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EPA Superfund
Record of Decision:

AVCO LYCOMING (WILLIAMSPORT DIVISION)
EPA ID: PAD003053709
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WILLIAMSPORT, PA
12/30/1996

(IMG SRC 970120)

RECORD OF DECISION
AVCO LYCOMING SUPERFUND SITE
LYCOMING COUNTY, PENNSYLVANIA

DECLARATION

SITE NAME AND LOCATION
Avco Lycoming Superfund Site
Williamsport, Lycoming County, Pennsylvania

STATEMENT OF BASIS AND PURPOSE

This Record of Decision modifies the selected remedy described in the 1991 Record of Decision for the Avco Lycoming Superfund Site ("Site") issued by the U.S. Environmental Protection Agency ("EPA") on June 28, 1991 ("1991 ROD"). In the 1991 ROD, EPA selected a groundwater extraction and treatment remedy for contaminated groundwater beneath the facility property. On May 7, 1992 EPA issued a Unilateral Administrative Order to the Responsible Parties ("RPs") for the implementation of the 1991 ROD. Activities for the remedial design of the groundwater extraction and treatment system began in December, 1992. A delay in the issuance of a National Pollution Discharge Elimination System ("NPDES") permit, necessary for the design, caused the remedial design to be suspended from May, 1993 until the permit was issued in July, 1995. It was at this time that the RPs made a formal request to EPA to perform a pilot study at the site for an in-situ remedy that could be used in place of the groundwater recovery and treatment remedy called for in the 1991 ROD. This decision document presents the selected remedial action for the contaminated groundwater in the overburden aquifer beneath the facility property at the Avco Lycoming Site. The selected remedial action was chosen in accordance with the Comprehensive Environmental Response, Compensation, and Liability Act of 1980 as amended, ("CERCLA") and, to the extent practicable, the National Oil and Hazardous Substances Pollution Contingency Plan ("NCP").

This decision is based on the Administrative Record for the Site.

The Commonwealth of Pennsylvania concurs with the selected remedy for the Avco Lycoming Superfund Site described in this ROD.

ASSESSMENT OF THE SITE

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

DESCRIPTION OF THE SELECTED REMEDY

This response action addresses contaminated groundwater in the overburden aquifer beneath the Avco Lycoming facility property. The 1991 ROD selected a groundwater extraction and recovery system to address the contaminated groundwater. That remedy was never implemented, as described in the Statement of Basis and Purpose.

At the Avco Lycoming Site, the contaminated groundwater presents a principal threat to human health through the ingestion pathway. EPA therefore plans to mitigate this potential threat by remediating the contaminated groundwater in place without extraction.

The selected remedy includes the following major components:

* Installation of a molasses injection system in the western portion of the facility property to address groundwater contaminated with hexavalent chromium. The system will include a series of molasses injection wells, mixing tanks for molasses solution, pumps and piping for molasses injection and a programmable logic controller.

* Installation of an air sparging/soil vacuum extraction system in the central and eastern portions of the facility property to address shallow groundwater contaminated with organics. The system will include a series of air

sparing and SVE wells, air compressors, blowers and
associated piping and vapor-phase carbon for off-gas treatment.

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, and is cost effective. This remedy utilizes permanent solutions and alternative treatment (or resource recovery) technology to the extent practicable, and satisfies the statutory preference for remedies that employ treatment that reduces toxicity, mobility, or volume as a principal element.

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DECISION SUMMARY
AVCO LYCOMING SUPERFUND SITE

INTRODUCTION

The Avco Lycoming Site is an active manufacturing facility located at 652 Oliver Street in Williamsport, Lycoming County, Pennsylvania (see Site Location Map). The U.S. Environmental Protection Agency (EPA), following consultation with the Pennsylvania Department of Environmental Protection (PADEP), is issuing this Record of Decision ("1996 ROD") to address shallow contaminated groundwater beneath the facility property. The selected remedy described in this ROD was chosen in accordance with the Comprehensive Environmental Response, Compensation, and Liability Act of 1980, as amended by the Superfund Amendments and Reauthorization Act of 1986, U.S.A. °° 9601 et al. (CERCLA), and the National Oil and Hazardous Substances Pollution Contingency Plan (NCP).

On June 28, 1991 EPA issued a Record of Decision (ROD) for the contaminated site groundwater. The 1991 ROD called for the site contaminated groundwater under the plant property to be extracted, treated, and discharged to nearby Lycoming Creek. The chromium contaminated groundwater would be extracted through a series of extraction wells, pumped to the existing waste water treatment plant and discharged. The organic contaminated groundwater would be extracted through a separate series of extraction wells, pumped to on-site air strippers for treatment and discharged. On May 7, 1992 EPA issued a Unilateral Administrative Order to the Responsible Party (RP) for the implementation of the 1991 ROD. The remedial design of the groundwater extraction and treatment system began in December, 1992.

In April, 1992, the RP submitted an application to PADEP for a National Pollution Discharge Elimination System (NPDES) permit to discharge treated groundwater to Lycoming Creek. The design of the groundwater recovery and treatment system was at the treatability study phase and could not proceed until the NPDES permit was issued. During the time the application was submitted, PADEP was modifying the procedures by which NPDES permit applications were being evaluated. As a result, the NPDES permit process took longer than anticipated and the permit was issued in July, 1995.

After the NPDES permit was issued EPA notified the RP that the design workplan should continue with the implementation of the treatability study. It was at this time that the RP made a formal request to EPA to perform a pilot study at the site for an in-situ remedy that could be used in place of the groundwater recovery and treatment remedy called for in the 1991 ROD. EPA and PADEP evaluated the RP proposal and granted an approval for a 6 month pilot study to be implemented at the site. The design work plan for the groundwater recovery and treatment system was suspended pending the results of the pilot study.

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The work plan for the pilot study was submitted in August, 1995. Groundwater contamination beneath the plant property includes a plume of chromium contaminated groundwater in the western portion of the plant property and a plume of organic contaminated groundwater beneath the central and eastern portions of the plant property. Because of these different plumes of contamination, the work plan included a field design test to be performed at these respective locations within the facility. The first field design test was implemented in October, 1995 and consisted of air sparing and soil vacuum extraction at three separate locations in the eastern and central areas of the facility. The second field design test was implemented in November, 1995 and consisted of a metals-precipitation test in the western portion of the facility. This field design test concluded in May, 1996. The results of the air sparging/SVE and in-situ metals precipitation pilot tests were reported to EPA in April and June, 1996 respectively. The results indicated that each test was successful. As a result, the RP conducted a Focused Feasibility Study (FFS) comparing these technologies to the conventional pump and treat remedy selected in the 1991 ROD. This 1996 ROD addresses site contaminated groundwater within the boundaries of the facility property. This ROD does not address site contaminated groundwater that is present in the shallow aquifer beyond the facility boundary and in the deep aquifer beneath and beyond the facility boundary. Contaminated groundwater in those areas will be addressed in a future ROD.

In accordance with Section 117 of CIRCLE, 42 U.S.A. º 117, the FFS, Proposed Plan, and background documentation for the Avco Lycoming Superfund Site were made available to the public on September 20, 1996 in the local information and administrative record repository at the James V. Brown library, Williamsport, Pennsylvania. In accordance with Section 300.825 (a) (2) of the NCP, this 1996 ROD will become part of the Administrative Record File. The Administrative Record File is available for review at the following locations:

James V. Brown library of U.S. EPA Region III

Williamsport and Lycoming County	841 Chestnut Bldg.
Williamsport, Pennsylvania	Philadelphia, PA 19107

For a detailed description of the Site background and Site characteristics, refer to the 1991 ROD, the September 1996 FFS, and the Proposed Plan dated September 20, 1996 for this ROD.

REASONS FOR ISSUING THE 1996 ROD

As described above, the remedy selected in the June 28, 1991 ROD called for the extraction and treatment of contaminated groundwater. The time frame to achieve cleanup goals using this remedy was estimated to be at least 30 years. During the design of this remedy a two year delay was encountered when AVCO applied for a NPDES permit. During the delay, AVCO evaluated alternate remedies which are suitable to the site, more effective at cleanup, and allow for less exposure of contaminants which could endanger human health and the environment in comparison to the pump and treat remedy.

The alternate remedy (air sparging/SVE and metals precipitation) will achieve cleanup in less time than the 1991 ROD selected remedy, since treatment of the groundwater with the presence of a continuing source of contamination in the soils makes complete remediation difficult with conventional pump and treatment technology. The physical conditions of the AVCO site are amenable to air sparging/SVE and in-situ metals precipitation technology. Although the air sparging/SVE technology is oxygen enhanced and the metals precipitation technology requires an oxygen depleted environment, these technologies do not need to be implemented in the same area of the site. Metals reduction is required in the western portion of the facility, while air sparging/SVE is more critical in the central and eastern portions of the facility. In addition, air sparging/SVE will be conducted in groundwater that is downgradient of the metals reduction technology. This allows for the removal of the VOC's in the groundwater in the western portion of the facility after the metals are removed. Once metals are precipitated as metallic sulfides they will adhere to the soil particles and will not redissolve under normal groundwater conditions. Once implemented, the air sparging/SVE and metals precipitation technologies will take place almost entirely beneath the ground, and will pose no risk during it's operation.

DESCRIPTION OF THE NEW ALTERNATIVES

CERCLA and the NCP require that the remedy chosen to cleanup a hazardous waste site meet several criteria. The remedy must protect human health and the environment, meet the requirements of environmental laws and regulations, and be cost-effective. Permanent solutions to contamination problems should be developed wherever possible. The solutions should reduce the volume, toxicity, or mobility of the contaminants, to the extent practicable. Emphasis is also placed on treating the contaminants at the site, whenever this is possible, and on applying innovative technologies to clean up the contaminants.

In accordance with Section 300.430 of the NCP, a list of remedial response actions and representative technologies were screened to meet the remedial action objectives at the Avco Lycoming Site. The FFS studied the technologies that proved to be successful during the pilot study to see if they met the above criteria and were applicable for addressing the contamination at the Site. These technologies were then developed into remedial alternatives. In addition, EPA has evaluated the No Action Alternative.

No Action Alternative

Time to Implement;	0 months
Capital Costs:	$ 0
Annual O&M Costs:	$ 0
Present Worth:	$ 0

The Superfund program is required to evaluate the "No Action" Alternative. Under this alternative, no remedial action would be taken at the site. At the Avco Lycoming Site, remedial actions have already been undertaken pursuant to a Consent Order and Agreement between PADEP and Avco-Lycoming. This ROD does not relieve the RP from any obligation under that agreement. Thus, a true no-action alternative is not possible. The best approximation of a no-action alternative would be to take no further steps in remediating the groundwater contamination at the Site. This alternative would be selected only if the Site posed little or no risk to public health or the environment. There are no capital costs or operation and Maintenance (0 & M) costs associated with the No Action Alternative.

Alternative 1: Groundwater Recovery, Chemical Treatment for Metals, Air Stripping, Emissions Control and Discharge of Treated Water

Time to Implement:	21 months
Capital Costs:	$ 2,900,000
Annual O&M Costs:	$ 517,000
Present Worth:	$ 10,000,000

This alternative was selected as the remedial alternative in the 1991 ROD. This alternative consists of a groundwater recovery system to contain contaminated groundwater on-site. The portion of the recovered groundwater containing elevated levels of chromium and other metals would be chemically treated. Recovered groundwater would be air stripped for VOC removal and the off-gas from the air stripper would be treated by the best available control technology. The treated groundwater would be discharged to Lycoming Creek. In addition, institutional controls to limit the future use of this property are part of this remedy.

Alternative 2: Air Sparging/Soil Vapor Extraction and In-Situ Metals Precipitation

Time to Implement:	12 months
Capital Costs:	$ 1,600,000
Annual O&M Costs:	$ 357,500
Present Worth:	$ 4,200,000

This alternative consists of air sparging combined with soil vapor extraction to be used for the remediation of VOC-contaminated groundwater at the site. Compressed air is injected through air sparging wells that are screened in the saturated zone. The injected air travels upward in channels, creating turbulence that causes an increase in desorption of the VOCs from the soil and volatilizes the VOCs in groundwater. After injection, the air, which contains the volatilized contaminants, moves upward into the unsaturated zone where it can be captured and removed using an SVE system.

In-situ metals precipitation will be used for the remediation of chromium-contaminated-groundwater. In-situ precipitation of chromium is based on the microbial reduction of hexavalent chromium to trivalent chromium. The reduction process yields significant remedial benefits because trivalent chromium is less toxic, less mobile, and precipitates from solution more readily than hexavalent chromium. To promote the in-situ microbial reduction of hexavalent chromium to trivalent chromium, a dilute molasses solution is injected into the impacted aquifer through a series of injection wells. The carbohydrates in the molasses, which consist mostly of sucrose, are degraded by the indigenous heterophic microorganisms present in the aquifer. The degradation of the carbohydrates by the microorganisms in the aquifer depletes the aquifer of it's dissolved oxygen content. Reducing the amount of dissolved oxygen in the groundwater causes the hexavalent chromium to reduce to the less toxic trivalent form.

The components of the air sparging/soil vapor extraction system will include the following; a series of air sparing and soil vapor extraction wells along the perimeter of the site; air compressors, blowers and associated piping and equipment; and vapor-phase carbon for off-gas treatment. The components of the in-situ metals precipitation system will include the following: a series of molasses injection wells; mixing tanks for molasses solution; pumps, piping and associated equipment for molasses injection; and a programmable logic controller to automatically control the amount of solution injected.

EVALUATION OF ALTERNATIVES

In evaluating remedial alternatives for Superfund Sites, EPA considers nine specific criteria (see Table 1). These nine criteria are categorized into the following three groups:

Threshold Criteria

Overall protection of human health and the environment

Compliance with applicable or relevant and appropriate requirements (ARARs)

Primary Balancing Criteria

Reduction of toxicity, mobility, or volume through treatment

Short-term effectiveness

Long-term effectiveness and permanence

Implementability

Cost

Modifying Criteria

Community acceptance

State acceptance

These evaluation criteria relate directly to requirements of Section 121 of CERCLA, 42 U.S.A. º 9621, for determining the overall feasibility and acceptability of a remedy. Threshold criteria must be satisfied in order for a remedy to be eligible for selection. Primary balancing criteria are used to weigh major trade-offs between remedies. The modifying criteria are formally taken into account after public comment is received on the Proposed Plan.

The following paragraphs summarize how the newly selected alternatives for the Avco Lycoming Site compare to the original alternative selected in the 1991 ROD with respect to the nine criteria.

Protection of Human Health and the Environment

For overall protection of human health and the environment, no unacceptable risks are associated with current groundwater use in the area, because of the treatment system at the Williamsport Municipal Water Authority (WMWA) well field. Alternatives 1 and 2 minimize migration of contaminants in groundwater flowing from the site to the WMWA well field.

TABLE I

DESCRIPTION OF EVALUATION CRITERIA

Overall protection of human health and the environment - Addresses whether a remedy provides adequate protection and describes how risks posed through each pathway are eliminated, reduced, or controlled through treatment, engineering controls, or institutional controls.

Compliance with applicable or relevant and appropriate requirements (ARARs) - Addresses whether a remedy will meet all of the ARARs of other Federal and State environmental laws and/or justifies a waiver.

Long-term effectiveness and permanence - Addresses expected residual risk and the ability of a remedy to maintain reliable protection of human health and the environment over time, once cleanup goals have been met.

Reduction of toxicity, mobility, or volume through treatment - Addresses the anticipated performance of the treatment technologies a remedy may employ.

Short-term effectiveness - Addresses the period of time needed to achieve protection and any adverse impacts on human health and the environment that may be posed during the construction and implementation period, until cleanup goals are achieved.

Implementability Addresses the technical and administrative feasibility of a remedy, including the availability of materials and services needed to implement a particular option.

Cost - Includes estimated capital and operation and maintenance costs, as well as present worth costs.

State/Support Agency Acceptance - Indicates the support agency's comments. Where the State or Federal agency is the lead for the ROD, EPA's acceptance of the selected remedy is addressed under this criterion.

Community Acceptance - Summarizes the public's general response to the alternatives described in the Proposed Plan and Remedial Investigation/Feasibility Study Report. The specific responses to public comments are addressed in the Responsiveness Summary section of the Record of Decision.

Compliance with Applicable or Relevant and Appropriate Requirements (ARARs)

CERCLA requires that remedial actions meet ARARs of other federal and state environmental laws, or that there be grounds for invoking a waiver. A "legally applicable" requirement is one which would legally apply to the response action if that action were not taken pursuant to Sections 104, 106, and or 122 of CERCLA. A "relevant and appropriate" requirement is one that, while not "applicable", is designed to apply to problems sufficiently similar that their application is appropriate.

The potential Federal and State ARARs for this 1996 ROD are presented in Table 2. Alternatives 1 and 2 can be designed and implemented with the objective of satisfying the ARARs.

There are no additional chemical-specific or location-specific ARAR's of concern identified. Also, all alternatives include the appropriate measures to ensure that all action-specific ARAR's are satisfied. Thus, all remedial alternatives considered in this 1996 ROD will comply with all ARAR's.

Long-Term Effectiveness and Permanence

With respect to long-term effectiveness, both Alternatives 1 and 2 are expected to provide a high degree of permanence. Alternative 2, however, may provide more long-term effectiveness and permanence than Alternative 1 because the in-situ technologies address the source of the contaminants (i.e., the soil), as well as contain the contaminated groundwater from migrating off-site. Alternative 1 does not focus on remediation of the source of the contaminants.

Short-Term Effectiveness

With respect to short-term effectiveness, there are minimal potential risks associated with the construction of either alternative.

Reduction of Toxicity, Mobility or Volume

Alternative 2 is expected to provide the higher degree of toxicity, mobility, or volume reduction. The reduction in the volume of organics will be afforded by the removal of contaminants from the saturated zone as a result of the operation of the air sparging/SVE technology. The toxicity and mobility of the chromium present in the groundwater will also be reduced as a result of the metals precipitation technology. In addition, a significant amount of contaminated waste would continually be generated by Alternative 1 through the operation of the system, due to the need to treat recovered groundwater. The amount of waste generated by Alternative 2 is insignificant compared to the amount that would be generated by Alternative 1.

TABLE 2

Potential Action-Specific ARARs

Federal Action Specific ARARs

Citation	Requirement	Status
* 40 CPR °144.24	Regulations for the Underground Injection Control (UIC) Program	Relevant & Appropriate

Pennsylvania Action Specific ARARs

Citation	Requirement	Status
* Pennsylvania Air Pollution Regulations 25 Pa. Code °°123.1, 123.2	Regulates fugitive air emissions for remedial actions. Fugitive emissions prohibited unless: a) "of minor significance" b) "not interferring with ambient air quality" may require PADEP permit	Applicable
*25 Pa. Code °127.1	Regulates new air contamination sources be controlled to the maximim extent and consistent with beat available technology (PADEP approval)	Applicable

TABLE 2 (cont'd)

Potential Chemical-Specific ARARs

Federal Chemical-Specific ARARs

Citation	Requirement	Status
*40 CFR °141.61 and °141.62	Maximum Contaminant Levels (MCLs) for organic and inorganic chemicals	Applicable

Pennsylvania Chemical-Specific ARARs

Citation	Requirement	Status
*25 Pa. Code °109.202 (b)(2)	Incorporates by reference EPA secondary MCLs as State MCLs	Relevant Appropriate

Implementability

Both Alternatives 1 and 2 are implementable. Although Alternative 2 includes innovative technologies with associated uncertainties for 0 & M, the pilot tests performed at the site demonstrate that the technologies are effective at remediation and applicable to the site.

Costs

The present worth cost for Alternative 2 is $4,200,000, which is considerably less than the cost for Alternative 1 which is $10,000,000.

State Acceptance

The Commonwealth of Pennsylvania has verbally concurred with the selected remedy described in this ROD.

Community Acceptance

A public meeting on the Proposed Plan was held on October 2, 1996 in Williamsport, Pennsylvania. Citizens who attended the meeting raised some significant concerns about the selected remedy. Community acceptance is more fully assessed in the attached Responsiveness Summary, which provides a through review of the public comments received on the FFS and Proposed Plan, and EPA's responses to the comments received.

SELECTED REMEDY

After carefully considering the requirements of CERCLA, the findings of the FFS, the detailed analysis of the alternatives, public comments, and other documents contained in the Administrative Record, EPA has selected Alternative 2, Air Sparging/SVE and in-situ metals precipitation, as the remedy for amending the i991 ROD with respect to the contaminated groundwater beneath the facility property at the Avco Lycoming Site.

GOAL

The goal of the selected remedy is to restore contaminated groundwater to levels that are protective of human health. Thus, groundwater will be treated until contaminant levels reach the concentrations listed below, which will be protective for adult and child residential receptors. Based on information obtained during the pilot studies, and the analysis of the remedial alternatives, EPA and the Commonwealth of Pennsylvania believe that the selected remedy will be able to achieve these concentrations within the facility property.

CHEMICAL	CONCENTRATION LIMITS (ug/1)	SOURCE
1,2- DICHLOROETHENE	70	MCL, NON-ZERO MCLG
CADMIUM	3	RISKED BASED
CHROMIUM VI	32	RISKED BASED
TRICHLOROETHENE	5	MCL
VINYL CHLORIDE	2	MCL
MANGANESE	50	STATE MCL

There are an infinite number of combinations of chemical concentrations that could result in risks at or below the NCP target risks. These concentrations were derived using MCLs as a starting point and derives risk-based concentrations for chemicals that may act additively on the same target organ (cadmium and chromium). Manganese is an EPA secondary MCL and is incorporated by reference as a State MCL.

The selected remedy will include groundwater extraction for at least 15 years, during which time the system's performance will be carefully monitored on a regular basis and adjusted as warranted by the performance data collected during operation. Monitoring will include groundwater sampling on a schedule to be determined during the Remedial Design. The sampling points will be strategically placed around the air sparging/SVE,and metals precipitation systems.

DESCRIPTION OF THE SELECTED REMEDY

The components of the air sparging/soil vapor extraction system will include the following; a series of air sparging and soil vapor extraction wells along the perimeter of the site; air compressors, blowers and associated piping and equipment; and vapor-phase carbon for off-gas treatment. The components of the in-situ metals precipitation system will include the following: a series of molasses injection wells; mixing tanks for molasses solution; pumps, piping and associated equipment for molasses injection; and a programmable logic controller to automatically control the amount of solution injected. The molasses application rate and schedule will be defined during the Remedial Design.

As part of the Remedial Action implementation, data will be collected to evaluate the performance of the Air Sparging/SVE and in-situ metals precipitation. Monitoring plans, schedules and decision points for the operation of these systems will be established in the Remedial Design.

SIGNIFICANT DIFFERENCE FROM PROPOSED PLAN

The cleanup standards established in the 1991 ROD stated that the contaminated groundwater would be remediated until background, MCLs or MCLGs, whichever was lower, were achieved. The National Contingency Plan allows flexibility in selecting remedial goals, including a range of possible cancer risks (1E-6 to 1E-4). MCLs may also be used as remedial goals unless they are found not to be protective because of risk additivity. The cleanup standards for this ROD have been changed to include MCLs and risk based levels for the contaminants of concern. These levels are protective of human health and the environment and are achievable.

STATUTORY DETERMINATIONS

Section 121 of CERCLA, 42 U.S.A. º 9621, requires that the selected remedy accomplish all of the following: be protective of human health and the environment; comply with ARARs; be cost effective; utilize permanent solutions and alternative treatment technologies or resource recovery technologies to the maximum extent practicable; and address whether the preference for treatment as a principal element is satisfied.

The selected remedy in this ROD Amendment will be protective of human health and the environment and will comply with all chemical-, location-, and action-specific ARARs pertinent to this action.

The Commonwealth of Pennsylvania has identified the Land Recycling and Environmental Remediation Standards Act, the Act of May 19, 1995, P.L. 4, No. 1995.2, 35 P.S. ºº 6018.101 et. seq.("Act 2") as an ARAR for this remedy; EPA has determined that Act 2 does not, on the facts and circumstances of this remedy, impose any requirements more stringent than the federal standards. Section 121 of CERCLA , 42 U.S.A. º 9621, requires that the selected remedy accomplish all of the following: be protective of human health and the environment; comply with ARARs; be cost effective; utilize permanent solutions and alternative treatment technologies or resource recovery technologies to the maximum extent practicable; and address whether the preference for treatment as a principal element is satisfied.

The selected remedy is the most cost-effective of the alternatives and addresses the Site-related risks posed by the contaminated groundwater by reducing those risks to acceptable levels.

EPA has determined that the selected remedy represents the maximum extent to which permanent solutions and treatment technologies can be utilized while providing the best balance among the other evaluation criteria. Alternatives 1 and 2 are protective of human health and the environment, but the selected remedy (alternative 2) provides the best balance in terms of the eight other evaluation criteria.