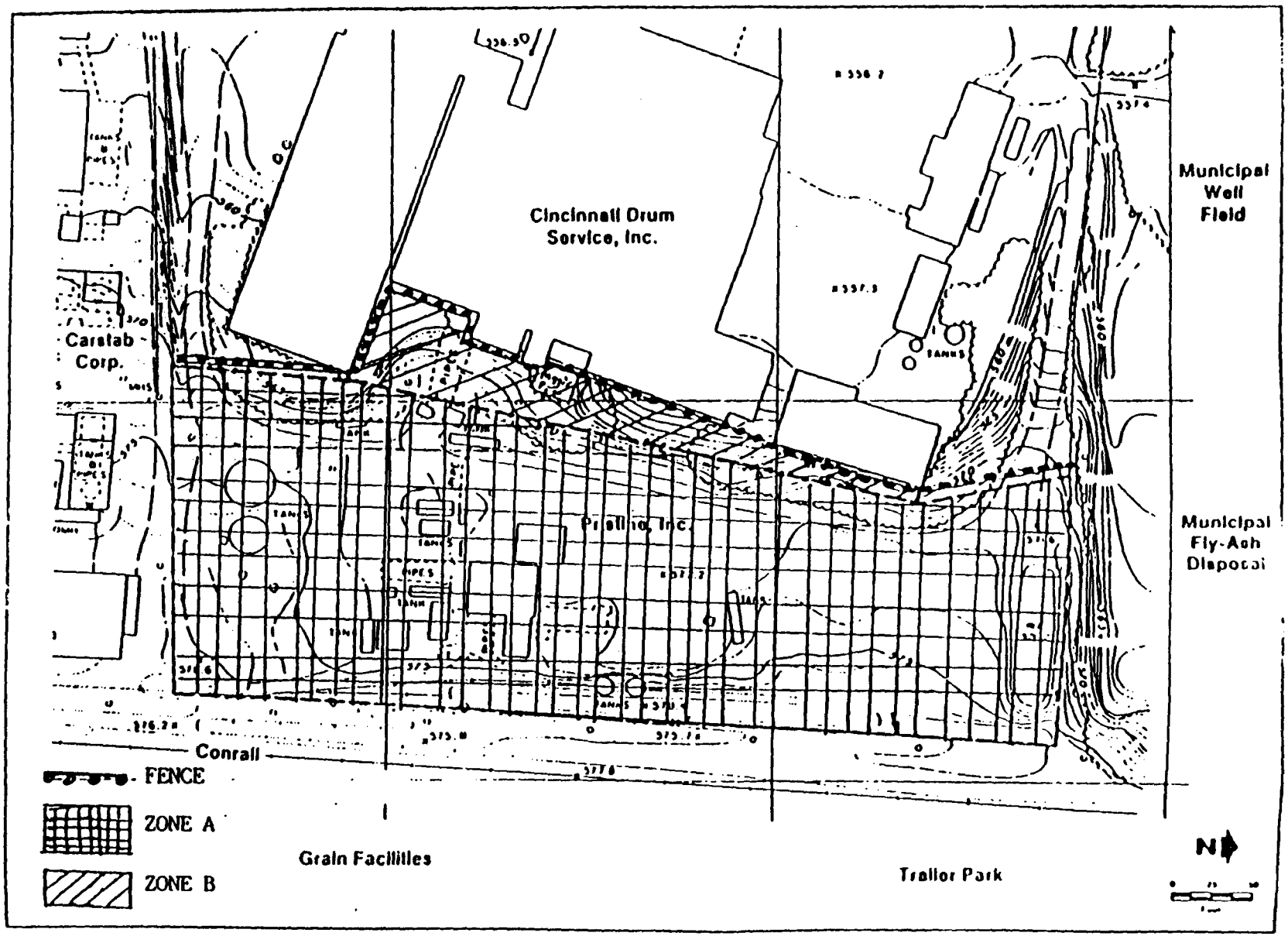
3. Design, construction, operation and maintenance of an in-situ soil vapor extraction (ISVE) system, which shall include an off-gas control system, to mitigate VOC contamination in Zone A and Magic Pit portion of Zone B soils. As a result of ISVE, the upper twelve

FIGURE 1



Pristine Site Layout Map

FIGURE 2


Cincinnati Drum Service, Inc.
Carstab Corp.
Pisellino, Inc.
Municipal Well Field
Municipal Fly-Ash Disposal
Conrail
FENCE
ZONE A
ZONE B
Grain Facilities
Trailer Park
N

(12) feet of Zone A and the Magic Pit portion of Zone B will be dewatered, including the upper outwash lens. Groundwater extracted from the ISVE trenches and well points will be treated in the Facility treatment plant using carbon adsorption. A multi-layer cap shall be installed over Zone A to minimize water infiltration to the Zone A soils and shall meet the RCRA performance criteria for the duration of the post closure period of 30 years. The RCRA cap will also prevent short circuiting of air to the portion of the ISVE system to be constructed, operated and maintained in Zone A.

4. Performance Goals and Standards

The Performance Goals and Standards that the soil/sediment cleanup must meet are presented in Table 1. The soil/sediment Performance Goals and Standards are based on a cumulative 1×10^{-6} incremental lifetime cancer risk of eleven indicator compounds examined in the RI Public Health Evaluation.

5. Evaluation of the New Soil Remedy and the Previously Selected Soil Remedy

The nine evaluation criteria U.S. EPA considers when selecting a remedy and a comparative analysis between the previously selected soil component and the new soil remedy are listed below:

- Overall Protection of Human Health and the Environment - Both the new recommended soil remedy and the previously selected soil remedy provide adequate protection of human health and the environment by mitigating and minimizing risk through treatment and institutional controls. Each remedy uses treatment to the maximum extent practicable.

- Compliance with ARARs - Both the new recommended soil remedy and the previously selected soil remedy would meet all applicable or relevant and appropriate requirements of Federal and State environmental laws.

- Long-term Effectiveness and Permanence - The new recommended soil remedy and the previously selected soil remedy would treat the contaminated soil to levels which protect identified receptors. The treatment technologies employed would be effective in the long-term and permanent because the contaminants of concern would be removed from the soil and destroyed, or trapped in a solidified

TABLE I

PERFORMANCE GOALS AND STANDARDS

SOIL AND SEDIMENT

A. Volatile Compounds

Chemical	Concentration (ug/kg)
Benzene	116
Chloroform	2,043
1,2-Dichloroethane	19
1,2-Dichloroethene	285
Tetrachloroethene	3,244
Trichloroethene	175

B. Non-volatile Compounds

Chemical	Concentration (ug/kg)
Aldrin	15
DDT	487
Dieldrin	6
PAHs	14
2,3,7,8-TCDD (Dioxin)	0

mass. Both remedies require the same degree of long-term maintenance and monitoring as both have cap or soil cover maintenance requirements.

- Reduction of Toxicity, Mobility, or Volume - Both the new recommended and previously selected soil remedies provide a significant reduction in the toxicity, mobility, or volume of soil contaminants through the use of permanent treatment technologies.

- Short-term Effectiveness - Both the new soil remedy and the previously selected soil remedy present some degree of short term risks to on-site workers and potentially to businesses and residences near the site through potential air emissions. The air emissions from the in-situ soil vapor extraction/incineration technology combination are easily controlled and monitored. Air emissions will be funnelled to a pipe or stack, where they would be controlled and monitored. The air emissions from in-situ vitrification technology are more difficult to control because they are emitted from a large surface area, as opposed to a stack. The new soil remedy will take approximately seven years to complete while the previously selected soil remedy would take three years to complete.

- Implementability - The new recommended soil remedy component offers several advantages over the previously selected soil remedy component in terms of implementability. Incineration and in-situ soil vapor extraction are proven technologies and are easily implemented. Administrative approvals are necessary as the trial burn, incineration residue testing, and residue disposal program must be approved by the U.S. EPA and the State. With the exception of the mobile on-site incinerator, all services and materials are readily available. The recommended change in the soil remedy does not cause any additional long-term maintenance or monitoring requirements. On the other hand, the in-situ vitrification technology is not proven or fully tested. As stated in the December 1987 ROD, U.S. EPA planned to use in-situ vitrification at another site in Ohio prior to implementing the technology at the Pristine site. This however has not occurred. Therefore, a full scale field test would need to be conducted before implementation of in-situ vitrification at Pristine. In addition, because in-situ vitrification is still

an emerging technology, the number of firms offering the necessary services to design and implement it is limited.

- Cost - The total cost for design and construction of the new recommended soil remedy and the previously selected soil remedy are listed below:

New Soil Remedy	$11,270,000
Previously Selected Soil Remedy	$19,417,000

A cost comparison between in-situ vitrification and incineration/soil vapor extraction is located in Table 2.

- State Acceptance - The State of Ohio concurs with the new soil remedy.

- Community Acceptance - The specific responses to public comments are located in the Responsiveness Summary.

TABLE 2

PRISTINE SOIL REMEDY COST COMPARISON

In-situ Vitrification[a]		In-situ Soil Vapor Extraction Incineration	
Excavation	19,000	Excavation[a]	33,000
Vitrification	10,600,000	Vapor Extraction[b]	3,000,000
		Incineration[c]	2,433,000
		RCRA Cap[a]	447,000
		Soil Sampling[b]	250,000
CONSTRUCTION SUBTOTALS	$10,619,000		$6,163,000
Health & Safety Contin. 10%	1,062,000		616,000
Bid Contin. 20%	2,124,000		1,233,000
Scope Contin. 20%	2,124,000		1,233,000
Construction Total	$15,929,000		$9,245,000
Legal 5%	796,000		462,000
Construction Services 10%	1,593,000		925,000
Total Implementation Costs	$18,318,000		$10,632,000
Engineering Design 6%	1,099,000		638,000
TOTAL COST[d]	$19,417,000		$11,270,000

[a]Based on Pristine Feasibility Study costs
[b]U.S. EPA conservative estimate based on other sites
[c]3,600 yd^3 top 1 ft of site + 1,125 yd^3 Magic Pit + 1,000 yd^3 sediments = 5,725 yd^3 at $425/$yd^3$, per FS ash delisted and placed back on-site
[d]Does not include O&M present worth

PRISTINE, INC. SUPERFUND SITE
READING, OHIO

RESPONSIVENESS SUMMARY

Summary of Comments Received During the Public Comment Period

1. **Comment:** Riley Kinman, Pristine, Inc.

   The No Action Alternative is the only appropriate response for the cleaned Pristine, Inc. site under CERCLA.

   U.S. EPA Response: The No Action Alternative is not appropriate for the Pristine site. Risk levels remaining at the site are above levels the U.S. EPA deems acceptable to protect human health and the environment. Please see the Pristine, Inc. public health evaluation and the previous ROD Responsiveness Summary.

2. **Comment:** Riley Kinman, Pristine, Inc.

   The comments provided on Dec. 3, 1987 are attached and are still valid and are hereby made a part of this comment document.

   U.S. EPA Response: Since this ROD Amendment is an addendum to the original ROD, your previous comments and U.S. EPA responses are still part of the public record for the site.

3. **Comment:** Riley Kinman, Pristine, Inc.

   We were pleased to see the U.S. EPA agreed with us, finally, on the in-situ vitrification proposal.

   U.S. EPA Response: U.S. EPA's decision to modify the soil component of the remedy was based upon an evaluation of the same criteria utilized in the original ROD. While the Agency believes that the original remedy provides a good balance among those criteria, the new soil component provides an even better balance of the nine criteria.

4. **Comment:** Riley Kinman, Pristine, Inc.

   Incineration of Pristine soils may produce a large quantity of sulfur dioxide (SO_2) at the site if the elemental sulfur in the soil is caused to burn.

   U.S. EPA Response: The emissions from incineration of soils at the Pristine site will meet all National Ambient Air Quality Standards for sulfur dioxide. U.S. EPA has determined that these standards are protective of human health and the environment.

5. **Comment:** Riley Kinman, Pristine, Inc.

SO_2 production at the site by this procedure would be in violation of the Clean Air Act and Comprehensive Environmental Response, Compensation and Liability Act of 1980.

U.S. EPA Response: Please see U.S. EPA response for Comment 4.

6. **Comment:** Riley Kinman, Pristine, Inc.

Demolition of buildings at the Pristine site and disposal in a sanitary landfill does not appear consistent with the U.S. EPA strategy for recycling and reuse to minimize disposal in scarce sanitary landfills.

U.S. EPA Response: While the Agency is committed to the broadest possible application of the concept of recycling, we are limited by the space available at this site. The successful implementation of this remedy is dependent upon removal of all surface soils for incineration and the necessity of having an impermeable cap to prevent short circuiting during the vapor extraction phase. These needs combined with the need for a staging area and water treatment plant location preclude the relocation of the demolition material on-site.

7. **Comment:** Riley Kinman, Pristine, Inc.

Deed restrictions do not appear appropriate for the Pristine site.

U.S. EPA Response: Deed restrictions are necessary since hazardous materials will remain on-site under a RCRA cap. Deed restrictions will prohibit any activities that would affect adversely the integrity of the cap. The cap must not be disturbed to prevent the migration of the remaining on-site contaminants.

8. **Comment:** Riley Kinman, Pristine, Inc.

It is doubtful that the remedies proposed will do anything substantive to improve the quality of groundwater at the site, due to the presence of other sources of pollutants at the site that will not be addressed by these remedies.

U.S. Response: The Agency is aware of Pristine's setting within a regional groundwater problem. However, from the Remedial Investigation, it is also obvious that the site is introducing its own contaminant loading to the aquifer.

Thus, remedial action at the Pristine site is necessary to eliminate contaminants attributable to the Pristine site from the regional groundwater problem. Also, should the need arise, the Agency retains the authority to respond to any emergency conditions, including groundwater contamination, identified in the region.

9. **Comment:** The Pristine Group

The Pristine Group strongly supports the Agency's decision to select in-situ soil vapor extraction/incineration as the remedy for the Pristine, Inc. facility rather than the experimental in-situ vitrification remedy that was originally proposed. The vapor extraction/incineration remedy is not only entirely consistent with the requirements of CERCLA, but is also more protective of the environment because of in-situ vitrification's propensity to cause migration of chemicals away from the site.

U.S. EPA Response: The U.S EPA agrees that the incineration/soil vapor extraction remedy will achieve the same cleanup standards and provide a better balance of the nine criteria that U.S. EPA uses in selecting a remedy. However, the statement that in-situ vitrification promotes chemical migration of chemicals has not been proved one way or the other. The U.S. EPA considers the original soil component and the new soil component equally protective of human health and the environment.

10. **Comment:** The Pristine Group

Many of the inorganic compounds and metals detected in groundwater samples from lower aquifer wells occur naturally (e.g., calcium, iron, magnesium, manganese, potassium, sodium). The statement that "their presence in the groundwater indicates groundwater quality has been compromised" is not correct to the extent it implies that these substances originated from the Pristine Site.

U.S. EPA Response: Due to the diverse amount of waste taken to the Pristine, Inc. facility, the possibility exists that calcium, iron, magnesium, manganese, potassium and sodium were present in waste delivered and are breakdown products. The commentor is correct that many of the above listed compounds occur naturally and additional sampling during the design phase will verify if they are naturally occurring.

11. **Comment:** The Pristine Group

The ESD states that the Pristine incinerator ash "contained furans and dioxins." As a point of clarification, it should be pointed out that the 2,3,7,8-TCDD congener, which is

considered to be the most toxic of the dioxin and furan compounds, was not detected in the incinerator residue or soil samples collected during the RI (with the exception of one soil sample where the compound was also detected in the laboratory blank sample, indicating laboratory contamination of the sample). Further, since dioxins exhibit a high affinity toward soil and tend to remain on or near the surface of the soil (see Health Assessment Document for Polychlorinated Dibenzo-p-Dioxins," EPA/600/8-84/014F, September 1985), and since such compounds have a low solubility in water, it is unlikely that the groundwater would become contaminated with dioxins. No dioxin has been detected in any prior groundwater sample at the Pristine Site.

U.S. EPA Response: The dioxins and furans mentioned refer to total dioxins and furans and not just 2,3,7,8 TCDD congener. In addition, the commentor is correct that dioxin was not detected in sampling performed in the Remedial Investigation, but the statement "it is unlikely that groundwater would become contaminated with dioxins" is based upon conjecture. Additional sampling and analysis during Remedial Design will verify the presence or absence of dioxin.

12. **Comment:** The Pristine Group

The EPA states that "in-situ soil vapor extraction would work as well as in-situ vitrification for VOCs." In fact, the soil vapor extraction technology is the better technology because, unlike in-situ vitrification, it does not provide a driving force for the uncontrolled migration of organic compounds. In this regard, the gradual heating of the soil zone with in-situ vitrification forces the volatile compounds to migrate away, particularly through the more permeable soil zones. (See Battelle Pacific Northwest Laboratory Report: "In-situ Vitrification of Transuranic Wastes: An Updated Systems Evaluation and Applications Assessment," March 1987.)

U.S. EPA Response: The U.S. EPA disagrees with the commentor that in-situ vitrification is not as effective as in-situ soil vapor extraction for treating volatile organic compounds. In-situ vitrification treats volatiles, semi-volatiles, and pesticides, in contrast to in-situ soil vapor extraction, which only treats volatile organic compounds. Please see U.S EPA response to Comment 9.

13. **Comment:** The Pristine Group

Figures 3 and 4 are conceptual only and should be described

as such.

U.S. EPA Response: Figures 3 and 4 are included in the ROD Amendment to give the public a general picture on how the soil vapor extraction system operates. The Figures are not intended to be design documents.

14. **Comment:** The Pristine Group

The statement, "The new recommended site remedy would take approximately seven years to complete while the previously selected soil remedy would take approximately 3 years to complete", is misleading. Overall, both remedies would take the same length of time to complete because the lower groundwater extraction/treatment system would be the same for both.

Furthermore, the in-situ vitrification component has a longer lead time for implementation than the vapor extraction component. As originally planned, the in-situ vitrification component was to have been tested at another site (Greiner's Lagoon) before implementation at the Pristine Site. However, as acknowledged in the ESD (pg 10), that test has not been conducted. Thus, since EPA maintains that the vitrification component must be subject to at least a "full scale test" before being considered for use at Pristine, the time required for completing the vitrification component at Pristine is uncertain --and in fact is probably much longer than that required for the soil vapor extraction methodology. At the very least, it cannot be concluded that the vitrification component could be completed sooner than the vapor extraction component.

U.S. EPA Response: The commentor is correct in stating the overall Pristine, Inc. timeframe from the original ROD to the new site remedy is identical, since the groundwater pump and treat has not changed. Nevertheless, on a day to day implementation basis, the in-situ vitrification component should require as much as 4 years less to complete than the incineration/soil vapor extraction combination. Also, a full scale test for in-situ vitrification at Parsons Chemical in Michigan is near implementation.

15. **Comment:** J.A. Bischof, Millcreek Valley Conservancy District

On behalf of the Millcreek Valley Conservancy District we would urge your office in carrying out any corrective action at this site to eliminate the flow of any contaminated water into the east branch of the Mill Creek since that drainage may endanger the completed project and those maintaining that facility.

U.S. EPA Response: The remedy for the Pristine, Inc. site will not discharge contaminants into Mill Creek. All effluent discharged into Mill Creek from the soil vapor extraction and groundwater pump and treat systems will meet Federal and State discharge requirements.

16. **Comment:** Concerned Citizen

"The City has been informed about ineffective water wells since 1943. It appears someone has their priorities reversed. The article I read concerning the procrastination of the city to do anything alarms me. Their cavalier attitude toward the public's well being and the agencies not pursuing the issue, to resolve a problem that defines Super Fund imminent danger, appears contrary to the approach they have taken toward this PRP group - 18,000,000.00?"

"The wells have been surrounded by heavy industry for years. The thought of these so-called toxins migrating since the government took over the site and nothing being done amazes me! Is there a problem? Are the facts correct or overstated regarding contaminants found on the site close to the wells. Your studies indicate a potential problem but not imminent. The water wells are imminent".

"Your desire to clean up the site is admirable, but myopic. The real public danger is with the agencies's penchant, to penalize and deceive the public, instead of working together to encourage waste solutions. The citizens of Reading have been deceived for years. Did they shut down Exxon or Union Carbide for their atrocities, or did our constitutional currency interfere?"

"What did this small corporation do to create an expense of 18 million dollars? I cannot wait to read your response when it is published."

U.S. EPA Response: Absent future corrective actions, the Pristine, Inc. site does pose an imminent and substantial endangerment to the public health and the environment. If the site remains as is, contaminants will continue to migrate from the site and further affect the lower aquifer which is a source of drinking water. Risk levels calculated for the site in its current state are above those U.S. EPA deems acceptable to protect human health and the environment.

Currently, the City of Reading's water supply is in compliance with the State and Federal standards and is subject to routine monitoring. U.S. EPA is aware that Pristine is part of the regional groundwater problem.

17. **Comment:** Pam Speers, Reading Ohio

"The question on many peoples mind concerning the environment deals mainly with the tax payers money use in so called "clean-up". Cleaning up the environment is good, but to continue to push stupid issues just to soak the people of America for money is ludicrous. How does the public even know if superfund money was used to clean-up the site in Reading."

"According to the article and newspaper in the library, superfund money was designed, but I believe a released itemized statement showing the breakdown of monies issued would be more appropriate. I believe the only superfund money spent in Reading, Ohio was the issue of salaries to the absent minded EPA people working on a dead issue. My God people, the site has been cleaned up for years. What else can we do? How much money is being pocketed by the "EPA Group"? Are you on commission? You people just want to kick a sleeping dog. There is no just reason for more law suits and penalties against these people. Maybe the EPA should take a long look at their reasons for continuing the harassment. Is it personal?, Public? , What then? Making examples of small business versus the wonderful government site of Fernold, plus Exxon, Chemdyne, and Union Carbide Corporation is hardly what the tax payers of America want. Examples are not worth tax money. It can be used for more responsible tasks. Get busy with "Imminent Danger" sites and stop bleeding the people of Reading, Ohio and America."

U.S. EPA Response: Absent future corrective actions, the Pristine, Inc. site does pose an imminent and substantial endangerment to public health and the environment. The responsible parties are voluntarily funding the cleanup at the Pristine, Inc. site, so the use of Superfund monies is not needed. In addition, monies already spent by U.S. EPA are being reimbursed by the responsible parties. Both considerations allow U.S. EPA to focus its limited resources on those sites where voluntary private party actions are impossible.

18. **Comment:** Concerned Citizens of Reading, Ohio

"After reviewing the Material at the Reading Library, it appears the USEPA has forced the PRP Group into a settlement that is not only costly but greatly overstated, regarding the method and amounts of contamination. The cleanup started back in 1980, and it is now 1989, Evidently this site has been on a priority list that the federal USEPA uses to determine the most dangerous sites. This list consist of firms that have put the public in imminent danger or risk of being harmed. If the site has been in the hands

of the USEPA and State for nine years, (that is longer than the Pristine site existed), then wouldn't the USEPA be responsible for some of the cost regarding this supposedly "imminent dangerous" site? Is this site or should this site even be on this priority list? According to some of the information in the Remedial Investigation and Feasibility Study, the site should not cost the public $18,000,000.00 through higher prices. If the site is a priority superfund site, you would think that the people who have been in charge for the past nine years. At least the owners or someone did more in one and one half years than the USEPA has done. Who is guilty? Is this superfund deception drawn out unreasonably to make the Agency look good for cleaning up a site, that, according to studies and affidavits submitted is clean."

"Does the USEPA know something that they don't want to admit for their own selfish benefit? Is the site clean? You must justify and substantiate the decision, forcing corporations to pay for a site where there are various differences and feelings regarding the studies and what should be done to this site. These decisions greatly reflect the constitutional freedoms of every citizen in the United States."

"It is ironic but the publics only harm may come from its own government and agencies. This is a problem that is paramount, it has and will continue to have a huge adverse effect on our economy an desire to provoke interest in the future to eradicate environmental problems. The government should take a different approach if there is any difference on the method and monies needed to eliminate this problem. Your reward would be greater felt by all if you took a more logical approach."

"In summary, why does the government sponsored studies indicate that $18,000,000.00 should be spent for a site that is rated 531 out of 734, and the #2 rated site is only going to cost $20,000,000.00? Cleanup has already taken place and studies show that the site is clean and safe. Your efforts are fine, but to spend $18,000,000.00 for a site, according to your studies is clean is ludicrous."

"Thank you for reading this, concerned citizens deserve a response. We are concerned and want corporations to pursue, in a prudent and legal manner on ideas and methods to handle hazardous waste safely. Pristine attempted and appears their insight to handle future environmental problems (which are numerous) was truncated by an unfair, nearsighted agency."

U.S. EPA Response: The U.S. EPA does not agree with your

statement that the Pristine, Inc. site is clean. Acceptable risk levels of 1 additional cancer case in a million are exceeded in both soil and groundwater at the Pristine, Inc. site by as much as 10,000 times in a worst case scenario. The funds to be spent to cleanup the site and past costs of U.S. EPA will be paid by the responsible parties. The Agency shares your concern about having only legally reputable and competent companies in the waste disposal industry.

The ranking of the Pristine, Inc. site on the National Priorities List does not have a bearing on the cost of the remedy since the nature and extent of contamination was not determined prior to scoring the site.

20. **Comment:** Coalition of Reading

"After reviewing some of the articles that have been written since the Pristine, Inc. case, we have discovered an article that seems to depict a double standard with the USEPA, Ohio EPA on how they handle private corporations versus city or municipal problems. The article written in the Cincinnati Enquirer (May 5, 1989) indicated that environmental officials, dating back to 1943, have been trying to persuade the city of Reading to upgrade their water system. EPA official more recent, in the same article, indicated that the water wells are surrounded by industrial plants. The levels of contamination exceeds the Federal standards but the state according to the article will not take any legal action as long as the city is earnestly pursuing an alternative, ignoring the ongoing and very imminent water treatment problems. The proof is obvious, but the state is giving them a chance even though the proof is there and has been for years. The state knowing the treatment facility is antiquated and not doing the job, is sad commentary from officials who have shown some disregard to the public health, which seems more threatened by this than the so called migration of contaminants from a nearby site that, according to studies, have not been proven."

"The toxins that have been identified in the lower aquifer, originate from what direction, and do they match the toxins found at the Pristine site? It appears, according to studies and articles at the library, that the so called phantom imminent danger and abandoned site criteria have been ignored. The real issues to the citizens of reading should be the water wells themselves and their location. This problem is real and not based on potential and is an imminent danger to the public health, which is what superfund is all about."

"What an enormous amount of money and effort wasted while

the real danger of having inadequate water wells still exist. Maybe we should alert the toxins that they are migrating from somewhere to wait until we take care of some of the paper work. Is there a real problem? What do these R.I. and Feasibility studies really show? The citizens will pay again through higher cost because the government is playing games. Any discrepancies or question marks regarding data should be answered and justified. This site should not cost the public and citizens of the United States $18,000,000.00 so an agency who so far has only cleaned up 27 sites out of 1200 promote their unnecessary quest. Start now and do something that the citizens will be proud of and won't have to pay for."

U.S. EPA Response: To the best of the U.S. EPA's knowledge, the water being consumed by the users of the Reading public water supply is safe even if individual production wells are contaminated. Should this not be the case and no alternative exists, the U.S. EPA has the authority and responsibility to assure that the situation is remedied. The Superfund law was enacted with a goal of total cost reimbursement and/or private party cleanup implementation for each site. At the Pristine site all of the government's past costs and the complete burden of the remedy's implementation is being taken up by the responsible parties.

Comment: William A. Bronnin, Reading, Ohio

"How could the EPA ever ok a site like this for chemical waste. It is located next to a creek and one hundred yards from a residential suburb. I personally think the EPA should be held accountable for the damage and buy all the property around this area. The people that live in or near the area have a higher cancer rate anywhere else in the world."

"How could the EPA have 19.4 million dollars ok'd for cleanup over two years ago, and not do this cleanup. What are you waiting for."

"The second method is no good because you waited to long. The chemicals are much deeper than 12 feet underground."

"I have lived by this waste site for 28 years. My neighbors children tell stories of seeing the workers burying drums under ground 15 or 20 years ago."

"The people in this area think it is hopeless to talk to government officials. They feel and I do too, that the EPA doesn't care about people. They just want to harass and collect more money from tax payers."

"If the EPA is not going to clean-up this mess, which was their fault to begin with, I know they will never cleanup the metro sewer system which has been obsolete for 25 years."

U.S. EPA Response: The Pristine, Inc. facility was a private corporation that was poorly operated. The remedial investigation determined the nature and extent of contamination with the data showing that the surface contamination has not migrated away from the site, but groundwater has been affected by the Pristine contamination. The responsible parties have agreed to finance the cleanup of the site to levels which are protective of human health and the environment. The property surrounding the Pristine, Inc. site is not contaminated, therefore it is not required that properties be purchased. Once the cleanup is completed, the potential for migration of contamination offsite will be eliminated.

The U.S. EPA was going to fund the original remedy and try to recover costs at a later date from the responsible parties, but the responsible parties submitted a proposal to cleanup and finance the site remedy if U.S. EPA changed the soil component of the Pristine ROD. The U.S. EPA, U.S. Army Corp of Engineers and the State of Ohio reviewed the responsible parties' proposal and determined that the necessary cleanup standards would be met with the new remedy for the contaminated soil. The design for the site remedy should begin in a few months.

Your concern that chemicals have migrated more than 12 feet below the surface will be verified in the design phase when we will perform additional sampling. Sampling performed during the Remedial Investigation was the source of the 12 feet. In addition, during the Remedial Investigation, extensive underground testing for buried metal such as drums was performed and it was determined that buried materials were not present at or near the site.

The Agency encourages public participation and will periodically issue fact sheets to keep the public updated on the progress of the cleanup at the Pristine, Inc. site. The Agency plans to oversee an effective cleanup at the Pristine, Inc. site that is protective of human health and the environment.

PRISTINE, [illegible] SITE
ADMINISTRA[illegible] [illegible]RD UPDATE
MARCH 1987 [illegible] [illegible]ENDMENT

Pages	Date	Title	Author	Recipient	Doc Type
100+	3/29/88	Petition for EPA to Consider New Info & Reconsider ROD	Pristine Group PRPs	J.Dufficy USEPA	Report
4	7/27/88	Follow-up to 7/20/88 technical meeting	Dave Ross Pristine Group	J.Dufficy USEPA	Letter
50	8/5/88	Evaluation of SVE at Pristine	ACOE - EA Engineering, Science & Technology, Inc.	USEPA	Report
3	8/15/88	Proposed Remedy Offer	Dave Ross Pristine Group	T. Conway USEPA	Letter
2	8/22/88	Conditions for Reopening Pristine Remedy Negotiations	Dave Ross Pristine Group	F. Covington USEPA	Letter
2	8/24/88	Response to 8/22/88 letter accepting negotiation conditions	Dave Ross Pristine Group	F. Covington USEPA	Letter
16	12/6/89	Explanation of Significant Differences	T.Alcamo USEPA	Public	Plan
6	12/6/89	Fact Sheet for ROD Amendment & Consent Decree	USEPA	Public	Fact Sheet
1		Newspaper Advertisement	USEPA	Reading	News Ad
30+		Public Meeting Transcript	USEPA	File	Transcript
90+		Consent Decree & Remedial Action Plan & Attachments	United States Pristine PRPs	District Court	Decree