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U.S. DISTRICT COURT
AKRON, OHIO

IN THE UNITED STATES DISTRICT COURT
FOR THE NORTHERN DISTRICT OF OHIO
EASTERN DIVISION

UNITED STATES OF AMERICA, Plaintiff, v. JOHN VASI, et al., Defendants.	Civil Action No.
STATE OF OHIO, ex rel. Celebrezze, v. DONALD GEORGEOFF, et al., Defendants.	Civil Action No. C81-1961 Judge Dowd

CONSENT DECREE

FILED

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CONSENT DECREE

I.

INTRODUCTION

This Consent Decree is made and entered into by and between the United States of America ("United States") on behalf of the United States Environmental Protection Agency ("U.S. EPA"), the State of Ohio ("State"), and the companies and individuals listed as defendants in Appendix A ("Settling Defendants").

WHEREAS, U.S. EPA, pursuant to § 105 of the Comprehensive Environmental Response, Compensation, and Liability Act of 1980 42 U.S.C. § 9605, placed the Summit National Facility in Portage County, Ohio (the "Facility") on the National Priorities List, which is set forth at 40 C.F.R. Part 300, by publication in the

Federal Register on September 15, 1983.

WHEREAS, on October 1, 1981, the State of Ohio filed in the United States District Court for the Northern District of Ohio, Eastern Division a Complaint for the recovery of response costs incurred or to be incurred to prevent, minimize or eliminate the threat posed by the hazardous substances at the Summit National property; for the recovery of damages to the State's natural resources; for nuisance abatement; for injunctive relief; for declaratory relief; and for civil penalties. The State's action was brought pursuant to the Comprehensive Environmental Response, Compensation and Liability Act of 1980, 42 U.S.C. § 9601 et seq.; the Ohio Water Pollution Control Act, O.R.C. Chapter 6111; the Ohio Solid and Hazardous Waste Control Act, O.R.C. Chapter 3734; the Ohio Public Nuisance Law, O.R.C. Chapter 3767; the Federal Declaratory Judgment Act, 28 U.S.C. § 2201; and common law liability in tort. The State of Ohio's Complaint sets forth fourteen (14) counts against forty-two (42) Defendants comprised of the owners and operators of the Summit National property, the generators of the hazardous substances disposed of at the property, and the transporters of the hazardous substances which were disposed of at the property.

WHEREAS, subsequent to the filing of the State's Complaint the State entered into settlements with twenty (20) of the defendants in the above referenced action, resolving all or part of their liability to the State. Those Defendants with whom the State settled in that action are as follows:

Goodyear Aerospace Corporation
Goodyear Tire and Rubber Company
Morgan Adhesives Company
General Motors Corporation
Koppers Company
Packaging Corporation of America
Gould, Inc.
Airco, Inc.
Union Process, Inc.
Chemtrol Adhesives, Inc.
Mobil Oil Corporation
The Warner & Swasey Company
Monsanto Company
The University of Akron
Union Carbide Corporation
Akron City Hospital
St. Thomas Hospital
Akron General Medical Center
Universal Plating, Inc.
Mays Corporation

WHEREAS, prior to the filing of the State's Complaint in U.S. District Court, the State had entered into agreements with twenty-two (22) potentially responsible parties and resolved all State claims against those parties, through a complete discharge of all liability of those parties to the State of Ohio. Those parties who took part in these pre-filing settlements with the State are as follows:

Olin Corporation
E.I. DuPont de Nemours & Co., Inc.
Reynolds Metals
Inland Chemical
Lamb Electric
Babcock & Wilcox
Parker Hannifin
Ceilkote
Mansfield Graphics
H.K. Porter
The Firestone Tire & Rubber Company
Ford Motor Company
Norton Company
Beckton Dickinson Company
Harshaw Chemical Company
Detrex
PPG Industries

Deft Incorporated
Smithers Company
Matco Allied Equipment Company
Diamond Shamrock
Calgon Corporation

WHEREAS, the State enters into this Consent Decree in order to settle all liability and claims brought pursuant to the State's case in the United States District Court for the Northern District of Ohio, Eastern Division, Case No. C-81-1961, against those Defendants who have not previously settled with the state in any other form or manner. These Defendants are set forth in Paragraph III below;

WHEREAS, in response to a release or a substantial threat of release of a hazardous substance at or from the Facility, the U.S. EPA in the Fall of 1984, commenced a Remedial Investigation and Feasibility Study (RI/FS), pursuant to 40 C.F.R. 300.68, for the Facility;

WHEREAS, the U.S. EPA completed a Remedial Investigation ("RI") Report and a Feasibility Study ("FS") Report on February 12, 1988;

WHEREAS, the FS report contains a proposed plan for remedial action at the Facility;

WHEREAS, on February 12, 1988, the U.S. EPA, pursuant to § 117 of the Comprehensive Environmental Response Compensation and Liability Act, as amended by the Superfund Amendments and Reauthorization Act, Pub. L. 99-499 ("CERCLA"), 42 U.S.C. § 9617, published notice of completion of the RI/FS and of the proposed plan for remedial action identified in the FS Report and provided

opportunity for public comment to be submitted in writing to U.S. EPA by March 11, 1988, and subsequently extended to March 21, 1988, or to be submitted orally at a public meeting in Deerfield, Ohio held on February 29, 1988;

WHEREAS, U.S. EPA, pursuant to § 117 of CERCLA, 42 U.S.C. § 9617, has kept a transcript of the public meeting and has made this transcript available to the public;

WHEREAS, certain persons have provided comments on the proposed plan for remedial action identified in the FS Report, and to such comments U.S. EPA provided a summary of responses;

WHEREAS, considering the information in the Administrative Record, including that developed in the RI, the evaluation of remedial alternatives in the FS and the proposed plan for remedial action identified therein and the public comments received, U.S. EPA selected a remedial action plan alternative which is embodied in a document called a Final Record of Decision, dated June 30, 1988;

WHEREAS, on April 1, 1988, U.S. EPA, pursuant to § 122 of CERCLA, 42 U.S.C. § 9622, notified certain entities that the U.S. EPA determined each entity to be a Potentially Responsible Party ("PRP") regarding the proposed remedial action at the Facility;

WHEREAS, in accordance with § 121(f)(1)(F) of CERCLA, 42 U.S.C. § 9621(f)(1)(F), U.S. EPA notified the State of Ohio on November 2, 1987 of negotiations with PRPs regarding the scope of the remedial action for the Facility, and U.S. EPA has provided the State with an opportunity to participate in such negotiations and

be a party to any settlement;

WHEREAS, pursuant to § 122(j) of CERCLA, 42 U.S.C. § 9622(j), U.S. EPA notified the Federal and State natural resource trustees of negotiations with PRPs on the subject of addressing the release or threatened release of hazardous substances at the Facility;

WHEREAS, pursuant to § 122 of CERCLA, 42 U.S.C. § 9622, the parties to this Consent Decree have participated in negotiations leading to the Settling Defendants' agreement to perform remedial design and remedial action Work at the Summit National Facility, which Work is embodied in this Consent Decree and the Appendices hereto, which shall constitute an amended remedial action plan, within the meaning of § 117 of CERCLA, 42 U.S.C. § 9617, for the Summit National Facility;

WHEREAS, prior to issuing a revised Record of Decision finally adopting this Consent Decree as the final remedial action plan for the Summit National Facility, and prior to presentation of this Decree to the Court for entry, U.S. EPA will provide the public with an opportunity to submit comments on the remedial action plan set forth herein, and U.S. EPA will consider and respond to significant public comments;

WHEREAS, pursuant to § 117 of CERCLA, 42 U.S.C. § 9617, U.S. EPA is providing notice of the remedial action plan embodied in this Consent Decree and its Appendices, including notice of their availability to the public for review at U.S. EPA offices and a local community repository located in Deerfield, Ohio;

WHEREAS, pursuant to § 117(d) of CERCLA, 42 U.S.C. § 9617(d),

the notice is being published in a major local newspaper of general circulation and the notice includes an explanation of any significant differences between the proposed remedial action plan contained in the FS and the remedial action plan set forth in this Consent Decree;

WHEREAS, pursuant to § 121(d)(1), U.S. EPA, the State, and Settling Defendants ("the Parties") believe that the remedial action plan embodied in this Consent Decree and its Appendices will attain a degree of cleanup of hazardous substances, pollutants and contaminants released into the environment which at a minimum assures protection of human health and the environment at the Facility;

WHEREAS, pursuant to § 121(d)(2) of CERCLA, 42 U.S.C. § 9621 (d)(2) the Parties believe that the remedial action plan set forth in this Consent Decree provides for remedial action that is relevant and appropriate under the circumstances presented by the release or threatened release of hazardous substances, pollutants or contaminants at the Facility;

WHEREAS, pursuant to § 121(b)(1) and (2) of CERCLA, 42 U.S.C. § 9621(b)(1) and (2), the Parties believe the remedial action plan embodied in this Consent Decree and its Appendices provides for performance of remedial actions that will include treatment that will permanently and significantly reduce the volume, mobility and/or toxicity of hazardous substances, pollutants and contaminants at the Facility;

WHEREAS, the Parties believe that the remedial action plan

embodied in this Consent Decree and its Appendices is in accordance with § 121 of CERCLA, 42 U.S.C. § 9621; with the National Contingency Plan ("NCP"), 40 C.F.R. Part 300; and with O.R.C. Chapters 3734 and 6111;

WHEREAS, Settling Defendants agree to implement the final remedial action plan adopted by U.S. EPA and set forth in this Consent Decree and its Appendices, and U.S. EPA and the State have determined that the Work required under the Decree will be done properly by Settling Defendants, and that Settling Defendants are qualified to implement the remedial action plan embodied in this Consent Decree and its Appendices;

WHEREAS, the Settling Defendants desire to settle the claims made against them by the Plaintiffs;

WHEREAS, in order to expedite and simplify the negotiation of this Consent Decree, the parties have agreed that issues pertaining to the liability of certain de minimis PRPs should be resolved separately from this settlement;

WHEREAS, the Parties recognize, and intend to further hereby, the public interest in the expeditious cleanup of the Facility and agree that the settlement and entry of this Consent Decree is made in good faith to avoid prolonged and complicated litigation between the Parties, without admission of liability for any purpose and to settle and resolve claims which were and are disputed; and

WHEREAS, in consideration of, and in exchange for, the promises and the mutual undertakings and covenants herein, and intending to be bound legally hereby, the Plaintiffs and the

Settling Defendants, by their authorized representatives, have agreed to the entry of this Decree.

NOW, THEREFORE, before the taking of any testimony and upon the consent of the parties hereto, it is hereby Ordered, Adjudged and Decreed:

II.

JURISDICTION

This Court has jurisdiction over the subject matter herein, and over the parties consenting hereto, pursuant to 42 U.S.C. § 9601 et seq. and 28 U.S.C. §§ 1332 and 1345. Settling Defendants shall not challenge this Court's jurisdiction to enter and enforce this Decree.

III.

PARTIES BOUND

As described herein, this Decree applies to and is binding upon the undersigned Settling Defendants and their agents, successors and assigns. This Consent Decree applies to and is binding upon the United States and each Settling Defendant, its agents, successors and assigns. This Consent Decree applies to and is binding as between the State of Ohio, on the one hand, and Goodyear Aerospace Corporation and Goodyear Tire and Rubber Company, and their agents, successors and assigns, on the other hand, only with respect to Paragraphs I [Preamble], II [Jurisdiction], III [Parties Bound], IV [Definitions], XVIII [Covenant Not To Sue], and XXVI [Effective And Termination Dates]. This Consent Decree applies to and is binding upon the State of

Ohio and the following parties and their agents, successors and assigns, to the extent that such parties execute this Consent Decree all other Settling Defendants having previously resolved their liability to the State through separate settlements:

Morton Thiokol, Inc.
GenCorp, Inc., formerly General Tire & Rubber Company and/or Diversitech General
Bofors Lakeway, Inc.
Occidental Chemical Corp, formerly known as Hooker Chemical & Plastics Corporation
Chemetron Corporation
Bechtel-McLaughlin, Inc.
Mansfield Industries, Inc.
Ferriot Brothers, Inc.
Container Corporation of America
Edge Industries, Inc.
Akron Equipment Company
Browning-Ferris Industries of Ohio, Inc.
Browning-Ferris Industries of Pennsylvania, Inc.
Erieway, Inc., formerly known as Erieway Pollution Control, Inc.
Canton Drop Forge
Columbia Gas Transmission Corp.
Approved Industrial Removal, Inc.
Garland A. Allison
Norman Werchowsky
Summit National Services
Summit National Liquid Services, Inc.
Donald M. Georgeoff
Angelo Sottanti
John Vasi

The undersigned representative of each party to this Decree certifies that he or she is fully authorized by the party or parties whom she or he represents to enter into the terms and conditions of the Decree and to execute and legally bind that party to it. Settling Defendants shall provide a copy of this Decree to each contractor hired to perform the Work required by this Decree and shall require each contractor to provide a copy thereof to any subcontractor retained to perform any part of the Work required by

this Decree.

Notwithstanding the establishment of a Summit National Facility Trust Fund, the appointment of a Trustee to manage and direct the activities of such Trust Fund, the appointment of any Escrow Agent pursuant to Paragraph V.B.5, below, and the retention of any Contractor or subcontractor to perform, direct or oversee implementation of any activity required pursuant to this Consent Decree, Settling Defendants shall remain liable for timely completion of all Work in accordance with all standards and requirements set forth in this Decree. In any proceeding against Settling Defendants to enforce the provisions of this Consent Decree, the failure of a Contractor or subcontractor to comply with the provisions of any contract relating to the performance of Work required under this Consent Decree or to comply with any instructions or directions from either the Trustee or Settling Defendants shall not be a defense to compliance with this Consent Decree, except to the extent that Settling Defendants establish such failure was the result of causes beyond the control of the Contractor or subcontractor.

IV.

DEFINITIONS

Whenever the following terms are used in this Decree or the Appendices attached hereto, the following definitions specified in this Paragraph shall apply:

A. "Architect" or "Engineer" means the company or companies retained by the Settling Defendants to prepare the construction

plans and specifications necessary to accomplish the remedial action described in the Statement of Work (SOW) which is attached to this Decree as Appendix B.

B. "Contractor" means the company or companies retained by the Trustee on behalf of Settling Defendants to undertake and complete any Work required by this Decree. Each contractor and subcontractor shall be qualified to do those portions of the Work for which it is retained. The Contractor shall be deemed to be related by contract to each Settling Defendant within the meaning of 42 U.S.C. § 9607(b)(3).

C. "De Minimis Settlers" means those persons, as defined in § 101(21) of CERCLA, 42 U.S.C. § 9601(21), who are not parties to this Consent Decree but who enter into a final settlement with the U.S. EPA pursuant to § 122(g) of CERCLA, 42 U.S.C. § 9622(g), with respect to the Facility, within 90 days of the date of lodging of this Consent Decree.

D. "Facility" means the Summit National "facility" as that term is defined at § 101(9) of CERCLA, 42 U.S.C. § 9601(9). The Facility is located in Portage, County, Ohio.

E. "Future liability" to the State or federal governments refers to liability arising after U.S. EPA's and OEPA's Certification of Completion is issued pursuant to Paragraph XXVI.

F. "Hazardous substance" shall have the meaning provided in § 101(14) of CERCLA, 42 U.S.C. § 9601(14).

G. "National Contingency Plan" or "NCP" shall be used as that term is used in § 105 of CERCLA, 42 U.S.C. § 9605.

H. "Non-settling PRP" means a person, as that term is defined in § 101(21) of CERCLA, 42 U.S.C. 9601(21), who is liable to the United States or the State of Ohio under CERCLA with respect to the Facility, but who is not a signatory to this Decree or to an Administrative Order on Consent between the U.S. EPA and De Minimis Settlers resolving such person's liability to the United States with respect to the Facility.

I. "OEPA" means the Ohio Environmental Protection Agency.

J. "Off-Site" means beyond the boundaries of the Site.

K. "On-Site" means within the boundaries of the Site.

L. "Oversight Costs" mean any costs not inconsistent with the NCP incurred by U.S. EPA or the State in monitoring the activities performed by the Settling Defendants, and/or their Contractors pursuant to this Decree, or in implementing any requirement of this Consent Decree.

M. "Owner Settling Defendant" means the owner of the property used for conducting the Summit National Services and Summit National Liquid Service business located near the intersection of State Route 224 and U.S. 225 near Deerfield, Ohio, and all successors and assigns.

N. "Parties" means the United States of America, the State of Ohio and the Settling Defendants.

O. "Performance Standards" means standards that shall be achieved by the remedial measures to be performed pursuant to this Consent Decree, including risk and hazard levels established pursuant to this Consent Decree, and the standards for conduct of

the Work as set forth in Paragraph VI of this Decree.

P. "Plaintiffs" means the United States of America and the State of Ohio, and their agencies and departments.

Q. "Potentially Responsible Party" or "PRP" shall mean any person, as defined in § 101(21) of CERCLA, 42 U.S.C. § 9601(21), which is or may be liable to the United States and/or the State with respect to the Summit National Facility under §§ 104, 106, or 107 of CERCLA, 42 U.S.C. §§ 9604, 9606 or 9607.

R. "Remedial Construction Work Plan" or "RC Work Plan" means the following documents relating to the remedial construction and remedial action required under this Consent Decree and the SOW, upon approval of such documents in accordance with the requirements of this Decree: RC quality assurance project plan; RC health and safety plan; RC sampling and analysis plan; operation and maintenance plan; and the construction schedule.

S. "Remedial Design Work Plan" or "RD Work Plan" means the following documents relating to the remedial design required under this Consent Decree and the SOW, upon approval of such documents in accordance with the requirements of this Decree: a quality assurance project plan for remedial design activities; a health and safety plan for remedial design activities; a sampling and analysis plan for remedial design activities; and the remedial design schedule.

T. "Response Costs" means:

(1) any costs not inconsistent with the NCP incurred by Plaintiffs pursuant to 42 U.S.C. § 9601 et seq., in connection with

the Site or the Facility; and

(2) any necessary costs of response that are consistent with the NCP, incurred by the Settling Defendants in connection with the Site or the Facility.

U. "Settling Defendants" means those parties other than the United States of America and the State who sign this Decree, as identified in Appendix A which is incorporated herein by reference.

V. "Site" means all of the following areas:

1. All property within the metes and bounds set forth in Appendix C to this Consent Decree, which property was used by Donald Georgeoff, Summit National Services and/or Summit National Liquid Disposal Services for the operation of a hazardous waste treatment, recycling, storage and disposal facility near the intersection of State Route 224 and U.S. Route 225 in Deerfield, Portage County, Ohio;

2. The area to the east of the aforesaid property, as shown on Appendix D to this Consent Decree; and

3. The area located to the south and southeast of the property described in Subparagraph (1) above, as shown on Appendix D to this Consent Decree.

W. "State" means the State of Ohio and all of its agencies, departments and branches.

X. "Statement of Work" or "SOW" means the Statement of Work for implementation of the remedial design, remedial action, and operation and maintenance of the remedial action required under this Consent Decree.

Y. "Summit National Facility Trust Fund" means the trust fund established pursuant to Paragraph V of this Consent Decree.

Z. "Trustee" means the person(s) or entity(ies) appointed, under the provisions of Subparagraph A.1. of Paragraph V, to manage the Summit National Facility Trust Fund and who, for purposes of compliance with this Consent Decree, shall be deemed the agent of the Settling Defendants.

AA. "United States" means the United States of America and all of its agencies, departments or branches.

BB. "U.S. EPA" means the United States Environmental Protection Agency.

CC. "U.S. DOJ" means the United States Department of Justice.

DD. "Waste Material" means any hazardous substance, as defined by 42 U.S.C. § 9601(14), and any associated pollutant or contaminant as defined by 42 U.S.C. § 9601(33).

EE. "Work" means the design, construction and implementation, in accordance with Paragraphs VI and VII hereof, of the tasks described in the revised ROD and any revisions thereto, and in the Statement of Work, RD Work Plan, RC Work Plan, and any other schedules or plans required to be submitted pursuant to this Consent Decree, including operation and maintenance of the elements of the remedial design for the Facility, and any revisions thereto.

V.

GENERAL PROVISIONS

A. Facility Trust Fund:

1. The Settling Defendants shall present, to the Plaintiffs, a trust agreement, in the form set forth in Appendix E attached hereto, and shall enter into and be bound by said agreements. Such agreement shall provide for the collection, handling, reporting and disbursement of amounts required to be paid by the Settling Defendants and the State pursuant to this Consent Decree. Said Trust Agreement is attached to this Consent Decree as Appendix E and is incorporated herein by reference.

2. The Trust Agreement shall be construed to confer upon the Trustee, as agent for the Settling Defendants, all powers and authority necessary to fulfill the obligations of Settling Defendants under this Consent Decree. The failure of the Trustee to comply with the provisions of the Trust Agreement or the Consent Decree shall not constitute a defense in any proceeding against Settling Defendants to enforce the provisions of this Consent Decree and shall not constitute grounds for "Unavoidable Delay" under Paragraph XIII below.

3. Within thirty (30) days after entry of this Decree, each of the Settling Defendants shall pay to the Summit National Facility Trust Fund established under the Trust Agreement the amount which is shown for that Settling Defendant in Appendix F hereto, which Appendix is incorporated herein by reference. Settling Defendants shall make additional payments to the Summit

National Facility Trust Fund when and as necessary to ensure that the Work is fully funded and the other obligations of the Trust are met, including but not limited to payments required under Subparagraph A.4. below. Any Settling Defendant that fails or refuses to make timely payments to the Summit National Facility Trust Fund in accordance with the provisions of this Subparagraph V.A and the attached Trust Agreement shall be liable to the Trustee for the full amount required to be paid pursuant to Paragraph V.A. of this Consent Decree, plus a stipulated penalty equal to ten (10) per cent of such amount for each month that such payment is delinquent. The failure or refusal of any Settling Defendant to make timely payments to the Summit National Facility Trust Fund in accordance with this Subparagraph shall not affect the obligation of the remaining Settling Defendants to finance and perform the Work or to make additional payments to the Summit National Facility Trust Fund in accordance with Subparagraph V.A.5, below. Payments by Settling Defendants to the Summit National Facility Trust Fund do not constitute a fine, penalty or monetary sanction of any kind, except to the extent that civil or stipulated penalties paid or payable under this Consent Decree shall be treated in accordance with applicable rules of the United States Internal Revenue Service and with the applicable rules of the Ohio Department of Taxation or the taxing authorities of other jurisdictions with taxing powers over any Settling Defendant. Within sixty (60) days of the entry of this Consent Decree, OEPA shall pay into the escrow account established pursuant to Paragraph V.B.5, below, the sum of

$548,312.40, received from its previous settlements reached with various parties with respect to the Summit National Site. The monies paid by the State shall be applied only to performance of the Work at the Site or Facility.

4. The Summit National Facility Trust Fund shall be used to: (a) pay the Contractor for the Work required by this Consent Decree, including operation and maintenance; (b) reimburse the State and United States for past costs (to the extent required under Paragraph XVI of this Consent Decree), future response costs and oversight costs incurred in connection with the implementation of this Consent Decree, the Statement of Work, and the Work including any costs incurred by the United States and the State in obtaining access to areas where the Work is to be performed; (c) pay the United States any stipulated penalties, civil penalties or other amounts owed pursuant to Paragraph XVII of this Consent Decree; and (d) finance such other action(s) on behalf of the Settling Defendants as may be contemplated by the Trust Agreement.

5. In the event the cost of the Work required pursuant to this Consent Decree and its Appendices exceeds the sum of the initial amounts collected under Subparagraph A.3. of this Paragraph, with the balance remaining in any escrow account established pursuant to Paragraph V.B.5, below, Settling Defendants, upon notification by and within the time prescribed by the Trustee but no later than thirty (30) days after notification, shall be responsible for and shall pay to the Summit National Facility Trust Fund such additional amounts in the same proportions

relative to each other as shown in Appendix F as are necessary to fund such additional cost. In the event that any Settling Defendant fails to pay any such additional amount, the other Settling Defendants shall pay that additional amount in the same proportions relative to each other as set forth in Appendix F, less the proportion of the Settling Defendant(s) that fail(s) or refuse(s) to pay. The failure of any Settling Defendant to pay for its share of the costs of the Work, including increased costs, shall not excuse timely completion of the Work and reimbursement of costs payable to the United States or the State. Failure or refusal of any Settling Defendant to pay any amount as described herein shall subject such Settling Defendant to stipulated penalties or other sanctions available under law for enforcement of this Decree.

6. The additional payments required by the preceding Subparagraph shall be made in sufficient time to assure the uninterrupted progress and timely completion of the Work required under this Consent Decree. Settling Defendants shall assure that periodic financial reports are submitted by the Trustee to the parties on an annual basis, beginning within one year after the entry of this Consent Decree. Such reports shall include cash flow projections that project the level of funds that will be necessary to finance the Work to be performed during the succeeding one year period. If the amount of money in the Summit National Facility Trust Fund, together with any balance remaining in the escrow account established pursuant to Paragraph V.B.5, below, is less

than such projected level, Settling Defendants shall make such additional payments to the Summit National Facility Trust Fund in accordance with the arrangements set forth in Subparagraph 5 above, as are necessary to assure that funds necessary to achieve such projected levels are available. The necessary additional payments required pursuant to this Subparagraph are to be made no later than six (6) months before the projected need for such payments. The Trustee shall notify Plaintiffs of the amount of such payments and the time within which the payments are required to be made.

B. Commitment of Plaintiffs and Settling Defendants.

1. Settling Defendants agree to finance and perform the Work.

2. The Work required under this Consent Decree shall be completed in accordance with all requirements of this Decree and its Appendices, including Performance Standards identified in Paragraph VI below, and engineering specifications and standards in the SOW and RD and RC Work Plans, and within the time periods set forth in Paragraph VI and in the SOW and RD and RC Work Plans.

3. Nothing in this Decree shall constitute preauthorization of any claim against the Hazardous Substance Superfund under CERCLA, 42 U.S.C. § 9601 et seq.

4. Pursuant to § 113 of CERCLA, 42 U.S.C. § 9613, Plaintiffs recognize that Settling Defendants who have resolved their liability to Plaintiffs shall not be liable for claims for contribution regarding matters addressed in this Decree; provided, however, that except as provided in Paragraph XVIII.F. of this

Consent Decree, nothing herein shall be construed to limit or abridge any right of contribution that may have accrued to any person prior to the entry of this Consent Decree. Except as otherwise provided herein, upon the entry of this Decree the liability of Settling Defendants to the United States, and to the State with respect to those parties listed in Paragraph III, above, for "Covered Matters", as defined in Paragraph XVIII, is resolved. Nothing in the Consent Decree shall preclude the Settling Defendants from asserting such claims as they may have against Non-settling PRPs.

5. Settling Defendants shall enter into an Escrow Agreement, in the form set forth in Appendix G, attached hereto, establishing an escrow account in an institution mutually acceptable to the United States and the Settling Defendants. Except as otherwise specifically provided in such Escrow Agreement, all moneys which De Minimis Settlers are required to pay pursuant to the provisions of any settlement agreements between De Minimis Settlers and the United States with respect to the Summit National facility shall be placed in such escrow account. Funds shall be disbursed from the escrow account only in accordance with the conditions and provisions of the Escrow Agreement. Upon satisfaction of all conditions required to authorize disbursement of escrow funds to pay for Work performed at, or services connected with, the Facility, in accordance with Section 3.2 of the Escrow Agreement, the Escrow Agent shall thereafter be deemed the exclusive agent of Settling Defendants for purposes of enforcement

of this Consent Decree.

C. Permits and Approvals:

1. All activities undertaken by the Settling Defendants pursuant to this Decree shall be undertaken in accordance with the requirements of all applicable local, state and federal laws, regulations and permits. The United States and the State have determined that the obligations and procedures authorized under this Decree are consistent with the authority of the United States and the State under applicable law to establish appropriate remedial measures for the Facility.

2. The United States and the State have determined that no federal, state or local permits are required for Work conducted entirely on-Site. Pursuant to § 121(e)(1) of CERCLA, 42 U.S.C. § 9621(e)(1), Settling Defendants shall obtain all permits or approvals necessary under federal, state and local laws for off-Site Work, including transport and/or disposal of waste materials removed from the Site, and shall submit timely applications and requests for any such permits and approvals.

3. The standards and provisions of Paragraph XIII describing Unavoidable Delay, shall govern delays in obtaining permits required for the Work and also the denial of any such permits.

4. Settling Defendants shall include in all contracts or subcontracts entered into for Work required under this Decree, provisions stating that such contractors or subcontractors, including their agents and employees, shall perform all activities

required by such contracts or subcontracts in compliance with all applicable laws and regulations and such other contractual commitments as may be necessary so as to enable the Settling Defendants to comply with the provisions of this Consent Decree. This Decree is not, nor shall it act as, nor is it intended by the Parties to be, a permit issued pursuant to any federal or state statute or regulation.

D. Restrictions on Use and Conveyance of the Site

1. Within thirty days of approval by the Court of this Decree, the Settling Defendants shall record a copy of this Decree with the Recorder's Office, Portage County, State of Ohio.

2. The Owner Settling Defendant shall provide to the Plaintiffs, to the Settling Defendants, and to their respective employees, representatives and contractors, access to the property owned by Owner Settling Defendant in Deerfield, Ohio, which constitutes all or part of the Summit National Site. Such access shall be in accordance with the provisions of the Access Agreement, attached hereto as Appendix H and incorporated herein by reference.

3. The Owner Settling Defendant shall not in any way inhibit, obstruct, delay or interfere with the performance of any Work required pursuant to this Consent Decree; nor shall the Owner Settling Defendant take or allow any action to modify, remove, damage, or interfere with the operation and effectiveness of any response action constructed or installed pursuant to this Consent Decree, including without limitation, any cover, groundwater collection trench system, extraction or monitor well, liner,

leachate collection system, drainage system or wastewater treatment facility constructed or installed on his property within the Site. The Owner Settling Defendant shall not conduct or allow any filling, grading, excavating, building, drilling, mining, farming or other development on his property within the Site, except for activities required pursuant to this Consent Decree, without the prior written approval of Plaintiffs. Except as specifically provided in this Consent Decree, the Owner Settling Defendant shall not use or permit the extraction, development or use of groundwater or surface water from his property within the Site for any purpose, without the prior written approval of Plaintiffs.

4. Subject to the access agreement referred to in Subparagraph 2, above, and the conditions, use restrictions and prohibitions set forth below in Subparagraphs 5-9, below, the Owner Settling Defendant may freely alienate or transfer any interest in his property within the Site, provided that at least sixty days prior to the date of such alienation or transfer, the Owner Settling Defendant notifies Plaintiffs of such proposed alienation or transfer and the name of the grantee. Any person acquiring any such interest from the Owner Settling Defendant shall grant to Plaintiffs, their employees, agents and contractors and to Settling Defendants and their employees, agents and contractors, a right of entry for purposes of performing all Work required pursuant to this Consent Decree.

5. In the event of any alienation or transfer of any interest of Owner Settling Defendant in property within the Site,

all of Settling Defendants' obligations pursuant to this Decree shall continue to be met by all Settling Defendants or, subject to OEPA and U.S. EPA approval, by Settling Defendants and the grantee.

6. Any deed, title or other instrument of conveyance which transfers any right, title or interest or which permits any use or occupation of the property of the Owner Settling Defendant within the Site, shall contain a notice that the Site is the subject of this Decree, and such notice shall set forth the style of the instant action, case number and Court having jurisdiction herein. The Owner Settling Defendant shall provide a copy of this Decree to the transferee of such interest, who shall take this property subject to future liability.

7. In any deed transferring title of Owner Settling Defendant's property within the Site, or in any lease, license or other instrument which transfers any right, title or interest or which permits any use or occupation of the property of the Owner Settling Defendant within the Site, the Owner Settling Defendant shall include restrictions prohibiting the transferee of such right, title or interest, and all successors in interest of such transferee, from engaging in or allowing any filling, grading, excavating, building, drilling, mining, farming or other development on such property within the Site, except for activities required pursuant to this Consent Decree, without the prior written approval of Plaintiffs. In addition, any such deed, lease, license or other instrument shall prohibit the transferee, and all

successors in interest of the transferee, from allowing or engaging in the extraction, development or use of groundwater or surface water from property within the Site for any purpose, without the prior written approval of Plaintiffs, except as required pursuant to this Consent Decree. The Owner Settling Defendant shall require that all such restrictions shall run with the land.

8. In exchange for the resolution of claims against him and other good and valuable consideration, the Owner Settling Defendant agrees not to assert any claims against the United States related to any loss of use or value of his property, including but not limited to claims under the Tucker Act,28 U.S.C. § 1491, or CERCLA, 42 U.S.C. § 9601, et seq.

9. The Settling Defendants shall have a lien on the property of the Owner Settling Defendant located within the Site for the full value of the Response Costs they have incurred or will incur under the terms of this Consent Decree or any subsequent action which imposes monetary obligations on the Settling Defendants with respect to the Facility. Such lien shall be subordinate to the lien of the United States which is now recorded with the Recorder of Deeds for Portage County, Ohio.

VI.

PERFORMANCE OF THE WORK BY SETTLING DEFENDANTS

A. All remedial design Work to be performed by the Settling Defendants pursuant to this Decree shall be under the direction and supervision of a qualified professional engineer. The Settling

Defendants have notified U.S. EPA and the State, in writing, of the name, title, and qualifications of the engineer proposed to be used in carrying out the remedial design Work to be performed pursuant to this Decree. Selection of any such engineer shall be subject to approval by the U.S. EPA and the State, and any disapproval shall state the basis therefor. Such approval shall not be unreasonably withheld.

B. All remedial action Work to be performed by the Settling Defendants pursuant to this Decree shall be under the direction and supervision of a qualified professional engineer. Prior to the initiation of remedial action Work at the Site, the Settling Defendants shall notify U.S. EPA and the State, in writing, of the name, title, and qualifications of the proposed engineer, and the names of principal contractors and/or subcontractors proposed to be used in carrying out the Work to be performed pursuant to this Decree. Selection of any such engineer, contractor and/or subcontractor shall be subject to approval by the U.S. EPA and the State. Such approval shall not be unreasonably withheld.

C. Appendix B to this Decree includes a Statement of Work for the completion of the remedial action at the Site. This Statement of Work is incorporated into and made an enforceable part of this Decree.

D. The Settling Defendants shall, during remedial design and remedial action at the Site, observe and comply with all legally applicable and relevant and appropriate requirements of federal, state and law pertinent to the Work at the time it is being

performed, and the Performance Standards set forth below. Prior to issuance of the Certification of Completion pursuant to Paragraph XXVI of this Consent Decree, the Settling Defendants must demonstrate, consistent with the requirements of § 121(d) of CERCLA, 42 U.S.C. § 9621(d), that the remedial action performed by them has met all legally applicable or relevant and appropriate requirements of federal and state law, or Settling Defendants have demonstrated that a waiver of one or more such requirements is warranted.

E. The following Work shall be performed:

1. Within 45 calendar days of the effective date of this Decree, the Settling Defendants shall submit an RD Work Plan to the U.S. EPA and the State for the remedial design for remedial action at the Site. The RD Work Plan shall be developed in conformity with the SOW, U.S. EPA Superfund Remedial Design and Remedial Action Guidance and any additional guidance documents provided to the Settling Defendants by U.S. EPA. Upon final approval by the U.S. EPA and OEPA, the RD Work Plan shall become an enforceable part of this Consent Decree.

2. The RD Work Plan submittal shall include the following project plans: (1) a sampling and analysis plan governing remedial design activities; (2) a health and safety/contingency plan governing remedial design activities; and (3) a quality assurance project plan governing remedial design activities. The RD Work Plan shall also include a schedule for implementation of the remedial design tasks and for submittal of RD reports.

3. The Settling Defendants shall submit the following additional documents in support of the design of the remedial action for the Site according to the schedule set forth in this Paragraph. Upon final approval by the U.S. EPA and OEPA, these documents shall become an enforceable part of this Consent Decree:

a. Within 75 calendar days of the effective date of this Decree, the Settling Defendants shall submit a Design Criteria Document to the U.S. EPA and OEPA for the remedial design for remedial action at the Site. The Design Criteria Document shall establish the basis for the design of the remedial action, and shall be developed in conformity with the SOW, U.S. EPA Superfund Remedial Design and Remedial Action Guidance and any additional guidance documents provided to the Settling Defendants by U.S. EPA.

b. Within 60 calendar days after approval of the Design Criteria Document and the RD Work Plan, Settling Defendants shall submit to the U.S. EPA and OEPA Preliminary (30 percent) Design Plans for the remedial action. Such Preliminary Design Plans shall set forth the technical requirements of the elements of the design in sufficient detail to allow determination whether the final design will

provide a functioning remedial action that will meet the Performance Standards and other requirements of this Consent Decree. This document shall include all necessary supporting data and documentation and design calculations reflecting the same percentage of completion as the designs they support.

c. Within ninety (90) days after approval of the Preliminary Design Plans, Settling Defendants shall submit Prefinal (95 percent) Design Plans. These plans shall include all necessary supporting data and documentation and design calculations reflecting the same percentage of completion as the designs they support.

d. Within thirty (30) days of approval of the Prefinal Design Plans, the Settling Defendants shall submit the Final Design Plans for the remedial action. The Final Design Plans shall include all necessary supporting data and final design calculations and analysis, final design drawings, and construction and engineering specifications ready for bidding.

4. Within ninety (90) calendar days after approval of the Preliminary Design Plans, Settling Defendants shall submit a Draft Remedial Construction (RC) Work Plan to the U.S. EPA and the

State for the remedial action at the Site. The Draft RC Work Plan shall be developed in conformity with the SOW, U.S. EPA Superfund Remedial Design and Remedial Action Guidance and any additional guidance documents provided to the Settling Defendants by U.S. EPA, and with the documents identified in Subparagraph 3 above. Upon final approval by the U.S. EPA and OEPA, the RC Work Plan shall become an enforceable part of this Consent Decree.

5. The Draft RC Work Plan submittal shall include the following project plans: (1) an RC sampling and analysis plan; (2) an RC health and safety/contingency plan; (3) an RC quality assurance project plan; and (4) an RC operation and maintenance plan for the remedial action. The Draft RC Work Plan shall also include a schedule for implementation of the RC tasks and for submittal of RC reports.

6. Within thirty (30) days after receipt of U.S. EPA's and OEPA's comment on the Draft RC Work Plan, Settling Defendants shall submit the Final RC Work Plan containing the final plans, construction specifications and schedules for performance of the remedial action at the Site. The Final RC Work Plan shall govern the conduct of on-Site construction, sampling, monitoring, operation and maintenance of the remedial action by the Settling Defendants.

7. All required documents submitted to Plaintiffs pursuant to this Consent Decree, other than the periodic reports required to be submitted pursuant to Paragraph XI, hereinafter referred to as "documents," shall be subject to review,

modification and approval by U.S. EPA and OEPA. Any modification or disapproval shall state the basis therefor.

8. The U.S. EPA Remedial Project Manager and State Project Coordinator shall notify Settling Defendants, in writing, of approval or disapproval of each document, or any part thereof. The Parties anticipate that U.S. EPA and OEPA will complete their review within forty-five (45) days; however, nothing herein is intended to limit U.S. EPA's and OEPA's right of approval or disapproval of documents, if the review is not completed within such forty-five (45) day period. In the event that a longer review period is required for any document, the U.S. EPA's Remedial Project Manager and OEPA's Project Coordinator shall notify Settling Defendants of that fact within thirty (30) calendar days of receipt of such document. In the event of any disapproval, U.S. EPA and OEPA shall specify, in writing, any deficiencies and required modifications to the document. Settling Defendants reserve the right to seek relief under the provisions of Paragraph XIII, including extension of their performance obligations under this Consent Decree, in the event that U.S. EPA and OEPA require more than forty-five (45) days to complete their review of any document which must be reviewed and approved for that portion of Settling Defendants' performance obligations to proceed.

9. In accordance with the schedule set forth in the Statement of Work, the Settling Defendants shall, within the periods set forth therein for response after receipt of any U.S. EPA and OEPA document disapproval, submit to U.S. EPA and OEPA a

revised document which incorporates the modifications required by U.S. EPA and OEPA, or Settling Defendants shall provide a notice of dispute pursuant to Paragraph XIV. Disputes concerning approval of documents shall be resolved in accordance with Paragraph XIV. Delays in performance by the Settling Defendants occasioned by extended review by the U.S. EPA and OEPA of revised documents submitted hereunder shall be subject to the provisions regarding delay set forth in Subparagraph E.8 above.

10. Remedial Action. The following elements of the remedial construction shall be performed in accordance with the performance schedules set forth in the SOW, the RC Work Plan and this Subparagraph. Any claims by the Settling Defendants that weather conditions have affected performance of the Work required in this Subparagraph 10 shall be subject to the provisions of Paragraph XIII (Unavoidable Delay):

a. Within sixty (60) days of receipt of final U.S. EPA and OEPA approval of Final Design Plans and the RC Work Plan, Settling Defendants shall retain a contractor for performance of the remedial action.

b. Within ninety (90) days of receipt of final U.S. EPA and OEPA approval of Final Design Plans and the RC Work Plan, Settling Defendants shall install the perimeter fence, and construct a decontamination facility. Settling Defendants shall also commence

construction of the groundwater treatment facility.

c. Within three hundred (300) days of receipt of final U.S. EPA and OEPA approval of Final Design Plans and the RC Work Plan, Settling Defendants shall complete excavation and installation of the groundwater extraction and monitoring systems, and shall begin operation of the groundwater extraction system and the groundwater treatment plant.

d. Within three hundred thirty (330) days of receipt of final U.S. EPA and OEPA approval of Final Design Plans and the RC Work Plan, Settling Defendants shall complete the installation of the incinerator and complete the demonstration burn provided in § 5 of Attachment A to the SOW.

e. Within fifteen (15) days of receipt of final U.S. EPA and OEPA approval of the demonstration burn and final operating conditions report to be submitted pursuant to § 5 of Attachment A to the SOW, Settling Defendants shall commence incineration of soils and other materials as required by the SOW, the RC Work Plan and this Consent Decree. Incineration of all materials and

demobilization of the incinerator shall be completed within five hundred forty (540) days of commencement of incineration.

f. Within fifteen (15) days of completion of incineration, Settling Defendants shall commence site cover activities, which shall include demolition of structures, pre-grading and levelling of the Site, installation of cover material and gas vents, and seeding to induce proper vegetative cover. Within two hundred eighty-five (285) days of completion of incineration, Settling Defendants shall complete all site cover activities.

11. Settling Defendants shall commence implementation of the Work detailed in the Final Design Plans and RC Work Plan, in accordance with the schedule in those documents, within five (5) days of receipt of approval of the Final RC Work Plan by U.S. EPA and OEPA, and shall proceed with and complete the several aspects of the Work according to the schedule. Unless otherwise directed by U.S. EPA and OEPA, the Settling Defendants shall not commence field construction activities until approval by U.S. EPA and OEPA of the RC Work Plan. The fully approved Design Plan and RD and RC Work Plans shall be deemed incorporated into and made an enforceable part of this Decree. All Work shall be conducted in accordance with the National Contingency Plan, the U.S. EPA Superfund Remedial Design and Remedial Action Guidance, and the

requirements of this Decree, including the standards, specifications and schedule contained in the Final Design Plan and RD and RC Work Plans. Any claims by the Settling Defendants that weather conditions have affected performance of the Work required in this Subparagraph VI.E.11 shall be subject to the provisions of Paragraph XIII (Unavoidable Delay).

F. The Parties acknowledge and agree that neither the approved SOW, the Final Design Plans, the RD and RC Work Plans nor any other plans required to be submitted for approval pursuant to this Decree constitutes a warranty or representation of any kind by Plaintiffs that the remedial action set forth in those documents or any other plans required to be submitted pursuant to this Decree will achieve the Performance Standards herein, and shall not foreclose Plaintiffs from seeking performance of all terms and conditions of this Decree, including the Performance Standards set forth herein.

G. Performance Standards. Each groundwater collection system required pursuant to this Consent Decree, including the pipe and media drain system described in Section 4.1.1 of Appendix B of the SOW and the extraction well systems described in Sections 4.2 and 4.3 of Appendix B of the SOW, shall be designed, constructed, operated and maintained in a manner which prevents further migration of Site-related hazardous substances and assures that aquifers underlying and adjacent to the Site will not contain Site-related hazardous substances, pollutants or contaminants in concentrations which exceed Performance Standards established in

accordance with Subparagraphs G.1., G.2. and G.3. below, at the conclusion of the remedial action implemented pursuant to this Decree. For purposes of this Subparagraph G, "Site-related" shall mean any hazardous substance, pollutant or contaminant originating from the activities conducted by Donald Georgeoff, Summit National Services or Summit National Liquid Disposal Services at the Site. If the concentration of any hazardous substance, pollutant or contaminant detected at any compliance point specified below exceeds the applicable Performance Standard established for such substance, pollutant or contaminant in accordance with this subparagraph G at the time they seek to terminate groundwater treatment pursuant to subparagraph H, below, Settling Defendants shall have the burden of establishing that exceedance of the applicable Performance Standard is caused solely by hazardous substances, pollutants or contaminants that are not Site-related. If U.S. EPA and OEPA agree that any exceedance of Performance Standards is caused solely by hazardous substances, pollutants or contaminants that are not Site-related, Settling Defendants shall be deemed to have attained the Performance Standard applicable to such substance, pollutant or contaminant. If the U.S. EPA, OEPA and the Settling Defendants do not agree concerning the source of such hazardous substances, pollutants or contaminants which cause an exceedance of any Performance Standard established pursuant to this Subparagraph, the dispute shall be resolved in accordance with Paragraph XIV below. All Performance Standards established pursuant to this Subparagraph G shall be achieved on a continuing

basis at each of the following compliance points: each of the monitoring wells installed or to be installed in the Water Table Aquifer pursuant to this Consent Decree; each of the extraction and/or monitoring wells installed or to be installed in the Intermediate Unit Aquifer pursuant to this Consent Decree; and each of the monitoring wells installed or to be installed in the Upper Sharon Aquifer pursuant to this Consent Decree. The approximate locations of each of the presently anticipated wells is shown on Figures 10, 12 and 15 of Appendix B to the SOW. Wells which have been closed pursuant to the SOW are not to be considered compliance points.

1. Calculation of Performance Standards. Settling Defendants may seek to terminate operation of any groundwater collection system required pursuant to this Consent Decree, including the groundwater interceptor trench and any ground water extraction wells required pursuant to this Decree, in accordance with the provisions of Subparagraph H of this paragraph. Settling Defendants shall, in the demonstration submitted to U.S. EPA and OEPA pursuant to Subparagraph H, below, identify Performance Standards meeting the requirements set forth below in this paragraph for all hazardous substances, pollutants or contaminants that are detected in ground water in any sample that is required for shutdown under Subparagraph H below. Such Performance Standards shall be subject to U.S. EPA and OEPA approval, shall be based upon an evaluation of potential carcinogenic and non-carcinogenic effects of each such substance, and shall be

calculated in accordance with the provisions set forth below in Subparagraphs G.2. and G.3. The compounds to be considered in the calculations required hereunder must include all compounds identified in analyses of samples taken at any compliance point on and off the Site at the time of calculation.

2. Determination of Performance Standards for Substances with Possible Carcinogenic Effects. For each hazardous substance, pollutant or contaminant detected in ground water at any compliance point referred to above in this Subparagraph G that has been identified by U.S. EPA's Cancer Assessment Group as a possible, probable or known human carcinogen, Settling Defendants shall calculate a ground water concentration limitation adequate to assure that such substance will not present an individual excess lifetime cancer risk level greater than 1×10^{-6} at each compliance point identified above. The individual substance cancer risk calculations shall be performed in accordance with the methods employed by U.S. EPA in the Superfund Public Health Evaluation Manual and any subsequent revisions, or any successor document in effect at the time the calculations are performed. The toxicity data used in preparing the calculations for each substance shall be the most current data contained in such Manual or available from U.S. EPA's Cancer Assessment Group with respect to that substance. All individual substance risk calculations shall be based on the same exposure scenario used in the U.S. EPA's Remedial Investigation Public Health Evaluation for the Summit National Facility.

3. Determination of Performance Standards for Substances Not Believed to Have Carcinogenic Effects. For each hazardous substance, pollutant or contaminant detected in ground water at any compliance point referred to above that has not been identified by U.S. EPA's Cancer Assessment Group as a possible, probable or known human carcinogen, Settling Defendants shall calculate a ground water concentration limitation adequate to assure that such substances will not present a maximum cumulative chronic health index ("HI") greater than 1. The maximum cumulative chronic health index value shall be calculated in accordance with the Superfund Public Health Evaluation Manual and any subsequent revisions, or any successor document in effect at the time the calculations are performed. The toxicity data used in preparing the calculations shall be the most current data contained in such Manual or available from U.S. EPA's Integrated Risk Information System. All hazard index calculations shall be based on the same exposure scenario used in the U.S. EPA's Remedial Investigation Public Health Evaluation for the Summit National Facility.

H. Period of Operation of Groundwater Extraction and Treatment Systems -- Demonstration of Compliance and Shutdown Provisions. Operation of any or all of these groundwater collection or treatment systems may be halted if the Settling Defendants can demonstrate to U.S. EPA and OEPA, as required in Appendix B, Section 6.5 of the SOW, that a system has consistently achieved the Performance Standards set forth in this Paragraph. Upon acceptance by U.S. EPA and OEPA of such a demonstration,

operation of each system for which the demonstration has been made may be halted, subject to the provisions of Appendix B, Section 6.5 of the SOW.

I. Technical Impracticability.

1. Petition. After a minimum of ten (10) years of operation of the groundwater extraction system, the Settling Defendants may petition the U.S. EPA and OEPA to waive compliance with one or more of the Performance Standards established pursuant to Subparagraph G, above, based upon a demonstration, pursuant to § 121(d)(4) of CERCLA, 42 U.S.C. § 9621(d)(4), that achievement of such Performance Standard is technically impracticable from an engineering perspective.

2. Determination. U.S. EPA, in consultation with OEPA, shall review and consider the information in the Petition submitted pursuant to Subparagraph I.1 and shall make a determination, in accordance with applicable laws and regulations in effect at the time of the Petition, whether compliance with any of the Performance Standards shall be waived, and what alternative Performance Standards, or other protective measures, shall be established.

3. Review. Settling Defendants may challenge the U.S. EPA's determination under Subparagraph I.2 in accordance with the Dispute Resolution provisions under Paragraph XIV of this Consent Decree. The U.S. EPA's determination shall be treated as a determination regarding adequacy or selection of the remedy.

4. Periodic review. Any technical impracticability

waiver granted pursuant to this Subparagraph shall be subject to the periodic review provisions of Paragraph VIII of this Consent Decree and § 121(c) of CERCLA, 42 U.S.C. § 9621(c).

VII.

MODIFICATION TO THE SOW

A. The SOW embodies a plan for response action at the Site and Facility which the parties believe will meet the Performance Standards set forth in this Consent Decree and will be protective of human health and the environment. In the event that one or more provisions of the SOW proves to be ineffective in accomplishing the Performance Standards or other requirements for the various components of the remedial action required under this Consent Decree, or is not protective of human health and the environment, U.S. EPA, OEPA or the Settling Defendants may request that relevant sections of the SOW be modified or supplemented to make better provisions, consistent with all the terms of this Consent Decree, for additional or different remedial action(s) which are capable of accomplishing the Performance Standards or other requirements of the Consent Decree, and are protective of human health and the environment. Such modifications or supplementations may include additional investigatory work, additional removal and disposal of materials, or further protective measures. Any request for modification or supplementation of the SOW under this Subparagraph shall describe the additional or different actions required, the reasons therefor and the schedule for completing such actions. The responses of the other parties shall be in writing and shall be

served upon all the parties.

B. If the parties agree, modification of the SOW, and of documents developed pursuant thereto, may be effected by written agreement. A copy of the written agreement shall be filed with the Clerk of the Court as an addendum to this Consent Decree. Any documents which the Settling Defendants have submitted previous to, or are required to submit after the date of such modification shall be amended and resubmitted to U.S. EPA and the State for reapproval following the procedures outlined in this Paragraph. All documents in progress or which are required to be submitted after the date of such modification shall be consistent with such modification.

C. In the event that the parties do not agree concerning the need for or nature of a proposed modification or supplementation of the SOW, such dispute shall be deemed a dispute concerning the adequacy or selection of the remedy and shall be resolved in accordance with the dispute resolution provisions of Paragraph XIV hereof.

D. If modification or supplementation of the SOW requires alteration of the response action required under this Consent Decree to an extent that brings it within the scope of the public participation requirements of § 117 of CERCLA, 42 U.S.C. § 9617, and the National Contingency Plan then in effect, the public shall be provided with notice and an opportunity to comment in accordance with the provisions of § 117 of CERCLA, 42 U.S.C. § 9617. Settling Defendants shall complete all Work in accordance with the revised SOW and schedules therein, and such performance shall be subject to

the enforcement provisions of this Consent Decree.

VIII.

PERIODIC REVIEW TO ASSURE
PROTECTION OF HUMAN HEALTH AND ENVIRONMENT

A. Pursuant to § 121(c) of CERCLA, 42 U.S.C. § 9621(c), and any applicable regulations, U.S. EPA shall review the remedial action at the Facility at least every five (5) years after the entry of this Decree to assure that human health and the environment are being protected by the remedial action being implemented. OEPA may participate in such reviews or conduct its own reviews.

B. During the pendency of this Consent Decree, upon completion of each five year review pursuant to this Paragraph, U.S. EPA shall notify OEPA and the Settling Defendants of its determination regarding the effectiveness of the remedy in protecting human health and the environment. To the extent that OEPA participates in or conducts its own review of the remedial action during the pendency of this Consent Decree, OEPA shall notify the U.S. EPA and Settling Defendants of its determination regarding the effectiveness of the remedy in protecting human health and the environment.

C. Notwithstanding any other provision of this Consent Decree, if U.S. EPA or OEPA determines, upon completion of any review of the remedial action pursuant to this Paragraph VIII, that further response action is appropriate at the Facility, then, consistent with Paragraphs VII (Modification To The SOW) and XVIII (Covenant Not To Sue) of this Decree, U.S. EPA or OEPA may take

such action as is authorized under § 104 of CERCLA, 42 U.S.C. § 9604, and thereafter institute proceedings against any person, pursuant to § 107 of CERCLA, 42 U.S.C. § 9607, to recover its response costs incurred in such action, or U.S. EPA may exercise any authority under § 106 of CERCLA, 42 U.S.C. § 9606, including issuance of an administrative order or initiation of judicial proceedings, to compel any person to perform additional response action to assure protection of human health and the environment. Upon a determination by OEPA that further action to protect public health and the environment is required at the Site, then, consistent with its previous settlements with some of the Settling Defendants and with Paragraphs III (Parties Bound), VII (Modification To The SOW) and XVIII (Covenant Not To Sue) of this Decree, OEPA may take such actions as are authorized by ORC Chapters 3734 and 6111, including performance of such further action, and/or institution of proceedings against any person which remains liable to the State to compel such further action, and/or to recover its Response Costs in performing such further action.

D. Settling Defendants reserve any rights they may have to contest or defend against any action initiated by the U.S. EPA or the State pursuant to this Paragraph.

IX.

QUALITY ASSURANCE

A. Settling Defendants shall use quality assurance, quality control, and chain of custody procedures in accordance with U.S. EPA's "Interim Guidelines and Specifications For Preparing Quality

Assurance Project Plans," (QAM-005/80) and subsequent amendments to such guidelines upon notification to Settling Defendants of such amendments by U.S. EPA. Application of such guidance shall be prospective only. Prior to the commencement of any monitoring project under this Decree, Settling Defendants shall submit a Quality Assurance Project Plan (QAPP) to U.S. EPA and the State that is consistent with the Statement of Work and applicable guidelines. Prior to preparation of the QAPP, Settling Defendants' representatives, including the Project Coordinator and persons in charge of laboratory analyses for the project shall meet with the U.S. EPA RPM and the U.S. EPA Region V Quality Assurance Office to discuss QAPP related matters. U.S. EPA, after review of Settling Defendants' QAPP and the State's comments thereon, will notify Settling Defendants of any required modifications, conditional approval, disapproval, or approval of the QAPP. Upon notification of disapproval or any need for modifications, Settling Defendants shall make all required modifications in the RD QAPP within twenty-one (21) calendar days of such notification, and in the RC QAPP within thirty (30) calendar days of such notification, subject to the dispute resolution provisions of Paragraph XIV. Sampling data generated consistent with the QAPP shall be admissible as evidence in any proceeding under Paragraph XIV of this Decree, or otherwise to enforce the terms of this Decree.

B. Settling Defendants shall require in all contracts or agreements for performance of any laboratory work in connection with the Site or Facility that U.S. EPA and OEPA personnel, and

authorized representatives of U.S. EPA and OEPA, shall be allowed access to any laboratory utilized by Settling Defendants in implementing this Decree. In addition, Settling Defendants shall have a designated laboratory analyze samples submitted by U.S. EPA or OEPA for quality assurance monitoring.

X.

SITE OR FACILITY ACCESS, SAMPLING, DOCUMENT AVAILABILITY

A. Settling Defendants shall use their best efforts to obtain access agreements from all owners of property where Work is to be performed hereunder. Such access agreements shall authorize Settling Defendants and their contractors to perform the actions required under this Decree and all Appendices hereto, and shall grant access to Settling Defendants and their contractors for this purpose. In addition, such agreements shall provide access for U.S. EPA, the State and authorized representatives and contractors of U.S. EPA and the State. In the event that Settling Defendants cannot upon best efforts secure access to the Site and other properties where Work is to be performed according to this Subparagraph, they shall so notify the Plaintiffs. Plaintiffs may then use their available authorities to obtain such access. If such exercise of state or federal authority is required, Settling Defendants shall reimburse each Plaintiff for all costs incurred in securing such access, including costs of easements, licenses or other interests in such property, and related litigation costs, in accordance with the provisions of Paragraph XVI of this Decree.

B. After Quality Assurance and Quality Control review,

Settling Defendants shall make available to U.S. EPA and OEPA the results of all sampling and/or tests or other data generated by Settling Defendants with respect to the implementation of this Decree, and shall submit these results in periodic progress reports as described in Paragraph XI of this Decree. Settling Defendants shall insure that field notes, laboratory notes, gas chromatograms and other primary analytical output information are retained pursuant to the provisions of Paragraph XV, and shall provide such documents to the U.S. EPA and OEPA upon reasonable request.

C. At the request of U.S. EPA or the State, Settling Defendants shall allow split or duplicate samples to be taken by U.S. EPA, the State and/or their authorized representatives, of any samples collected by Settling Defendants pursuant to the implementation of this Decree. Settling Defendants shall notify U.S. EPA and the State not less than thirty (30) days in advance of any planned sample collection activity. However, in the event of an unplanned sampling activity by the Settling Defendants, not provided for in the RD or RC Work Plans, the Settling Defendants shall give reasonable notice under the circumstances. In addition, U.S. EPA and the State shall have the right to take any additional samples that U.S. EPA or the State deem necessary, and shall provide the Settling Defendants with notice of all such sampling activities. Upon request from any Settling Defendant, the U.S. EPA and/or the State shall make results of such sampling available.

XI.

REPORTING REQUIREMENTS

A. Settling Defendants shall submit written quarterly progress reports to U.S. EPA and OEPA which: (1) describe the actions, and any corrective actions directed toward problem areas, which have been taken toward achieving compliance with this Decree during the previous quarter; (2) include all results of sampling and tests and all other data received by Settling Defendants during the course of the Work during the previous quarter; (3) include all plans and procedures completed under the Work Plan during the previous quarter; (4) describe all actions, data and plans which are scheduled for the next quarter and provide other information relating to the progress of construction as is customary in the industry; (5) include information regarding percentage of completion, unresolved delays encountered or anticipated that may affect the future schedule for implementation of the SOW or RD or RC Work Plans, and any other plans required to be submitted pursuant to this Decree and a description of efforts made to mitigate those delays or anticipated delays; and (6) specifically identify each failure during the previous quarter to attain any deadline or milestone identified in Paragraph XVIII.A below. These progress reports are to be submitted to U.S. EPA and OEPA by the tenth day of the first month of each calendar quarter, commencing with the second calendar quarter following the effective date of this Decree, until the completion of all construction required under the RC Work Plan. Thereafter, Settling Defendants shall

submit annual progress and evaluation reports by the tenth day of the thirteenth month following completion of all construction, and annually thereafter on or before the anniversary of such filing.

B. If the date for submission of any item or notification required by this Decree falls upon a weekend or state or federal holiday, the time period for submission of that item or notification is extended to the next business day following the weekend or holiday.

C. Upon the occurrence of any event during performance of the Work which, pursuant to § 103 of CERCLA, requires reporting to the National Response Center, Settling Defendants shall promptly orally notify the U.S. EPA Project Manager ("RPM") and OEPA Project Coordinator, or in the event of the unavailability of the U.S. EPA RPM, the Emergency Response Section, Region V, United States Environmental Protection Agency and OEPA Office of Emergency Response, in addition to the reporting required by § 103. Within 20 calendar days of the onset of such an event, Settling Defendants shall furnish to Plaintiffs a written report setting forth the events which occurred and the measures taken, and to be taken, in response thereto. Within 30 calendar days of the conclusion of such an event, Settling Defendants shall submit a report setting forth all actions taken to respond thereto.

XII.

REMEDIAL PROJECT MANAGER/PROJECT COORDINATORS

A. U.S. EPA shall designate a Remedial Project Manager ("RPM") and/or an On-Scene Coordinator ("OSC") and OEPA shall

designate a Project Coordinator for the Site, and the Plaintiffs may designate other representatives including U.S. EPA and State employees, and federal and state contractors and consultants, to observe and monitor the progress of any activity undertaken pursuant to this Decree. The RPM and/or OSC shall have the authority lawfully vested in the RPM and/or the OSC by the National Contingency Plan, 40 CFR Part 300. In addition, the RPM and/or OSC shall have the authority to halt, conduct or direct any Work required by this Decree and to take any necessary response actions when conditions at the Facility may present an imminent and substantial endangerment to public health or welfare or the environment. Settling Defendants shall also designate a Project Coordinator who shall have primary responsibility for implementation of the Work at the Site.

B. Nothing in this Paragraph XII shall limit, expand or otherwise affect the authority of the State Project Coordinator and other State and local officials under any applicable law, including Chapters 3704, 3734, 3745, 3767 and 6111 of the Ohio Revised Code and regulations adopted thereunder, to undertake actions at the Site or Facility in response to conditions which may present an immediate hazard to public health, safety, welfare or the environment. Any disputes between the RPM or OSC, on the one hand, and the State Project Coordinator or other State or local officials on the other hand, shall be resolved in accordance with the provisions of Paragraph XIV, below.

C. To the maximum extent possible, except as specifically

provided in the Decree, communications between Settling Defendants, the State and U.S. EPA concerning the implementation of the Work under this Decree shall be made between the Project Coordinators and the RPM.

D. Within twenty (20) calendar days of the effective date of this Decree, Settling Defendants, the State and U.S. EPA shall notify each other, in writing, of the name, address and telephone number of the designated Project Coordinators and Alternate Project Coordinators and of the RPM and Alternate RPM.

XIII.

UNAVOIDABLE DELAY

A. "Unavoidable Delay" for purposes of this Consent Decree is defined as any event or occurrence arising from causes beyond the control of Settling Defendants, which event delays or prevents the performance of any of Settling Defendants' obligations under this Consent Decree. "Unavoidable Delay" shall not include 1) increased costs or expenses, 2) nonattainment of the Performance Standards set forth in Paragraph VI hereof, except as provided in Subparagraph I of Paragraph VI, or 3) failure to apply for any required permits or approvals or to provide all information required therefor in a timely manner.

B. If circumstances occur which may delay or prevent the completion of any phase of the Work or delay or prevent access to the Site or to any property on which any part of the Work is to be performed, as a result of an "Unavoidable Delay," Settling Defendants shall within seven (7) days notify the RPM and the State

Project Coordinator by telephone, or in the event of their unavailability, the Director of the Waste Management Division of U.S. EPA, and the OEPA Office of Corrective Action. Such notification shall include an explanation of the circumstances which may delay or prevent performance and any proposed alternatives or actions that may be taken to avoid, mitigate or remedy the delay or prevention of performance by the Settling Defendants. In addition, within thirty (30) days of the event or occurrence which Settling Defendants contend is responsible for the delay or prevention, Settling Defendants shall supply to Plaintiffs in writing the reason(s) for and anticipated duration of such delay, the measures taken and to be taken by Settling Defendants to prevent or minimize the delay, and the timetable for implementation of such measures. Failure to give oral notice to the RPM and State Project Coordinator and to give written explanation to Plaintiffs in a timely manner shall constitute a waiver of any claim of "Unavoidable Delay".

C. The U.S. EPA and OEPA shall provide the Settling Defendants with a written decision concerning the assertion of "Unavoidable Delay" within forty-five (45) calendar days of receipt of notification from the Settling Defendants pursuant to Paragraph B above. If U.S. EPA and OEPA agree that a delay is or was attributable to an "Unavoidable Delay" event, the U.S. EPA and OEPA, upon request of the Settling Defendants, shall agree to modification of the RD/RA Work Plan to provide such additional time as may be necessary to allow the completion of the specific phase

of Work and/or any succeeding phase of the Work affected by such delay. In the event that Settling Defendants seek an extension that is longer than the actual duration of the delay, Settling Defendants shall bear the burden of demonstrating that such longer extension is warranted under the circumstances presented, including but not limited to weather-related construction delays occasioned by reviews of documents required to be submitted by the Settling Defendants to U.S. EPA and OEPA for such review, where the review requires more than forty-five (45) days to complete.

D. If U.S. EPA, OEPA and Settling Defendants cannot agree within fifteen (15) working days after receipt of OEPA's and U.S. EPA's written decision by Settling Defendants whether the reason for the delay was an "Unavoidable Delay" event, whether the duration of the delay is or was warranted under the circumstances, or cannot agree on an adjustment in the work schedules hereunder, the Parties shall resolve the dispute according to Paragraph XIV. Settling Defendants have the burden of proving "Unavoidable Delay" as a defense to compliance with this Decree.

XIV.

DISPUTE RESOLUTION

A. As required by § 121(e)(2) of CERCLA, the Parties to this Decree shall attempt to resolve expeditiously and informally any disagreements concerning implementation of this Decree or any Work required hereunder.

B. Should a dispute regarding implementation of this Consent Decree arise between the U.S. EPA and OEPA, including any dispute

with respect to approval or modification of any documents submitted to U.S. EPA and OEPA for approval, the U.S. EPA and OEPA shall first attempt to resolve such dispute expeditiously and informally, and to provide the Settling Defendants with a single Statement of Position. If the U.S. EPA and OEPA do not agree after a reasonable period, the dispute shall be resolved in accordance with the provisions of this Paragraph XIV.

C. In the event that any dispute arising under this Consent Decree is not resolved expeditiously through informal means, any party desiring dispute resolution under this Paragraph shall give prompt written notice to the other parties to the Decree.

D. Within ten (10) calendar days of the service of notice of dispute pursuant to Subparagraph C, the party who gave the notice shall serve on the other parties to this Decree a written statement of the issues in dispute, the relevant facts upon which the dispute is based, and factual data, analysis or opinion supporting its position, all supporting documentation on which such party relies, and the party's view of the applicable standard and scope of review (hereinafter the "Statement of Position"). Opposing parties shall serve their Statements of Position, including supporting documentation, within thirty (30) days or such other time as may be agreed to by the parties or set by the Court.

E. An administrative record of any dispute regarding the adequacy and selection of the remedy for the Facility shall be maintained by U.S. EPA, and U.S. EPA may maintain administrative records with respect to disputes arising under other provisions of

this Decree. U.S. EPA shall give reasonable written notice to Settling Defendants of its intention to maintain an administrative record for those disputes that do not relate to the adequacy and selection of the remedy. All parties shall be responsible for submitting for inclusion in the administrative record all information they wish to have considered by the U.S. EPA decision maker, prior to the time of decision. Any such record shall include the written notification of such dispute, the Statements of Position served pursuant to the preceding Subparagraphs, and any other relevant information. Upon review of the administrative record, U.S. EPA shall issue a final decision and order resolving the dispute, and any other relevant information. The record shall be available for review and copying by all parties.

F. Any party desiring dispute resolution under this Paragraph may serve and file a motion for dispute resolution with the court subsequent to the final decision of U.S. EPA. In the case of an objection by any party to a decision or determination by U.S. EPA, the objecting party shall serve and file such motion within thirty (30) days of the receipt of the decision or determination complained of. Unless a party makes its objection in accordance with the provisions of this Subparagraph F, U.S. EPA's determination shall control.

G. Any party seeking dispute resolution pursuant to Subparagraph F shall include in its Motion a written statement of the issues in dispute, a recitation of the relevant facts and evidence upon which the dispute is based, and where appropriate a citation

to the documentation in the administrative record compiled pursuant to Subparagraph D above upon which such party relies.

H. Certification. The custodian of the record maintained pursuant to Subparagraph E shall certify and submit the administrative record to the Court upon the filing of a Motion for Dispute Resolution by U.S. EPA or, in the case of a motion challenging U.S. EPA's decision, upon the filing of the Agency's response to the Motion for Dispute Resolution.

I. Judicial Review

1. EPA Determinations Respecting Remedial Action. Pursuant to the provisions of § 113(j) of CERCLA, 42 U.S.C. § 9613(j), any decision or determination by U.S. EPA pertaining to the selection or adequacy of response action(s) taken under this Decree will be reviewed by the Court on the basis of the administrative record, and U.S. EPA's decision will be upheld by the Court unless it is arbitrary and capricious or otherwise not in accordance with law.

2. Other Issues. In the event of a dispute between the United States and the State regarding whether waiver of a legally applicable or relevant and appropriate standard, requirement, criteria or limitation is warranted under the provisions of Paragraph VI. D. above, the Court shall resolve the dispute on the basis of the administrative record maintained by the U.S. EPA. The Court shall affirm the determination of the U.S. EPA unless the State can demonstrate that such waiver is not supported by substantial evidence. Except as specified in Subparagraph I.1

above or otherwise in this Decree, this Decree does not establish the scope of review, burdens of proof or standards of any kind for judicial review of disputes between the parties.

3. Applicable Law. Notwithstanding the provisions in Subparagraph I.1, above, if Congress or a court of controlling jurisdiction establishes or provides for a different procedure or standard of review with respect to U.S. EPA decision-making pertaining to the selection or adequacy of response action, any party may move the Court to modify Subparagraph I.1 to conform to such procedure or standard of review.

J. The invocation of the procedures stated in this Paragraph shall not extend or postpone Settling Defendants' obligations under this Decree with respect to the disputed issue, unless and until U.S. EPA finds, or the Court orders, otherwise.

XV.

RETENTION AND AVAILABILITY OF INFORMATION

A. Settling Defendants shall retain, during the pendency of this Decree and for a period of five (5) years after its termination, one copy of all records and documents in their possession, custody, or control, which relate to the performance of the remedial action required under this Decree, including, but not limited to, documents reflecting the results of any sampling, tests, or other data or information generated or acquired by or on behalf of any Settling Defendant with respect to the Site, and shall, upon reasonable request, make such records available to the U.S. EPA and OEPA. For purposes of this Paragraph, Settling

Defendants may retain documents or records in any format approved by the Plaintiffs, including, without limitation, hard copy originals, microfilm, or electronic media, provided that each retained document and record is either a "duplicate" or an "original" within the meaning of Rule 1001 of the Federal Rules of Evidence. Settling Defendants agree to waive any and all objections under Rule 1003 of the Federal Rules of Evidence regarding genuineness and admissibility of any "duplicate" document retained pursuant to this Paragraph in any proceeding with respect to enforcement of the provisions of this Consent Decree or in any subsequent proceeding or action. Any such document generated by or on behalf of the Settling Defendants after termination of this Consent Decree which relates to matters described above and in this Paragraph, shall likewise be retained and made available to Plaintiffs in accordance with this Paragraph for a period of not less than five (5) years after the date of the document's creation. Settling Defendants shall require all contractors or subcontractors performing sampling and/or analysis of materials from the Site to provide to the Settling Defendants, or such of them by agreement designated and identified to U.S. EPA and the State, legible copies of all documents generated by such contractors and subcontractors in connection with such sampling and analysis.

B. In addition to the requirements of Subparagraph A, above, each Settling Defendant shall make available to U.S. EPA and the State and shall retain during the pendency of this Decree and for a period of five (5) years after its termination, one copy of all

non-privileged records in the possession, custody or control of such Settling Defendant, other than documents previously provided to U.S. EPA or the State, which relate in any way to any transactions between Settling Defendants and Donald Georgeoff, Angelo Sottanti, John Vasi, Summit National Liquid Services, Inc., and any other generator, transporter, treater or other person or entity acting in privity with them and which relate to the Site.

C. At the conclusion of the applicable document retention period established pursuant to this paragraph XV, Settling Defendants shall notify U.S. DOJ, U.S. EPA and the State at least ninety (90) calendar days prior to the destruction of any such documents, and upon request by U.S. EPA or the State, Settling Defendants shall relinquish custody of the documents to U.S. EPA or the State.

D. Settling Defendants may assert business confidentiality claims covering part or all of the information provided in connection with this Decree in accordance with § 104(e)(7) of CERCLA, 42 U.S.C. § 9604(e)(7), and pursuant to 40 C.F.R § 2.203(b) and applicable State law. Information acquired or generated by Settling Defendants in performance of the Work that is subject to the provisions of § 104(e)(7)(F) of CERCLA, 42 U.S.C. § 9604(e)(7)(F), shall not be claimed as confidential by Settling Defendants.

E. Information determined to be confidential by U.S. EPA will be afforded the protection specified in 40 C.F.R Part 2, Subpart B and, if determined to be entitled to confidential

treatment under State law by the State, afforded protection under State law by the State. If no such claim accompanies the information when it is submitted to the U.S. EPA and the State, the public may be given access to such information without further notice to Settling Defendants.

XVI.

REIMBURSEMENT

A. Past Response Costs of the United States. Settling Defendants shall reimburse the United States for response costs incurred by the United States prior to entry of this Consent Decree, to the extent provided in this Subparagraph A. All response cost payments required pursuant to this Subparagraph A shall be made in the manner provided in Subparagraph D, below.

1. Itemized Statement. The United States shall submit to Settling Defendants an itemized statement of all response costs incurred by the United States prior to entry of this Decree.

2. Initial Reimbursement. Subject to the provisions of Subparagraph C, below, within thirty (30) days after Settling Defendants' receipt of the itemized statement referred to in the preceding Subparagraph, Settling Defendants shall reimburse the United States for response costs incurred prior to entry of this Consent Decree, under the following conditions:

a. If the group of Settling Defendants that are signatories to this Consent Decree includes all PRPs which are set forth in Appendix I to this Consent Decree, Settling Defendants shall pay to the U.S. EPA eighty (80) percent of the costs itemized

under the provisions of Subparagraph 1 above, but such payment shall not exceed the sum of $1.8 million.

b. If Settling Defendants are not required to reimburse the past response costs of the United States under the provisions of subparagraph 2.a. above, then to the extent that the United States does not recover all its unreimbursed past response costs from non-settling PRPs despite the exercise of due diligence in pursuing claims against non-settling PRPs, Settling Defendants shall pay the difference between the amount of past costs recovered from non-settling PRPs by the United States and eighty (80) percent of the past costs itemized as provided for in Subparagraph A.1. above, but such payments shall not exceed the sum of $1.8 million. "Due diligence" within the meaning of this paragraph shall include investigating the liability and viability of Non-settling PRPs, and bringing and pursuing a claim against any Non-settling PRP who, in the sole judgment of the United States, is liable and capable of paying all or a significant portion of its "share" of unreimbursed response costs (its proportion of the total volumetric waste contributed to the site). "Due diligence" shall not include pursuing any defendant who, in the sole judgment of the United States, is not likely to be held liable by this Court or is not likely to be able to pay all or a significant portion of its "share", as described above. Notwithstanding the definition of "due diligence" set forth above, nothing herein shall be construed to alter or affect the nature or scope of any Non-settling PRP's liability. The United States and the State expressly reserve the

right to seek recovery on the basis of joint and several liability of all their remaining claims against any and all Non-settling PRPs.

3. Reservation of Rights; Pursuit of Non-Settlers. If the United States does not recover all response costs which it incurred prior to entry of this Consent Decree pursuant to the provisions of Paragraphs XVI.A.1 and A.2 above, the United States reserves the right to initiate and maintain proceedings against any person, excepting Settling Defendants and De Minimis Settlers, for such unrecovered past response costs. Consistent with the applicable provisions of Section 113(f)(3) of CERCLA, 42 U.S.C. § 9623(f)(3), it is the United States' present intention, subject to its prosecutorial discretion and not subject to judicial review in any manner or under any circumstances, to seek administrative or civil judicial relief against persons other than Settling Defendants or De Minimis Settlers for recovery of such unreimbursed past response costs.

B. Oversight Costs. Subject to Subparagraph C below, Settling Defendants shall pay all oversight costs of the United States and the State incurred in overseeing implementation of the Work, including costs incurred by the U.S. or the State in seeking to obtain access to, or the cost of acquiring any interest in, any property for purposes of implementing any requirement of this Decree and including costs of overseeing operation and maintenance and other obligations of the Settling Defendants that survive termination of this Consent Decree. U.S. EPA and OEPA shall use

their best efforts to coordinate their oversight activities to avoid duplication of oversight activities to the maximum extent practicable.

1. Itemized Statements. In January of each year following entry of this Decree, the United States and the State shall submit itemized statements documenting their oversight costs during the previous year.

2. Payment shall be made by the Settling Defendants on an annual basis and within thirty (30) days of submission of itemized cost statements and supporting documentation by the United States and the State. Payment shall be made in the manner specified in Subparagraphs D and F below.

C. Consistency With The NCP. Settling Defendants reserve the right to invoke the dispute resolution procedures of Paragraph XIV, above, to contest whether any response costs or oversight costs included in any itemized statement submitted pursuant to Subparagraphs A and B, above, are consistent with the National Contingency Plan ("NCP"). In any such proceeding Settling Defendants shall have the burden of proving that past response costs and oversight costs incurred by the United States and the State are inconsistent with the NCP. Settling Defendants shall not be required to reimburse the United States or the State for any past response costs or oversight costs that are determined to be inconsistent with the NCP. Response costs paid by Settling Defendants pursuant to Subparagraphs A and B, above, are consistent with the NCP.

D. All payments to the United States pursuant to this Paragraph XVI shall be made by certified check payable to "Hazardous Substance Superfund," shall reference the Summit National Site, and shall be addressed to:

U.S. Environmental Protection Agency
Region V
Attn: Superfund Accounting
P.O. Box 70753
Chicago, Illinois 60673

A copy of the check shall also be sent to:

Assistant Attorney General
Land & Natural Resources Division
U.S. Department of Justice
10th & Pennsylvania Avenue, N.W.
Washington, D.C. 20530

E. Settling Defendants acknowledge that the State in this action demands recovery of Response Costs incurred by it prior to the entry of this Decree in connection with the Facility of One Million Thirty-Eight Thousand Three Hundred Fourteen Dollars and Fourteen Cents ($1,038,314,14).

F. Settling Defendants that remain liable to the State shall pay to the State, within forty-five (45) days of the entry of this Decree, Two Hundred Sixty-Three Thousand Sixteen dollars and Fourteen cents ($263,016.14) in settlement of the State's demand for past Response Costs by means of a check made payable to "Treasurer, State of Ohio," and delivered to the Office of the Attorney General, 30 East Broad Street, Columbus, Ohio 43266-0410, Attention Charles R. Dyas, Jr., Assistant Attorney General, or his successor. Payment by Settling Defendants of $263,016.14 as required under this Paragraph for settlement of this case shall not

preclude the State of Ohio from pursuing the collection of the remainder of the response costs set forth in Subparagraph E above which the State has incurred at the Summit National site, against any and all non-settling PRPs that remain liable to the State and against any responsible parties identified subsequent to the entry of this Consent Decree.

G. The Response Costs set forth in Subparagraph F of this paragraph were incurred by the State and are not inconsistent with the National Contingency Plan.

XVII.

STIPULATED PENALTIES

A. Penalties. All Settling Defendants shall be liable to the United States for payment of stipulated penalties for each of the following violations of this Decree, unless the violation is excused pursuant to Paragraph XIII above or waived by U.S. EPA. Stipulated penalties shall be paid in the amounts stated below, to the United States:

1. Late Plans or Reports. For each day that the Settling Defendants fail to submit periodic progress reports (other than the reports specified in Subparagraph A.2 below) in accordance with the requirements of this Decree or the SOW:

Payment Schedule

Days 1-7	$100 per day
Days 8-30	$250 per day
After 30 Days	$500 per day

2. Delayed Remedial Plans and Work. For each day that

the Settling Defendants fail to submit the remedial action plans required to be submitted according to the schedules set forth in the Work Plans and the SOW, and for each day that the Settling Defendants fail to complete any item of Work as set forth in this Subparagraph in accordance with the schedules set forth in the Work Plans and the SOW:

Payment Schedule

Days 1 through 7	$1000 per day
Days 8 through 30	$2000 per day
Days 31 through 60	$4000 per day
After 60 days	$7000 per day

Schedule for Remedial Action Plans and Work

a. Submission of the RD Work Plan.

b. Submission of the RC Work Plan, including final plans for the design, construction and operation and maintenance of the remedial actions required under this Consent Decree.

c. Performance of each of the major components of the remedial action:

i. Completion of construction of the water treatment plant.

ii. Commencement of operation of the water treatment plant.

iii. Completion of construction of the pipe and media drain collection system and extraction wells.

iv. Commencement of operation of the pipe and media drain collection system and extraction wells.

v. Completion of setup of the incinerator.

vi. Commencement of operation of the incinerator.

vii. Completion of installation of the groundwater monitoring system.

viii. Completion of the site cover.

Penalties for the untimely submission of plans for the design, construction and operation and maintenance of the remedial actions will be forgiven if the Settling Defendants complete all required remedial construction activities, including site cover activities required pursuant to Subparagraph VI.E.10.f, above, within fifty-six (56) months of the date of entry of this Consent Decree. For the following stated elements of the stipulated penalties set forth above, penalties for failure to meet the milestone set forth the specified Subparagraphs will be forgiven if the specified subsequent milestone, as set forth herein or as extended under the provisions of Paragraph XIV (Dispute Resolution) is met: Penalties for failure to meet Subparagraph A.2.c.i. above will be forgiven if the Settling Defendants commence operation of the water treatment plant under Subparagraph A.2.c.ii. above within twenty-four (24) months of the date of entry of this Consent Decree. Penalties for failure to meet Subparagraph A.2.c.iii. above will be forgiven if the Settling Defendants commence operation of the pipe and media drain collection system and the extraction well system under Subparagraph A.2.c.iv. above within twenty-seven (27) months of the date of entry of this Consent Decree. Penalties for failure to meet Subparagraph A.2.c.v. above will be forgiven if the Settling Defendants commence operation of the incinerator under Subparagraph A.2.c.vi. above within twenty-nine (29) months of the date of entry of this Consent Decree. Any penalties for the untimely submission

of plans required under Subparagraphs A.2.a through c above shall be collected as specified in Subparagraph C below, but shall be paid into an interest-bearing escrow account and shall remain there until fifty-six (56) months after the entry of this Consent Decree, unless all construction required in the RC Work Plan has been completed by that date. Any penalties for the untimely completion of any element of construction listed in Subparagraphs A.2.c.i., A.2.c.iii and A.2.c.v. above shall be collected as specified in Subparagraph C below, but shall be paid into an interest-bearing escrow account. If Settling Defendants satisfy the criterion for forgiveness of any stipulated penalty paid into an escrow account pursuant to this Subparagraph A, the parties shall instruct the escrow agent to pay the amount of each forgiven penalty, together with interest accumulated thereon, to the Trustee on behalf of the Settling Defendants. If the Settling Defendants do not satisfy the criterion for forgiveness of any stipulated penalty paid into an escrow account pursuant to this Subparagraph A, the parties shall instruct the escrow agent to pay to Plaintiffs the amount of each penalty not forgiven, together with interest accumulated thereon, within thirty (30) days. Amounts due to the United States shall be paid to the Hazardous Substance Superfund, as provided in Subparagraph C of this Paragraph. A copy of the check shall also be sent to the Department of Justice, at the address specified in Paragraph XX (Notices) below.

3. <u>$25,000 Per Day Cap.</u> Stipulated penalties due under this Paragraph shall not exceed a total of $25,000 per day.

4. Time Limitation. Stipulated penalties due hereunder shall be deemed waived if notice is not given by the United States pursuant to Subparagraph B below within one year of receipt of notice that the deadline for an action has been missed or other violation giving use to the penalty has occurred. This limitation shall not apply if Settling Defendants have failed to report a missed deadline or other violation giving rise to a stipulated penalty in the reports submitted pursuant to paragraph XI hereof.

5. Accrual. All penalties begin to accrue on the day after the day on which complete performance is due or on the date a violation occurs, and continue to accrue until performance is completed or the violation is corrected. Except as set forth in Subparagraph A.3. above, nothing herein shall prevent the simultaneous accrual of separate penalties for separate violations of this Decree. Payment of penalties shall not alter in any way Settling Defendants' obligation to complete performance.

B. Following the OEPA's and/or U.S. EPA's determination that Settling Defendants have failed to comply with the requirements of this Decree, OEPA and/or U.S. EPA shall give Settling Defendants written notice of said violation and describe the noncompliance with specificity. This notice shall also indicate the amount of penalties due.

C. All penalties owed to the United States under this Paragraph shall be payable within thirty (30) days after receipt of the notification of noncompliance, unless the Settling Defendants invoke the dispute resolution procedures under Paragraph XIV above.

Penalties shall accrue regardless of whether the U.S. EPA and OEPA have notified the Settling Defendants of a violation. Interest shall begin to accrue on the unpaid balance at the start of the thirty (30) day period, but no interest shall be paid if payment of the penalties is made before the end of that period. Except as provided in Subparagraph A. 2. above, penalties owed to the U.S. EPA shall be paid by certified check to the "Hazardous Substance Superfund" and shall contain Settling Defendants' complete and correct address, the Facility name, and the docket number of this case. All checks to the U.S. EPA shall be mailed to U.S. Environmental Protection Agency, Region V, Attn: Superfund Accounting, P.O. Box 70753, Chicago, Illinois 60673. A copy of the check shall also be sent to the Department of Justice, at the address specified in Paragraph XX (Notices) below.

D. Neither the filing of a petition to resolve a dispute nor the payment of penalties shall alter in any way the Settling Defendants' obligations to complete the activities required of them under this Decree.

E. Interest shall accrue on delayed payment of stipulated penalties pursuant to this Paragraph XVII. The rate of interest shall be the annual rate provided for in § 107(a) of CERCLA, 42 U.S.C. § 9607(a), plus two (2) per cent. Such interest shall accrue and be compounded on a daily basis.

F. Notwithstanding the stipulated penalties provisions of Subparagraph A of this Paragraph, U.S. EPA may elect to assess civil penalties or the United States may elect to bring an

action in U.S. District Court pursuant to § 109 of CERCLA, as amended by SARA, to enforce the provisions of this Decree provided that Settling Defendants' total penalty exposure for violations shall be limited as provided by § 109 of CERCLA. However, U.S.EPA agrees not to seek both stipulated penalties and § 109 civil penalties for the same violation. Payment of stipulated penalties shall not preclude U.S. EPA from electing to pursue any other remedy or sanction to enforce this Decree, and nothing herein shall preclude U.S.EPA from seeking statutory penalties against Settling Defendants for violations of statutory or regulatory requirements.

G. Settling Defendants may dispute Plaintiff's right to the stated amount of penalties by invoking the dispute resolution provisions of Paragraph XIV above. Penalties shall accrue but need not be paid during the dispute resolution period. If this Court becomes involved in the resolution of such dispute, the period of dispute shall end upon the rendering of a decision by the District Court regardless of whether any party appeals such decision. Settling Defendants shall pay only such penalties as agreed to by the parties or as the Court requires.

H. No penalties shall accrue for violations of this Decree caused by events beyond the control of Settling Defendants as identified in Paragraph XIII ("Unavoidable Delay"). Settling Defendants have the burden of establishing that an event causing delay or nonperformance constitutes an "Unavoidable Delay".

XVIII.

COVENANT NOT TO SUE

A. In consideration of actions which will be performed and payments which will be made by the Settling Defendants under the terms of the Decree, and except as otherwise specifically pro-vided in this Decree, the United States as to all Settling Defendants, and the State of Ohio with respect to the firms listed in Paragraph III, covenant not to initiate or maintain any civil judicial or administrative action or proceeding against the Settling Defendants or their successors or assigns for Covered Matters, as defined in Subparagraph B below. With respect to future liability, this covenant not to sue shall take effect upon issuance by U.S. EPA and OEPA of the Certificate of Completion of the remedial action concerning the Site and Facility. U.S. EPA and OEPA will make determinations regarding the certification of completion within one year after submission of the Notice of Completion referred to in Paragraph XXVI. The parties acknowledge and agree that the payments and undertakings made pursuant to this Decree represent a settlement and compromise of a disputed claim and that the settlement is fair, reasonable and equitable. This acknowledgement shall not diminish or affect any right of contribution or private cost recovery right that Settling Defendants may have against Non-settling PRPs.

B. Subject to the exclusions set forth in Subparagraph C below, Covered Matters shall include:

1. Any and all claims available to Plaintiffs under §§

104, 106 and 107 of CERCLA, 42 U.S.C. §§ 9604, 9606 and 9607 and § 7003 of RCRA, 42 U.S.C. § 6923, relating to the Site and Facility;

2. Any and all claims available to the State under Chapters 3734, 3767 and 6111 of the Ohio Revised Code and State common law nuisance, relating to the Site and Facility; and

3. Any and all other civil claims based on the same facts, transactions or series of events described in Plaintiffs' complaints and arising prior to entry of this Decree, under common law or any federal or state statute or regulation enforced or administered by U.S. EPA or Ohio EPA.

C. "Covered Matters" does not include:

1. Liability arising from the hazardous substances removed from the Site or Facility;

2. Criminal liability;

3. Claims based on a failure by the Settling Defendants to meet the requirements of this Decree;

4. Liability for violations of Federal or State law which occur during implementation of the remedial action;

5. Liability for costs incurred pursuant to CERCLA § 104(i); or

6. Liability for any indemnification claims pursuant

to Paragraph XIX.

D. Notwithstanding any other provision in this Decree, (1) the United States, and the State to the extent permitted under Paragraph III above, reserve the right to institute proceedings in this action or in a new action or to issue an Order seeking to compel the Settling Defendants to perform any additional response work at or necessitated by a release emanating from the Site or Facility, and (2) the United States, and the State to the extent permitted under Paragraph III above, reserve the right to institute proceedings in this action or in a new action seeking to reimburse the United States for response costs and to reimburse the State for its costs, including its matching share of any response action undertaken by the Plaintiffs under CERCLA, relating to the Site or Facility, if:

1. for proceedings prior to U.S. EPA and OEPA certification of completion of the remedial action which Settling Defendants are required to perform under this Decree concerning the Site or Facility,
   a. conditions at the Site or Facility, previously unknown to the United States and the State, are discovered after the entry of this Decree; or
   b. information is received, in whole or in part, after the entry of this Decree;

   and these previously unknown conditions or this information indicates that the remedial action

required under this Consent Decree is not protective of human health and the environment and;

2. for proceedings subsequent to U.S. EPA and OEPA certification of completion of the remedial action concerning the Site or Facility,

   a. conditions at the Site or Facility, previously unknown to the United States and the State, are discovered after the certification of completion by U.S. EPA and OEPA; or

   b. information is received, in whole or in part, after the certification of completion by U.S. EPA, and OEPA;

   and these previously unknown conditions or this information indicates that the remedial action is not protective of human health and the environment.

E. Notwithstanding any other provision in this Decree, the covenant not to sue in this Paragraph XVIII shall not relieve the Settling Defendants of their obligation to meet and maintain compliance with the requirements set forth in this Decree and its Appendices, which are incorporated herein, and the United States, and the State to the extent permitted by Paragraph III above, reserve their rights to take response actions at the Site or Facility in the event of a breach of the terms of this Decree and to seek recovery of costs incurred after entry of the Decree: 1)

resulting from such a breach; 2) relating to any portion of the Work funded or performed by the United States or the State; or 3) incurred by the United States or the State as a result of having to seek judicial assistance to remedy conditions at or adjacent to the Site caused by releases or threatened releases of hazardous substances, pollutants, or contaminants at or from the Facility.

F. In consideration of U.S. EPA's agreement to undertake negotiations for a separate resolution of claims against De Minimis Settlers, the Settling Defendants covenant not to initiate or maintain any action asserting any claim for contribution with respect to matters addressed in this Consent Decree against any De Minimis Settler which resolves its liability to the U.S. EPA in accordance with the terms of the agreement resolving such liability referred to in Paragraph IV.C.

G. Nothing in this Decree shall constitute or be construed as a release of any claim or cause of action against any person, firm, trust, joint venture, partnership, corporation or other entity which is not a signatory to this Consent Decree. Except as provided in Subparagraph F, nothing in this Consent Decree shall be construed as a covenant not to sue any person or entity not a signatory to this Decree for any liability it may have arising out of or relating to the Site or Facility. Plaintiffs expressly reserve the right to continue to sue any person, other than the Settling Defendants, in connection with the Site or Facility.

H. This Consent Decree was negotiated and executed by the parties in good faith to avoid expensive and protracted litigation

and is a settlement of claims which were vigorously contested, denied and disputed as to validity and amount. The execution of this Decree is not an admission of any fact or liability on any issue dealt with in this Decree, except in an action to enforce this Decree brought by the Plaintiffs, wherein Settling Defendants agree not to contest either the entry of the Decree, their liability with respect to the matters covered in the Decree or, except as provided in Paragraph XIV regarding dispute resolution, any factual matter or finding or any conclusion of law set forth in this Decree. Accordingly, with the exception of this proceeding and any other proceeding to enforce this Decree, this Consent Decree shall not be admissible in any judicial or administrative proceeding, except that it may be admissible in a judicial or administrative proceeding between Settling Defendants and their respective insurers, or any other person or entity in an action for private cost recovery, contribution or indemnification.

XIX.

OTHER CLAIMS

A. Settling Defendants agree to indemnify, save and hold harmless U.S. EPA, the State and/or their representatives from any and all claims or causes of action for any injuries or damages to persons or property arising from acts or omissions of Settling Defendants and/or their representatives in carrying out the activities pursuant to this Decree. Settling Defendants do not agree to indemnify either Plaintiff or its respective departments, employees, agents, contractors or subcontractors for that portion

of any claim or cause of action attributable to the negligent acts or omissions of such Plaintiff or its representatives at the Site or Facility or in connection with this Consent Decree.

The indemnification and hold harmless agreement between the Settling Defendants and the U.S. EPA shall not apply to claims or causes of action for any injuries or damages to persons or property arising out of actions which the Settling Defendants are directed to take or refrain from taking by the RPM or the OSC, to the extent that the actions directed by the RPM or the OSC are not contemplated in or are materially different from the Work required in the SOW, and prior to performing the actions directed by the RPM or the OSC, the Settling Defendants advise the RPM or the OSC that such actions present an unreasonable risk of injury to persons or property.

U.S. EPA and the State shall notify Settling Defendants of any such claims or actions within sixty (60) working days of receiving notice that such a claim or action is anticipated or has been filed, unless such action or claim has also been filed against the Settling Defendants. U.S. EPA and the State agree not to act with respect to any such claim or action without first providing Settling Defendants an opportunity to participate to the extent permitted.

B. U.S. EPA and the State are not to be construed as parties to, and do not assume any liability for, any contract entered into by Settling Defendants in carrying out the activities pursuant to this Decree. The proper completion of the Work under this Decree

is solely the responsibility of Settling Defendants.

C. Settling Defendants waive their rights to assert any claims against the Hazardous Substance Superfund under CERCLA that are related to any past costs or costs incurred in the Work performed pursuant to this Decree, and nothing in this Decree shall be construed as U.S. EPA's preauthorization of a claim against the Hazardous Substance Superfund.

D. The State of Ohio expressly waives its rights pursuant to § 107(f) of CERCLA, 42 U.S.C. § 9607(f), to seek damages for natural resources at this Site or Facility and, pursuant to Federal Rule of Civil Procedure 41(a), with the stipulation of the Settling Defendants, dismisses its claim, without prejudice, for such natural resource damages at the Site but expressly reserves its right to seek recovery of natural resource damages from Non-settling PRPs or other potentially responsible parties subsequently identified.

XX.

NOTICES

Whenever, under the terms of this Decree, notice is required to be given, a report or other document is required to be forwarded by one party to another, or service of any papers or process is necessitated by the dispute resolution provisions of Paragraph XIV hereof, such correspondence shall be directed to the following individuals or their designated successors, at the addresses specified below:

As to the United States or U.S. EPA:

As to the State of Ohio:

a. Regional Counsel
Attn: Jon McPhee (5CS)
U.S. Environmental Protection Agency
230 S. Dearborn Street
Chicago, Illinois 60604

b. Director, Waste Management Division
Attn:

Remedial Project Manager
U.S. Environmental Protection Agency
230 S. Dearborn Street
Chicago, Illinois 60604

c. Assistant Attorney General
Land & Natural Resources Division
U.S. Department of Justice
10th & Pennsylvania Avenue, N.W.
Washington, D.C. 20530

a. Director, State
Ohio Environmental Protection Agency
Attn: Supervisor, Office of Corrective Action
1800 Water Mark Drive
Columbus, Ohio 43266-0149

b. Attorney General-State of Ohio
Attn: Charles Dyas, Jr.
Environmental Enforcement Section
Attn: Charles Dyas, Jr.
30 East Broad Street
Columbus, Ohio 43266-0410

As to Settling Defendants:

William Falsgraf, Esq.
Baker & Hostetler
3200 National City Center
Cleveland, Ohio 44114

Thomas T. Terp, Esq.
Taft, Stettinius & Hollister
1800 First National Bank Center
Cincinnati, Ohio 45202

XXI.

CONSISTENCY WITH NATIONAL CONTINGENCY PLAN

The United States and the State agree that the Work, if properly performed as set forth in Paragraphs VI and VII hereof, is consistent with the provisions of the National Contingency Plan established pursuant to 42 U.S.C. § 9605.

XXII.

RESPONSE AUTHORITY

Nothing in this Decree shall be deemed to limit the response authority of the United States under 42 U.S.C. § 9604, or

to alter the applicable legal principles governing the judicial review of U.S. EPA's selection or adequacy of remedial action at the Facility.

XXIII.

MODIFICATION

Except as provided for herein, any modification of this Consent Decree shall be by order of the Court.

XXIV.

PUBLIC PARTICIPATION

A. Pursuant to § 117(c) of CERCLA, the United States shall publish a notice of this Decree's availability for review and comment upon its lodging with the United States District Court as a proposed settlement in this matter. The United States will provide persons who are not parties to the proposed settlement with the opportunity to file written comments during a thirty (30) day period following such notice. In addition, the United States intends to hold a public meeting in Deerfield, Ohio during this period to receive either written or oral comments. The United States will file with the Court a copy of any comments received and the responses of the United States to such comments.

B. After the closing of the public comment period, the United States will review such comments and determine whether the comments disclose facts or considerations which indicate that the proposed judgment is inappropriate, improper or inadequate, and that the consent should therefore be withdrawn. Should consent be withdrawn, the United States shall inform the other parties as to

the basis for the withdrawal and any modifications necessary for consent to a settlement.

XXV.

COMMUNITY RELATIONS

Settling Defendants shall cooperate with U.S. EPA and the State in providing information to the public. As requested by U.S. EPA or the State, Settling Defendants shall participate in the preparation of and provide technical information to be disseminated to the public or to be used in public meetings that may be held or sponsored by U.S. EPA or the State to explain activities at or concerning the Site or Facility. Settling Defendants may take part in such public meetings.

XXVI.

EFFECTIVE AND TERMINATION DATES

A. This Decree shall be effective upon the date of its entry by the Court.

B. When Settling Defendants determine that they have completed the Work, other than operation and maintenance activities required after completion of all remedial construction, and determine that they have achieved the Performance Standards and engineering performance specifications and standards required under Paragraph VI, they shall submit to U.S. EPA and OEPA a Notice of Completion of Remedial Action and a final report as required by the RC Work Plan. The final report must summarize the Work performed, any modification to the Work Plan as agreed to by U.S. EPA and OEPA, and the Performance Standards and engineering performance

specifications and standards achieved. The summary shall include or reference any supporting documentation.

Upon receipt of the Notice of Completion of Remedial Action, U.S. EPA and the State shall review the accompanying report and any other supporting documentation and the remedial action taken. U.S. EPA and OEPA shall issue a Certification of Completion upon their determination that Settling Defendants have satisfactorily completed the Work and are achieving Performance Standards and engineering performance specifications and standards of performance required under this Decree. After submittal of a Notice of Completion, but prior to the issuance of any Certification of Completion, U.S. EPA and OEPA shall undertake a review of the remedial action under Paragraph VIII. The Certification shall be issued only if U.S. EPA and OEPA determine that no corrective action under Paragraph VIII is necessary. U.S. EPA and OEPA shall not unreasonably delay issuance of the Certificate of Completion.

C. Upon receipt of the Certification from U.S. EPA and OEPA, and a showing that all amounts required to be paid pursuant to this Consent Decree have been paid in full, this Consent Decree may be terminated on the motion of either party. However, Settling Defendants' responsibility to perform the following obligations, shall survive the termination of the Consent Decree, and shall be enforceable by the United States against the Settling Defendants, and by the State against the Settling Defendants listed in Paragraph III, by re-institution of this action or by institution of a new action:

1. All operation and maintenance requirements set forth in the approved operation and maintenance plan, including the requirements listed below in this Subparagraph C, except to the extent that such plan expressly provides for expiration or termination of particular operation and maintenance requirements, and the conditions for expiration or termination of such requirements occur prior to termination of the Decree in accordance with the preceding paragraph.

a. Operation and maintenance of the groundwater collection and pumping systems, including the pipe and media drain and all groundwater extraction wells.

b. Operation and maintenance of the groundwater treatment system wastewater treatment plant.

c. Maintenance and repair of the fence.

d. Maintenance and repair of the cap.

e. Maintenance and repair of any landfill cell installed on the Site to contain wastes generated during the remedial action, including incinerator ash.

f. Maintenance and repair of all groundwater monitoring wells.

2. Groundwater, surface water and air monitoring as required by the SOW and RC Work Plan.

3. Reporting requirements set forth in Paragraph XII.

4. The provisions of Paragraph III (Parties Bound),

Paragraph V with respect to maintenance of and payment into the Summit National Facility Trust Fund, Paragraph VI (Performance of the Work By Settling Defendants), Paragraphs VII (Modification Of The SOW), VIII (Periodic Review), IX (Quality Assurance), XI (Reporting Requirements), XIV (Dispute Resolution), XV (Retention and Availability of Information), XVI (Reimbursement), XVII (Stipulated Penalties), XVIII (Covenant Not To Sue), XIX (Other Claims), XX (Notices), XXII (Response Authority) and XXV (Community Relations) shall also survive the termination of the Consent Decree.

ENTERED this 11th day of July, ~~1988~~ 1991.

District Judge

By the Signatures below each Parties' name, Consent to this Decree is hereby given. Consent of the United States is subject to the public participation requirements of Section 122 of CERCLA, 42 U.S.C. § 9622; 40 CFR Part 300; and 28 CFR 50.7:

UNITED STATES OF AMERICA

By: _____
Richard B. Stewart
Assistant Attorney General
Land & Natural Resources Division
U.S. Department of Justice
Washington, D. C. 20530

By: _____
James M. Strock
Assistant Administrator for Enforcement and Compliance Monitoring
U.S. EPA

OTHER SIGNATORIES:

Joyce J. George
U.S. Attorney
Northern District of Ohio

BY: _____
U.S. Attorney

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

_____
Bertram C. Frey
Acting Regional Counsel
U.S. EPA, Region V

_____
Steven J. Willey
Environmental Enforcement Section
U.S. Department of Justice
Washington, D.C. 20530

_____
Jonathan T. McPhee
Asst. Regional Counsel
U.S. EPA, Region V

The State of Ohio, by and through its Attorney General, Anthony J. Celebrezze, Jr. hereby consents to the entry of this Consent Decree for partial resolution of the case of State of Ohio ex rel., v. Donald Georgeoff et al., Civil Action No. C81-1981

STATE OF OHIO

ANTHONY J. CELEBREZZE, JR.
ATTORNEY GENERAL OF OHIO

CHARLES R. DYAS, JR.
Assistant Attorney General
Environmental Enforcement
Section
30 East Broad Street, 25th Fl.
Columbus, Ohio 43266-0410
(614) 466-2766

Date:

9740E

The undersigned Settling Defendant hereby consents to the foregoing Consent Decree in U.S. v. John Vasi, et. al. and State of Ohio v. Donald Georgeoff, et. al.

American Cyanamid Company
Name of Settling Defendant

One Cyanamid Plaza
Wayne, New Jersey 07470
Address

By: Darryl D. Fry
Name of Officer

Signature of Officer

Executive Vice President
Title

3-7-91
Date

The undersigned Settling Defendant hereby consents to the foregoing Consent Decree in U.S. v. John Vasi, et. al. and State of Ohio v. Donald Georgeoff, et. al.

Bechtel-McLaughlin, Inc.
Name of Settling Defendant

3612 Milan Rd. P.O. Box 1110
Sandusky, Ohio 44870
Address

By: John K. Ohlemacher
Name of Officer

Signature of Officer

President
Title

March 18, 1991
Date

The undersigned Settling Defendant hereby consents to the foregoing Consent Decree in U.S. v. John Vasi, et. al. and State of Ohio v. Donald Georgeoff, et. al.

The BOC Group, Inc.
Name of Settling Defendant

575 Mountain Avenue
Murray Hill, NJ 07974
Address

By: W. Dekle Rountree, Jr.
Name of Officer

W Dekle Rountree Jr
Signature of Officer

Vice President
Title

March 8, 1991
Date

The undersigned Settling Defendant hereby consents to the foregoing Consent Decree in U.S. v. John Vasi, et. al. and State of Ohio v. Donald Georgeoff, et. al.

Browning-Ferris Industries of Pennsylvania Inc

Browning-Ferris Industries of Ohio, Inc.
Name of Settling Defendant

757 N. Eldridge, Houston, Texas 77079
Address

By: Gerald K. Burger
Name of Officer

Gerald K. Burger
Signature of Officer

Vice President
Title

March 26, 1991
Date

The undersigned Settling Defendant hereby consents to the foregoing Consent Decree in U.S. v. John Vasi, et. al. and State of Ohio v. Donald Georgeoff, et. al.

Canton Drop Forge, Inc.
Name of Settling Defendant

4575 Southway Street, S.W.
Canton, Ohio 44706
Address

By: Jerome P. Bressanelli
Name of Officer

Jerome P. Bressanelli
Signature of Officer

President
Title

March 27, 1991
Date

The undersigned Settling Defendant hereby consents to the foregoing Consent Decree in U.S. v. John Vasi, et. al. and State of Ohio v. Donald Georgeoff, et. al.

COLUMBIA GAS TRANSMISSION CORPORATI

Name of Settling Defendant

1700 MacCorkle Ave., S.E.
Charleston, WV 25314

Address

By: J. H. Deakin

Name of Officer

Signature of Officer

Vice President

Title

April 19, 1991

Date

The undersigned Settling Defendant hereby consents to the foregoing Consent Decree in U.S. v. John Vasi, et. al. and State of Ohio v. Donald Georgeoff, et. al.

Container Corporation of America
Name of Settling Defendant

8182 Maryland Ave., 11th Floor
St. Louis, Missouri 63105
Address

By: Roy C. Cobb, Jr.
Name of Officer

Roy C Cobb Jr.
Signature of Officer

Senior Counsel/
Environmental Counsel
Title

March 7, 1991
Date

The undersigned Settling Defendant hereby consents to the foregoing Consent Decree in U.S. v. John Vasi, et. al. and State of Ohio v. Donald Georgeoff, et. al.

E. I. du Pont de Nemours & Company
Name of Settling Defendant

Wilmington, DE 19898
Address

By: A. T. Gentilucci
Name of Officer

Signature of Officer

Director of Manufacturing - Industrial Chemicals
Title

March 28, 1991
Date

The undersigned Settling Defendant hereby consents to the foregoing Consent Decree in U.S. v. John Vasi, et. al. and State of Ohio v. Donald Georgeoff, et. al.

Erieway, Inc.

Name of Settling Defendant

4200 Rockside Rd. Suite 200
Independence, Ohio 44131

Address

By: H.C. Gillette

Name of Officer

H.C. Gillette

Signature of Officer

President & CEO

Title

April 16, 1991

Date

The undersigned Settling Defendant hereby consents to the foregoing Consent Decree in U.S. v. John Vasi, et. al. and State of Ohio v. Donald Georgeoff, et. al.

Bridgestone/Firestone, Inc.
Name of Settling Defendant

1200 Firestone Parkway, Akron, OH 4
Address

By: A. Mosby Harvey, Jr.
Name of Officer

Signature of Officer

General Counsel
Title

April 2, 1991
Date

The undersigned Settling Defendant hereby consents to the foregoing Consent Decree in U.S. v. John Vasi, et. al. and State of Ohio v. Donald Georgeoff, et. al.

Ford Motor Company

Name of Settling Defendant

The American Road
Dearborn, Michigan 48121-1899

Address

By: John M. Rintamaki

Name of Officer

Signature of Officer

Assistant Secretary

Title

April 11, 1991

Date

The undersigned Settling Defendant hereby consents to the foregoing Consent Decree in U.S. v. John Vasi, et. al. and State of Ohio v. Donald Georgeoff, et. al.

General Motors Corporation
Name of Settling Defendant

P.O Box 33122
Detroit MI 48232
Address

By: Michelle T. Fisher
Name of Officer

Michelle T. Fisher
Signature of Officer

Attorney
Title

4-26-91
Date

The undersigned Settling Defendant hereby consents to the foregoing Consent Decree in U.S. v. John Vasi, et. al. and State of Ohio v. Donald Georgeoff, et. al.

GenCorp Inc.
Name of Settling Defendant

175 Ghent Road
Fairlawn, Ohio
Address

By: James S. Marlen
Name of Officer

JSMarlen
Signature of Officer

Vice President
Title

March 15, 1991
Date

The undersigned Settling Defendant hereby consents to the foregoing Consent Decree in U.S. v. John Vasi, et. al. and State of Ohio v. Donald Georgeoff, et. al.

THE GOODYEAR TIRE & RUBBER COMPANY
Name of Settling Defendant

1144 East Market St - Akron, Oh 44316-0001
Address

By: Robert M Hehir
Name of Officer

Robert M Hehir
Signature of Officer

Title Vice President

3/13/91
Date

Attest: Patricia A Kemph
Assistant Secretary

The undersigned Settling Defendant hereby consents to the foregoing Consent Decree in U.S. v. John Vasi, et. al. and State of Ohio v. Donald Georgeoff, et. al.

GOULD INC.
Name of Settling Defendant

35129 CURTIS BOULEVARD
EASTLAKE, OHIO 44095
Address

By: MICHAEL C. VEYSEY
Name of Officer

Signature of Officer

VICE PRESIDENT - GENERAL COUNSEL AND SECRETAI
Title

19 APRIL 1991
Date

The undersigned Settling Defendant hereby consents to the foregoing Consent Decree in U.S. v. John Vasi, et. al. and State of Ohio v. Donald Georgeoff, et. al.

Mobil Oil Corporation
Name of Settling Defendant

Fairfax, VA
Address

By: Robert J. Brenner
Name of Officer

Signature of Officer

Manager, Superfund Response Group
Title

March 7, 1991
Date

The undersigned Settling Defendant hereby consents to the foregoing Consent Decree in U.S. v. John Vasi, et. al. and State of Ohio v. Donald Georgeoff, et. al.

Morgan Adhesives Company
Name of Settling Defendant

4560 Darrow Road
Stow, Ohio 44224
Address

By: Robert F. Mlnarik
Name of Officer

Signature of Officer

President
Title

April 19, 1991
Date

The undersigned Settling Defendant hereby consents to the foregoing Consent Decree in U.S. v. John Vasi, et. al. and State of Ohio v. Donald Georgeoff, et. al.

Morton International, Inc.
Name of Settling Defendant

100 North Riverside Plaza
Address

By: S. J. Stewart
Name of Officer

Signature of Officer

Chief Operating Officer
Title

3/13/91
Date

The undersigned Settling Defendant hereby consents to the foregoing Consent Decree in U.S. v. John Vasi, et. al. and State of Ohio v. Donald Georgeoff, et. al.

Occidental Chemical Corporation
Name of Settling Defendant

5005 LBJ Freeway; Dallas, Texas
Address

By: M. J. Rudick
Name of Officer

M. J. Rudick
Signature of Officer

Vice President & General Counsel
Title

March 8, 1991
Date

The undersigned Settling Defendant hereby consents to the foregoing Consent Decree in U.S. v. John Vasi, et. al. and State of Ohio v. Donald Georgeoff, et. al.

Divested Aerospace Corporation,
as successor in interest to
Goodyear Aerospace Corporation,
for itself, and on behalf of,
Loral Corporation, K&F
Industries Inc. and Aircraft
Braking Systems Corporation
Name of Settling Defendant

1210 Massillon Road
Akron, Ohio 44315
Address

By: _____
Signature of Officer

Attorney-in-Fact
(See attached Power of Attorney)
Title

April 26, 1991
Date

May 29, 1990

POWER OF ATTORNEY

WHEREAS, as of January 12, 1987, Goodyear Aerospace Corporation ("GAC"), The Goodyear Tire & Rubber Company ("Goodyear") and Loral Corporation ("Loral") entered into a certain Amended and Restated Agreement for the Purchase and Sale of Assets (the "Sales Agreement") whereunder GAC and Goodyear, sold to Loral substantially all the properties, assets and business of GAC in accordance with the terms and conditions of the Sales Agreement; and

WHEREAS, on December 22, 1987, GAC was merged into Divested Aerospace Corporation ("DAC"), an Arizona corporation, whereby DAC is the successor corporation; and

WHEREAS, in a Letter Agreement dated March 13, 1987, Loral agreed to purchase from Goodyear, in accordance with the provisions of said Letter Agreement, all the issued and outstanding capital stock of GAC and pursuant to a Letter Agreement dated May 18, 1988, Loral accepted delivery from Goodyear of all the issued and outstanding common stock of DAC in substitution for said stock of GAC; and

WHEREAS, Loral is now the sole stockholder of DAC;

NOW THEREFORE, KNOW ALL MEN BY THESE PRESENTS, that the undersigned DAC hereby authorizes and appoints

Bertram Bell

as its true and lawful attorney with authority to execute in the name of GAC and/or DAC, the following documents:

Certifications, assignments, waivers, releases, verifications, reports, registrations, any documents involving litigation by or against GAC or DAC and any other necessary documents involving the operation or business of GAC or DAC;

provided such documents have been routed and approved in accordance with applicable company policies and procedures.

This Power of Attorney shall be in force and effect from this date to and including December 31, 1991 unless theretofore revoked.

IN WITNESS WHEREOF, I have hereunto set my hand as of the date first above written.

WITNESS:

DIVESTED AEROSPACE CORPORATION

By:

M. B. Targoff
Vice President, General Counsel
and Secretary of
Loral Corporation, Shareholder

The undersigned Settling Defendant hereby consents to the foregoing Consent Decree in U.S. v. John Vasi, et. al. and State of Ohio v. Donald Georgeoff, et. al.

Olin Corporation
Name of Settling Defendant

120 Long Ridge Road, Stamford, CT
Address

By: Charles W. Newton, III
Name of Officer

Signature of Officer

Vice President - Environment, Health & Toxicology
Title

March 20, 1991
Date

The undersigned Settling Defendant hereby consents to the foregoing Consent Decree in U.S. v. John Vasi, et. al. and State of Ohio v. Donald Georgeoff, et. al.

PACKAGING CORPORATION OF AMERICA
Name of Settling Defendant

1603 Orrington Avenue
Evanston, Illinois 60204
Address

By: L. A. McVicker
Name of Officer

Signature of Officer

Vice President
Title

April 1, 1991
Date

The undersigned Settling Defendant hereby consents to the foregoing Consent Decree in U.S. v. John Vasi, et. al. and State of Ohio v. Donald Georgeoff, et. al.

Parker-Hannifin Corp.
Name of Settling Defendant

17325 Euclid Ave.
Cleveland, Ohio 44112
Address

By: Christopher H. Morgan
Name of Officer

Christopher H. Morgan
Signature of Officer

Senior Counsel
Title

March 7, 1991
Date

The undersigned Settling Defendant hereby consents to the foregoing Consent Decree in U.S. v. John Vasi, et. al. and State of Ohio v. Donald Georgeoff, et. al.

Reynolds Metals Company
Name of Settling Defendant

6601 West Broad Street
Richmond, VA 23230
Address

By: Rodney E. Hanneman
Name of Officer

Rodney E. Hanneman
Signature of Officer

Vice President, Corporate Quality Assurance & Technology Operations
Title

3/4/91
Date

The undersigned Settling Defendant hereby consents to the foregoing Consent Decree in U.S. v. John Vasi, et al. and State of Ohio v. Donald Georgeoff, et al.

Safety Kleen Envirosystems Company (formerly McKesson Envirosystems Company, formerly Inland Chemical Corporation)
Name of Settling Defendant

777 Big Timber Road
Elgin, Illinois 60123
Address

By: Burton Ericson
Name of Officer

Burton Ericson
Signature of Officer

Vice President
Title

April 3, 1991
Date

The undersigned Settling Defendant hereby consents to the foregoing Consent Decree in U.S. v. John Vasi, et. al. and State of Ohio v. Donald Georgeoff, et. al.

John Vasi
Name of Settling Defendant

6775 Mayfield, Mayfield Heights Ohio 44124
Address

By: _____
Name of Officer

_____
Signature of Officer

_____
Title

3-18-91
Date

The undersigned Settling Defendant hereby consents to the foregoing Consent Decree in U.S. v. John Vasi, et. al. and State of Ohio v. Donald Georgeoff, et. al.

Westinghouse Electric Corporation
Name of Settling Defendant

11 Stanwix Street
Pittsburgh, PA 15222
Address

By: J. W. Fisch
Name of Officer

Jack W. Fisch
Signature of Officer

Manager, Environmental Remediation,
Industrial Hygiene and Safety
Title

3/12/91
Date

APPENDIX A

LIST OF SETTLING DEFENDANTS

1. Airco, Inc., now known as the BOC Group. Inc.
2. American Cyanamid Company
3. Bechtel-McLaughlin, Inc.
4. Browning-Ferris Industries of Ohio, Inc.
5. Browning-Ferris Industries of Pennsylvania, Inc.
6. Canton Drop Forge, Inc., a subsidiary of Cordier Group, parent company, Cordier Holdings
7. Columbia Gas Transmission Corporation
8. Container Corporation of America
9. E.I. DuPont de Nemours & Company
10. Erieway Inc., formerly known as Erieway Pollution Control, Inc.
11. Bridgestone/Firestone, Inc., formerly known as The Firestone Tire & Rubber Company
12. Ford Motor Company
13. General Motors Corporation
14. Gencorp., Inc., formerly known as General Tire and Rubber Company and/or Diversitech General
15. Divested Aerospace Corporation, successor in interest to Goodyear Aerospace Corporation and subsidiary of Loral Corporation
16. Goodyear Tire and Rubber Company
17. Gould, Inc., now owned by Nippon Mining U.S., Inc.
18. Occidental Chemical Corporation, formerly known as Hooker Chemicals and Plastics Corporation
19. Safety Kleen Envirosystems Company, formerly known as McKesson Envirosystems Company, formerly known as Inland Chemical Corporation
20. Mobil Oil Corporation
21. Morgan Adhesives Company

22. Morton International, Inc., successor in interest to Morton Thiokol, Inc.

23. Olin Corporation

24. Packaging Corporation of America, subsidiary of Tenneco Interamerica, a subsidiary of Tennessee Gas Pipeline Inc.

25. Parker-Hannifin Corporation

26. Reynolds Metals Company

27. Westinghouse Electric Corporation

28. John Vasi

APPENDIX B

STATEMENT OF WORK
AND
APPENDICES TO STATEMENT OF WORK

APPENDIX A - SOIL REMOVAL AND TREATMENT
APPENDIX B - GROUNDWATER EXTRACTION SYSTEM
APPENDIX C - SITE COVER
APPENDIX D - GROUNDWATER TREATMENT SYSTEM
APPENDIX E - SCHEDULE OF ACTIVITIES

Summit National Superfund Site
Deerfield Township of Portage County, Ohio

PRINTED ON

DEC 14 1989

STATEMENT OF WORK
AND
APPENDICES TO STATEMENT OF WORK

APPENDIX A - SOIL REMOVAL AND TREATMENT
APPENDIX B - GROUNDWATER EXTRACTION SYSTEM
APPENDIX C - SITE COVER
APPENDIX D - GROUNDWATER TREATMENT SYSTEM
APPENDIX E - SCHEDULE OF ACTIVITIES

Summit National Superfund Site
Deerfield Township of Portage County, Ohio

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 5
230 SOUTH DEARBORN ST.
CHICAGO, ILLINOIS 60604

REPLY TO ATTENTION OF: 5HS-11

NOV 16 1989

Mr. Jack Michels
Conestoga-Rovers & Associates Limited
651 Colby Drive
Waterloo, Ontario, Canada N2V1C2

Dear Jack:

Enclosed please find revised appendices for the Summit National Statement of Work (SOW). Please combine these with the SOW and appropriate tables and figures. If you need a page 29 of the SOW, you will have to obtain this from Tom Terp.

I requested that you distribute this document as follows:

Tony Rutter, U.S. EPA,	3 copies
Dan Markowitz, Ohio EPA,	2 copies
Jon McPhee, U.S. EPA,	1 copy
Steve Wiley, DOJ,	1 copy

If there are any questions please contact me at (312) 886-8961.

Sincerely,

Anthony J. Rutter
Remedial Project Manager

cc: Dan Markowitz

STATEMENT OF WORK

Summit National Superfund Site
Deerfield Township of Portage County, Ohio

Rec'd

DEC 7 1989

TAFT, STETTINIUS & HOLLISTER
1800 STAR BANK CENTER
CINCINNATI, OHIO 45202
513 381-2838
CABLE: TAFTHOL TWX: 810-461-2623
TELECOPIERS:
513-381-0205
513-381-3363
513-381-4865

WASHINGTON, D. C. OFFICE
SUITE 800-1620 EYE STREET, N.W.
WASHINGTON, D. C. 20006
202-785-620

COLUMBUS, OHIO OFFICE
SUITE 1000-33 NORTH HIGH STREET
COLUMBUS, OHIO 43215
614-221-2838

COVINGTON, KENTUCKY OFFICE
SUITE 340-1717 DIXIE HIGHWAY
COVINGTON, KENTUCKY 41011
606-331-2838
513-381-2838

THOMAS T. TERP

December 6, 1989

VIA FEDERAL EXPRESS
Mr. Jack Michels, P.E.
Conestoga Rovers & Associates, Limited
651 Colby Drive
Waterloo Ontario Canada N2V 1C2

Re: Summit National

Dear Jack:

In line with our phone conversation earlier today, I am enclosing a copy of the final SOW for Summit National. Regards to you and Rick for the Holiday season --

Very truly yours,

Thomas T. Terp

TTT:mas

Remedial Design/Remedial Action

Statement of Work

Summit National Facility

Deerfield, Ohio

I. PURPOSE

The purpose of this Remedial Design/Remedial Action ("RD/RA") at the Summit National Facility ("Facility" or "Site" as defined in the Consent Decree) is to adequately protect the public health and the environment from the presence of contaminants related to the Facility. Hazardous substances were detected in samples collected during the remedial investigation ("RI") in environmental media on or off the Site. This Statement of Work ("SOW") outlines the procedures that shall be followed in order to implement the remedy that has been selected for the Facility. The U.S. EPA Superfund Remedial Design and Remedial Action Guidance, the Consent Decree, this SOW, and other appropriate guidances provided by U.S. EPA and Ohio EPA shall be followed in designing and implementing the RD/RA at the Facility.

II. OBJECTIVES

Based upon the results of the RI, the Feasibility Study ("FS") noted the following response objectives:

1. Eliminate threat and risk posed by the absorption or ingestion of contaminated sediments and soils related to the Facility's past operations.

2. Eliminate threat and risk posed by the ingestion or absorption of contaminated groundwater on and off the Site related to the Facility's past operations.

3. Eliminate the threat and risk posed by the past and current Facility run-off of contaminated surface waters, soils, and sediments to off-Site locations.

4. Eliminate the threat and risk of public contact with existing on-Site structures.

5. Eliminate the threat and risk posed by contact, inhalation, absorption, and ingestion of hazardous materials contained in the on-Site subsurface drums and tanks.

These objectives, when attained through the implementation of the remedial action, will provide adequate protection to the public health and the environment.

III. DESCRIPTION OF THE REMEDIAL ACTION

The major components of the remedial action for the Facility are:

1. Implement access/deed restrictions.
2. Install 8-foot high, chain-link fencing along the boundaries of the Facility, using existing fencing where feasible.
3. Raze on-Site buildings and above-grade structures to grade, and place the debris under the cap on-Site.
4. Characterize (if possible) and close the Tipple well unless it is converted to an extraction well; close existing monitoring wells as appropriate.

5. On-Site soils (see Attachment A):

a. Surficial soils from the zero to two-foot depth interval below existing grade within 19 of the 48 Site grid squares (see Attachment A at Figure 2) shall be excavated. The estimated volume of on-Site surficial soils to be removed is 14,079 cubic yards.

b. Excavation of on-Site sediments from the east and west ponds (see Attachment A at Figure 3) shall be from the base of the ponds to a depth of two feet. The on-Site sediment volume to be removed is estimated at 1,220 cubic yards.

c. Excavation of on-Site buried containerized materials (i.e., drums, tanks) and removal of soils adjacent to buried leaking containerized materials shall be performed as follows:

i) Areas of magnetic anomalies within the Site where test pits were excavated and no buried containerized materials were encountered shall not be subject to further investigation.

ii) Areas where magnetic anomalies were identified or for which no test pits were excavated shall be explored with trenches. Exploratory trenches will be excavated to the standard width of a backhoe bucket (42 to 60 inches) at 15-foot centers and at approximate locations detailed at Figure 4 of Attachment A. The depth of trenches shall be to a minimum depth of eight feet below surface grade.

iii) In areas where buried containerized materials have been confirmed to exist (see Attachment A at Figure 4), and in additional areas that are confirmed positive by exploratory trenching, buried containerized materials and associated visually contaminated soils adjacent to leaking containers shall be removed. The horizontal and vertical extent of removal of soils adjacent to buried leaking containerized

materials shall be limited to those soils visually contaminated. Containers observed at the base of the initial 8-foot excavation depth shall be removed, and the excavation shall continue to the depth of an additional 3 feet below the last container removed. Visually contaminated soils that are associated with containers and are not in the water table shall be removed. Soils that are excavated to facilitate removal of buried containers and which are not visually contaminated shall be used as backfill in the exploratory trenches.

The volume of soil and materials to be excavated is estimated at about 9,300 cubic yards, exclusive of any surficial soil that may need to be removed. Visually contaminated soils from the on-Site covered stockpile associated with removal of an underground tank in March of 1987 shall be removed.

d. Prior to removal of sediments from the east and west ponds, the ponds will be dewatered. These waters shall be treated prior to off-Site discharge.

6. East-Site soils:

a. The East-Site surficial soils in two grid squares adjacent to the Site's east fence pose an unacceptable risk (see Attachment A at Figure 5). The specific surficial soils, which consist of two grid squares, shall be excavated from a zero to two foot interval below existing surface grade and incinerated on-Site. This volume is estimated at 1,390 cubic yards. East-Site soils excavated shall be replaced with clean fill materials locally available, and surface features shall be restored to pre-remediation conditions.

b. The sediments from the first impoundment (see Attachment A at Figure 6) shall be excavated from the base of the impoundment to the actual depth of sediments and placed under the Site cap. Excavated sediments shall be replaced with clean fill materials

locally available, and surface features shall be restored to pre-remediation conditions. The estimate of the volume of sediment to be excavated is 2,580 cubic yards.

c. Sediments from the southern and eastern drainage ditches shall be excavated from a zero to two foot interval below existing surface grade and placed under the Site cap. Excavated sediments shall be replaced with clean fill materials locally available, and surface features shall be restored to pre-remediation conditions.

d. The Settling Defendants shall attempt to negotiate with the owner of the Watson residence (along the eastern perimeter of the Site) to permit removal of East-Site surficial soils discussed above and to permit removal of the eastern residential dwelling, and to negotiate with landowners to permit expansion of the Site boundaries to relocate the south drainage ditch and to obtain access agreements for installation and long-term monitoring

of off-Site monitoring wells. If the Settling Defendants are unsuccessful, they shall request assistance from U.S. EPA and Ohio EPA pursuant to pertinent provisions of the Consent Decree. If the Settling Defendants are successful in their negotiations with the owner of the Watson residence, the dwelling shall be razed to grade, and the debris will be placed under the cap on-Site or, as appropriate, in an off-Site sanitary landfill.

7. Excavated on-Site surficial soils, sediments in the east and west ponds, contaminated East-Site soils from the two grid squares east of the fence, and buried containerized materials and associated visually contaminated soils above the water table shall be treated on-Site by incineration. Ash from the incineration process may be delisted following substantive RCRA delisting procedures administered by the Office of Superfund and disposed of on-Site.

8. Construct and install a groundwater extraction system for the hydraulic containment, collection and extraction of

Site-related contaminated Water Table Unit ("WTU") and Intermediate Unit ("IU") groundwater on and off the Site (see Attachment B). The system shall extract Site-related contaminated groundwater and convey the liquids to the wastewater treatment system. In addition, a monitoring system for the extraction system shall be installed.

a. The pipe and media drain shall be placed along the southern boundary of the Site and extended along the east and west boundaries of the Site (see Attachment B at Figure 2). The total length of the drain is about 1,260 feet installed near the base of the WTU. The maximum depth of excavation for the interceptor trench is about 27 feet. Although the system will be designed for a pumping rate of 94 gpm, the flow rates are expected to stabilize at 35-44 gpm.

b. The components of the interceptor system are:

1) a network of groundwater interceptor trenches and piping:
   a) perforated vitrified clay pipe with filter cloth;
   b) granular backfill for the interceptor trench; and
   c) access manholes.
2) an extraction well system:
   a) six extraction wells;
   b) each 6-inch diameter well's PVC liner will be perforated the length of the bedrock;
   c) monitoring wells MW-10 and MW-24 converted to short-term extraction wells;
   d) 4-inch nominal diameter 5 gpm pump for each 6-inch diameter well; and
   e) a pumphouse will be constructed over each new extraction well.
3) a central sump, with pumps and controls, to pump liquid through a forcemain to the wastewater treatment system:
   a) pre-cast concrete sump with manhole cover and safety cage;

b) sump will have duplex pump system and telemetering system; and

c) polyethylene piping for forcemain system, joined by butt fusion.

c. The groundwater monitoring system shall include:

i) 8 new piezometers in the WTU;

ii) 18 new monitoring wells in the WTU;

iii) 7 new nested piezometers (two per nest) in the IU;

iv) 9 new monitoring well nests (two per nest) in the IU; and

v) 4 existing wells and 1 or 2 new monitoring wells in the Upper Sharon Unit ("USU").

vi) 3 residential wells

The nested wells shall be constructed of stainless steel screen and riser pipes and the nested piezometers will be constructed of polyvinyl chloride. The configuration of the monitoring system (see Attachment B at Figures 10, 11, 12, 13, 14, 15 and 16) shall provide the data needed to assess the

function and effectiveness of the groundwater extraction system and the necessity of implementing the contingency plan.

d. If the groundwater extraction system fails to perform as intended, the contingency actions that may be taken are: the extension of the pipe and media drain in the WTU; the installation of extraction wells in the WTU; the installation of additional extraction wells in the IU; and/or the installation of extraction wells in the USU. See Attachment B at Section 7.

9. Install and maintain a nominal two-foot thick permeable vegetative soil cap over the Site, about 10.6 acres (see Attachment C at Figure 1).

a. The cap shall consist of two soil materials. The initial 18-inch depth layer shall be a loam material. The final 6-inch layer shall be topsoil, with a permeability equal to or less than the permeability of the underlying soils to minimize the potential for horizontal migration of infiltration along the interface plane.

b. The design contours shall minimize soil loss by erosion (see Attachment C at Figure 2 for the preliminary design contour plan).

c. A hardy shallow-rooted vegetative cover shall be established as the final cap.

d. Gas vents shall be constructed through the Site cap at an average of about one gas vent per acre of Site cap (see Attachment C at Figure 5). Each gas vent shall be constructed of steel, designed to permit air sampling, and contain an activated carbon filter cartridge.

10. The groundwater treatment system shall treat the groundwater collected by the groundwater extraction system (see Attachment D). The treatment system shall be housed in a building enclosure. The treatment system shall be designed based on an influent flow rate of 100 gpm. The system's components preliminarily include:

a. Enclosed equalization tank:

- aeration
- retention time: 20 minutes
- retention volume: 2,000 gallons
- enclosed; vent through granular activated carbon ("GAC").

b. Enclosed clarification basin:

- upstream addition of chemicals for pH adjustment and coagulation (e.g., NaOH, Al, polymers)
- retention time: 20 minutes
- retention volume: 2,000 gallons
- enclosed; vent through GAC

c. Solids dewatering /solids disposal:

- settled floc and solids dewatered
- disposal of solids shall be based on a method consistent with its chemical characterization

d. Enclosed filtration:

- 2 media filter tanks
- capacity: 100% of flow

e. Air stripping:

- VOC removal rate: 95% average
- packing: polypropylene
- air to water ratio: 50:1
- material: fiberglass reinforced polyester
- vent through GAC

f. Final water treatment:

- aqueous GAC
- 2 contactors; each designed for 100% of flow

g. Monitoring:

- continuous influent and effluent flow

- effluent characterization based on appropriate NPDES standards
- annual air emissions

The final design of the treatment system will be optimized through a groundwater treatability study to meet appropriate NPDES discharge standards such as State and Federal water quality criteria for fish and drinking water. (see Attachment D).

11. Implement long-term operation and maintenance of remedial action components.
12. Implement long-term groundwater monitoring system.
13. Treat ponded surface water to appropriate NPDES standards and discharge off-Site.
14. Monitor Site surface run-off.

The groundwater extraction system shall be implemented to contain, collect and extract all Site-related contaminants in excess of the performance standards in the groundwater on and off the Summit National Site. The performance standards for the Water Table Aquifer, Intermediate Aquifer and Upper Sharon Aquifer shall be as follows:

(1) An individual 10^{-6} increased lifetime cancer risk and a cumulative noncarcinogenic HI less than 1; or

(2) background,

whichever occurs first.

The performance standards shall be met unless the Settling Defendants receive a waiver of such standards from the U.S. EPA

based on the demonstration that compliance with such standards is "technically impracticable from an engineering perspective." Waivers for technical impracticability shall be handled as set forth in the relevant provisions of the Consent Decree. Settling Defendants may challenge U.S. EPA's denial of the technical impracticability waiver under the relevant dispute resolution provisions of the Consent Decree.

The Appendices to this SOW detail the major remedial actions for the Facility consistent with the above description.

REMEDIAL DESIGN

A design criteria document, which shall establish the basis for the design of the remedial action, shall be prepared by the Settling Defendants and submitted within 75 calendar days of the effective date of the Consent Decree. Document review and dispute resolution shall be in accordance with the pertinent provisions of the Consent Decree.

Final construction plans and specifications for the Remedial Design shall be prepared to implement the remedial action described in this SOW (including attachments). The plans and specifications shall be of a performance type that will meet the objectives of the design criteria document and the objectives and performance standards set out in this SOW and in the Consent Decree.

The plans and specifications shall be developed in the following phases:

1. Preliminary Design

Submission of the preliminary construction plans and specifications shall reflect the design effort at 30% completion. At this stage, the Settling Defendants shall have field verified the existing conditions of the Site and the pre-remedial design and investigation shall be completed. The preliminary design shall reflect a level of effort such that the technical requirements of the project have been addressed and outlined so that they may be reviewed to determine if the final design will provide an operable and usable remedial project. Supporting data and documentation shall be provided with the design documents defining the functional aspects of the project. The initiation of construction drawings shall reflect organization and clarity. The scope of the technical specifications shall be outlined in a manner reflecting the final specifications. The Settling Defendants' preliminary submission shall include design calculations reflecting the same percentage of completion as the designs they support. Document review and dispute resolution shall be governed by pertinent provisions of the Consent Decree.

2. Pre-Final/Final Design

Pre-final/final design documents shall be submitted in two parts. The first submission shall be at 95% completion of design (i.e., pre-final). This submittal shall include the first draft of a QAPP, SSP and an O&M plan. After approval of the pre-final

submissions, the required revisions shall be executed and the final documents shall be submitted 100% complete with the reproducible drawings and specifications ready for bid advertisement. Document review and dispute resolution shall be governed by the pertinent provisions of the Consent Decree. This portion of the document package submitted for pre-final and final design shall include, but not be limited to, the design analysis, final construction drawings, and specifications.

Coordination shall be consistent with the submission requirements of the drawings and specifications through pre-final/ final design. The final design shall reflect a level of effort such that the technical requirements of the project have been addressed and outlined so that they may be reviewed to determine if the final design will meet the applicable requirements for the project. Supporting data and documentation shall be provided with the design documents defining the functional aspects of the project. Construction drawings shall reflect organization and clarity. Technical specifications shall be outlined in a manner reflecting the final specifications. Design analysis and calculations shall be included with the submission.

The technical specifications governing all treatment systems, including the incineration unit, shall include contractor requirements for providing: appropriate service visits by experienced personnel to supervise the installation, adjustment, start-up and operation of the system, and appropriate operational procedures training once start-up has been successfully accomplished.

3. Compliance with the Requirements of Other Environmental Laws

The design package submitted shall be in accordance with CERCLA procedures on compliance with other environmental laws. Refer to "CERCLA Compliance with Other Environmental Statutes, Appendix to Preamble of the National Oil and Hazardous Substances Pollution Contingency Plan, Final Rule (50 F.R. 2892.6) November 20, 1985, for additional information. All ARARs identified in the U.S. EPA RI/FS shall be analyzed and incorporated in and provide the basis for the design.

The following shall be identified:

a. The permitting authorities;

b. Construction/operating permits required;

c. Time required by permitting agencies to process the applications;

d. Monitoring and/or compliance testing requirements; and

e. Actual agency regulations governing applications, exemptions, variances, etc.

All required application forms shall be obtained, completed, and provided to the appropriate permitting authorities. Copies of all correspondence from a permitting agency that either details permit requirements or indicates that no permits are necessary shall be furnished to the U.S. EPA and Ohio EPA.

V. REMEDIAL ACTION

Completion of the Summit National Facility remedial action shall proceed according to the following tasks:

Task 1 - Site Access

All Site access agreements required to implement the remedial design and remedial actions shall be obtained by the Settling Defendants within 60 days from the effective date of the Consent Decree. Site access agreements shall extend for the duration and implementation of the remedy and shall include allowances for all operation and maintenance considerations and State and Federal oversight activities.

Task 2 - Work Plan Development

Settling Defendants shall prepare Work Plans for RD/RA response actions including the elements contained in this SOW. The Work Plans shall follow all appropriate state and federal guidances provided by U.S. EPA and Ohio EPA, and shall include a detailed discussion of the technical approach, personnel requirements, and schedules as well as the following:

A. Quality Assurance Project Plan and Sampling Plan

A Site-specific Sampling and Quality Assurance Project Plan (QAPP), covering all phases of future Site work, shall be developed by the Settling Defendants based upon all state and federal guidances provided by the U.S. EPA and Ohio EPA. The QAPP shall at a minimum include:

- Title page
- Table of contents
- Project description
- Project organization and responsibilities
- Sampling and custody procedures
- Calibration procedures and frequency
- Quality assurance objectives
- Analytical procedures
- Data analysis, validation, reduction, and reporting
- Internal QC checks
- Performance and system audits
- Preventive maintenance
- Method specific procedures for assessing the data's precision, accuracy, and completeness
- Corrective actions
- QA reports

The plan shall include a precise description of the product and statement of work. The QAPP must provide guidelines for project organization and responsibility, including identification of quality control and quality assurance responsibilities for the Settling Defendants' contractor. In addition, the QAPP shall define quality assurance objectives and other appropriate elements to be included in the Plan based on information in the SOW. A draft QAPP for RA measures shall be submitted at the complete pre-final (95%) plans and specifications stage. A draft QAPP for RD measures shall be

submitted within 45 calendar days from the effective date of the Consent Decree. Required corrections made by the Agencies shall be incorporated in the final QAPP to be submitted within thirty (30) calendar days from the receipt of the Agencies' comments. Required corrections and dispute resolution shall be governed by the pertinent provisions of the Consent Decree.

B. Site Safety Plan

A Site Safety Plan (SSP) shall be developed which is designed to protect on-Site personnel and area residents from the physical, chemical, and all other hazards posed by implementing this remedial action. The SSP shall contain the performance levels and necessary criteria to address the following areas:

- General requirements
- Personnel
- Levels of protection
- Safety work practices
- Medical surveillance
- Personal and environmental air monitoring
- Personal protective equipment
- Personal hygiene
- Decontamination -- personnel and equipment
- Site work zones
- Contaminant control
- Contingency and emergency planning
- Logs, reports, and recordkeeping.

To ensure consistency with appropriate EPA, OSHA, and state health and safety requirements, the following reference list shall be used as guidance in developing the SSP:

1. CERCLA Sections 104(f) and 111(c)(6)
2. EPA Order 1440.2 -- Health and Safety Requirements for Employees Engaged in Field Activities
3. EPA Order 1440.1 -- Respiratory Protection
4. EPA Occupational Health & Safety Manual
5. EPA Interim Standard Operating Safety Guide (September 1982)
6. Part 1910 of 29 CFR, Revised July 1, 1982, OSHA Standards for General Industry
7. NIOSH, Manual of Analytical Methods, Volumes I-VII
8. Threshold Limit Values (TLV) for Chemical Substances and Physical Agents in the Work Environment with Intended Changes Adopted by ACGIH, latest edition
9. ANSI Z 88.2-1980, American National Standard, Practices for Respiratory Protection
10. Air Sampling Instruments for Evaluation of Atmospheric Contaminants, 6th

edition, 1983, American Conference of Governmental Industrial Hygienists

11. Appropriate health and safety statutes

12. Superfund Public Health Evaluation Manual, U.S. EPA (October 1986).

A draft SSP for RA measures shall be submitted at complete pre-final (95%) plans and specifications stage. A draft SSP for RD measures shall be submitted within 45 days from the effective date of this Consent Decree. Required corrections made by the Agencies shall be incorporated in the final SSP to be submitted within 30 calendar days from the receipt of the Agencies' comments. Document review and dispute resolution shall be governed by the pertinent provisions of the Consent Decree.

C. Operation and Maintenance Plan (OMP)

The OMP shall be developed to ensure the safe and effective implementation, operation, and maintenance of the remedy. The basic elements of the OMP shall include:

1. Normal Operation and Maintenance:
   - Description of tasks for operation
   - Description of tasks for maintenance
   - Description of optimum treatment conditions
   - Present schedule showing frequency of each O&M task.

2. Potential Operating Problems:
   - Describe potential sources of problems or failure
   - Present common remedies or alternatives
   - Describe information sources and flow.
3. Routine Monitoring and Laboratory Testing:
   - Description of monitoring tasks detailed in QAPP, including, but not limited to, groundwater monitoring by the installation and/or use of existing monitoring wells in each of the three hydrostratigraphic units at and about the Site, ambient air quality monitoring, surface water monitoring, incinerator emissions monitoring, effluent and ash monitoring, and residential well monitoring.
   - Present required laboratory testing detailed in the QAPP
   - Present required QA/QC

- Present schedule for monitoring frequency, an expanded schedule for monitoring in a contingency plan, and when to discontinue monitoring.

4. Long-Term Operation and Maintenance:
   - Present tasks necessary to identify system shutdown
   - Describe monitoring and testing results necessary for system shutdown
   - Description of equipment maintenance and replacement contingencies
   - Maintain daily operating logs; personnel and maintenance records
   - Retain all laboratory data and testing results
   - Present mechanism for reporting emergencies
   - Schedule of quarterly and annual reports to the Agencies.
5. Description of Alternate O&M:
   - Should systems fail, alternate procedures to prevent undue hazard
   - Analysis of vulnerability and additional resource requirements should a failure occur.

6. Safety Plan:

- Description of precautions of necessary equipment, etc., for Site personnel
- Safety tasks required in the event of systems failure (may be linked to Site safety plan developed during remedial responses).

A preliminary OMP shall be developed and submitted with the complete pre-final (95%) plans and specifications. The preliminary OMP shall include initial start-up and shakedown procedures. A final OMP shall be submitted within 120 days of completion of construction and start-up of each operable unit. Document review and dispute resolution shall be governed by the pertinent provisions of the Consent Decree.

Task 3 - Remedial Action Implementation

A schedule is attached, which demonstrates the time frame for development of the remedial design and implementation of the remedial action. The schedule includes time frames for submittal of document packages for the Agencies' review and approval, and meetings for discussion of submittals. Sampling and monitoring plans are also included.

Key milestones for the remedial design and remedial action are:

1. Submit Design Criteria Document: 75 calendar days after the effective date of the Consent Decree.

2. Submit preliminary (30%) work plans and specifications: 60 calendar days after the Agencies' approval of the Design Criteria Document.

3. Complete pre-final (95%) plans and specifications: 90 calendar days after Agencies' approval of preliminary plans and specifications.

4. Complete final plans and specifications: 30 days after Agencies' approval of pre-final plans and specifications.

5. Begin implementation of remedial action: 60 days after Agencies' approval of final plans and specifications, weather permitting.

APPENDIX A
SOIL REMOVAL AND TREATMENT

Summit National Superfund Site
Deerfield Township of Portage County, Ohio

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1.0 INTRODUCTION

Based on the data presented in the RI and the excess cancer risk computations presented in the FS, significantly contaminated Site soil media shall be remediated as detailed herein.

On-Site soil media consist of significantly contaminated surficial soils located within the Site boundary, sediments within the west and east ponds, and materials associated with subsurface containerized waste and tanks.

East and Perimeter-Site soil media consist of significantly contaminated surficial soils along the east perimeter of the Site, sediments within the drainage ditch along the south and east perimeter of the Site, and sediments within the first impoundment southeast of the Site.

Remediation of soil media shall meet the following objectives:

i) provide a significant reduction in the toxicity, mobility and volume of the hazardous substances currently at the Site;

ii) provide for extensive treatment (virtual destruction) of Site organic contaminants;

iii) be consistent with the intent of the Superfund Amendments and Reauthorization Act of 1986 (SARA);

iv) eliminate threat and risk posed by the absorption or ingestion of contaminated Site sediments and soils related to the Site's past operations;

v) eliminate the threat and risk posed by the past and current Site runoff of contaminated surface wastes, soils, and sediments to off-Site locations;

vi) eliminate the threat and risk of public contact with existing on-Site structures; and

vii) eliminate the threat and risk posed by contact, inhalation, absorption, and ingestion of hazardous materials contained in the on-Site subsurface drums and tanks.

Remediation required of the various Site soil media to meet these objectives are detailed in the following sections.

2.0 ON-SITE SOIL MEDIA

2.1 GENERAL

On-Site soil media consist of significantly contaminated surficial soils located within the Site boundary, sediments within the west and east ponds, and materials associated with tanks and drums. Significantly contaminated soils from these media shall be excavated and treated by on-Site incineration. It is assumed that ash resulting from incineration may be delisted following the applicable substantiative RCRA requirements and will remain on Site as common fill. If ash does not meet the delisting criteria to be established by USEPA and OEPA, alternate treatment methods shall be considered, or the ash shall be disposed of in an appropriate on-Site landfill. Soil treatment by on-Site incineration, performance criteria and delisting criteria are further discussed in Section 5.0.

In the RI/FS, the Site was divided into 48 grid squares, with each grid having surface area dimensions of 100 feet by 100 feet. Superimposition of the RI grid network over a base plan of the Site, as presented on Figure 1, shows that the grid squares along the Site perimeter extend beyond the existing fence. In these areas, the Site boundary shall be for the most part extended to include the entire grid square as shown on Figure 1, with the exception of the southwest corner of the Site. The Site boundary at the southwest corner of the Site shall be as shown on Figure 1, to accommodate the existing drainage course traversing the State highway.

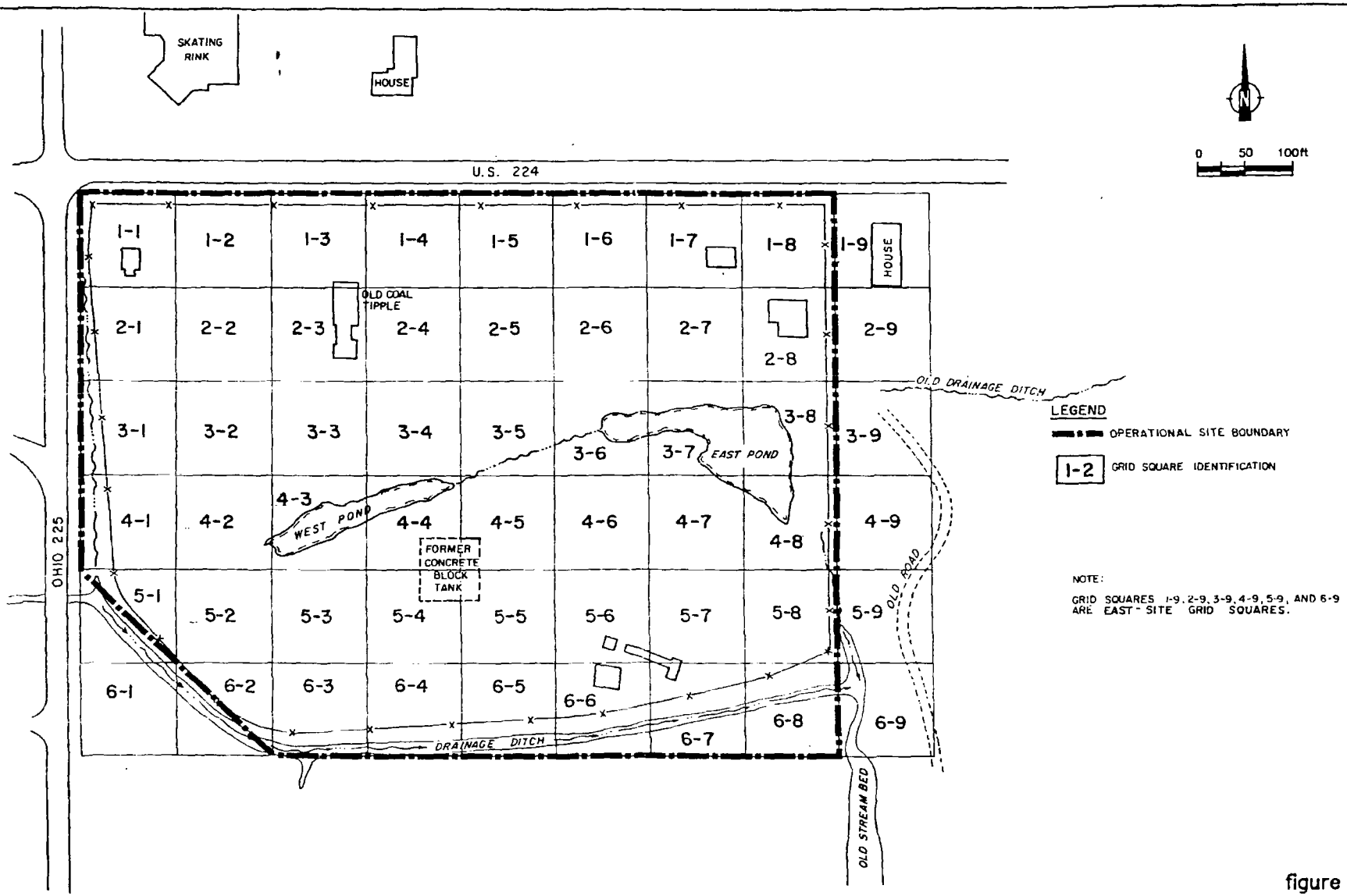

figure 1
SITE GRID PLAN
Summit National Site

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APPENDIX-A

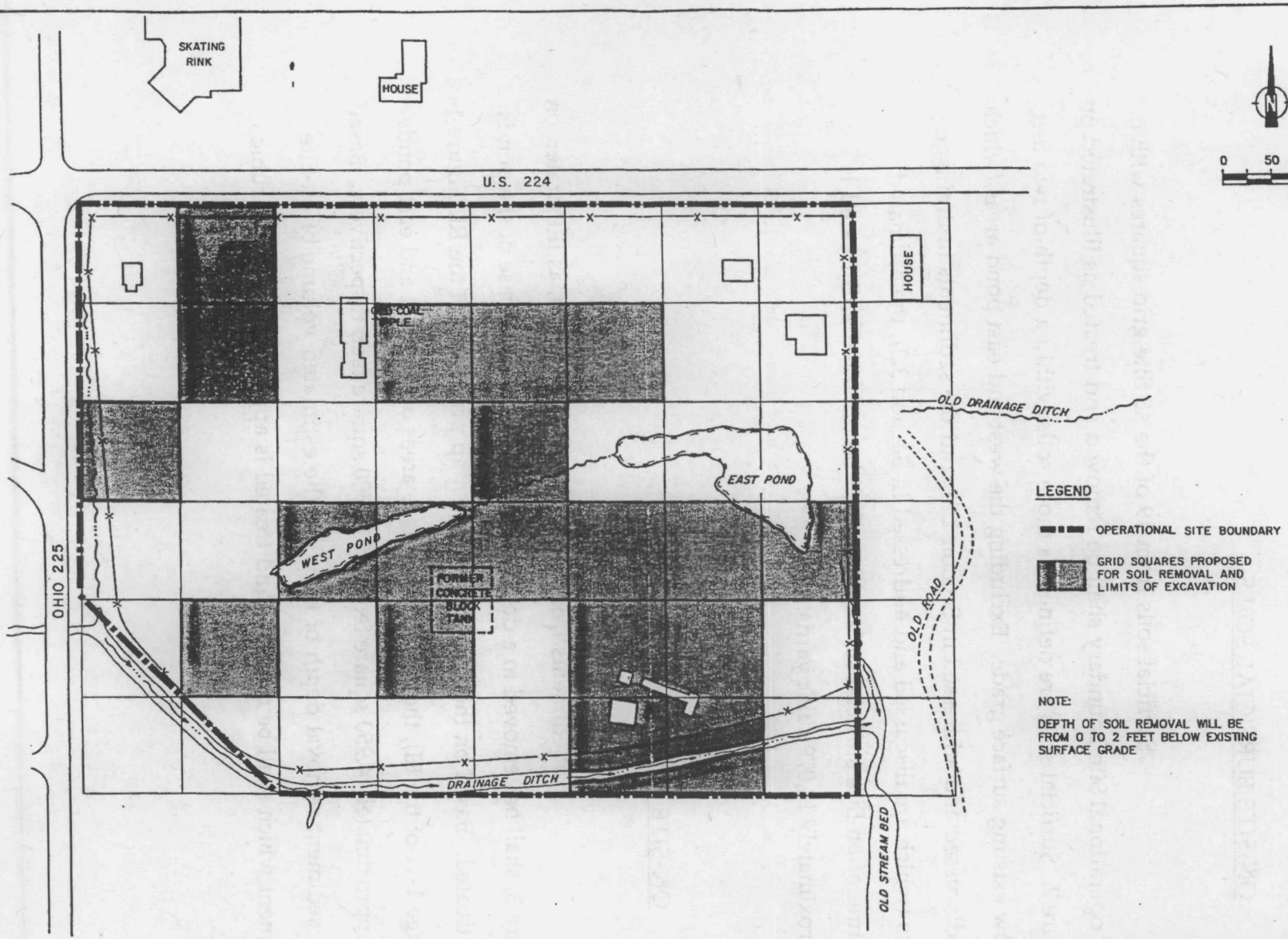

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figure 2

PROPOSED ON-SITE SURFICIAL SOIL REMOVAL

Summit National Site

APPENDIX-A

2.2 ON-SITE SURFICIAL SOILS

Surficial soils from 19 of the 48 Site grid squares within the operational Site boundary shall be removed and treated as illustrated on Figure 2. Surficial soils are defined as those soils within a depth of two feet below existing surface grade. Excluding the west and east pond areas (which are discussed and addressed in Section 2.3), and the sediments in drainage areas (which are discussed and addressed in Section 3.3), the estimated volume of on-Site surficial soils which shall be removed and treated is approximately 14,079 cubic yards.

2.3 ON-SITE SEDIMENTS

Sediments from the west and east ponds, as illustrated on Figure 3, shall be removed to a depth of two feet below the base of the ponds and treated. Based on the Site topographic map presented in the RI (Figure 1-5, page 1-11 of the RI), the estimated surface areas of the west and east ponds are approximately 4,950 square feet and 11,500 square feet, respectively. Based on a sediment removal depth of two feet, the estimated volume of on-Site sediment which shall be removed and treated is approximately 1,220 cubic yards.

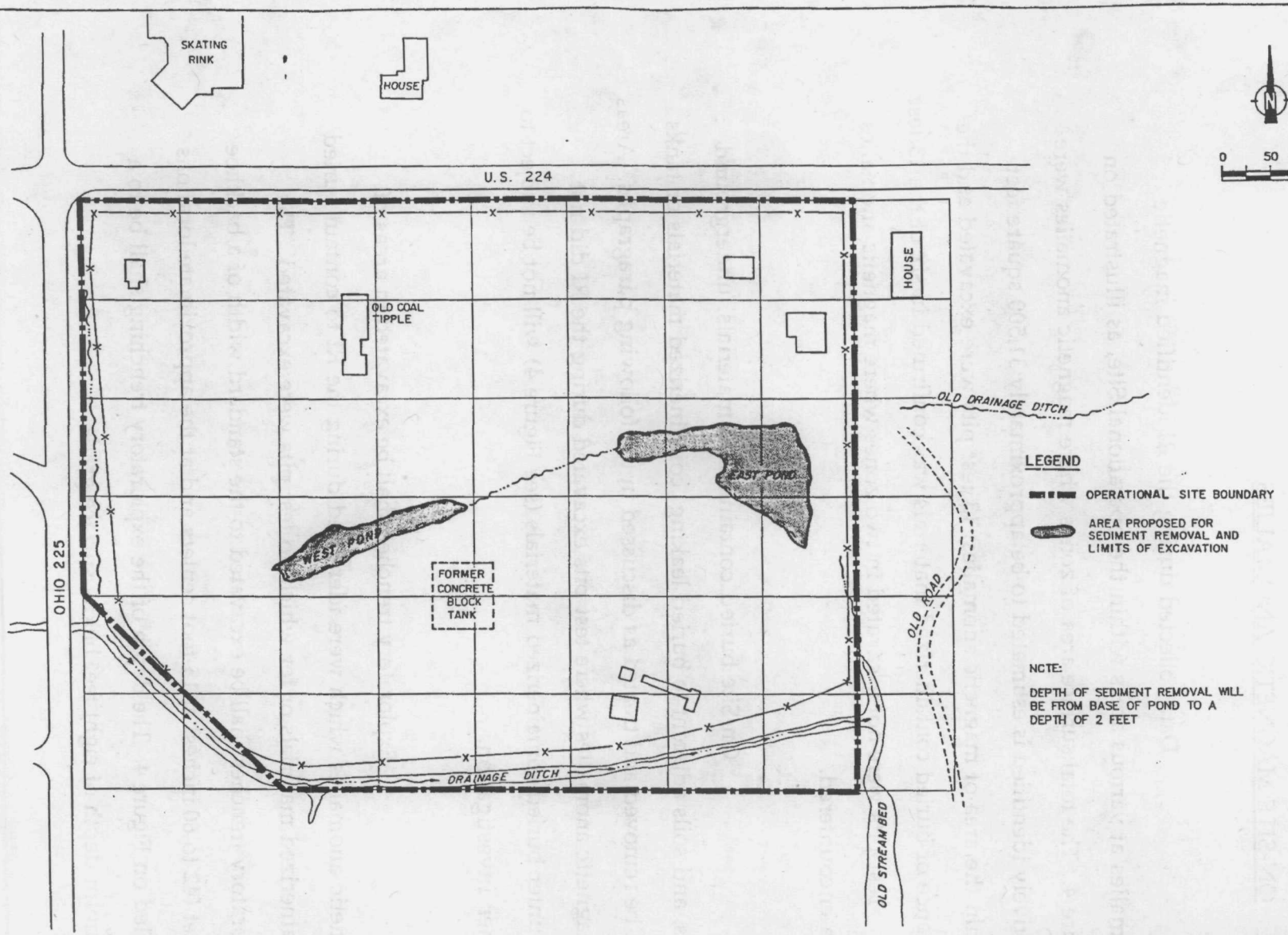

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figure 3

PROPOSED ON-SITE SEDIMENT REMOVAL
Summit National Site

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APPENDIX-A

2.4 ON-SITE MAGNETIC ANOMALIES

Data collected during the RI identified magnetic anomalies at various areas within the operational Site, as illustrated on Figure 4. The total surface area of zones where magnetic anomalies were positively identified is estimated to be approximately 31,500 square feet. Within the area of magnetic anomalies, 13 test pits were excavated and the presence of buried containerized materials was confirmed in six of the 13 test pits. Test pits were not excavated in two zones where magnetic anomalies were encountered.

On-Site buried containerized materials, underground tanks, and soils adjacent to buried leaking containerized materials or tanks shall be removed and treated as discussed in the following paragraphs. Areas of magnetic anomalies where test pits excavated during the RI did not encounter buried containerized materials (see Figure 4) will not be subject to further investigation.

Exploratory trenches shall be excavated in areas of magnetic anomalies which were identified during the RI to contain buried containerized materials or for which no test pits were excavated. The exploratory trenches shall be excavated to the standard width of a backhoe bucket (42 to 60 inches) at 15-foot centers and at the approximate locations detailed on Figure 4. The depth of the exploratory trenching shall be to a minimum depth of eight feet below surface grade.

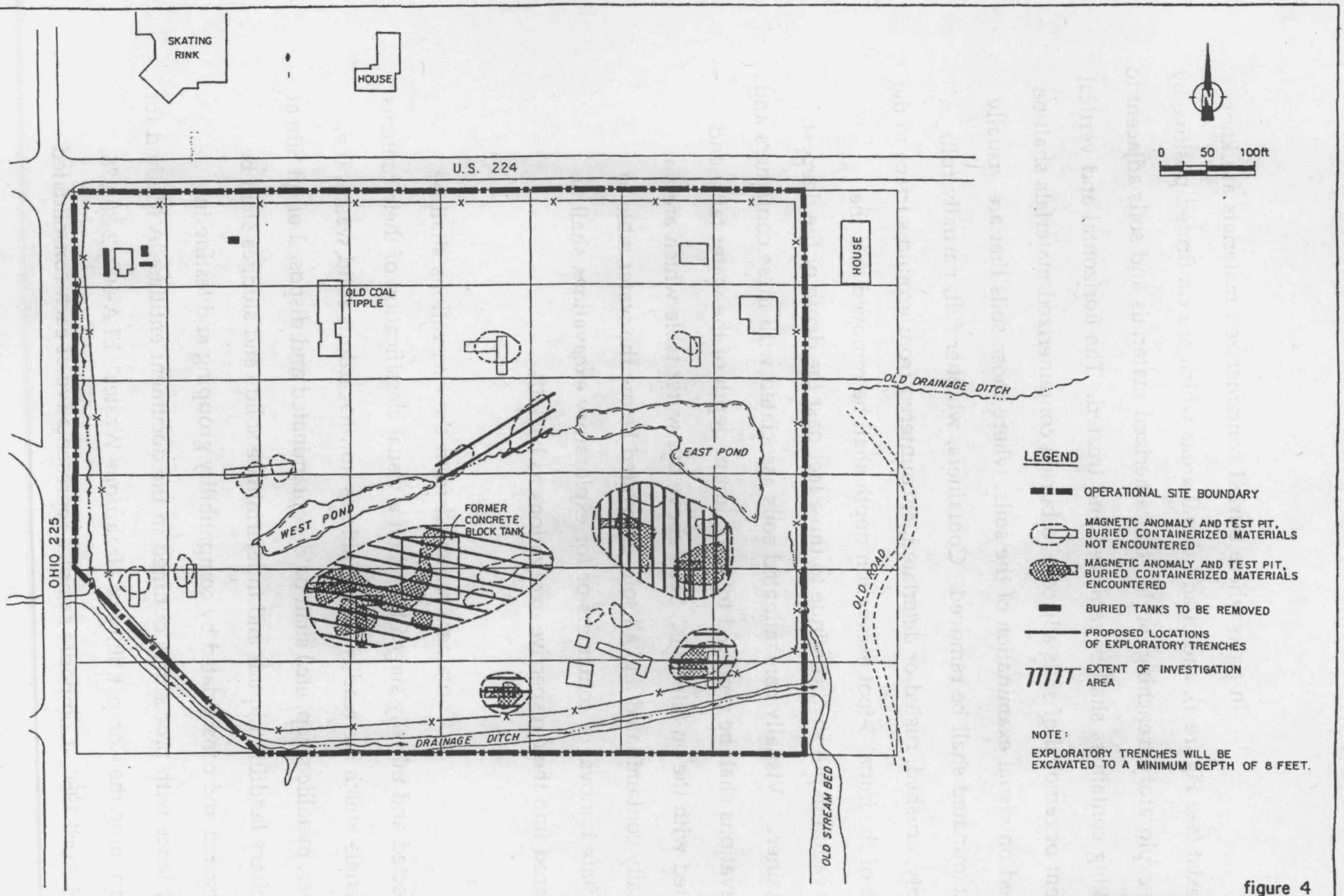

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figure 4

MAGNETIC ANOMALIES

Summit National Site

In areas where buried containerized materials are known to exist (see Figure 4), and in additional areas which are confirmed positive by the exploratory trenching, buried containerized materials and soils adjacent to leaking containers shall be removed and treated. The horizontal and vertical extent of removal of soils adjacent to buried containerized materials shall be based on visual examination of the soils, where those soils that are visually contaminated shall be removed. Containers, whether full, partially full, empty, crushed, rusted or deteriated, encountered from ground surface to the base of the initial 8-foot excavation depth shall be removed and the excavation depth shall continue to three feet past the depth of the deepest container. Visually contaminated soils associated with these containers and excavations shall be removed to a maximum depth of the water table and treated with the on-Site soils. Soils above the water table which are not visually contaminated and all soils excavated below the water table to facilitate removal of containers or for exploratory excavations shall be replaced into their respective excavations as backfill.

Containers removed from the excavations shall be inspected and initially staged based on a visual classification of their contents. Materials which are readily identifiable as non-hazardous solid wastes (i.e. rubber, metallic scrap, etc.) shall be decontaminated and disposed of off Site at a sanitary landfill. Liquids and indeterminate solids and sludges shall be segregated and consolidated by compatibility grouping and testing in accordance with procedures outlined in the document entitled "A Method for Determining the Compatibility of Hazardous Wastes", EPA-600/2-80-076, dated April 1980. Composite samples representative of each consolidated

compatibility grouping will be analyzed to determine the appropriate disposition of the materials. Organic solids and liquids shall be incinerated with the soil media; inorganic liquids shall be disposed of off Site at RCRA 40 CFR Part 264/265 TSD facilities approved by USEPA and OEPA. Aqueous wastes containing organics and or inorganic constituents which are amenable to treatment shall be staged on Site pending treatment by the on-Site groundwater treatment facility. Waste fuels, following testing to determine the absence of hazardous contaminants, shall be disposed of at a permitted oil recycling facility.

Four buried tanks in the northwest corner of the Site were identified during the RI. The contents of these tanks, if any, shall be sampled, analyzed, characterized, and disposed of in accordance with the appropriate requirements for the disposition of the materials. Following removal of the contents, the tanks shall be excavated, cut into manageable size pieces, decontaminated if necessary, and used as backfill in their respective excavations. The horizontal and vertical extent of soil removal adjacent to the buried tanks, if any, shall be based on visual examination of the soils. Those soils that are visually contaminated and are above the water table shall be removed and treated with the on-Site soils. Those soils from above the water table which are not visually contaminated and all soils which are below the water table and which are removed to facilitate removal of the tanks, shall be replaced into their respective excavation as backfill.

Soils currently stockpiled on Site under polyethylene sheeting generated from the emergency underground tank removal

conducted in March 1987 shall be segregated by visual inspection. Visually contaminated soils from this stockpile shall be treated with the on-Site soils. Soils which are not visually contaminated shall be used as common fill for pregrading of the Site beneath the Site cover.

Based on an estimated average removal depth of eight feet for buried containerized materials and adjacent visually contaminated soils, and based on an estimated areal extent for confirmed areas of buried containerized materials of 31,500 square feet, the estimated volume of materials to be removed and treated associated with potential buried containerized materials is approximately 9,300 cubic yards as depicted in Figure 4. The estimmated volume of materials to be removed and treated - associated with the four buried tanks is approximately 234 cubic yards. This total quantity of approximately 9,534 cubic yards is in addition to the on-Site surficial soils specified for removal and treatment.

2.5 ON-SITE MISCELLANEOUS ITEMS

2.5.1 Dewatering of On-Site Ponds

Prior to removal of sediments, the west and east ponds shall be dewatered. The pond waters shall be treated utilizing the on-Site groundwater treatment facility.

2.5.2 On-Site Buildings

Debris within the existing on-Site incinerator shall be removed to the original lining material prior to dismantling of the incinerator. Removed debris shall be treated concurrently with treatment of the on-Site soils.

On-Site buildings and above grade structures shall be dismantled to grade. Resulting debris shall be reduced to minimum volume and used as common fill for pregrading of the Site prior to Site cover construction in a manner consistent with best engineering practices to achieve maximum compaction.

3.0 EAST AND PERIMETER-SITE SOIL MEDIA

3.1 GENERAL

East and Perimeter-Site soil media consist of contaminated surficial soils along the east perimeter of the Site, contaminated sediments within the drainage ditch along the south and east perimeters of the Site, and contaminated sediments within the first impoundment southeast of the Site. The contaminated surficial soils shall be excavated and treated by on-Site incineration. The contaminated sediments shall be excavated and placed on Site beneath the Site cover. East and Perimeter-Site excavated materials shall be replaced with clean common fill materials obtained from a source local to the Site. Surface features shall be restored to pre-remediation conditions.

3.2 EAST-SITE SURFICIAL SOILS

USEPA has determined that surficial soils in two grid squares along the east perimeter of the Site pose an unacceptable risk to human health or the environment. The surficial soils in these two grid squares, shown on Figure 5, shall be removed to a depth of two feet below existing surface grade and treated by on-Site incineration.

The estimated volume of East-Site surficial soils specified for removal and treatment is approximately 1,390 cubic yards.

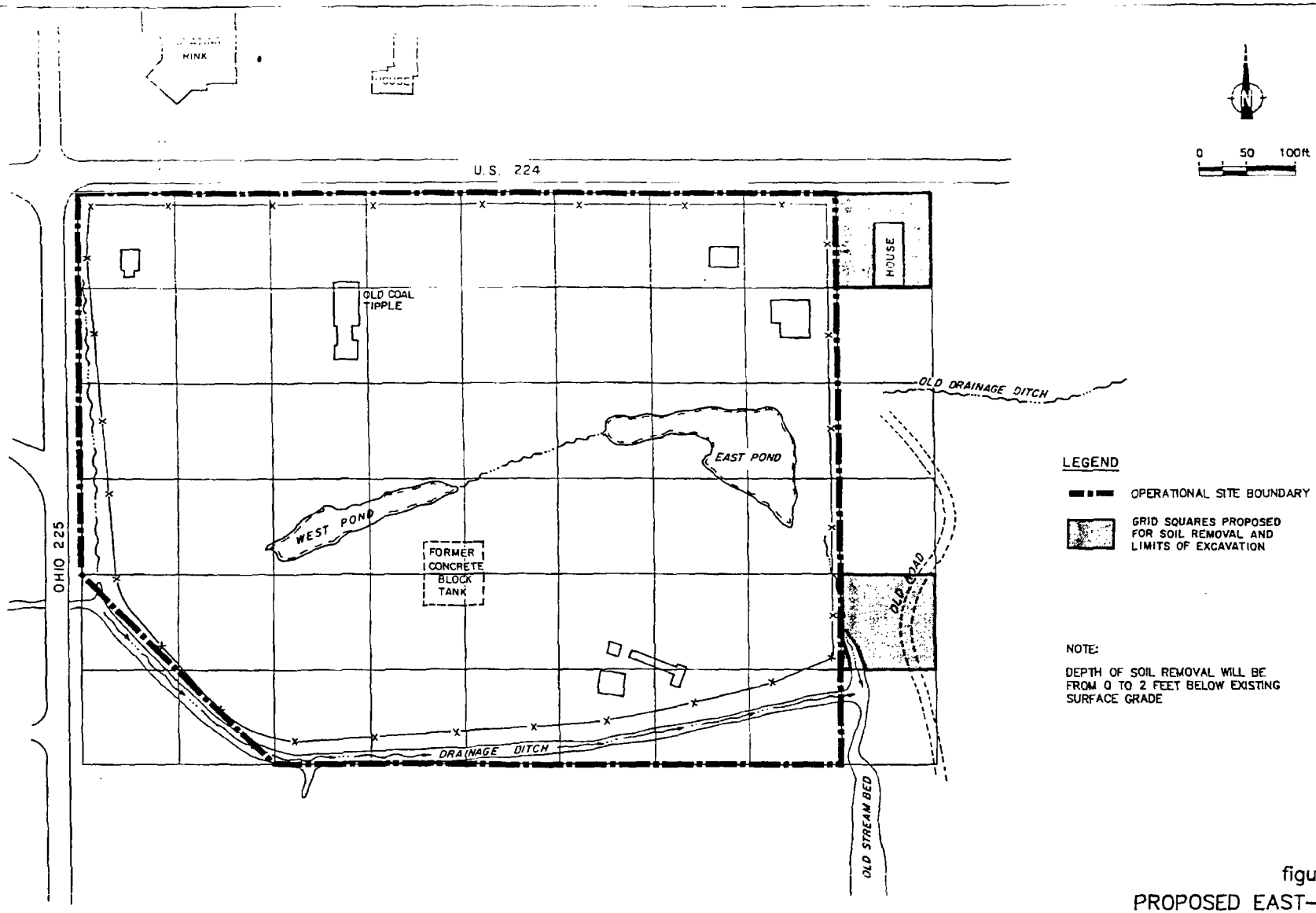

figure 5
PROPOSED EAST-SITE
SURFICIAL SOIL REMOVAL
Summit National Site

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3.3 PERIMETER-SITE SEDIMENTS

Sediments from the drainage ditch along the south and east perimeters of the Site and from the first impoundment southeast of the Site, as shown on Figure 6, shall be removed and placed on Site under the Site cover. The depth of sediment removal shall be from the existing surface of the ditch or impoundment to the actual depth of the sediments.

Based on the Site topographic map presented in the RI (Figure 1-5, page 1-11 of the RI), the total estimated surface area of the south- and east drainage ditch and the first impoundment is approximately 34,800 square feet. Based on an estimated sediment removal depth of two feet, the approximate volume of East and Perimeter-Site sediment which will be removed and placed on Site under the Site cover is 2,580 cubic yards.

3.4 PERIMETER-SITE MISCELLANEOUS ITEMS

3.4.1 Dewatering of Perimeter-Site Ditches and Impoundments

Prior to removal of sediments from the drainage ditch along the south and east of the Site and from the first impoundment southeast of the Site, dewatering may be required. If dewatering is required, the drainage ditch shall be temporarily dammed both west and east of the Site

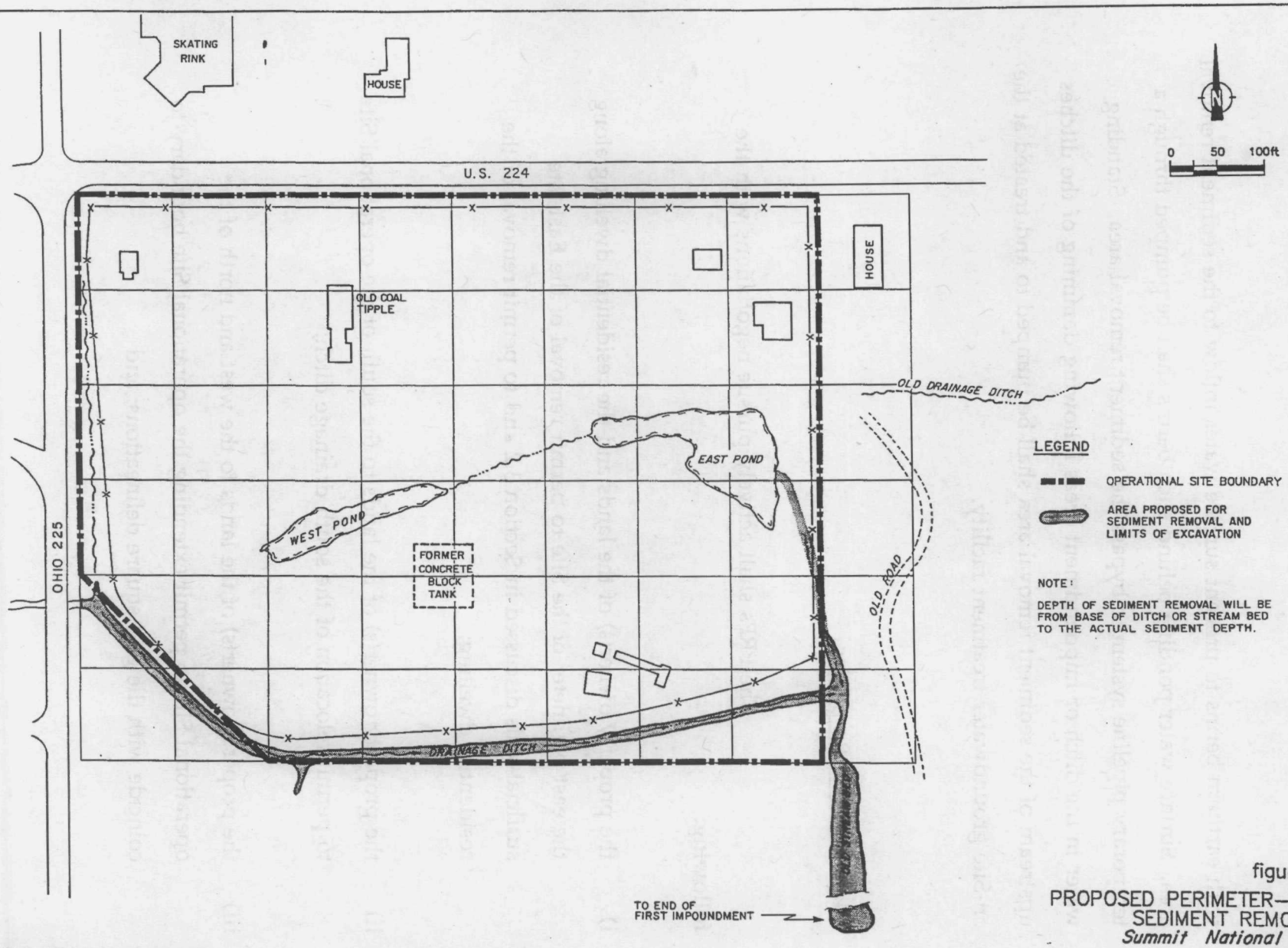

figure 6

PROPOSED PERIMETER-SITE SEDIMENT REMOVAL

Summit National Site

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with earthern berms to prevent surface water inflow to the sediment removal area. Surface water ponding behind such berms shall be pumped through a temporary pipeline system to bypass the sediment removal area. Standing water in the ditch or impoundment areas following damming of the ditches upstream of the sediment removal area shall be pumped to and treated at the on-Site groundwater treatment facility.

3.4.2 East-Site Properties

The PRPs shall actively pursue negotiations with the following:

i) the property owner(s) of the lands and the residential dwelling along the east perimeter of the Site to permit removal of the East-Site surficial soils discussed in Section 3.2 and to permit removal of the residential dwelling;

ii) the property owner(s) of the lands to the south of the operational Site to permit relocation of the south drainage ditch;

iii) the property owner(s) of the lands to the west and north of the operational Site to permit extending the operational Site boundary to coincide with the grid square delineations; and

iv) the property owner(s) of the lands in the vicinity of the Site to permit installation and long-term monitoring of groundwater monitoring wells.

If unsuccessful in these negotiations, the PRPs will request assistance from USEPA and OEPA as provided for by pertinent provisions of the Consent Decree.

Assuming that the PRPs are successful in negotiations with the owner of the residential dwelling, the existing dwelling shall be dismantled to grade and the land contoured into the existing features. Brick and concrete debris resulting from the demolition of the dwelling shall be reduced to minimum volume and used as common fill for pregrading of the Site prior to Site cover construction in a manner consistent with best engineering practices to achieve maximum compaction. Other debris shall be disposed of in a sanitary landfill.

4.0 SUMMARY OF ESTIMATED QUANTITIES PROPOSED SOIL REMOVAL ALTERNATIVE

A summary of the estimated quantities for removal of on-Site soil media, as discussed in Section 2.0, and East and Perimeter-Site soil media, as discussed in Section 3.0, is provided in Table 1. In total, approximately 24,716 cubic yards of soil materials from on-Site soil media are specified for removal and treatment. In addition, approximately 1,390 cubic yards of soil from East-Site is specified for removal and treatment, and approximately 2,580 cubic yards of sediments from Perimeter-Site are specified for removal and securement on Site under a protective soil cover. These estimates are based on the assumptions presented herein and the actual quantities may vary depending on actual Site conditions.

TABLE 1

SUMMARY OF ESTIMATED QUANTITIES
PROPOSED SOIL REMOVAL ALTERNATIVE
SUMMIT NATIONAL SITE

ITEM	DESCRIPTION	ESTIMATED QUANTITY (cubic yards)
A.	ON-SITE SOIL MEDIA	
1	On-Site Surficial Soils in 19 of the Site grid squares (zero to two-foot depth interval)	14,079
2	On-Site Sediments in the west and east ponds (base of ponds to a depth of two feet)	1,220
3	On-Site Magnetic Anomalies (areal limits to be confirmed by exploratory trenches; depth limits estimated to be eight feet below surface grade)	9,300
4	On-Site Buried Tanks (visually contaminated soils including stockpiled soils from previous tank removal	117
	TOTAL REMOVAL OF ON-SITE SOIL MEDIA	24,716
B.	OFF-SITE SOIL MEDIA	
1	Off-Site Surficial Soils in two grid squares along the east perimeter of the Site (zero to two-foot depth interval)	1,390
2	Off-Site Sediments in the drainage ditch along south and east perimeters of the Site and in the first impoundment southeast of the Site (base of ditches or impoundment to the actual depth of the sediments)	2,580
	TOTAL REMOVAL OF OFF-SITE SOIL MEDIA	3,970

5.0 SOIL TREATMENT

5.1 GENERAL

Treatment of specified on-Site and East-Site soil media shall be by on-Site incineration. Transportable incineration units for the treatment of soil contaminated with organic compounds is a proven and well established remedial technology. On-Site incineration shall provide a permanent solution to the management of contaminated soils with respect to organic contaminants, and consequently best satisfies the regulatory preference stated under SARA Section 121 for the use of technologies which provide a significant reduction in the toxicity, mobility and volume of hazardous substance materials.

5.2 ON-SITE INCINERATION

Various incineration technologies are available for the destruction of organics in contaminated soil. The use of a rotary kiln is the best demonstrated with a reliable performance record based on testing by the USEPA and by commercial incineration facilities. A rotary kiln system shall be the incineration technology of choice for treatment of soil media at the Site.

The incinerator that actually shall be used at the Site will be specific to the vendor/contractor selected for conducting the Site work.

The rotary kiln system to be used shall include a process train consisting of a solids feed system, the rotary kiln, a secondary combustion chamber, an ash discharge system, and a flue gas treatment system. The operation of the incinerator shall be governed by conditions determined from a demonstration burn to ensure that performance and operational criteria are met. The incineration system shall be equipped with measures to prevent and control fugitive emissions, and controls to regulate and monitor operational parameters and flue gas emissions.

Feed streams and air emissions shall be sampled and analyzed during the demonstration burn, and during operation to determine compliance with the performance criteria.

Ash shall be sampled and analyzed during the demonstration burn, and periodically during operation, to verify that the ash meets the delisting criteria to be established. Ash which does not satisfy the delisting criteria due to residual organics will be repassed through the incinerator until the criteria are met. Ash which does not meet the delisting criteria for inorganic constituents shall be consolidated and secured on Site in a RCRA cell. Ash which meets the full delisting criteria shall be used on Site as common fill for pregrading of the Site to the final design base contours. The construction of a RCRA cell is reserved for use only as a contingency measure.

5.3 PERFORMANCE CRITERIA

Federal criteria available for assessing the performance of incineration systems as stipulated under 40 CFR Part 264 (Standards for *Owners and Operators of Hazardous Waste Treatment, Storage and Disposal* Facilities) Subpart O (Incinerators) shall apply for the performance criteria.

Additional operational criteria, at a minimum, specifying the limits for carbon monoxide (CO) in the stack gas, waste feed rates, combustion temperatures, combustion gas velocities, and requirements for the waste feed cutoff systems shall be determined from the results of the demonstration burn which will be conducted.

5.4 DELISTING CRITERIA

Delisting criteria for the ash are specified under 40 CFR Part 261 (Identification and Listing of Hazardous Waste). The major hazardous characteristic which may affect delisting of the ash is that of EP Toxicity, however, other hazardous constituents may affect delisting. Representative samples of the ash will be collected during the demonstration burn and the extracts analyzed in accordance with 40 CFR Part 261 for EP Toxicity to demonstrate suitability for delisting. Delisting of the ash shall be performed by USEPA Region V Office of Superfund utilizing the substantive requirements of RCRA.

APPENDIX B
GROUNDWATER EXTRACTION SYSTEM

Summit National Superfund Site
Deerfield Township of Portage County, Ohio

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ATTACHMENT A TARGET COMPOUND LIST (SEPTEMBER 1988)

1.0 INTRODUCTION

The groundwater collection and extraction system shall consist of a pipe and media groundwater collection drain in the Water Table Unit (WTU), six newly constructed groundwater extraction wells in the Intermediate Unit (IU), and two groundwater extraction wells converted from existing monitoring wells in the IU. The groundwater collection and extraction system shall hydraulically contain, collect and extract all Site-related contaminated groundwater in both the WTU and IU beneath and off the Site.

The objective of the system is to eliminate the threat and risk posed by the ingestion or absorption of contaminated groundwater both on and off the Site related to the Facility's past operations.

2.0 EXISTING SITE CONDITIONS

2.1 GEOLOGIC AND HYDROGEOLOGIC SETTING

From data presented in the RI it is concluded that there are three hydrostratigraphic units beneath the Site. The three units are as follows:

i) Water Table Unit (WTU), consisting of unconsolidated overburden materials, mine spoil and shallow bedrock;

ii) the Intermediate Unit (IU), consisting of interbedded shales, sandstones, limestone and coal units to the top of the marker bed sandstone; and

iii) the Upper Sharon Aquifer, a deep water-bearing unit, consisting of interbedded sandstone, siltstone and shale.

These hydrostratigraphic units are illustrated on Figure 1.

2.2 DISTRIBUTION OF GROUNDWATER CONTAMINATION

Analytical data collected during the RI identified the major area of water table groundwater contamination to occur in the

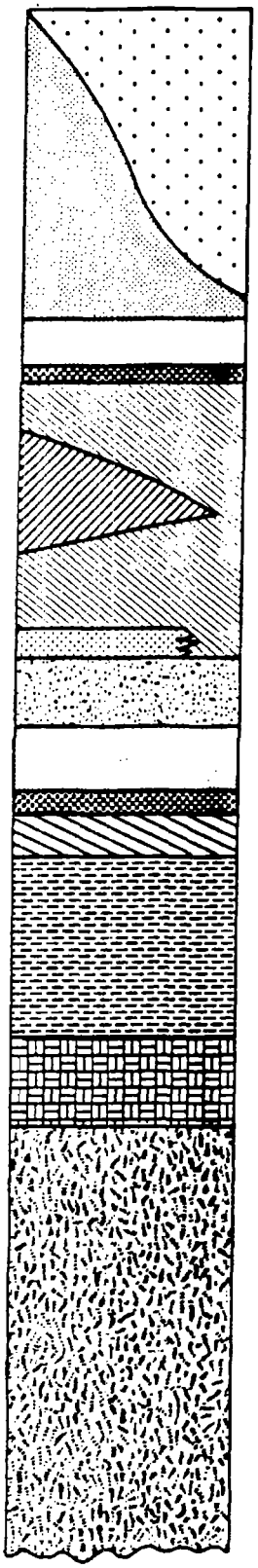

figure 1

SCHEMATIC HYDROGEOLOGIC SECTION

Summit National Site

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southwest quadrant of the Site. The WTU in this portion of the Site is contaminated, with the groundwater flow direction to the southeast.

Groundwater contamination of the IU has occurred beneath the Site. The groundwater flow direction in the IU appears to vary with depth.

Groundwater contamination related to past Site operations may not have occurred in the Upper Sharon Aquifer. The direction of groundwater flow in this unit beneath the Site is in a northeastern direction, according to USEPA's RI.

3.0 EXISTING WELLS

3.1 TIPPLE WELL

The Tipple well may represent a potential pathway of contaminant migration from the surface of the Site to the deeper units. The Tipple well shall be closed in accordance with State regulations by grouting with a cement/bentonite grout from the base of the well, if possible, to ground surface.

Prior to closure, the well shall be characterized with respect to groundwater quality and physical conditions. After the removal of any blockage, if possible, the groundwater sampling shall be conducted to obtain zone specific groundwater samples as follows: one sample from the Lower Sharon Aquifer (if the well is completed to this unit); one sample from the Upper Sharon Unit; two samples from the IU; and one sample from the WTU (if the well is open to this unit). All water samples shall be analyzed for the Target Compound List (TCL) parameters presented in Attachment A.

The physical characterization of the well shall consist of groundwater flow measurements prior to and following the opening of the well. The flow measurements after opening of the well shall determine the major water-bearing intervals. In addition, geophysical loggings of the well shall be conducted to determine the lithology of the materials penetrated.

The performance of this work shall be contingent upon the Tipple well being opened with a reasonable amount of effort.

3.2 MONITORING WELLS

All existing monitoring wells that are not used in the long-term Site monitoring program shall be closed in accordance with State regulations by grouting with a cement/bentonite grout from the bottom of the well to the ground surface. All stick-ups and protective casings will be cut off at the ground surface. If leakage through annular spaces is a direct threat, then overdrilling to remove annular grout and the well casing shall be conducted prior to closure.

4.0 HYDROGEOLOGICAL DESIGN CRITERIA

4.1 PIPE AND MEDIA DRAIN

4.1.1 Extent

The location of the pipe and media drain is shown on Figure 2. A geologic cross-section along the drain alignment is illustrated on Figure 3. The components of the drain and the proposed construction methods are described in Section 5.0.

The alignment of the drain, as shown on Figure 2, was selected to contain, collect and extract Site-related contaminated groundwater through the WTU both on-Site and off-Site. The drain shall be located along the southern boundary of the Site, which is the hydraulic downgradient boundary and also the area of greatest groundwater contamination. The drain shall be extended along the east and west boundaries of the Site to prevent the potential of off-Site migration of contaminated groundwater and to contain, collect and extract any Site-related groundwater contamination present in these areas. The north-south pipe and media drain extensions provide an additional degree of safety in precluding off-Site migration of contaminated groundwater and contain, collect and extract any Site-related groundwater contamination. The total length of the drain is estimated to be approximately 1,260 feet.

The drain shall be installed at the base of the WTU near the top of the bedrock surface. The drain shall be located at the base of the

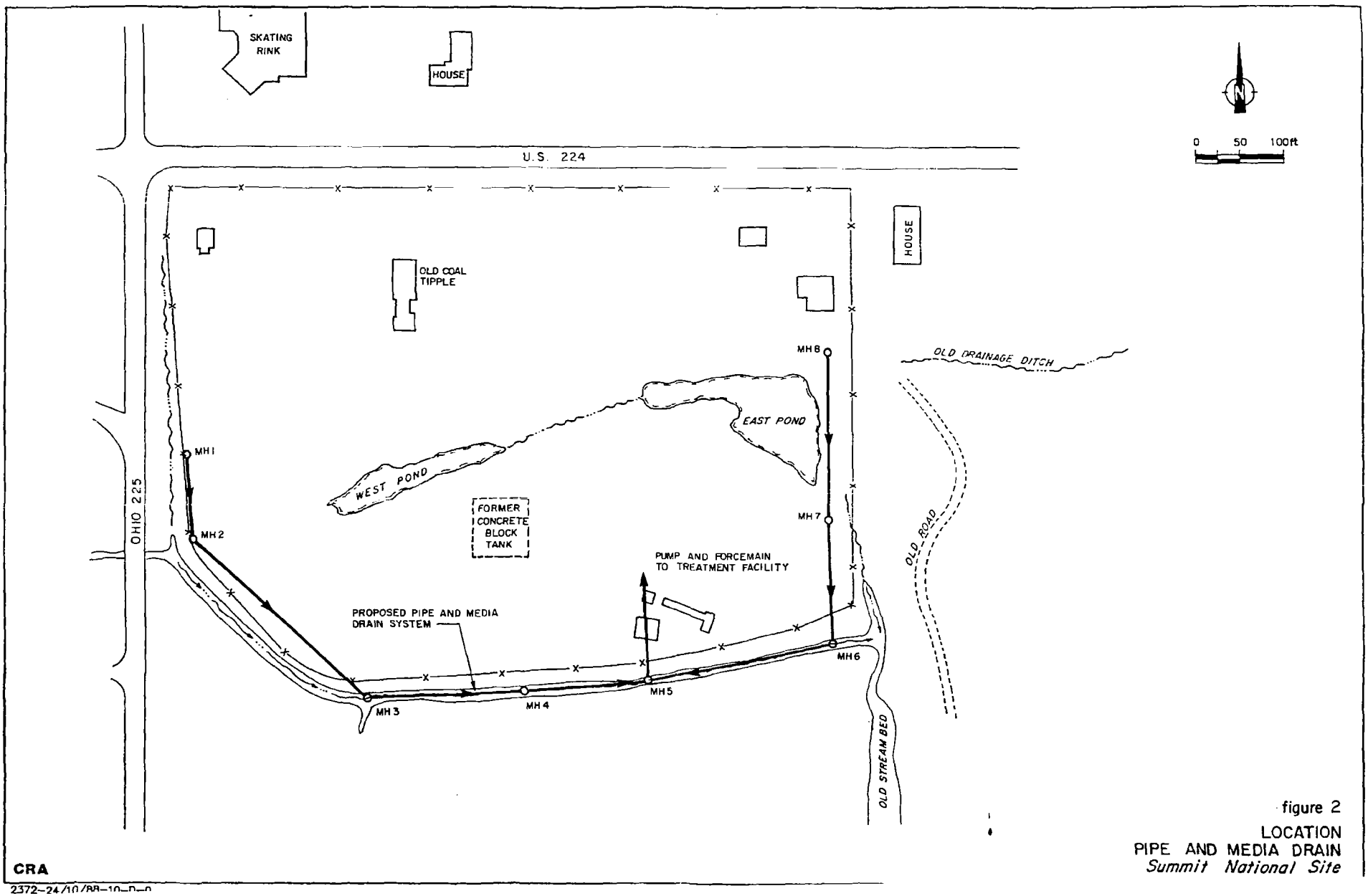

figure 2
LOCATION
PIPE AND MEDIA DRAIN
Summit National Site

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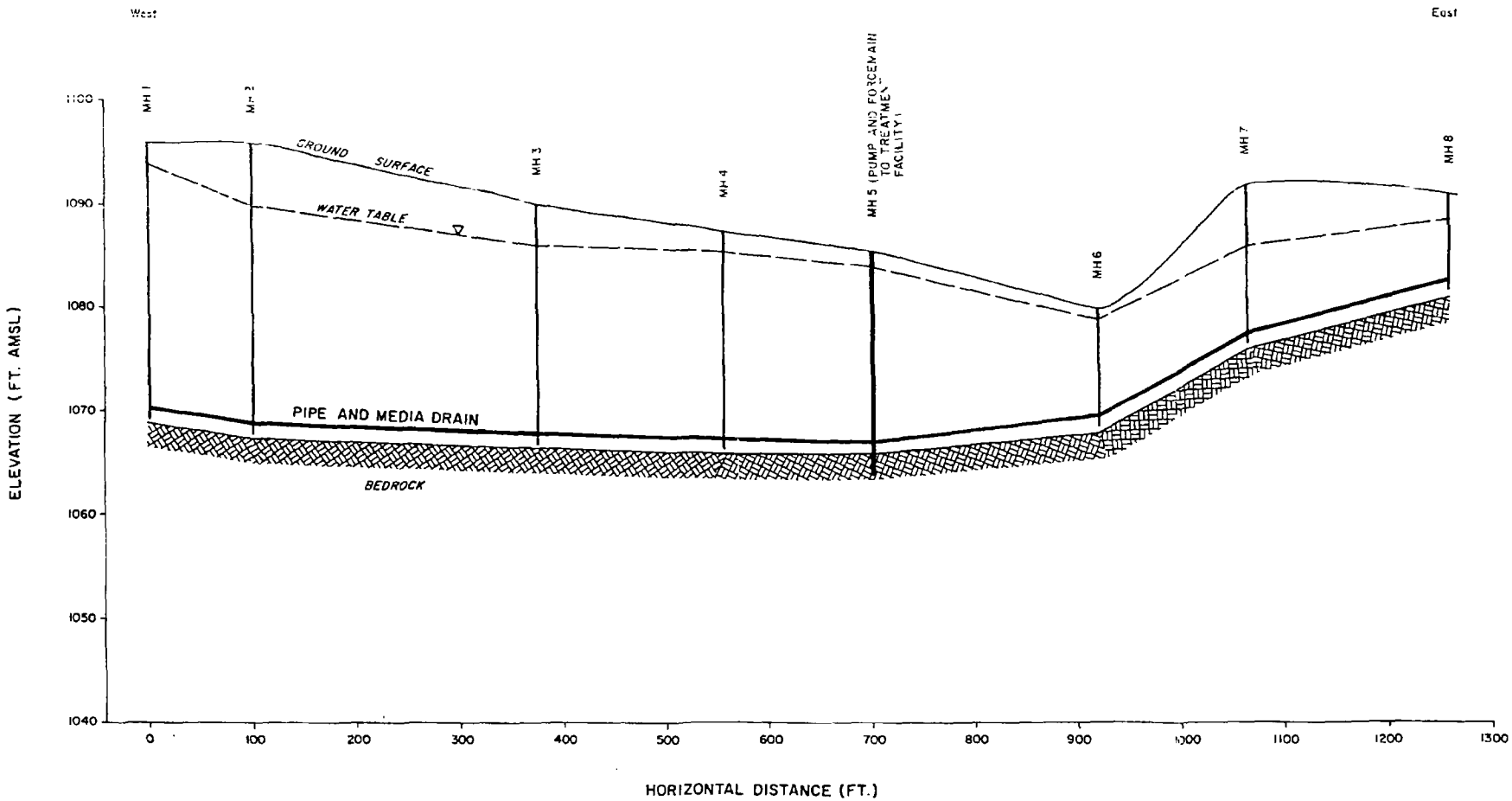

figure 3

GEOLOGIC CROSS-SECTION ALONG PROPOSED PIPE AND MEDIA DRAIN
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WTU to collect Dense Non-Aqueous Phase Liquids (DNAPL), if any are present.

4.1.2 Estimated Flow Rates

The extraction of groundwater from the pipe and media drain shall cause a lowering of the water table in the WTU. Initial groundwater extraction flow rates will decline with time as the water table reaches a new equilibrium. Eventually, a new steady-state condition shall occur at which point the water table will remain relatively constant.

The estimated groundwater flow rates to the collection drain are presented in Table 1. The groundwater extraction pumping system shall be based on a design extraction rate of 94 gpm, including an allowance of 8 gpm from the groundwater extraction wells.

4.1.3 Predicted Effect on Groundwater Levels

The groundwater collection and extraction drain shall contain, collect and extract Site-related contaminated groundwater in the WTU beneath and off the Site. In addition, modeling of the WTU indicates that groundwater will be contained, collected and extracted from a minimum horizontal distance of 250 feet about the drain. Estimated WTU groundwater contours at steady-state in the vicinity of the WTU are presented in Figure 4.

TABLE 1

SUMMARY OF PREDICTED FLOW RATES
PIPE AND MEDIA DRAIN
SUMMIT NATIONAL SITE

Time after Installation of Drain (days)	Lateral Flows (gpm)	Infiltration (gpm)	Total (gpm)
30	76	10	86
90	50	10	60
180	35	10	45
365	25	10	35
steady-state	17 to 26	10	27 to 36

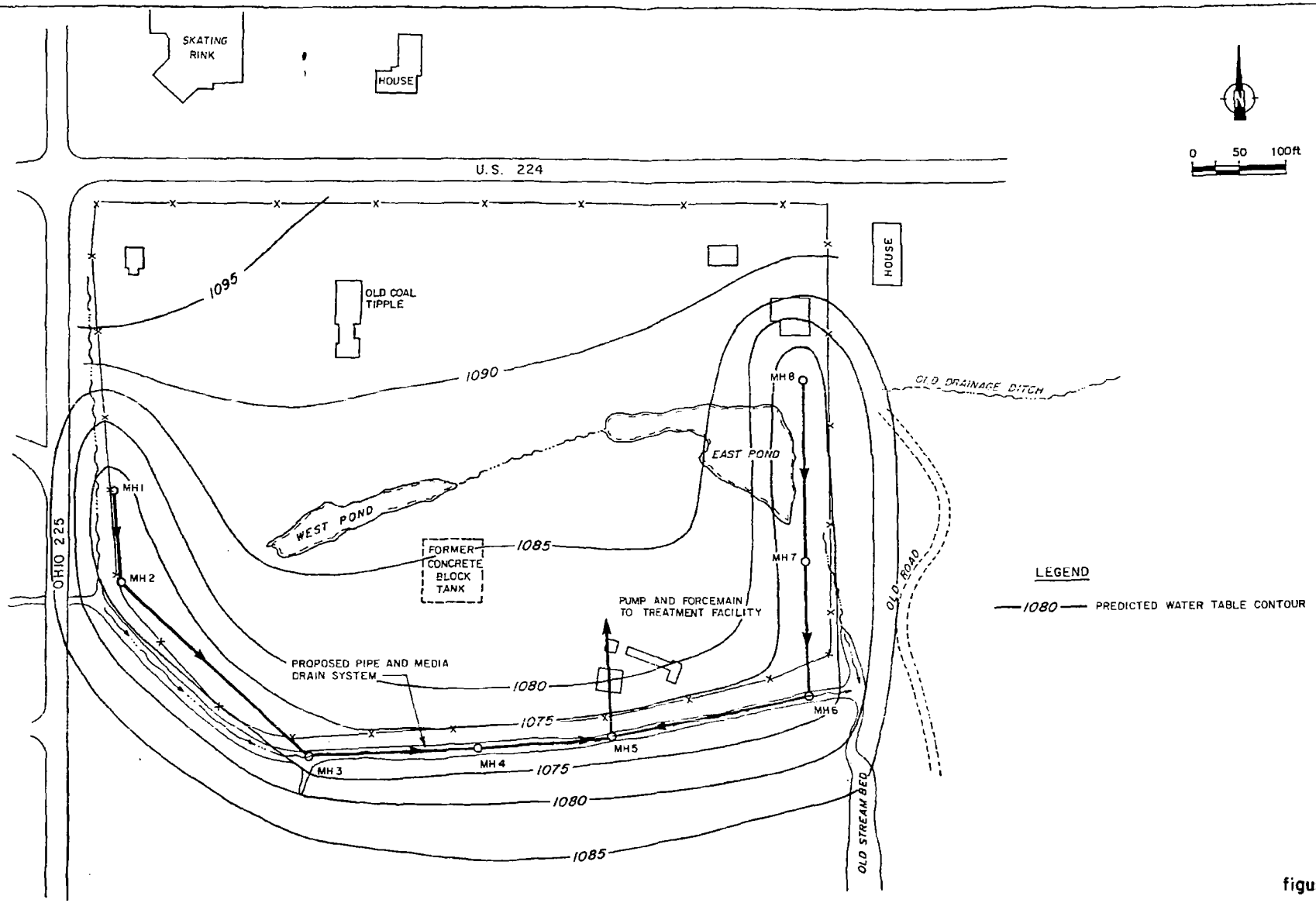

figure 4

PREDICTED WATER TABLE CONTOURS
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APPENDIX-B

4.2 INTERMEDIATE UNIT EXTRACTION WELLS

A groundwater extraction system shall be installed to collect, contain and extract Site-related contaminated groundwater in the IU beneath and off the Site. The IU groundwater extraction system shall consist of two existing monitoring wells converted to extraction wells and six newly constructed extraction wells. The locations of the existing and proposed wells are shown on Figure 5.

Monitoring wells MW-10 and MW-24 shall be converted to extraction wells due to the fact that elevated levels of groundwater contamination in the IU were found at these two locations. In addition to converting these two existing monitoring wells to extraction wells, six new extraction wells shall be installed along the southern and eastern Site boundary. All these wells shall be located to provide containment, collection and extraction of all Site-related groundwater contamination. The six new extraction wells shall be spaced along the Site boundary in the general hydraulic downgradient direction of the IU. These wells also shall be located in areas where the Unnamed Limestone is believed to be absent. The six new extraction wells shall be terminated in the siltstone unit above the marker bed. These wells shall be screened from the bottom of the unnamed coal #1 to the unit above the marker bed.

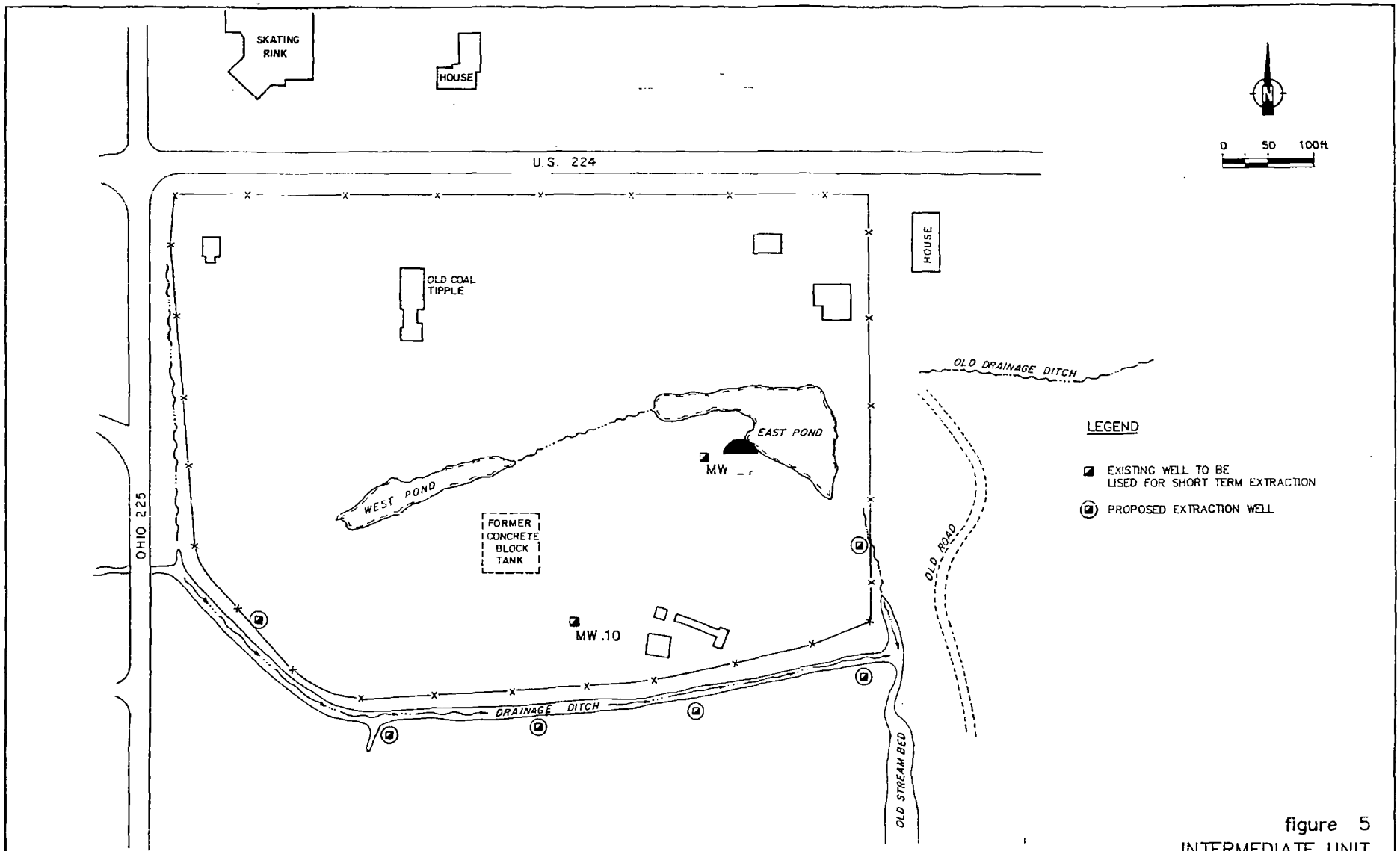

figure 5
INTERMEDIATE UNIT
EXTRACTION WELL LOCATIONS
Summit National Site

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Based on the hydraulic conductivity and water level data collected during the RI, it is estimated that the IU extraction wells will produce a maximum long-term yield of approximately one gallon per minute (gpm) per well. Therefore, the total flow from the IU groundwater extraction system is estimated to be 8 gpm. The actual flow rates may vary depending on capacities of each well and withdrawal rates required to attain hydraulic containment, collection and extraction of Site-related contaminated groundwater in the IU.

4.3 Upper Sharon

Sampling and analysis of the Tipple well will be completed as part of the design phase of the final remedial action (see Section 3.1). If the Upper Sharon Aquifer is determined by this effort to contain Site-related contamination in excess of the cleanup standards, at a minimum, the Tipple well will be converted to an extraction well and contaminated groundwater shall be extracted from the Upper Sharon Unit for subsequent on-Site treatment. If it is not feasible or practical to convert the Tipple well, one or more new groundwater extraction wells will be installed in the Upper Sharon Unit and operated.

In the event that extraction of groundwater from the Upper Sharon Aquifer is determined to be necessary, separate work plans and remedial designs will be prepared and submitted to USEPA and OEPA for review, modification and/or approval.

5.0 GROUNDWATER COLLECTION SYSTEM

This section presents conceptual design criteria and construction methods for the pipe and media drain system and extraction wells which shall be installed at the Site.

5.1 CONCEPTUAL DESIGN CRITERIA

The groundwater collection system for the Site shall be comprised of three primary components, namely:

i) a pipe and media drain system which shall effectively contain, collect and extract Site-related contaminated groundwater in the Water Table Unit beneath and off the Site;

ii) an extraction well system which shall effectively contain, collect and extract Site-related contaminated groundwater in the Intermediate Unit beneath and off the Site; and

iii) a collection and transfer system that shall collect and transfer the groundwater removed by the pipe and media drain system and the extraction well system to the groundwater treatment facility.

5.1.1 Pipe and Media Drain System Components

The pipe and media drain system shall include all components necessary to contain, collect and extract Site-related contaminated groundwater from the Water Table Unit beneath and off the Site. The primary component of the pipe and media drain system is the groundwater interceptor trench, as illustrated on Figure 2. A typical section of the groundwater interceptor trench and piping is shown on Figure 6.

Six-inch diameter extra strength reinforced vitrified clay pipe shall be used for the interceptor trench drain piping due to its chemical corrosion resistant properties. Additional reinforcement shall be provided at joints in the pipe to minimize the potential for misalignment of the pipe joints. The collection drain shall be perforated to facilitate infiltration of the intercepted groundwater into the pipe component of the pipe and media drain system.

The collection drain shall be wrapped with a nonwoven polypropylene filter cloth, having a nominal mesh opening smaller than the D_{15} drain size of the bedding material, to minimize the potential for bedding material to enter the drain pipe. The drain pipe shall be installed at a nominal grade of 0.5 percent, providing positive slope towards the collection sump.

Access manholes for inspection and maintenance purposes shall be installed at the ends of, and at each change in direction of,

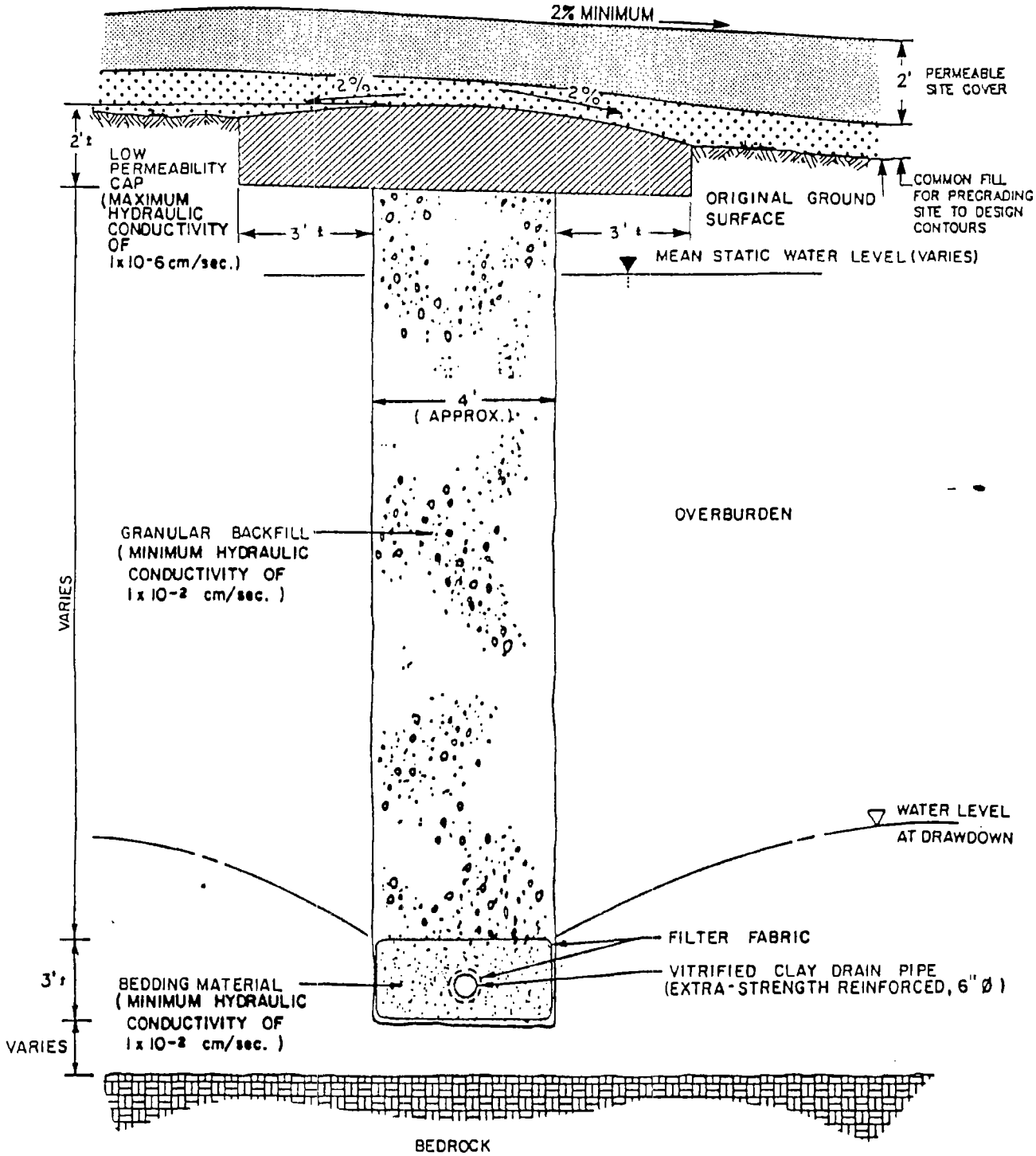

figure 6

TYPICAL SECTION OF PIPE AND MEDIA DRAIN

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the main line drain pipe. Each access manhole shall have a two-foot sump to permit temporary pumping from any manhole in the event of blockages to the pipe and media drain system between manholes. Such temporary pumping would be performed during the time required to repair the pipe and media drain. Each access manhole also shall have a high-level alarm to provide indication in the event of surcharging in the manhole. Access manholes shall be of standard precast concrete construction with a nominal barrel diameter of four feet, equipped with lockable manhole covers and a rung ladder for maintenance access. Safety cages/platforms shall be installed in manholes greater than 20 feet in depth. Ladder rungs and safety cages/platforms shall be constructed of aluminum or shall be coated with polypropylene for corrosion resistance. To minimize the potential for structural damage to the drain pipe, and to ensure the free flow of collected groundwater to the drain pipe, the bedding shall be placed to provide a minimum cushion below the pipe of six inches in depth and a minimum cover over the pipe of 24 inches in depth.

A nonwoven polypropylene filter cloth shall encompass the pipe and media drain bedding material to prevent the potential loss of bedding fines to the underlying fractured bedrock or potential infiltration of fines from the adjacent soils into the bedding material.

During preliminary design, boreholes shall be installed to the depth of bedrock along the alignment of the drain at 100-foot centers to determine the bedrock profile. Additionally, soil samples shall be collected from each borehole at the elevation of the pipe bedding and at three equally

spaced intervals above the pipe bedding elevation. These soil samples shall be analyzed for grain size distribution to determine the gradation requirements for the bedding and granular backfill materials to minimize the potential for blinding of these materials by infiltration of fines from the adjacent native materials.

The gradation for the granular trench backfill material shall be specified such that infiltration of fines from the adjacent native or fill material shall not adversely impact the performance of the media drain component of the pipe and media drain system. The gradation ranges of adjacent native or fill materials will be determined from samples collected from the boreholes described above. Based on the results of these gradation analyses, the shape of the gradation curve and the D_{50} grain size of the native soils or fill, if uniform, will be used to specify the gradation and D_{50} grain size of the granular collection drain backfill. If native soils or fill are not uniform, both the D_{50} and D_{15} grain sizes will govern specifications for the granular backfill, such that the granular media drain will be protected against blinding by infiltrating fines from the adjacent native soil.

The collection drain trench shall be backfilled above the pipe bedding with coarse sand having a minimum hydraulic conductivity of 1×10^{-2} cm/s to a level of approximately two feet below the existing ground surface. The remaining upper two feet of the trench shall be backfilled with select compacted imported clayey fill having an in-place maximum hydraulic conductivity of 1×10^{-6} cm/s and mounded at a grade of two percent over the

trench, to prevent the potential for surcharging of the collection drain trench from surface water infiltration.

5.1.2 Extraction Well System Components

Six new extraction wells shall be installed at the Site. A typical extraction well is shown on Figure 7. Each well shall consist of an 8-inch diameter surface casing grouted into the upper bedrock surface of the IU. A nominal 8-inch diameter hole then shall be drilled into the siltstone above the marker bed in the IU. The well shall be completed with a 6-inch diameter Schedule 40 PVC liner. The use of a 6-inch diameter liner allows greater flexibility in the pumping capacity, should higher pumping rates be required. Also, it provides sufficient space to wire the required down-hole controls. The PVC liner shall be perforated over the entire length of the bedrock penetrated so that groundwater can be collected from all potential water-bearing units. Each well shall be equipped with a nominal 4-inch diameter submersible pump. The extraction pumps shall be designed to produce up to 5 gpm to allow flexibility should higher pumping rates be possible.

For existing wells MW-10 and MW-24, 3-inch diameter submersible extraction pumps shall be installed at the elevation of the existing screen.

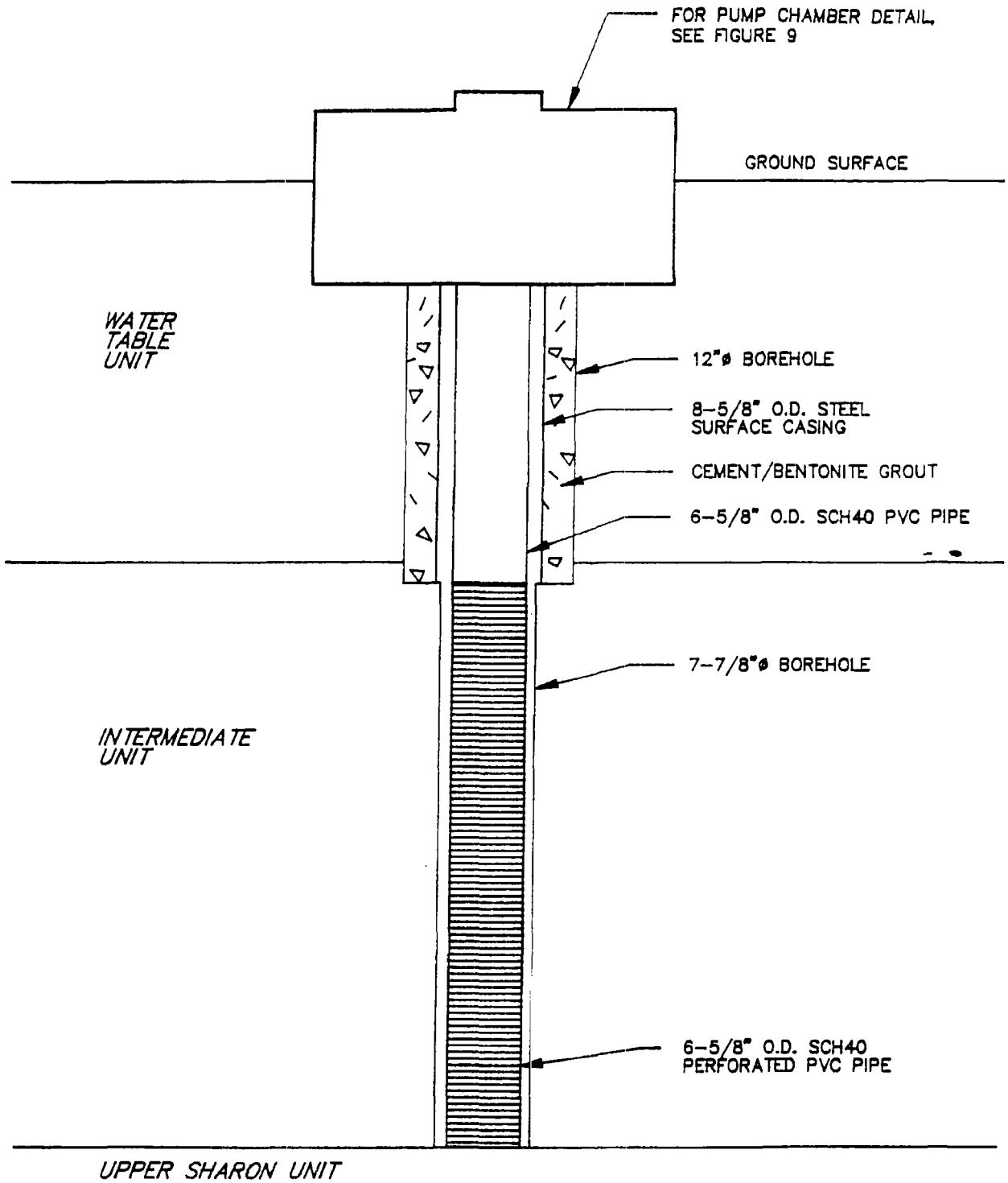

figure 7

TYPICAL EXTRACTION WELL DESIGN

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A pumphouse shall be constructed over each new 6-inch diameter extraction well to house the necessary electrical and mechanical components for that well. Low-level shut-off and high-level turn-on switches shall be provided in each extraction well to control the on-off operation of the extraction pump. The high-level switches on the extraction wells shall be set to maximize drawdown in the well, thus assuring the maximum capture zone, with consideration to minimize excessive pump cycling in accordance with manufacturer's recommendations. Manual overrides to turn off individual extraction pumps shall be provided at both the pumphouse and at the groundwater treatment plant. A flow meter shall be installed in each pumphouse to totalize the flow from that particular extraction well. A telemetering system shall be installed from each pumphouse to the groundwater treatment facility to provide an indication of the operating status as well as totalized flow readings for each individual extraction well.

Discharge from each new 6-inch diameter extraction well shall be directed through an underground forcemain to the nearest manhole on the pipe and media drain system, as illustrated on Figure 8. The pipe and media drain then shall convey the extracted groundwater to the centralized collection sump, from where it shall be pumped to the groundwater treatment system, as discussed in Section 5.1.3. Forcemains shall be 3-inch diameter HDPE pipe with butt-fused joints.

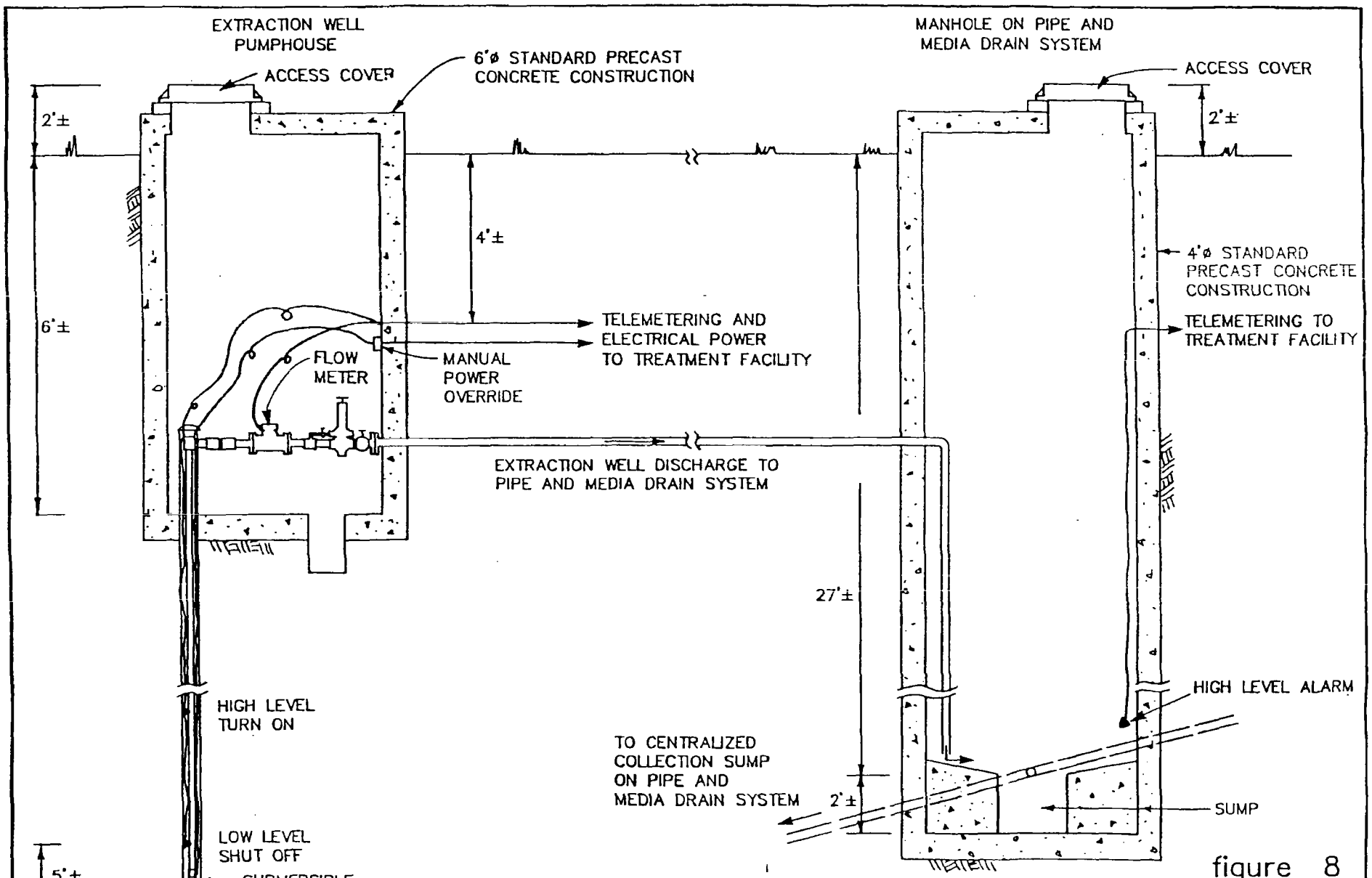

figure 8

EXTRACTION WELL PUMPHOUSE AND PIPING SYSTEM

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5.1.3 Collection Sump and Transfer System

A central collection sump shall be installed on the pipe and media drain alignment at the tentative location shown on Figure 2. The actual location of the sump shall be determined by the final design profile of the vitrified clay pipe, with the requirement that a collection sump shall be placed at each distinct low point in the collection drain piping. Low points in the collection drain piping shall coincide with distinct low points in the bedrock profile. The proposed collection sump shall be of standard precast concrete construction with a nominal barrel diameter of six feet, equipped with a lockable manhole cover and aluminum rung ladder and safety cage for maintenance access.

Groundwater flowing to the centralized collection sump on the pipe and media drain system shall be pumped from the sump and transferred to the groundwater treatment system. The sump shall be equipped with a duplex pump system, complete with high-level start and low-level stop float switches. The two pumps shall be configured to operate on an alternating cycle basis, and each pump shall be sized for a pumping rate equal to 100 percent of the design flow rate in the pipe and media drain system. The design flow rate will vary, being highest at start-up and stabilizing at steady-state conditions. The cut-in/cut-off levels for the pumps will not allow standing water above the invert of the pipe drain and would be selected to minimize excessive pump cycling in accordance with manufacturer's recommendations and the objectives of the system.

A telemetering system shall be installed from the pump installation location to the groundwater treatment facility to provide the operating status of the pumping system, and instantaneous and totalized flow readings. A backup flow recording system shall also be provided at the pump installation location.

The groundwater shall be conveyed to the groundwater treatment facility through below-grade forcemain piping system. Flow equalization shall be provided at the groundwater treatment system. Polyethylene piping shall be used for the forcemain piping system. Pipe joints shall be by butt fusion to effectively provide a leak-tight system. All piping shall be protected by installing it below the frost penetration level or by providing insulation and/or heat tracing.

5.2 CONSTRUCTION METHODS

Construction of the groundwater collection system shall consist of three primary components, performed in a concurrent time frame, namely:

i) construction of the groundwater collection trench and drain pipe and media, including installation of the access manholes and the centralized collection sump;

ii) installation of the groundwater extraction wells; and

iii) construction of the transfer system including installation of the extraction well pumphouses with mechanical, electrical and control installations, construction of the extraction well transfer system to the pipe and media drain system, and construction of the pipe and media drain transfer system to the treatment facility including installation of the associated forcemain and pump mechanical/electrical systems.

5.2.1 Interceptor Trench and Pipe Collection System

As indicated by the profile for the pipe and media drain (Figure 3), the maximum depth of excavation for the interceptor trench is approximately 27 feet. The collection trench system shall be installed using standard trench construction methods. A hydraulic backhoe shall excavate the trench to the required depths with standard trench boxes used to maintain control of the lateral excavation limits and to provide protection to workers inside the trench. Stackable trench boxes will have dimensions of approximately 4 feet wide by 10 feet high by 10 feet long. Along the alignment of the pipe and media drain, a backhoe would initially excavate a trench approximately 4 feet wide by 5 feet deep by 20 feet long. One trench box then would be placed into this excavation. The backhoe would continue to excavate material through the trench box, and lower the trench box as excavation proceeded below the bottom of the trench box. Once the first trench box was below the ground surface, a second trench box would be stacked on top of the first trench box, held in place by a preformed keying

system, and excavation through the two trench boxes would continue, lowering the trench boxes as the excavation depth increases. Similarly, a third trench box would be utilized, until the design excavation depth was attained for the pipe bedding material. At this point, the excavated area would be a rectangular configuration approximately 4 feet wide by 20 feet long with vertical side walls supported by the stacked trench boxes, which effectively minimizes the volume of material requiring excavation to achieve the design depth of the drain. Once excavation and installation of the first set of trench boxes is complete, excavation would proceed for installation of a second set of trench boxes, identical to the first set. The second set of trench boxes are connected to the first set of trench boxes by interlocking channels at the ends of the trench boxes as they are lowered in the excavation. Once the second set of trench boxes have been installed, excavation for a third set of trench boxes would commence.

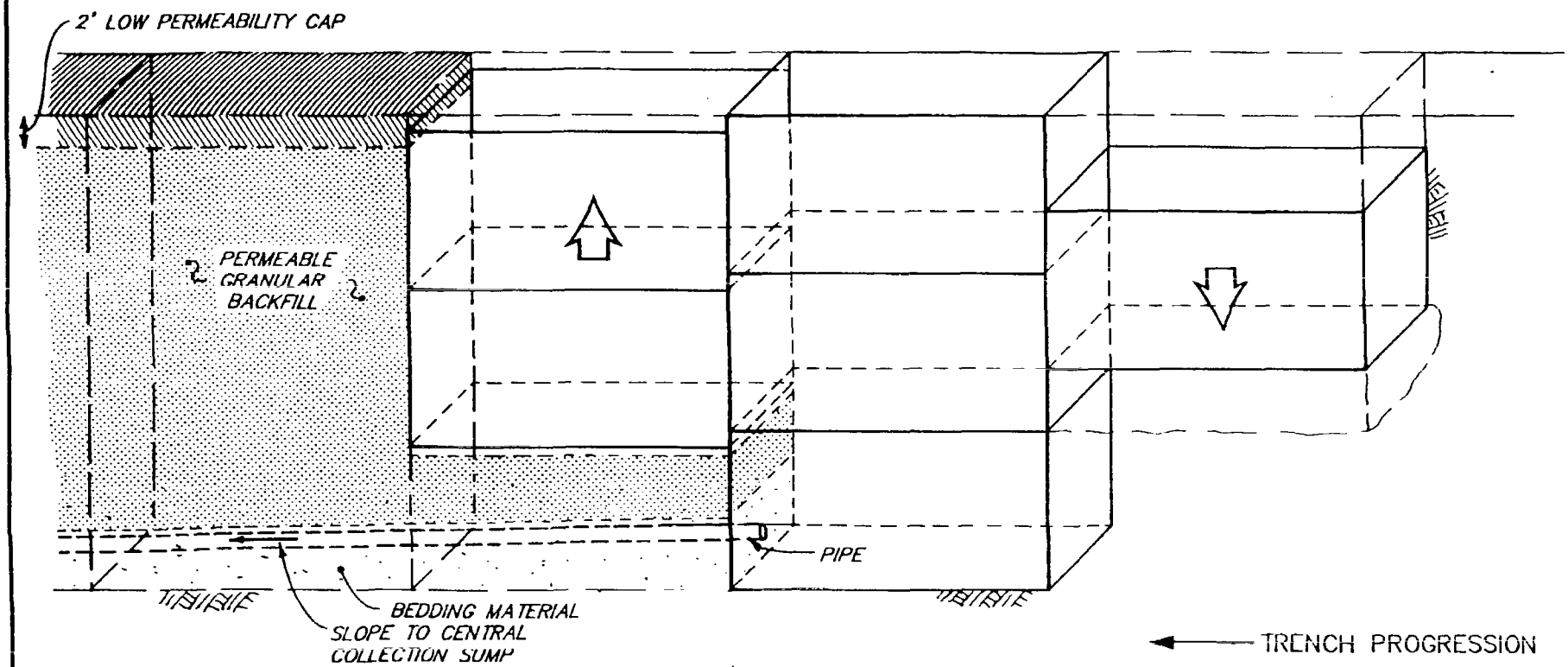
As excavation for the third set of trench boxes proceeded, installation of pipe bedding material, pipe and filter cloth (as required) would commence in the first set of trench boxes, followed by installation of the gravel drain media above the pipe and bedding materials. As placement of these materials inside the stacked trench boxes fill the excavation, the trench boxes are gradually raised such that the placed materials would be compacted against the native material along the side of the excavation. As this first set of trench boxes is removed from the excavation to facilitate placement of the pipe and media drain materials, the trench boxes would be reused as the third set of trench boxes to facilitate continuance of excavation for the pipe and media drain system. In this manner, excavation of the trench and placement

of the pipe and media drain system materials will continue in a leap-frogging sequence as illustrated in Figure 9.

The proposed alignment of the pipe and media drain system transects two areas of the Site where surficial soils have been designated for excavation and incineration. The surficial two feet of soils in these areas shall be removed and temporarily stockpiled under polyethylene sheeting on Site pending treatment by on-Site incineration. Following removal of these surficial soils, construction of the pipe and media drain system shall be undertaken. In this manner, potential for worker contact with materials containing significant contamination during installation of the pipe and media drain system shall be minimized.

During excavation of the collection trench, the work area and excavated materials shall be monitored for volatile organics using organic vapor analyzers and for airborne particulates using a real-time respirable particulate monitor. All excavation work and handling of excavated materials shall be performed under a strictly enforced Health and Safety Plan developed for the Site.

Construction activities associated with installation of the pipe and media drain system will be limited to areas within the secured fenced boundary of the Site. Therefore, any potential threat to public health or safety will be limited to migration of fugitive contaminated particulates or odors from the Site. The proposed trench box method of excavation will minimize the volume of material to be handled as well as the subsurface area



⑤	④	③	②	①
COMPLETED SECTION OF PIPE AND MEDIA DRAIN SYSTEM	PROGRESSION OF INSTALLATION OF PIPE AND MEDIA DRAIN. AS MATERIALS ARE INSTALLED, TRENCH BOXES ARE REMOVED FROM THE EXCAVATION.	INTERMEDIATE SET OF STACKABLE TRENCH BOXES.	PROGRESSION OF INSTALLATION OF STACKABLE TRENCH BOXES. AS EXCAVATION DEPTH PROCEEDS, TRENCH BOXES ARE LOWERED INTO THE EXCAVATION	UNDISTURBED GROUND.

figure 9

TYPICAL DEEP TRENCH CONSTRUCTION METHODS

Summit National Site

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open to the atmosphere at any one time. This also will minimize the potential for generation of both dust and odors. Particulate emissions shall be controlled by use of standard misting techniques to wet surfaces, primarily in traveled areas. Odors shall be minimized by tarping the trench boxes during inactive construction periods (i.e. overnight and weekends). Excavated materials shall be placed immediately in their designated spoil areas and covered either with polyethylene sheeting or clean imported fill material.

All materials excavated from the collection trench shall be placed as general fill in low areas of the Site for pregrading to the final base contours of the Site cap. Placement of the excavated materials from the collection trench shall be in areas that maximize the depth of overlying clean fill that is imported to Site to achieve final design base contours, as described in Appendix C.

The collection trench excavation shall be dewatered of groundwater flow. To facilitate dewatering, the centralized collection sump shall be installed prior to commencing construction of the pipe and media drain components. Once the collection sump is installed, excavation for the collection trench shall proceed upgradient from the sump. Since the collection sump is the low point of the system, groundwater infiltrating into the excavated trench will flow by gravity toward the collection sump through the completed section of the pipe and media drain. From the centralized collection sump, inflowing groundwater shall be pumped to the on-Site groundwater treatment facility and treated. The effluent discharge shall meet

effluent water quality criteria specified for the on-Site groundwater treatment facility.

The placement of the low-permeability cap over the granular backfill shall be performed as granular backfilling operations are completed, such that the area of trench surface exposed to surface water inflow at any time is minimized.

5.2.2 Groundwater Extraction Wells

Construction of the new extraction wells shall include the drilling of a 12-inch diameter borehole by mud-rotary methods to a depth of two feet into competent bedrock. An 8-inch diameter steel surface casing then shall be installed in the borehole and grouted into place. After allowing the grout to set for a minimum of 24 hours, a nominal 8-inch diameter borehole shall be advanced to the siltstone above the marker bed in the IU, using air-rotary methods.

During the course of drilling, a geologic log shall be kept of the rock cuttings. After completion of drilling, a geophysical log (resistivity, spontaneous potential, natural gamma and density) shall be run. These logs shall provide a better definition of contacts between the various stratigraphic units.

The wells then shall be equipped with a 6-inch diameter Schedule 40 PVC liner to prevent rock fragments from falling onto the pump. The liner shall be perforated with four columns of 0.020-inch slots at 1/2-inch centers over the bedrock interval to allow groundwater collection from all water-bearing units intercepted. The well then shall be developed to a sand-free state by air-lifting and pumping.

Following well development, a pumping test shall be performed on each new well and the two existing wells to determine long-term yield, optimum pumping rate, pump setting, and position of the on/off pump control electrodes.

All well construction and testing activities shall be performed in accordance with the Health and Safety Plan to be developed for the Site. Drill cuttings shall be collected, contained and placed within the lower areas of the Site as part of the base fill.

5.2.3 Pumping and Transfer Systems

Construction activities associated with the individual extraction well pumping and transfer systems shall include excavation for and installation of the precast concrete pumphouses, installation of the mechanical, electrical and telemetering equipment in each pumphouse, installation of the electrical and telemetering systems from each pumphouse

to the treatment facility, and construction of the discharge piping from each pumphouse to an adjacent manhole on the pipe and media drain system.

Construction activities associated with the transfer system shall include installation of a duplex pump system in the centralized collection manhole and associated mechanical/electrical items, construction of the polyethylene forcemain from the sump to the groundwater treatment facility, and installation of the telemetering system from the sump to the treatment facility.

Excavation activities shall be monitored in the same manner as for excavation of the groundwater interceptor trench, and shall be performed in strict accordance with the Health and Safety Plan to be developed for the Site.

Following completion of construction of the pumping and transfer systems, each forcemain will be pressure-tested, and each pump control system commissioned.

6.0 EFFECTIVENESS MONITORING PROGRAM

6.1 GENERAL

A groundwater monitoring program shall be established and maintained during the operation of and for five years after the termination of groundwater extraction and treatment for the Site. The objective of this monitoring program shall be to provide data for:

i) the demonstration of hydraulic containment, collection and extraction of Site-related contaminated groundwater in the WTU and the IU;

ii) the demonstration of reduction of the concentrations of Site-related contaminants in groundwater within the WTU and the IU to concentrations specified by the cleanup standards;

iii) the hydraulic and water quality characteristics in groundwater within the Upper Sharon Unit to demonstrate that groundwater within the Upper Sharon Unit is not significantly impacted by the Site, and;

iv) the demonstration that water quality characteristics in local residential wells are not impacted by the Site.

The effectiveness monitoring program shall consist of hydraulic monitoring and groundwater quality monitoring in the WTU, IU, the Upper Sharon Unit and residential wells. The evaluation of the data

collected will determine if the groundwater collection and extraction system is performing to its design criteria. The data shall be used to assess if the contingency measures as outlined in Section 7.0 require implementation. The data also shall be used to determine at what point in time operation of the WTU and IU extraction systems may cease.

6.2 MONITORING WELL NETWORK

6.2.1 Water Table Unit

Eighteen monitoring wells and eight piezometers shall be installed in the WTU to, in part, monitor the performance of the pipe and media drain groundwater collection system. The monitoring well and piezometer locations are shown on Figure 10.

A schematic diagram of a typical WTU monitoring well is illustrated on Figure 11. Monitoring wells utilized for determination of groundwater quality shall be constructed of stainless-steel screen and riser pipe. Piezometers used for hydraulic monitoring shall be constructed of polyvinyl chloride (PVC) components, with screwed connections. The distribution of monitoring wells and piezometers need to provide the required data to assess the effectiveness of the proposed pipe and media drain collection system, and to determine background water quality in the WTU.

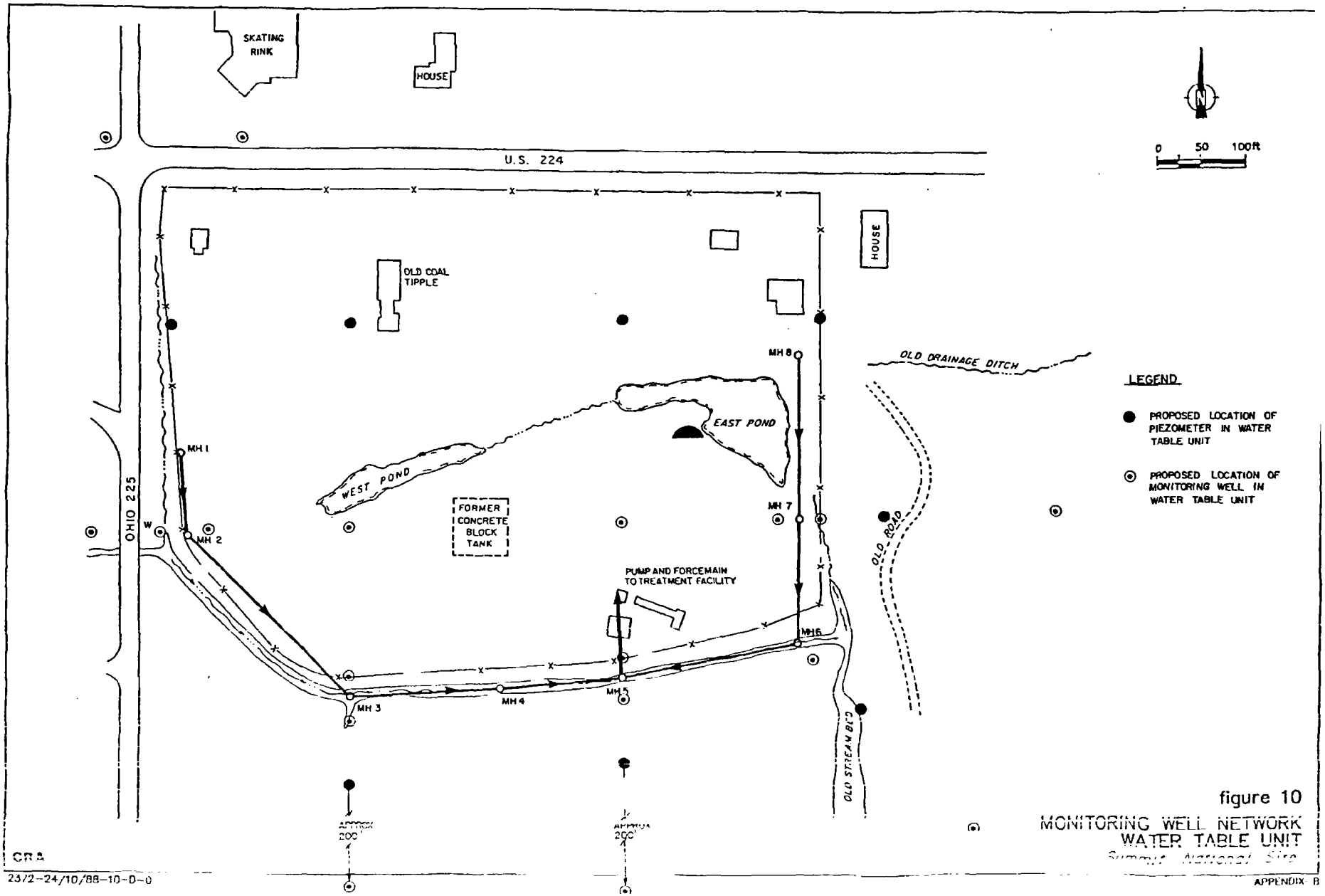

figure 10
MONITORING WELL NETWORK
WATER TABLE UNIT
Summit National Site

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APPENDIX B

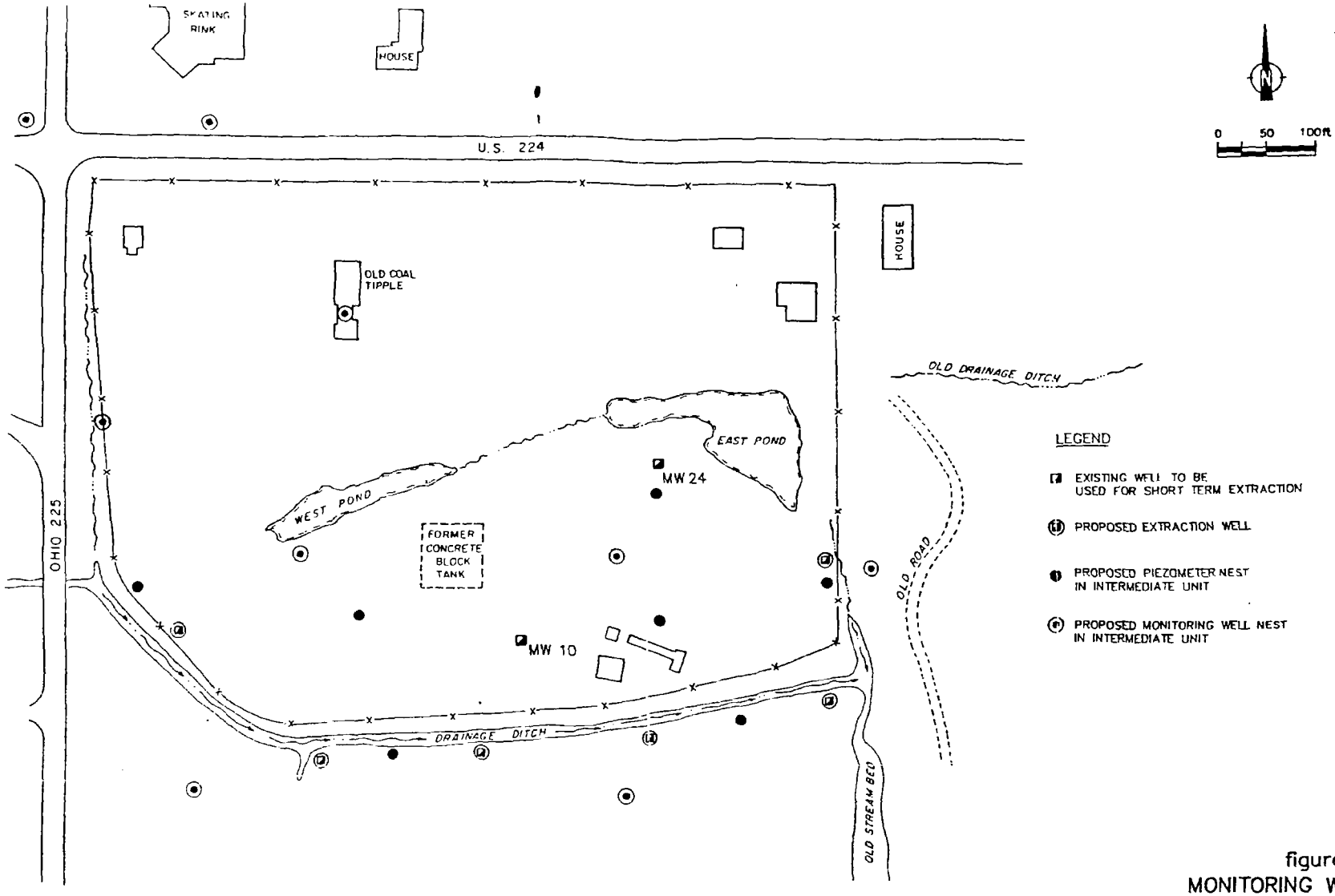

figure 12
MONITORING WELL NETWORK–INTERMEDIATE UNIT
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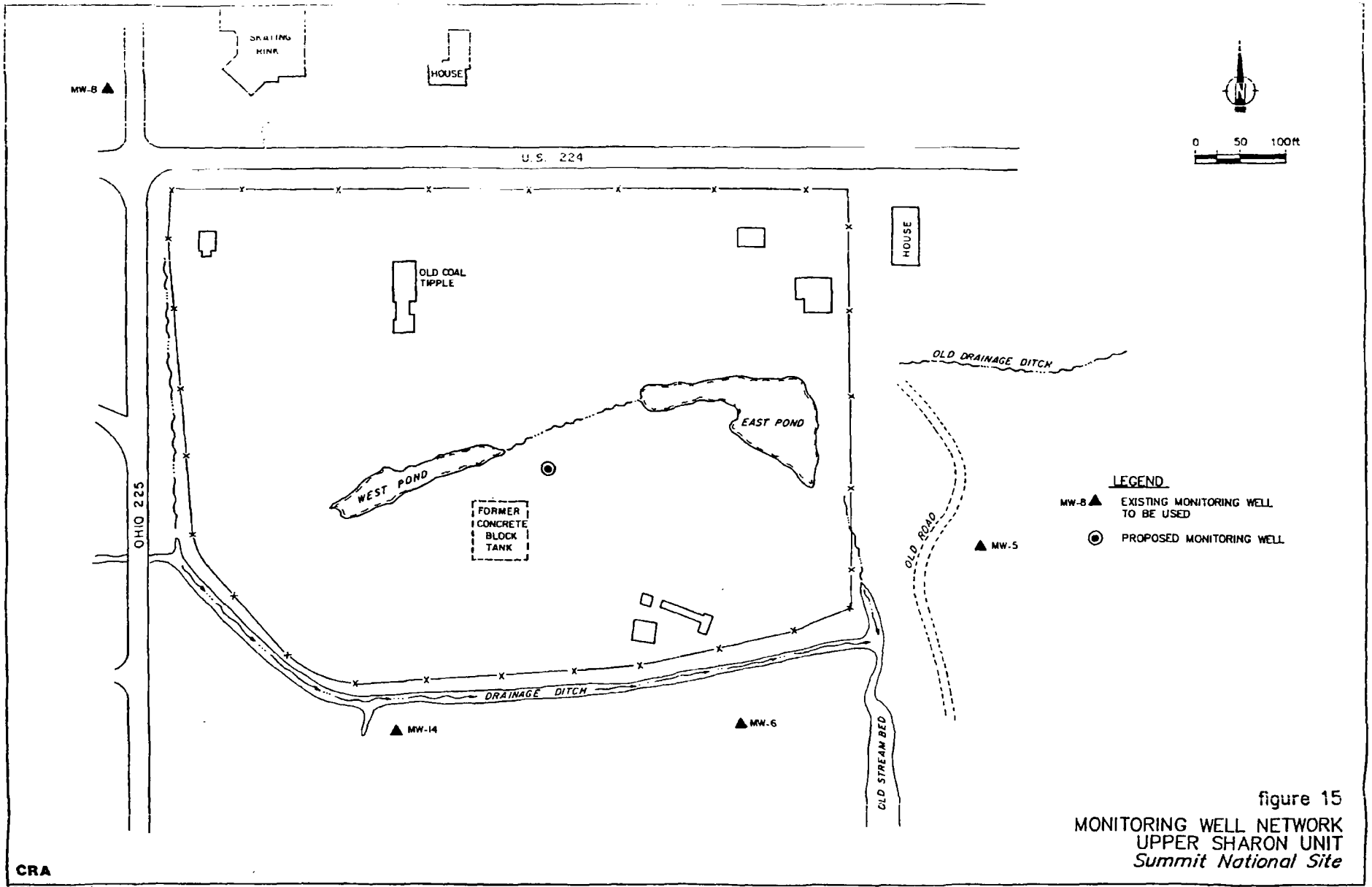

figure 15
MONITORING WELL NETWORK
UPPER SHARON UNIT
Summit National Site

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APPENDIX-B

6.2.2 Intermediate Unit

Nine nested monitoring wells and seven nested piezometers shall be installed into the IU at the locations shown on Figure 12. At each monitoring well location, one well shall be completed in each of the UIU and LIU. Typical IU monitoring wells are shown on Figures 13 and 14. At each piezometer location, one piezometer shall be completed in each of the UIU and LIU.

6.2.3 Upper Sharon Unit

Existing monitoring wells MW-5, MW-6, MW-8 and MW-14 and one new monitoring well installed approximately in the center of the Site shall initially form the Upper Sharon groundwater monitoring network as illustrated on Figure 15. A typical Upper Sharon monitoring well is illustrated on Figure 16. This monitoring needs to assure that Site-related contaminated groundwater will significantly impact the Upper Sharon Aquifer.

During the design phase of the final remedial action, all Upper Sharon well installation and development records produced during the RI shall thoroughly be reviewed and two rounds of water level measurements shall be collected from all existing RI wells completed in the Upper Sharon Unit. In the event that the groundwater flow direction in the Upper Sharon is determined to be to the northeast, or cannot be conclusively

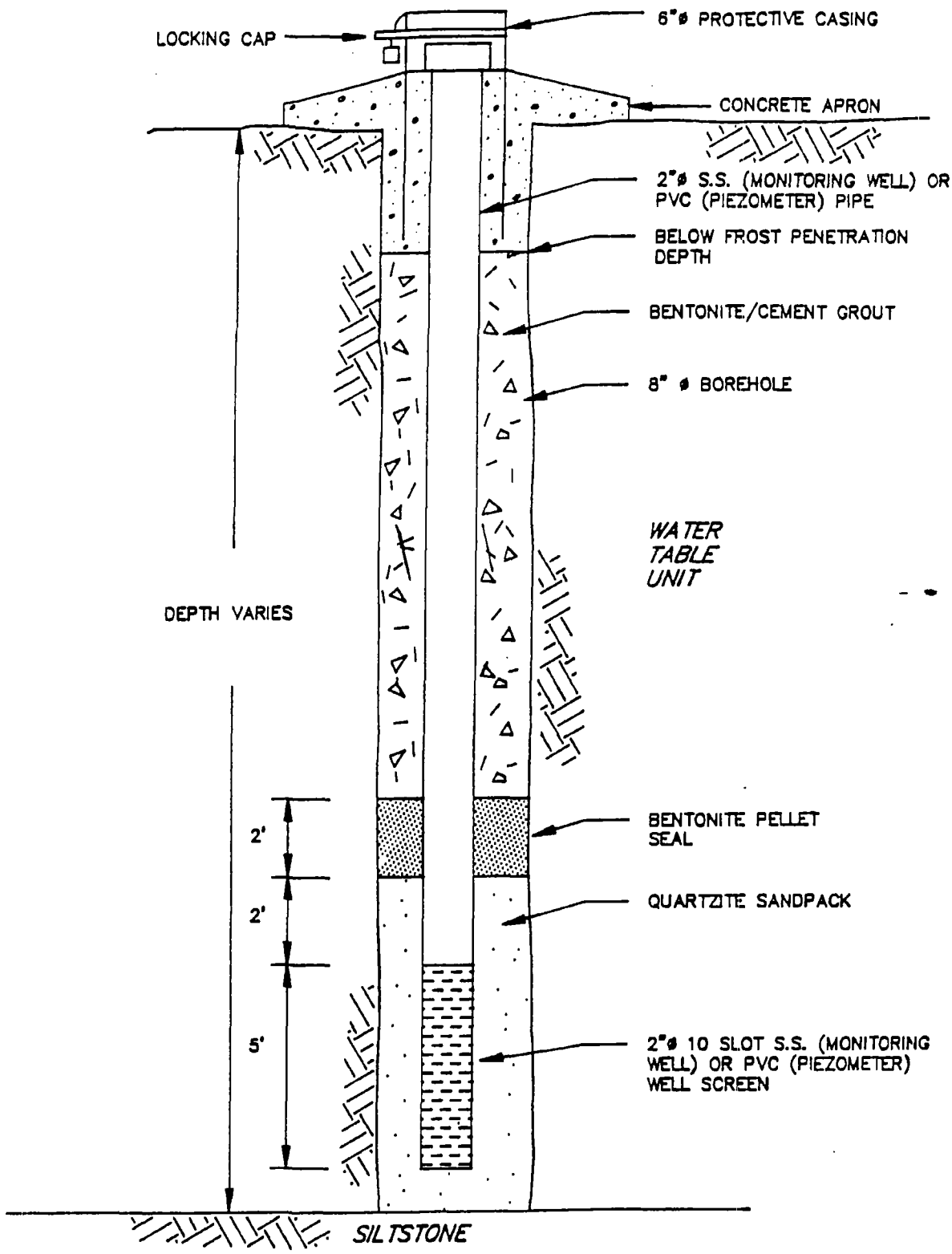

figure 11
TYPICAL WATER TABLE UNIT
PIEZOMETER OR MONITORING WELL
Summit National Site

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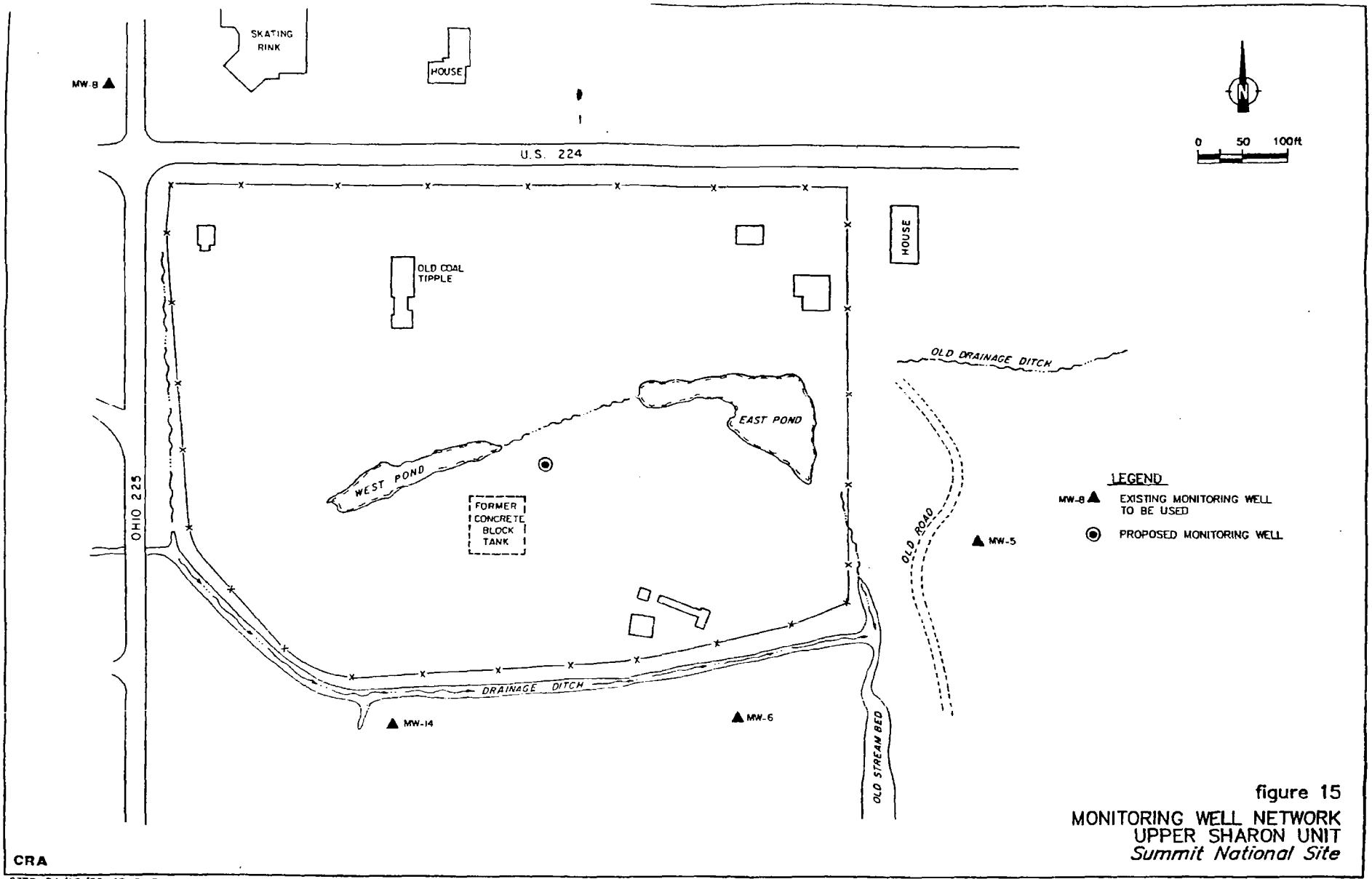

figure 15
MONITORING WELL NETWORK
UPPER SHARON UNIT
Summit National Site

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2372-24/10/88-10-D-0

APPENDIX-B

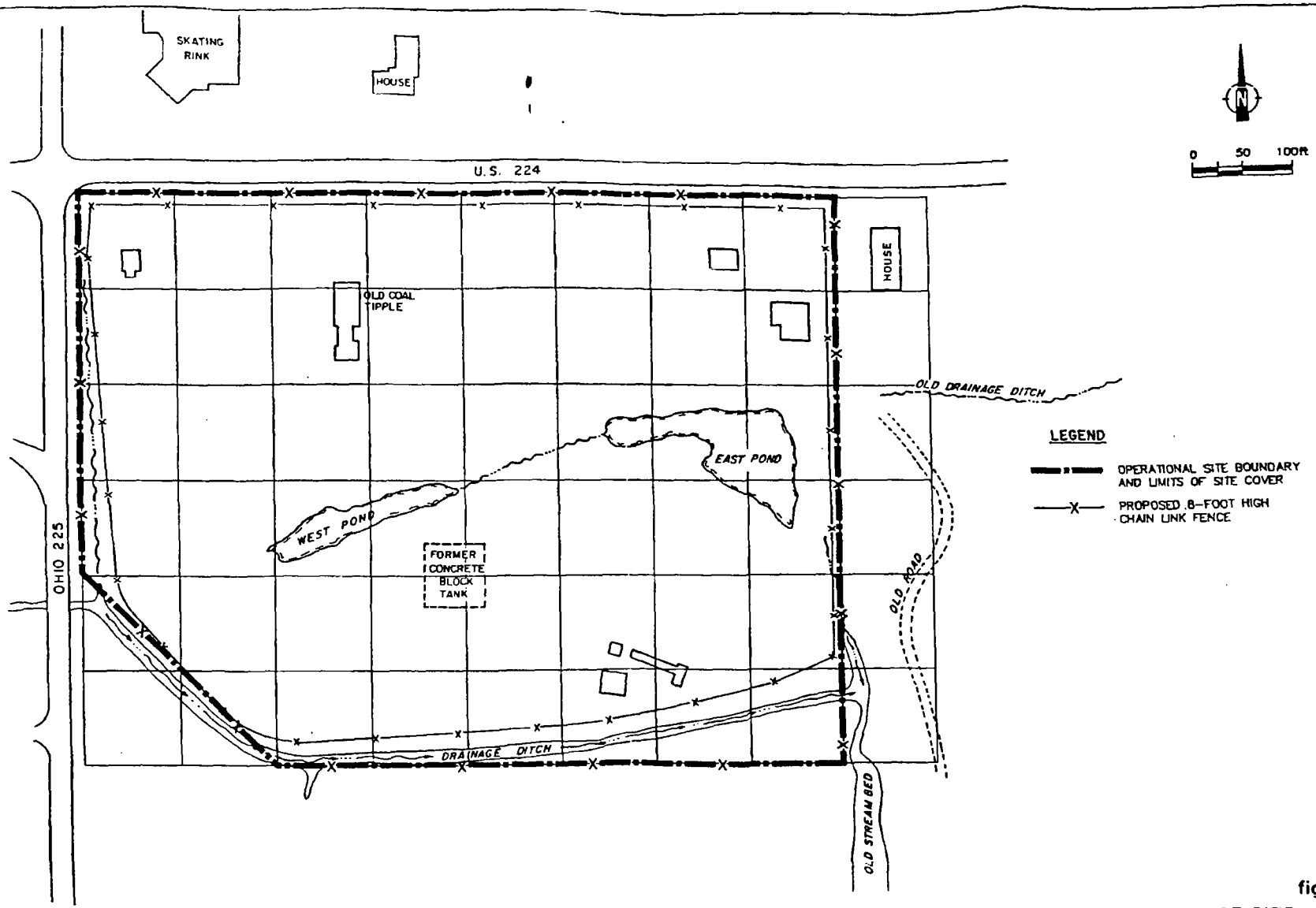

figure 1

LIMITS OF SITE COVER
Summit National Site

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2372-24/10/88-10-D-0

APPENDIX—C

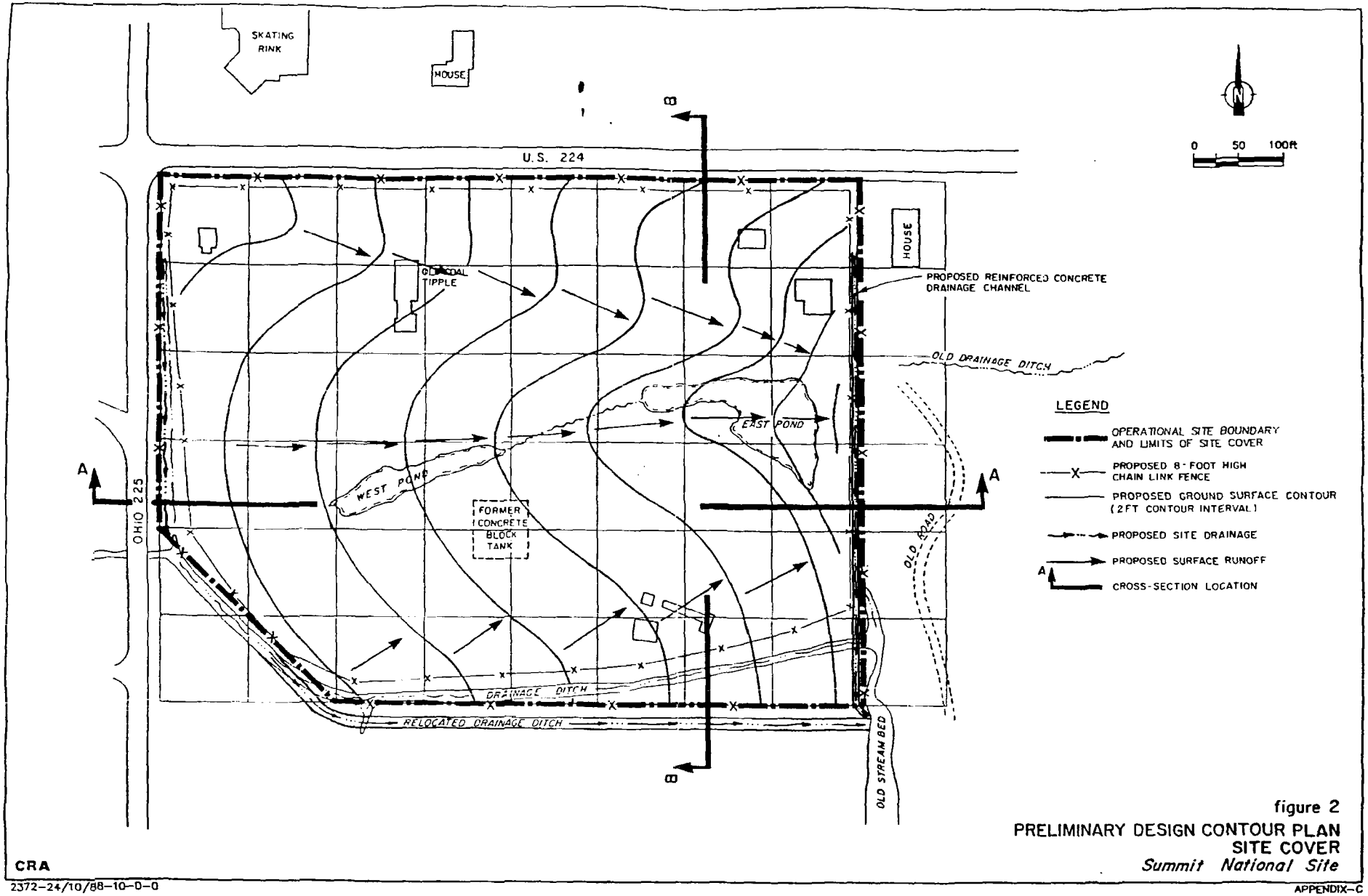

figure 2
PRELIMINARY DESIGN CONTOUR PLAN
SITE COVER
Summit National Site

CRA

2372-24/10/88-10-D-0

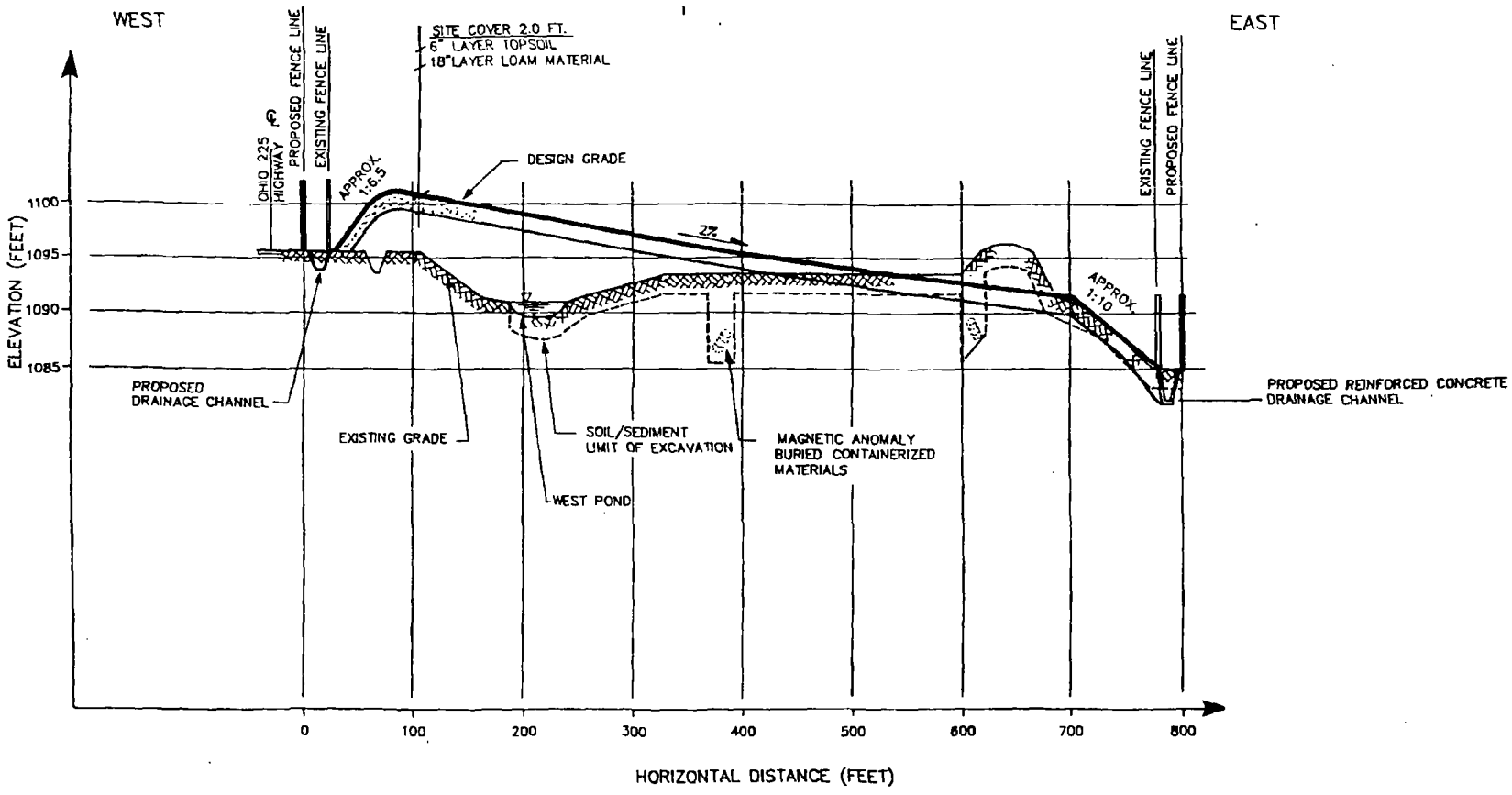

figure 3

TYPICAL WEST-EAST SITE CROSS-SECTION

Summit National Site

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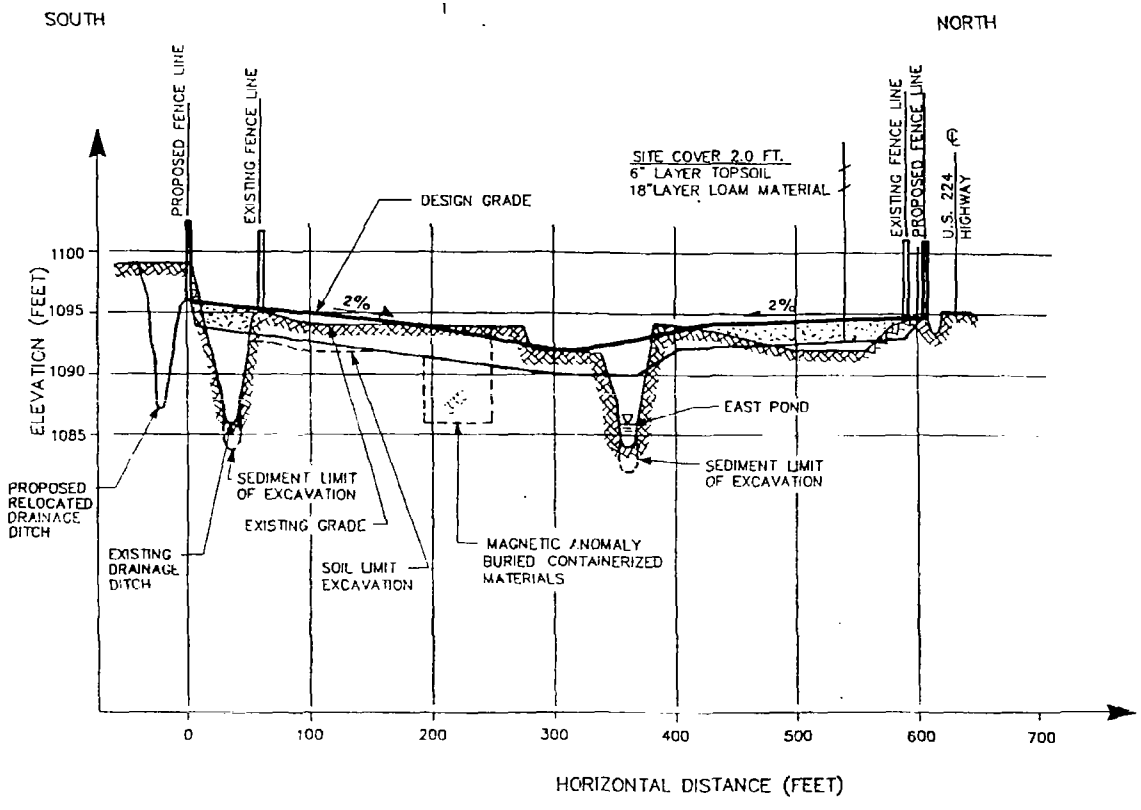

figure 4

TYPICAL SOUTH-NORTH SITE CROSS-SECTION
Summit National Site

CRA

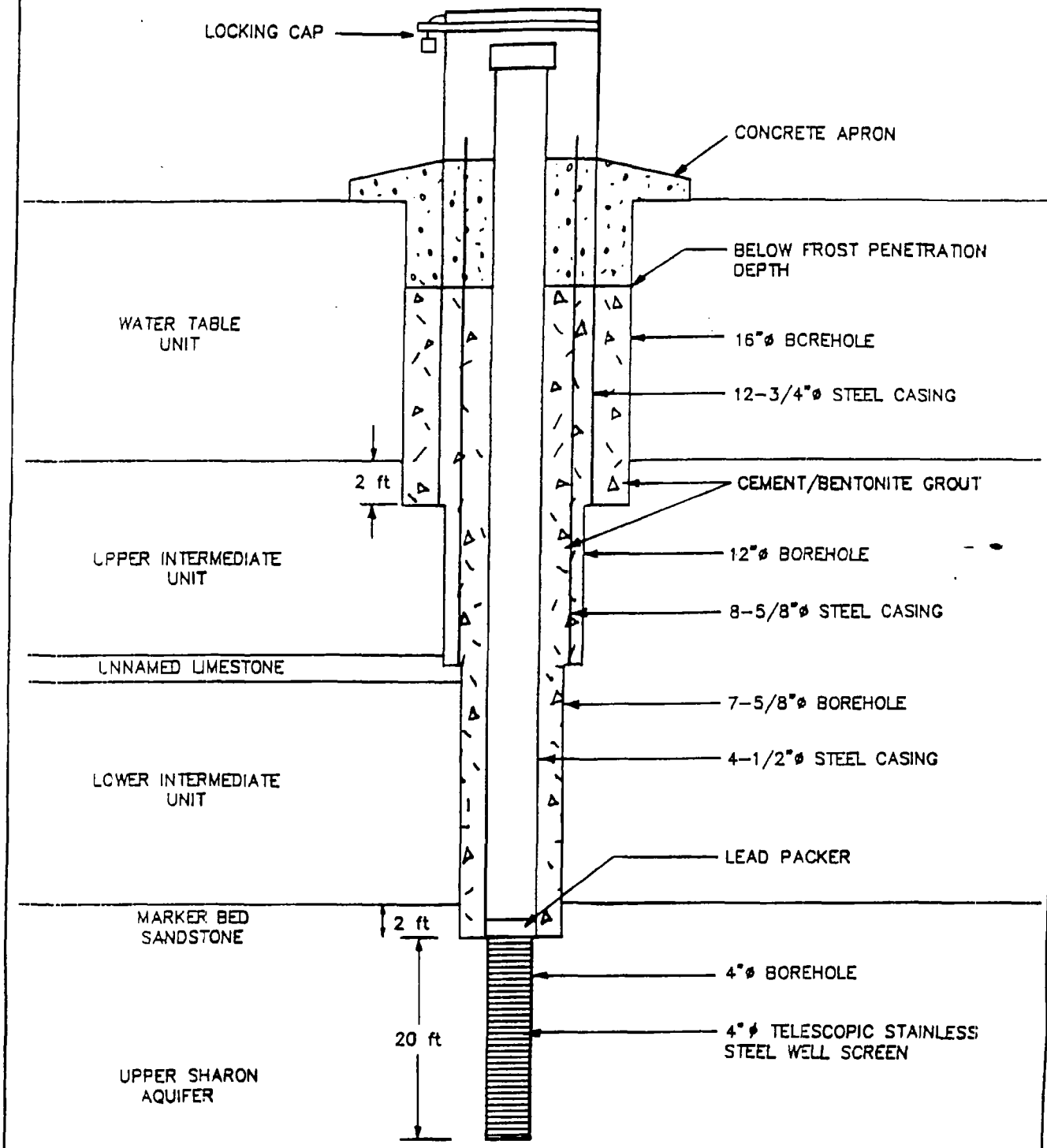

figure 16

TYPICAL UPPER SHARON UNIT MONITORING WELL

Summit National Site

CRA

determined, or if the Upper Sharon Aquifer is found to contain Site-related contamination through characterization for the Tipple well (see Section 3.1), one additional monitoring well will be installed in the Upper Sharon Unit in the northeast sector of the Site.

6.3 HYDRAULIC MONITORING

All wells and piezometers shown on Figures 10 , 12 and 15 shall be utilized in the hydraulic monitoring program. Groundwater elevations shall be determined at the following frequency:

i) bi-weekly for three months after groundwater extraction system start-up;

ii) monthly for the remainder of the first year of operation; and

iii) quarterly thereafter.

After any significant adjustments to the groundwater extraction system, the frequency of water level monitoring shall be increased to bi-weekly for three months.

6.4 GROUNDWATER QUALITY MONITORING

Monitoring wells (18 in the WTU, 18 in the IU and five or six in the Upper Sharon Unit) and extraction wells shall be utilized in the

groundwater quality monitoring program. The initial round of groundwater samples shall be collected immediately after start-up of the groundwater extraction system, with a second and third round of samples collected six months after start-up and one year after start-up, respectively. The five or six wells completed in the Upper Sharon Unit and three Agency selected residential wells shall be sampled at start-up and at one year after start-up. All samples collected shall be analyzed for the TCL parameter list effective at the time of the sampling event. The TCL parameter list effective as of September 1988 is listed in Attachment A. The analyses for the first year sampling events shall be evaluated and reviewed, and a Site-specific indicator parameter list shall be developed by the Settling Defendants. This list shall be submitted to USEPA and OEPA for modification and/or approval.

Subsequent groundwater monitoring shall be conducted twice a year for the WTU and IU and each year for the Upper Sharon Unit for the second to fifth years following start-up, with all collected samples analyzed for the approved Site-specific indicator parameter list. At the end of the fifth year, and every fifth year thereafter until termination of the Consent Decree, all monitoring wells shall be monitored for the full TCL parameter list. Based on a review of the analytical data obtained from analyses of these samples, the Site-specific indicator parameter list may be amended and submitted to USEPA and OEPA for modification and/or approval.

After the first five years following start-up, groundwater monitoring shall be conducted bi-annually in the Upper Sharon Unit and once a year in the WTU and IU until termination of the Consent Decree.

The three residential wells shall be monitored again two years after start-up and bi-annually thereafter, until one year after it is confirmed that there is no or insignificant potential for off-Site migration of contaminated groundwater in potentially impacted groundwater units as demonstrated by groundwater and hydraulic monitoring data.

If the hydraulic and groundwater monitoring data indicate that Site-related contamination is significantly impacting the groundwater units on and/or off the Site outside of the established monitoring system, then additional piezometers and groundwater monitoring wells shall be installed to delineate the extent and degree of that Site-related contamination after the submittal of a sampling plan to USEPA and OEPA for modification and/or approval.

6.5 TERMINATION OF GROUNDWATER EXTRACTION

Each groundwater extraction system (WTU, IU, and possible Upper Sharon Unit) shall be operated to reduce Site-related contaminant concentrations below the cleanup (performance) standards in the groundwater on and off the Site. Cleanup standards for the Water Table Aquifer, Intermediate Aquifer and Upper Sharon Aquifer on Site and off Site shall be an individual 10^{-6} increased lifetime cancer risk for individual compounds and a cumulative noncarcinogenic Hazard Index (HI) less than 1 or background, whichever occurs first.

The cleanup standards shall be met unless the Settling Defendants receive a waiver of such standards from the USEPA based on the demonstration that compliance with such standards is "technically impracticable from an engineering perspective". Waivers for technical impracticability shall be handled as set forth in the relevant provisions of the Consent Decree. Settling Defendants may challenge USEPA's denial of the technical impracticability waiver under the relevant dispute resolution provisions of the Consent Decree.

For one year prior to the anticipated shutdown of the groundwater extraction system, the groundwater monitoring frequency shall be increased to quarterly. Once cleanup standards are initially attained, in any of the quarterly samples, three monthly sampling events shall be conducted. If cleanup standards are confirmed to have been attained in each of these monthly sampling events, operation of the extraction system shall be terminated, otherwise monitoring and operation of the extraction system will continue.

After termination of the extraction system, post-termination groundwater monitoring shall be conducted semi-annually for the first two years and annually for three years thereafter. If compliance with cleanup standards is confirmed through the five-year post-termination groundwater monitoring, monitoring activities shall cease.

If at any point in the five-year post-termination groundwater monitoring program data indicate noncompliance with cleanup standards, three consecutive monthly sampling events shall be conducted. If noncompliance is confirmed by any of the three sampling events, operation of the groundwater extraction system will resume. The process and monitoring for subsequent termination of groundwater extraction after a resumption of operation shall be as set forth above for the initial termination of groundwater extraction.

For IU extraction wells MW-10 and MW-24, groundwater samples shall be collected on a monthly basis following system start-up for three months with analyses for TCL parameters. If these analyses indicate an increasing or decreasing trend, then the sampling of these wells shall follow the same schedule outlined for the other monitoring and extraction wells completed in the IU. If the cleanup standards are attained for three consecutive sampling events, the respective well(s) for which the cleanup standards are attained shall be shut down and closed by backfilling and sealing with cement/bentonite grout.

6.6 DATA EVALUATION AND REPORTING

The hydraulic data collected as part of the hydraulic monitoring program shall be reduced to elevations and entered into a computer database. The water level data shall be listed in tabular form for each round of data collected. Groundwater elevations shall be contoured for

the WTU and IU on Site plans, and the capture zones delineated. The data shall be thoroughly evaluated to determine if the hydraulic gradients in the WTU are directed towards the pipe and media drain from all points affected by past Site operations. The IU data shall be evaluated to assess the capture areas of the extraction wells. The capture zones shall demonstrate if horizontal flow within that portion of the unit affected by past Site operations is contained and collected.

Upon receipt of analytical results, data validation shall be undertaken to determine if the data are acceptable for use in the groundwater quality monitoring program. If the data are deemed to be acceptable, all data, including Quality Assurance/Quality Control (QA/QC) data, shall be entered into a computer database. The raw data packages, as received from the project laboratory, shall be sent to USEPA and OEPA upon request, within 30 days of receipt, for QA review by USEPA and OEPA. After review by USEPA and OEPA, the data will be designated as approved or not approved for evaluating the effectiveness of the extraction systems.

The computer database shall provide the required listing and summary tables of analyses, including a separate listing of QA/QC data. The simplified data shall be used to determine the distribution of groundwater contamination. In order to illustrate the analytical results, appropriate plan view maps of selected analytes shall be prepared. As additional data are generated, graphical presentations of concentrations versus time also shall be prepared to demonstrate the temporal variations in contaminant concentrations.

The evaluation of the hydraulic and water quality data also shall be used to determine when the system operations can be terminated as described in Section 6.5.

An evaluation report on the effectiveness monitoring program shall be submitted on an annual basis to USEPA and OEPA. This evaluation report shall include:

i) analytical results and appropriate QA/QC data;
ii) hydraulic monitoring data;
iii) a description of the Site system maintenance activities and any encountered problems that required corrective action;
iv) an evaluation of the effectiveness of the groundwater extraction system, including tables and figures generated; and
v) recommendations for program revisions, if appropriate.

The USEPA and OEPA shall be notified in writing within seven calendar days of any encountered problems that may require corrective action for the extraction or monitoring systems.

7.0 CONTINGENCY PLAN

The effectiveness monitoring program shall monitor the performance of the groundwater extraction system with respect to its design criteria and requirements. If the system is not performing as designed or required, considering the time required to substantially attain steady-state conditions, contingency actions shall be required. The criteria for implementation of contingency actions at the Site shall be as follows:

i) if hydraulic containment, collection and extraction in the WTU and IU is not achieved, beneath and off of the Site in the areas of Site-related groundwater contamination; and/or

ii) if Site-related contaminated groundwater is leaving the IU to the Upper Sharon Unit; and/or

iii) if Site-related groundwater contamination in the Upper Sharon Unit beneath and off of the Site exceeds cleanup standards.

The contingency actions that shall be undertaken if any or all of the above criteria are met shall include one or more of the following:

i) the extension of the groundwater collection pipe and media drain in the WTU; and/or

ii) the installation of groundwater extraction wells in the WTU; and/or

iii) the installation of additional groundwater extraction wells in the IU; and/or

iv) the installation of groundwater extraction wells in the Upper Sharon Unit.

ATTACHMENT A

TARGET COMPOUND LIST

TARGET COMPOUND LIST

VOLATILES

CAS No.	Compound
74-87-3	chloromethane
74-83-9	bromomethane
75-01-4	vinyl chloride
75-00-3	chloroethane
75-09-2	methylene chloride
67-64-1	acetone
75-15-0	carbon disulfide
75-35-4	1,1-dichloroethene
75-34-3	1,1-dichloroethane
156-60-5	trans-1,2-dichloroethene
67-66-3	chloroform
107-06-2	1,2-dichloroethane
78-93-3	2-butanone
71-55-6	1,1,1-trichloroethane
56-23-5	carbon tetrachloride
108-05-4	vinyl acetate
75-27-4	bromodichloromethane
78-87-5	1,2-dichloropropane
10061-02-6	trans-1,3-dichloropropene
71-01-6	trichloroethene
71-43-2	benzene
124-48-1	chlorodibromomethane
79-00-5	1,1,2-trichloroethane
10061-01-05	cis-1,3-dichloropropene
75-25-2	bromoform
591-78-6	2-hexanone
127-18-4	tetrachloroethene
79-34-5	1,1,2,2-tetrachloroethane
108-88-3	toluene
108-90-7	chlorobenzene
100-41-4	ethylbenzene
108-10-1	4-methyl-2-pentanone
108-42-5	styrene
1330-20-7	total xylenes

TARGET COMPOUND LIST

BASE/NEUTRAL/ACIDS COMPOUNDS

CAS No.	Compound
111-44-4	bis(2-chloroethyl) ether
108-95-2	phenol
95-57-8	2-chlorophenol
541-73-1	1,3-dichlorobenzene
106-46-7	1,4-dichlorobenzene
95-50-1	1,2-dichlorobenzene
100-51-6	benzyl alcohol
39638-32-9	bis (2-chloroisopropyl) ether
95-48-7	2-methylphenol
67-72-1	hexachloroethane
621-64-7	N-nitrosodi-dipropylamine
98-95-3	nitrobenzene
106-44-5	4-methylphenol
78-59-1	isophorone
88-75-5	2-nitrophenol
105-67-9	2,4-dimethylphenol
111-91-1	bis (2-chloroethoxy) methane
120-83-2	2,4-dichlorophenol
120-82-1	1,2,4-trichlorobenzene
91-20-3	naphthalene
106-47-8	4-chloroaniline
87-68-3	hexachlorobutadiene
65-85-0	benzoic acid
91-57-6	2-methylnaphthalene
59-50-7	p-chloro-m-cresol
77-47-4	hexachlorocyclopentadiene
95-95-4	2,4,5-trichlorophenol
88-06-2	2,4,6-trichlorophenol
91-58-7	2-chloronaphthalene
208-96-8	acenaphthylene
131-11-3	dimethyl phthalate
606-20-2	2,6-dinitrotoluene
83-32-9	acenaphthene
99-09-2	3-nitroaniline
132-64-9	dibenzofuran
51-28-5	2,4-dinitrophenol
121-14-2	2,4-dinitrotoluene
86-73-7	fluorene
100-02-7	4-nitrophenol
7005-72-3	4-chlorophenyl phenyl ether

TARGET COMPOUND LIST

BASE/NEUTRAL/ACIDS COMPOUNDS (cont'd)

CAS No.	Compound
84-66-2	diethyl phthalate
534-52-1	4,6-dinitro-2-methylphenol
86-30-6	N-nitrosodiphenylamine (diphenylamine)
100-01-6	4-nitroaniline
101-55-3	4-bromophenyl phenyl ether
118-74-1	hexachlorobenzene
87-86-5	pentachlorophenol
85-01-8	phenanthrene
120-12-7	anthracene
84-74-2	di-n-butyl phthalate
206-44-0	fluoranthene
129-00-0	pyrene
85-68-7	butyl benzyl phthalate
218-01-9	chrysene
56-55-3	benzo(a)anthracene
117-81-7	bis (2-ethylhexyl) phthalate
117-84-0	di-n-octyl phthalate
205-99-2	benzo(b)fluoranthene
207-08-9	benzo(k)fluoranthene
50-32-8	benzo(a)pyrene
193-39-5	indeno(1,2,3-cd)pyrene
53-70-3	dibenz(a,h)anthracene
191-24-2	benzo(g,h,i)perylene
91-94-1	3,3'-dichlorobenzidine
88-74-4	2-nitroaniline

TARGET COMPOUND LIST

PESTICIDES AND PCB'S

CAS No.	Compound
319-84-6	alpha-BHC
58-89-9	gamma-BHC (Lindane)
319-85-7	beta-BHC
76-44-8	heptachlor
319-86-8	delta-BHC
309-00-2	aldrin
1024-57-3	heptachlor expoxide
959-98-8	endosulfan I
72-54-8	4-4'-DDD
7421-93-4	endrin aldehyde
1031-07-8	endosulfan sulfate
60-57-1	dieldrin
72-20-8	endrin
50-29-3	4-4'-DDT
33213-65-9	endosulfan II
72-55-9	4-4'-DDE
57-74-9	chlordane
8001-35-2	toxaphene
53494-70-5	endrin ketone
72-43-5	methoxychlor
12674-11-2	aroclor 1016
11104-28-2	aroclor 1221
11141-16-5	aroclor 1232
53469-21-9	aroclor 1242
12672-29-6	aroclor 1248
11097-69-1	aroclor 1254
11096-82-5	aroclor 1260

TARGET COMPOUND LIST

TOTAL METALS

Aluminum
Calcium
Chromium
Barium
Beryllium
Cobalt
Copper
Iron
Nickel
Magnesium
Manganese
Potassium
Zinc
Silver
Sodium
Arsenic
Antimony
Selenium
Thallium
Mercury
Cadmium
Lead
Vanadium

Total Cyanide

APPENDIX C
SITE COVER

Summit National Superfund Site
Deerfield Township of Portage County, Ohio

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3.0 SURFACE WATER INFILTRATION 10

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1.0 INTRODUCTION

An engineered contoured permeable vegetated soil cover shall be constructed over the operational Site. The Site cover shall effectively:

i) eliminate direct contact with potentially contaminated residual soils;

ii) eliminate transport by surface water runoff of potentially contaminated residual soils from the Site;

iii) eliminate potentially contaminated surface water runoff from the Site;

iv) minimize potential odors and uncontrolled volatilization of contaminants to the atmosphere; and

v) control the volume of leachate generated by surface water infiltration.

The permeable cover shall effectively provide long term treatment of residual water soluble soil contaminants through continual passive leaching of these contaminants from the soil column. Leached contaminants shall be collected by the groundwater extraction system and treated by the on-Site groundwater treatment system.

The following sections present details of the components of the Site cover.

2.0 SITE COVER COMPONENTS

2.1 GENERAL

The Site cover shall consist of a nominal two-foot thick contoured vegetated soil cover. The limits of the cover shall be, for the most part, the operational Site boundary shown on Figure 1, resulting in a total Site cover area of approximately 10.6 acres. The Site boundary bisects the grid squares at the southwest corner of the Site where the surficial soils have not been adversely impacted by previous Site activities, to accommodate the off-Site drainage system traversing the State highway.

2.2 DESCRIPTION OF SITE COVER COMPONENTS

The proposed design parameters for the Site cover components are as follows:

i) the soil cover shall consist of two soil layers, with the lower nominal 18-inch depth layer consisting of loam material and the upper 6-inch depth layer consisting of topsoil. The permeability of the loam layer following placement shall be equal to or less than the permeability of the underlying Site soils to minimize the potential for horizontal migration of infiltration along the cover material/native soil interface plane. Loam soil shall be non-swelling and capable of compaction in the field to a permeability of 1×10^{-4} cm/sec or less. Topsoil shall be free from noxious weeds, large stones and other deleterious material.

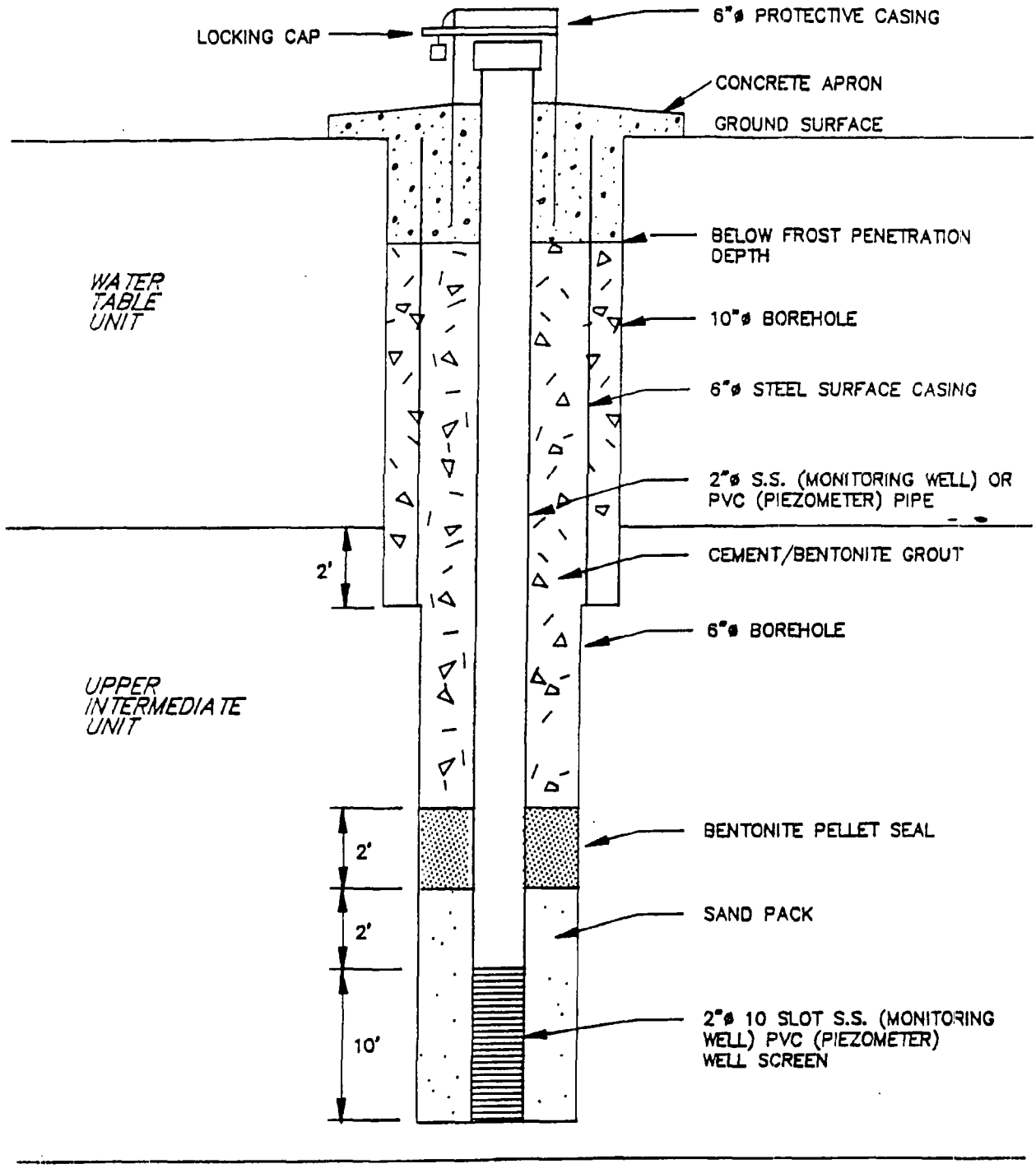

figure 13

TYPICAL UPPER INTERMEDIATE UNIT PIEZOMETER OR MONITORING WELL
Summit National Site

CRA

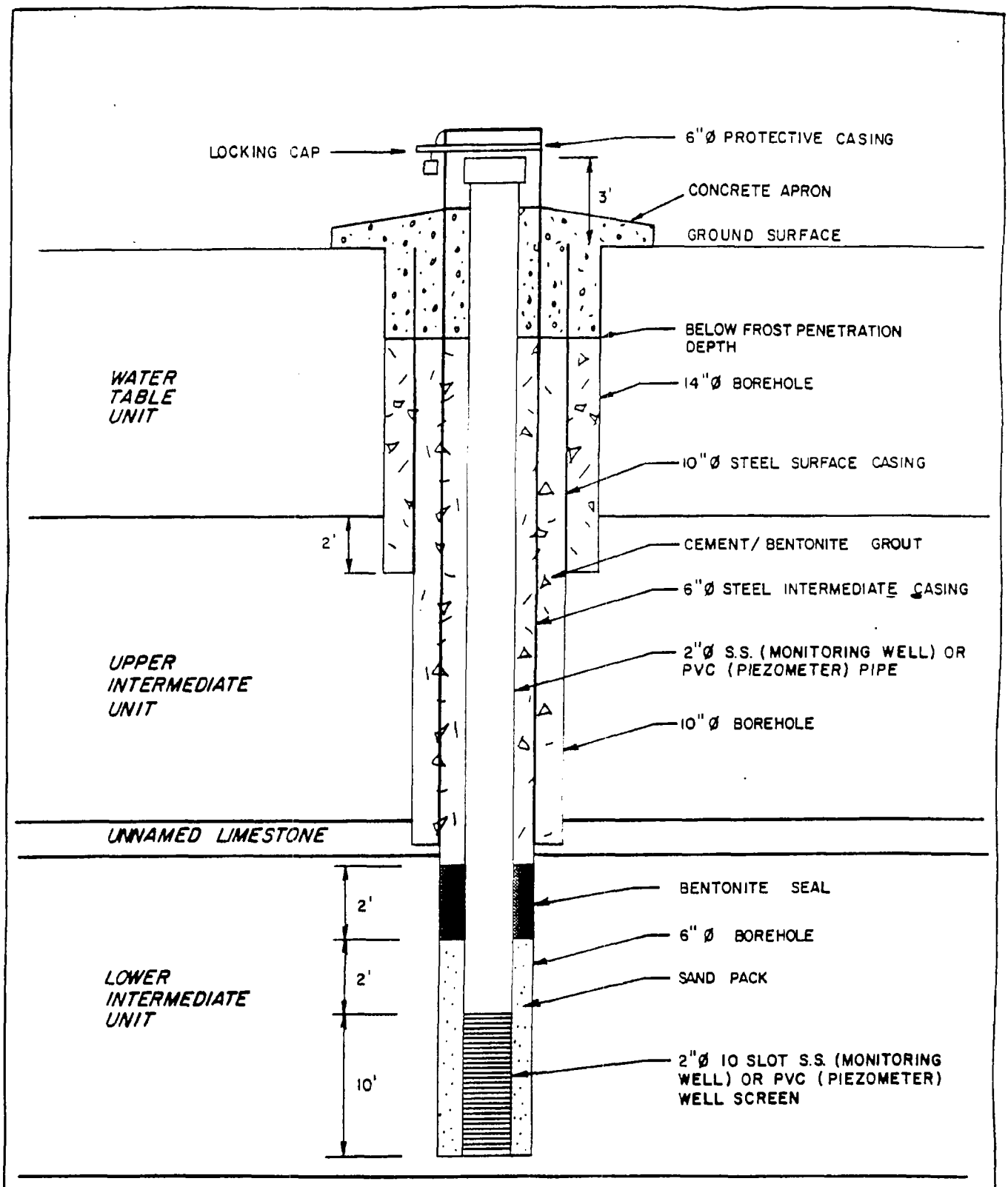

figure 14

TYPICAL LOWER INTERMEDIATE UNIT PIEZOMETER OR MONITORING WELL

Summit National Site

CRA

The source of the loam and topsoil shall be tested to ensure that materials imported to the Site are free of hazardous constituents;

ii) design contours for the Site cover shall conform to the following slopes:

Minimum - two percent for general surface area
- one percent for drainage swales

Maximum - that which will limit soil loss by erosion to less than two tons per acre per year

A preliminary design final cover contour plan for the Site cover is presented as Figure 2. A typical west-east cross-section of the Site cover is presented as Figure 3 and a typical south-north cross-section of the Site cover is presented as Figure 4. Maximum slopes along the Site perimeter shall not exceed a grade of five horizontal to one vertical. A reinforced concrete drainage channel shall be constructed along the eastern perimeter of the Site, as shown on Figures 2 and 3, to collect and direct surface water runoff from the Site to the existing stream bed southeast of the Site. The drainage channel shall be designed for a 24-hour rainfall event with a one in 25-year return period, and the capacity of the old stream bed assessed to provide retention of runoff from such a precipitation event. An energy dissipation structure shall be provided at the junction of the concrete channel and the existing water course to reduce storm water velocity and potential of erosion in the existing off-Site channel. The south, west and north drainage ditches shall be relocated as shown on Figure 2 to accommodate the final cover contour plan and sized appropriately;

iii) a hardy shallow-rooted vegetative cover shall be established as the final cover;

iv) gas vents with activated carbon filters shall be constructed through the Site cover, to collect, treat and vent any volatilized contaminants which may potentially be released from contaminants remaining at the Site. The gas vents shall be located initially in areas of the Site known to contain the highest residual concentrations of volatile contaminants, in areas of known magnetic anomalies, and at high points in the final design of the Site cover. As field work progresses and actual Site conditions dictate, the locations of the gas vents may be altered with approval by USEPA and OEPA. The frequency of gas vent installations shall be approximately one gas vent per acre of Site. A typical detail of a gas vent is presented as Figure 5. Preliminary locations of gas vents are shown on Figure 6. The final locations and frequency of installations may be altered during the design phase as a result of modeling capture zones; and

v) an 8-foot high, chain-link, industrial grade security fence shall be constructed around the perimeter of the Site cover to prevent access by unauthorized personnel. Sixteen-foot wide, double leaf gates shall be provided at two locations to allow access for Site personnel and maintenance and operations equipment, and to provide alternate entrance/exit points in the case of an emergency. Two man gates also shall be provided. All gates shall be fitted with industrial grade security locks with all locks keyed alike. Distribution of keys shall be limited to

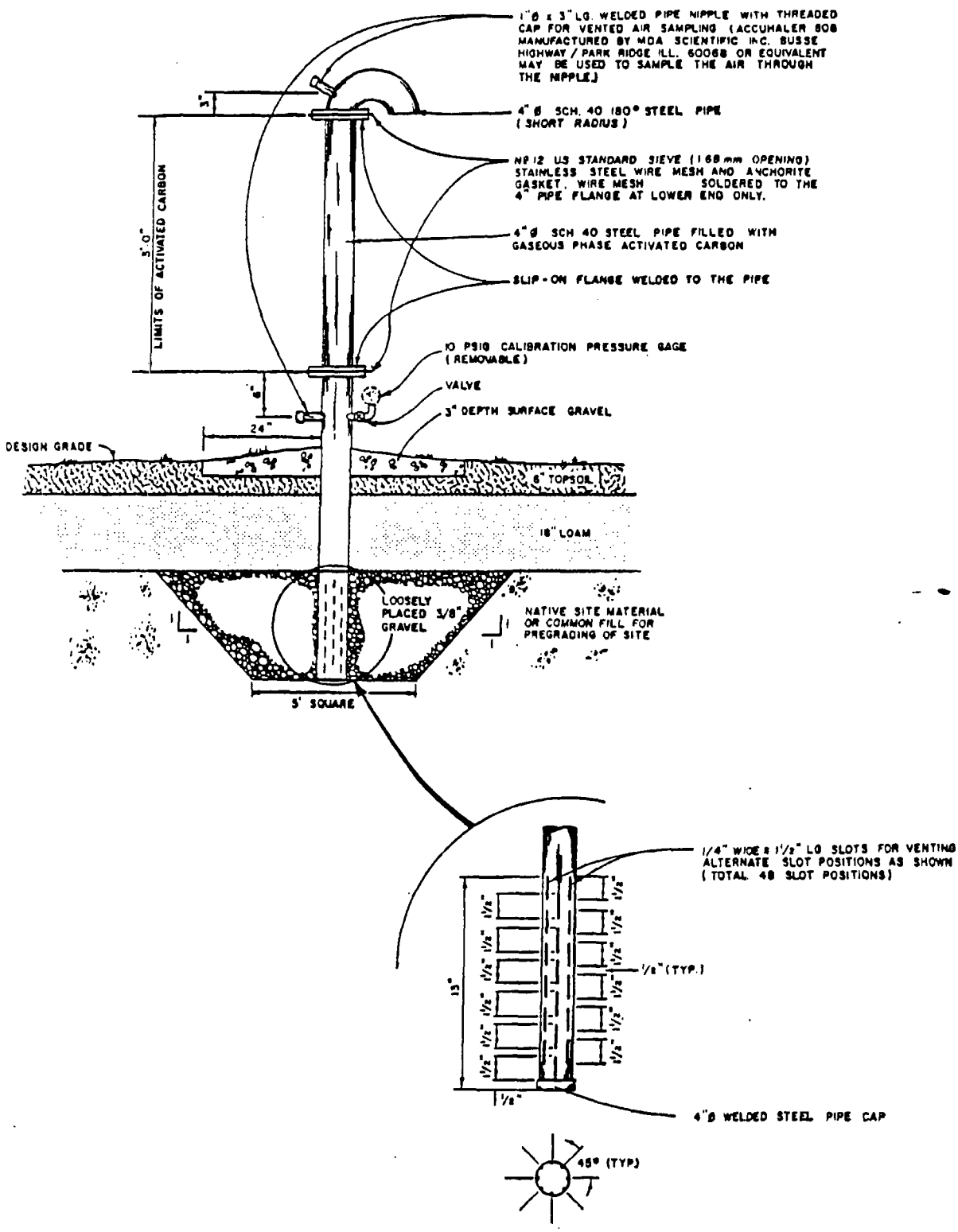

figure 5

TYPICAL GAS VENT DETAIL
Summit National Site

CRA

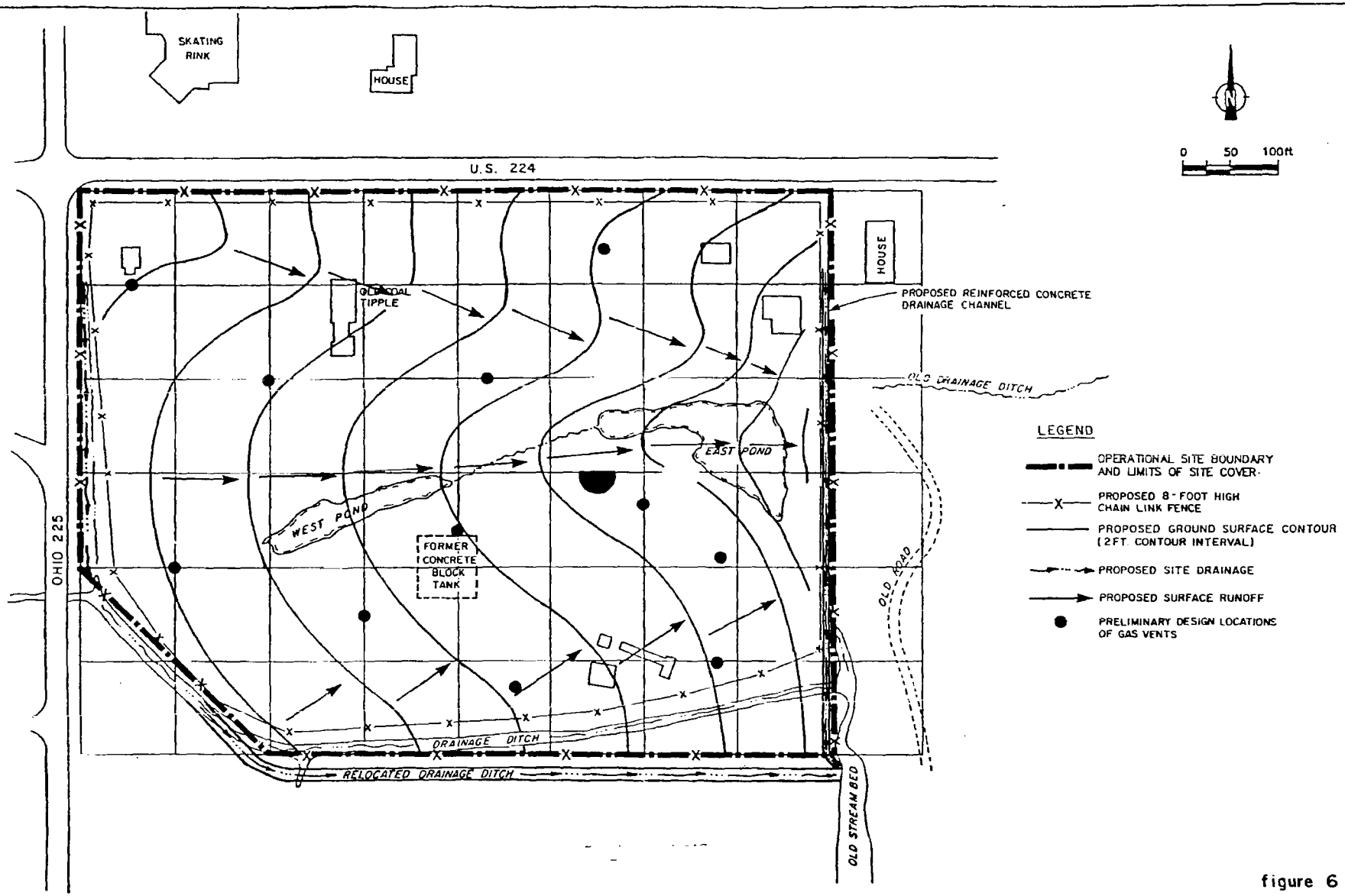

figure 6

PRELIMINARY GAS VENT LOCATIONS

Summit National Site

CRA

Site operating personnel, USEPA, OEPA, PRPs and PRPs designated representative(s).

2.3 COVER REGRADING ACTIVITIES

Prior to construction of the Site cover, removal and treatment of on-Site and East-Site contaminated soils by incineration, construction of the groundwater collection and extraction system, and removal of Perimeter-Site sediments must be completed. These activities will generate materials which shall be placed beneath the proposed Site cover. These materials, consisting of excavated soils from the pipe and media drain trench, Perimeter-Site sediments, and building demolition debris, shall be used to pregrade the Site to design base contour elevations. In addition, ash from the incineration process, if de-listed, and existing on-Site soils not adversely impacted by previous Site activities also shall be used to pregrade the Site.

Placement of the above materials for pregrading of the Site shall be performed in the following sequence. Ash from the incineration process shall first be placed in the lowest areas of the Site which require the maximum depth of fill to attain the final Site cover design grades. These areas include the southwest quadrant of the Site and areas excavated as a result of removal of buried containerized materials. The incineration ash, following compaction, shall be overlain with the building demolition debris, commingled with the Perimeter-Site sediments. Soils excavated from the pipe and media drain trench shall be placed and compacted in areas requiring

the least amount of fill to attain the final Site cover design grades. Finally, existing on-Site soils not adversely impacted by previous Site activities shall be regraded and compacted to finalize pregrading of the Site to the design base contour elevations. As required, additional common fill shall be imported, placed and compacted in areas where the design base grades cannot be achieved through regrading of the Site with on-Site soils. If common fill is required, this material shall consist of any non-swelling clean soil available in the vicinity of the Site. The source of the common fill shall be tested and confirmed to be free of hazardous constituents.

All pregrading materials shall be placed in maximum 12-inch depth lifts, and compacted to 90% of modified proctor density. Following pregrading of the Site to the design base grade elevations, the entire Site shall be proof-rolled with a 25-ton roller. Areas of subsidence shall be reworked, filled and compacted to attain a base that will be free of excessive differential settlement for construction of the Site cover.

2.4 MAINTENANCE AND MONITORING OF THE SITE COVER

2.4.1 Maintenance

The vegetative cover shall be maintained at a nominal height of four to eight inches, to promote active vegetative growth and minimize vegetative distress. Maintaining the vegetative cover at this height typically requires mowing three to four times per year, and fertilizing once or twice per year.

The Site cover shall be visually inspected on a regular basis by walking the entire Site to determine the presence of burrowing animals, deep rooted vegetation, vegetative distress, surface erosion, desiccation, ponding of water, and subsidence or settlement. During the inspection, the perimeter security fence also will be inspected to determine structural damage or loss of integrity. All gates will be opened to ensure functionality and all locks will be oiled. Inspections shall be performed at the frequencies shown on Figure 7, commencing in the first year following completion of construction of the Site cover. Based on data obtained from sampling and analyses of on-Site surface and subsurface soils, groundwater monitoring data, and status of the groundwater extraction system, the Settling Defendants may petition USEPA and OEPA to discontinue maintenance of the Site cover at some future time. Upon approval by USEPA and OEPA, the maintenance of the Site cover will be terminated.

Significant problems identified by the periodic inspections shall be rectified within one month of their observance, except for items where implementation of repairs are seasonally dependent. In such cases, problems shall be substantially rectified within three months of their observance, and completely rectified by the next season when such repairs are typically performed. Deep rooted vegetation and vegetative distress shall be controlled by application of appropriate growth inhibiters, and reseeding and fertilizing, respectively. Areas where surface erosion, desiccation, ponding of water and subsidence or settlement have occurred shall be reworked, restored to design final contours and revegetated.

ACTIVITIES	JAN	FEB	MAR	APR	MAY	JUNE	JULY	AUG	SEP	OCT	NOV	DEC
FINAL COVER VEGETATIVE SURFACE				TS F	M	M	M		M TS	F		
COVER SURFACE	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲
SECURITY FENCE	△	△	△	△	△	△	△	△	△	△	△	△
GAS VENTS (INITIAL THREE YEARS, AFTER WHICH FREQUENCY MAY VARY)			○			○		● (ONCE EVERY 3 YEARS)	○			○
DRAINAGE SYSTEM	♦	♦	♦	♦	♦	♦	♦	♦	♦	♦	♦	♦

TS — TOP SOIL SAMPLING FOR FERTILIZER APPLICATION

F — FERTILIZING

M — GRASS MOWING

▲ — VISUAL INSPECTION OF SITE COVER

△ — VISUAL INSPECTION OF SECURITY FENCE

○ — GAS VENT SAMPLING AND ANALYSIS

● — GAS VENT ACTIVATED CARBON REPLACEMENT

♦ — VISUAL INSPECTION OF DRAINAGE CHANNELS

figure 7

INITIAL ANNUAL MAINTENANCE SCHEDULE

Summit National Site

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The Site cover inspection log form is presented as Table 1.

2.4.2 Monitoring

Gas vents shall be sampled quarterly for three years. Samples shall be collected by a high flow pump sampler calibrated in the field by a rotometer. Samples shall be collected onto dual tenax and dual carbon collection tubes operated in series. The two samples per vent shall be collected simultaneously using parallel/series tube holder sets.

The initial round of samples collected shall be analyzed for the TCL volatile organic parameter list. On the basis of these data, an indicator parameter list, based on volatility, efficiency of removal by activated carbon and relative concentration in the collected samples, will be prepared for modification and/or approval by USEPA and OEPA, and used for subsequent quarterly sampling events.

If breakthrough of the carbon filters has not occurred within three years, carbon filters shall be changed thenceforth at a three year frequency. Should breakthrough occur prior to three years, the changeout frequency for the carbon filters shall be the apparent breakthrough period less three months. Sampling of all gas vents shall be performed when 75 percent of the scheduled changeout period for the carbon filters has elapsed, and the samples shall be analyzed for the indicator parameter list. These analyses shall periodically confirm the validity of the carbon filter changeout interval,

TABLE 1

SITE COVER INSPECTION LOG
SUMMIT NATIONAL SITE

INSPECTOR'S NAME/TITLE _____

DATE OF INSPECTION _____ (MONTH/DAY/YEAR)

TIME OF INSPECTION _____ (MILITARY TIME)

ITEM	TYPES OF PROBLEMS	STATUS (CHECK) ACCEPTABLE	UNACCEPTABLE	OBSERVATIONS	WORK ORDER NUMBER	DATE AND NATURE OF REPAIRS/ REMEDIAL ACTION
Security						
Perimeter fence	- Corrosion or structural damage to support posts and fence fabric					
Gates & Lock	- Corrosion damage to gate hinges and fabric - Locks sticking or corroding					
Signs	- Corrosion, visibility, damage					
Site Cover						
Landscaped Area	- Vegetative cover - Presence of deep rooted vegetation or burrowing mammals - Erosion, cracking - Subsidence (visual)					

TABLE 1

SITE COVER INSPECTION LOG
SUMMIT NATIONAL SITE

INSPECTOR'S NAME/TITLE _____

DATE OF INSPECTION _____ (MONTH/DAY/YEAR)

TIME OF INSPECTION _____ (MILITARY TIME)

ITEM	TYPES OF PROBLEMS	STATUS (CHECK) ACCEPTABLE	UNACCEPTABLE	OBSERVATIONS	WORK ORDER NUMBER	DATE AND NATURE OF REPAIRS/ REMEDIAL ACTION
Site Cover						
Landscaped Area	- Settlement - Ponding of water - Slumping - Seepage - Mow grass - Fertilize cover - Sample topsoil					
Gas Vents	- Corrosion, visibility, damage - Odor - Sample - Change carbon					
Drainage System	- Heaving, settlement, cracking of reinforced concrete channel - Erosion, profile, vegetation of drainage channels - Slumping of sides - Vegetation control					

and appropriate changes to the schedule for changeout frequency of the carbon filters will be made as approved or modified by USEPA and OEPA.

A surface water and sediment sample shall be collected at the southeast corner of the Site at the confluence of the south and east drainage ditches and analyzed annually for the TCL organic parameter list until termination of the Consent Decree.

3.0 SURFACE WATER INFILTRATION

The permeable Site cover shall permit controlled passive infiltration of surface water through residual contaminated Site overburden soils. This infiltration shall be collected by the groundwater collection and extraction system and treated by the on-Site groundwater treatment system.

APPENDIX D
GROUNDWATER TREATMENT SYSTEM

Summit National Superfund Site
Deerfield Township of Portage County, Ohio

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1.0 INTRODUCTION

Groundwater collected by the groundwater extraction system shall be treated prior to discharge to the local surface water systems. An estimation of the quantity and quality of groundwater to be treated is detailed in Section 2.

Section 3 specifies the basis for the design of the groundwater treatment process for the Site, and a conceptual description of the components of the groundwater treatment system. The conceptual design presented in Section 3 is based on the groundwater quality data collected during the RI/FS and treatment process capabilities. The treatment technologies specified, namely coagulation, air stripping, aqueous phase treatment with carbon, and vapor phase treatment with carbon, are Best Available Treatment Technology (BATT) for contaminated groundwater consistent with the organic and inorganic contaminants identified in the groundwater at the Site. The final design parameters for the treatment process shall be submitted to USEPA and OEPA for approval following implementation of the groundwater characterization and treatability study, detailed in Section 4, which serve to establish final treatment design criteria.

Details pertaining to the treated effluent discharge, the treatment system monitoring program, and the contingency groundwater treatment plan are specified in Sections 5, 6 and 7, respectively.

2.0 GROUNDWATER RECOVERY AND QUALITY

The estimated groundwater recovery rate and contaminant characteristics, for both the pipe and media drain component and the extraction well component of the groundwater extraction system, are presented in the following sections.

2.1 GROUNDWATER RECOVERY RATES

The predicted flow rates for the pipe and media drain system and the extraction well system are presented in Table 1. The flow rate is estimated to be approximately 94 gpm after 30 days of operation, 68 gpm after 90 days of operation, and will reduce with time to a steady-state of approximately 35 gpm to 44 gpm.

The basis of design for the groundwater treatment system for the Site shall be an influent flow rate of 100 gpm, to provide an initial safety factor for the design and to provide treatment contingency as the influent flow decreases with time.

Additional flow to the treatment facility will occur for liquid wastes from the on-Site incineration process during removal and treatment of soil materials. However, incineration of soil materials is not scheduled to commence until approximately four months following commissioning of the groundwater extraction system and on-Site

TABLE 1

SUMMARY OF PREDICTED FLOW RATES
GROUNDWATER EXTRACTION SYSTEM
SUMMIT NATIONAL SITE

Time After Installation of Drain (days)	Lateral Flows To Drain (gpm)	Infiltration (gpm)	IU (1) Wells (gpm)	Total (gpm)
30	76	10	8	94
90	50	10	8	68
180	35	10	8	53
365	25	10	8	43
steady-state	17 to 26	10	8	35 - 44

NOTES: (1) IU - Intermediate Unit

groundwater treatment facility. During this time period, flow from the groundwater extraction system is predicted to decrease by at least 30 gpm, well in excess of the estimated flow rate from the incinerator of 5 to 10 gpm. Therefore, the flow rate from the incinerator will have no effect on the design flow rate for the on-Site groundwater treatment facility.

2.2 GROUNDWATER QUALITY

2.2.1 Water Table Unit

An evaluation of the groundwater quality was performed during the RI/FS. The most extensive groundwater contamination was identified in the southwest quadrant of the Site, through which the pipe and media drain will pass.

2.2.2 Intermediate Unit

Groundwater contamination has occurred in the Intermediate Unit (IU). Significant levels of contamination occur in MW-10 and MW-24, both consequently will be pumped.

2.2.3 Influent Quality

The influent to the treatment system under steady-state conditions is estimated to consist of the following:

i) 36 gpm from the pipe and media drain (including infiltration and contribution from the drainage ditch);

ii) 6 gpm from the IU extraction wells;

iii) 1 gpm from MW-24; and

iv) 1 gpm from MW-10.

Using the average concentrations from selected wells, and the above ratio of flow, the influent quality of the combined groundwater flow to the groundwater treatment system was estimated. The resulting estimated organic concentrations are presented in Table 2, and these organic concentrations have been preliminarily identified to be used as the design basis for the groundwater treatment system. Inorganic concentrations will be estimated for use in the design for the groundwater treatment system.

TABLE 2

ESTIMATED TREATMENT PLANT
INFLUENT CONCENTRATION
SUMMIT NATIONAL SITE

CONTAMINANT	ESTIMATED CONCENTRATION (ug/L)
VOLATILES	
Methylene Chloride	3,310
Acetone	140,770
1,1-Dichloroethane	1,982
1,2-Dichloroethane	31,210
2-Butanone	106,628
1,1,1-Trichloroethane	8,449
Trichloroethene	4,597
4-Methyl-2-Pentanone	9,128
Toluene	3,496
Ethylbenzene	1,179
SEMI-VOLATILES	
4-Methylphenol	80
2,4-Dimethylphenol	18
Phenol	1,295
Isophorone	520
Naphthalene	89
2-Methylnaphthalene	58
Bis(2-ethylhexyl)Phthalate	1,017

3.0 GROUNDWATER TREATMENT PROCESS

3.1 GENERAL

The conceptual treatment system shall consist of treatment components to treat an initial flow of 100 gpm at the estimated contaminant concentrations presented in Table 2. These components include the following:

i) enclosed equalization tank vented through carbon;
ii) chemical feed system;
iii) enclosed clarification basin vented through carbon;
iv) solids dewatering/solids disposal;
v) enclosed media filtration;
vi) air stripping vented through carbon; and
vii) aqueous granular activated carbon filtration.

3.2 EFFLUENT QUALITY CRITERIA

The groundwater treatment system must use Best Available Treatment Technology (BATT) at a minimum to achieve appropriate National Pollution Discharge Elimination System (NPDES) standards for treated effluent. Those standards will be consistent with the NPDES permit process as administered by the OEPA Division of Water Pollution Control for dishcarges into waters of the State of Ohio, or will meet

any more stringent standard promulgated under State or Federal Law. The conceptual design detailed in the following sections has been developed assuming that NPDES effluent quality concentrations, when developed, are reflective of the physical constraints imposed by BATT. The specific processes identified have been proven effective at numerous other sites that required treatment of extracted groundwater or surface water.

3.3 CONCEPTUAL DESIGN

Figure 1 presents a schematic diagram illustrating the conceptual design for the groundwater treatment process.

3.3.1 Groundwater Collection/Equalization

The recovered groundwater from the groundwater extraction system shall be transferred from the central collection sump on the groundwater extraction system to an equalization tank, which shall function as a reservoir and recycle tank to maintain constant flow through the treatment system. The equalization tank shall be designed with an inlet structure (jet spray nozzle) which shall aerate the water to promote volatilization of contaminants. The tank shall be designed for a minimum of 20 minutes retention (2,000 gallons) to promote settling of solids. The equalization tank shall be designed for solids removal and, in addition, the tank shall be covered to contain volatiles which result from the pumping

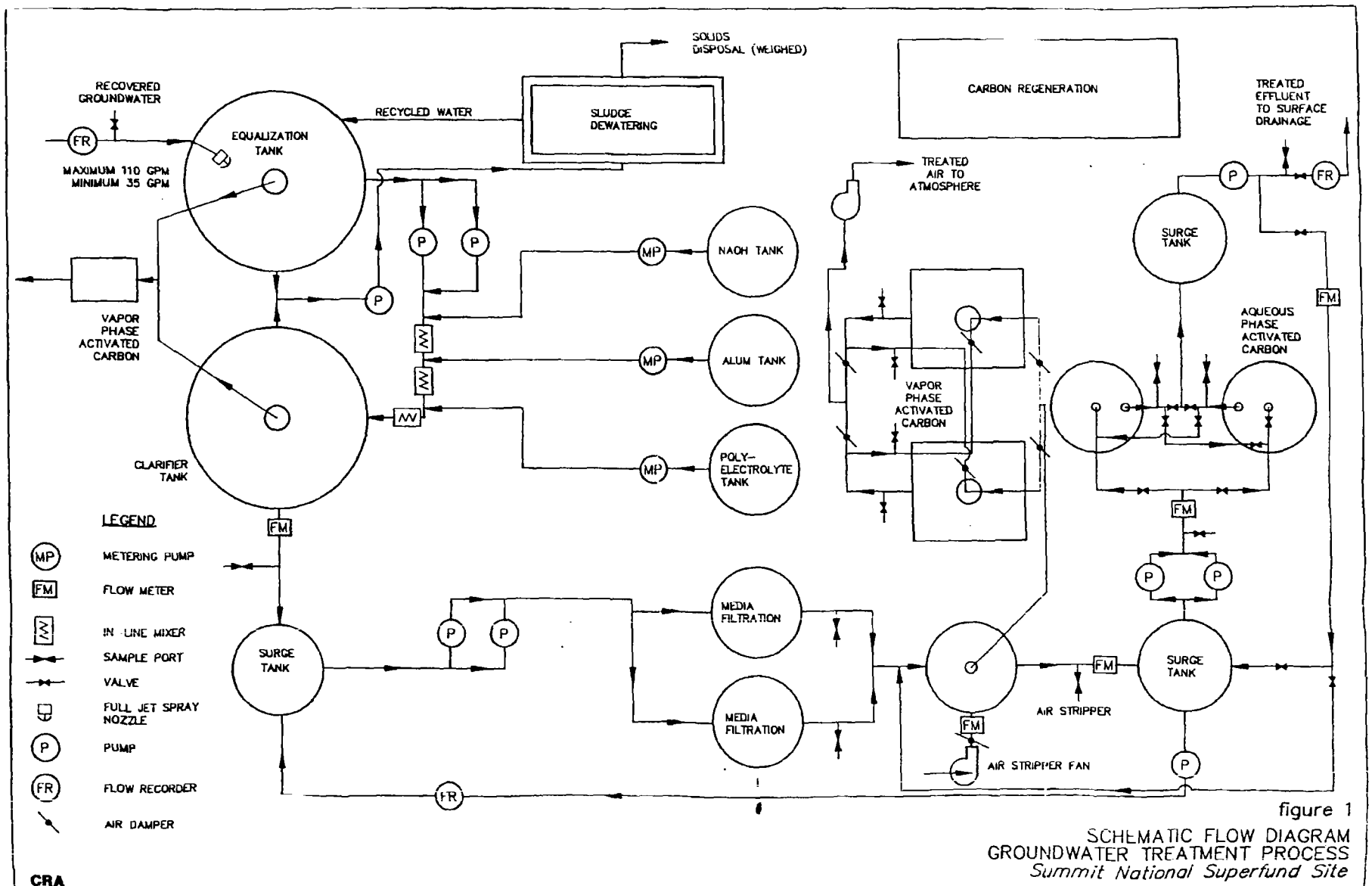

figure 1

SCHEMATIC FLOW DIAGRAM
GROUNDWATER TREATMENT PROCESS
Summit National Superfund Site

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activities. This off-gas shall be vented through a vapor phase granular activated carbon system.

3.3.2 Coagulation/Flocculation/Sedimentation (CFS)

The basis of design for the CFS system shall allow for the addition of chemicals for pH adjustment and coagulation (i.e. NaOH, aluminum, polymers) upstream of a solids clarification basin. The final design parameters for the CFS shall be established in consultation with USEPA and OEPA during the final design program.

The clarification basin shall be designed for a minimum retention time of 20 minutes (2,000 gallons) to allow proper settling and removal of the floc produced.

The clarification basin shall be covered to contain volatiles which result from the pumping activities. This off-gas shall be vented through a vapor phase granular activated carbon system.

3.3.3 Sludge Dewatering

The settled floc from the clarification basin shall be pumped to the sludge dewatering system. In addition, solids shall be removed from the equalization tank and pumped to the dewatering system.

The volume of sludge and the volume of solids to be expected will be determined by treatability studies. The final design of the dewatering system (i.e. - type, size, auxiliary equipment), shall be based on the results of these treatability studies in consultation with USEPA and OEPA. Dewatered materials may or may not be hazardous waste, and a final determination shall be made on the basis of chemical analyses. Disposal of dewatered materials shall be consistent with their chemical characterization.

Air emissions from the sludge dewatering area are not anticipated to be a problem. Local ventilation of the area shall be provided, however, by the building ventilation system to control any potential odors. Working conditions shall be maintained in compliance with Occupational Safety and Health Association (OSHA) standards.

3.3.4 Media Filtration

The treatment equipment shall include a media filtration system to remove suspended solids and turbidity from the water following clarification and prior to air stripping. The system shall consist of two media filter tanks, each with a capacity of 100 percent of the flow, to allow for backwashing with treated water from the system. The system shall be backwashed to the equalization tank, for recycle and treatment of the backwash waters.

3.3.5 Air Stripping

The design basis for the air stripping system shall be an average volatile organic compounds (VOCs) removal rate of at least 95 percent. Based on the initial design flow rate of 100 gpm and the estimated VOC concentrations shown on Table 2 the conceptual air stripper design shall be:

water flow rate	-	100 gpm
tower diameter	-	2 feet
packing type	-	polypropylene
air to water ratio	-	50:1
material	-	fiberglass reinforced polyester (FRP)
tower height	-	subject to treatability studies as discussed in Section 4

These design parameters are subject to change, to be agreed to with USEPA and OEPA, if the final design review based on the results of the treatability studies concludes that a modular design (two units) offers greater operation flexibility than the single unit. Also, the aeration in the equalization tank and the chemical treatment for clarification will remove VOCs and reduce air stripping requirements.

3.3.6 Off-Gas Treatment

A vapor phase carbon adsorption system shall be provided for treatment of the equalization tank vent, the clarification basin vent and the air stripper gaseous emissions.

The carbon adsorption systems for the equalization tank and clarification basin shall consist of single canister replaceable 55-gallon drum units. The loading rate shall be determined during the final design stages and verified by monitoring during operation. Changeout frequency of the vapor phase carbon shall be determined by periodic sampling of the off-gas.

The carbon adsorption system for the treatment of the stripper off-gas shall consist of two carbon units, each rated for 100 percent of the air flow.

The on-Site vapor phase carbon adsorption system shall consist of two carbon tanks, each containing approximately 3,000 pounds of vapor phase granular carbon. The carbon shall be regenerated on Site. The regeneration equipment shall consist of a condensor decanter and a steam regenerator. Auxiliary equipment shall include an air heater, automatic valves, dampers and process controls. It is anticipated that approximately one pound of steam per pound of carbon will be required during regeneration. The condensate generated shall be decanted allowing partitioning of the organic and aqueous phase. The organic phase shall be

disposed off Site, at a solvent recovery facility approved by USEPA, and the aqueous phase shall be recycled back to the equalization tank; if the viability of this disposal method can be demonstrated during full-scale treatment operations. If this practice is not feasible, the waste material will require incineration at a USEPA approved hazardous waste facility. It is anticipated that the vapor phase activated carbon will not require replacement.

If final design review determines that off-gas treatment for the air stripper system is not required, the carbon adsorption system shall be provided on a contingency basis. The need for a carbon regeneration system shall be evaluated along with the economics of carbon disposal during the final design stages.

3.3.7 Final Water Treatment

The effluent from the air stripper system shall pass through an activated carbon adsorption system for removal of the dissolved organics remaining in the groundwater. The air stripper effluent shall be pumped under pressure to two carbon adsorption contactors, each sized for 100 percent of the water flow, operating on a series arrangement. The plumbing shall be arranged to provide for sampling of the effluent from the first carbon contactor, to monitor for breakthrough organics, and to provide for rerouting the flow through the carbon contactors. In this manner, the secondary carbon unit provides a back-up to the primary unit. Upon detected breakthrough of the organics, the primary unit shall be isolated from the

system, with the flow directed to the secondary unit. This unit then becomes the primary unit, and the exhausted unit, once the carbon is replenished, becomes the secondary unit.

Within 30 days of detected breakthrough of the organics, exchange of the carbon in the unit where breakthrough has occurred shall be performed through venturi eduction of the carbon to a holding tank where the carbon shall be dewatered and stored for ultimate disposal or regeneration. New or regenerated carbon shall be added to the tanks by similar methods. The spent carbon will likely be considered a hazardous waste and shall be dewatered prior to disposal off Site at an incineration facility or regenerated at an approved facility.

The effluent from the carbon contactor system shall be pumped by a separate effluent pump to the final discharge location.

3.3.8 Treatment Buildings

The conceptual design provides for the equalization tank and clarification basin to be located indoors. Also, the chemical tanks and related pumps, carbon adsorption systems, and air stripping unit and related pumps shall be housed in the building enclosure along with electrical services and other equipment that requires weather proofing. The treatment building shall be constructed with a slab on grade and a pre-engineered metal siding/insulated building. The building shall be provided with lighting, and

a heating and ventilation system to provide air changes of two to five times per hour.

Instrumentation shall be provided to monitor the influent flow to the treatment plant, the influent flow to the air stripper, the air flow to the air stripper and the effluent flow. In addition, pressure gauges shall be provided to monitor pipeline pressures and pressure switches shall be installed to shut down the system during unusual (high or low) pressure conditions. Pressure switches shall be installed on the air stripping tower and the carbon adsorption system to shut down the treatment system during unusual conditions.

4.0 GROUNDWATER TREATABILITY AND MODELING STUDIES

The evaluation process to be performed for the clarification, filtration, air stripping and carbon adsorption groundwater technologies detailed in the conceptual groundwater treatment system shall be as discussed in the following sections.

4.1 TREATABILITY STUDIES

The groundwater, probably will contain dissolved and suspended compounds which typically deposit or precipitate in an air stripping system. This deposition and precipitation typically adversely affects the performance of the air stripping system.

The groundwater treatability study shall consist of, but not necessarily be limited to, the setup of a pilot study unit. The pilot study unit shall include the following:

i) groundwater collection/storage;
ii) a trailer laboratory;
iii) a pilot air stripper unit; and
iv) a pilot carbon unit.

Groundwater required for the pilot study shall be collected from a combination of existing wells at the Site and analyzed for the TCL list,

which will provide some delineation of existing groundwater quality in the WTU and IU. A number of existing wells then will be pumped at various flow rates to provide an influent water quality consistent with the design basis for the treatment system to the storage tank of the pilot study unit. The pilot study unit shall be tested at a flow rate of 5 to 10 gpm. During the pilot study program, the treated groundwater (7,200 to 14,400 gpd) shall be discharged, through an activated carbon adsorption system off Site.

During the groundwater treatability study, the following five experimental tests shall be conducted:

i) bench-scale jar test for clarification and solids/metals removal (Test 1);
ii) bench-scale test for filtration (Test 2);
iii) treatment of the groundwater by air stripping (Test 3);
iv) treatment of the groundwater by carbon adsorption (Test 4); and
v) treatment of the groundwater by a combination of air stripping and carbon adsorption (Test 5).

After completion of these tests, the pilot process shall be operated for a period of three weeks (Test 6) at a liquid loading rate of 5 to 10 gpm with an optimal air to water ratio determined from the experimental tests. This longer duration test shall be used to determine the impact of water scale formation characteristics and biological formation qualities, to determine the longer term efficiency and operation characteristics of the design groundwater treatment system.

During Test 1 and Test 2, samples of the untreated and treated groundwater, in addition to solids generated, shall be collected. During Test 2 through Test 5, samples of the influent and effluent shall be collected. During the extended test period (Test 6), samples of the influent and effluent shall be collected daily, for the first week, and then twice weekly for the remaining two weeks. At the end of the test run, the pilot unit shall be shut down and inspected for signs of deposition, precipitation and biological growth.

The samples collected shall be analyzed for priority pollutant organics, and general water quality parameters (inorganics). The rates of deposition, precipitation and biological growth shall be determined by visual inspection. As necessary, samples of deposits shall be collected with follow-up analysis for compounds which appear (i.e. calcium, iron, sulphate).

The results of the pilot test shall define the parameters to be used for the final design of the groundwater treatment system components. The standards of performance against which the pilot process system will be evaluated shall be appropriate BATT or water quality criteria, whichever are more stringent.

5.0 WASTE WATER DISCHARGE

The treated water discharge shall be to the existing drainage ditch in the northeast portion of the Site. The groundwater treatment system discharge shall meet appropriate NPDES standards.

These parameters shall be developed during the detailed design review and shall be based on the results of the treatability studies to be performed.

4.2.3 Receptor Locations

A combination of gridded and discrete receptors shall be used to determine the location of maximum concentrations. The receptor system shall use cartesian coordinates for the discrete receptors and polar coordinates for the grid. Both coordinate systems shall have their origin at the proposed air stripper location.

Grid receptors shall be located at 16 directional intervals, circular around the source, and at specified distances of 700, 1,000, 1,500, 2,000, 3,000 and 5,000 meters along the 16 radials. The elevation of each receptor shall account for the terrain variation.

Discrete receptors shall be placed at intervals of approximately 100 meters along the perimeter of the site. Additional receptors shall be placed at a ring around the property of 100, 200, 300 and 500 meters from the source.

4.2 AIR QUALITY IMPACT ASSESSMENT

4.2.1 Modeling Methodology

An air quality impact shall be performed as necessary with respect to permitting requirements to determine potential individual constituents that may be released from the air stripper system. This assessment may, if necessary, involve modeling to ensure that the impacts will be less than applicable acceptable ambient standards and the Ohio Maximum Acceptable Ground Level Concentrations (MAGLCs). Impacts will be established using air quality dispersion models approved by USEPA and OEPA.

4.2.2 Source Characteristics

Emissions from the proposed air stripper may, if necessary, be modeled as a single point source. The parameters used in modeling this source shall, as a minimum, include the following:

i) stack height;

ii) stack diameter;

iii) stack gas temperature;

iv) stack gas velocity;

v) emission rate; and

vi) building parameters (height, width, length).

These parameters shall be developed during the detailed design review and shall be based on the results of the treatability studies to be performed.

4.2.3 Receptor Locations

A combination of gridded and discrete receptors shall be used to determine the location of maximum concentrations. The receptor system shall use cartesian coordinates for the discrete receptors and polar coordinates for the grid. Both coordinate systems shall have their origin at the proposed air stripper location.

Grid receptors shall be located at 16 directional intervals, circular around the source, and at specified distances of 700, 1,000, 1,500, 2,000, 3,000 and 5,000 meters along the 16 radials. The elevation of each receptor shall account for the terrain variation.

Discrete receptors shall be placed at intervals of approximately 100 meters along the perimeter of the site. Additional receptors shall be placed at a ring around the property of 100, 200, 300 and 500 meters from the source.

4.2.4 Results of Impact Analysis

The impact analysis shall focus on the toxic air pollutants with respect to allowable ambient concentrations of each of the identified constituents. Using the data collected during the pilot study tests and based on this modeling, the conceptual design of the groundwater treatment system shall be modified such that air emissions from the treatment process into the atmosphere do not exceed the MAGLCs.

5.0 WASTE WATER DISCHARGE

The treated water discharge shall be to the existing drainage ditch in the northeast portion of the Site. The groundwater treatment system discharge shall meet appropriate NPDES standards.

6.0 MONITORING

To ensure that the integrity of the environment is being maintained, and to assess the performance of the treatment facility, a monitoring schedule as discussed in the following sections shall be implemented.

6.1 FLOW MEASUREMENT

Flow measurements shall be recorded as follows:

i) continuous measurement of influent flow to the groundwater treatment system; and

ii) continuous measurement of treated effluent flow discharged to the surface water drainage system.

6.2 TREATED EFFLUENT ANALYSES

The frequencies and types of analyses for treatment plant effluent monitoring are detailed in Table 3. Since the effluent monitoring will ultimately be dictated by appropriate NPDES standards for treated effluent discharge, modifications to this monitoring schedule may be necessary.

6.3 COMPLIANCE

In the event that contaminant levels in the effluent from the groundwater treatment system exceed the final effluent requirements for any singular sampling event, the frequency of sampling and analyses of the effluent for that contaminant grouping shall be increased to the weekly frequency schedule shown for Months 2 to 12 on Table 3. If the contaminant levels in the effluent continue to exceed the final effluent requirements for two consecutive events, then the groundwater treatment system shall be deemed to be in noncompliance with the final effluent requirements.

In the event of noncompliance with the appropriate NPDES standards, the following steps shall be taken:

i) written notices shall be provided to the Director of OEPA and the USEPA-RPM within 10 days following receipt of the analyses of the original exceedance and the two consecutive samples collected from the treatment plant effluent; and

ii) treatment operations shall be amended to bring the system into compliance within two months of written notification; if the final effluent is less than the acute water quality criteria. The treatment system may be brought into compliance by adjusting the treatment system and/or the introduction of interim treatment technology (i.e. additional activated carbon, ultraviolet/peroxide treatment or air

TABLE 3

ANALYSES OF TREATMENT PLANT EFFLUENT
SUMMIT NATIONAL SITE

	Priority Pollutant Volatile Organics (1)	Priority Pollutant Organics (2)	Priority Pollutant Heavy Metals (3)
Year 1			
Month 1	twice weekly	twice weekly	weekly
Months 2 to 12	weekly	bi-weekly	monthly
Year 2 Onward	monthly	monthly	quarterly

Notes:

(1) EPA Methods 601 and 602

(2) EPA Methods 624, 625 and 608

(3) Atomic Absorption, Graphite Furnace

stripping). The treatment operations shall be amended immediately to bring the system into compliance, if the final effluent is greater than the acute water quality criteria. The treatment system may be brought into compliance by passing the final effluent back through the system until the final effluent requirements are acheived; adjusting the treatment system; and/or the introduction of interim treatment technology.

The groundwater treatment system shall be deemed to have returned into compliance when three consecutive sampling events demonstrate conformance to the final effluent requirements. In this case, the frequency of sampling and analyses of the effluent shall return to the pre-noncompliance frequency mode.

In the event that a determination is made by any party that compliance can not be acheived without major revisions to the treatment system, that party shall provide written notice of such determiniation to the other parties. The Settling Defendants shall develop and submit a plan for modifications, including a schedule for implementation, to the Agencies within three months of such determinations. Implementation of the proposed modifications will be completed in accordance with the schedule approved by USEPA and OEPA. In this instance, the frequency of sampling and analyses at start-up shall follow that as for a new installation, as shown on Table 3.

6.4 AIR EMISSIONS

Total priority pollutants in the air emissions from the equalization tank vapor phase vent, the clarifier vapor phase vent and the air stripper vent shall be monitored annually or as required by the compliance requirements. The method of analysis shall be EPA Method 624.

7.0 SAFETY FACTORS/TREATMENT CONTINGENCIES

There are a number of safety factors and contingencies built into the conceptual groundwater treatment system.

The estimated upper limit initial pumping rate of 94 gpm will decrease over time to an estimated upper limit final pumping rate of 44 gpm. In addition, the initial chemical concentrations which are presented in Table 2 are expected to decrease over time. Thus, the groundwater treatment process, which will be designed for the initial contingency pumping rate of 100 gpm and estimated chemical concentrations as presented in Table 2, both of which are expected to decrease with time, will have built-in safety factors with time and will maintain compliance with performance standards.

The aqueous phase carbon adsorption system (series operation) provides a contingency to treatment of the final effluent should an undetected breakthrough of organics from the primary carbon adsorber occur.

In addition to the above, and as discussed in Section 3.3.8, the groundwater treatment system shall be designed with fail safe features including high water level sensors, air flow sensors and motor overload sensors which shall serve to shut down the groundwater treatment system at fault condition. In this case, a local alarm system (lights/sound alarm) shall be energized to warn of unusual system conditions. In addition, an automatic

telephone dialer system shall be provided for a remote indication of conditions which require attention.

The initial proposed treatment system consists of BATT components, designed to produce effluent qualities that meet air and water quality criteria. In the event that the groundwater treatment system does not consistently meet discharge criteria, flexibility during the final design shall be provided to increase inorganic compounds removal by expanding the clarification system, increase the air stripping system efficiency by increasing air flows, and, as necessary, increase the size of the carbon adsorption system. Additional components for separation of NAPL from liquids and/or solids shall be installed if NAPL is detected during operation of the groundwater treatment system.

APPENDIX E
SCHEDULE OF ACTIVITIES

Summit National Superfund Site
Deerfield Township of Portage County, Ohio

APPENDIX C

METES AND BOUNDS OF VASI PROPERTY

Known as being part of Lot #56 in Deerfield Township and bounded and described as follows: Beginning at the northwest corner of Lot #56; thence S. 89 deg. 25' East along the north line of said lot #56, a distance of 811.85 feet, and along the center line of U.S. 224; thence south 0 deg. 52" West 600 feet to an iron pipe and passing over an iron pipe set at 30 feet at the side of the highway; thence N. 89 deg. 25'West 811.85 feet to the west line of Lot #56, and the center line of S.R. 225, and passing over an iron pipe set at 30 feet at the side of highway; thence N 52' East along the west line of said Lot 56, 600 feet to the place of beginning and containing 11.18 acres of land, more or less.

APPENDIX D

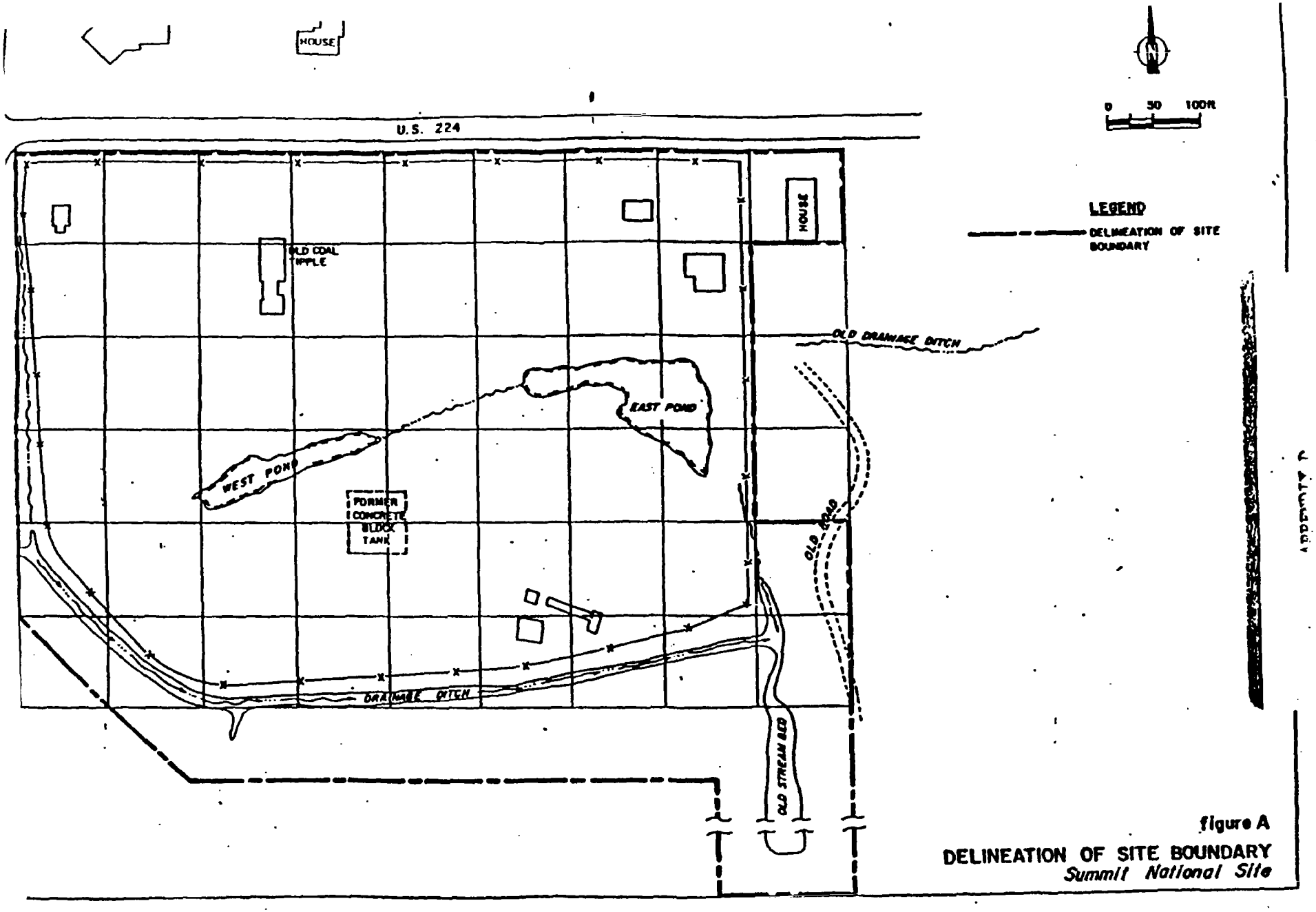

figure A
DELINEATION OF SITE BOUNDARY
Summit National Site

APPENDIX J

APPENDIX E

SUMMIT NATIONAL FACILITY TRUST AND PARTICIPATION AGREEMENT

THIS TRUST AND PARTICIPATION AGREEMENT is made this _____ day of _____, 19__, by and between the Settlors identified in Appendix A hereto whose authorized representatives have executed this Agreement and _____, _____, and _____ (hereinafter, together with any successors in office, called the "Trustees");

W I T N E S S E T H

WHEREAS, the Settlors have entered into a judicial Consent Decree (a copy of which will be provided to the Trustees) with the United States and the State of Ohio with respect to the Summit National Facility in Portage County, Ohio;

NOW THEREFORE, the Settlors hereby deliver to the Trustees and the Trustees hereby acknowledge receipt of $1.00 (one dollar) and other good and valuable consideration;

TO HAVE AND TO HOLD said funds and such additional funds as the Settlors and other individuals, partnerships, associations, government agencies, companies or corporations may from time to time add thereto as provided herein, together with the proceeds and reinvestments thereof (hereinafter collectively called the "Trust Fund"), unto the Trustees;

IN TRUST NEVERTHELESS, for the uses and purposes and upon the terms and conditions hereinafter set forth:

ARTICLE ONE
PURPOSE AND NAME

1.01. Purpose Of The Trust. The purpose of this Trust is to obtain, hold and disburse funds needed to: (a) finance remedial action work which Settlors are required to perform pursuant to the Consent Decree entered by the Court in United States v. John Vasi, et al., Civil Action No. _____, Northern District of Ohio, and in State of Ohio v. Georgeoff, Civil Action No. C81-1961, Northern District of Ohio; (b) provide for payment of any sums of money which the Settlors are required to pay to the Hazardous Substance Superfund, the United States, or the State of Ohio, including penalties, pursuant to such Consent Decree; and (c) to perform such other functions and activities as may be assigned to the Trustees pursuant to the provisions of the Consent Decree or the terms of this Agreement. To fulfill these purposes, the Trustees shall familiarize themselves with the terms and provisions of the Consent Decree, and shall take all actions necessary to assure that the requirements of the Consent Decree are fully effectuated. However, the Trustees do not

assume the underlying obligations of the Settlors under the Consent Decree, and the Settlors remain liable and obligated to ensure that the requirements of the Decree are satisfied.

1.02. Name Of Trust. The funds received by the Trustees (or by a custodian on behalf of the Trustees) from the Settlors or others, together with the proceeds and reinvestments thereof, shall be known as the Summit National Facility Trust Fund.

ARTICLE TWO
ESTABLISHMENT OF THE FUND

The Settlors and the Trustees hereby establish the Trust Fund in furtherance of the accomplishment by the Trustees of the objectives set forth in Section 1.01 as follows:

2.01. Initial Payments By Settlors Into The Fund. The Settlors hereby agree to make initial contributions to the Trust Fund to cover the projected cost of performance of the Work under the Consent Decree during the first twelve months after the Decree becomes effective in amounts to be mutually agreed upon among the Settlors. See Appendix F to the Consent Decree. All such initial payments shall be made within thirty (30) days after entry of the Consent Decree.

2.02. Installment Payments by Settlors Into The Fund. The Settlors hereby agree to make four additional installment payments into the Trust Fund to cover the projected cost of compliance with the Consent Decree in accordance with amounts to be mutually agreed upon among the Settlors. See Appendix F to the Consent Decree. Such installment payments shall be due and payable by each Settlor on each of the next four succeeding anniversary dates following the date of this Agreement.

2.03. Additional Payments To The Fund. Notwithstanding any other agreement to the contrary, the Settlors retain an unlimited obligation to ensure that the Trust has sufficient assets to satisfy the Settlors' obligations under the Consent Decree and to pay the expenses incurred by the Trustees. The Trustees shall make demand in writing upon the Settlors for additional contributions to this Trust in amounts corresponding to each Settlor's proportionate share of the additional contributions, as determined by each Settlor's proportionate share of the volumetric waste attributed to all Settlors, and in a manner consistent with paragraph V.A.5. of the Consent Decree, to keep this Trust in effect to satisfy the purpose of this Trust as set forth in Section 1.01 herein. The Trustees will be provided with a table listing all of the Settlors, the volumetric

share of waste attributed to each Settlor, and the percentage of the total of the volumetric shares of all Settlors which is attributable to each Settlor. The Settlors agree to satisfy in a timely manner all future calls upon them for contribution to the Fund, in accordance with paragraphs V.A.5. and V.A.6. of the Consent Decree.

(i) As provided in paragraph V.A.6. of the Consent Decree, the Trustees shall submit annual financial reports to the Settlors that include cash flow projections showing the level of funds that will be necessary to pay for the obligations of the Settlors under the Consent Decree for the following twelve month period. If the value of the Trust Fund assets, together with any balance remaining in the escrow account established pursuant to paragraph V.B.5. of the Consent Decree, is less than the amount projected in the report to be needed for this twelve month period, the Trustees shall determine the sum necessary to bring the level of the Trust Fund at least to the required amount and shall promptly notify the Settlors of the required sum and the time within which the payments are required to be made. In any event, Settlors shall deposit into the Trust Fund amounts sufficient to bring the level of the Trust Fund up to that projected amount within the time established by paragraphs V.A.5. and V.A.6. of the Consent Decree.

(ii) Notwithstanding any other provision of this Agreement, if the Trustees determine that an additional contribution is required by the Settlors to ensure the timely and uninterrupted compliance by the Settlors with the terms of the Consent Decree, the Trustees shall promptly notify the Settlors of the amount so required, and the Settlors shall make the necessary payments within thirty (30) days after receipt of notice.

2.04. Shortfall. In the event that any Settlor fails to make any contribution in a timely fashion in accordance with the foregoing provisions and/or the terms of the Consent Decree, the Trustees shall promptly notify the other Settlors of such failure. Remaining Settlors shall promptly pay the amount of the shortfall to the Trust Fund, each remaining Settlor paying in accordance with its percentage share, such percentage share being calculated by dividing the volumetric share of waste attributed to that remaining Settlor by the total of the volumetric waste attributed to all remaining Settlors.

2.05. Nature Of Contributions By Settlors. Contributions made by Settlors shall not be construed as fines, penalties or monetary sanctions of any kind, except to the extent that civil or stipulated penalties paid or payable under this Consent Decree shall be treated in accordance applicable rules of the United States Internal Revenue Service and with the applicable

rules of the Ohio Department of Taxation or the taxing authorities of other jurisdictions with taking powers over any Settlor. All contributions by the Settlors to the Trustees for the Trust Fund shall be made in immediately available funds. All such contributions, together with the earnings thereon, shall be held as a trust fund for the payment of the costs and expenses to be incurred by the Trustees as herein provided.

2.06. No Transferability Of Interest In The Trust. The interest of the Settlors in the Trust, and their obligation to provide funds under this Article, is not transferable, except to a successor corporation or corporations, and any such transferee corporation shall assume the obligations of the transferring Settlor by executing such documents as the Trustees may require.

ARTICLE THREE
DISPOSITIVE PROVISIONS

3.01. Termination of Settlor Rights and Powers. In the event that a Settlor shall fail or refuse to make any of the payments required of it pursuant to this Trust Agreement or the Consent Decree and shall (i) become insolvent or admit in writing its insolvency, (ii) be unable or admit in writing its inability to pay its debts as they mature, (iii) make a general assignment for the benefit of creditors, (iv) have an involuntary petition in bankruptcy filed against it, or (v) commence a case under or otherwise seek to take advantage of any bankruptcy, reorganization, insolvency, readjustment of debt, dissolution or liquidation law, statute, or proceeding, such Settlor shall no longer have any of the rights or powers of a Settlor. Notwithstanding the foregoing, the loss of rights or powers of a Settlor pursuant to this Section 3.01 shall not result in a change or diminution of the duties and obligations imposed upon such Settlor by this Agreement or by the Consent Decree.

3.02. Majority in Interest. With regard to any action to be taken by the Settlors as provided herein which requires the vote of the Settlors, each Settlor shall have a vote as follows:

(a) No Settlor may vote unless that Settlor has paid all financial contributions assessed, due and owing as of thirty days after the last assessment made against it pursuant to the terms of the Consent Decree or this Agreement. Any Settlor having an assessment due and owing that remains unpaid at the time of the prcceeding among the Settlors held for the purpose of the Settlors taking joint action under this Agreement with regard to the Trust may vote only upon full payment of the assessment against it no later than the commencement of the proceeding.

(b) Each Settlor which may vote (hereinafter "Active Settlor") shall have a vote weighted in accordance with the percentage share of each such Active Settlor. The percentage share of each Active Settlor shall be calculated by dividing the volumetric share of waste attributed to that Active Settlor by the total of the volumetric shares attributed to all Active Settlors.

(c) All actions which are taken by a vote of the Settlors shall be decided by a majority of the percentage shares of the Active Settlors. This majority of percentage shares shall hereinafter be referred to as the "majority in interest."

3.03. Payment Of Income And Principal. During the term of this Trust the Trustees shall use so much or all of the income and/or principal of the Trust Fund (income to be used first) as the Trustees shall deem necessary or advisable to ensure compliance with the Consent Decree, and to pay their expenses. Without limitation, the Trustees shall use Trust Funds to: (a) pay the Contractor for the Work required by the Consent Decree, including operation and maintenance; (b) reimburse the State of Ohio and United States for past costs (to the extent required under paragraph XVI of the Consent Decree), future response costs and oversight costs incurred in connection with the implementation of the Consent Decree, the Statement of Work, and the Work, including any costs incurred by the United States and the State of Ohio in obtaining access to areas where the Work is to be performed; (c) pay the United States any stipulated penalties, civil penalties or other amounts owed pursuant to paragraph XVII of the Consent Decree; and (d) finance such other action(s) on behalf of the Settlors as may be contemplated by this Agreement or needed to effectuate the purposes of the Consent Decree.

3.04. Termination Of Trust. The Trust shall terminate upon termination of the Consent Decree and written certification to the Trustees by a majority in interest of the Settlors that the Trust Fund has been entirely applied to the purposes thereof, or that the Trust is otherwise no longer necessary or desirable. In no event, however, shall this Trust continue for a period in excess of twenty-one (21) years after the date of death of the last to survive of the persons serving as officers of the Settlors on the date of this Agreement. Notwithstanding the foregoing, termination or revocation of the Trust will not diminish or otherwise change the duties and obligations of the Settlors under the Consent Decree, including the responsibility of the Settlors to complete their post-termination obligations under the Decree.

3.05. Distribution Upon Termination. Upon termination of the Trust, the Trustees shall proceed to liquidate the Trust

Fund and thereupon distribute the entire remaining Trust Fund, including all accrued, accumulated and undistributed net income, in the following order of priority:

FIRST: to the payment of all unpaid fees and expenses of the Trustees as provided in this Agreement;

SECOND: to each Settlor according to that portion of the Trust as each such Settlor's contributions bear to all contributions to the Trust.

If any Settlor shall have defaulted as provided in Section 2.05 hereof and shall remain in default at the time of termination hereunder, or if any Settlor, or its successor, cannot be located within thirty (30) days after the termination date after diligent effort, the share of such defaulting or missing Settlor of the Trust shall be deemed to be forfeited, and the Trustees shall distribute such forfeited share to the remaining Settlors in proportion to their respective contributions to the Trust Fund during the term of the Trust.

3.06. Alterations, Amendments And Revocation. A majority in interest of the Settlors may, from time to time and at any time during the term of this Trust alter, amend or revoke this Agreement, in whole or in part, in which event notice of such actions shall be given to the Settlors as provided in Section 6.04; provided, however, (1) that the Trustees must at all times prior to the termination date as referenced in Section 3.04 have all powers to make all provisions necessary to comply with the Consent Decree; (2) that no such alteration, amendment, or revocation may conflict with or modify in any respect the obligations of the Settlors under the Consent Decree; (3) that any alteration, amendment, or revocation shall be subject to approval by EPA and the State of Ohio; and (4) that Sections 4.08 and 4.09 hereof shall not be altered, amended or revoked.

3.07. Control By Settlors. A majority in interest of the Settlors may at any time direct the Trustees in writing to take any action or to refrain from taking any action, provided that such direction does not conflict with the Trustees' compliance with the terms of the Consent Decree. This provision is not intended to alter in any way the other provisions of this Agreement which confer authority upon the Trustees to manage the Trust.

3.08. No Authority To Conduct Business. The purpose of this Trust is limited to the matters set forth in Articles One and Two above. This Agreement shall not be construed to confer upon the Trustees any authority to carry on any business or

activity for profit or to divide the gains therefrom among the Settlors, except as provided under Section 3.05 above.

ARTICLE FOUR
CONCERNING THE TRUSTEES

The appointment of successor Trustees, provisions governing resignation and compensation of the Trustees, and the general rules governing the relationship of any Trustee and Co-Trustee as between themselves and as to interested or third parties are as follows:

4.01. Designation And Qualification Of Successor Trustees. (a) The original Trustees have been selected and approved by the Settlors, through their execution of this Agreement. Settlors agree that each Trustee is performing a voluntary service on behalf of all Settlors, and all Settlors agree that in no event shall they, their successors or their assigns attempt to impose any liability on any other Settlor or on any Trustee or on the employer of any Trustee, either in litigation or otherwise, for the acts or failures to act of the Trustees.

(b) A Trustee may resign at any time upon providing seven (7) days written notice of such resignation to all other Trustees and to the Settlors. Under no circumstances shall such resignation be effective prior to the time that a successor Trustee is appointed in accordance with the provisions of paragraph (d) of this section, and such successor Trustee acknowledges acceptance of his obligations under this Trust, in accordance with paragraph (e) of this section.

(c) At any time during the term of this Trust, any Settlor shall have the right to remove its employee, agent or designee serving as Trustee hereunder and appoint a successor Trustee, who shall be a natural person and not a corporation or other legal entity. Such Settlor shall inform the other Trustees in writing of the removal and the appointment of a new Trustee.

(d) Any Trustee shall cease to be a Trustee of this Trust upon his death, resignation or adjudication as an incompetent, or at such time as he becomes unable to discharge the duties of Trustee as certified by a majority of the Trustees. If a Trustee ceases to be a Trustee for any of these reasons and is or has been an employee, agent or designee of any Settlor, such Settlor shall have the right to appoint a successor Trustee. Such Settlor shall appoint a successor Trustee within fourteen (14) days of the time that its employee, agent, or designee ceases to be a Trustee pursuant to this paragraph. Otherwise, a successor Trustee shall be appointed within an additional

fourteen (14) days by the agreement of a majority in interest of the Settlors.

(e) Any Trustee may be removed with or without cause by the agreement of a majority in interest of the Settlors.

(f) Any successor Trustee shall qualify by a duly acknowledged acceptance of this Trust, delivered to the Settlors. Any successor Trustee shall have all the rights, powers, duties and obligations herein granted to the original Trustees.

4.02. Exoneration From Bond. No bond or other security shall be exacted or required of any Trustee appointed by this Agreement or pursuant to Section 4.01 in any jurisdiction. The Trustees may acquire and pay from the Trust Fund any accident, liability, or other insurance, bonds, etc., that they may deem prudent in the administration of this Trust, including insurance protecting the Trustees themselves from liability to third persons or to any Settlor.

4.03. Compensation. Except as provided below, no Trustee shall receive any compensation for his services as a Trustee under this Trust Agreement. Each Settlor whose employee, agent or designee acts as a Trustee shall be compensated at a rate of $150 per hour for each hour devoted to administration of the Trust by its employee, agent or designee. In addition, each Settlor shall be reimbursed for expenses reasonably incurred by it by virtue of its employee, agent or designee serving as a Trustee.

4.04. Rules Of Trust. Except as otherwise specified herein, the Trustees shall determine the rules by which they shall perform their duties. The Trustees may permit voting by written proxy (which may be another Trustee or any representative of an absent Trustee, but the appointing Trustee shall not therefore be released from his or her fiduciary obligations), meetings by telephone with subsequent written confirmation, and such other procedures as the Trustees shall decide in their discretion are appropriate. The Trustees shall also select from among themselves a chair.

4.05. Decisions Of Trustees. In all matters the decision of a majority of the Trustees shall control.

4.06. Transactions With Third Parties. No person or organization dealing with the Trustees shall be required to investigate the authority of the Trustees to enter into any transaction, nor shall such third parties be required to oversee the application of the proceeds of any transaction between them and the Trustees.

4.07. Accounts. The Trustees shall present an accounting or shall cause an accounting to be presented to the Settlors at least on an annual basis. That accounting shall show the financial condition of the Trust Fund, including, without limitation, income and expenses of the Trust for the period. Any Settlor shall have the right to object to any of the Trustees' accounts and to demand the accounts be audited by an independent certified public accountant. Such independent audit shall be done at the sole expense of the Settlor demanding the audit and shall not be at the expense of the Trust. Any Settlor desiring to object to the Trustees' accounts shall deliver notice of its objection to the Trustees in writing within ninety (90) days from the day the Trustees shall mail or deliver such accounts to the Settlor. If no written objection is made within that time, the presentation of the account to the Settlors shall release and discharge the Trustees with respect to all acts or omissions to the date of said account.

4.08. Liability. (a) The Trustees shall not be liable to the Settlors for any acts, omissions or defaults of any agent or depositary appointed or selected with reasonable care. Each Trustee shall be liable to the Settlors only for such Trustee's own acts or omissions occasioned by the willful wrongdoing or gross neglect of such Trustee. No Trustee shall be responsible for the acts or omissions of any other Trustee, including acts or omissions of any prior Trustee or Co-Trustee; nor, in particular, shall any Trustee be liable to the Settlors in regard to the exercise or nonexercise of any powers and discretions properly delegated pursuant to the provisions of this Agreement.

(b) A Settlor shall not be liable for any matters relating to its actions in appointing a Trustee. In the event an appointing Settlor is sued or otherwise sought to be held accountable for any matters relating to its appointment of a Trustee, the Trust shall indemnify the Settlor for any damages ultimately adjudged and/or costs of defense incurred. This exclusion does not apply to any liability which any Settlor has under this Agreement, including payments of additional funds under Section 2.03, nor does this exclusion in any way affect the duties and obligations of any Settlor under the Consent Decree.

4.09. Indemnity Of Trustees. Each Settlor agrees that the Trustees may use the funds in the Trust to indemnify and hold harmless each of the Trustees and his or her heirs and personal representatives from any and all liability arising out of this Trust and this Agreement, excepting only such liability as may be imposed on the Trustees pursuant to Section 4.08 hereof. In the event a Trustee is sued, or a claim is made against a Trustee, for matters related to his or her service as Trustee, the Trust may, in the discretion of the other Trustees, be used to reimburse a Trustee for all or a portion of his expenses and

costs of defending such suit or claim, including, without limitation, reasonable attorneys' fees. The Settlors agree that if Trust Funds are used to indemnify a Trustee pursuant to this section, the use of such funds will not diminish the funds available for performance of the Work, and the amount of funds used for such indemnification may be collected from the Settlors in accordance with the provisions of Section 2.03 hereof.

ARTICLE FIVE
TRUSTEES' POWERS

The Trustees shall have, with respect to the Trust Fund, the following powers, all of which powers are fiduciary powers to be exercised in a fiduciary capacity and in the best interests of this Trust and the beneficiaries thereof, and which are to be exercised as the Trustees, acting in such fiduciary capacity, in their discretion, shall determine, and which are intended in no way to limit the general powers of the office, namely:

5.01. Execution of Contracts and Agreements. To make, execute, acknowledge and deliver any and all contracts or agreements the Trustees deem necessary to effect the purpose of the Trust.

5.02. Retention And Removal Of Professional And Employee Services. To employ attorneys, accountants, custodians, engineers, contractors, clerks, investment counsel and agents or employees (including any firm or entity in which they may have an interest) as they shall deem advisable and to make such payments therefor as they shall deem reasonable for the implementation of the purposes of this Trust; and to lease from others, furnish, operate, and maintain office space. The Trustees shall have the absolute right to dismiss any such agent, employee or professional for any reason or for no reason.

5.03. Payment Of Expenses Of Administration. To incur and pay any and all charges, taxes and expenses upon or connected with this Trust or the Trust Fund in the discharge of their fiduciary obligations under this Agreement.

5.04. Retention Of Property. To hold and retain all or any part of the Trust Fund in the form in which the same may be at the time of the receipt by the Trustees, as long as they shall deem advisable, notwithstanding that the same may not be authorized by the laws of any state or rules of any court for the investment of trust funds, and without any liability for any loss of principal or income by reason of such retention.

5.05. Investment Of Trust Estate. Pending use of the Trust Fund for the purposes of this Trust, to invest and reinvest all or any part of the Trust Fund, including any undistributed income therefrom, in United States direct obligations, obligations guaranteed by agencies of the United States government, common trust funds or mutual funds which invest in United States direct or guaranteed obligations, and bank certificates of deposit to the extent they are insured by the federal government. In all cases, however, the total investments must be sufficiently liquid to enable the Trust to fulfill the purposes of the Trust and to satisfy obligations as they become due. Nothing in this Section 5.05 shall be construed as authorizing the Trustees to carry on any business or to divide the gains therefrom. The sole purpose of this Section 5.05 is to authorize the investment of the Trust Fund (or any part thereof), as may be reasonably prudent pending use of the Trust Fund for the purposes of this Trust.

5.06. Management Of Trust Estate. Without any business objective, and as may be incidental or advisable in connection with the purposes of this Trust as set forth in Section 1.01, to sell, exchange, partition or otherwise dispose of all or any part of the Trust Fund at public or private sale, without prior application to or approval by or order of any court, upon such terms and in such manner and at such prices as they shall determine; to mortgage, exchange, partition, alter, abandon or improve any real property; to make repairs, replacements and improvements, structural or otherwise, of any such property; to lease or rent the same for any term, regardless of whether such term may extend beyond the duration of the administration of this Trust; to foreclose any mortgage in any way authorized by law or to compromise or to settle in any manner any claims which may arise under any mortgage; to take over, take title to, manage and operate any real property, either temporarily or permanently, and to pay out sums of money for the insurance, protection, maintenance, repair, alteration, improvement or change of such property; to modify, renew, extend, pay off and satisfy mortgages, bonds, notes or other obligations or any installment of principal thereof or any interest due thereon and to waive any defaults in the performance of the terms and conditions thereof; and to execute and deliver any and all deeds, bills of sale, assignments, bonds, mortgages, leases or other instruments in connection with these powers, all at such times, in such manner and upon such terms and conditions as they may deem expedient. The Trustees' determination of manner of sales, terms, prices, and the exercise of other powers granted herein, if reasonably made, are not to be questioned. No person dealing with them shall be bound to see to the application of any consideration. Notwithstanding the foregoing, the management of the trust estate contemplated by this section shall be otherwise governed by general fiduciary principles and Ohio law, and shall

be undertaken in a manner consistent with the purposes of this Agreement and the Consent Decree.

5.07. Extension Of Obligations And Negotiation Of Claims. To renew or extend the time of payment of any obligation, secured, or unsecured, payable to or by this Trust, for as long a period or periods of time and on such terms as they shall determine; and to adjust, settle, compromise and arbitrate claims or demands in favor of or against this Trust upon such terms as they deem advisable; subject, however, to the extent applicable, to the provisions of the Consent Decree regarding dispute resolution.

5.08. Registration Of Securities. To hold any stocks, bonds, securities and/or other property in the name of a nominee, in a street name, or by other title-holding device, without indication of trust.

5.09. Location Of Assets. To keep any property belonging to the Trust Fund at any place in the United States.

5.10. Authority To Represent Settlors. To represent Settlors with regard to any matter concerning this Trust or its purpose before any federal, state, or local court, agency or authority which has authority or attempts to exercise authority over the remedial action work required by the Consent Decree or over any other matter which concerns the Trust. The Trustees' authority in this regard may be delegated by them to such persons as the Trustees designate. Each Settlor hereby assigns to the Trust any and all claims for contribution that it may have against non-settling parties with respect to the Summit National Site, in order that such claims may be brought and prosecuted by and in the name of the Trust, in its sole discretion, on behalf of all Settlors against any or all non-settling responsible parties. The Settlors also expressly agree that the Trustees may bring suit against any Settlor found by the Trustees to be in default of payment of contributions and/or assessments due from the Settlor to the Trust Fund or otherwise in breach of this Agreement.

5.11. Delegation Of Ministerial Powers. To delegate to other persons such ministerial powers and duties as they may deem to be advisable.

5.12. Powers Of Trustees To Continue Until Final Distribution. To exercise any of such powers after the date on which the principal and income of the Trust Fund shall have become distributable and until such time as the entire principal of, and income from, the Trust Fund shall have been actually distributed by the Trustees. It is intended that distribution of

the Trust Fund will occur as soon as possible upon termination of the Trust.

5.13. Discretion In Exercise Of Powers. To do any and all other acts which they shall deem proper to effectuate the powers specifically conferred upon them by this Trust Agreement.

ARTICLE SIX
DEFINITIONS AND MISCELLANEOUS

6.01. Headings. The section headings set forth in this Agreement are inserted for convenience of reference only and shall be disregarded in the construction or interpretation of any of the provisions of this Agreement.

6.02. Definitions; Construction of Trust Agreement. All terms which are defined in the Consent Decree shall have the same meaning for purposes of this Trust Agreement as they have in the Consent Decree. This Trust Agreement shall be construed and interpreted in the context of the Consent Decree, and to the extent that the provisions of this Trust Agreement conflict with those of the Consent Decree, the Consent Decree shall control.

6.03. Particular Words. Any word contained in the text of this Agreement shall be read as the singular or plural and as the masculine, feminine or neuter as may be applicable or permissible in the particular context. Unless otherwise specifically stated, the word "person" shall be taken to mean and include an individual, partnership, association, company or corporation.

6.04. Severability Of Provisions. If any provision of this Agreement or its application to any person or entity or in any circumstance shall be invalid and unenforceable, the application of such provision to persons or entities and in circumstances other than those as to which it is invalid or unenforceable, and the other provisions of this Agreement, shall not be affected by such invalidity or unenforceability.

6.05. Notices Under Agreement. Any notice required by this Agreement to be given to the Settlors or the Trustees shall be deemed to have been properly given when mailed, postage prepaid, by registered or certified mail, to the person to be notified as set forth by the Settlor on its Signature Page to this Agreement. Any Settlor may change that address by delivering notice thereof in writing to the Trustees. Any notice required by this Agreement to be delivered to any other person or entity shall be deemed to have been properly delivered when mailed, postage prepaid, by registered or certified mail, to the

person to be notified at the last known address of such person or entity, according to the records of the one giving the notice.

6.06. Counterparts Of Agreement. This Agreement has been executed for the convenience of the parties hereto in counterparts, any one of which for all purposes shall be deemed to have the status of an executed original.

6.07. Governing Jurisdiction. This Trust is a State of Ohio trust and all questions pertaining to its validity, construction and administration shall be determined in accordance with the laws thereof.

6.08. Miscellaneous. It is intended that the Trust be treated as a grantor trust for federal income tax purposes and that each Settlor shall be treated as the owner of that portion of the Trust as its contributions to the Trust bear to all contributions to the Trust. The Trust shall operate on an accounting year which coincides with the calendar year, January 1 through December 31.

IN WITNESS WHEREOF, the parties hereto have executed in counterpart this Summit National Facility Trust and Participation Agreement, by signing this Agreement or causing it to be signed, as of the date first above written, as reflected on the ensuing signature pages.

SUMMIT NATIONAL FACILITY TRUST AND PARTICIPATION AGREEMENT

Signature Page

WITNESS the execution hereof by the undersigned Company by its authorized representative.

Name of Company: _____

Name of Representative: _____

Title of Representative: _____

Designated Representative for Receipt of Notices:

Name: _____

Address: _____

_____

_____

Telephone Number: ( ) _____

SUMMIT NATIONAL FACILITY TRUST AND PARTICIPATION AGREEMENT

Signature Page

IN WITNESS WHEREOF, the undersigned hereby enters into this Summit National Facility Trust and Participation Agreement, thereby assuming all rights and obligations thereunder.

_____
Signature of Trustee

Company:_____

Name of Trustee:_____

Address:_____

_____

_____

Telephone Number: ( )_____

ATTEST:

_____

SUMMIT NATIONAL FACILITY
TRUST AND PARTICIPATION AGREEMENT

LIST OF SETTLORS TO THE TRUST

APPENDIX A

1. Airco, Inc., now known as the BOC Group. Inc.
2. American Cyanamid Company
3. Bechtel-McLaughlin, Inc.
4. Browning-Ferris Industries of Ohio, Inc.
5. Browning-Ferris Industries of Pennsylvania, Inc.
6. Canton Drop Forge, Inc., a subsidiary of Cordier Group, parent company, Cordier Holdings
7. Columbia Gas Transmission Corporation
8. Container Corporation of America
9. E.I. DuPont de Nemours & Company
10. Erieway Inc., formerly known as Erieway Pollution Control, Inc.
11. Bridgestone/Firestone, Inc., formerly known as The Firestone Tire & Rubber Company
12. Ford Motor Company
13. General Motors Corporation
14. Gencorp., Inc., formerly known as General Tire and Rubber Company and/or Diversitech General
15. Divested Aerospace Corporation successor in interest to Goodyear Aerospace Corporation and subsidiary of Loral Corporation
16. Goodyear Tire and Rubber Company
17. Gould, Inc., now owned by Nippon Mining U.S., Inc.
18. Occidental Chemical Corporation, formerly known as Hooker Chemicals and Plastics Corporation
19. Safety Kleen Envirosystems Company, formerly known as McKesson Envirosystems Company, formerly known as Inland Chemical Corporation
20. Mobil Oil Corporation
21. Morgan Adhesives Company
22. Morton International, Inc., successor in interest to Morton Thiokol, Inc.
23. Olin Corporation
24. Packaging Corporation of America, subsidiary of Tenneco Interamerica, a subsidiary of Tennessee Gas Pipeline Inc.
25. Parker-Hannifin Corporation
26. Reynolds Metals Company
27. Westinghouse Electric Corporation

APPENDIX F

RANK	PRP	VOLUME	PERCENT	FIRST YEAR PAYMENT	SECOND YEAR PAYMENT	THIRD YEAR PAYMENT	FOURTH YEAR PAYMENT	FIFTH YEAR PAYMENT
1	BFIO/NORTON INTERNATIONAL/A. CYANAMID	2,449,965	25.581%	$2,153,466.45	$1,665,724.85	$1,665,724.85	$1,665,724.85	$1,665,724.85
2	GOODYEAR/GOODYEAR AEROSPACE CORPORATION	2,039,401	21.294%	$951,000.57	$1,200,014.09	$1,200,014.09	$1,200,014.09	$1,200,014.09
3	GENCORP	1,592,386	16.627%	$1,398,906.63	$1,081,892.76	$1,081,892.76	$1,081,892.76	$1,081,892.76
4	BEAZER MATERIALS (KOPPERS/MAYS)	1,403,057	14.650%	$924,544.52	$946,955.74	$946,955.74	$946,955.74	$946,955.74
5	MORGAN ADHESIVES COMPANY	665,300	6.947%	$141,628.45	$315,937.92	$315,937.92	$315,937.92	$315,937.92
6	BRIDGESTONE/FIRESTONE INC.	352,648	3.682%	$179,286.01	$212,902.84	$212,902.84	$212,902.84	$212,902.84
7	BECHTEL-McLAUGHLIN, INC.	139,040	1.452%	$122,299.74	$94,619.51	$94,619.51	$94,619.51	$94,619.51
8	COLUMBIA GAS TRANSMISSION CORPORATION	130,616	1.364%	$114,991.22	$88,988.05	$88,988.05	$88,988.05	$88,988.05
9	BFIO/GENERAL MOTORS CORPORATION	119,450	1.247%	$55,592.70	$69,288.45	$69,288.45	$69,288.45	$69,288.45
10	OLIN CORPORATION	118,910	1.242%	$0.00	$14,242.92	$34,923.82	$34,923.82	$34,923.82
11	E.I. DUPONT DE NEMOURS AND CO., INC.	84,105	0.878%	$1,336.90	$31,467.54	$31,467.54	$31,467.54	$31,467.54
12	GOULD, INC.	57,550	0.601%	$26,974.77	$33,200.11	$33,200.11	$33,200.11	$33,200.11
13	BOFORS LAKEWAY	54,275	0.567%	$48,230.05	$37,424.93	$37,424.93	$37,424.93	$37,424.93
14	AMERICAN CYANAMID	54,275	0.567%	$48,230.05	$37,424.93	$37,424.93	$37,424.93	$37,424.93
15	SAFETY-KLEEN (FORMERLY INLAND, McKESSON)	40,000	0.418%	$17,249.89	$22,230.16	$22,230.16	$22,230.16	$22,230.16
16	HARBISON WALKER REFRACTERIES	37,300	0.389%	$32,941.73	$25,516.01	$25,516.01	$25,516.01	$25,516.01
17	FORD MOTOR COMPANY	34,595	0.361%	$0.00	$4,478.89	$9,958.87	$9,958.87	$9,958.87
18	BFIO	29,767	0.311%	$26,453.65	$20,527.61	$20,527.61	$20,527.61	$20,527.61
19	PACKAGING CORPORATION OF AMERICA	29,520	0.308%	$0.00	$2,243.44	$7,969.59	$7,969.59	$7,969.59
20	ERIEWAY POLLUTION CONTROL, INC.	27,760	0.290%	$21,813.19	$16,286.70	$16,286.70	$16,286.70	$16,286.70
21	THE BOC GROUP INC. (AIRCO)	24,000	0.251%	$0.00	$0.00	$0.00	$0.00	$0.00
22	OCCIDENTAL CHEMICAL, FKA HOOKER/APPROVED	19,300	0.202%	$14,495.31	$10,653.04	$10,653.04	$10,653.04	$10,653.04
23	REYNOLDS METALS	19,010	0.198%	$15,713.55	$11,929.02	$11,929.02	$11,929.02	$11,929.02
24	BROWNING FERRIS INDUSTRIES OF PA	15,000	0.157%	$13,349.03	$10,362.81	$10,362.81	$10,362.81	$10,362.81
25	MANSFIELD GRAPHICS, INC.	13,425	0.140%	$5,635.66	$6,880.72	$6,880.72	$6,880.72	$6,880.72
26	MOBIL OIL COMPANY	9,000	0.094%	$0.00	$0.00	$0.00	$326.69	$1,264.49
27	WESTINGHOUSE	6,000	0.063%	$5,352.81	$4,158.33	$4,158.33	$4,158.33	$4,158.33
28	CANTON DROP FORGING & MFG. CO.	5,500	0.057%	$4,628.04	$3,533.09	$3,533.09	$3,533.09	$3,533.09
29	CONTAINER CORPORATION OF AMERICA	4,994	0.052%	$3,226.48	$2,232.27	$2,232.27	$2,232.27	$2,232.27
30	PARKER HANNIFIN	965	0.010%	$792.17	$600.05	$600.05	$600.05	$600.05
	TOTALS	9,577,114	100.000%	$6,328,139.57	$5,971,716.78	$6,003,603.81	$6,003,930.50	$6,004,868.30

APPENDIX G

ESCROW AGREEMENT

THIS ESCROW AGREEMENT is made and entered into as of this _____ day of _____, 1990 by and among the United States of America ("United States") on behalf of the United States Environmental Protection Agency ("U.S. EPA"), Ameritrust Company National Association (the "Escrow Agent"), and the settling companies listed on Exhibit A hereto (collectively hereinafter referred to as "Settling Defendants") to evidence the following:

A. The United States and the Settling Defendants contemplate entering into a Judicial Consent Decree under which the Settling Defendants will undertake a remedial action at the Summit National Facility ("Facility") in Portage County, Ohio. The United States and the Settling Defendants contemplate that the State of Ohio will also be a party to said Consent Decree.

B. The United States and the Settling Defendants contemplate that several de minimis parties will not be parties to the aforementioned Consent Decree, but that such de minimis parties will satisfy their liability to the United States and certain liability to the Settling Defendants by entering into separate settlement agreements with the United States or with U.S. EPA, including the "Administrative Order on Consent -- De Minimis Settlement," In the Matter of Summit National Liquid Services, U.S. EPA Docket No. V-W-88-C-125, attached hereto as Attachment 1 (hereinafter "De Minimis Consent Order") and the "Administrative Order on Consent -- De Minimis Settlement," In the Matter of Summit National Liquid Services, U.S. EPA Docket No. V-W-89-C-022, attached hereto as Attachment 2 (hereinafter

"De Minimis Installment Consent Order"). The United States and the Settling Defendants contemplate that de minimis parties who enter into settlement agreements with the United States or U.S. EPA within 90 days after lodging of the Consent Decree (hereinafter referred to as "De Minimis Settlers") will be required under the provisions of such settlement agreements to make all payments required pursuant to such agreements to the escrow account established herein, except as otherwise provided herein. The United States and the Settling Defendants further contemplate that the moneys received from each De Minimis Settler will be used to effect the purposes of the Consent Decree, to the extent provided herein.

C. The United States and the Settling Defendants contemplate that, as a provision of the Consent Decree, the Ohio Environmental Protection Agency ("Ohio EPA") will provide all moneys remaining from its previous settlements reached in the case of State of Ohio ex rel. Brown v. Donald M. Georgeoff, et al., United States District Court for the Northern District of Ohio, Eastern Division, for performance of the work contemplated by the Consent Decree.

D. The parties desire and intend by this Escrow Agreement to establish an interest-bearing escrow account into which De Minimis Settlers will pay moneys due and owing as a result of settlement agreements between such parties and the United States or U.S. EPA, including moneys due and owing prior to entry of the aforementioned Consent Decree, and into which the

aforementioned moneys from the Ohio EPA will be paid and deposited following the entry of such Consent Decree.

E. In the event that the consent of the United States to the aforementioned Consent Decree is withdrawn pursuant to Section 122(d)(2)(B) of CERCLA, 42 U.S.C. §9622(d)(2)(B), or the Consent Decree is not lodged and judicially approved within time frames specified herein, the parties desire and intend by this Escrow Agreement to provide for the disbursement of all funds received from De Minimis Settlers to the Hazardous Substance Superfund. If the United States does not withdraw its consent to the aforementioned Consent Decree and that Consent Decree is entered by the Court, the parties desire and intend by this Escrow Agreement to provide for the disbursement of the funds in the escrow account, including the funds provided by Ohio EPA, to those entities, such as independent contractors, who actually perform the work or provide services at the Facility contemplated by the Consent Decree.

NOW, THEREFORE, in consideration of the premises and agreements hereinafter contained, the parties hereto agree as follows:

ARTICLE I

TERMS OF ESCROW

Section 1.1. General Obligations. The Escrow Agent agrees to serve as Escrow Agent and to perform all its obligations as such

hereunder. This Escrow Agreement shall constitute instructions to the Escrow Agent.

Section 1.2. Amendments and Supplements. This Escrow Agreement constitutes the entire understanding among the parties with respect to the subject matter hereof, and supersedes all prior and contemporaneous understandings. This Agreement may not be amended or supplemented except by an instrument in writing executed by all parties hereto. Notwithstanding this, the United States and the Settling Defendants hereby authorize the Escrow Agent to accept, and the Escrow Agent agrees to accept and observe, written instructions in amplification of the instructions herein which have been approved by both the United States and the Settling Defendants; provided, however, that no such amplification may increase the responsibility or liability of the Escrow Agent without its prior written consent.

Section 1.3. Binding Effect. This Escrow Agreement shall inure to the benefit of and shall be binding in accordance with its terms upon the United States, the Settling Defendants, the Escrow Agent, and their respective successors and assigns; excepting that the Escrow Agent may not transfer or assign its rights or obligations under this Agreement without the prior written consent of both the United States and the Settling Defendants.

Section 1.4. Resignation of the Escrow Agent. The Escrow Agent shall have the right to resign upon giving thirty (30) days written notice by mailing said written notice thereof to the United States and to the Settling Defendants. Notwithstanding this, the resignation of the Escrow Agent shall not be effective prior to the appointment of a successor Escrow Agent, unless the United States and the co-chairs of the Summit National Facility PRP Steering Committee (hereinafter "Co-chairs") jointly instruct the Escrow Agent concerning proper disbursement of all funds then remaining in the escrow account and the Escrow Agent disburses all remaining funds accordingly. The Co-chairs of the Summit National Facility PRP Steering Committee are Morton Thiokol, Inc., represented by Thomas T. Terp and Taft, Stettinius & Hollister, and Browning-Ferris Industries of Ohio, Inc., represented by William W. Falsgraf and Baker & Hostetler.

Section 1.5. Termination of this Agreement. This Escrow Agreement will terminate upon the happening of any of the following events:

(a) Complete disbursement of the funds in the escrow account in accordance with the conditions of disbursement contained in Subsection 3.1(a) hereof and either (1) the end of the year for which the minimum fee under Section 2.3 has been paid to the Escrow Agent or (2) receipt by the Escrow Agent of written notification from the U.S. EPA that maintenance of the escrow account is no longer necessary or desirable;

(b) Complete disbursement of the funds in the escrow account in accordance with the conditions of disbursement contained in Subsection 3.1(b) hereof and either (1) the end of the year for which the minimum fee under Section 2.3 has been paid to the Escrow Agent or (2) receipt by the Escrow Agent of written notification from the Co-chairs (as identified in Section 1.4 hereof), their successors or assigns, or their legal representatives, that maintenance of the escrow account is no longer necessary or desirable;

(c) Resignation of the Escrow Agent and the complete disbursement of the funds in the escrow account in accordance with Section 1.4 above;

(d) Written notification to the Escrow Agent from both the U.S. EPA and the Co-chairs, their successors or assigns, or their legal representatives, that the service of the Escrow Agent is being terminated, with instructions to the Escrow Agent regarding the disbursement of any escrow funds, and the complete disbursement by the Escrow Agent of the funds in the escrow account in accordance with such instructions;

(e) Written notification to the Escrow Agent from both U.S. EPA and the Co-chairs, their successors or assigns, or their legal representatives that the Consent Decree has been terminated, and the complete disbursement by the Escrow Agent of the funds in the escrow account in accordance with the following:

(1) Upon receipt of the aforementioned notification, the Escrow Agent shall

immediately disburse by check any funds then remaining in the escrow account which were paid to the Escrow Agent by De Minimis Settlers, together with all interest income produced from investment or reinvestment of such funds, less any fees or proportionate amount of fees to which the Escrow Agent is entitled pursuant to Section 2.3 hereof, to the order of the "Hazardous Substance Superfund" at the following address:

EPA, Region V
Attn: Superfund Accounting
P.O. Box 70753
Chicago, Illinois 60673

Any check so issued by the Escrow Agent shall bear a notation that the funds are being paid pursuant to subsection 1.5(e)(1) of the "Summit National Facility Escrow Agreement," and

(2) Upon receipt of the aforementioned notification, the Escrow Agent shall immediately disburse by check any funds then remaining in the escrow account which were paid to the Escrow Agent by the Ohio EPA, together with all interest income produced from investment or reinvestment of such funds, less any fees or proportionate amount of fees to which the Escrow Agent is entitled

pursuant to Section 2.3 hereof, to the order of the "Treasurer, State of Ohio" at the following address:

Director, Ohio Environmental
Protection Agency
Attn: Summit National Site Coordinator
Ohio Environmental Protection Agency
1800 Watermark Drive
Columbus, Ohio 43215.

Any check so issued by the Escrow Agent shall bear a notation that the funds are being paid pursuant to Subsection 1.5(e)(2) of the "Summit National Facility Escrow Agreement" for inclusion in the "Summit National Facility Account."

For purposes of this Subsection 1.5(e) and Subsection 1.5(f) hereof, if the Escrow Agent is entitled to the minimum fee under Section 2.3, such fee shall be allocated between the disbursements made pursuant to (1) and (2) above, or pursuant to Subsection 1.5(f) below, in the same proportion that the funds received from the De Minimis settlers and the funds received from the Ohio EPA bore to the total of the funds received from these two sources; or

(f) The passage of time equal to ten (10) years following the date the first payment of moneys into the escrow account established by this Agreement is received by the Escrow Agent, and the automatic disbursement of any funds then remaining in the escrow account, including all interest income produced from investment or reinvestment, less the fees to which the

Escrow Agent is entitled pursuant to Section 2.3 hereof, to the "Hazardous Substances Superfund" and to the "Treasurer, State of Ohio" in the same manner and to the same addresses heretofore prescribed in Subsection 1.5(e), as if notification of termination of the Consent Decree had been received by the Escrow Agent.

ARTICLE II

CREATION AND MAINTENANCE OF ESCROW FUNDS

Section 2.1. Payments into the Escrow Account.

(a) Following execution and delivery of this Escrow Agreement, the United States shall notify each De Minimis Settler who will not be permitted to make installment payments under the terms of the settlement agreement between such party and the United States or U.S. EPA that any and all moneys now or hereafter due and owing as a result of such settlement agreement should be paid to the Escrow Agent for inclusion in the escrow account established by this Agreement. Such notice shall be provided to each such De Minimis Settler promptly after the effective date of the settlement agreement between such party and the United States or U.S. EPA. The United States shall supply the Escrow Agent and the Settling Defendants with a list of such De Minimis Settlers and the settlement amount which should be paid by each such De Minimis Settler to the Escrow Agent for inclusion in the escrow account established by this Agreement.

Should any such De Minimis Settler make payment directly to the Hazardous Substance Superfund of moneys due under the settlement agreement between that De Minimis Settler and the United States or U.S. EPA, the United States shall insure that such moneys are returned to that De Minimis Settler with instructions to make payment to the Escrow Agent.

(b) Following execution and delivery of this Escrow Agreement, the United States shall notify each De Minimis Settler who will be permitted to make installment payments under the terms of the settlement agreement between such party and the United States or U.S. EPA that the initial installment payment now or hereafter due and owing as a result of such settlement agreement should be paid to the Escrow Agent for inclusion in the escrow account established by this Agreement, and that subsequent installment payments from such party should be made to the Escrow Agent until further notice. The initial notice from the United States to each such De Minimis Settler shall be provided promptly after the effective date of the settlement agreement between such party and the United States or U.S. EPA. The United States shall supply the Escrow Agent and the Settling Defendants with a list of such De Minimis Settlers and schedules of the installment payments required from each such De Minimis Settler.

If the United States withdraws its consent to such a Consent Decree pursuant to Section 122 of the Comprehensive Environmental Response, Compensation and Liability Act, 42 U.S.C. § 9622, upon consideration of public comments relating to

such Consent Decree, or if the Court does not approve a Consent Decree resolving the claims referred to above, then the United States shall notify such De Minimis Settlers to make all subsequent required installment payments to the Hazardous Substance Superfund.

Should any De Minimis Settler erroneously make payment directly to the Hazardous Substance Superfund of any initial installment of moneys due pursuant to the settlement agreement between such party and the United States or U.S. EPA, the United States shall insure that such moneys are returned to that De Minimis Settler with instructions to make payment to the Escrow Agent.

Should any De Minimis Settler erroneously make payment directly to the Hazardous Substance Superfund of any subsequent installment payment of moneys due pursuant to the settlement agreement between such party and the United States or U.S. EPA, which by the terms of this Agreement should have been paid to the Escrow Agent, the United States shall insure that such moneys are returned to that De Minimis Settler with instructions to make payment to the Escrow Agent.

(c) Collection of moneys owed by any of the De Minimis Settlers shall be the responsibility of the Settling Defendants and not of the United States or the Escrow Agent.

(d) The Escrow Agent agrees to hold any and all payments from any and all De Minimis Settlers in accordance with the provisions of this Escrow Agreement and to acknowledge

receipt of such payments to the United States and the Settling Defendants. Should the Escrow Agent receive at any time any payment of moneys from any De Minimis Settlers which the Escrow Agent believes should not have been paid to it under the terms of this Escrow Agreement, the Escrow Agent will nevertheless hold such payment, immediately notify the U.S. EPA and the Co-chairs of this development, and distribute the moneys received to the entity and in the manner directed by the U.S. EPA and the Co-chairs. The parties hereto agree that the Escrow Agent does not assume any responsibility for the failure of any of the De Minimis Settlers to make payments, nor shall the Escrow Agent be responsible for the collection of any moneys provided to be paid to it.

(e) In view of the contemplated payment by the Ohio EPA of moneys resulting from previous settlements for use in connection with the work at the Facility, the Escrow Agent is expressly authorized to accept, and the Escrow Agent agrees to hold, any and all payments from the Ohio EPA in accordance with the provisions of this Escrow Agreement and to acknowledge receipt of such payments to the Ohio EPA and the Settling Defendants. The parties hereto agree that the Escrow Agent does not assume any responsibility for the failure of the Ohio EPA to make the contemplated payment or payments, nor shall the Escrow Agent be responsible for the collection of any moneys from this source.

Section 2.2. Investments.

The escrow funds shall be invested and reinvested by the Escrow Agent so as to produce interest income. The Escrow Agent may invest and reinvest all or any part of the escrow funds in any or all of the following: United States direct obligations, obligations guaranteed by agencies of the United States government, common trust funds which invest in United States direct or guaranteed obligations, and bank certificates of deposit, including certificates of deposit issued by the Escrow Agent, to the extent they are insured by the federal government. In all cases, however, the investments must be sufficiently liquid to enable the Escrow Agent to disburse the entire sum of the escrow account in the manner explicated in Article III hereto within two (2) business days following receipt of the appropriate disbursement instructions. "Business day" shall mean any day other than a Saturday or Sunday or other day on which banks in Ohio are authorized or obligated to be closed.

Section 2.3. Fees. For its ordinary services, the Escrow Agent shall be entitled to receive (a) an initial one-time fee of One Thousand Dollars ($1000.00) plus (b) a fee equal to five percent (5%) of the total interest income resulting from the investment and reinvestment of the escrow funds; provided, however, that the total of the fees on interest income to which the Escrow Agent shall be entitled in any year or portion thereof will not be less than One Thousand Dollars ($1,000.00). The one-time fee and the

minimum fee shall be deducted by the Escrow Agent from the interest income as earned. Any additional fees to which the Escrow Agent might be entitled pursuant to this Section 2.3 shall be deducted by the Escrow Agent before disbursement. The Escrow Agent shall be reimbursed for all expenses, disbursements and advances, including moneys paid for taxes, preparation of tax returns, and reasonable attorneys' fees, incurred or made by it in connection with carrying out its duties hereunder.

ARTICLE III

DISBURSEMENTS

Section 3.1. Conditions and Procedures for Disbursements.

(a) The Escrow Agent shall disburse the entire amount of the escrow account, including all interest income produced from investment or reinvestment, less the fees to which the Escrow Agent is entitled pursuant to Section 2.3 hereof, to the Hazardous Substance Superfund upon written instructions to do so from the U.S. EPA, provided that such instruction also attests to one or both of the following:

(1) that a Consent Decree between the Settling Defendants and the United States has not been lodged with the Court within six months after the execution of this Escrow Agreement and judicially approved within twelve months

after the execution of this Escrow Agreement, or

(2) that the consent of the United States to the Decree is withdrawn pursuant to Section 122(d)(2)(B) of CERCLA, 42 U.S.C. §9622(d)(2)(B), based upon public comments which indicate that the Decree would be inappropriate, improper or inadequate.

In the instructions under this Subsection 3.1(a), the U.S. EPA will direct the Escrow Agent as to the manner and/or the address for the disbursement of the escrow funds. If the entire amount of the escrow account is disbursed in accordance with this Subsection 3.1(a), this Escrow Agreement will nevertheless continue in full force and effect until (1) the end of the year for which the minimum fee has been paid or (2) the Escrow Agent receives written notification from the U.S. EPA that the continued maintenance of the escrow account is no longer necessary or desirable.

(b) Upon timely lodging and judicial approval of the Consent Decree the U.S. EPA and the Co-chairs shall notify the Escrow Agent of the following:

(1) that a Consent Decree between the Settling Defendants and the United States has been lodged with the Court within six months after the execution of this Escrow Agreement and judicially approved within twelve months

after the execution of this Escrow Agreement, and

(2) that the consent of the United States to the Decree is not withdrawn pursuant to Section 122(d)(2)(B) of CERCLA, 42 U.S.C. § 9622(d)(2)(B), based upon public comments which indicate that the Decree would be inappropriate, improper or inadequate.

Thereafter, the Escrow Agent shall disburse the entire amount of the escrow account, including all interest income produced from investment or reinvestment, less the fees to which the Escrow Agent is entitled pursuant to Section 2.3 hereof, or shall disburse any lesser amount of the escrow funds explicitly specified, in accordance with written instructions to do so from the Co-chairs, or their legal representatives, provided that such instructions from the Co-chairs, or their legal representatives, attest that the disbursement is in accordance with, and to effect the purpose of, the Consent Decree, and is in payment for work performed at, or for services connected with, the Facility.

The Escrow Agent shall disburse the escrow funds in the manner and/or to the address as directed at the time the Escrow Agent is instructed to so disburse the funds. If the entire amount of the escrow account is disbursed in accordance with this Subsection 3.1(b), this Escrow Agreement will nevertheless continue in full force and effect until (1) the end of the year for which the minimum fee has been paid or (2) the Escrow Agent

receives written notification from the Co-chairs that the continued maintenance of the escrow account is no longer necessary or desirable.

Section 3.2. Post-termination Disbursement. Notwithstanding the termination provisions of Section 1.5. hereof or the instructions regarding the disposition of questionable payments received by the Escrow Agent contained in Subsection 2.1(d) hereof, the Escrow Agent will disburse any payments received after termination of this Agreement in the same manner as if the disbursements were being made prior to the termination of this Agreement. Thus, if disbursement of the escrow account had been made by the Escrow Agent pursuant to Subsection 3.1(a), the Escrow Agent will make immediate payment to the Hazardous Substance Superfund (at the address specified in subsection 1.5(e)(1)) of any monies received following termination of this Agreement pursuant to Subsection 1.5(a). If disbursements had heretofore been made upon instructions from the Co-chairs pursuant to Subsection 3.1(b), the Escrow Agent will immediately notify the Co-chairs of any payment received following termination of this Agreement pursuant to Subsection 1.5(b), and shall disburse the moneys so received in accordance with the written instructions from the Co-chairs immediately upon receipt of such instructions. If termination of this Agreement was by operation of Subsections 1.5(c), 1.5(d), 1.5(e), or 1.5(f), the Escrow Agent will disburse such post-termination moneys in the

same manner as had been done under Subsections 1.5(c), 1.5(d), 1.5(e) or 1.5(f). Notwithstanding Section 2.3, the Escrow Agent shall receive no fees or other reimbursements for services rendered pursuant to this Section 3.2.

Section 3.3. Reliance by Escrow Agent. The Escrow Agent, in exercising its duties hereunder, may safely rely and act upon any written direction or instruction delivered to it as provided herein, if the written direction or instruction is signed and presented by the proper party or parties, or their legal representatives, and is reasonably and in good faith believed by the Escrow Agent to be genuine, after reasonable inquiry, which at a minimum shall include comparison with authorized signatures provided by the parties to the Escrow Agent, of the proper party or parties or their legal representatives. For purposes of this section, the Co-chairs of the Summit National Facility PRP Steering Committee shall be deemed to be the legal representatives of each Settling Defendant listed in Appendix A to this Agreement, the Office of Regional Counsel representative designated pursuant to Section 4.1, below, shall be deemed to be the legal representative of the United States and U.S. EPA, and the Ohio Attorney General's Office representative designated pursuant to Section 4.1, below, shall be deemed to be the legal representative of State of Ohio and Ohio EPA.

Section 3.4. Adverse Claims. In the event of any disagreement or the presentation of any adverse claim or demand in connection with the disbursement of the escrow funds, the Escrow Agent shall, at its option, be entitled to refuse to comply with any such claim or demand during the continuance of such disagreement and may refrain from delivering any item affected hereby, and in so doing the Escrow Agent shall not become liable to the undersigned or to any other person due to its failure to comply with such adverse claim or demand. The Escrow Agent shall be entitled to continue, without liability, to refrain and refuse to act:

(a) Until authorized to disburse by a court order from a court having jurisdiction of the parties and the money, after which time the Escrow Agent shall be required to act in conformity with such adjudication; or

(b) Until all differences shall have been adjusted by agreement and the Escrow Agent shall have been notified thereof and shall have been directed in writing, signed jointly or in counterpart by the undersigned and by all persons making adverse claims or demands, at which time the Escrow Agent shall be protected in acting in compliance with such written agreement.

Section 3.5. Liability of Escrow Agent. The Escrow Agent's duties and obligations shall be governed by the express provisions of this Agreement and by any applicable federal or state laws.

ARTICLE IV

MISCELLANEOUS

Section 4.1. Notice. All notices, acknowledgments, directions, instructions, documents, and other communications hereunder shall be in writing and shall be deemed to be sufficiently given when mailed by registered or certified mail, postage prepaid, and addressed to the following:

As to the United States or U.S. EPA:

a. Regional Counsel
Attn: Peter M. Felitti
Assistant Regional Counsel
U.S. Environmental Protection Agency
230 S. Dearborn Street
Chicago, Illinois 60604

b. Director, Waste Management Division
U.S. Environmental Protection Agency
Attn: Tony Rutter
Remedial Project Manager
230 S. Dearborn Street
Chicago, Illinois 60604

c. Assistant Attorney General
Attn: Steven J. Willey, Esq.
Land and Natural Resources Division
U.S. Department of Justice
P.O. Box 7611
Ben Franklin Station
Washington, D.C. 20044

As to the Settling Defendants:

a. William W. Falsgraf, Esq.
Baker & Hostetler
3200 National City Center
Cleveland, Ohio 44114

b. Thomas T. Terp, Esq.
Taft, Stettinius & Hollister
1800 First National Bank Center
Cincinnati, Ohio 45201

As to the State of Ohio or Ohio EPA:

a. Ohio Attorney General
Attn: Charles R. Dyas, Jr., Esq.
Assistant Attorney General
Environmental Enforcement Section
30 East Broad Street, 25th Floor
Columbus, Ohio 43266-0410

b. Director, Ohio Environmental Protection Agency
Attn: Summit National Site Coordinator
Ohio Environmental Protection Agency
1800 Watermark Drive
Columbus, Ohio 43215

As to the Escrow Agent:

Ameritrust Company National Association
Corporate Trust Division
Attn: M. Dockman
2073 East Ninth Street
P.O. Box 6477
Cleveland, Ohio 44101

The parties may, by notice given hereunder, designate any further or different addresses to which subsequent notices, acknowledgments, documents, or other communications shall be sent.

Section 4.2. Governing Law. This Escrow Agreement shall be deemed to be a contract made under the laws of the State of Ohio

and for all purposes shall be governed by and construed in accordance with Ohio law.

Section 4.3. Captions. The captions and headings in this Escrow Agreement shall be solely for convenience of reference and shall in no way define, limit or describe the scope or intent of any provisions of Sections of this Escrow Agreement.

Section 4.4. Execution Counterparts. This Escrow Agreement may be executed in any number of counterparts, each of which shall be regarded as an original and all of which shall constituted but one and the same instrument.

IN WITNESS WHEREOF, the parties hereto have executed in counterpart this Escrow Agreement, by signing this Agreement or causing it to be signed, as of the date first above written, as reflected on the ensuing signature pages.

SUMMIT NATIONAL FACILITY ESCROW AGREEMENT

Signature Page

IN WITNESS WHEREOF, the undersigned hereby enters into this Escrow Agreement, thereby assuming all rights and obligations under said Agreement. Each person signing this Escrow Agreement represents and warrants that he or she has been duly authorized to enter into this Escrow Agreement by the party on whose behalf it is indicated that the person is signing.

United States of America

BY: _____

TITLE: _____

SUMMIT NATIONAL FACILITY ESCROW AGREEMENT

Signature Page

IN WITNESS WHEREOF, the undersigned hereby enters into this Escrow Agreement, thereby assuming all rights and obligations under said Agreement. Each person signing this Escrow Agreement represents and warrants that he or she has been duly authorized to enter into this Escrow Agreement by the party on whose behalf it is indicated that the person is signing.

Ameritrust Company National Association

BY: _____

TITLE: _____

SUMMIT NATIONAL FACILITY ESCROW AGREEMENT

Signature Page

IN WITNESS WHEREOF, the undersigned hereby enters into this Escrow Agreement, thereby assuming all rights and obligations under said Agreement. Each person signing this Escrow Agreement represents and warrants that he or she has been duly authorized to enter into this Escrow Agreement by the party on whose behalf it is indicated that the person is signing.

Settling Defendant

BY: _____

TITLE: _____

ESCROW AGREEMENT

List of Settling Defendants

APPENDIX A

1. Airco, Inc., now known as the BOC Group. Inc.
2. American Cyanamid Company
3. Bechtel-McLaughlin, Inc.
4. Browning-Ferris Industries of Ohio, Inc.
5. Browning-Ferris Industries of Pennsylvania, Inc.
6. Canton Drop Forge, Inc., a subsidiary of Cordier Group, parent company: Cordier Holdings
7. Columbia Gas Transmission Corporation
8. Container Corporation of America
9. E.I. DuPont de Nemours & Company
10. Erieway Incorporated formerly known as Erieway Pollution Control, Inc.
11. Bridgestone/Firestone, Inc., formerly known as The Firestone Tire & Rubber Company
12. Ford Motor Company
13. General Motors Corporation
14. Gencorp., Inc., formerly known as General Tire and Rubber Company and/or Diversitech General
15. Divested Aerospace Corporation successor in interest to Goodyear Aerospace Corporation and subsidiary of Loral Corporation
16. Goodyear Tire and Rubber Co.
17. Gould, Inc., now owned by Nippon Mining U.S., Inc.
18. Occidental Chemical Corporation, formerly known as Hooker Chemicals and Plastics Corporation
19. Safety Kleen Envirosystems Company, formerly known as McKesson Envirosystems Company, formerly known as Inland Chemical Corporation
20. Mobil Oil Corporation
21. Morgan Adhesives Company
22. Morton International, Inc., successor in interest to Morton Thiokol, Inc.
23. Olin Corporation
24. Packaging Corporation of America, subsidiary of Tenneco Interamerica, a subsidiary of Tennessee Gas Pipeline Inc.
25. Parker-Hannifin Corporation
26. Reynolds Metals Company
27. Westinghouse Electric Corporation

APPENDIX H

Agreement Providing Access to the Summit National Facility Site in Deerfield Township, Portage County, Ohio, for Purposes of Implementing Provisions of Consent Decree.

In consideration of the various undertakings and commitments of the other parties to the Consent Decree that has been lodged with the United States District Court for the Northern District of Ohio in United States v. Vasi, No. on June 29, 1990, including the commitments of the United States, the State of Ohio and the other "Settling Defendants," as defined in such Consent Decree, to conduct and/or oversee implementation of response actions at the Summit National Facility ("Facility"):

I, John Vasi, hereby agree to provide to the other Settling Defendants, the Ohio Environmental Protection Agency ("OEPA"), the United States, including the United States Environmental Protection Agency ("U.S. EPA"), and the successors, agents, employees and contractors of each of the foregoing, uninterrupted access at all times to my property at the Summit National Facility ("Facility"), as described more particularly below, for the purposes of effectuating, conducting and overseeing any and all maintenance activities or response actions required pursuant to the aforementioned Consent Decree, including remedial design or remedial action work described in the Scope of Work attached thereto, and for purposes of determining compliance with any provisions of such Consent Decree and any attachments thereto. Without limitation, I agree that all of the aforementioned persons may enter upon and shall have access to all of my property at the Facility for the purpose of conducting activities related to the Consent Decree and Statement of Work, including but not limited to:

a. Monitoring the work or any other activities taking place at the Facility pursuant to the Consent Decree or any attachments thereto, including work performed by or on behalf of Settling Defendants;

b. Verifying any data or information submitted to the United States or the State of Ohio pursuant to the Consent Decree or any attachments thereto, including information submitted by other Settling Defendants;

c. Conducting investigations relating to contamination at or near the Facility;

d. Obtaining samples;

e. Assessing the need for, planning, or implementing additional response actions at or near the Facility;

f. Right to patrol and police the property during the period the remedial action or remedial design is in effect;

g. Inspecting and copying records, operating logs, contracts, or other documents maintained or generated by Settling Defendants or their agents, consistent with this Decree and applicable law; or

h. Assessing Settling Defendants' compliance with the terms and provisions of the Consent Decree.

This agreement to provide access to U.S. EPA, OEPA and Settling Defendants, and their successors, agents, employees and contractors, shall be in force until such time as all remedial design, remedial action or any other activities contemplated by the Consent Decree have been completed.

The property to which this agreement provides access is located in Deerfield Township, Portage County, Ohio, approximately 45 miles southeast of Cleveland and 20 miles west of Youngstown. The property, which is rectangular in shape and occupies approximately 11.5 acres, is located at the southeast corner of the intersection of Ohio Route 225 to the west and U.S. Route 224 to the north. The legal description of the Facility is as follows:

> Part of Lot #56 in Deerfield Township beginning at the northwest corner of Lot #56, then South 89 degrees 25' East along the north line of Lot #56, a distance of 811.85 feet and along the center line of U.S. 224; then south 0 degrees 52" West 600 feet to an iron pipe and passing over an iron pipe set at 30 feet at the side of the highway; then North 89 degrees 25' West 811.85 feet to the west line of Lot #56, and the center line of Ohio Route 225, and passing over an iron pipe set at 30 feet at the side of the highway, then North 52' East along the west line of Lot #56, 600 feet to the place of beginning.

This access agreement shall be binding on John Vasi, and his heirs, guardian, administrator, lessees, successors and assignees.

Nothing in this access agreement shall restrict in any way the United States' access authorities and rights under the Comprehensive Environmental Response, Compensation and Liability

Act, the Resource Conservation and Recovery Act or any other applicable statute, regulation or permit; nor shall anything in this access agreement restrict in any way any access authorities and rights of the OEPA under any applicable provisions the Ohio Revised Code, the Ohio Administrative Code or any permits issued thereunder.

x John Vasi

Subscribed and sworn before me
this 9th day of August

Notary Public
In the County of Cuyahoga
In the State of Ohio
MY Commission expires: Attorney
My term has no expiration date.
O.R.C. 147.03

APPENDIX I

SUMMIT NATIONAL SITE PRP LIST

1. Airco, Inc., a division of BOC Group, Inc.

2. American Cyanamid Company

3. Bechtel-McClaughlin, Inc.

4. Bridgestone/Firestone, Inc. formerly known as The Firestone Tire & Rubber Company

5. Browning-Ferris Industries of Ohio, Inc.

6. Browning-Ferris Industries of Pennsylvania, Inc.

7. Canton Drop Forge, Inc., a subsidiary of Cordier Group, parent company Cordier Holdings

8. Columbia Gas Transmission Corporation

9. Container Corporation of America

10. E. I. DuPont de Nemours & Company

11. Erieway, Inc. formerly known as Erieway Pollution Control, Inc.

12. Ford Motor Company

13. General Motors Corporation

14. GenCorp., Inc., formerly known as General Tire and Rubber Company and/or Diversitech Genral

15. Divested Aerospace Corporation successor in interest to Goodyear Aerospace Corporation and subsidiary of Loral Corporation

16. Goodyear Tire and Rubber Company

17. Gould, Inc., now owned by Nippon Mining U.S., Inc.

18. Harbison Walker Refractories, a division of Dresser Industries

19. Occidental Chemical Corporation formerly known as Hooker Chemicals and Plastics Corporation.

20. Beazer Materials and Services, parent company Beazer USA, Inc. formerly known as Koopers, Inc.

21. Mansfield Graphics, Inc.

22. Safety Kleen Envirosystems Company, formerly known as McKesson Envirosystems Company, formerly known as Inland Chemical Corporation

23. Mobil Oil Corporation

24. Morgan Adhesives Company now called Bemis Company

25. Morton International, Inc. successor in interest to Morton Thiokol, Inc.

26. Olin Corporation

27. Packaging Corporation of America, subsidiary of Tenneco Interamerica, a subsidiary of Tennessee Gas Pipeline, Inc.

28. Parker Hannifin Corporation

29. Reynolds Metals Company

30. Westinghouse Electric Corporation