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

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CLERK OF DISTRICT COURT
NORTHERN DISTRICT OF OHIO
CLEVELAND

UNITED STATES OF AMERICA,

Plaintiff,

v.

LORD CORPORATION, et al.,

Defendants,

v.

AMCAST INDUSTRIAL CORPORATION,
et al.,

Third-Party Defendants.

CIVIL ACTION
No. 4:89 CV 2001
JUDGE GAUGHAN
MAGISTRATE PERELMAN

STATE OF OHIO,

Plaintiff,

v.

AARDVARK ASSOCIATES, INC., et al.,

Defendants,

v.

AMCAST INDUSTRIAL CORPORATION,
et al.,

Third-Party Defendants.

CIVIL ACTION
No. 1:92 CV 0227
JUDGE GAUGHAN
MAGISTRATE PERELMAN

ATTORNEY GENERAL
CIVIL ACTION
NO. 1:92 CV 0227

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DIV. OF EMERGENCY &
REMEDIATION RESPONSE

CONSENT DECREE

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CONSENT DECREE

I. BACKGROUND

A. The United States of America ("United States"), on behalf of the Administrator of the United States Environmental Protection Agency ("EPA"), filed a complaint and an amended complaint in this matter pursuant to Section 107 of the Comprehensive Environmental Response, Compensation, and Liability Act ("CERCLA"), 42 U.S.C. § 9607. The United States' complaint sets forth claims against an operator of the New Lyme landfill, a transporter of hazardous substances which were disposed of at the landfill, and eleven alleged generators of hazardous substances disposed of at the landfill.

B. Certain of the Defendants in this action filed a third-party complaint pursuant to Sections 107 and 113 of CERCLA, 42 U.S.C. §§ 9607 and 9613, seeking contribution. Concurrently with the lodging of this Consent Decree, the Defendants and Third-Party Plaintiffs have filed an unopposed motion for leave to file an amended third-party complaint, and an amended third-party complaint, asserting claims against certain additional parties as Third-Party Defendants. These added Third-Party Defendants are included herein as either Settling Non-Performing Parties in Appendix F or Settling De Minimis Parties in Appendix G.

C. The United States in its amended complaint seeks, inter alia: (1) reimbursement of costs incurred by EPA and the Department of Justice for response actions at the New Lyme Landfill Superfund Site (the "Site") in Ashtabula County, Ohio, together with accrued interest; and (2) a declaratory judgment that the defendants are liable, jointly and severally, for all future response costs incurred by the United States

in connection with the Site.

D. The State of Ohio (the "State") has also filed a complaint against the Defendants in this Court for recovery of response costs and declaratory relief pursuant to CERCLA, 42 U.S.C. § 9601 et seq., and the Federal Declaratory Judgment Act, 28 U.S.C. § 2201. The State of Ohio's complaint sets forth claims against an operator of the New Lyme landfill, a transporter of hazardous substances which were disposed of at the landfill, and eleven alleged generators of hazardous substances disposed of at the landfill.

E. For this Consent Decree, certain Settling Defendants and Settling Third-Party Defendants, [including added Third-Party Defendants] have organized into "Settling Performing Parties," (identified in Appendix E) and "Settling Non-Performing Parties" (identified in Appendix F). Certain Parties have been designated as "Settling De Minimis Parties" (identified in Appendix G) based on criteria set forth in Section 122(g)(1) of CERCLA, 42 U.S.C. § 9622(g)(1).

F. Based on the information currently available to EPA, EPA has determined that the amounts of hazardous substances contributed to the Site by each Settling De Minimis Party and the toxic or other hazardous effects of the hazardous substances contributed to the Site by each Settling De Minimis Party are minimal in comparison to other hazardous substances at the Site within the meaning of Section 122(g)(1)(A) of CERCLA, 42 U.S.C. § 9622(g)(1)(A).

G. The Settling Performing Parties, Settling Non-Performing Parties and Settling De Minimis Parties do not admit any liability to the Plaintiffs or others arising out of the transactions or occurrences

alleged in the complaints, nor do they acknowledge that the release or threatened release of hazardous substances at or from the Site constitutes an imminent or substantial endangerment to the public health or welfare or the environment. Except as otherwise provided in the Federal Rules of Evidence, the participation by any Settling Performing Party, Settling Non-Performing Party, or Settling De Minimis Party in this Consent Decree shall not be considered an admission of liability for any purpose, and the fact of such participation shall not be admissible against any such Settling Performing Party, Settling Non-Performing Party, or Settling De Minimis Party in any judicial or administrative proceeding, except in an action or proceeding brought by the United States or the State to enforce the terms of this Consent Decree.

H. Pursuant to Section 105 of CERCLA, 42 U.S.C § 9605, EPA placed the Site on the National Priorities List, set forth at 40 C.F.R. Part 300, Appendix B, by publication in the Federal Register on December 30, 1982.

I. In response to a release or a substantial threat of release of hazardous substances at or from the Site, EPA commenced in November 1983 a Remedial Investigation/Feasibility Study ("RI/FS") for the Site, pursuant to 40 C.F.R. § 300.430.

J. EPA completed a Remedial Investigation ("RI") Report in February, 1985, and EPA completed a Feasibility Study ("FS") Report in August, 1985.

K. Pursuant to Section 117 of CERCLA, 42 U.S.C. § 9617, EPA published notice of the completion of the FS and the proposed plan for remedial action on September 9, 1985. EPA selected a remedy for the New Lyme

Landfill Site in a Record of Decision dated September 27, 1985, on which the State has given its concurrence.

L. The New Lyme Landfill Remedial Action selected in the ROD was initiated by the U.S. Army Corps of Engineers on behalf of EPA on December 12, 1988. The Remedial Action construction was completed on October 3, 1990. The remedy was conducted by EPA until August 1994, when responsibility for Operation & Maintenance ("O & M") was assumed by the State. The Settling Defendants have funded, and will fund, the O & M by direct reimbursement to the State commencing on December 1, 1996.

M. Pursuant to Section 121(c) of CERCLA, 42 U.S.C. § 9621(c), and 40 C.F.R. § 300.400(f)(4)(ii), EPA and the Ohio EPA commenced a five year review of the New Lyme Site remedy on September 30, 1996. The Settling Defendants funded and performed a portion of the field investigation for the five year review at the Site.

N. The decision by EPA on the modifications to the Remedial Action to be implemented at the Site is embodied in a ROD Amendment, issued on November 16, 1999, on which the State has had a reasonable opportunity to review and comment and on which the State has given its concurrence. The ROD Amendment, which has been noticed for public comment, as appropriate, and in accordance with applicable regulations, includes EPA's explanation for the modification to the Remedial Action as well as a response to Settling Defendants' final report prepared in conjunction with the Five Year Review and ROD Amendment.

O. The Settling Performing Parties herein agree to assume responsibility for the operation and maintenance at the Site following entry of this Consent Decree and to undertake the design and construction

of the Remedy Modification, including any modifications to the operation and maintenance at the Site (the "Work") described in the ROD Amendment and the Statement of Work ("SOW"). Based on the information presently available to EPA and the State, EPA and the State believe that the Work will be properly and promptly conducted by the Settling Performing Parties if conducted in accordance with the requirements of this Consent Decree and its Appendices.

P. Solely for the purposes of Section 113(j) of CERCLA, the modifications to the Remedial Action determined by the ROD Amendment and the O & M to be performed by the Settling Performing Parties shall constitute a response action taken or ordered by the President.

Q. The Parties recognize, and the Court by entering this Consent Decree finds, that this Consent Decree has been negotiated by the Parties in good faith and implementation of this Consent Decree will expedite the cleanup of the Site and will avoid prolonged and complicated litigation between the Parties, and that this Consent Decree is fair, reasonable, and in the public interest and constitutes a fair contribution of the Settling Performing Parties, Settling Non-Performing Parties and Settling De Minimis Parties for all response actions taken or to be taken at the Site pursuant to this Consent Decree.

NOW, THEREFORE, it is hereby Ordered, Adjudged, and Decreed:

II. JURISDICTION

1. This Court has jurisdiction over the subject matter of this action pursuant to 28 U.S.C. §§ 1331 and 1345, and 42 U.S.C. §§ 9606, 9607, and 9613(b). This Court also has personal jurisdiction over the Settling Performing Parties, Settling Non-Performing Parties and Settling De

Minimis Parties. Solely for the purposes of this Consent Decree and the underlying complaint, Settling Performing Parties, Settling Non-Performing Parties, and Settling De Minimis Parties waive all objections and defenses that they may have to jurisdiction of the Court or to venue in this District. Settling Performing Parties, Settling Non-Performing Parties and Settling De Minimis Parties shall not challenge this Court's jurisdiction to enter and enforce this Consent Decree. Settling Performing Parties, Settling Non-Performing Parties and Settling De Minimis Parties shall not challenge the terms of this Consent Decree, except in accordance with the dispute resolution mechanism provided herein at Section XX.

III. PARTIES BOUND

2. This Consent Decree applies to and is binding upon the United States and the State, and upon Settling Performing Parties, Settling Non-Performing Parties and Settling De Minimis Parties, and their successors and assigns. Any change in ownership or corporate status of a Settling Performing Party, Settling Non-Performing Party or Settling De Minimis Party including, but not limited to, any transfer of assets or real or personal property, shall in no way alter such Settling Performing Party's, Settling Non-Performing Party's and Settling De Minimis Party's responsibilities under this Consent Decree.

3. Settling Performing Parties shall provide a copy of this Consent Decree to each contractor hired to perform the Work (as defined below) required by this Consent Decree and shall condition all contracts entered into hereunder upon performance of the Work in conformity with the terms of this Consent Decree. Settling Performing Parties or their contractors

shall provide written notice of the Consent Decree to all subcontractors hired to perform any portion of the Work required by this Consent Decree. Settling Performing Parties shall nonetheless be responsible for ensuring that their contractors and subcontractors perform the Work contemplated herein in accordance with this Consent Decree. With regard to the activities undertaken pursuant to this Consent Decree, each contractor and subcontractor shall be deemed to be in a contractual relationship with the Settling Performing Parties within the meaning of Section 107(b)(3) of CERCLA, 42 U.S.C. § 9607(b)(3).

IV. DEFINITIONS

4. Unless otherwise expressly provided herein, terms used in this Consent Decree which are defined in CERCLA or in regulations promulgated under CERCLA shall have the meaning assigned to them in CERCLA or in such regulations. Whenever terms listed below are used in this Consent Decree or in the Appendices attached hereto and incorporated hereunder, the following definitions shall apply:

"CERCLA" shall mean the Comprehensive Environmental Response, Compensation, and Liability Act of 1980, as amended, 42 U.S.C. §§ 9601 et seq.

"Consent Decree" shall mean this Decree and all Appendices attached hereto (listed in Section XXX). In the event of conflict between this Decree and any Appendix, this Decree shall control.

"Day" shall mean a calendar day unless expressly stated to be a working day. "Working day" shall mean a day other than a Saturday, Sunday, or Federal holiday. In computing any period of time under this Consent Decree, where the last day would fall on a Saturday, Sunday, or

Federal holiday, the period shall run until the close of business of the next working day.

"EPA" shall mean the United States Environmental Protection Agency and any successor departments or agencies of the United States.

"Five Year Review Report" shall mean the report relating to the periodic review of the New Lyme Landfill Superfund Site prepared by EPA pursuant to Section 121(c) of CERCLA, 42 U.S.C. § 9621(c), in March 1998, and all attachments thereto.

"Future Response Costs" shall mean all costs and interest on costs, including, but not limited to, direct and indirect costs, that the United States incurs in reviewing or developing plans, reports and other items pursuant to this Consent Decree, verifying the Work, or otherwise implementing, overseeing, or enforcing this Consent Decree, including, but not limited to, payroll costs, contractor costs, travel costs, laboratory costs, the costs incurred pursuant to Sections VII (Remedy Review), IX (Access and Institutional Controls), if necessary (including, but not limited to, attorneys fees and any monies paid to secure access and/or to secure institutional controls, including the amount of just compensation), XV (Emergency Response), and Paragraph 89 (Work Takeover). In addition, costs incurred commencing on December 1, 1996, which would have been considered Oversight Costs if incurred pursuant to this Consent Decree shall be considered Future Response Costs for purposes of this Consent Decree.

"Interest," shall mean interest at the rate specified for interest on investments of the Hazardous Substance Superfund established under Subchapter A of Chapter 98 of Title 26 of the U.S. Code, compounded on

October 1 of each year, in accordance with 42 U.S.C. § 9607(a).

"Matters Addressed" in this Consent Decree shall mean all response actions taken or to be taken and all response costs incurred or to be incurred by the United States, the State, or any other person with respect to the Site. The "Matters Addressed" in this Consent Decree do not include those response costs or those response actions as to which the United States or the State has reserved its rights under this Consent Decree (except for claims for failure to comply with this Decree), in the event that the United States or the State asserts rights against the Settling Performing Parties, Settling Non-Performing Parties or Settling De Minimis Parties coming within the scope of such reservations.

"Municipal Solid Waste" shall mean all waste materials generated by households, including single and multi-family residences, and hotels and motels. The term also includes waste materials generated by commercial, institutional, and industrial sources, to the extent such wastes (A) are essentially the same as waste normally generated by households, or (B) are collected and disposed of with other municipal solid waste or sewage sludge as part of normal municipal solid waste collection services and, regardless of when generated, would be considered conditionally exempt small quantity generator waste under regulations issued pursuant to Section 3001(d)(4) of the Solid Waste Disposal Act, 42 U.S.C. § 6921(d)(4). Examples of Municipal Solid Waste include food and yard waste, paper, clothing, appliances, consumer product packaging, disposable diapers, office supplies, cosmetics, glass and metal food containers, elementary or secondary school science laboratory waste, and household hazardous waste. The term does not include combustion ash

generated by resource recovery facilities or municipal incinerators, or waste from manufacturing or processing (including pollution control) operations not essentially the same as waste normally generated by households.

"National Contingency Plan" or "NCP" shall mean the National Oil and Hazardous Substances Pollution Contingency Plan promulgated pursuant to Section 105 of CERCLA, 42 U.S.C. § 9605, codified at 40 C.F.R. Part 300, and any amendments thereto.

"Ohio EPA" shall mean the Ohio Environmental Protection Agency.

"Operation and Maintenance" or "O & M" shall mean all activities required to maintain the effectiveness of the Remedial Action and the Remedy Modification as required under the Operation and Maintenance Plan approved or developed by EPA pursuant to this Consent Decree, the ROD, the ROD Amendment, and the Statement of Work (SOW).

"Oversight Costs" shall mean, for purposes of this Consent Decree only, that portion of Future Response Costs incurred by the United States in monitoring and supervising the Settling Performing Parties' performance of the response activities, including, but not limited to, construction of the Remedy Modification and O & M, to determine whether such performance is consistent with the requirements of this Consent Decree, including the costs associated with reviewing and/or developing plans, reports or other items submitted for approval under this Decree, and costs incurred in supervising Settling Performing Parties' implementation of response activities performed at the Site. The State of Ohio is the lead agency for oversight of response activities and O & M pursuant to terms of a cooperative agreement with the EPA. The EPA and

the State of Ohio anticipate that the State of Ohio will have a primary role, and the EPA a secondary role, in monitoring and supervising the response activities of the Settling Performing Parties absent unusual or unanticipated circumstances. Oversight Costs do not include, inter alia, Future Response Costs that include: (1) the costs of direct action by EPA to investigate, evaluate or monitor a release, threat of release, or a danger posed by such release or threat of release; (2) the costs of litigation or other enforcement activities; (3) the costs of determining the need for taking direct response actions by EPA to conduct a removal or Remedial Action at the Site; (4) the costs of undertaking future five-year reviews set forth in Section VII (Remedy Review) or otherwise determining whether or to what extent the response activities have ensured protection of public health and the environment at the Site; (5) the cost of enforcing the terms of this Consent Decree, including all costs incurred in connection with Dispute Resolution pursuant to Section XX (Dispute Resolution); (6) costs of securing access under Section IX (Access and Institutional Controls), if necessary; and (7) the costs incurred by the United States in performing Work Takeover pursuant to Paragraph 89.

"Owner, Operator, or Lessee of Residential Property" shall mean a person who owns, operates, manages, or leases Residential Property and who uses or allows the use of the Residential Property exclusively for residential purposes.

"Paragraph" shall mean a portion of this Consent Decree identified by an arabic numeral or an upper case letter.

"Parties" shall mean the United States, the State of Ohio, the

Settling Performing Parties, the Settling Non-Performing Parties and the Settling De Minimis Parties.

"Past Response Costs" shall mean all costs, including, but not limited to, direct and indirect costs, that the United States paid at or in connection with the Site through January 31, 1996, plus Interest on all such costs which has accrued pursuant to 42 U.S.C. § 9607(a) through such date.

"Performance Standards" shall mean the cleanup standards and other measures of achievement of the goals of the Remedial Action, set forth in the ROD, as modified by the ROD Amendment, and Tasks 5 and 6 of the SOW.

"Plaintiffs" shall mean the United States and the State of Ohio.

"RCRA" shall mean the Solid Waste Disposal Act, as amended, 42 U.S.C. §§ 6901 et seq. (also known as the Resource Conservation and Recovery Act).

"Record of Decision" or "ROD" shall mean the EPA Record of Decision relating to the Site signed on September 27, 1985, by the Regional Administrator, EPA Region 5, or his/her delegate, and all attachments thereto, and attached as Appendix A.

"Remedy Modification" shall mean those activities to be undertaken by the Settling Performing Parties to implement the ROD Amendment, in accordance with the SOW and the final Remedy Modification Work Plan and other plans approved by EPA.

"Residential Property" shall mean single or multi-family residences, including accessory land, buildings, or improvements incidental to such dwellings, which are exclusively for residential use.

"ROD Amendment" shall mean the document setting forth EPA's decision regarding the remedy modifications, issued on November 16, 1999, attached as Appendix B.

"Section" shall mean a portion of this Consent Decree identified by a roman numeral.

"Settling De Minimis Parties" shall mean those Parties identified in Appendix G.

"Settling Non-Performing Parties" shall mean those Parties identified in Appendix F.

"Settling Performing Parties" shall mean those Parties identified in Appendix E.

"Sewage Sludge" means solid, semisolid, or liquid residue removed during the treatment of municipal waste water, domestic sewage, or other waste water at or by publicly owned or federally owned treatment works.

"Site" shall mean the New Lyme Landfill Superfund Site, encompassing approximately 40 acres, located on Dodgeville Road in New Lyme Township, Ashtabula County, Ohio and depicted generally on the map attached as Appendix D.

"Small Business" shall mean any business entity that employs no more than 100 individuals and is a "small business concern" as defined under the Small Business Act (15 U.S.C. 631 et seq.).

"Small Nonprofit Organization" shall mean any organization that does not distribute any part of its income or profit to its members, directors, or officers, employs no more than 100 paid individuals at the involved chapter, office, or department, and was recognized as a nonprofit organization under Section 501(c)(3) of the Internal Revenue

Code of 1986.

"State" shall mean the State of Ohio, by and through its Attorney General, on behalf of the Ohio EPA.

"State Future Response Costs" shall mean all costs and interest on costs, including, but not limited to, direct and indirect costs, that the State of Ohio incurs in reviewing or developing plans, reports and other items pursuant to this Consent Decree, verifying the Work, or otherwise implementing, overseeing, or enforcing this Consent Decree, including, but not limited to, payroll costs, contractor costs, travel costs, laboratory costs, the costs incurred pursuant to Sections VII (Remedy Review), IX (Access and Institutional Controls), if necessary (including, but not limited to, attorneys' fees and any monies paid to secure access and/or to secure institutional controls, including the amount of just compensation), XV (Emergency Response), and Paragraph 89 (Work Takeover), and State Oversight Costs commencing on the effective date of this Consent Decree.

"State Oversight Costs" shall mean, for purposes of this Consent Decree only, that portion of Future Response Costs incurred by the State of Ohio in monitoring and supervising the Settling Performing Parties' performance of the response activities, including, but not limited to, construction of the Remedy Modification, to determine whether such performance is consistent with the requirements of this Consent Decree, including the costs associated with reviewing and/or developing plans, reports or other items submitted for approval under this Decree, and costs incurred in supervising Settling Performing Parties' implementation of response activities performed at the Site. The State of Ohio is the

lead agency for oversight of response activities and O & M pursuant to terms of a cooperative agreement with the EPA. The EPA and the State of Ohio anticipate that the State of Ohio will have a primary role, and the EPA a secondary role, in monitoring and supervising the response activities of Settling Performing Parties, absent unusual or unanticipated circumstances. State Oversight Costs do not include, inter alia, State Future Response Costs that include: (1) the costs of direct action by the Ohio EPA to investigate, evaluate or monitor a release, threat of release, or a danger posed by such release or threat of release; (2) the costs of litigation or other enforcement activities; (3) the costs of participating in or conducting future five-year reviews set forth in Section VII (Remedy Review) or otherwise determining whether or to what extent the response activities have ensured protection of public health and the environment at the Site; (4) the cost of enforcing the terms of this Consent Decree, including all costs incurred in connection with Dispute Resolution pursuant to Section XX (Dispute Resolution); (5) costs of securing access under Section IX (Access and Institutional Controls), if necessary; and (6) the costs incurred by the State of Ohio in performing Work Takeover pursuant to Paragraph 89.

"State Past Response Costs" shall mean all costs, including, but not limited to, direct and indirect costs, that the State of Ohio paid at or in connection with the Site through the effective date of this Consent Decree plus Interest on all such costs which has accrued pursuant to 42 U.S.C. § 9607(a) through such date.

"Statement of Work" or "SOW" shall mean the statement of work for implementation of the Remedy Modification, and O & M at the Site, as set

forth in Appendix C to this Consent Decree and any modifications made in accordance with this Consent Decree.

"Supervising Contractor" shall mean the principal contractor retained by the Settling Performing Parties to supervise and direct the implementation of the Work under this Consent Decree.

"United States" shall mean the United States of America.

"Waste Material" shall mean (1) any "hazardous substance" under Section 101(14) of CERCLA, 42 U.S.C. § 9601(14); (2) any pollutant or contaminant under Section 101(33), 42 U.S.C. § 9601(33); and (3) any "solid waste" under Section 1004(27) of RCRA, 42 U.S.C. § 6903(27).

"Work" shall mean all activities Settling Performing Parties are required to perform under this Consent Decree, including O & M, except those required by Section XXVI (Retention of Records).

"Work Plan" shall mean the documents developed pursuant to Paragraph 10 of this Consent Decree and the SOW, and approved by EPA, after reasonable opportunity for review and comment by Ohio EPA, and any amendments thereto.

V. GENERAL PROVISIONS

5. Objectives of the Parties

The objectives of the Parties in entering into this Consent Decree are to: 1) protect public health, welfare, and the environment at the Site by the design and implementation of response actions at the Site by the Settling Performing Parties, 2) reimburse response costs of the Plaintiffs, 3) resolve the claims of Plaintiffs against Settling Performing Parties, Settling Non-Performing Parties and Settling De Minimis Parties as provided in this Consent Decree, and 4) resolve the

claims that the Settling Performing Parties, Settling Non-Performing Parties and Settling De Minimis Parties have against each other.

6. Commitments by Settling Performing Parties

a. Settling Performing Parties shall finance and perform the Work in accordance with this Consent Decree, the ROD Amendment, the SOW, and all work plans and other plans, standards, specifications, and schedules set forth herein or developed by Settling Performing Parties and approved by EPA pursuant to this Consent Decree. Settling Performing Parties shall also reimburse the United States for Past Response Costs and Future Response Costs as provided in this Consent Decree, and shall reimburse the State of Ohio for State Past Response Costs and State Future Response Costs as provided in this Consent Decree. Settling Performing Parties shall assume responsibility for performance of O & M at the Site within 30 days of the effective date of this Consent Decree.

b. The obligations of Settling Performing Parties to finance and perform the Work and to pay amounts owed the United States and the State under this Consent Decree are joint and several. In the event of the insolvency or other failure of any one or more Settling Performing Parties to implement the requirements of this Consent Decree, the remaining Settling Performing Parties shall complete all such requirements.

c. The Settling Performing Parties herein agree to fund in full the capital costs of the design and construction of the Remedy Modification they will conduct at the Site up to the amount of \$750,000. The Settling Performing Parties agree to fund, and shall be responsible only for, 50% of costs necessary for the design and construction of the

Remedy Modification in excess of \$750,000.

7. Compliance With Applicable Law

All activities undertaken by Settling Performing Parties pursuant to this Consent Decree shall be performed in accordance with the requirements of all applicable federal and state laws and regulations. Settling Performing Parties must also comply with all applicable or relevant and appropriate requirements of all federal and State environmental laws as set forth in the ROD as modified by the ROD Amendment and the SOW. The activities conducted pursuant to this Consent Decree, if approved by EPA, in consultation with the Ohio EPA, as provided in this Consent Decree, shall be considered to be consistent with the NCP.

8. Permits

a. As provided in Section 121(e) of CERCLA and Section 300.400(e) of the NCP, no permit shall be required for any portion of the Work conducted entirely on-site (i.e., within the areal extent of contamination or in very close proximity to the contamination and necessary for implementation of the Work). Where any portion of the Work that is not on-site requires a federal or state permit or approval, Settling Performing Parties shall submit timely and complete applications and take all other actions necessary to obtain all such permits or approvals.

b. The Settling Performing Parties may seek relief under the provisions of Section XIX (Force Majeure) of this Consent Decree for any delay in the performance of the Work resulting from a failure to obtain, or a delay in obtaining, any permit required for the Work.

c. This Consent Decree is not, and shall not be construed to be, a permit issued pursuant to any federal or state statute or regulation.

VI. PERFORMANCE OF THE WORK BY SETTling PERFORMING PARTIES

9. Selection of Supervising Contractor.

a. All aspects of the Work to be performed by Settling Performing Parties pursuant to Sections VI (Performance of the Work by Settling Performing Parties), VII (Remedy Review), VIII (Quality Assurance, Sampling, and Data Analysis), and XV (Emergency Response) of this Consent Decree shall be under the direction and supervision of the Supervising Contractor, the selection of which shall be subject to disapproval by EPA, after reasonable opportunity for review and comment by the Ohio EPA. Within 20 days after the lodging of this Consent Decree, Settling Performing Parties shall notify EPA and the Ohio EPA in writing of the name, title, and qualifications of any contractor proposed to be the Supervising Contractor. EPA, in consultation with the Ohio EPA, will issue a notice of disapproval or an authorization to proceed. If at any time thereafter, Settling Performing Parties propose to change a Supervising Contractor, Settling Performing Parties shall give such notice to EPA and the Ohio EPA and shall obtain an authorization to proceed from EPA, in consultation with the Ohio EPA, before the new Supervising Contractor performs, directs, or supervises any Work under this Consent Decree.

b. If EPA disapproves a proposed Supervising Contractor, EPA will notify Settling Performing Parties in writing. Settling Performing Parties shall submit to EPA and the Ohio EPA a list of contractors,

including the qualifications of each contractor, that would be acceptable to them within 30 days of receipt of EPA's disapproval of the contractor previously proposed. EPA, after reasonable opportunity for review and comment by the Ohio EPA, will provide written notice of the names of any contractor(s) that it disapproves and an authorization to proceed with respect to any of the other contractors. Settling Performing Parties may select any contractor from that list that is not disapproved and shall notify EPA and the Ohio EPA of the name of the contractor selected within 21 days of EPA's authorization to proceed.

c. If EPA fails to provide written notice of its authorization to proceed or disapproval as provided in this Paragraph and this failure prevents the Settling Performing Parties from meeting one or more deadlines in a plan approved by the EPA pursuant to this Consent Decree, Settling Performing Parties may seek relief under the provisions of Section XIX (Force Majeure) hereof.

10. Remedy Modification.

a. Within 60 days after the issuance of EPA's authorization to proceed pursuant to Paragraph 9, Settling Performing Parties shall submit to EPA for approval, after reasonable opportunity for review and comment by the Ohio EPA, a Work Plan and related plans for the performance of the Remedy Modification at the Site in accordance with the SOW. The Parties have agreed to a SOW and schedule for the performance of the Remedy Modification at the Site that are attached as Appendix C and are incorporated herein by reference and enforceable under this Consent Decree. The SOW provides for construction and implementation of the Remedy Modification set forth in the ROD Amendment and achievement of the

Performance Standards, in accordance with this Consent Decree and the ROD as modified by the ROD Amendment.

b. The SOW includes the following: (1) the schedule for completion of the Remedy Modification and the SOW; (2) the schedule for developing and submitting the Work Plan and related plans including, but not limited to, a Groundwater Monitoring Plan, a Sampling and Analysis Plan, a Quality Assurance Project Plan, a Data Management Plan, a Security Plan, a Generic Contingency Plan, an Operation and Maintenance Plan, and a Health and Safety Plan for field activities required by the Work Plan which conforms to the applicable Occupational Safety and Health Administration, EPA and Ohio EPA requirements including, but not limited to, 29 C.F.R. § 1910.120; (3) a schedule for developing and submitting any other required Remedy Modification plans; (4) methods for satisfying permitting requirements, if any; (5) methodology for development of the Generic Contingency Plan and implementation of contingency measures; and (6) procedures and plans for the decontamination of equipment and the disposal of contaminated materials. The Work Plan submitted in accordance with this Paragraph shall include a schedule for implementation of all Remedy Modification tasks, methodology for implementation of the O&M, and shall identify the initial formulation of the Settling Performing Parties' Remedy Modification Project Team (including, but not limited to, the Supervising Contractor), and Settling Performing Parties' Project Coordinator. Upon its approval by EPA, after reasonable opportunity for review and comment by the Ohio EPA, the Work Plan, and all related plans, shall be incorporated into and become enforceable under this Consent Decree.

c. Within 30 days after approval of the Work Plan and all related plans by EPA, as provided in Paragraph 10.a., above, Settling Performing Parties shall implement the activities required under the Work Plan and related plans, as applicable. The Settling Performing Parties shall submit to EPA and the Ohio EPA all plans, submittals, or other deliverables required under the SOW and approved Work Plan and related plans in accordance with the approved schedule for review and approval pursuant to Section XI (Agency Approval of Plans and Other Submissions). Unless otherwise directed by EPA, in consultation with the Ohio EPA, Settling Performing Parties shall not commence physical Remedy Modification activities at the Site prior to approval of the Work Plan and related plans.

11. The Settling Performing Parties shall continue to implement the remedy, Remedy Modification, including O & M, as is required under the ROD, the ROD as modified by the ROD Amendment, the SOW, and this Consent Decree.

12. Changes to the SOW or Related Work Plans.

a. If EPA, in consultation with the Ohio EPA, determines that a change to the work specified in the SOW and/or in work plans developed pursuant to the SOW is necessary to achieve and maintain the Performance Standards or to carry out and maintain the effectiveness of the remedy as modified by the ROD Amendment, including the development and implementation of contingency plans, EPA may require that such change be incorporated in the SOW and/or such work plans; provided, however, that a change may only be required pursuant to this Paragraph to the extent that it is consistent with the scope of the remedy selected in the ROD

as modified by the ROD Amendment.

b. For the purposes of this Paragraph 12 and Paragraphs 45 and 46 only, the "scope of the remedy selected in the ROD as modified by the ROD Amendment" is: (a) shutdown of the on-site groundwater treatment facility including disassembly of header and conveyance pipes, extraction well abandonment, and temporary decommissioning of treatment plant; (b) implementation of long term groundwater monitoring program; (c) implementation of contingency measures that are approved by U.S. EPA in consultation with Ohio EPA in accordance with the SOW; and (d) continued operation and maintenance of the remedy at the Site, including cap controls, leachate control, and Site security.

c. If Settling Performing Parties object to any change determined by EPA, in consultation with the Ohio EPA, to be necessary pursuant to this Paragraph, they may seek dispute resolution pursuant to Section XX (Dispute Resolution), Paragraph 64 (record review). The SOW and/or related work plans shall be changed in accordance with final resolution of the dispute.

d. Settling Performing Parties shall implement any work required by any changes incorporated in the SOW and/or in work plans developed pursuant to the SOW in accordance with this Paragraph.

e. Nothing in this Paragraph shall be construed to limit EPA's, or the Ohio EPA's, authority to require performance of further response actions as otherwise provided in this Consent Decree.

13. Settling Performing Parties acknowledge and agree that nothing in this Consent Decree, the ROD as modified by the ROD Amendment, the SOW, or the Remedy Modification Work Plans constitutes a warranty or

representation of any kind by Plaintiffs that compliance with the work requirements set forth in the ROD as modified by the ROD Amendment, the Remedy Modification, the SOW and the Work Plans will achieve the Performance Standards.

14. Settling Performing Parties shall, prior to any off-Site shipment of Waste Material from the Site to an out-of-state waste management facility, provide written notification to the appropriate state environmental official in the receiving facility's state and to the EPA Remedial Project Manager, and the State Project Coordinator, of such shipment of Waste Material. However, this notification requirement shall not apply to any off-Site shipments when the total volume of all such shipments will not exceed 10 cubic yards.

a. The Settling Performing Parties shall include in the written notification the following information, where available: (1) the name and location of the facility to which the Waste Material are to be shipped; (2) the type and quantity of the Waste Material to be shipped; (3) the expected schedule for the shipment of the Waste Material; and (4) the method of transportation. The Settling Performing Parties shall notify the state in which the planned receiving facility is located of major changes in the shipment plan, such as a decision to ship the Waste Material to another facility within the same state, or to a facility in another state.

b. The identity of the receiving facility and state will be determined by the Settling Performing Parties following the award of the contract for Remedy Modification construction. The Settling Performing Parties shall provide the information required by Paragraph 14.a as soon

as practicable after the award of the contract and before the Waste Material is actually shipped.

VII. REMEDY REVIEW

15. Periodic Review.

At least every five years, as required by Section 121(c) of CERCLA and any applicable regulations, Settling Performing Parties shall conduct any studies and investigations as requested by EPA, in order to permit EPA to conduct reviews of whether the Site remedy, including the remedy in the ROD as modified by the ROD Amendment, the SOW and this Consent Decree is protective of human health and the environment. The State may participate in such reviews or conduct its own reviews.

16. EPA Selection of Further Response Actions.

If EPA determines, at any time, that the remedy in the ROD as modified by the ROD Amendment is not protective of human health and the environment, EPA may select, after consultation with the Ohio EPA, further response actions for the Site in accordance with the requirements of CERCLA and the NCP. EPA shall notify the Ohio EPA and the Settling Performing Parties of its determination regarding the effectiveness of the remedy in protecting human health and the environment. To the extent that the Ohio EPA participates in or conducts its own review of the Remedy Modification, the Ohio EPA shall notify the EPA and the Settling Performing Parties of its determination regarding the effectiveness of the remedy in the ROD as modified by the ROD Amendment in protecting human health and the environment.

17. Opportunity To Comment.

Settling Performing Parties and, if required by Sections 113(k)(2) or

117 of CERCLA, the public, will be provided with an opportunity to comment on any further response actions proposed by EPA as a result of the review conducted pursuant to Section 121(c) of CERCLA and to submit written comments for the record during the comment period.

VIII. QUALITY ASSURANCE, SAMPLING, and DATA ANALYSIS

18. Settling Performing Parties shall use quality assurance, quality control, and chain of custody procedures for all [treatability, design, compliance and monitoring] samples in accordance with "EPA Requirements for Quality Assurance Project Plans for Environmental Data Operation," (EPA QA/R5; "Preparing Perfect Project Plans," (EPA /600/9-88/087), and subsequent amendments to such guidelines upon notification by EPA to Settling Performing Parties of such amendment. Amended guidelines shall apply only to procedures conducted after such notification. Prior to the commencement of any monitoring project under this Consent Decree, Settling Performing Parties shall submit for EPA's approval, after consultation with the Ohio EPA, a Quality Assurance Project Plan ("QAPP") that is consistent with the SOW, the NCP and the following guidance documents: Interim Guidelines and Specifications for Preparing Quality Assurance Project Plans, U.S. EPA, Office of Emergency and Remedial Response, QAMS-005/80, December 1980; Guidelines and Specifications for Preparing Quality Assurance Project Plans, U.S. EPA, Office of Emergency and Remedial Response, QAMS-004/80, December 29, 1980; and Engineering Support Branch Standard Operating Procedures and Quality Assurance Manual, U.S. EPA, Region IV, Environmental Services Division, April 1, 1986, as revised. If relevant to the proceeding, the Parties agree that validated sampling data generated in accordance with the QAPP(s) and

reviewed and approved by EPA shall be admissible as evidence, without objection, in any proceeding under this Decree. Settling Performing Parties shall ensure that EPA and Ohio EPA personnel and their authorized representatives are allowed access at reasonable times to all laboratories utilized by Settling Performing Parties in implementing this Consent Decree. In addition, Settling Performing Parties shall ensure that such laboratories shall analyze all samples submitted by EPA and the Ohio EPA pursuant to the QAPP for quality assurance monitoring. Settling Performing Parties shall ensure that the laboratories they utilize for the analysis of samples taken pursuant to this Decree perform all analyses according to accepted EPA methods. Accepted EPA methods consist of those methods which are documented in the "Contract Lab Program Statement of Work for Inorganic Analysis" and the "Contract Lab Program Statement of Work for Organic Analysis," dated February 1988, and any amendments made thereto during the course of the implementation of this Decree. Settling Performing Parties shall ensure that all laboratories they use for analysis of samples taken pursuant to this Consent Decree participate in an EPA or EPA-equivalent QA/QC program. Settling Performing Parties shall ensure that all field methodologies utilized in collecting samples for subsequent analysis pursuant to this Decree will be conducted in accordance with the procedures set forth in the QAPP approved by EPA.

19. Upon request, the Settling Performing Parties shall allow split or duplicate samples to be taken by EPA and the Ohio EPA or their authorized representatives. Settling Performing Parties shall notify EPA and the Ohio EPA not less than 7 days in advance of any sample collection

activity unless shorter notice is agreed to by EPA and the Ohio EPA. In addition, EPA and the Ohio EPA shall have the right to take any additional samples that EPA or the Ohio EPA deem necessary. Upon request, EPA and the Ohio EPA shall allow the Settling Performing Parties to take split or duplicate samples of any samples they take as part of the Plaintiffs' oversight of the Settling Performing Parties' implementation of the Work.

20. Settling Performing Parties shall submit to EPA and the Ohio EPA three copies of the results of all sampling and/or tests or other data obtained or generated by or on behalf of Settling Performing Parties with respect to the Site and/or the implementation of this Consent Decree unless EPA, after consultation with the Ohio EPA, agrees otherwise.

21. Notwithstanding any provision of this Consent Decree, the United States and the State hereby retain all of their information gathering and inspection authorities and rights, including enforcement actions related thereto, under CERCLA, RCRA and any other applicable statutes or regulations.

IX. ACCESS AND INSTITUTIONAL CONTROLS

22. Commencing upon the date of entry of this Consent Decree, Genevieve Waid on behalf of herself, her heirs, executors, assigns and personal representatives, as a Settling Non-Performing Party, permanently and unconditionally consents, agrees and grants to the United States, the State, the Settling Performing Parties (individually and collectively) and their agents and representatives, including EPA and its contractors, Ohio EPA and its contractors, and the Settling Performing Parties and their contractors, unrestricted access and right to use and enter upon

the Site and any other property to which access, entry or use is required for the implementation of this Consent Decree, to the extent access to the property is controlled by the Settling Non-Performing Party identified in this Paragraph, for the purposes of conducting any remedial action or other activity related to, necessary for or required by this Consent Decree including, but not limited to:

- a. Construction, implementation and monitoring of the Work and any related or ancillary facilities, access roads or fences;
- b. Installation, operation and maintenance of a multi-layer landfill cap and leachate collection system;
- c. Installation, operation and maintenance of piping and groundwater extraction wells;
- d. Verifying any data or information submitted to the United States and the State;
- e. Conducting investigations relating to contamination at or near the Site;
- f. Obtaining samples;
- g. Assessing the need for, planning, or implementing additional response actions at or near the Site;
- h. Inspecting and copying records, operating logs, contracts, or other documents maintained or generated by Settling Performing Parties or their agents, consistent with Section XXV; and
- i. Assessing Settling Performing Parties' compliance with this Consent Decree.

23. To the extent that the Site or any other property to which access is required for the implementation of this Consent Decree is owned or

controlled by persons other than Settling Non-Performing Parties and Settling De Minimis Parties, Settling Performing Parties shall use their best efforts to secure from such persons access for Settling Performing Parties, as well as for the United States, the State, and their representatives, including but not limited to, their contractors, as necessary to effectuate this Consent Decree. For purposes of this Paragraph "best efforts" includes the payment of reasonable sums of money in consideration of access, except that Settling Performing Parties shall not be required to pay any money in consideration of access to the United States, the State, or to any potentially responsible party at the Site. If any access required to complete the Work is not obtained within 45 days of the date of entry of this Consent Decree, or within 45 days of the date EPA or the Ohio EPA notifies the Settling Performing Parties in writing that additional access beyond that previously secured is necessary, Settling Performing Parties shall promptly notify the United States and the State in writing, and shall include in that notification a summary of the steps Settling Performing Parties have taken to attempt to obtain access. The United States, or the State, may, as it deems appropriate, assist Settling Performing Parties in obtaining access. Settling Performing Parties shall reimburse the United States, or the State, in accordance with the procedures in Section XVII (Reimbursement of Response Costs), for all costs incurred by the United States or the State in obtaining access.

24. Notwithstanding any provision of this Consent Decree, the United States and the State retain all of their access authorities and rights, including enforcement authorities related thereto, under CERCLA, RCRA and

any other applicable statute or regulations.

25. The Settling Performing Parties, and the Settling Non-Performing Party identified in Paragraph 22, above, agree to implement the institutional controls set forth in the ROD, as modified by the ROD Amendment, to the extent that they have the legal authority to do so, including but not limited to, consenting to the filing of a copy of this Consent Decree, or notice thereof, in the official record of ownership maintained by Ashtabula County, Ohio for the parcels of property subject to the provisions of this Section IX.

X. REPORTING REQUIREMENTS

26. In addition to any other requirement of this Consent Decree, Settling Performing Parties shall submit to EPA and the Ohio EPA each, three copies of written monthly progress reports that: (a) describe the actions which have been taken toward achieving compliance with this Consent Decree during the previous month; (b) include a summary of, and all detailed results, as requested by EPA and the Ohio EPA, of sampling and tests and all other data received or generated by Settling Performing Parties or their contractors or agents in the previous month; (c) identify all work plans, plans and other deliverables required by this Consent Decree completed and submitted during the previous month; (d) describe all actions, including, but not limited to, data collection and implementation of work plans, which are scheduled for the next six weeks and provide other information relating to the progress of construction, including, but not limited to, critical path diagrams, Gantt charts and Pert charts; (e) include information regarding percentage of completion, unresolved delays encountered or anticipated that may affect the future

schedule for implementation of the Work, and a description of efforts made to mitigate those delays or anticipated delays; (f) include any modifications to the work plans or other schedules that Settling Performing Parties have proposed to EPA and the Ohio EPA or that have been approved by EPA; (g) describe all activities undertaken in support of the Community Relations Plan during the previous month and those to be undertaken in the next six weeks; and (h) include any notification requirements set forth in the Statement of Work including, but not limited to, exceedances of Performance Standards. Settling Performing Parties shall submit these progress reports to EPA and the Ohio EPA by the tenth day of every month following the lodging of this Consent Decree until EPA and the Ohio EPA notify the Settling Performing Parties pursuant to Paragraph 46.b of Section XIV (Certification of Completion). If requested by EPA or the Ohio EPA, Settling Performing Parties shall also provide briefings for EPA and the Ohio EPA to discuss the progress of the Work.

27. The Settling Performing Parties shall notify EPA and the Ohio EPA of any change in the schedule described in the monthly progress report for the performance of any activity, including, but not limited to, data collection and implementation of work plans, no later than seven days prior to the performance of the activity.

28. Upon the occurrence of any event during performance of the Work that Settling Performing Parties are required to report pursuant to Section 103 of CERCLA or Section 304 of the Emergency Planning and Community Right-to-Know Act (EPCRA), Settling Performing Parties shall within 24 hours of the onset of such event orally notify the EPA Remedial

Project Manager or the Alternate EPA Project Manager (in the event of the unavailability of the EPA Remedial Project Manager), or, in the event that neither the EPA Remedial Project Manager nor Alternate EPA Remedial Project Manager is available, the Emergency Response Section, Region 5, United States Environmental Protection Agency. These reporting requirements are in addition to the reporting required by CERCLA Section 103 or EPCRA Section 304.

29. Within 10 days of the onset of such an event, Settling Performing Parties shall furnish to EPA and the Ohio EPA a written report, signed by the Settling Performing Parties' Project Coordinator, setting forth the events which occurred and the measures taken, and to be taken, in response thereto. Within 30 days of the conclusion of such an event, Settling Performing Parties shall submit a report setting forth all actions taken in response thereto.

30. Settling Performing Parties shall submit three copies of all plans, reports, and data required by the SOW, the Remedy Modification Work Plan, or any other approved plans to EPA in accordance with the schedules set forth in such plans. Settling Performing Parties shall simultaneously submit three copies of all such plans, reports and data to the Ohio EPA.

31. All reports and other documents submitted by Settling Performing Parties to EPA and the Ohio EPA (other than the monthly progress reports referred to above) which purport to document Settling Performing Parties' compliance with the terms of this Consent Decree shall be signed by an authorized representative of the Settling Performing Parties.

XI. AGENCY APPROVAL OF PLANS AND OTHER SUBMISSIONS

32. After review of any plan, report or other item which is required to be submitted for approval pursuant to this Consent Decree, EPA, after reasonable opportunity for review and comment by the Ohio EPA, or EPA, after consultation with the Ohio EPA, as appropriate, shall: (a) approve, in whole or in part, the submission; (b) approve the submission upon specified conditions; (c) modify the submission to cure the deficiencies; (d) disapprove, in whole or in part, the submission, directing that the Settling Performing Parties modify the submission; or (e) any combination of the above. However, EPA shall not modify a submission without first providing Settling Performing Parties at least one notice of deficiency and an opportunity to cure within 30 days, except where to do so would cause serious disruption to the Work or where previous submission(s) have been disapproved due to material defects and the deficiencies in the submission under consideration indicate a bad faith lack of effort to submit an acceptable deliverable.

33. In the event of approval, approval upon conditions, or modification by EPA, pursuant to Paragraph 32(a), (b), or (c), Settling Performing Parties shall proceed to take any action required by the plan, report, or other item, as approved or modified by EPA subject only to their right to invoke the Dispute Resolution procedures set forth in Section XX (Dispute Resolution) with respect to the modifications or conditions made by EPA. In the event that EPA modifies the submission to cure the deficiencies pursuant to Paragraph 32(c) and the submission has a material defect, EPA and Ohio EPA retain their rights to seek stipulated penalties, as provided in Section XXI (Stipulated Penalties)

against the Settling Performing Parties.

34. a. Upon receipt of a notice of disapproval pursuant to Paragraph 32(d), Settling Performing Parties shall, within 30 days or such longer time as specified by EPA in such notice, correct the deficiencies and resubmit the plan, report, or other item for approval. Any stipulated penalties applicable to the submission, as provided in Section XXI, shall accrue during the 30-day period or otherwise specified period but shall not be payable unless the resubmission is disapproved or modified due to a material defect as provided in Paragraphs 35 and 36.

b. Notwithstanding the receipt of a notice of disapproval pursuant to Paragraph 32(d), Settling Performing Parties shall proceed, at the direction of EPA, to take any action required by any non-deficient portion of the submission. Implementation of any non-deficient portion of a submission shall not relieve Settling Performing Parties of any liability for stipulated penalties under Section XXI (Stipulated Penalties).

35. In the event that a resubmitted plan, report or other item, or portion thereof, is disapproved by EPA, EPA may again require the Settling Performing Parties to correct the deficiencies, in accordance with the preceding Paragraphs. EPA also retains the right to modify or develop the plan, report or other item. Settling Performing Parties shall implement any such plan, report, or item as modified or developed by EPA, subject only to their right to invoke the procedures set forth in Section XX (Dispute Resolution).

36. If upon resubmission, a plan, report, or item is disapproved or modified by EPA due to a material defect, Settling Performing Parties

shall be deemed to have failed to submit such plan, report, or item timely and adequately unless the Settling Performing Parties invoke the dispute resolution procedures set forth in Section XX (Dispute Resolution) and EPA's action is overturned pursuant to that Section. The provisions of Section XX (Dispute Resolution) and Section XXI (Stipulated Penalties) shall govern the implementation of the Work and accrual and payment of any stipulated penalties during Dispute Resolution. If EPA's disapproval or modification is upheld, stipulated penalties shall accrue for such violation from the date on which the initial submission was originally required, as provided in Section XXI.

37. All plans, reports, and other items required to be submitted to EPA under this Consent Decree shall, upon approval or modification by EPA, be enforceable under this Consent Decree. In the event EPA approves or modifies a portion of a plan, report, or other item required to be submitted to EPA under this Consent Decree, the approved or modified portion shall be enforceable under this Consent Decree.

XII. PROJECT COORDINATORS

38. Within 20 days of lodging this Consent Decree, Settling Performing Parties, the Ohio EPA, and EPA will notify each other, in writing, of the name, address and telephone number of their respective designated Project Coordinators and Alternate Project Coordinators. EPA's Project Coordinator and Alternate Project Coordinator shall bear the titles Remedial Project Manager and Alternate Remedial Project Manager, respectively. If a Project Coordinator or Alternate Project Coordinator, or EPA's Remedial Project Manager and Alternate Remedial Project Manager, initially designated is changed, the identity of the

successor will be given to the other Parties at least 5 working days before the changes occur, unless impracticable, but in no event later than the actual day the change is made. The Settling Performing Parties' Project Coordinator shall be subject to disapproval by EPA and shall have the technical expertise sufficient to adequately oversee all aspects of the Work. The Settling Performing Parties' Project Coordinator shall not be an attorney for any of the Settling Performing Parties in this matter. He or she may assign other representatives, including other contractors, to serve as a Site representative for oversight of performance of daily operations during remedial activities.

39. Plaintiffs may designate other representatives, including, but not limited to, EPA employees, Ohio EPA employees, State, and federal contractors and consultants, to observe and monitor the progress of any activity undertaken pursuant to this Consent Decree. EPA's Remedial Project Manager and Alternate Remedial Project Manager shall have the authority lawfully vested in a Remedial Project Manager (RPM) and an On-Scene Coordinator (OSC) by the National Contingency Plan, 40 C.F.R. Part 300. In addition, EPA's Remedial Project Manager or Alternate Remedial Project Manager shall have authority, consistent with the National Contingency Plan, to halt any Work required by this Consent Decree and to take any necessary response action when s/he determines that conditions at the Site constitute an emergency situation or may present an immediate threat to public health or welfare or the environment due to release or threatened release of Waste Material. Nothing in this Section shall limit, expand or otherwise affect the authority of the Ohio EPA 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 in response to conditions which may present an immediate hazard to public health, safety, welfare or the environment. Any disputes between the EPA Remedial Project Manager, on the one hand, and the Ohio EPA Project Coordinator or other State or local officials, on the other hand, shall be resolved in accordance with the provisions of Section XX, below.

40. The EPA Remedial Project Manager, and/or the Ohio EPA Project Coordinator and the Settling Performing Parties' Project Coordinator will meet, at a minimum, on a monthly basis.

XIII. ASSURANCE OF ABILITY TO COMPLETE WORK

41. Within 30 days of the effective date of this Consent Decree, Settling Performing Parties shall establish and maintain financial security in the aggregate amount of \$800,000, exclusive of costs of the contingency measures in the ROD Amendment, in one or more of the following forms:

- a. A surety bond guaranteeing performance of the Work;
- b. One or more irrevocable letters of credit equaling the total estimated cost of the Work;
- c. A trust fund;
- d. A guarantee to perform the Work by one or more parent corporations or subsidiaries, or by one or more unrelated corporations that have a substantial business relationship with at least one of the Settling Performing Parties; or
- e. A demonstration that one or more of the Settling Performing

Parties satisfy the requirements of 40 C.F.R. Part 264.143(f).

42. If the Settling Performing Parties seek to demonstrate the ability to complete the Work through a guarantee by a third party pursuant to Paragraph 41(d) of this Consent Decree, Settling Performing Parties shall demonstrate that the guarantor satisfies the requirements of 40 C.F.R. Part 264.143(f). If Settling Performing Parties seek to demonstrate their ability to complete the Work by means of the financial test or the corporate guarantee pursuant to Paragraph 41(d) or (e), they shall resubmit sworn statements conveying the information required by 40 C.F.R. Part 264.143(f) annually, on the anniversary of the effective date of this Consent Decree. In the event that EPA, after a reasonable opportunity for review and comment by the State, determines at any time that the financial assurances provided pursuant to this Section are inadequate, Settling Performing Parties shall, within 30 days of receipt of notice of EPA's determination, obtain and present to EPA for approval one of the other forms of financial assurance listed in Paragraph 41 of this Consent Decree. Settling Performing Parties' inability to demonstrate financial ability to complete the Work shall not excuse performance of any activities required under this Consent Decree.

43. If Settling Performing Parties can show that the estimated cost to complete the remaining Work has diminished below the amount set forth in Paragraph 41, above, after entry of this Consent Decree, Settling Performing Parties may, on any anniversary date of entry of this Consent Decree, or at any other time agreed to by the Parties, reduce the amount of the financial security provided under this Section to the estimated cost of the remaining work to be performed. Settling Performing Parties

shall submit a proposal for such reduction to EPA and the Ohio EPA, in accordance with the requirements of this Section, and may reduce the amount of the security upon approval by EPA, after consultation with the Ohio EPA. In the event of a dispute, Settling Performing Parties may reduce the amount of the security in accordance with the final administrative or judicial decision resolving the dispute.

44. Settling Performing Parties may change the form of financial assurance provided under this Section at any time, upon notice to EPA and the Ohio EPA, and approval by EPA, after reasonable opportunity for review and comment by the Ohio EPA, provided that the new form of assurance meets the requirements of this Section. In the event of a dispute, Settling Performing Parties may change the form of the financial assurance only in accordance with the final administrative or judicial decision resolving the dispute.

XIV. CERTIFICATION OF COMPLETION

45. Completion of the Remedy

a. Within 90 days after Settling Performing Parties conclude that the remedy in the ROD as modified by the ROD Amendment has been fully performed and the Performance Standards have been attained, Settling Performing Parties shall schedule and conduct a pre-certification inspection to be attended by Settling Performing Parties, EPA, and the Ohio EPA. If, after the pre-certification inspection, the Settling Performing Parties still believe that the remedy in the ROD as modified by the ROD Amendment has been fully performed and the Performance Standards have been attained, they shall submit a written report requesting certification to EPA and the Ohio EPA for approval,

pursuant to Section XI (Agency Approval of Plans and Other Submissions) within 30 days of the inspection. In the report, a registered professional engineer and the Settling Performing Parties' Project Coordinator shall state that the remedy in the ROD as modified by the ROD Amendment has been completed in full satisfaction of the requirements of this Consent Decree. The written report shall include as-built drawings signed and stamped by a professional engineer. The report shall contain the following statement, signed by a responsible corporate official of a Settling Performing Party or the Settling Performing Parties' Project Coordinator:

"To the best of my knowledge, after thorough investigation, I certify that the information contained in or accompanying this submission is true, accurate and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations."

If, after completion of the pre-certification inspection and receipt and review of the written report, EPA determines, after consultation with the Ohio EPA, that the remedy in the ROD as modified by the ROD Amendment or any portion thereof has not been completed in accordance with this Consent Decree or that the Performance Standards have not been achieved, EPA and the Ohio EPA will notify Settling Performing Parties in writing of the activities that must be undertaken by Settling Performing Parties pursuant to this Consent Decree to complete the Remedy Modification and achieve the Performance Standards; provided, however, that EPA may only require Settling Performing Parties to perform such activities pursuant to this Paragraph to the extent that such activities are consistent with the "scope of the remedy selected in the ROD as modified by the ROD Amendment," as that term is defined in Paragraph 12.b. EPA will set

forth in the notice a schedule for performance of such activities consistent with the Consent Decree and the SOW or require the Settling Performing Parties to submit a schedule to EPA for approval pursuant to Section XI (Agency Approval of Plans and Other Submissions). Settling Performing Parties shall perform all activities described in the notice in accordance with the specifications and schedules established pursuant to this Paragraph, subject to their right to invoke the dispute resolution procedures set forth in Section XX (Dispute Resolution).

b. If EPA concludes, based on the initial or any subsequent report requesting Certification of Completion and after consultation with the Ohio EPA, that the Remedy Modification has been performed in accordance with this Consent Decree and that the Performance Standards have been achieved, EPA will so certify in writing to Settling Performing Parties. This certification shall constitute the Certification of Completion of the Remedy Modification for purposes of this Consent Decree, including, but not limited to, Section XXII (Covenants Not to Sue by Plaintiffs). Certification of Completion of the Remedy Modification shall not affect Settling Performing Parties' obligations under this Consent Decree.

46. Completion of the Work

a. Within 90 days after Settling Performing Parties conclude that all phases of the Work (including O & M), have been fully performed, Settling Performing Parties shall schedule and conduct a pre-certification inspection to be attended by Settling Performing Parties, EPA and the Ohio EPA. If, after the pre-certification inspection, the Settling Performing Parties still believe that the Work has been fully

performed, Settling Performing Parties shall submit a written report by a registered professional engineer stating that the Work has been completed in full satisfaction of the requirements of this Consent Decree. The report shall contain the following statement, signed by a responsible corporate official of a Settling Performing Party or the Settling Performing Parties' Project Coordinator:

"To the best of my knowledge, after thorough investigation, I certify that the information contained in or accompanying this submission is true, accurate and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations."

If EPA, after review of the written report and after consultation with the Ohio EPA, determines that any portion of the Work has not been completed in accordance with this Consent Decree, EPA will notify Settling Performing Parties in writing of the activities that must be undertaken by Settling Performing Parties pursuant to this Consent Decree to complete the Work. Provided, however, that EPA may only require Settling Performing Parties to perform such activities pursuant to this Paragraph to the extent that such activities are consistent with the "scope of the remedy selected in the ROD as modified by the ROD Amendment," as that term is defined in Paragraph 12.b. EPA will set forth in the notice a schedule for performance of such activities consistent with the Consent Decree and the SOW or require the Settling Performing Parties to submit a schedule to EPA and the Ohio EPA for approval pursuant to Section XI (Agency Approval of Plans and Other Submissions). Settling Performing Parties shall perform all activities described in the notice in accordance with the specifications and schedules established therein, subject to their right to invoke the

dispute resolution procedures set forth in Section XX (Dispute Resolution).

b. If EPA concludes, based on the initial or any subsequent request for Certification of Completion by Settling Performing Parties and after consultation with the Ohio EPA, that the Work has been performed in accordance with this Consent Decree, EPA will so notify the Settling Performing Parties in writing.

XV. EMERGENCY RESPONSE

47. In the event of any action or occurrence during the performance of the Work which causes or threatens a release of Waste Material from the Site that constitutes an emergency situation or may present an immediate threat to public health or welfare or the environment, Settling Performing Parties shall, subject to Paragraph 48, immediately take all appropriate action to prevent, abate, or minimize such release or threat of release, and shall immediately notify the EPA Remedial Project Manager and Ohio EPA Project Coordinator, or, if the EPA Remedial Project Manager and Ohio EPA Project Coordinator are unavailable, the EPA Alternate Remedial Project Manager and Ohio EPA Alternate Project Coordinator, respectively, as appropriate. If none of these persons is available, the Settling Performing Parties shall notify the EPA [Emergency Response Unit], Region 5, and the Ohio EPA [Emergency Response Unit]. Settling Performing Parties shall take such actions in consultation with EPA's Remedial Project Manager or other available authorized EPA officer and in accordance with all applicable provisions of the Health and Safety Plans, the Contingency Plans, and any other applicable plans or documents developed pursuant to the SOW. In the event that Settling Performing

Parties fail to take appropriate response action as required by this Section, and EPA or, as appropriate, the Ohio EPA, takes such action instead, Settling Performing Parties shall reimburse EPA and the State all costs of the response action not inconsistent with the NCP pursuant to Section XVII (Reimbursement of Response Costs).

48. Nothing in the preceding Paragraph or in this Consent Decree shall be deemed to limit any authority of the United States or the State: a) to take all appropriate action to protect human health and the environment or to prevent, abate, respond to, or minimize an actual or threatened release of Waste Material on, at, or from the Site, or b) to direct or order such action, or seek an order from the Court, to protect human health and the environment or to prevent, abate, respond to, or minimize an actual or threatened release of Waste Material on, at, or from the Site, subject to Section XXII (Covenants Not to Sue by Plaintiffs).

XVI. PAYMENTS BY SETTLING NON-PERFORMING PARTIES AND SETTLING DE MINIMIS PARTIES

49. The Settling Non-Performing Parties and Settling De Minimis Parties have individually paid the Settling Performing Parties as of the date of lodging of this Consent Decree all monies necessary to satisfy their respective claims for contribution arising out of this action. Accordingly, the Settling Non-Performing Parties and Settling De Minimis Parties shall have no further obligations under this Consent Decree except as otherwise specifically set forth in this Consent Decree or the separate Settlement Agreement between the Settling Performing Parties, Settling Non-Performing Parties and Settling De Minimis Parties.

XVII. REIMBURSEMENT OF RESPONSE COSTS

50. Within 30 days of the effective date of this Consent Decree, Settling Performing Parties shall:

a. Pay to the EPA Hazardous Substance Superfund \$16,200,000 plus 90% of all interest accrued in the escrow account in which settlement funds have been deposited by the Settling Performing Parties, in reimbursement of Past Response Costs, by FedWire Electronic Funds Transfer ("EFT" or wire transfer) to the U.S. Department of Justice account in accordance with current electronic funds transfer procedures, referencing U.S.A.O. file number 1992V00298, the EPA Region and Site/Spill ID #05-A8, and DOJ case number #90-11-2-502. Payment shall be made in accordance with instructions provided to the Settling Performing Parties by the Financial Litigation Unit of the United States Attorney's Office for the Northern District of Ohio following lodging of the Consent Decree. Any payments received by the Department of Justice after 4:00 P.M. (Eastern Time) will be credited on the next business day. Settling Performing Parties shall send notice that such payment has been made to the United States as specified in Section XXVII (Notices and Submissions).

b. Pay to the State: (1) \$1,800,000 plus 10% of all interest accrued in the escrow account in which settlement funds have been deposited by Settling Performing Parties; (2) \$373,857.34 in satisfaction of O&M costs incurred by the State from December 1, 1996 through June 30, 1999; and (3) \$37,658.58 in costs incurred by the State for oversight costs from December 1, 1996 through the effective date of this Consent Decree. Further, the Settling Performing Parties shall pay the State

within 60 days of receipt of each Ohio EPA invoice requiring payment, O&M costs incurred by the State from July 1, 1999, through the date that the Settling Performing Parties assume responsibility for performance of O&M at the Site, except that Settling Performing Parties need not pay for any semi-annual sampling event costs or for any other monthly O&M costs exceeding \$23,000 in a month. These payments shall be made in the form of a certified check or checks made payable to Treasurer, State of Ohio, in reimbursement of State Past Response Costs. The Settling Performing Parties shall send the certified check(s) to Jena Suhadolnik, or her successor, Ohio Attorney General Office, Environmental Enforcement Section, 30 East Broad Street, 25th Floor, Columbus, Ohio 43215-3428, and shall reference the New Lyme Site, E1880088.

51. a. Settling Performing Parties shall reimburse the EPA Hazardous Substance Superfund for all Future Response Costs not inconsistent with the National Contingency Plan. The United States will send Settling Performing Parties a bill requiring payment that includes a SCORE\$ summary and DOJ cost summary on an annual basis. Settling Performing Parties shall make all payments within 60 days of Settling Performing Parties' receipt of each bill requiring payment, except as otherwise provided in Paragraph 52. The Settling Performing Parties shall make all payments required by this Paragraph in the form of a certified or cashier's check or checks made payable to "EPA Hazardous Substance Superfund" and referencing the EPA Region and Site/Spill ID #05A8, the DOJ case number 90-11-2-502, and the name and address of the party making payment. The Settling Performing Parties shall send the certified or cashier's check(s) to: U.S. EPA Region 5, Attention:

Superfund Accounting, P.O. Box 70753, Chicago, Illinois 60673, and shall send copies of the check(s) to the United States as specified in Section XXVII (Notices and Submissions).

b. Settling Performing Parties shall reimburse the State for all State Future Response Costs not inconsistent with the National Contingency Plan. The State will send Settling Performing Parties a bill requiring payment that includes a State Cost Summary (including direct and indirect costs incurred by the State and its contractors) on a annual basis. Settling Performing Parties shall make all payments within 60 days of Settling Performing Parties receipt of each bill requiring payment, except as otherwise provided in Paragraph 52. The Settling Performing Parties shall make all payments to the State required by this Paragraph in the manner described in Paragraph 50.b.

52. Settling Performing Parties may contest payment of any Future Response Costs under Paragraph 51 if they determine that the United States, or the State, has made an accounting error, or if they allege that a cost item that is included represents costs that are inconsistent with the NCP. Such objection shall be made in writing within 30 days of receipt of the bill and must be sent to the United States, or the State, as appropriate, pursuant to Section XXVII (Notices and Submissions). Any such objection shall specifically identify the contested Future Response Costs and the basis for objection. In the event of an objection, the Settling Performing Parties shall within the 30-day period pay all uncontested Future Response Costs to the United States, or the State, in the manner described in Paragraph 51. Simultaneously, the Settling Performing Parties shall establish an interest-bearing escrow account in

a federally-insured bank duly chartered in the State of Ohio and remit to that escrow account funds equivalent to the amount of the contested Future Response Costs. The Settling Performing Parties shall send to the United States, or the State, as appropriate, as provided in Section XXVII (Notices and Submissions), a copy of the transmittal letter and check paying the uncontested Future Response Costs, and a copy of the correspondence that establishes and funds the escrow account, including, but not limited to, information containing the identity of the bank and bank account under which the escrow account is established as well as a bank statement showing the initial balance of the escrow account. Simultaneously with establishment of the escrow account, the Settling Performing Parties shall initiate the Dispute Resolution procedures in Section XX (Dispute Resolution). If the United States, or the State, prevails in the dispute, within 5 days of the resolution of the dispute, the Settling Performing Parties shall pay the sums due (with accrued interest) to the United States, or the State, in the manner described in Paragraph 51. If the Settling Performing Parties prevail concerning any aspect of the contested costs, the Settling Performing Parties shall pay that portion of the costs (plus associated accrued interest) for which they did not prevail to the United States, or the State; Settling Performing Parties shall be disbursed any balance of the escrow account. The dispute resolution procedures set forth in this Paragraph in conjunction with the procedures set forth in Section XX (Dispute Resolution) shall be the exclusive mechanisms for resolving disputes regarding the Settling Performing Parties' obligation to reimburse the United States and the State for their Future Response Costs.

53. In the event that the payments required by Paragraph 50 are not made within 30 days of the effective date of this Consent Decree or the payments required by Paragraph 51 are not made within 60 days of the Settling Performing Parties' receipt of the bill, Settling Performing Parties shall pay Interest on the unpaid balance. The Interest to be paid on Past Response Costs and State Past Response Costs under this Paragraph shall begin to accrue 30 days after the effective date of this Consent Decree. The Interest on Future Response Costs and State Future Response Costs shall begin to accrue on the date of the bill. The Interest shall accrue through the date of the Settling Performing Parties' payment. Payments of Interest made under this Paragraph shall be in addition to such other remedies or sanctions available to Plaintiffs by virtue of Settling Performing Parties' failure to make timely payments under this Section. The Settling Performing Parties shall make all payments required by this Paragraph in the manner described in Paragraph 50.

XVIII. INDEMNIFICATION AND INSURANCE

54. a. The United States and the State do not assume any liability by entering into this agreement or by virtue of any designation of Settling Performing Parties as EPA's authorized representatives under Section 104(e) of CERCLA. Settling Performing Parties shall indemnify, save and hold harmless the United States, the State and their officials, agents, employees, contractors, subcontractors, or representatives for or from any and all claims or causes of action arising from, or on account of, negligent or other wrongful acts or omissions of Settling Performing Parties, their officers, directors, employees, agents,

contractors, subcontractors, and any persons acting on their behalf or under their control, in carrying out activities pursuant to this Consent Decree, including, but not limited to, any claims arising from any designation of Settling Performing Parties as EPA's authorized representatives under Section 104(e) of CERCLA. Further, the Settling Performing Parties agree to pay the United States and the State all costs they incur including, but not limited to, attorneys fees and other expenses of litigation and settlement arising from, or on account of, claims made against the United States or the State based on negligent or other wrongful acts or omissions of Settling Performing Parties, their officers, directors, employees, agents, contractors, subcontractors, and any persons acting on their behalf or under their control, in carrying out activities pursuant to this Consent Decree. Neither the United States nor the State shall be held out as a party to any contract entered into by or on behalf of Settling Performing Parties in carrying out activities pursuant to this Consent Decree. Neither the Settling Performing Parties nor any such contractor shall be considered an agent of the United States or the State.

b. The United States and the State shall give Settling Performing Parties notice of any claim for which the United States or the State plans to seek indemnification pursuant to Paragraph 54.a., and shall consult with Settling Performing Parties prior to settling such claim.

55. Settling Performing Parties waive all claims against the United States and the State for damages or reimbursement or for set-off of any payments made or to be made to the United States or the State, arising

from or on account of any contract, agreement, or arrangement between any one or more of Settling Performing Parties and any person for performance of Work on or relating to the Site, including, but not limited to, claims on account of construction delays. In addition, Settling Performing Parties shall indemnify and hold harmless the United States and the State with respect to any and all claims for damages or reimbursement arising from or on account of any contract, agreement, or arrangement between any one or more of Settling Performing Parties and any person for performance of Work on or relating to the Site, including, but not limited to, claims on account of construction delays.

56. No later than 15 days before commencing any on-Site Work, Settling Performing Parties shall secure, and shall maintain until the first anniversary of EPA's Certification of Completion of the Remedy Modification pursuant to Paragraph 45.b. of Section XIV (Certification of Completion) comprehensive general liability insurance with limits of \$1 million, combined single limit, and automobile liability insurance with limits of \$1 million, combined single limit, naming the United States and the State as additional insureds. In addition, for the duration of this Consent Decree, Settling Performing Parties shall satisfy, or shall ensure that their contractors or subcontractors satisfy, all applicable laws and regulations regarding the provision of worker's compensation insurance for all persons performing the Work on behalf of Settling Performing Parties in furtherance of this Consent Decree. Prior to commencement of the Work under this Consent Decree, Settling Performing Parties shall provide to EPA and the Ohio EPA certificates of such insurance and a copy of each insurance policy.

Settling Performing Parties shall resubmit such certificates and copies of policies each year on the anniversary of the effective date of this Consent Decree. If Settling Performing Parties demonstrate by evidence satisfactory to EPA and the Ohio EPA that any contractor or subcontractor maintains insurance equivalent to that described above, or insurance covering the same risks but in a lesser amount, then, with respect to that contractor or subcontractor, Settling Performing Parties need provide only that portion of the insurance described above which is not maintained by the contractor or subcontractor.

XIX. FORCE MAJEURE

57. "Force Majeure," for purposes of this Consent Decree, is defined as any event arising from causes beyond the control of the Settling Performing Parties, of any entity controlled by Settling Performing Parties, or of Settling Performing Parties' contractors, that delays or prevents the performance of any obligation under this Consent Decree despite Settling Performing Parties' best efforts to fulfill the obligation. The requirement that the Settling Performing Parties exercise "best efforts to fulfill the obligation" includes using best efforts to anticipate any potential Force Majeure event and best efforts to address the effects of any potential Force Majeure event (1) as it is occurring and (2) following the potential Force Majeure event, such that the delay is minimized to the greatest extent possible. "Force Majeure" does not include financial inability to complete the Work or a failure to attain the Performance Standards.

58. If any event occurs or has occurred that may delay the performance of any obligation under this Consent Decree, whether or not

caused by a Force Majeure event, the Settling Performing Parties shall notify orally EPA's Remedial Project Manager and Ohio EPA's Project Coordinator or, in their absence, EPA's Alternate Remedial Project Manager and Ohio EPA's Alternate Project Coordinator as appropriate or, in the event all of EPA's designated representatives are unavailable, the Director of the Superfund Division, EPA Region 5, within 7 days of when Settling Performing Parties first knew that the event might cause a delay. Within 7 days thereafter, Settling Performing Parties shall provide in writing to EPA and the Ohio EPA an explanation and description of the reasons for the delay; the anticipated duration of the delay; all actions taken or to be taken to prevent or minimize the delay; a schedule for implementation of any measures to be taken to prevent or mitigate the delay or the effect of the delay; the Settling Performing Parties' rationale for attributing such delay to a Force Majeure event if they intend to assert such a claim; and a statement as to whether, in the opinion of the Settling Performing Parties, such event may cause or contribute to an endangerment to public health, welfare or the environment. The Settling Performing Parties shall include with any notice all available documentation supporting their claim that the delay was attributable to a Force Majeure. Failure to comply with the above requirements shall preclude Settling Performing Parties from asserting any claim of Force Majeure for that event for the period of time of such failure to comply, and for any additional delay caused by such failure. Settling Performing Parties shall be deemed to know of any circumstance of which Settling Performing Parties, any entity controlled by Settling Performing Parties, or Settling Performing Parties' contractors knew or

should have known.

59. If EPA, after consultation with the Ohio EPA, agrees that the delay or anticipated delay is attributable to a Force Majeure event, the time for performance of the obligations under this Consent Decree that are affected by the Force Majeure event will be extended by EPA, after consultation with the Ohio EPA, for such time as is necessary to complete those obligations. An extension of the time for performance of the obligations affected by the Force Majeure event shall not, of itself, extend the time for performance of any other obligation. If EPA, after consultation with the Ohio EPA, does not agree that the delay or anticipated delay has been or will be caused by a Force Majeure event, EPA will notify the Settling Performing Parties in writing of its decision. If EPA, after consultation with the Ohio EPA, agrees that the delay is attributable to a Force Majeure event, EPA will notify the Settling Performing Parties in writing of the length of the extension, if any, for performance of the obligations affected by the Force Majeure event.

60. If the Settling Performing Parties elect to invoke the dispute resolution procedures set forth in Section XX (Dispute Resolution), they shall do so no later than 15 days after receipt of EPA's notice. In any such proceeding, Settling Performing Parties shall have the burden of demonstrating by a preponderance of the evidence that the delay or anticipated delay has been or will be caused by a Force Majeure event, that the duration of the delay or the extension sought was or will be warranted under the circumstances, that best efforts were exercised to avoid and mitigate the effects of the delay, and that Settling Performing

Parties complied with the requirements of Paragraphs 57 and 58, above. If Settling Performing Parties carry this burden, the delay at issue shall be deemed not to be a violation by Settling Performing Parties of the affected obligation of this Consent Decree identified to EPA, the Ohio EPA and the Court.

XX. DISPUTE RESOLUTION

61. a. Unless otherwise expressly provided for in this Consent Decree, the dispute resolution procedures of this Section shall be the exclusive mechanism to resolve disputes arising under or with respect to this Consent Decree. However, the procedures set forth in this Section shall not apply to actions by the United States or the State to enforce obligations of the Settling Performing Parties that have not been disputed in accordance with this Section.

b. The dispute resolution provisions of this Section shall also apply to disputes between EPA and the State for review of disputes over compliance with the terms of this Consent Decree. State disputes over whether an ARAR should be waived by EPA under the Consent Decree and pursuant to CERCLA Section 121(d)(4), 42 U.S.C. § 9621(d)(4), however, shall be subject to a substantial evidence test under CERCLA Section 121(f)(2)(B), 42 U.S.C. § 9621(f)(2)(B). For purposes of Paragraphs 62 through 65, the State shall have the same rights, obligations and limitations as prescribed for the Settling Performing Parties in those Paragraphs. Except as provided in Paragraph 52, any Party may participate in a dispute under this Section.

62. Any dispute which arises under or with respect to this Consent Decree shall in the first instance be the subject of informal

negotiations between the Parties to the dispute. The period for informal negotiations shall not exceed 20 days from the time the dispute arises, unless it is modified by written agreement of the Parties to the dispute. The dispute shall be considered to have arisen when any Party(ies) [the Disputing Party(ies)] sends the other Parties a written Notice of Dispute.

63. a. In the event that the Parties cannot resolve a dispute by informal negotiations under the preceding Paragraphs, then the position advanced by EPA shall be considered binding unless, within 14 days after the conclusion of the informal negotiation period, the Disputing Party(ies) invokes the formal dispute resolution procedures of this Section by serving on the other Parties a written Statement of Position on the matter in dispute, including, but not limited to, any factual data, analysis or opinion supporting that position and any supporting documentation relied upon by the Disputing Party(ies). The Statement of Position shall specify the Disputing Party(ies)'s position as to whether formal dispute resolution should proceed under Paragraph 64 or Paragraph 65.

b. Within 14 days after receipt of the Disputing Party(ies)'s Statement of Position, EPA will serve on the Disputing Party(ies) its Statement of Position, including, but not limited to, any factual data, analysis, or opinion supporting that position and all supporting documentation relied upon by EPA. EPA's Statement of Position shall include a statement as to whether formal dispute resolution should proceed under Paragraph 64 or 65. Within 14 days after receipt of EPA's Statement of Position, the Disputing Party(ies) may submit a Reply.

c. If there is disagreement between EPA and any other Party as to whether dispute resolution should proceed under Paragraph 64 or 65, the Parties to the dispute shall follow the procedures set forth in the Paragraph determined by EPA to be applicable. However, if the Disputing Party(ies) ultimately appeals to the Court to resolve the dispute, the Court shall determine which Paragraph is applicable in accordance with the standards of applicability set forth in Paragraphs 64 and 65.

64. Formal dispute resolution for disputes pertaining to the selection or adequacy of any response action and all other disputes that are accorded review on the administrative record under applicable principles of administrative law shall be conducted pursuant to the procedures set forth in this Paragraph. For purposes of this Paragraph, the adequacy of any response action includes, without limitation: (1) the adequacy or appropriateness of plans, procedures to implement plans, or any other items requiring approval by EPA under this Consent Decree; and (2) the adequacy of the performance of response actions taken pursuant to this Consent Decree. Nothing in this Consent Decree shall be construed to allow any dispute by Settling Performing Parties regarding the validity of the provisions of the ROD as modified by the ROD Amendment.

a. An administrative record of the dispute shall be maintained by EPA and shall contain all statements of position, including supporting documentation, submitted pursuant to this Section. Where appropriate, EPA may allow submission of supplemental statements of position by the Parties to the dispute. The administrative record shall be available for inspection and copying.

b. The Director of the Superfund Division, EPA Region 5, will issue a final administrative decision resolving the dispute based on the administrative record described in Paragraph 64.a. This decision shall be binding upon the Parties, subject only to the right to seek judicial review pursuant to Paragraph 64.c. and d.

c. Any administrative decision made by EPA pursuant to Paragraph 64.b. shall be reviewable by this Court, provided that a motion for judicial review of the decision is filed by the Disputing Party(ies) with the Court and served on all Parties within 10 days of receipt of EPA's decision. The motion shall include a description of the matter in dispute, the efforts made by the Parties to resolve it, the relief requested, and the schedule, if any, within which the dispute must be resolved to ensure orderly implementation of this Consent Decree. The United States and the other Parties may file a response to the Disputing Party(ies)'s motion.

d. In proceedings on any dispute governed by this Paragraph, the Disputing Party(ies) shall have the burden of demonstrating that the decision of the Superfund Division Director is arbitrary and capricious or otherwise not in accordance with law. Judicial review of EPA's decision shall be on the administrative record compiled pursuant to Paragraph 64.a.

65. Formal dispute resolution for disputes that neither pertain to the selection or adequacy of any response action nor are otherwise accorded review on the administrative record under applicable principles of administrative law, shall be governed by this Paragraph.

a. Following receipt of the Disputing Party(ies)'s Statement

of Position submitted pursuant to Paragraph 63, the Director of the Superfund Division, EPA Region 5, will issue a final decision resolving the dispute. The Superfund Division Director's decision shall be binding on the Disputing Party(ies) unless, within 10 days of receipt of the decision, the Disputing Party(ies) file with the Court and serve on the Parties a motion for judicial review of the decision setting forth the matter in dispute, the efforts made by the Parties to resolve it, the relief requested, and the schedule, if any, within which the dispute must be resolved to ensure orderly implementation of the Consent Decree. The United States and the other Parties may file a response to the motion.

b. Notwithstanding Paragraph P of Section I (Background) of this Consent Decree, judicial review of any dispute governed by this Paragraph shall be governed by applicable principles of law.

66. The invocation of formal dispute resolution procedures under this Section shall not extend, postpone or affect in any way any obligation of the Settling Performing Parties under this Consent Decree, not directly in dispute, unless EPA or the Court agrees otherwise. Stipulated penalties with respect to the disputed matter shall continue to accrue, but payment shall be stayed pending resolution of the dispute as provided in Paragraph 74. Notwithstanding the stay of payment, stipulated penalties shall accrue from the first day of noncompliance with any applicable provision of this Consent Decree. In the event that the Settling Performing Parties do not prevail on the disputed issue, stipulated penalties shall be assessed and paid as provided in Section XXI (Stipulated Penalties). To the extent that any obligation of the Settling Performing Parties is delayed directly by the pendency of a

dispute between the State and EPA, stipulated penalties shall not accrue.

XXI. STIPULATED PENALTIES

67. Settling Performing Parties shall be liable for stipulated penalties in the amounts set forth in Paragraphs 68 and 69 to the United States and the State, on a 50:50 basis, for failure to comply with the requirements of this Consent Decree specified below, unless excused under Section XIX (Force Majeure). "Compliance" by Settling Performing Parties shall include completion of the activities under this Consent Decree or any work plan or other plan approved under this Consent Decree identified below in accordance with all applicable requirements of law, this Consent Decree, the SOW, and any plans or other documents approved by EPA pursuant to this Consent Decree and within the specified time schedules established by and approved under this Consent Decree.

68. a. The following stipulated penalties shall accrue per violation per day for any noncompliance identified in Subparagraph b:

<u>Penalty Per Violation Per Day</u>	<u>Period of Noncompliance</u>
\$500	1 to 7 days
\$750	8 to 30 days
\$1500	31 to 60 days
\$2250	over 60 days

b. Compliance milestones subject to stipulated penalties shall include, but not be limited to:

- i. Submittal of draft Work Plan and related plans.
- ii. Submittal of final Work Plans and related plans.
- iii. Quarterly sampling and monitoring in accordance with the approved Work Plan.
- iv. Semi-annual sampling and monitoring in accordance with the approved Work Plan.
- v. Annual sampling and monitoring of residential wells in accordance with approved Work Plan.
- vi. Re-evaluation of monitoring program and submittal of recommendations to EPA and Ohio EPA.

- vii. Implementation of the revised monitoring program, as approved.
- viii. Implementation of the generic contingency plan, as approved.
- ix. Implementation of specific contingency plan, as approved.

69. The following stipulated penalties shall accrue per violation per day for failure to submit timely or adequate reports or other written documents pursuant to the approved Work Plan and related plans:

<u>Penalty Per Violation Per Day</u>	<u>Period of Noncompliance</u>
\$250	1 to 7 days
\$375	8 to 30 days
\$750	31 to 60 days
\$1225	over 60 days

70. All penalties shall begin to accrue on the day after the complete performance is due or the day a violation occurs, and shall continue to accrue through the final day of the correction of the noncompliance or completion of the activity. However, stipulated penalties shall not accrue: (1) with respect to a deficient submission under Section XI (Agency Approval of Plans and Other Submissions), during the period, if any, beginning on the 31st day after EPA's and the Ohio EPA's receipt of such submission until the date that EPA notifies Settling Performing Parties of any deficiency; (2) with respect to a decision by the Director of the Superfund Division, EPA Region 5, under Paragraph 64.b. or 65.a. of Section XX (Dispute Resolution), during the period, if any, beginning on the 21st day after the date that Settling Performing Parties' reply to EPA's Statement of Position is received until the date that the Director issues a final decision regarding such dispute; or (3) with respect to judicial review by this Court of any dispute under Section XX (Dispute Resolution), during the period, if any, beginning on the 31st

day after the Court's receipt of the final submission regarding the dispute until the date that the Court issues a final decision regarding such dispute. Nothing herein shall prevent the simultaneous accrual of separate penalties for separate violations of this Consent Decree.

71. a. If either EPA or the State believes that the Settling Performing Parties have failed to comply with a requirement of this Consent Decree, EPA and the State shall consult about whether there has been noncompliance and whether to issue notification and description of noncompliance.

b. Upon determination of whether there has been noncompliance and whether to notify the Settling Performing Parties of noncompliance, and consistent with Plaintiffs' determination of these issues, EPA and the State may send the Settling Performing Parties a written demand, as provided in Section 121(e)(2), 42 U.S.C. § 9621(e)(2), for the payment of the penalties. However, penalties shall accrue as provided in the preceding Paragraph regardless of whether EPA and the State have notified the Settling Performing Parties of a violation.

72. All penalties accruing under this Section shall be due and payable to the United States and the State within 60 days of the Settling Performing Parties' receipt of a demand for payment of the penalties, unless Settling Performing Parties invoke the Dispute Resolution procedures under Section XX (Dispute Resolution). All payments to the United States under this Section shall be paid by certified or cashier's check(s) made payable to "EPA Hazardous Substances Superfund," shall be mailed to U.S. Environmental Protection Agency, Superfund Accounting, P.O. Box 70753, Chicago, Illinois 60673, shall indicate that the payment

is for stipulated penalties, and shall reference the EPA Region and Site/Spill ID #05A8, the DOJ Case Number 90-11-2-502, and the name and address of the party making payment. Copies of check(s) paid pursuant to this Section, and any accompanying transmittal letter(s), shall be sent to the United States as provided in Section XXVII (Notices and Submissions). All payments to the State under this Section shall be paid by certified or cashier's check(s) made payable to Treasurer, State of Ohio, shall be mailed to Jena Suhadolnik, or her successor, Ohio Attorney General Office, Environmental Enforcement Section, 30 East Broad Street, 25th Floor, Columbus, Ohio 43215-3428, and shall reference the New Lyme Site, E1880088, and the name of the party making payment. Copies of check(s) paid pursuant to this Section, and any accompanying transmittal letter(s), shall be sent to the State as provided in Section XXVII (Notices and Submissions).

73. The payment of penalties shall not alter in any way Settling Performing Parties' obligation to complete the performance of the Work required under this Consent Decree.

74. Penalties shall continue to accrue as provided in Paragraph 70 during any dispute resolution period, but need not be paid until the following:

a. If the dispute is resolved by agreement or by a decision of EPA and the Ohio EPA that is not appealed to this Court, accrued penalties determined to be owing shall be paid to EPA and the State within 15 days of the agreement or the receipt of EPA's decision or order;

b. If the dispute is appealed to this Court and the United

States and the State prevail in whole or in part, Settling Performing Parties shall pay all accrued penalties determined by the Court to be owed to EPA and the State within 60 days of receipt of the Court's decision or order, except as provided in Subparagraph c below;

c. If the District Court's decision is appealed by any Party, Settling Performing Parties shall pay all accrued penalties determined by the District Court to be owing to the United States and the State into an interest-bearing escrow account within 60 days of receipt of the Court's decision or order. Penalties shall be paid into this account as they continue to accrue, at least every 60 days. Within 15 days of receipt of the final appellate court decision, the escrow agent shall pay the balance of the account to EPA and the State or to Settling Performing Parties to the extent that they prevail.

75. a. If Settling Performing Parties fail to pay stipulated penalties when due, the United States and the State may institute proceedings to collect the penalties, as well as interest. Settling Performing Parties shall pay Interest on the unpaid balance, which shall begin to accrue on the date of demand made pursuant to Paragraph 71.

b. Nothing in this Consent Decree shall be construed as prohibiting, altering, or in any way limiting the ability of the United States or the State to seek any other remedies or sanctions available by virtue of Settling Performing Parties' violation of this Decree or of the statutes and regulations upon which it is based, including, but not limited to, penalties pursuant to Section 122(1) of CERCLA. Provided, however, that the United States shall not seek civil penalties pursuant to Section 122(1) of CERCLA for any violation for which a stipulated

penalty is provided herein, except in the case of a willful violation of the Consent Decree.

76. Notwithstanding any other provision of this Section, the United States and the State may, in their unreviewable discretion, waive any portion of stipulated penalties that have accrued pursuant to this Consent Decree.

XXII. COVENANTS NOT TO SUE BY PLAINTIFFS

77. In consideration of the actions that will be performed and the payments that will be made by the Settling Performing Parties and Settling Non-Performing Parties under the terms of the Consent Decree, and except as specifically provided in Paragraphs 79, 80, 81, 86 and 87 of this Section, the United States covenants not to sue or to take administrative action against Settling Performing Parties and Settling Non-Performing Parties pursuant to Sections 106 and 107(a) of CERCLA, and Section 7003 of RCRA, relating to the Site. Except with respect to future liability, these covenants not to sue shall take effect upon the receipt by EPA of the payments required by Paragraph 50 of Section XVII (Reimbursement of Response Costs). With respect to future liability, these covenants not to sue shall take effect upon Certification of Completion of Remedy Modification by EPA pursuant to Paragraph 45.b of Section XIV (Certification of Completion). These covenants not to sue are conditioned upon the satisfactory performance by Settling Performing Parties and Settling Non-Performing Parties of their obligations under this Consent Decree. These covenants not to sue extend only to the Settling Performing Parties and Settling Non-Performing Parties and do not extend to any other person.

78. In consideration of the actions that will be performed and the payments that will be made by the Settling Performing Parties and Settling Non-Performing Parties under the terms of the Consent Decree, and except as specifically provided in Paragraphs 82, 83, 84, 86 and 87 of this Section, the State of Ohio covenants not to sue or to take administrative action against Settling Performing Parties and Settling Non-Performing Parties relating to the Site pursuant to Section 107(a) of CERCLA, Section 7003 of RCRA, hazardous waste laws contained in O.R.C. Chapter 3734 and rules adopted thereunder, and water pollution control laws contained in O.R.C. Chapter 6111 relating to the Site. Except with respect to future liability, these covenants not to sue shall take effect upon the receipt by the State of the payments required by Paragraph 50.b. of Section XVII (Reimbursement of Response Costs). With respect to future liability, these covenants not to sue shall take effect upon Certification of Completion of Remedy Modification by EPA pursuant to Paragraph 45.b of Section XIV (Certification of Completion). These covenants not to sue are conditioned upon the satisfactory performance by Settling Performing Parties and Settling Non-Performing Parties of their obligations under this Consent Decree. These covenants not to sue extend only to the Settling Performing Parties and Settling Non-Performing Parties and do not extend to any other person.

79. The United States' Pre-certification Reservations.

Notwithstanding any other provision of this Consent Decree, the United States reserves, and this Consent Decree is without prejudice to, the right to institute proceedings in this action or in a new action, or to issue an administrative order seeking to compel Settling Performing

Parties and Settling Non-Performing Parties (1) to perform further response actions relating to the Site or (2) to reimburse the United States for additional costs of response if, prior to Certification of Completion of the Remedy Modification:

(i) conditions at the Site, previously unknown to EPA, are discovered, or

(ii) information, previously unknown to EPA, is received, in whole or in part,

and these previously unknown conditions or information together with any other relevant information indicates that the Remedy Modification is not protective of human health or the environment.

80. The United States' Post-certification Reservations.

Notwithstanding any other provision of this Consent Decree, the United States reserves, and this Consent Decree is without prejudice to, the right to institute proceedings in this action or in a new action, or to issue an administrative order seeking to compel Settling Performing Parties and Settling Non-Performing Parties (1) to perform further response actions relating to the Site or (2) to reimburse the United States for additional costs of response if, subsequent to Certification of Completion of the Remedy Modification:

(i) conditions at the Site, previously unknown to EPA, are discovered, or

(ii) information, previously unknown to EPA, is received, in whole or in part,

and these previously unknown conditions or this information together with other relevant information indicate that the Remedy Modification is not

protective of human health or the environment.

81. For purposes of Paragraph 79, the information and the conditions known to EPA shall include only that information and those conditions known to EPA as of the date the ROD Amendment was signed and set forth in ROD, the administrative record supporting the ROD, the ROD Amendment, and the post-ROD administrative record for the Site. For purposes of Paragraph 80, the information and the conditions known to EPA shall include only that information and those conditions known to EPA as of the date of Certification of Completion of the Remedy Modification and set forth in the ROD; the administrative record supporting the ROD, the ROD Amendment, the post-ROD administrative record, or in any information received by EPA pursuant to the requirements of this Consent Decree prior to Certification of Completion of the Remedy Modification.

82. The State's Pre-certification Reservations.

Notwithstanding any other provision of this Consent Decree, the State reserves, and this Consent Decree is without prejudice to, any right it may have, jointly with or separate from the United States, to institute administrative action or proceedings in this action or in a new action pursuant to the State's authorities under applicable law, seeking to compel Settling Performing Parties and Settling Non-Performing Parties (1) to perform further response actions relating to the Site or (2) to reimburse the State for additional costs of response if, prior to Certification of Completion of the Remedy Modification:

- (i) conditions at the Site, previously unknown to the State, are discovered, or
- (ii) information, previously unknown to the State, is received,

in whole or in part,
and the State determines that these previously unknown conditions or information, together with any other relevant information indicates that the Remedy Modification is not protective of human health or the environment.

83. The State's Post-certification Reservations.

Notwithstanding any other provision of this Consent Decree, the State reserves, and this Consent Decree is without prejudice to, any right it may have, jointly with, or separately from the United States, to institute administrative action or proceedings in this action or in a new action pursuant to the State's authorities under applicable law, seeking to compel Settling Performing Parties and Settling Non-Performing Parties (1) to perform further response actions relating to the Site or (2) to reimburse the State for additional costs of response if, subsequent to Certification of Completion of the Remedy Modification:

(i) conditions at the Site, previously unknown to the State, are discovered, or

(ii) information, previously unknown to the State, is received,
in whole or in part,

and the State determines, based on these previously unknown conditions or this information, together with other relevant information, that the Remedy Modification is not protective of human health or the environment.

84. For purposes of Paragraph 82, the information and the conditions known to the State shall include only that information and those conditions known to the State as of the date of the ROD Amendment and set forth in the ROD, the administrative record supporting the ROD, the ROD

Amendment and the post-ROD administrative record for the Site. For purposes of Paragraph 83, the information and the conditions known to the State shall include only that information and those conditions set forth in the ROD, the administrative record supporting the ROD, the ROD. Amendment, the post-ROD administrative record for the Site, or in any information received by the State pursuant to the requirements of this Consent Decree prior to Certification of Completion of the Remedy Modification

85. a. In consideration of the payments to be made by the Settling De Minimis Parties under the terms of this Consent Decree, and except as specifically provided in Paragraph 88 of this Section, the United States covenants not to sue or take administrative action against the Settling De Minimis Parties pursuant to Sections 106 and 107(a) of CERCLA and Section 7003 of RCRA relating to the Site.

b. In consideration of the payments to be made by the Settling De Minimis Parties under the terms of this Consent Decree, and except as specifically provided in Paragraph 88 of this Section, the State of Ohio covenants not to sue or take administrative action against the Settling De Minimis Parties pursuant to Section 107(a) of CERCLA, Section 7003 of RCRA, hazardous waste laws contained in O.R.C. Chapter 3734 and rules adopted thereunder, and water pollution control laws contained in O.R.C. Chapter 6111 relating to the Site.

c. The covenants not to sue under this Paragraph shall take effect upon the effective date of this Consent Decree pursuant to Paragraph 108 of Section XXVIII. These covenants not to sue are conditioned upon (a) compliance by each Settling De Minimis Party with

all of its obligations under this Consent Decree, and (b) the veracity of information provided to EPA by each Settling De Minimis Party relating to that Settling De Minimis Party's involvement with the Site. These covenants not to sue extend only to the Settling De Minimis Parties and do not extend to any other person.

86. General Reservations of Rights as to Settling Performing Parties.

The covenants not to sue set forth above do not pertain to any matters other than those expressly specified in Paragraphs 77 and 78. The United States and the State reserve, and this Consent Decree is without prejudice to, all rights against Settling Performing Parties with respect to all other matters, including but not limited to, the following:

- (1) claims based on a failure by Settling Performing Parties to meet a requirement of this Consent Decree;
- (2) liability arising from the past, present, or future disposal, release, or threat of release of Waste Materials outside of the Site;
- (3) liability for future disposal of Waste Material at the Site, other than as provided in the ROD Amendment, the Work, or otherwise ordered by EPA;
- (4) liability for damages for injury to, destruction of, or loss of natural resources, and for the costs of any natural resource damage assessments;
- (5) criminal liability;
- (6) liability for violations of federal or state law which occur during or after implementation of the Remedy Modification; and
- (7) liability, prior to Certification of Completion of the

Remedy Modification, for additional response actions that EPA determines are necessary to achieve Performance Standards, but that cannot be required pursuant to Paragraph 12 (Changes to the SOW or Related Work Plans).

87. General Reservations of Rights as to Settling Non-Performing Parties.

The covenants not to sue set forth above do not pertain to any matters other than those expressly specified in Paragraphs 77 and 78. The United States and the State reserve, and this Consent Decree is without prejudice to, all rights against Settling Non-Performing Parties with respect to all other matters, including but not limited to, the following:

- (1) claims based on a failure by any Settling Non-Performing Party to make its payment under this Consent Decree;
- (2) liability arising from the past, present, or future disposal, release, or threat of release of Waste Materials outside of the Site;
- (3) liability for future disposal of Waste Material at the Site, other than as provided for in the ROD Amendment, the Work, or otherwise ordered by EPA;
- (4) liability for damages for injury to, destruction of, or loss of natural resources, and for the costs of any natural resource damage assessments;
- (5) criminal liability;
- (6) liability for violations of federal or state law that occur during or after implementation of the Remedy Modification. For

purposes of this subparagraph Settling Non-Performing Parties' liability, if any, shall not include liability for violation of federal or state law which occurs in connection with implementation of the Remedy Modification.

88. General Reservation of Rights as to Settling De Minimis Parties.

a. The covenants not to sue set forth above do not pertain to any matters other than those expressly specified in Paragraph 85. The United States and the State reserve, and this Consent Decree is without prejudice to, all rights against Settling De Minimis Parties with respect to all other matters, including but not limited to, the following:

(1) claims based on a failure by any Settling De Minimis Party to make its payment under this Consent Decree;

(2) liability arising from the past, present, or future disposal, release, or threat of release of Waste Materials outside of the Site. For purposes of this subparagraph, liability for Waste Materials outside of the Site does not include Waste Materials originating from the Site that previously migrated from the Site, or migrates from the Site in the future, by natural means;

(3) liability for damages for injury to, destruction of, or loss of natural resources, and for the costs of any natural resource damage assessments;

(4) criminal liability;

(5) liability for violations of federal or state law that occur during or after implementation of the Remedy Modification. For purposes of this subparagraph Settling De Minimis Parties' liability, if

any, shall not include liability for violation of federal or state law which occurs in connection with implementation of the Remedy Modification.

b. Notwithstanding any other provision in this Consent Decree, the United States reserves, and this Consent Decree is without prejudice to, the right to institute proceedings against any individual Settling De Minimis Party in this action or in a new action or to issue an administrative order to any individual Settling De Minimis Party seeking to compel that Settling De Minimis Party to perform response actions relating to the Site, and/or to reimburse the United States for costs of response, if information is discovered which indicates that such Settling De Minimis Party contributed hazardous substances to the Site in such greater amount or of such greater toxic or other hazardous effects that such Settling De Minimis Party no longer qualifies as a de minimis party at the Site.

89. Work Takeover In the event EPA determines, in consultation with the State, that Settling Performing Parties have ceased implementation of any portion of the Work, are seriously or repeatedly deficient or late in their performance of the Work, or are implementing the Work in a manner which may cause an endangerment to human health or the environment, EPA or the Ohio EPA may assume the performance of all or any portions of the Work as EPA, in consultation with the Ohio EPA, determines necessary. Settling Performing Parties may invoke the procedures set forth in Section XX (Dispute Resolution), Paragraph 64, to dispute EPA's determination that takeover of the Work is warranted under this Paragraph. Costs incurred by the United States or the State

in performing the Work pursuant to this Paragraph shall be considered Future Response Costs or State Future Response Costs, as appropriate, that Settling Performing Parties shall pay pursuant to Section XVII (Reimbursement of Response Costs).

90. Notwithstanding any other provision of this Consent Decree, the United States and the State retain all authority and reserves all rights to take any and all response actions authorized by law.

XXIII. COVENANTS BY SETTLING PERFORMING PARTIES, SETTLING NON-PERFORMING PARTIES AND SETTLING DE MINIMIS PARTIES

91. Covenant Not to Sue. Subject to the reservations in Paragraph 92, Settling Performing Parties, Settling Non-Performing Parties and Settling De Minimis Parties hereby covenant not to sue and agree not to assert any claims or causes of action against the United States and the State with respect to the Site, or this Consent Decree, including, but not limited to:

a. any direct or indirect claim for reimbursement from the Hazardous Substance Superfund (established pursuant to the Internal Revenue Code, 26 U.S.C. § 9507) through CERCLA Sections 106(b)(2), 107, 111, 112, 113 or any other provision of law;

b. any claims against the United States and the State, including any department, agency or instrumentality of the United States under CERCLA Sections 107 or 113 related to the Site, or

c. any claims arising out of response activities at the Site, including claims based on EPA's selection of response actions, EPA's and the Ohio EPA's oversight of response activities or EPA's and the Ohio EPA's approval of plans for such activities.

92. The Settling Performing Parties, Settling Non-Performing Parties

and Settling De Minimis Parties reserve, and this Consent Decree is without prejudice to, claims against the United States, subject to the provisions of Chapter 171 of Title 28 of the United States Code, for money damages for injury or loss of property or personal injury or death caused by the negligent or wrongful act or omission of any employee of the United States while acting within the scope of his office or employment under circumstances where the United States, if a private person, would be liable to the claimant in accordance with the law of the place where the act or omission occurred. However, any such claim shall not include a claim for any damages caused, in whole or in part, by the act or omission of any person, including any contractor, who is not a federal employee as that term is defined in 28 U.S.C. § 2671; nor shall any such claim include a claim based on EPA's selection of response actions, or the oversight or approval of the Settling Performing Parties' plans or activities. The foregoing applies only to claims which are brought pursuant to any statute other than CERCLA and for which the waiver of sovereign immunity is found in a statute other than CERCLA.

93. Nothing in this Consent Decree shall be deemed to constitute preauthorization of a claim within the meaning of Section 111 of CERCLA, 42 U.S.C. § 9611, or 40 C.F.R. § 300.700(d).

94. Effective ninety (90) days after entry of this Consent Decree by the Court, Settling Performing Parties, Settling Non-Performing Parties and Settling De Minimis Parties agree to waive all claims or causes of action that they may have for all matters relating to the Site, including for contribution, against the following:

- a. persons identified in Appendix H, unless one or more

Settling Performing Parties shall have filed a complaint within 90 days after the entry of this Consent Decree asserting such claims or causes of action against persons identified in Appendix H; and

b. any person, except those identified in Appendix H, (i) whose liability to Settling Performing Parties, Settling Non-Performing Parties and Settling De Minimis Parties with respect to the Site is based solely on CERCLA § 107(a)(3) or (4), (ii) who arranged for the disposal, treatment, or transport for disposal or treatment, or accepted for transport for disposal or treatment, of only Municipal Solid Waste or Sewage Sludge owned by such person, and (iii) who is a Small Business, a Small Non-profit Organization, or the Owner, Operator, or Lessee of Residential Property; or

c. any person, except those identified in Appendix H, (i) whose liability to Settling Performing Parties, Settling Non-Performing Parties and Settling De Minimis Parties with respect to the Site is based solely on CERCLA § 107(a)(3) or (4), and (ii) who arranged for the disposal, treatment, or transport for disposal or treatment, or accepted for transport for disposal or treatment, of 55 gallons or less of liquid materials containing hazardous substances, or 100 pounds or less of solid materials containing hazardous substances, except where EPA has determined that such material contributed or could contribute significantly to the costs of response at the Site.

95. Settling Performing Parties, Settling Non-Performing Parties and Settling De Minimis Parties hereby covenant not to sue and agree not to assert any direct or indirect claims against each other or against their officers, directors, employees, or agents with respect to Matters

Addressed in this Consent Decree except as necessary to enforce the terms of any agreements by or between them relating to Matters Addressed in this Consent Decree. In addition, as provided in the agreement(s) between them, Settling Non-Performing Parties and Settling De Minimis Parties hereby assign to Settling Performing Parties all rights of contribution and other non-contractual rights in relation to Matters Addressed in this Consent Decree.

XXIV. EFFECT OF SETTLEMENT; CONTRIBUTION PROTECTION

96. Nothing in this Consent Decree shall be construed to create any rights in, or grant any cause of action to, any person not a Party to this Consent Decree. The preceding sentence shall not be construed to waive or nullify any rights that any person not a signatory to this decree may have under applicable law. Each of the Parties expressly reserves any and all rights (including, but not limited to, any right to contribution), defenses, claims, demands, and causes of action which each Party may have with respect to any matter, transaction, or occurrence relating in any way to the Site against any person not a Party hereto.

97. The Parties agree, and by entering this Consent Decree this Court finds, that the Settling Performing Parties, Settling Non-Performing Parties and Settling De Minimis Parties are entitled, as of the effective date of this Consent Decree, to protection from contribution actions or claims as provided by CERCLA Section 113(f)(2), 42 U.S.C. § 9613(f)(2) for Matters Addressed in this Consent Decree.

98. The Settling Performing Parties, Settling Non-Performing Parties and Settling De Minimis Parties agree that with respect to any suit or claim for contribution brought by them for matters related to this

Consent Decree they will notify the United States and the State in writing no later than 60 days prior to the initiation of such suit or claim.

99. The Settling Performing Parties, Settling Non-Performing Parties and Settling De Minimis Parties also agree that with respect to any suit or claim for contribution brought against them for matters related to this Consent Decree they will notify in writing the United States and the State within 10 days of service of the complaint on them. In addition, Settling Performing Parties, Settling Non-Performing Parties and Settling De Minimis Parties shall notify the United States and the State within 10 days of service or receipt of any Motion for Summary Judgment and within 10 days of receipt of any order from a court setting a case for trial.

100. In any subsequent administrative or judicial proceeding initiated by the United States or the State for injunctive relief, recovery of response costs, or other appropriate relief relating to the Site, Settling Performing Parties, Settling Non-Performing Parties and Settling De Minimis Parties shall not assert, and may not maintain, any defense or claim based upon the principles of waiver, res judicata, collateral estoppel, issue preclusion, claim-splitting, or other defenses based upon any contention that the claims raised by the United States or the State in the subsequent proceeding were or should have been brought in the instant case; provided, however, that nothing in this Paragraph affects the enforceability of the covenants not to sue set forth in Section XXII (Covenants Not to Sue by Plaintiffs).

XXV. ACCESS TO INFORMATION

101. Settling Performing Parties shall provide to EPA and the State, upon request, copies of all documents and information within their possession or control or that of their contractors or agents relating to activities at the Site or to the implementation of this Consent Decree, including, but not limited to, sampling, analysis, chain of custody records, manifests, trucking logs, receipts, reports, sample traffic routing, correspondence, or other documents or information related to the Work. Settling Performing Parties shall also make available to EPA and the State, for purposes of investigation, information gathering, or testimony, their employees, agents, or representatives with knowledge of relevant facts concerning the performance of the Work.

102. a. Settling Performing Parties may assert business confidentiality claims covering part or all of the documents or information submitted to Plaintiffs under this Consent Decree to the extent permitted by and in accordance with Section 104(e)(7) of CERCLA, 42 U.S.C. § 9604(e)(7), and 40 C.F.R. § 2.203(b) or applicable State law. Documents or information determined to be confidential by EPA will be afforded the protection specified in 40 C.F.R. Part 2, Subpart B. Documents or information determined to be confidential by Ohio EPA will be afforded the protection specified in applicable State law. If no claim of confidentiality accompanies documents or information when they are submitted to EPA and the State, or if EPA has notified Settling Performing Parties that the documents or information are not confidential under the standards of Section 104(e)(7) of CERCLA, the public may be given access to such documents or information without further notice to

Settling Performing Parties.

b. The Settling Performing Parties may assert that certain documents, records and other information are privileged under the attorney-client privilege or any other privilege recognized by federal law. If the Settling Performing Parties assert such a privilege in lieu of providing documents, they shall provide the Plaintiffs with the following: (1) the title of the document, record, or information; (2) the date of the document, record, or information; (3) the name and title of the author of the document, record, or information; (4) the name and title of each addressee and recipient; (5) a description of the contents of the document, record, or information; and (6) the privilege asserted by Settling Performing Parties. However, no documents, reports or other information created or generated pursuant to the requirements of the Consent Decree shall be withheld on the grounds that they are privileged.

103. No claim of confidentiality shall be made with respect to any data, including, but not limited to, all sampling, analytical, monitoring, hydrogeologic, scientific, chemical, or engineering data, or any other documents or information evidencing conditions at or around the Site.

XXVI. RETENTION OF RECORDS

104. Until 10 years after the Settling Performing Parties' receipt of EPA's notification pursuant to Paragraph 46.b of Section XIV (Certification of Completion of the Work), each Settling Performing Party shall: a) preserve and retain all records and documents now in its possession or control or which come into its possession or control that relate in any manner to the performance of the Work or liability of any

person for response actions conducted and to be conducted at the Site, regardless of any corporate retention policy to the contrary; and b) at Settling Performing Parties' expense, preserve and retain all records and documents that have been submitted or may in the future be submitted to the Document Repository established by prior Order of this Court. Until 10 years after the Settling Performing Parties' receipt of EPA's notification pursuant to Paragraph 46.b of Section XIV (Certification of Completion), Settling Performing Parties shall also instruct their contractors and agents to preserve all documents, records, and information of whatever kind, nature or description relating to the performance of the Work.

105. At the conclusion of this document retention period, Settling Performing Parties shall notify the United States and the State at least 90 days prior to the destruction of any such records or documents, and, upon request by the United States or the State, Settling Performing Parties shall deliver any such records or documents to EPA or the Ohio EPA. The Settling Performing Parties may assert that certain documents, records and other information are privileged under the attorney-client privilege or any other privilege recognized by federal law. If the Settling Performing Parties assert such a privilege, they shall provide the Plaintiffs with the following: (1) the title of the document, record, or information; (2) the date of the document, record, or information; (3) the name and title of the author of the document, record, or information; (4) the name and title of each addressee and recipient; (5) a description of the subject of the document, record, or information; and (6) the privilege asserted by Settling Performing

Parties. However, no documents, reports or other information created or generated pursuant to the requirements of the Consent Decree shall be withheld on the grounds that they are privileged.

106. Each Settling Performing Party, Settling Non-Performing Party and Settling De Minimis Party hereby certifies individually that, to the best of its knowledge and belief, after thorough inquiry; it has produced to the Document Repository all records, documents or other information requested by the United States or the State relating to its potential liability regarding the Site since notification of potential liability by the United States or the State or the filing of suit against it regarding the Site and that it has fully complied with any and all EPA requests for information pursuant to Section 104(e) and 122(e) of CERCLA, 42 U.S.C. 9604(e) and 9622(e), and Section 3007 of RCRA, 42 U.S.C. 6927, and with the Ohio EPA requests for information.

XXVII. NOTICES AND SUBMISSIONS

107. Whenever, under the terms of this Consent Decree, written notice is required to be given or a report or other document is required to be sent by one Party to another, it shall be directed to the individuals at the addresses specified below, unless those individuals or their successors give notice of a change to the other Parties in writing. All notices and submissions shall be considered effective upon receipt, unless otherwise provided. Written notice as specified herein shall constitute complete satisfaction of any written notice requirement of the Consent Decree with respect to the United States, EPA, the State, the Ohio EPA and the Settling Performing Parties, respectively.

As to the United States:

Chief, Environmental Enforcement Section
Environment and Natural Resources Division
U.S. Department of Justice
P.O. Box 7611
Ben Franklin Station
Washington, D.C. 20044
Re: DJ # 90-11-2-502

As to EPA:

Director, Superfund Division
United States Environmental Protection Agency
Region 5
77 West Jackson Boulevard
Chicago, Illinois 60604-3590

and

Lolita Hill
EPA's Remedial Project Manager
United States Environmental Protection Agency
Region 5
77 West Jackson Boulevard
Chicago, Illinois 60604-3590

As to the State of Ohio:

Chief, Environmental Enforcement Section
Ohio Attorney General Office
30 East Broad Street, 25th Floor
Columbus, Ohio 43215-3428
Re: E1880088

As to the Ohio EPA:

Bart Ray, or his successor
Ohio EPA's Project Coordinator
Division of Emergency and Remedial Response
Ohio Environmental protection Agency
Northeast District Office
2110 East Aurora Road
Twinsburg, Ohio 44087-1969

As to the Settling Performing Parties:

Tim Roeper
Eckenfelder, Inc.
1200 MacArthur Blvd.
Mahwah, New Jersey 07430
(201) 818-6055 (phone)

(201) 818-6057 (fax)

and

Ralph E. Cascarilla, Esq.
Walter & Haverfield, P.L.L.
1300 Terminal Tower
50 Public Square
Cleveland, Ohio 44113-2253
(216) 781-1212 (phone)
(216) 575-0911 (fax)

and

Jerome C. Muys, Jr., Esq.
Swidler Berlin Shereff & Friedman, LLP
3000 K Street, N.W., Suite 300
Washington, D.C. 20007
(202) 424-7547 (direct)
(202) 424-7643 (fax)

XXVIII. EFFECTIVE DATE

108. The effective date of this Consent Decree shall be the date upon which this Consent Decree is entered by the Court, except as otherwise provided herein.

XXIX. RETENTION OF JURISDICTION

109. This Court retains jurisdiction over both the subject matter of this Consent Decree and the Settling Performing Parties, Settling Non-Performing Parties and Settling De Minimis Parties for the duration of the performance of the terms and provisions of this Consent Decree for the purpose of enabling any of the Parties to apply to the Court at any time for such further order, direction, and relief as may be necessary or appropriate for the construction or modification of this Consent Decree, or to effectuate or enforce compliance with its terms, or to resolve disputes in accordance with Section XX (Dispute Resolution) hereof.

XXX. APPENDICES

110. The following Appendices are attached to and incorporated into this Consent Decree:

"Appendix A" is the ROD.

"Appendix B" is the ROD Amendment.

"Appendix C" is the SOW.

"Appendix D" is the description and/or map of the Site.

"Appendix E" is the complete list of the Settling Performing Parties.

"Appendix F" is the complete list of the Settling Non-Performing Parties.

"Appendix G" is the complete list of the Settling De Minimis Parties.

"Appendix H" is the complete list of entities referenced in Paragraph 94.

XXXI. COMMUNITY RELATIONS

111. Settling Performing Parties shall propose to EPA and the Ohio EPA their participation in the community relations plan to be developed by EPA. EPA, in consultation with the Ohio EPA, will determine the appropriate role for the Settling Performing Parties under the Plan. Settling Performing Parties shall also cooperate with EPA and the Ohio EPA in providing information regarding the Work to the public. As requested by EPA or the Ohio EPA, Settling Performing Parties shall participate in the preparation of such information for dissemination to the public and in public meetings which may be held or sponsored by EPA or the Ohio EPA to explain activities at or relating to the Site.

XXXII. MODIFICATION

112. Schedules specified in this Consent Decree for completion of the

Work may be modified by agreement of EPA and the Settling Performing Parties, after opportunity for review and comment by the State. All such modifications shall be made in writing.

113. Except as provided in Paragraph 12 ("Changes to the SOW or Related Work Plans"), no material modifications shall be made to the SOW without written notification to and written approval of the United States, Settling Performing Parties, and the Court. Prior to providing its approval to any modification, the United States will provide the State with a reasonable opportunity to review and comment on the proposed modification. Modifications to the SOW that do not materially alter that document may be made by written agreement between EPA, after providing the State with a reasonable opportunity to review and comment on the proposed modification, and the Settling Performing Parties.

114. Nothing in this Decree shall be deemed to alter the Court's power to enforce, supervise or approve modifications to this Consent Decree.

XXXIII. LODGING AND OPPORTUNITY FOR PUBLIC COMMENT

115. This Consent Decree shall be lodged with the Court for a period of not less than thirty (30) days for public notice and comment in accordance with Section 122(d)(2) of CERCLA, 42 U.S.C. § 9622(d)(2), and 28 C.F.R. § 50.7. The United States and the State each reserves the right to withdraw or withhold its consent if the comments regarding the Consent Decree disclose facts or considerations which indicate that the Consent Decree is inappropriate, improper, or inadequate. Settling Performing Parties, Settling Non-Performing Parties and Settling De Minimis Parties consent to the entry of this Consent Decree without

further notice.

116. If for any reason the Court should decline to approve this Consent Decree in the form presented, this agreement is voidable at the sole discretion of any Party and the terms of the agreement may not be used as evidence in any litigation between the Parties.

XXXIV. SIGNATORIES/SERVICE

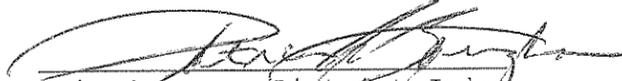
117. Each undersigned representative of a Settling Performing Party, Settling Non-Performing Party and Settling De Minimis Party to this Consent Decree, the Attorney General of the State of Ohio, and the Assistant Attorney General for Environment and Natural Resources of the Department of Justice certifies that he or she is fully authorized to enter into the terms and conditions of this Consent Decree and to execute and legally bind such Party to this document.

118. Each Settling Performing Party, Settling Non-Performing Party and Settling De Minimis Party hereby agrees not to oppose entry of this Consent Decree by this Court or to challenge any provision of this Consent Decree unless the United States has notified the Settling Performing Parties, Settling Non-Performing Party and Settling De Minimis Party in writing that it no longer supports entry of the Consent Decree.

119. Each Settling Performing Party, Settling Non-Performing Party and Settling De Minimis Party shall identify, on the attached signature page, the name, address and telephone number of an agent who is authorized to accept service of process by mail on behalf of that Party with respect to all matters arising under or relating to this Consent Decree. Settling Performing Parties, Settling Non-Performing Parties and Settling De Minimis Parties hereby agree to accept service in that manner

and to waive the formal service requirements set forth in Rule 4 of the Federal Rules of Civil Procedure and any applicable local rules of this Court, including, but not limited to, service of a summons.

SO ORDERED THIS 9th DAY OF November, 2000.


United States District Judge

THE UNDERSIGNED PARTIES enter into this Consent Decree in the matter of United States v. Lord Corporation et al. v. Amcast Industrial Corp., Civ. No. 4:89 CV 2001 (N.D. Ohio) and State of Ohio v. Aardvark Associates, Inc., et al. v. Amcast Industrial Corp., Civ. No. 1:92 CV 0227 (N.D. Ohio) relating to the New Lyme Landfill Superfund Site.

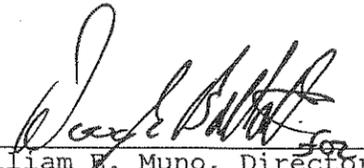
Date: 7/25/00
FOR THE UNITED STATES OF AMERICA:
[Signature]
Lois J. Schiffer
Assistant Attorney General
Environment and Natural Resources
Division

Date: 08/15/00
[Signature]
Francis J. Bicos
Esperanza Anderson
Trial Attorneys
Environmental Enforcement Section
Environment and Natural Resources
Division
U.S. Department of Justice
Washington, D.C. 20530

Date: _____
[Signature]
Steven J. Paffilas
Assistant United States Attorney
Northern District of Ohio
U.S. Department of Justice
1800 Bank One Center
600 Superior Avenue East
Cleveland, Ohio 44114

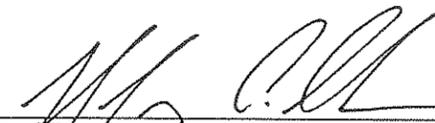
FOR THE UNITED STATES ENVIRONMENTAL
PROTECTION AGENCY:

Date: 8/8/00



William E. Muno, Director
Superfund Division
Region 5
U.S. Environmental Protection
Agency
77 West Jackson Boulevard
Chicago, Illinois 60604-3590

Date: 8/3/2000



Jeffrey A. Cahn
Associate Regional Counsel
U.S. Environmental Protection
Agency
Region 5
77 West Jackson Boulevard
Chicago, Illinois 60604-3590

FOR THE STATE OF OHIO:

BETTY D. MONTGOMERY
Attorney General of Ohio

Date: August 1, 2000

Timothy J. Kern
Timothy J. Kern
Assistant Attorney General
Environmental Enforcement Section
30 East Broad Street
25th Floor
Columbus, Ohio 43215-3428

OHIO ENVIRONMENTAL PROTECTION
AGENCY:

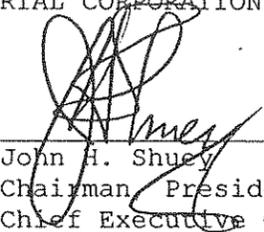
Date: August 1, 2000

Cynthia G. Hafner
Cynthia Hafner
Chief, Division of Emergency and
Remedial Response
122 South Front Street
Columbus, Ohio 43216-1049

THE UNDERSIGNED PARTY enters into this Consent Decree in the matter of United States v. Lord Corporation et al. v. Amcast Industrial Corp., Civ. No. 4:89 CV 2001 (N.D. Ohio) and State of Ohio v. Aardvark Associates, Inc., et al. v. Amcast Industrial Corp., Civ. No. 1:92 CV 0227 (N.D. Ohio) relating to the New Lyme Landfill Superfund Site.

FOR: AMCAST INDUSTRIAL CORPORATION

Date: 6/12/00



John H. Shuey
Chairman, President and
Chief Executive Officer

7887 Washington Village Drive
Dayton, OH 45459

Agent Authorized to Accept Service of Behalf of the Above-signed Party:

CT Corporation
441 Vine Street
Cincinnati, OH 45202

THE UNDERSIGNED PARTY enters into this Consent Decree in the matter of United States v. Lord Corporation et al. v. Amcast Industrial Corp., Civ. No. 4:89 CV 2001 (N.D. Ohio) and State of Ohio v. Aardvark Associates, Inc., et al. v. Amcast Industrial Corp., Civ. No. 1:92 CV 0227 (N.D. Ohio) relating to the New Lyme Landfill Superfund Site.

FOR: General Electric COMPANY, INC.:

Date: June 9, 2000

Ronald N. Cotman 
[Name -- Please Type]
General Manager,
Lighting Environmental Health & Safety
[Title -- Please Type]
GE Lighting
1975 Noble Road, Cleveland, OH 44112
[Address -- Please Type]

Agent Authorized to Accept Service on Behalf of Above-signed Party:

Name: [Please Type] Joseph L. Schohn
Title: Counsel - Environmental Affairs
Address: GE Lighting, 1975 Noble Road, Cleveland, OH 44112
Tel. Number: (216) 266-3026

THE UNDERSIGNED PARTY enters into this Consent Decree in the matter of United States v. Lord Corporation et al. v. Amcast Industrial Corp., Civ. No. 4:89 CV 2001 (N.D. Ohio) and State of Ohio v. Aardvark Associates, Inc., et al. v. Amcast Industrial Corp., Civ. No. 1:92 CV 0227 (N.D. Ohio) relating to the New Lyme Landfill Superfund Site.

FOR LORD CORPORATION

Date: June 6, 2000

James W. Wright
(Signature)

James W. Wright
(Name - Please Type)

Vice President, Legal Affairs & Secretary
(Title - Please Type)

111 Lord Drive
(Address - Please Type)

P.O. Box 8012

Cary, NC 27512-8012

Agent Authorized to Accept Service on Behalf of Above-signed Party:

Name: Christopher J. I. Gannon
(Please type)

Title: Senior Staff Attorney

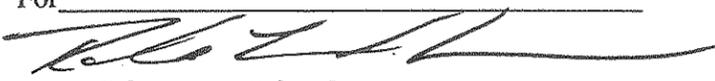
Address: 111 Lord Drive

Cary, NC 27512-8012

Tel. Number: 919-468-5979, Ext. 6203

THE UNDERSIGNED PARTY enters into this Consent Decree in the matter of United States v. Lord Corporation, et al. v. Amcast Industrial Corp., Civ. No. 4:89 CV 2001 (N.D. Ohio) and State of Ohio v. Aardvark Associates, Inc., et al. v. Amcast Industrial Corp., Civ. No. 1:92 CV 0227 (N.D. Ohio) relating to the New Lyme Landfill Superfund Site.

MERITOR AUTOMOTIVE, INC.

For 

Robert L. Schroder

(Name - Please Type)

Assistant General Counsel

(Title - Please Type)

2135 West Maple Road
Troy, Michigan 48084

(Address - Please Type)

Date: June 23, 2000

Agent Authorized to Accept Service on Behalf of Above-signed party:

Name: Jerome C. Muys, Jr., Esquire

Title: Swidler Berlin Shereff Friedman, LLP

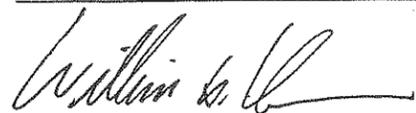
Address: 3000 K Street, N.W., Suite 300, Washington, DC 20007-5116

Telephone No.: (202) 424-7547

THE UNDERSIGNED PARTY enters into this Consent Decree in the matter of United States v. Lord Corporation et al. v. Amcast Industrial Corp., Civ. No. 4:89 CV 2001 (N.D. Ohio) and State of Ohio v. Aardvark Associates, Inc., et al. v. Amcast Industrial Corp., Civ. No. 1:92 CV 0227 (N.D. Ohio) relating to the New Lyme Landfill Superfund Site.

FOR Molded Fiber Glass Companies

Date: June 23, 2000



(Signature)

William H. Kane

(Name - Please Type)

VP/Treasurer/CFO

(Title - Please Type)

2925 MFG Place, PO Box 675

(Address - Please Type)

Ashtabula, OH 44005-0675

Agent Authorized to Accept Service on Behalf of Above-signed Party:

Name: William H. Kane
(Please type)

Title: VP/Treasurer/CFO

Address: 2925 MFG Place, PO Box 675
Ashtabula, OH 44005-0675

Tel. Number: (440)994-5201

THE UNDERSIGNED PARTY enters into this Consent Decree in the matter of United States v. Lord Corporation et al. v. Amcast Industrial Corp., Civ. No. 4:89 CV 2001 (N.D. Ohio) and State of Ohio v. Aardvark Associates, Inc., et al. v. Amcast Industrial Corp., Civ. No. 1:92 CV 0227 (N.D. Ohio) relating to the New Lyme Landfill Superfund Site.



FOR MPDC, INC. ^{SUCCESSOR TO MONOGRAM} ~~COMPANY, INC.~~ _{INDUSTRIES, IN}

Date: 6/12/00

KEVIN W. DONNELLY
[Name -- Please Type]

SECRETARY
[Title -- Please Type]

C/O NORTEK, INC.
[Address -- Please Type]
50 KENNEDY PLAZA
PROVIDENCE, RI 02903

Agent Authorized to Accept Service on Behalf of Above-signed Party:

Name: ~~[Please Type]~~ CORPORATION SERVICE COMPANY
Title: _____
Address: 1013 CENTRE ROAD, WILMINGTON, DE 19805
Tel. Number: 302-636-5401

THE UNDERSIGNED PARTY enters into this Consent Decree in the matter of United States v. Lord Corporation et al. v. Amcast Industrial Corp., Civ. No. 4:89 CV 2001 (N.D. Ohio) and State of Ohio v. Aardvark Associates, Inc., et al. v. Amcast Industrial Corp., Civ. No. 1:92 CV 0227 (N.D. Ohio) relating to the New Lyme Landfill Superfund Site.



FOR PPG Industries ~~XXXXXXXX~~ INC.:

Date: June 23, 2000

Barry J. McGee
[Name -- Please Type]
Vice President
Glass Tech/Mfg Svcs
[Title -- Please Type]
One PPG Place
Pittsburgh, PA 15272
[Address -- Please Type]

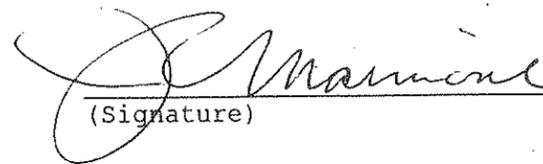
Agent Authorized to Accept Service on Behalf of Above-signed Party:

Name: [Please Type]
Title: _____
Address: _____
Tel. Number: _____

THE UNDERSIGNED PARTY enters into this Consent Decree in the matter of United States v. Lord Corporation et al. v. Amcast Industrial Corp., Civ. No. 4:89 CV 2001 (N.D. Ohio) and State of Ohio v. Aardvark Associates, Inc., et al. v. Amcast Industrial Corp., Civ. No. 1:92 CV 0227 (N.D. Ohio) relating to the New Lyme Landfill Superfund Site.

FOR Premix, Inc.

Date: June 5, 2000


(Signature)

John Maimone
(Name - Please Type)

CEO
(Title - Please Type)

P.O. Box 281
(Address - Please Type)

North Kingsville

Ohio 44068-0281

Agent Authorized to Accept Service on Behalf of Above-signed Party:

Name: _____
(Please type)

Title: _____

Address: _____

Tel. Number: _____

THE UNDERSIGNED PARTY enters into this Consent Decree in the matter of United States v. Lord Corporation et al. v. Amcast Industrial Corp., Civ. No. 4:89 CV 2001 (N.D. Ohio) and State of Ohio v. Aardvark Associates, Inc., et al. v. Amcast Industrial Corp., Civ. No. 1:92 CV 0227 (N.D. Ohio) relating to the New Lyme Landfill Superfund Site.

FOR Reliance Electric COMPANY, INC.:

Date: June 8, 2000

John R. Stocker

[Name -- Please Type]

[Signature] V.P. - Law

[Title -- Please Type]

2201 Seal Beach Blvd., Seal Beach, CA 90740

[Address -- Please Type]

Agent Authorized to Accept Service on Behalf of Above-signed Party:

Name: [Please Type] Gary W. Ballesteros

Title: Assistant General Counsel

Address: 777 E. Wisconsin Avenue, Milwaukee, WI 53202

Tel. Number: (414) 212-5280

THE UNDERSIGNED PARTY enters into this Consent Decree in the matter of United States v. Lord Corporation et al. v. Amcast Industrial Corp., Civ. No 4:89 CV 2001 (N.D. Ohio) and State of Ohio v. Aardvark Associates, Inc., et al. v. Amcast Industrial Corp., Civ. No. 1:92 CV 0227 (N.D. Ohio) relating to the New Lyme Landfill Superfund Site.

FOR WASTE MANAGEMENT OF OHIO, INC.:

Date: June 30, 2000


Signature

Name: James C. Forney

Title: Director-Closed Sites

Address: Waste Management

19200 W. Eight Mile Road

Southfield, MI 48075

Phone: 248/386-4227

Agent Authorized to Accept Service on Behalf of Above-signed Party:

Name: Katie Moertl

Title: Attorney

Address: Quarles & Brady

411 E. Wisconsin Avenue

Milwaukee, WI 53202-4497

Tel. Number: 414/277-5527

THE UNDERSIGNED PARTY enters into this Consent Decree in the matter of United States v. Lord Corporation et al. v. Amcast Industrial Corp., Civ. No 4:89 CV 2001 (N.D. Ohio) and State of Ohio v. Aardvark Associates, inc., et al. v. Amcast Industrial Corp., Civ. No. 1:92 CV 0227 (N.D. Ohio) relating to the New Lyme Landfill Superfund Site.

FOR WASTE MANAGEMENT OF PENNSYLVANIA, INC.:

Date: June 30, 2000


Signature

Name: James C. Forney

Title: Director-Closed Sites

Address: Waste Management

19200 W. Eight Mile Road

Southfield, MI 48075

Phone: 248/386-4227

Agent Authorized to Accept Service on Behalf of Above-signed Party:

Name: Katie Moertl

Title: Attorney

Address: Quarles & Brady

411 E. Wisconsin Avenue

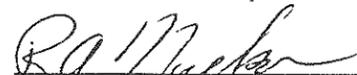
Milwaukee, WI 53202-4497

Tel. Number: 414/277-5527

THE UNDERSIGNED PARTY enters into this Consent Decree in the
matter of United States v. Lord Corporation, et al. v. Amcast
Industrial Corp., Civ. No. 4:89 CV 2001 (N.D. Ohio) and State of
Ohio v. Aardvark Associates, Inc., et al. v. Amcast Industrial Corp.,
Civ. No. 1:92 CV 0227 (N.D. Ohio) relating to the New Lyme Landfill
Superfund Site.

FOR: Aardvark Associates, Inc.
(Settling Non-Performing Party)

Date: August 1, 2000



(Signature)

R. A. Nielson

(Name - Please Type)

President

(Title - Please Type)

26924 Highway 77

(Address - Please Type)

Guys Mills, PA 16327

Agent Authorized to Accept Service on Behalf of Above-signed
Party:

Name: Michael A. Cyphert
Title: Attorney
Address: Thompson Hine & Flory LLP
3900 Key Center Center
127 Public Square
Cleveland, Ohio 44114-1216
Tel. Number: (216) 566-5500

THE UNDERSIGNED PARTY enters into this Consent Decree in the matter of United States v. Lord Corporation et al. v. Amcast Industrial Corp., Civ. No. 4:89 CV 2001 (N.D. Ohio) and State of Ohio v. Aardvark Associates, Inc., et al. v. Amcast Industrial Corp., Civ. No. 1:92 CV 0227 (N.D. Ohio) relating to the New Lyme Landfill Superfund Site.

Air Products and Chemicals, Inc., and its formerly wholly-owned subsidiary, Exomet, Incorporated
FOR COMPANY, INC.:

Date: June 9, 2000

W. Douglas Brown
[Name -- Please Type] W. Douglas Brown

Vice President, General Counsel & Secretary
[Title -- Please Type]
7201 Hamilton Boulevard
Allentown, PA 18195
[Address -- Please Type]

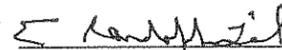
Agent Authorized to Accept Service on Behalf of Above-signed Party:

Stephen S. Ferrara
Name: [Please Type]
Title: Attorney
Address: 7201 Hamilton Boulevard
Tel. Number: Allentown, PA 18195

THE UNDERSIGNED PARTY enters into this Consent Decree in the matter of
United States v. Lord Corporation et al. v. Amcast Industrial Corp., Civ. No. 4:89 CV
2001 (N. D. Ohio) and State of Ohio v. Aardvark Associates, Inc., et al. v. Amcast
Industrial Corp., Civ. No. 1:92 CV 0227 (N. D. Ohio) relating to the New Lyme Landfill
Superfund Site.

FOR: Carlisle-Allen Company, Carlisle Retailers, Inc., Peebles Inc.

Date: June 6, 2000



E. Randolph Lail

Senior VP – Finance, CFO, Sec. & Treas.

Peebles Inc.
One Peebles Street
South Hill, VA 23970

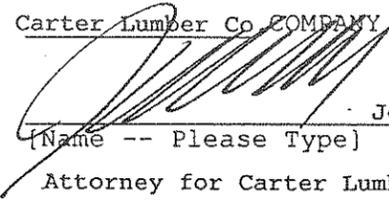
Agent Authorized to Accept Service on Behalf of Above-Signed Party:

E. Randolph Lail
Senior VP- Finance, CFO, Sec. & Treas.
Peebles Inc.
One Peebles Street
South Hill, VA 23970
804-447-5218

THE UNDERSIGNED PARTY enters into this Consent Decree in the matter of United States v. Lord Corporation et al. v. Amcast Industrial Corp., Civ. No. 4:89 CV 2001 (N.D. Ohio) and State of Ohio v. Aardvark Associates, Inc., et al. v. Amcast Industrial Corp., Civ. No. 1:92 CV 0227 (N.D. Ohio) relating to the New Lyme Landfill Superfund Site.

FOR Carter Lumber Co. COMPANY, INC.:

Date: 6-16-00

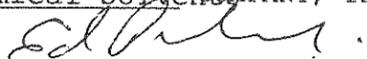

John A. Daily
[Name -- Please Type]
Attorney for Carter Lumber Company
[Title -- Please Type]
3570 Executive Drive Suite 202
Uniontown, Ohio 44685
[Address -- Please Type]

Agent Authorized to Accept Service on Behalf of Above-signed Party:

Name: John A. Daily
[Please Type]
Title: Attorney for Carter Lumber Co.
Address: 3570 Executive Drive, Suite 202, Uniontown, Ohio 44685
Tel. Number: 330-899-9144

THE UNDERSIGNED PARTY enters into this Consent Decree in the matter of United States v. Lord Corporation et al. v. Amcast Industrial Corp., Civ. No. 4:89 CV 2001 (N.D. Ohio) and State of Ohio v. Aardvark Associates, Inc., et al. v. Amcast Industrial Corp., Civ. No. 1:92 CV 0227 (N.D. Ohio) relating to the New Lyme Landfill Superfund Site.

FOR Chemical Solvents COMPANY, INC.:



Date: _____

[Name -- Please Type]
Edward Pavlish
President

[Title -- Please Type]
3751 Jennings Road

[Address -- Please Type]
Cleveland, Ohio 44114

Agent Authorized to Accept Service on Behalf of Above-signed Party:

Name: Thomas L. Colaluca

[Please Type]
Title: 1700 Northpoint Tower

Address: 1001 Lakeside Avenue

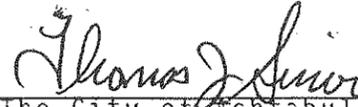
Tel. Number: Cleveland, OH 44114

(216) 696-5222

DRAFT - MAY 30, 2000

THE UNDERSIGNED PARTY enters into this Consent Decree in the matter of United States v. Lord Corporation et al. v. Amcast Industrial Corp., Civ. No. 4:89 CV 2001 (N.D. Ohio) and State of Ohio v. Aardvark Associates, Inc., et al. v. Amcast Industrial Corp., Civ. No. 1:92 CV 0227 (N.D. Ohio) relating to the New Lyme Landfill Superfund Site.

FOR


The City of Ashtabula, Ohio

Date: 8-2-00

Thomas J. Simon
[Name -- Please Type]

Ashtabula City Solicitor
[Title -- Please Type]

110 West 44th Street
[Address -- Please Type]
Ashtabula, Ohio 44004

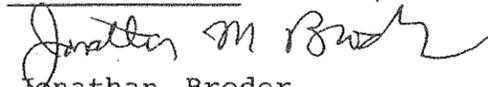
Agent Authorized to Accept Service on Behalf of Above-signed Party:

Name: Thomas J. Simon
Title: Ashtabula City Solicitor
Address: 110 West 44th Street
Tel. Number: (440) 992-7101

THE UNDERSIGNED PARTY enters into this Consent Decree in the matter of United States v. Lord Corporation et al. v. Amcast Industrial Corp., Civ. No. 4:89 CV 2001 (N.D. Ohio) and State of Ohio v. Aardvark Associates, Inc., et al. v. Amcast Industrial Corp., Civ. No. 1:92 CV 0227 (N.D. Ohio) relating to the New Lyme Landfill Superfund Site.

Consolidated Rail Corporation (Conrail)

FOR _____ COMPANY, INC.:



Date: June 15, 2008

Jonathan Broder
[Name -- Please Type]

Assistant Vice President - Law
[Title -- Please Type]

2001 Market St., 16th Floor - P.O. Box 41416
Philadelphia, PA 19101-1416
[Address -- Please Type]

Agent Authorized to Accept Service on Behalf of Above-signed Party:

Name: ~~XXXXXXXXXX~~ David E. Northrop
Title: Attorney for Conrail
Address: 180 E. Broad St., Ste 816, Columbus, OH 43215
Tel. Number: 614-464-3232

THE UNDERSIGNED PARTY enters into this Consent Decree in the matter of United States v. Lord Corporation et al. v. Amcast Industrial Corp., Civ. No. 4:89 CV 2001 (N.D. Ohio) and State of Ohio v. Aardvark Associates, Inc., et al. v. Amcast Industrial Corp., Civ. No. 1:92 CV 0227 (N.D. Ohio) relating to the New Lyme Landfill Superfund Site.

FOR COUNTY DISPOSAL

Date: July 1

Louis M. Popovich
LOUIS POPOVICH
[Name -- Please Type]

OWNER

[Title -- Please Type]

10 Public Square, Andover, OH 44003
[Address -- Please Type]

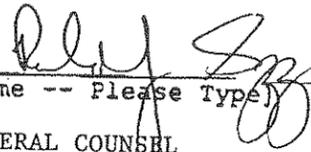
Agent Authorized to Accept Service on Behalf of Above-signed Party:

Name: Louis Popovich
Title: Owner
Address: 10 Public Square, Andover, OH 44003
Tel. Number: (440) 293-7516

THE UNDERSIGNED PARTY enters into this Consent Decree in the matter of United States v. Lord Corporation et al. v. Amcast Industrial Corp., Civ. No. 4:99 CV 2001 (N.D. Ohio) and State of Ohio v. Aardvark Associates, Inc., et al. v. Amcast Industrial Corp., Civ. No. 1:97 CV 0227 (N.D. Ohio) relating to the New Lyme Landfill Superfund Site.

FOR FORMICA CORPORATION
COMPANY, INC.:

Date: JUNE 15, 2000


[Name -- Please Type] RONALD J. GIZZI
GENERAL COUNSEL
[Title -- Please Type]
15 INDEPENDENCE BLVD.
WARREN, NJ 07059
[Address -- Please Type]

Agent Authorized to Accept Service on Behalf of Above-signed Party:

Name: [Please Type] RONALD J. GIZZI
Title: GENERAL COUNSEL
Address: C/O FORMICA CORPORATION -- 15 INDEPENDENCE BLVD.
Tel. Number: 908-647-8700 WARREN, NJ 07059

THE UNDERSIGNED PARTY enters into this Consent Decree in the matter of United States v. Lord Corporation, et al. v. Amcast Industrial Corp., Civ. No. 4:89 CV 2001 (N.D. Ohio) and State of Ohio v. Aardvark Associates, Inc., et al. v. Amcast Industrial Corp., Civ. No. 1:92 CV 0227 (N.D. Ohio) relating to the New Lyme Landfill Superfund Site.

For Genevieve Waid

Date: 7-13-00

Genevieve Waid
(Name - Please Type)

(Title - Please Type)

1789 Dodgeville Rd., Jefferson, OH 44047
(Address - Please Type)

Agent Authorized to Accept Service on Behalf of Above-signed party:

Name: Robert M. McNair, Esq.
McNair & Bobulsky Co., L.P.A.

Title: Attorney

Address: 35 W. Jefferson, OH 44047

Telephone No.: 440-576-3831

THE UNDERSIGNED PARTY enters into this Consent Decree in the matter of United States v. Lord Corporation et al. v. Amcast Industrial Corp., Civ. No. 4:89 CV 2001 (N.D. Ohio) and State of Ohio v. Aardvark Associates, Inc., et al. v. Amcast Industrial Corp., Civ. No. 1:92 CV 0227 (N.D. Ohio) relating to the New Lyme Landfill Superfund Site.

Gould Electronics Inc. (f.k.a. Gould Inc.)
FOR _____ COMPANY, INC.:

Date: June 12, 2000

MICHAEL C. VEYSEX
[Name -- Please Type]

SENIOR VICE PRESIDENT
[Title -- Please Type]

~~PARROT~~ 34929 CURTIS BLVD.
[Address -- Please Type]
EASTLARE OHIO 44095

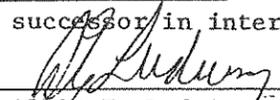
Agent Authorized to Accept Service on Behalf of Above-signed Party:

Name: _____ [Please Type] SAME AS ABOVE
Title: _____
Address: _____
Tel. Number: _____

THE UNDERSIGNED PARTY enters into this Consent Decree in the matter of United States v. Lord Corporation et al. v. Amcast Industrial Corp., Civ. No. 4:89 CV 2001 (N.D. Ohio) and State of Ohio v. Aardvark Associates, Inc., et al. v. Amcast Industrial Corp., Civ. No. 1:92 CV 0227 (N.D. Ohio) relating to the New Lyme Landfill Superfund Site.

FOR GTE Operations Support Incorporated
successor in interest to GTE Products Corporation

Date: June 5, 2000



Alvin E. Ludwig
Vice President / Controller

1255 Corporate Drive (SVC04C38)
Irving, TX 75038

Agent Authorized to Accept Service on Behalf of Above-signed Party:

Name: Alvin E. Ludwig
Title: Vice President - Controller
Address: GTE Operations Support Incorporated
1255 Corporate Drive (SVC04C38)
Irving, TX 75038

Telephone: (972) 507-5320

THE UNDERSIGNED PARTY enters into this Consent Decree in the matter of United States v. Lord Corporation et al. v. Amcast Industrial Corp., Civ. No. 4:89 CV 2001 (N.D. Ohio) and State of Ohio v. Aardvark Associates, Inc., et al. v. Amcast Industrial Corp., Civ. No. 1:92 CV 0227 (N.D. Ohio) relating to the New Lyme Landfill Superfund Site.

FOR Kmart Corporation COMPANY, INC.:

Date: June 19, 2000

Louis Zednik
[Name -- Please Type]
Louis Zednik
SR. Environmental Attorney
[Title -- Please Type]
Kmart Corporation
3100 W. Big Beaver Rd
[Address -- Please Type]
Troy MI 48064

Agent Authorized to Accept Service on Behalf of Above-signed Party:

Name: [Please Type] Nancie LaDuke
Title: Vice President & Secretary
Address: Kmart Corp 3100 W. Big Beaver Rd Troy MI
Tel. Number: (248) 643-1792

THE UNDERSIGNED PARTY enters into this Consent Decree in the matter of United States v. Lord Corporation et al. v. Amcast Industrial Corp., Civ. No. 4:89 CV 2001 (N.D. Ohio) and State of Ohio v. Aardvark Associates, Inc., et al. v. Amcast Industrial Corp., Civ. No. 1:92 CV 0227 (N.D. Ohio) relating to the New Lyme Landfill Superfund Site.

FOR MANNIER COMPANY, INC.: FDBA MANNIER TRUCKING COMPANY

Date: June 19, 2000

James S. Mannier
[Name -- Please Type] JAMES S. MANNIER
PRESIDENT

[Title -- Please Type]

4531 South Ridge East, Ashtabula, OH 44004
[Address -- Please Type]

*

Agent Authorized to Accept Service on Behalf of Above-signed Party:

Name: [Please Type] EDWIN R. O'DAY ESQ.
Title: ATTORNEY
Address: 167 ROYAL OAK DRIVE, AURORA, OHIO 44202
Tel. Number: (330) 562-5188

* James M. Mannier
JAMES M. MANNIER

Romaine Mannier
ROMAINE MANNIER

THE UNDERSIGNED PARTY enters into this Consent Decree in the matter of United States v. Lord Corporation et al. v. Amcast Industrial Corp., Civ. No. 4:89 CV 2001 (N.D. Ohio) and State of Ohio v. Aardvark Associates, Inc., et al. v. Amcast Industrial Corp., Civ. No. 1:92 CV 0227 (N.D. Ohio) relating to the New Lyme Landfill Superfund Site.

FOR * Millennium Holdings, Inc. *
COMPANY, INC.:

Date: June 23, 2000

Samuel Friedman
Samuel Friedman

[Name -- Please Type]

Esquire

[Title -- Please Type]

1111 Hidden Trail Drive, Owings Mills, MD 21117

[Address -- Please Type]

Agent Authorized to Accept Service on Behalf of Above-signed Party:

Name: [Please Type] Bonnie A. Barnett
Title: Esquire
Address: One Logan Square - 18th & Cherry Sts., Phila., PA, 19103
Tel. Number: (215) 988-2916

* on behalf of and for the benefit of SCM Corporation,
The Glidden Company and their respective predecessors
(including Glidden-Durkee Company and SCM Chemicals, Inc.)

THE UNDERSIGNED PARTY enters into this Consent Decree in the matter of United States v. Lord Corporation et al. v. Amcast Industrial Corp., Civ. No. 4:89 CV 2001 (N.D. Ohio) and State of Ohio v. Aardvark Associates, Inc., et al. v. Amcast Industrial Corp., Civ. No. 1:92 CV 0227 (N.D. Ohio) relating to the New Lyme Landfill Superfund Site.

FOR Niciu Trucking COMPANY, INC.:

Date: 6/14/00

Mihai Niciu
[Name -- Please Type]
Mihai Niciu
President
[Title -- Please Type]
5030 South Ridge East, Ashtabula, Ohio 44004
[Address -- Please Type]

Agent Authorized to Accept Service on Behalf of Above-signed Party:

Name: [Please Type] Same as above.
Title: _____
Address: _____
Tel. Number: _____

THE UNDERSIGNED PARTY enters into this Consent Decree in the matter of United States v. Lord Corporation et al. v. Amcast Industrial Corp., Civ. No. 4:89 CV 2001 (N.D. Ohio) and State of Ohio v. Aardvark Associates, Inc., et al. v. Amcast Industrial Corp., Civ. No. 1:92 CV 0227 (N.D. Ohio) relating to the New Lyme Landfill Superfund Site.

FOR: Norton COMPANY

Date: 8/11/00

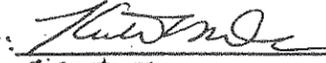
Lauren P. Alterman
[Name -- Please Type]
Senior Counsel
[Title -- Please Type]
750 E. Swedesford Rd
[Address -- Please Type]
Valley Forge, PA 19482

Agent Authorized to Accept Service on Behalf of Above-signed Party:

Name: [Please Type] Lauren P. Alterman
Title: Senior Counsel
Address: Saint-Gobain Corporation 750 E. Swedesford Rd.
Tel. Number: 610 341 7838
Valley Forge, PA
19482

THE UNDERSIGNED PARTY enters into this Consent Decree in the matter of United States v. Lord Corporation et al. v. Amcast Industrial Corp., Civ. No. 4:89 CV 2001 (N.D. Ohio) and State of Ohio v. Aardvark Associates, Inc., et al. v. Amcast Industrial Corp., Civ. No. 1:92 CV 0227 (N.D. Ohio) relating to the New Lyme Landfill Superfund Site.

OCCIDENTAL CHEMICAL CORPORATION (as successor to DIAMOND SHAROCK CHEMICALS COMPANY)

v By: 
Signature

Date: June 13, 2000

Keith C. McDole
[Name -- Please Type]

Sr. Vice President and General Counsel
[Title -- Please Type]
Occidental Chemical Corporation
5005 LBJ Freeway, Dallas, TX 75244
[Address -- Please Type]

Agent Authorized to Accept Service on Behalf of Above-signed Party:

Legal Department
Name: ATTN: John R. Wheeler
Title: Associate General Counsel
Address: OXY Services, Inc., 5005 LBJ Freeway, Dallas, TX 75244
Tel. Number: (972) 404-3923

THE UNDERSIGNED PARTY enters into this Consent Decree in the matter of United States v. Lord Corporation et al. v. Amcast Industrial Corp., Civ. No. 4:89 CV 2001 (N.D. Ohio) and State of Ohio v. Aardvark Associates, Inc., et al. v. Amcast Industrial Corp., Civ. No. 1:92 CV 0227 (N.D. Ohio) relating to the New Lyme Landfill Superfund Site.

FOR R. L. K., Inc. COMPANY, INC.:
dba Northeastern Disposal

Date: June 19, 2000

Robert W Kangas
[Name -- Please Type]

Robert W. Kangas, President
[Title -- Please Type]

P. O. Box 185, Montville, Ohio 44064
[Address -- Please Type]

Agent Authorized to Accept Service on Behalf of Above-signed Party:

Name: [Please Type] Robert W. Kangas
Title: President, R. L. K., Inc. dba Northeastern Disposal
Address: P. O. Mox 185, 8740 Madison Rd., Montville, Ohio 44064
Tel. Number: (440) 968-3348

THE UNDERSIGNED PARTY enters into this Consent Decree in the matter of
United States v. Lord Corporation et al. v. Amcast Industrial Corp., Civ No. 4:89 CV 2001
(N.D. Ohio) and State of Ohio v. Aardvark Associates, Inc., et al. v. Amcast Industrial
Corp., Civ. No. 1:92 CV 0227 (N.D. Ohio) relating to the New Lyme Landfill Superfund
Site.

FOR ROBERT HENRY, dba HENRY TRUCKING

Date: June 15, 2000



ROBERT HENRY
11269 Hartstown Road
Linesville, PA 16424

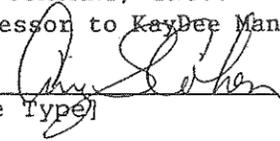
Agent Authorized to accept service on behalf of Above-signed party:

Name: Robert Henry
Address: 11269 Hartstown Road
Linesville, PA 16424

THE UNDERSIGNED PARTY enters into this Consent Decree in the matter of United States v. Lord Corporation et al. v. Amcast Industrial Corp., Civ. No. 4:89 CV 2001 (N.D. Ohio) and State of Ohio v. Aardvark Associates, Inc., et al. v. Amcast Industrial Corp., Civ. No. 1:92 CV 0227 (N.D. Ohio) relating to the New Lyme Landfill Superfund Site.

FOR _____ COMPANY, INC.:
Stoneridge, Inc., successor to KayDee Manufacturing

Date: June 14, 2000

Avery S. Cohen 
[Name -- Please Type]

Secretary
[Title -- Please Type]

Baker & Hostetler, 3200 National City Center,
[Address -- Please Type]
Cleveland, Ohio 44114

Agent Authorized to Accept Service on Behalf of Above-signed Party:

Name: Avery S. Cohen
Title: Secretary
Address: 3200 National City Center, Cleveland, OH 44114
Tel. Number: (216) 861-7455

THE UNDERSIGNED PARTY enters into this Consent Decree in the matter of United States v. Lord Corporation et al. v. Amcast Industrial Corp., Civ. No. 4:89 CV 2001 (N.D. Ohio) and State of Ohio v. Aardvark Associates, Inc., et al. v. Amcast Industrial Corp., Civ. No. 1:92 CV 0227 (N.D. Ohio) relating to the New Lyme Landfill Superfund Site.

FOR The Stuckpile ^{Corporation} COMPANY, INC.:

Date: June 7, 2000

J.S. Parkhill

[Name -- Please Type] J.S. PARKHILL

[Title -- Please Type] PRESIDENT

[Address -- Please Type]
85 WELLS AVE SUITE 300
NEWTON, MA 02459

Agent Authorized to Accept Service on Behalf of Above-signed Party:

Name: [Please Type] Robyn Hunter
Title: Treasurer
Address: 85 WELLS AVE NEWTON, MA 02459
Tel. Number: 617 928 3531

THE UNDERSIGNED PARTY enters into this Consent Decree in the matter of United States v. Lord Corporation, et al. v. Amcast Industrial Corp., Civ. No. 4:89 CV 2001 (N.D. Ohio) and State of Ohio v. Aardvark Associates, Inc., et al. v. Amcast Industrial Corp., Civ. No. 1:92 CV 0227 (N.D. Ohio) relating to the New Lyme Landfill Superfund Site.

For Transplastics, Inc.

Date: July 7, 2000

Alan J. Miller

(Name - Please Type)

Secretary

(Title - Please Type)

5445 Corporate Drive, Suite 200

Troy, Michigan 48098

(Address - Please Type)

Agent Authorized to Accept Service on Behalf of Above-signed party:

Name: Mr. Alan J. Miller

Title: Secretary

Address: 5445 Corporate Drive, Suite 200, Troy, MI 48098

Telephone No.: (248) 952-2500

THE UNDERSIGNED PARTY enters into this Consent Decree in the matter of United States v. Lord Corporation et al. v. Amcast Industrial Corp., Civ. No. 4:89 CV 2001 (N.D. Ohio) and State of Ohio v. Aardvark Associates, Inc., et al. v. Amcast Industrial Corp., Civ. No. 1:92 CV 0227 (N.D. Ohio) relating to the New Lyme Landfill Superfund Site.

FOR UNITED TELEPHONE COMPANY OF OHIO
COMPANY, INC.:

Date: 6/2/00

By [Signature]

~~Name~~ [Please Type] Thomas L. Jacobs

Assistant Secretary

[Title -- Please Type]

900 Springmill Street

Mansfield, OH 44906

[Address -- Please Type]

Agent Authorized to Accept Service on Behalf of Above-signed Party:

Name: [Please Type]

Title: _____

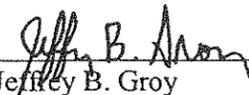
Address: _____

Tel. Number: _____

THE UNDERSIGNED PARTY enters into this Consent Decree in the matter of *United States v. Lord Corporation et al. v. Amcast Industrial Corp.*, Civ. No. 4:89 CV 2001 (N.D. Ohio) and *State of Ohio v. Aardvark Associates, Inc. et al. v. Amcast Industrial Corp.*, Civ. No. 1:92 CV 0227 (N.D. Ohio) relating to the New Lyme Landfill Superfund Site.

For: Viacom International Inc., successor to
G & W Natural Resources Company, Inc.
and The New Jersey Zinc Company

Date: June 13, 2000

By: 
Jeffrey B. Groy
Vice President and Senior
Counsel/Environmental

Viacom International Inc.
111 East Broadway, Suite 1100
Salt Lake City, Utah 84111

Agent Authorized to Accept Service on Behalf of Above-Signed Party:

Jeffrey B. Groy
Viacom International Inc.
111 East Broadway, Suite 1100
Salt Lake City, UT 84111
810/359-3103

THE UNDERSIGNED PARTY enters into this Consent Decree in the matter of United States v. Lord Corporation et al. v. Amcast Industrial Corp., Civ. No. 4:89 CV 2001 (N.D. Ohio) and State of Ohio v. Aardvark Associates, Inc., et al. v. Amcast Industrial Corp., Civ. No. 1:92 CV 0227 (N.D. Ohio) relating to the New Lyme Landfill Superfund Site.

Date: 6/7/00

FOR Allegheny College ~~881222W, 1148x~~:

Joseph G. Russo
[Name -- Please Type]

VP Finance & Admin
[Title -- Please Type]

N. Main St. Meadville PA 16335
[Address -- Please Type]

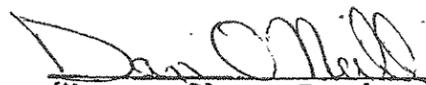
Agent Authorized to Accept Service on Behalf of Above-signed Party:

Name: Louis A. Naugle
Title: Attorney
Address: Reed Smith Shaw & McClay, 435 Sixth Ave., Pgh, PA 15219
Tel. Number: (412) 288-8586

THE UNDERSIGNED PARTY enters into this Consent Decree in the matter of United States v. Lord Corporation et al. v. Amcast Industrial Corp., Civ. No. 4:89 CV 2001 (N.D. Ohio) and State of Ohio v. Aardvark Associates, Inc., et al. v. Amcast Industrial Corp., Civ. No. 1:92 CV 0227 (N.D. Ohio) relating to the New Lyme Landfill Superfund Site.

ANDOVER INDUSTRIES
FOR _____ COMPANY, INC.:

Date: 06/15/2000



[Name -- Please Type]

Dan O'Neill

[Title -- Please Type]

Executive Vice President

[Address -- Please Type]

205 Maple St. Extension, P.O. Box 459
Andover, OH 44003-0459

Agent Authorized to Accept Service on Behalf of Above-signed Party:

Name: [Please Type] CARL F. MULLER, ESQ.
Title: PARTNER
Address: WARREN AND YOUNG PLL, P.O. BOX 2300, Ashtabula, Ohio
Tel. Number: (440) 997-6175 44005-2300

THE UNDERSIGNED PARTY enters into this Consent Decree in the matter of United States v. Lord Corporation et al. v. Amcast Industrial Corp., Civ. No. 4:89 CV 2001 (N.D. Ohio) and State of Ohio v. Aardvark Associates, Inc., et al. v. Amcast Industrial Corp., Civ. No. 1:92 CV 0227 (N.D. Ohio) relating to the New Lyme Landfill Superfund Site.

FOR BESSEMER AND LAKE ERIE RAILROAD COMPANY, INC.:

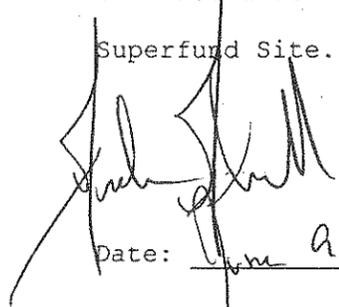
Date: June 13, 2000

Robert N. Gentile
[Name -- Please Type]
Robert N. Gentile
Vice President-Law, General Counsel & Secretary
[Title -- Please Type]
135 Jamison Lane
Monroeville, PA 15146
[Address -- Please Type]

Agent Authorized to Accept Service on Behalf of Above-signed Party:

Name: Louis A. Naugle
Title: Attorney
Address: Reed Smith Shaw & McClay, 435 Sixth Ave., Pgh, PA 15219
Tel. Number: (412) 288-8586

THE UNDERSIGNED PARTY enters into this Consent Decree in the matter of United States v. Lord Corporation et al. v. Amcast Industrial Corp., Civ. No. 4:89 CV 2001 (N.D. Ohio) and State of Ohio v. Aardvark Associates, Inc., et al. v. Amcast Industrial Corp., Civ. No. 1:92 CV 0227 (N.D. Ohio) relating to the New Lyme Landfill Superfund Site.


Date: June 9, 2000

FOR BP America Inc., The Standard Oil Company
COMPANY, INC.:

Arden Ahnell
[Name -- Please Type]

Manager, Midwest Environmental Services
[Title -- Please Type]

4850 E.49th St. MBC-1, Cuyahoga Hts. OH 44130
[Address -- Please Type]

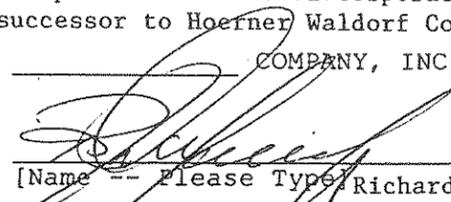
Agent Authorized to Accept Service on Behalf of Above-signed Party:

Name: Cheryl A. Foerstner
[Please Type]
Title: Brouse McDowell
Address: 1001 Lakeside Ave. Suite 1600
Tel. Number: Cleveland, Ohio 44114
(216)830-6830

THE UNDERSIGNED PARTY enters into this Consent Decree in the matter of United States v. Lord Corporation et al. v. Amcast Industrial Corp., Civ. No. 4:89 CV 2001 (N.D. Ohio) and State of Ohio v. Aardvark Associates, Inc., et al. v. Amcast Industrial Corp., Civ. No. 1:92 CV 0227 (N.D. Ohio) relating to the New Lyme Landfill Superfund Site.

FOR Champion International Corporation as successor to Hoerner Waldorf Company
COMPANY, INC.:

Date: June 15, 2000


[Name -- Please Type] Richard J. Diforio
Sr. Vice President, Environment, Health & Safety
[Title -- Please Type]
One Champion Plaza, Stamford, CT 06921
[Address -- Please Type]

Agent Authorized to Accept Service on Behalf of Above-signed Party:

Name: [Please Type] Grace Healy
Title: Sr. Associate Counsel
Address: Champion, One Champion Plaza, Stamford, CT 06921
Tel. Number: (203) 358-2818

THE UNDERSIGNED PARTY enters into this Consent Decree in the matter of
United States v. Lord Corporation et al. v. Amcast Industrial Corp., Civ. No. 4:89
CV 2001 (N.D. Ohio) and State of Ohio v. Aardvark Associates, Inc., et al. v. Amcast
Industrial Corp., Civ. No. 1:92 CV 0227 (N.D. Ohio) relating to the New Lyme
Landfill Superfund Site.

FOR CITY OF MEADVILLE, PENNSYLVANIA:

By: Richard A. Friedberg
[Name]
Mayor

ATTEST:

Ronald L. Bickel
[Name]
City Clerk

By: Richard N. Stephenson
[Name]
Controller

984 Water Street
Meadville, PA 16335-3497

(City Seal)

Date: 6-15-00

Agent Authorized to Accept Service on Behalf of Above-signed Party:

Name: Joseph A. Chriest, P.E.
[Please Type]
Title: City Manager/Public Works Director, City of Meadville
Address: 984 Water Street - Meadville, PA 16335-3497
Tel. Number: (814) 333-3310

THE UNDERSIGNED PARTY enters into this Consent Decree in the matter of United States v. Lord Corporation et al. v. Amcast Industrial Corp., Civ. No. 4:89 CV 2001 (N.D. Ohio) and State of Ohio v. Aardvark Associates, Inc., et al. v. Amcast Industrial Corp., Civ. No. 1:92 CV 0227 (N.D. Ohio) relating to the New Lyme Landfill Superfund Site.

FOR Combustion Engineering, Inc.:

Date: June 13, 2000

John P Brett
[Name -- Please Type]
JOHN P BRET
Vice President
[Title -- Please Type]
525 Brook St. Rocky Hill, CT 06067
[Address -- Please Type]

Agent Authorized to Accept Service on Behalf of Above-signed Party:

Name: _____ [Please Type] Martin H. Lewis, Esq.
Title: _____ Arter & Hadden LLP
Address: _____ One Columbus
Tel. Number: _____ 10 West Broad ST Suite 2100
Columbus, Ohio 43215-3442
614-221-3155

THE UNDERSIGNED PARTY enters into this Consent Decree in the matter of United States v. Lord Corporation et al. v. Amcast Industrial Corp., Civ. No. 4:89 CV 2001 (N.D. Ohio) and State of Ohio v. Aardvark Associates, Inc., et al. v. Amcast Industrial Corp., Civ. No. 1:92 CV 0227 (N.D. Ohio) relating to the New Lyme Landfill Superfund Site.

FOR GenCorp COMPANY, INC.:

Chris W. Conley

Date: _____

Chris W. Conley

[Name -- Please Type]

Vice President, Environmental, Health & Safety

[Title -- Please Type]

PO Box 537012

Sacramento, CA 95853-7012

[Address -- Please Type]

Agent Authorized to Accept Service on Behalf of Above-signed Party:

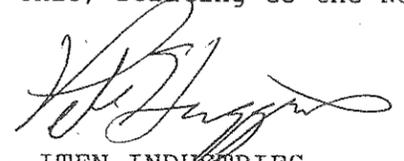
Name: _____ [Please Type]

Title: _____

Address: _____

Tel. Number: _____

THE UNDERSIGNED PARTY enters into this Consent Decree in the matter of United States v. Lord Corporation et al. v. Amcast Industrial Corp., Civ. No. 4:89 CV 2001 (N.D. Ohio) and State of Ohio v. Aardvark Associates, Inc., et al. v. Amcast Industrial Corp., Civ. No. 1:92 CV 0227 (N.D. Ohio) relating to the New Lyme Landfill Superfund Site.



FOR ITEN INDUSTRIES COMPANY, INC.:

Date: 6-15-00

Peter D. Huggins
[Name -- Please Type]
President
[Title -- Please Type]
PO Box 2150 Ashtabula OH 44005
[Address -- Please Type]

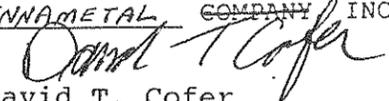
Agent Authorized to Accept Service on Behalf of Above-signed Party:

Name: CARL F. MULLER, ESQ.
[Please Type]
Title: PARTNER
Address: WARREN AND YOUNG PLL, P.O.BOX 2300, Ashtabula, Ohio
Tel. Number: (440) 997-6175 44005-2300

THE UNDERSIGNED PARTY enters into this Consent Decree in the matter of United States v. Lord Corporation et al. v. Amcast Industrial Corp., Civ. No. 4:89 CV 2001 (N.D. Ohio) and State of Ohio v. Aardvark Associates, Inc., et al. v. Amcast Industrial Corp., Civ. No. 1:92 CV 0227 (N.D. Ohio) relating to the New Lyme Landfill Superfund Site.

FOR: KENNAMETAL COMPANY INC.:

Date: JUNE 6, 2000


David T. Cofer
[Name -- Please Type]

Vice President, Secretary and General
[Title -- Please Type] Counsel
Kennametal Inc.
1600 Technology Way
[Address -- Please Type]
Latrobe, PA 15650

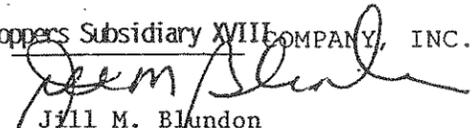
Agent Authorized to Accept Service on Behalf of Above-signed Party:

Name: [Please Type] Robert Thomson, Esq.
Title: _____
Address: Buchanan Ingersoll P.C.
Tel. Number: 412/562-1695
One Oxford Centre
301 Grant St., 20th Floor
Pittsburgh, PA 15219-1410

THE UNDERSIGNED PARTY enters into this Consent Decree in the matter of United States v. Lord Corporation et al. v. Amcast Industrial Corp., Civ. No. 4:89 CV 2001 (N.D. Ohio) and State of Ohio v. Aardvark Associates, Inc., et al. v. Amcast Industrial Corp., Civ. No. 1:92 CV 0227 (N.D. Ohio) relating to the New Lyme Landfill Superfund Site.

FOR ~~Koppers~~ Subsidiary ~~WILL~~ COMPANY, INC.:

Date: 6/12/00


Jill M. Blundon
[Name -- Please Type]

President
[Title -- Please Type]

c/o Three Rivers Management, Inc.
[Address -- Please Type]
One Oxford Centre
Suite 3000
Pittsburgh, PA 15219

Agent Authorized to Accept Service on Behalf of Above-signed Party:

Name: [Please Type] Jill M. Blundon
Title: President
Address: c/o Three Rivers Management, Inc., One Oxford Centre, Suite
Tel. Number: 412-208-8831

THE UNDERSIGNED PARTY enters into this Consent Decree in the matter of United States v. Lord Corporation et al. v. Amcast Industrial Corp., Civ. No. 4:89 CV 2001 (N.D. Ohio) and State of Ohio v. Aardvark Associates, Inc., et al. v. Amcast Industrial Corp., Civ. No. 1:92 CV 0227 (N.D. Ohio) relating to the New Lyme Landfill Superfund Site.

FOR Mallinckrodt COMPANY, INC.:

Date: 6-17-2000

Roger A Keller
[Name -- Please Type]

Vice President.
[Title -- Please Type]

P.O. Box 5840
675 McDonnell Blvd.
[Address -- Please Type]

St. Louis, Mo. 63134

Agent Authorized to Accept Service on Behalf of Above-signed Party:

Name: [Please Type]
Title: General Counsel
Address: 675 McDonnell Blvd., Hazelwood MO 63042
Tel. Number: _____

THE UNDERSIGNED PARTY enters into this Consent Decree in the matter of United States v. Lord Corporation, et al. v. Amcast Industrial Corp., Civ. No. 4:89 CV 2001 (N.D. Ohio) and State of Ohio v. Aardvark Associates, Inc., et al. v. Amcast Industrial Corp., Civ. No. 1:92 CV 0227 (N.D. Ohio) relating to the New Lyme Landfill Superfund Site.

J. Carlisle Peet, III

For Matlack Inc.

Date: 6-7-00

J. Carlisle Peet, III
(Name - Please Type)

Assistant General Counsel
(Title - Please Type)

2200 Concord Pike, Wilmington
(Address - Please Type) DE 19803

Agent Authorized to Accept Service on Behalf of Above-signed party:

Name: J. Carlisle Peet, III

Title: Ass't General Counsel

Address: 2200 Concord Pike, Wilmington DE

Telephone No.: 302 426 2807 19803

THE UNDERSIGNED PARTY enters into this Consent Decree in the matter of United States v. Lord Corporation et al. v. Amcast Industrial Corp., Civ. No. 4:89 CV 2001 (N.D. Ohio) and State of Ohio v. Aardvark Associates, Inc., et al. v. Amcast Industrial Corp., Civ. No. 1:92 CV 0227 (N.D. Ohio) relating to the New Lyme Landfill Superfund Site.

FOR MEADVILLE FORUM COMPANY, INC.:

Date: 6-5-2000

Robert L. Hyatt
[Name -- Please Type]
Robert L. Hyatt
Manufacturing Manager
[Title -- Please Type]
P.O. Box 459 D
Meadville, PA 16335
[Address -- Please Type]

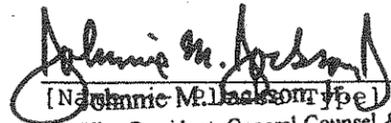
Agent Authorized to Accept Service on Behalf of Above-signed Party:

Name: Robert W. Thomson
[Please Type]
Title: Esquire
Address: Buchanan Ingersoll, 301 Grant St., 20th Fl., Pittsburgh, PA 152
Tel. Number: (412) 562-1695

THE UNDERSIGNED PARTY enters into this Consent Decree in the matter of United States v. Lord Corporation et al. v. Amcast Industrial Corp., Civ. No. 4:89 CV 2001 (N.D. Ohio) and State of Ohio v. Aardvark Associates, Inc., et al. v. Amcast Industrial Corp., Civ. No. 1:92 CV 0227 (N.D. Ohio) relating to the New Lyme Landfill Superfund Site.

FOR OLIN CORPORATION COMPANY, INC.:

Date: 6/22/2000


[Johnnie M. Jackson, Jr.]
Vice President, General Counsel & Secretary

ok
per
6/22/2000

[Title -- Please Type]

[Address -- Please Type]

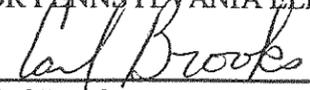
Agent Authorized to Accept Service on Behalf of Above-signed Party:

Name: Johnnie M. Jackson, Jr.
Title: Vice President, General Counsel & Secretary
Address: 501 Merritt 7, Norwalk, CT 06856
Tel. Number: (203) 750-3126

THE UNDERSIGNED PARTY enters into this Consent Decree in the matter of United States v. Lord Corporation et al. v. Amcast Industrial Corp., Civ. No. 4:89 CV 2001 (N.D. Ohio) and State of Ohio v. Aardvark Associates, Inc. et al. v. Amcast Industrial Corp., Civ. No. 1:92 CV 0227 (N. D. Ohio) relating to the New Lyme Landfill Superfund Site.

FOR PENNSYLVANIA ELECTRIC COMPANY, INC.:

Date: June 12, 2000

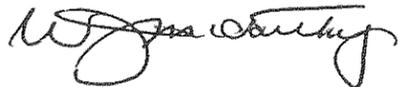


Carl Brooks
Vice President
Pennsylvania Electric Company
2800 Pottsville Pike
Reading, PA 19604

Agent Authorized to Accept Service on Behalf of Above-Signed Party:

Name: Tim Atherton
Title: Sr. Attorney - GPU Service
Address: 2800 Pottsville Pike
Reading, PA 19640
Telephone No.: 610-921-6532

THE UNDERSIGNED PARTY enters into this Consent Decree in the matter of United States v. Lord Corporation et al. v. Amcast Industrial Corp., Civ. No. 4:89 CV 2001 (N.D. Ohio) and State of Ohio v. Aardvark Associates, Inc., et al. v. Amcast Industrial Corp., Civ. No. 1:92 CV 0227 (N.D. Ohio) relating to the New Lyme Landfill Superfund Site.



FOR RMI Titanium COMPANY, INC.:

F.K.A RMI Company

Date: 16 June 2000

William J. McCarthy
[Name -- Please Type]

vice President - Engineering
[Title -- Please Type]

1000 Warren Ave. Niles, OH 44446
[Address -- Please Type]

Agent Authorized to Accept Service on Behalf of Above-signed Party:

Name: [Please Type] Dawne S. Hickton
Title: Vice President and General Counsel
Address: 1000 Warren Ave. Niles, OH 44446
Tel. Number: 330-544-7818

THE UNDERSIGNED PARTY enters into this Consent Decree in the matter of United States v. Lord Corporation et al. v. Amcast Industrial Corp., Civ. No. 4:89 CV 2001 (N.D. Ohio) and State of Ohio v. Aardvark Associates, Inc., et al. v. Amcast Industrial Corp., Civ. No. 1:92 CV 0227 (N.D. Ohio) relating to the New Lyme Landfill Superfund Site.

SANBORN WIRE PRODUCTS, INC.

Date: June 13, 2000

By: A. David Morrow
A. David Morrow
~~President~~
CEO

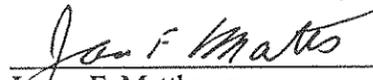
Agent authorized to Accept Service on Behalf of Above-signed Party:

Stuart W. Cordell, Esq.
Warren and Young PLL
P O Box 2300
Ashtabula, OH 44005-2300
440.997.6175

THE UNDERSIGNED PARTY enters into this Consent Decree in the matter of United States v. Lord Corporation et al. v. Amcast Industrial Corp., Civ. No. 4:89 CV 2001 (N.D. Ohio) and State of Ohio v. Aardvark Associates, Inc. et al. v. Amcast Industrial Corp., Civ. No. 1:92 CV 0227 (N.D. Ohio) relating to the New Lyme Landfill Superfund Site.

FOR Smith & Wesson Corp.
Smith & Wesson Chemical Company
Bangor Punta Corporation
Bangor Punta Consolidated Corporation
Lear Siegler, Inc.
Lear Siegler Diversified Holdings Corp.
LSDHC Corp.

Date: June 15, 2000



James F. Matthews
President, Lear Siegler Diversified Holdings Corp.
469 Morris Avenue
Summit, NJ 07901

Agent Authorized to Accept Service on Behalf of Above-Signed party:

Name: James F. Matthews
Title: President, Lear Siegler Diversified Holdings Corp.
Address: 469 Morris Avenue
Summit, NJ 07901
Tel. Number: (908) 277-4200

THE UNDERSIGNED PARTY enters into this Consent Decree in the matter of United States v. Lord Corporation, et al. v. Amcast Industrial Corp., Civ. No. 4:89 CV 2001 (N.D. Ohio) and State of Ohio v. Aardvark Associates, Inc., et al. v. Amcast Industrial Corp., Civ. No. 1:92 CV 0227 (N.D. Ohio) relating to the New Lyme Landfill Superfund Site.

Seco Warwick Corporation

For *Arthur V Russo*

Date: 7/26/00

Arthur V Russo
(Name - Please Type)

CTO
(Title - Please Type)

180 Mercer St Meadville Pa 16335
(Address - Please Type)

Agent Authorized to Accept Service on Behalf of Above-signed party:

Name: _____

Title: _____

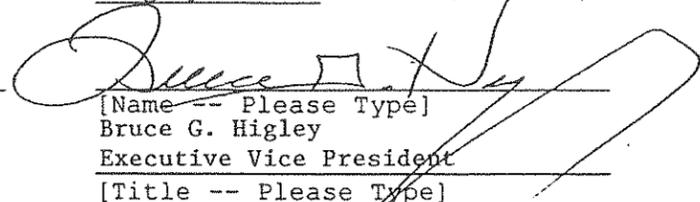
Address: _____

Telephone No.: _____

THE UNDERSIGNED PARTY enters into this Consent Decree in the matter of United States v. Lord Corporation et al. v. Amcast Industrial Corp., Civ. No. 4:89 CV 2001 (N.D. Ohio) and State of Ohio v. Aardvark Associates, Inc., et al. v. Amcast Industrial Corp., Civ. No. 1:92 CV 0227 (N.D. Ohio) relating to the New Lyme Landfill Superfund Site.

The Albert M.
FOR Higley COMPANY, INC.:

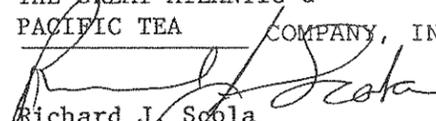
Date: June 6, 2000


[Name -- Please Type]
Bruce G. Higley
Executive Vice President
[Title -- Please Type]
2926 Chester Avenue
Cleveland, Ohio 44114
[Address -- Please Type]

Agent Authorized to Accept Service on Behalf of Above-signed Party:
Ava A. Harter, Esq.

Name: [Please Type]
Title: Attorney at Law
Address: 3900 Key Center, 127 Public Square, Cleveland, OH 44114
Tel. Number: 216-566-5597

THE UNDERSIGNED PARTY enters into this Consent Decree in the matter of United States v. Lord Corporation et al. v. Amcast Industrial Corp., Civ. No. 4:89 CV 2001 (N.D. Ohio) and State of Ohio v. Aardvark Associates, Inc., et al. v. Amcast Industrial Corp., Civ. No. 1:92 CV 0227 (N.D. Ohio) relating to the New Lyme Landfill Superfund Site.

FOR THE GREAT ATLANTIC &
PACIFIC TEA COMPANY, INC.:

Richard J. Scola
[Name -- Please Type]
Vice President
[Title -- Please Type]
470 Chestnut Ridge Road
Woodcliff Lake, NJ 07677
[Address -- Please Type]

Date: July 10, 2000

Agent Authorized to Accept Service on Behalf of Above-signed Party:

Name: [Please Type] CSC v. Lawyers Incorporating Service
Title: Corporation Service Company
Address: 50 West Broad Street, Columbus, Ohio 43215
Tel. Number: _____

THE UNDERSIGNED PARTY enters into this Consent Decree in the matter of
United States v. Lord Corporation, et al. v. Amcast Industrial Corp., Civ. No. 4:89 CV
2001 (N.D. Ohio) and State of Ohio v. Aardvark Associates, Inc., et al. v. Amcast
Industrial Corp., Civ. No. 1:92 CV 0227 (N.D. Ohio) relating to the New Lyme Landfill
Superfund Site.

For Wrisco Industries Inc.

Date: 7/7/00

AJ Monastra
(Name - Please Type)

President
(Title - Please Type)

355 Hiatt Dr. Ste. B, Palm Bch. Gardens, FL
(Address - Please Type)

Agent Authorized to Accept Service on Behalf of Above-signed party:

Name: AJ Monastra

Title: President

Address: 355 Hiatt Dr. Ste. B, Palm Bch. Gardens, FL

Telephone No.: (561) 626-5700

APPENDIX A
RECORD OF DECISION

United States v. Lord Corporation et al. v. Amcast Industrial Corp.,
Civ. No. 4:89 CV 2001 (N.D. Ohio)
State of Ohio v. Aardvark Associates, Inc., et al. v. Amcast
Industrial Corp., Civ. No. 1:92 CV 0227 (N.D. Ohio)

SUMMARY OF REMEDIAL ALTERNATIVE SELECTION

NEW LYME LANDFILL

SITE LOCATION AND DESCRIPTION

The New Lyme Landfill is near State Route 11 on Dodgeville Road in Ashtabula County, approximately 20 miles south of the City of Ashtabula, Ohio. The landfill occupies about 40 acres of a 100-acre tract. The general site location is shown in Figure 1.

The landfill is bounded by Dodgeville Road and a wooded, marshy area associated with Lebanon Creek to the north and by wooded, marshy areas on the west and south. The site is surrounded on 3 sides by wetlands. Land adjacent to the eastern boundary has been cleared of trees and brush for agricultural use. Leachate seeps are evident along the northern, western, and southern boundaries of the landfill. Access to the landfill is by an unpaved road extending southward from Dodgeville Road. The closest residences lie within 1000 feet of the site. These households (approximately 10 residences) are presently using the groundwater as their drinking water source.

The site lies entirely within the Lebanon Creek Watershed. Surface drainage from the site can be divided into four subwatersheds. The northern portion of the site drains directly into Lebanon Creek. The remainder of the site drains southward to an unnamed tributary of Lebanon Creek. Lebanon Creek drains into Rock Creek, upstream of Lake Roaming Rock, a public water supply.

Bedrock at the site consists of the Ohio Shale Formation, gray siliceous shale, to depths in excess of 2,200 feet. The surface of the bedrock is weathered and fractured. The weathered zone was found to extend a minimum of 10 feet below the rock surface. Bedrock is overlain by glacial till, and ranges in composition from clayey silt to silty clay to sandy clay, and contains small quantities of pebbles. The total thickness of the till ranges from approximately 20 to 35 feet. The head data in the bedrock indicate that groundwater flows east to west beneath the site. The geologic conditions and the water level data indicate that both the shale and the coarse grained lenses within the till are under confined or semiconfined conditions. In several bedrock wells, water levels rise above the ground surface. The till appears to act as an aquitard at the site. Some groundwater flow occurs along fractures in the till. Coupled with the artesian conditions found generally across the site, and the upward vertical gradients found in the west and northeast, the fractures apparently allow groundwater to discharge to the surface in this general area. Relatively constant discharges at major leachate seeps over a wide range of climatic conditions indicate that the source of water for leachate formation is primarily groundwater opposed to direct recharge (Figure 2).

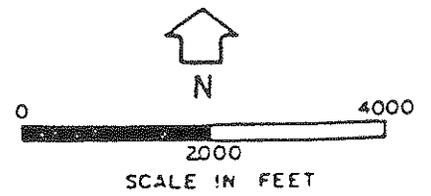
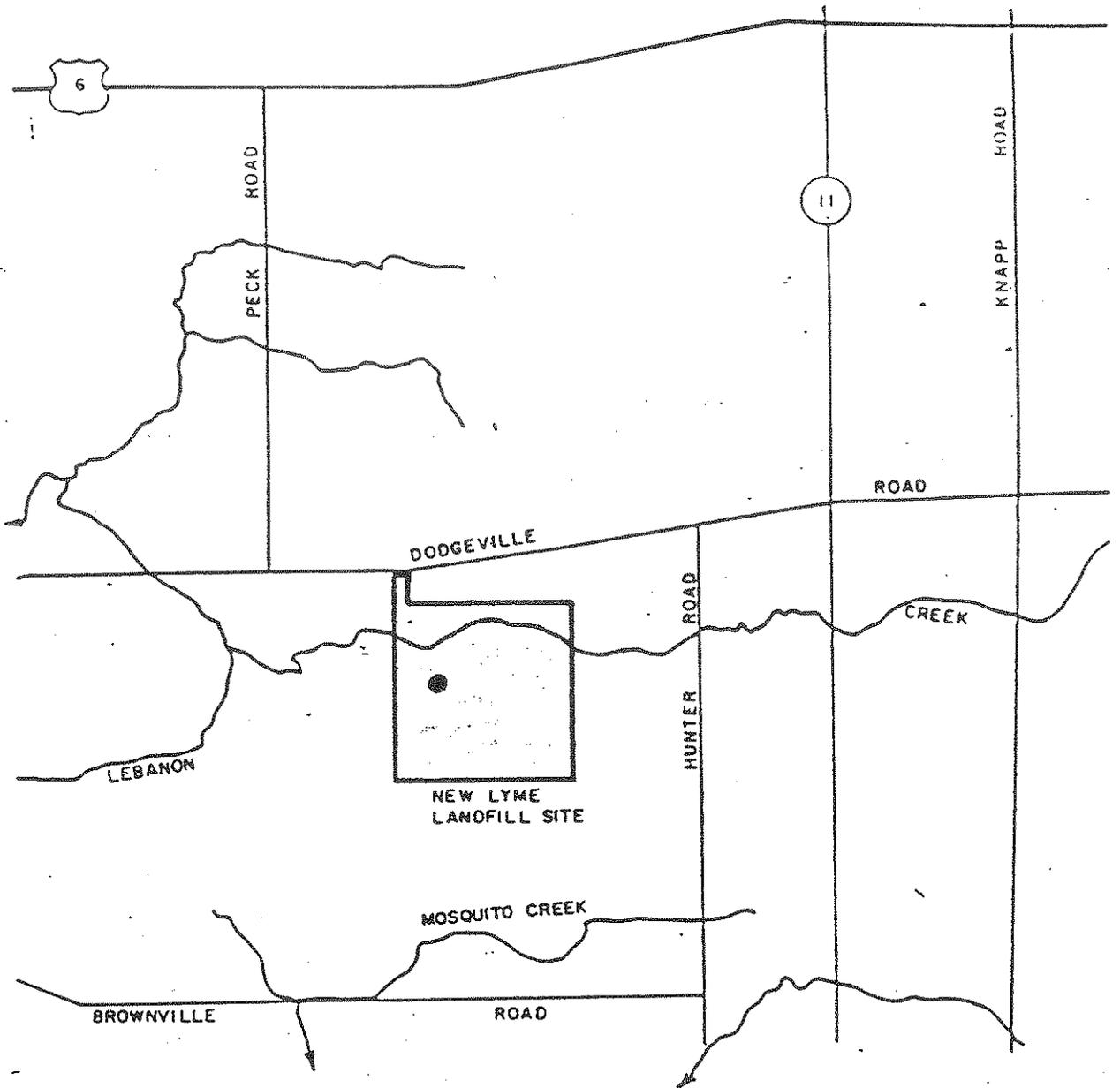


FIGURE 1
LOCATION MAP
NEW LYME LANDFILL SITE

SITE HISTORY

The landfill began operations in 1969. The site was initially managed by two farmers. In 1971, the landfill was licensed by the State of Ohio and operations were taken over by a licensed landfill operator. Violations of the license, the Ohio Revised Code, and the Ohio Administrative Code which occurred throughout the operation of the landfill included the following: water in the trenches; open dumping; uncontrolled access to the landfill; improper spreading and compaction of wastes; waste not being covered daily; inadequate equipment; no Ohio EPA approval for acceptance of certain industrial wastes; and excavation of trenches into the shale bedrock. In early August 1978, the landfill was closed by the Ashtabula County Health Department.

According to documentation, during its years of operation, the New Lyme Landfill received household, industrial, commercial, and institutional wastes and construction and demolition debris. Fifty 55-gallon drums of cyanide sludge are believed by the Ohio EPA to have been buried at the site.

Documents indicate that wastes at the New Lyme Landfill site include: coal tar distillates, asbestos, coal tar, resins and resin tar, paint sludge, oils, paint, lacquer thinner, peroxide, corrosive liquids, acetone, xylene, toluene, kerosene, naphtha, benzene, linseed oil, mineral oil, fuel oil, chlorinated solvents, 2,4-D, and laboratory chemicals.

CURRENT SITE STATUS

Data collected during the remedial investigation (RI), conducted during the period of August 1983 to August 1984, has indicated contamination of various media at and in the vicinity of the New Lyme Landfill site. The quantity and type of contamination present is summarized in Table 1.

Potential risks from contaminated soil, leachate and groundwater at the site are based on the assumption that the site will be used in the future for both residential and industrial/commercial development. The potential human health and environmental effects of the site in the absence of any remedial action are estimated. These risks are theoretical quantifications, and are reported as excess lifetime cancer risks. Excess lifetime cancer risk is defined as the incremental increase in the probability of getting cancer compared to the probability if no exposure occurred. For example, a 10^{-6} excess lifetime cancer risk represents the exposure that could increase cancer by one case per million people exposed. The risk levels were calculated using U.S. EPA Carcinogen Assessment Group cancer potency values (U.S. EPA, December 1984).

Generally, due to incomplete record keeping and documentation, the site contains waste whose quantities, condition, and exact nature are not fully known. Based on the exposure assessment, exposure to environmental media contaminated by a release from the New Lyme Landfill site has the potential to result in current and future risks to public health and the environment. Assessing the site by using a 1×10^{-6} excess lifetime cancer risk as a level of concern for public health, exposure to leachate via wading, and ingestion of groundwater and soil present a risk to public health. An environmental threat to wetlands and surface waters is also posed by the continuing discharge of leachate from the site.

Table 1
SUMMARY - ANALYTICAL DATA

Concentrations (ug/kg in soil, ug/L in water)

VOC's	Leachate	Soil	Groundwater (ug/L in water)		Surface Water	Sediment (at Leachate Sites)	Sediment (at Surface Water Sites)
			(Onsite)	(Waste Cell)			
Acrolein	234						
1,2-Dichloroethane	37.9-180		4				
1,1-Dichloroethane	30.8-23						
Trans-1,3-Dichloropropene	71.4						
Ethylbenzene	21.3-13700	5.8-182	15	430-9700	1.4	15-244	
Methylene Chloride	2870-44000		570	570-10000	50	541-1053	
Chloromethane	10.9-17.2						
Toluene	92.5-12600						
Trichloroethene	15.2-162.4	0.8-79.6		130	200	118-1053	
Vinyl Chloride	20-101						
2-Butanone	82.6-49400	2.6-22		12			
2-Hexanone	6.3-2780	3.9-18.4		6000-76000		2245-6555	
4-Methyl-2-Pentanone	2230-5610	6.8		1100-2300		855	
Xylene	41.4-415	3.1-70.9		1500-15000		14-418	
Fluorotrichloromethane		3.0-13.5			1.3-1.4		
Tetrachloroethene		12-26					40
Styrene		3.1-70.9					
1,1,1-Trichloroethane		5.9-37.8					
Carbon Disulfide		5.4-19.5					
Acetone	0-328000			1000-46000	130	1170	1224-7444
Chlorobenzene					3.5		66-73
Trans-1,2-Dichloroethene							

SEMIVOLATILES

P-Chloro-H-Cresol	10.8-11
Pentachlorophenol	14-99.2
Phenol	38400
Benzole Acid	11.4
2-Methylphenol	14.6
1,4-Dichlorobenzene	6.8-21.7
N-Nitrosodiphenylamine	6
Benzyl Alcohol	16
PAH's	13.4-15
Phthalates	56-7700
Dibenzofuran	50-530
	860

OTHER

PCB's	140-300
Mercury	70-150
Alpha-BHC	
Delta-BHC	
	0.006
	0.009

WJr/CLT114/64

There is also concern with offsite migration of leachate into surface water because Lebanon Creek drains into Rock Creek, upstream of Lake Roaming Rock, a water supply reservoir.

Soil

Surface and subsurface soil contains volatile organic compounds (VOCs) at concentrations in the part per billion range. Ingestion of contaminated soil from areas of maximum VOC concentrations may result in an excess lifetime cancer risk (above background) of 2×10^{-4} .

Groundwater

Volatile organic and phenolic compounds were found in two on-site groundwater monitoring wells in the low part per million range. The most widespread organic compounds in onsite groundwater samples were phthalates at concentrations below quantification limits. Ingestion of contaminated groundwater from the New Lyme Landfill site may result in a calculated excess cancer risk of 1×10^{-4} , the primary compounds of concern being tetrachloroethane, methylene chloride and chloroform. The residences around the site rely on the groundwater for their drinking water source. The residential wells are not presently affected by groundwater contamination from the site. Although it appears that the groundwater around the site is under an artesian head and that groundwater is flowing upward through the site as leachate, the local water supplies may be affected in the future if contaminants move offsite.

Leachate

Leachate includes both leachate seeps at the surface of the landfill and water that is either stagnant or moving very slowly in or out of buried waste trenches. Organic compounds identified in leachate water samples and the monitoring well screened within a waste trench consist primarily of volatile and phenolic compounds. Leachate water samples contain inorganic compounds, including heavy metals at concentrations that were generally an order-of-magnitude or more greater than metal concentrations found in surface water samples. Asbestos was also found in the leachate. It appears that groundwater is flowing upward and is the source of the leachate. Wading in these leachate seeps may result in absorption through the skin and a calculated excess lifetime cancer risk of 8×10^{-6} .

Sediment

Sediment in Lebanon Creek and associated wetlands, and sediment in leachate seeps may have been exposed to contaminants contained in surface runoff during site operations, and in leachate seep discharges. Organic compounds identified in leachate sediment samples consist primarily of volatile compounds. Several organic base/neutral and acid extractable compounds

were also detected. All levels were below levels of quantification (low ppb's). Several organic acid extractable and base/neutral compounds were found below quantifiable levels in a downstream sample from Lebanon Creek. Ingestion of contaminated sediment may result in an excess lifetime cancer risk (above background) of less than 10^{-6} .

Surface Water

Organic priority pollutants occur at low part per billion levels in all samples taken upstream, downstream, onsite, and offsite. There is no apparent pattern to the distribution of low levels of organic contaminants. For compounds detected in downstream samples, no compound which has a standard or criteria for aquatic life protection exceeds that standard or criteria.

ENFORCEMENT (See Attachment 1)

ALTERNATIVES EVALUATION

The major objective of the feasibility study (FS) is to evaluate remedial alternatives using a cost-effective approach consistent with the goals and objectives of CERCLA. The National Oil and Hazardous Substances Contingency Plan (NCP), 40 CFR Part 300.68 defines a cost-effective remedial action as "the lowest cost alternative that is technologically feasible and reliable and which effectively mitigates and minimizes damage to and provides adequate protection of public health, welfare or the environment." The NCP outlines the procedures and criteria to be used in selecting the cost-effective alternative.

An environmental assessment presented in Chapter 2 of the FS determined that source control and offsite (management of migration) measures are necessary. A comprehensive list of appropriate remedial response technologies was identified, and each technology was screened based on the characteristics of the waste materials at the site, and applicability of the technology to site specific conditions. Applicable technologies were further screened to evaluate their use in remedial actions based on technical feasibility, including an assessment of performance, reliability, implementability and safety, order of magnitude cost, and public health, environmental and institutional impacts. This initial screening is consistent with Section 300.68(h) of the NCP. The following technologies are considered applicable to site conditions and problems:

° Soil/Sediment

RCRA cap

Multimedia cap

Landfill

Incineration

◦ Groundwater/Leachate

Vertical barrier

Treatment (onsite)

- Precipitation
- Air Stripping
- Filtration
- Granular Activated Carbon
- Biological

Treatment (offsite)

- POTW
- Treatment facility

Collection

- Extraction wells
- Subsurface drains

) Technologies which were eliminated from further consideration include soil incineration, groundwater and leachate treatment at a POTW or hazardous waste facility, and onsite treatment using air stripping. Incineration was eliminated because of concerns including facility unavailability, extensive time for implementation, character of the residual ash (although potential exists for ash to be delisted, for the purpose of the FS, the ash was considered as if it is a hazardous waste), and cost (\$750,000,000 to incinerate the entire landfill contents). Treatment at a POTW or hazardous waste facility was eliminated because of the unreliability of transporting truckloads on a daily basis for many years, and the substantial O&M costs (POTW - \$500,000 per year, hazardous waste facility - \$6,000,000 per year). Air stripping was eliminated from further evaluation because it does not remove refractory organic compounds, which are compounds of concern at the site.

Remedial action alternatives were developed from the technologies which survived the screening process taking into consideration the magnitude and extent of contamination, the waste characteristics, and the physical conditions of the site. The technical feasibility of each alternative was evaluated based upon performance, reliability, implementability and safety. The capital costs, annual operation and maintenance (O&M) costs, and present worth costs were estimated for each of the alternatives. The expected accuracies for cost estimates are within +50 and -30 percent of the actual cost. The individual alternatives were then evaluated for compliance with federal and state environmental laws and regulations, protection of human health and effects on institutional parameters. This detailed analysis of a limited number of alternatives is consistent with Section 300.68 (i) of the NCP.

Detailed Description/Evaluation of Alternatives

A comparative evaluation and description of the alternatives is presented below and summarized in Table 2. The environmental laws which may be applicable or relevant to the remedial alternatives are discussed in the section entitled Consistency with Other Environmental Laws.

Overview of Alternatives 2,3,4 and 5

Alternatives 2,3,4 and 5 all include either a RCRA or multimedia cap. The following is a detailed description of both of these caps.

A multimedia cap (loam/synthetic membrane/geotextile/sand), shown in Figure 3, consists of a 1-foot-thick sand drainage layer over the existing cap, overlain by a geotextile and synthetic membrane. One and one-half feet of loam will be used as the surface layer. The sand layer will provide a pathway for gas migration to the apex (high point) of the landfill where it can be vented. The sand layer can also be used as a pathway for groundwater/leachate migration in a surface or near surface collection system. The geotextile layer will bridge minor surface irregularities, withstand some of the tensile stresses (stresses which will cause the membrane to stretch) developed during construction, and be a clean surface on which the field seams of the synthetic membrane can be made. Manufacturers of the various synthetic liners have indicated that the service life of membranes range from 20 to 40 years when properly installed, covered with soil, and kept free from exposure to weathering, heat, and chemical attack. It is estimated that 1,700 gallons of water per day flow through the existing cap. With a multimedia cover it is expected that infiltration will be reduced to zero.

TABLE 2 FINAL EVALUATION MATRIX
(Page 2 of 3)

ALTERNATIVE	TECHNICAL				ENVIRONMENTAL			COST (\$1,000's)			
	Performance	Reliability	Implementability	Safety	Short Term (Construction)	Long Term (Operation)	Institutional	Public Health	Present Month	Capital Cost	Annual O&M Cost
Assembled Alternative 3B Installation of Type II cap with dewatering, leachate collection, monitoring, and gas migration control.	Type II cap offers a single layer of protection against leachate, methane, and gas migration control.	See Assembled Alternative 3A	See Assembled Alternative 3A	See Assembled Alternative 3A	Production of limited amounts of dust, odors, contaminants, and noise. Short term disruption of neighborhood due to increased truck traffic and heavy equipment.	Release of toxic contaminants would be reduced or eliminated. Future releases of contaminants can occur because the waste remains in place. Long-term operation of facility by state agency required.	See Assembled Alternative 3A	Release of or exposure to contaminants should be eliminated. Excess lifetime cancer risks from ingestion of groundwater and leachate is reduced to less than 1 x 10 ⁻⁶ .	9,000	6,700	750
Assembled Alternative 4A Installation of Type I cap with slurry wall, leachate collection, monitoring, and gas migration control.	Minimizes release of hazardous materials from landfill. Controls groundwater movement. Leachate production would be reduced. Some infiltration will occur across slurry wall boundary. Cap would minimize infiltration into landfill from the top surface and surface water run-off would be controlled. Cap offers a double layer of protection against failure. Collected leachate would be treated and discharged. Extended treatment period required.	Regular operations and maintenance required by trained personnel. Extensive monitoring may be required. Technologies have been proven reliable in landfill operations under similar conditions.	Installation of slurry wall will require careful excavation, thorough mixing of materials, and effective placement of materials. Some implemented materials may not be locally available.	See Assembled Alternative 2.	Production of limited amounts of dust, odors, contaminants, and noise. Short term disruption of neighborhood due to increased truck traffic and heavy equipment.	Treated leachate will meet NPDES requirements. Would be considered a hazardous waste facility.	See Assembled Alternative 4A	Release of or exposure to contaminants should be eliminated. Excess lifetime cancer risks from ingestion of groundwater and leachate is reduced to less than 1 x 10 ⁻⁶ .	43,000	41,800	NI
Assembled Alternative 4B Installation of Type II cap with slurry wall, leachate collection, monitoring, and gas migration control.	Type II caps offers a single layer of protection against failure. Otherwise, same as AA-4A.	See Assembled Alternative 4A	See Assembled Alternative 4A	See Assembled Alternative 4A	Migration of waste contaminants is not expected to be a problem. Short term disruption of neighborhood due to increased truck traffic and noise.	Leachate production will continue because the waste is still in place. Long-term operation of facility by state agency required.	See Assembled Alternative 4A	Release of or exposure to contaminants should be reduced or eliminated. Excess lifetime cancer risks from ingestion of groundwater and leachate is reduced to less than 1 x 10 ⁻⁶ .	41,200	40,700	150
Assembled Alternative 5A Installation of Type I cap with leachate collection, water treatment, monitoring, and gas migration control.	Cap would minimize infiltration into landfill from the top surface and surface water run-off would be reduced. Leachate production would not be reduced. Gas migration thru landfill would be controlled. Collected leachate is treated and discharged. Extended treatment period required.	Regular operations and maintenance required by trained personnel. Extensive monitoring may be required. All remedial technologies have been proven in the field or under similar conditions.	Alternative can be implemented in 6 months. 20 ft. perimeter drain may require care in construction and installation.	See Assembled Alternative 2.	Migration of waste contaminants is not expected to be a problem. Short term disruption of neighborhood due to increased truck traffic and noise.	Discharge of treated leachate will meet the requirements of the NPDES program. Would be considered a hazardous waste facility.	See Assembled Alternative 4A	Release of or exposure to contaminants should be reduced or eliminated. Excess lifetime cancer risks from ingestion of groundwater and leachate is reduced to less than 1 x 10 ⁻⁶ .	11,900	9,100	100

TABLE 2 FINAL EVALUATION MATRIX
(page 1 of 3)

ALTERNATIVE	TECHNICAL				ENVIRONMENTAL			COST (\$1,000's)			
	Performance	Reliability	Implementability	Safety	Short Term (Construction)	Long Term (Operation)	Institutional	Public Health	Present Worth	Capital Cost	Annual O&M Cost
Assembled Alternative 1 No Action	<p>Poor Contaminant migration to offsite soils and groundwater are expected over a long-term period.</p>	<p>Not Applicable</p>	<p>Easiest alternative to implement.</p>	<p>No construction required.</p>	<p>Not Applicable</p>	<p>Site poses an environmental threat to neighboring communities.</p>	<p>Uncontrolled waste sites. Site does not comply with RCRA or other federal and state environmental laws.</p>	<p>Migration of contaminants from site would continue unabated. Pathways of direct contact with contaminants include: Exposed soils. Leachate risks from residential soil and groundwater ingestion is greater than 1×10^{-6}.</p>	-0	-0	-0
Assembled Alternative 2	<p>Minimizes infiltration into the landfill, surface water run-off, and gas build-up beneath the cap. Groundwater movement into landfill is not controlled. Does not eliminate leachate seeps around the perimeter of the landfill.</p>	<p>Requires infrequent attention with little operation and maintenance. All remedial technologies have been proven reliable in the field under similar conditions. Typical of RCRA-type landfills. Monitoring of off-site locations required.</p>	<p>Alternative can be implemented in 6 months. Routine construction effort with immediate results following installation.</p>	<p>Stringent safety precautions required during construction. Monitoring for airborne asbestos fibers would be a necessary precaution. Possible presence of cyanide in landfill may produce toxic gases. Potential for explosions to occur due to the presence of ignitable gases.</p>	<p>Migration of waste contaminants is not a problem during construction except for groundwater. Short disruption of neighborhood due to increased truck traffic.</p>	<p>New cap would reduce offsite problem of surface water. Uncontrolled gas migration to neighborhood due to offsite would continue due to uncontrolled groundwater flow.</p>	<p>Groundwater and surface waters may be in violation of the federal and state environmental laws.</p>	<p>Potential offsite exposure of neighboring public to contaminated leachate by way of groundwater. Excess offsite ingestion of leachate and groundwater is greater than 10^{-6}.</p>	6,000	3,400	25
Assembled Alternative 3A	<p>Alternative minimizes release of hazardous materials from landfill. Groundwater movement into landfill is controlled. Leachate production would be minimized and leachate seeps eliminated. The cap would stabilize landfill surface. Landfill surface water run-off, and gas build-up beneath the cap. Cap offers a double layer of protection against leachate-groundwater failure. Collected leachate-groundwater would be treated and discharged. Leachate treatment may be reduced to a period of 15 years</p>	<p>Requires dedicated personnel to maintain functions and regular operation and maintenance by trained personnel. All remedial technologies have been proven reliable in the field or under similar conditions.</p>	<p>Can be implemented in 1 year. Additional hydrological data is needed to accurately place pumping wells. Excessive construction effort is not required. Immediate results can be achieved within implementation period. Pilot plant tests are necessary for water treatment.</p>	<p>See Assembled Alternative 2.</p>	<p>Production of limited amounts of dust, odors, contaminants, and noise. Short disruption of neighborhood due to increased truck traffic.</p>	<p>Release of toxic contaminants would be reduced or eliminated. Future releases of contaminants can occur because the waste remains in place. Dewatering of approximately 15 acres surrounding the landfill will occur. Leachate production would be reduced to a minimum. Treatment system may be turned off after 15 years of operation.</p>	<p>Treated leachate will meet the requirements of NPDES. Waste will eventually be uncontrolled when the landfill is dewatered and leachate production is reduced.</p>	<p>Release of exposure to contaminants should be considered. Leachate can pose risks from ingestion of groundwater and leachate is reduced to less than 1×10^{-6}.</p>	10,800	8,300	170

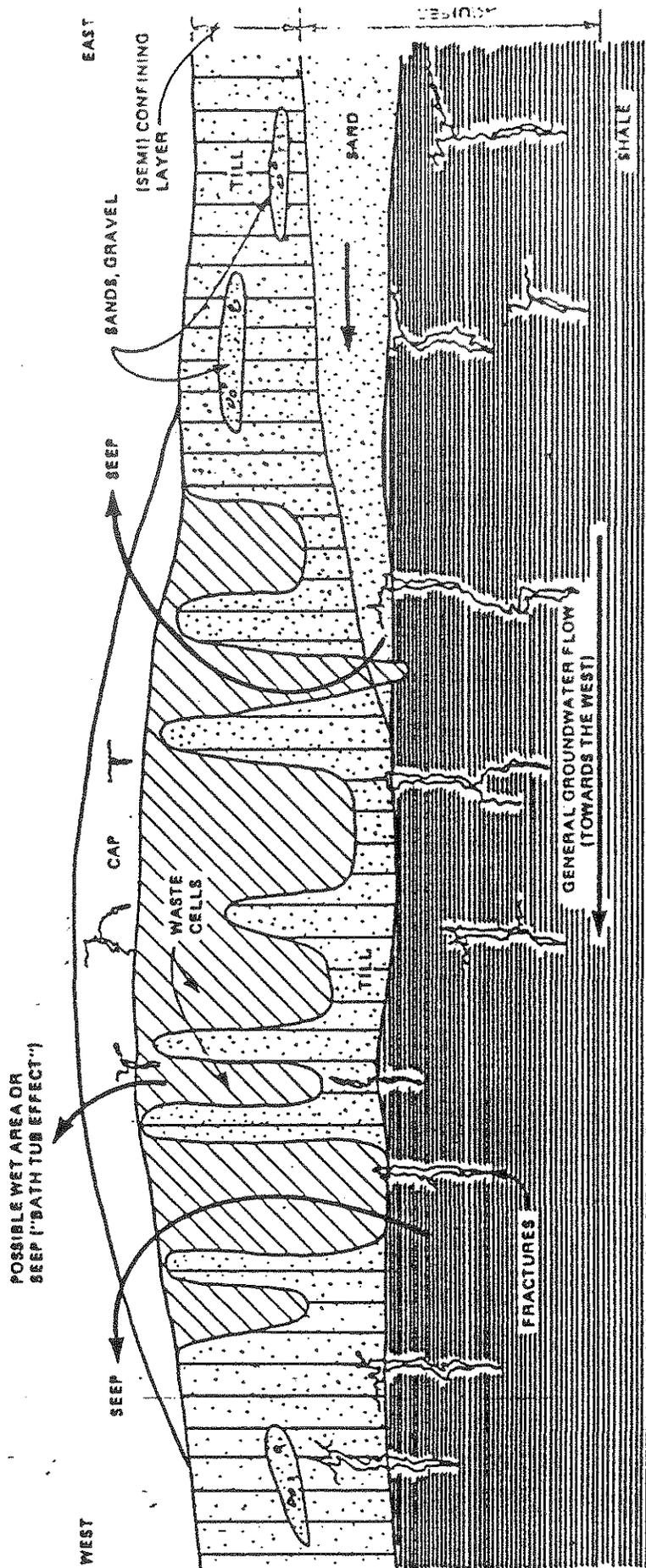


FIGURE 2
 SCHEMATIC HYDROGEOLOGIC
 CROSS SECTION
 NEW LYME LANDFILL

TABLE 2 FINAL EVALUATION MATRIX
(Page 3 of 3)

ALTERNATIVE	TECHNICAL				ENVIRONMENTAL			COST (\$1,000's)			
	Performance	Reliability	Implementability	Safety	Short term (Construction)	Long term (Operation)	Inconspicuous	Public Health	Present Worth	Annual O&M Cost	
Assembled Alternative 5B Installation of Type II cap with leachate collection, water treatment, monitoring, and gas migration control.	Type II caps offers protection against future leachate, same as AA-5A.	See Assembled Alternative 5A	See Assembled Alternative 5A	See Assembled Alternative 5A	See Assembled Alternative 5A	See Assembled Alternative 5A	See Assembled Alternative 5A	See Assembled Alternative 5A	10,100	7,300	250
Assembled Alternative 6A Excavation with onsite disposal in a RCRA designed landfill.	Contents of landfill would be excavated to upgrade existing landfill to RCRA status with a leachate collection system. Should secondary control be provided at hazardous waste level, the collection system is limited by the effectiveness of the RCRA landfill to keep the water table beneath the landfill.	Requires periodic operations and maintenance. RCRA landfills have been proven reliable in the field. Collected leachate would be treated on or off-site.	Alternative requires 1 year or longer to implement. Depression of water table would be required during excavation. Dewatering would be required during excavation.	In addition to Alternative A2, excavation would require extensive safety precautions and personnel protection due to the presence of acids, cyanides, asbestos, methane, and VOCs.	Intensive site excavation would generate dust, odors, noise, and surface water run-off. Large amount of excavated waste/debris would be placed into re-designed landfill.	System would contain waste materials according to RCRA regulations. Leachate collection system would handle liquids. Collected leachate would probably be treated offsite.	Alternative will meet RCRA approval with site location due to location in a wetland and above a Class II aquifer.	Release of or exposure to toxic substances is not expected. Temporary short-term exposure risks to on-site personnel. Excess lifetime cancer risks from ingestion of groundwater is less than or equal to 1 x 10 ⁻⁶ .	99,200	98,600	25
Assembled Alternative 6B Excavation with offsite disposal in a RCRA landfill.	Excavation of landfill contents primarily removes source of contamination.	Most reliable alternative. No operations and maintenance required.	Alternative requires 2 or more years to implement due to the large volume of waste, trucking logistics, etc. Dewatering of water table and groundwater would be required.	Same as AA-6A.	Disruption of neighborhood and highway traffic due to truck transport of waste offsite. Intensive site excavation would generate dust, odors, noise, and surface water run-off.	Removal of waste eliminates the migration of contaminants and barriers to future use of this site.	Most comply with DOT hazardous waste transportation regulations for off-site disposal.	Source of exposure removed. Excess lifetime cancer risks from ingestion of groundwater is less than 1 x 10 ⁻⁶ .	262,800	262,800	0

The RCRA cap (loam/gravel-sand/synthetic membrane/clay) shown in Figure 4 consists of a multilayer cap of 2 feet of loam or clay overlying 1 foot of a gravel/sand drainage layer over a minimum 20 millimeter synthetic membrane over 2 feet of clay. The primary difference between the RCRA cap and the multimedia cap is that the latter has a sand drainage and a geotextile layer beneath the synthetic membrane and additional clay is not installed over the existing cap.

The RCRA cap will prevent infiltration similarly to the multimedia cap. The RCRA cap has an advantage, however, in that there is extra protection against cap failure because of the clay layer.

Alternatives 3,4 and 5 all include the following treatment system for leachate and groundwater as shown in Figure 5.

The landfill leachate is expected to contain significant amounts of biodegradable organic compounds. However, because the leachate is a result of the relatively rapid upflow of groundwater through the landfill, the contact time with the waste is reduced, and it should be more dilute than typical landfill leachate. The BOD removal can be addressed with a type of biological treatment system called the biodisc. Biological treatment may remove or significantly reduce the VOCs present in the leachate either by biodegradation or by volatilization. The construction cost of this system is \$140,000, with an annual O&M cost of \$20,000.

Granular activated carbon (GAC) has been widely used to remove refractory organic compounds which remain after biological treatment. GAC is effective on a wide range of organic compounds that pass through a biological treatment system. A packaged GAC adsorber system is recommended to minimize design and development requirements. The GAC adsorber system consists of two pressure adsorbers mounted on a skid. The adsorbers are operated downflow only in a series arrangement. The system has an installed cost of approximately \$150,000 and an annual O&M cost of \$80,000.

A treatment system installed will have to be designed to remove barium, iron, lead, manganese, and nickel. Chemical precipitation using sodium hydroxide with filtration and sedimentation is the recommended metals treatment process. Asbestos, also found in the leachate, can be removed by filtration. The metals treatment system has an estimated installed cost of \$130,000 and an annual O&M cost of \$110,000.

The pH adjustment system and other ancillary details (building, storage tanks) have a construction cost of \$268,000 and an annual O&M cost of \$6,400.

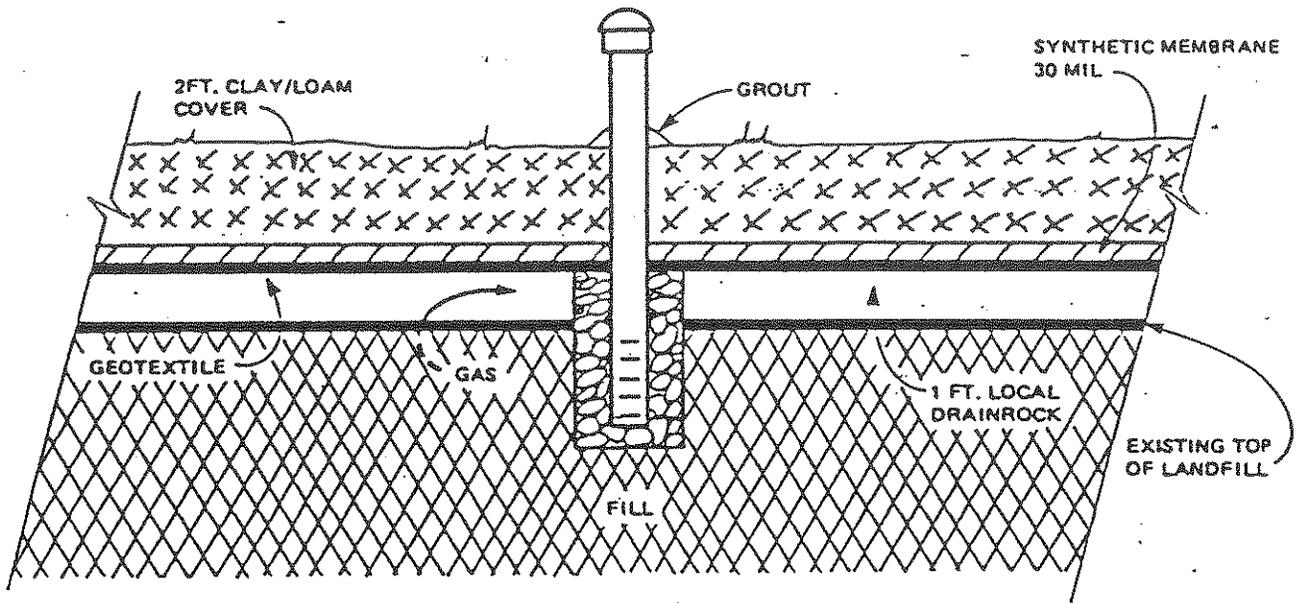


FIGURE 3
 TYPE II CAP (LOAM/SYNTHETIC
 MEMBRANE/GEOTEXTILE/SAND)
 NEW LYME LANDFILL

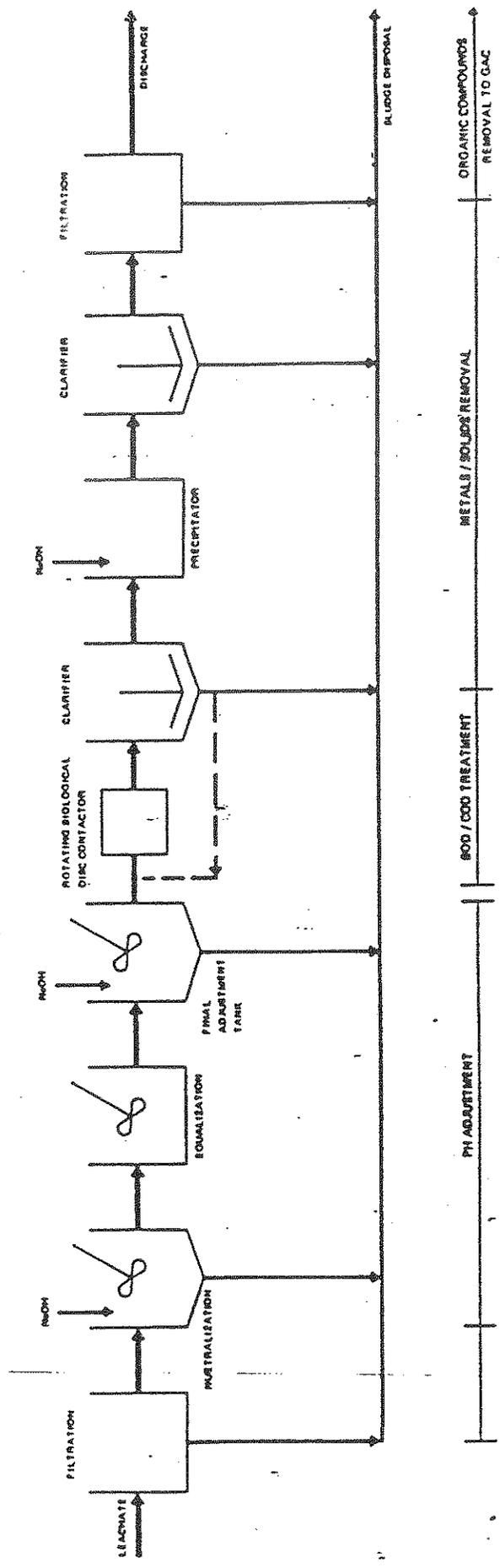
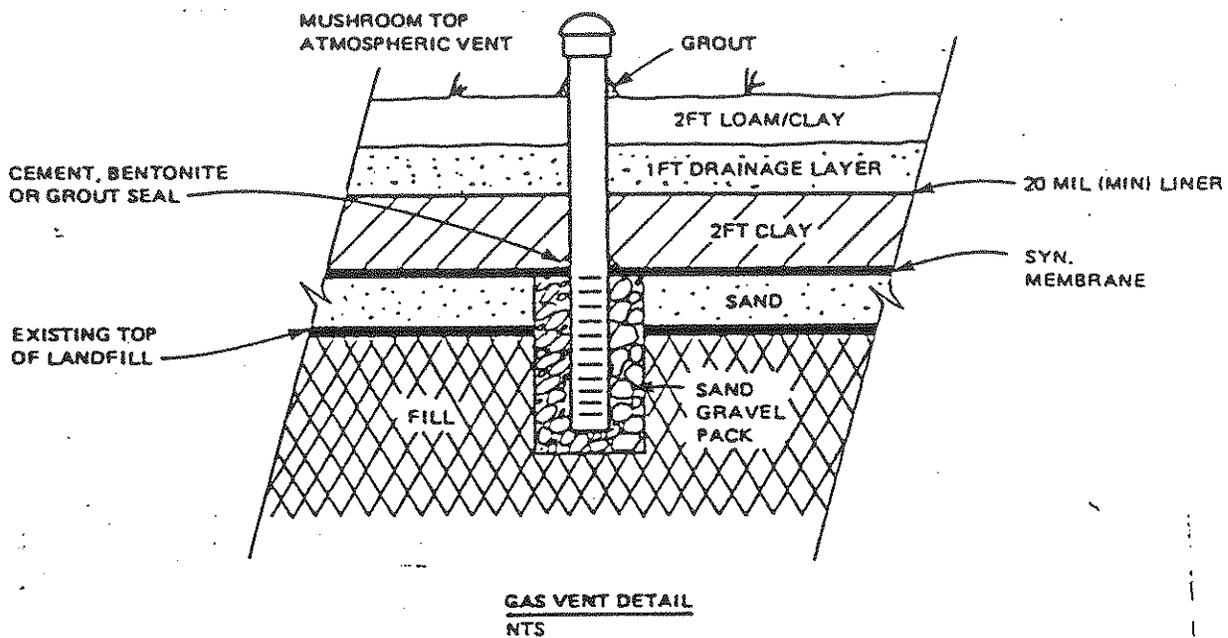
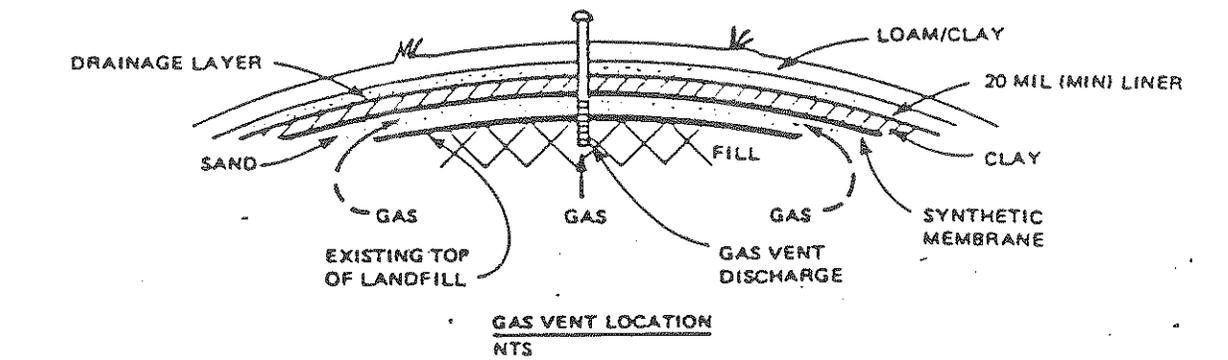


FIGURE 5
 METALS PRECIPITATION -
 PH ADJUSTMENT FOR LEACHATE/
 GROUNDWATER
 NEW LYME



NTS - Not To Scale

FIGURE 4
TYPE I CAP AND GAS
COLLECTION SYSTEM
NEW LYME LANDFILL

Sludges generated by the treatment system will contain oxides and hydroxides of iron, nickel, manganese, lead, arsenic, and other inorganic constituents. It is assumed that sludge, because of the metals content, will require disposal at a RCRA-licensed landfill. Actual production and analysis of the sludge is necessary to determine if other disposal options are feasible.

The construction worth cost of the treatment facility is \$688,000 and annual O&M costs are \$216,400.

Alternative 1

Under this alternative, no remedial action will be taken at the site. The threat to public health and the environment as described earlier and in FS Chapter 2, Exposure Assessment, will remain.

Alternative 2

Alternative 2 consists of a multimedia cap with gas control as described earlier. Implementation of this alternative eliminates exposure due to inhalation or ingestion of contaminated soil. It will also minimize the exposure to landfill gases and will manage the gas. However, contaminated groundwater and leachate will continue to leave the site since this alternative does not control upward flow of groundwater.

Monitoring wells will be installed upgradient east of the site, and at downgradient locations west of the site. The upgradient well will provide background water quality data for comparison with data collected downgradient. Sediment and surface water samples will be collected offsite to provide a means of evaluating contaminant migration resulting from surface water runoff and leachate seeps. Sediment and surface soil samples will also be periodically collected at selected points along the landfill perimeter to enable data comparison between onsite contaminants and contaminants, if any, found in groundwater and surface water.

A multimedia cap is an effective and proven technology. Gas vents will be installed into the cap to prevent gas buildup. Contaminated sediment will be consolidated under the cap.

The present worth cost of Alternative 2 is \$6,014,000 with annual O&M costs of \$25,000.

Alternatives 3A and 3B

Alternatives 3A and 3B, which include a RCRA or multimedia cap respectively, as described earlier, and extraction/containment wells, water treatment, monitoring, and gas migration control, address all exposure pathways of concern.

Implementation of either of these alternatives will eliminate the exposure pathways of direct contact with leachate seeps, ingestion and inhalation of soil, and exposure to groundwater.

Implementation of Alternative 3A will substantially comply with applicable and relevant environmental laws. The environmental laws which may be applicable or relevant are the Resource Conservation Recovery Act (RCRA), the Clean Water Act (CWA), the National Environmental Policy Act (NEPA) and Executive Orders for Wetlands. The cap described as part of Alternative 3B will not meet all the requirements of Part 264.310 for closure of a landfill if subsidence occurs such that the integrity of the cap is not maintained. The other elements of Alternative 3B substantially comply with the other applicable or relevant environmental laws. This is discussed later in this document in the section entitled Consistency With Other Environmental Laws.

As discussed earlier, caps are effective in reducing water infiltration through the top of the landfill, contaminant transport by surface water runoff, airborne emissions, and human contact. The caps are flexible, and this makes the caps less susceptible to cracking from settlement or frost heave. The landfill surface will need to be regraded during the construction of the cap to allow improved control of surface water runoff. Capping is a proven and reliable technology. It is estimated that one year is required for installation of either of these caps.

The landfill will be dewatered, and the flow will be controlled through the use of extraction/containment wells around the site perimeter. The extraction system will collect groundwater at a rate of 60,000 gallons per day. The wells will be used to inhibit the movement of groundwater into and through the landfill by intercepting groundwater before it enters the landfill. Pumping will lower the groundwater and effectively dewater the landfill. Leachate production will be minimized and the leachate seeps will be eliminated. This system does not differentiate between uncontaminated groundwater and leachate draining from the landfill. Because leachate and groundwater will both be collected, treatment of the water will be required. The need for treatment will decrease over time as the landfill will be gradually pumped dry (estimated to be 15 years). After such time, the extracted groundwater can be discharged directly to Lebanon Creek or the surrounding wetlands. In the interim, the collected water will be treated onsite with a biodisc, sodium hydroxide precipitation, and GAC as described earlier. A groundwater monitoring system as described under Alternative 2 will be established. The present worth cost of Alternative 3A is \$10,798,000 with annual O&M costs of \$252,000. The present worth cost of Alternative 3B is \$9,017,000 with annual O&M costs of \$252,000.

Alternatives 4A and 4B

Alternatives 4A and 4B which include a cap (either RCRA or multimedia respectively, as described for Alternatives 3A and 3B), gas collection, slurry wall, leachate collection, water treatment and site monitoring, address all exposure pathways of concern. Implementation of either of these alternatives will

eliminate the exposure pathways of direct contact with leachate seeps, ingestion of soil, and groundwater.

Implementation of Alternative 4A will substantially comply with applicable and relevant environmental laws (RCRA, CWA, NEPA and Executive Orders for Wetlands) as discussed in the section entitled Consistency With Other Environmental Laws. The cap described as part of Alternative 4B may not meet all the requirements of Part 264.310 for closure of a landfill because of landfill subsidence. The other elements of Alternative 4B substantially comply with the other applicable or relevant environmental laws.

The effectiveness of capping the site was discussed earlier in this document.

A cement-bentonite slurry wall around the entire landfill is necessary to mitigate groundwater migration. To be effective, the slurry wall must penetrate through the fractured permeable zone of the underlying shale. The cost estimate is based on an average 90-foot wall (40 feet through the till and 50 feet into the shale). It is estimated that 1×10^{-6} cm/s is the lowest hydraulic conductivity to be reasonably achieved through a cement-bentonite slurry wall. This hydraulic conductivity, an order-of-magnitude less than estimated for the till, will result in a reduction in groundwater infiltration and the associated generation of leachate. Groundwater levels within the capped area will be an estimated one-foot below those outside of the slurry wall to maintain an inward hydraulic gradient. This one-foot difference results in an estimated 6,000 gallons per day of infiltration. Presently, it is estimated that groundwater flow into the landfill as a result of upward vertical gradients is about 40,000 gallons per day. This infiltration will pass through the toe of the landfill, and be collected by a gravel drainage blanket placed inside of the slurry wall around the landfill perimeter, and then collected in a sump and pumped to treatment. This technology has been proven effective and durable in hazardous waste applications. A groundwater monitoring system as described under Alternative 2 will be established.

The present worth cost of Alternative 4A is \$43,033,000 and of Alternative 4B is \$41,246,000. Annual O&M costs for either Alternative 4A or 4B is \$80,000.

Alternatives 5A and 5B

Alternatives 5A and 5B include the construction of a RCRA or multimedia cap respectively, as described earlier, and the installation of vents to control gas migration, subsurface pipe drains for leachate collection, and site monitoring. This action will address all exposure pathways of concern (direct contact with leachate seeps, ingestion of soil and groundwater).

Implementation of Alternative 5A will substantially comply with applicable and relevant environmental laws (RCRA, CWA, NEPA and Executive Orders for Wetlands) as discussed in the section entitled Consistency With Other Environmental Laws. The cap described as part of Alternative 5B may not meet all the requirements of Part 264.310 for closure of a landfill because of landfill subsidence. The other elements of Alternative 5B substantially comply with the other applicable or relevant environmental laws.

Leachate generated by the landfill will be collected using subsurface pipe drains installed around the perimeter of the landfill to the depth of the fill. These drains may also collect some uncontaminated groundwater outside of the landfill before it passes through the landfill, reducing the amount of leachate. The drains will be approximately 20 feet below the ground surface. Water treatment will be required indefinitely because the leachate will be generated at a rate of 40,000 gallons per day from groundwater continuously coming into the landfill bottom. Treatment onsite will include biodisc, sodium hydroxide precipitation, and GAC as discussed earlier. It is expected that construction of this alternative will take about six months.

The present worth cost of Alternative 5A is \$11,868,000 with annual O&M costs of \$252,000. The present worth cost of Alternative 5B is \$10,084,000 with annual O&M costs of \$252,000.

Alternative 6A

Alternative 6A includes excavation of the existing landfill and creation of an onsite RCRA-type landfill.

Alternative 6A will eliminate the identified exposure pathways of direct contact with leachate seeps, ingestion and inhalation of soil and sediment, and exposure to groundwater.

Implementation of this alternative will substantially comply with applicable and relevant environmental laws (RCRA, CWA, NEPA and Executive Orders for Wetlands) as discussed in the section entitled Consistency with Other Environmental Laws.

Onsite disposal of excavated materials will involve removing waste materials from the landfill so a bottom liner and leachate collection system can be constructed. Excavated materials will be stockpiled onsite in a bermed containment area and segregated by hazardous waste type. Water draining from the excavated materials will be collected and treated. Leachate generated through biodegradation within the landfill will be collected in the bottom drains and also treated. Stockpiled fill will be placed back into the landfill as each new cell in the bottom liner system is completed. Excavation and bottom construction will continue across the site until all materials are removed and the bottom liner completed. A RCRA cap will then be placed over the new landfill. A fence will be constructed around the site and a monitoring network established as discussed in Alternative 2.

The present worth cost of this alternative is \$99,176,000 with annual O&M costs of \$25,000.

Alternative 6B

Alternative 6B includes excavation of the existing landfill and offsite disposal in a RCRA compliant facility. This alternative will also eliminate all exposure pathways of concern.

Implementation of this alternative will substantially comply with applicable and relevant environmental laws (RCRA, CWA, NEPA and Executive Orders for Wetlands) as discussed in the section entitled Consistency with Other Environmental Laws.

The excavation will occur as described in Alternative 6A. The soil will be transported offsite and disposed of in a RCRA-compliant facility. The site will be backfilled with clean soil.

This alternative will require greater than two years to implement.

The present worth cost of this alternative is \$262,818,000 with no annual O&M costs.

Consistency With Other Environmental Laws

The technical aspects of the remedial alternative implemented at the New Lyme site will be consistent with other applicable and relevant laws. Other environmental laws which may be applicable or relevant to the remedial alternatives evaluated are the Resource Conservation and Recovery Act, the Clean Water Act, the National Environmental Policy Act, and Executive Orders for Wetlands.

The provisions of RCRA applicable to remediation at New Lyme are the 40 CFR Part 264 technical standards for closure of a landfill, and the Subpart F, Groundwater Protection standards. RCRA requires removal of contaminated soil to background or to another standard protective of human health and the environment (closure as a storage unit by removal), or capping of the landfill (closure in place as a landfill).

The capping alternatives evaluated in the FS are consistent with those actions which would be taken during "closure" of a RCRA land disposal facility. To close a landfill, it is required that the cover be designed to provide long-term minimization of liquids through the landfill, promote drainage and require minimum maintenance, accommodate settling and have a permeability less than or equal to the permeability of any bottom liner or natural subsoils present. The RCRA cap described earlier will meet these requirements.

At New Lyme, there is concern that the multimedia cap may not accommodate settling of the landfill. Therefore, the multimedia cap at New Lyme may not meet all the requirements of RCRA closure. It is expected that natural subsidence will occur over time and, in addition, any groundwater system that changes the groundwater gradient (such as extraction wells) will cause more rapid settling. Although a synthetic liner will stretch to some degree to accommodate settling, damage to the synthetic liner may occur. The RCRA cap (synthetic and clay liner) has additional protection against failure due to landfill subsidence.

The alternative which fully contains the contaminated soil on-site is consistent with those actions necessary to build a new hazardous waste landfill, and to close such a landfill. For all new landfills, it is required that such a landfill or unit be constructed with two or more liners and a leachate collection system above and between such liners.

The complete soil removal alternative evaluated in the FS is consistent with that action which would be taken during closure of a RCRA storage facility. Closure of a storage facility requires either that all waste be removed, or if some waste residues are left, that the site be closed as a landfill unless it has been determined that wastes have been removed to levels such that the residue contamination poses no threat to health or the environment through any route of exposure.

The Groundwater Protection standards of RCRA will be applicable to the groundwater monitoring at the New Lyme site. 40 CFR Section 264.92 states that hazardous constituents entering the groundwater from a regulated unit must not exceed concentration limits in the uppermost aquifer underlying the waste management area beyond the point of compliance.

40 CFR Section 264.94 states that the concentration of a hazardous constituent must not exceed the background level of that constituent in the groundwater, or an alternate concentration limit (ACL) for that constituent which will not pose a substantial present or potential hazard to human health or the environment as long as the ACL is not exceeded. The hazardous constituents of concern are those hazardous substances which were detected in the groundwater during the RI.

The waste management area is that area of the site which will be covered by a cap. The point of compliance is at the hydraulically downgradient limit by the capped area and extends down into the uppermost aquifer underlying the unit.

At New Lyme, the most widespread organic compounds in onsite wells were phthalates [bis(2-ethylhexyl)phthalate, di-n-butyl phthalate], at concentrations below quantification limits. Volatile organic compounds (VOCs) were primarily found in the two monitoring wells associated with a waste cell, but some VOCs and phenolic compounds were also found below quantification limits in the other wells (phenol, chlorobenzene and acetone). No significant migration of contaminated groundwater was identified. Although no significant offsite groundwater migration has been detected, a monitoring system will be installed. Because of the artesian geological conditions at the site, it appears that groundwater flows upward through the landfill and discharges as leachate. Therefore, remediation of onsite groundwater contamination is expected to be accomplished through leachate collection.

Any discharge of treated groundwater and leachate at the site to Lebanon Creek will comply with substantive requirements of the Clean Water Act. During construction, care will be taken to avoid stormwater runoff from the site.

The functional equivalent of NEPA is carried out through the institutional/environmental/public health analysis of alternatives and public participation procedures.

Executive Order 11990 and Appendix A of 40 CFR Part 6, entitled "Statement of Procedures on Floodplain Management and Wetland Protection" may apply to remedial actions taken at New Lyme. The site does not lie in a floodplain but the site is surrounded by wetlands. If no practicable alternative exists outside the wetlands, the action should minimize potential harm and avoid adverse effects to the wetlands. Since the site is surrounded by wetlands, any remedial alternative will affect the wetlands to some degree. A Statement of Findings summarizing the effects of the recommended alternative on the wetlands is included in this document as Attachment 2. Section 404 of the CWA does not apply to the New Lyme site because nothing is expected to be introduced into the wetlands through implementation of remedial actions (no filling or dredging). If during design, it is determined that dredging or filling is necessary to properly install the cap, care will be taken to minimize adverse effects and substantive requirements of Section 404 will be met.

COMMUNITY RELATIONS

Limited community concern has been expressed at the New Lyme Landfill site. The Region has received no phone calls or correspondence from New Lyme citizens, although a few residents of Rock Creek (location of the Old Mill site, about ten miles away) fear that contamination from New Lyme will affect the Rock Creek water supply.

Three public meetings were held in New Lyme: the first in November 1983 to describe the RI/FS process, the second in February 1985 to describe the results from the RI; and the third in August 1985 to describe the recommended alternative and to receive public comments. Each meeting was attended by about 25 persons, including township and county officials.

At the initial meetings, the major concern of the residents was that material allegedly buried in the site, including drums of cyanide sludge, may eventually work their way into the local water supply. There was also concern about asbestos found in the leachate.

At the meeting held in August 1985 to take public comment on the recommended alternative, there were few questions and no public comments on the FS or proposed actions. A public comment period was held for 3 weeks following publication of the FS. No public comments were received.

Since publication of the FS, U.S. EPA has reevaluated the alternatives. The remedial alternative which is recommended in this document for implementation at the New Lyme site is different from the alternative which was originally recommended. A different cap, with an extra layer of clay, will be installed. Both caps were considered in the FS, and were described in some detail in documents provided to the public. Because the level of concern at the New Lyme site is limited, and the recommended alternative has not changed significantly, no additional public comment is planned. A fact sheet will be prepared to

describe the selected alternative and will be available to the public along with this document.

COMPARISON OF ALTERNATIVES

Using the information presented earlier and summarized in Table 2, the relative advantages and disadvantages of each alternative are compared in order to recommend a "cost-effective" alternative as defined in the NCP.

The no action alternative does not prevent further contaminant migration from the site, does not mitigate the existing contamination at the site, and does not reduce current or future public health risks. There is a potential for exposure of the public to contaminants at the site at levels that may adversely affect public health and welfare. If no action is taken, groundwater will continue to come into the site and be discharged as contaminated surface water, and contaminated soil and sediment will continue to be generated due to storm-water runoff. Remedial action is therefore required to reduce or minimize this exposure. Thus, the no action alternative is not recommended for implementation at the site.

Alternative 2 does not mitigate offsite migration of groundwater or leachate. The present worth of Alternative 2 is \$6,014,000, but the amount of contaminated water leaving the site will be reduced by only about 4 percent. The environmental and public health risks associated with surface water, groundwater, and leachate will not be significantly mitigated. Accordingly, Alternative 2 is not recommended for implementation at the site.

Both Alternatives 3A and 3B will address all of the exposure risks to public health and the environment at the site. Alternatives 3A and 3B differ only in the cap type. Alternative 3A has a RCRA cap (clay and synthetic) while Alternative 3B has a multimedia (synthetic) cap. The effectiveness of this alternative depends on the minimization of infiltration of groundwater and precipitation into the landfill. Although both caps effectively prevent the downward infiltration of stormwater into the landfill, the RCRA cap offers additional failure protection because it has two liners. The clay liner in the RCRA cap will provide more certainty of retaining the effectiveness of the remedy in case the synthetic liner should fail. The clay liner will also react better to subsidence in the landfill, which is expected to occur. Alternatives 3A and 3B have present worth costs of \$10,789,000 and \$9,017,000 respectively. Because the cap included as part of Alternative 3A provides additional protection against liner failure and is more reliable than the cap in Alternative 3B, Alternative 3B is not recommended for implementation at the site.

Similarly, Alternatives 5A and 5B differ only by the cap type. The present worth costs of Alternatives 5A and 5B are \$11,868,000 and \$10,084,000 respectively. Because of the additional reliability and protection against cap failure provided by the cap included as part of Alternative 5A, Alternative 5B is not recommended for implementation at the site.

Alternatives 4A and 4B also differ from each other by the type of cap. Alternatives 4A and 4B address all exposure risks to public health and the environment at a much greater cost than any of the other alternatives involving caps, because of the great expense of constructing a slurry wall. Alternatives 4A and 4B have present worth costs of \$43,033,000 and \$41,246,000 respectively with no additional public health or environmental benefits. Accordingly, neither Alternative 4A nor 4B are recommended for implementation at the site.

Alternative 6A will completely address the exposure risks to the public health and the environment at the site. All offsite migration will be prevented because all of the waste and contaminated soil and sediment will be placed in an onsite double-lined RCRA landfill. Alternative 6A has a present worth of \$115,000,000. Alternative 6B will also completely eliminate the chance for offsite migration and the resulting exposure risk because all of the contaminated wastes, soil, and sediment will be removed from the site. Alternative 6B has a present worth of \$257,700,000. Alternatives 6A and 6B are at least an order of magnitude more expensive than Alternatives 3A and 5A, with no significant reduction of exposure risk. Accordingly, Alternatives 6A and 6B are not recommended for implementation at the site.

Two alternatives remain for comparison.

- Alternative 3A - RCRA cap with extraction/containment wells, water treatment, monitoring, and gas migration control.
 - Present worth cost - \$10,798,000
 - Annual O&M cost - \$252,000
- Alternative 5A - RCRA cap with leachate collection, water treatment, monitoring and gas migration control.
 - Present worth cost - \$11,868,000
 - Annual O&M cost - \$252,000

These alternatives differ in the method by which the leachate migration is addressed, and in the cost. The environmental and public health benefits as measured by the elimination of contaminant migration from the site and minimization of the direct contact threat are the same for each alternative. In Alternative 5A the leachate will need to be collected (passive drainage

system) and treated for an indefinite period of time. In Alternative 3A it is expected that after approximately 15 years the need for treatment will be minimized as the landfill will be gradually pumped dry. In this respect, Alternative 3A produces a greater benefit, as the treatment facility will not be needed and the water collected from the dewatering wells can be discharged directly to Lebanon Creek, because the water will be uncontaminated.

Continuous pumping of the landfill required by Alternative 3A may over time dewater approximately 15 acres of wetlands surrounding the site. The trench and drain system of Alternative 5A will collect much less water than the pumping wells of Alternative 3A. Only water which intrudes by going under the drain will be drawn from the wetland. As the wetlands dry out, the plant community will change from a wetland to an upland community. Since the New Lyme Landfill site is located in a wetland, both alternatives will affect, to a slight degree, the wetland. Neither of the alternatives will significantly diminish the natural or beneficial values of the wetlands relative to their current state. Since both reduce the migration of contaminants into the wetlands, the ability to support wildlife and the values as a wetland will be enhanced.

Although there is natural subsidence which occurs within all landfills, it is estimated that dewatering the landfill (Alternative 3A) will expedite this settling process. This may have an adverse impact on the integrity of the cap and may require more extensive O&M than with Alternative 5A. Because the cap will have both a clay liner and a synthetic liner, there is more protection in case a leak should occur in the synthetic liner. It is estimated that a maximum of five feet of settling will occur. The costs associated with the subsidence have been included in the O&M cost estimate.

Since the trench and drain collection system is a less active system than an extraction/containment system, the everyday problems and costs associated with O&M of the leachate collection system are somewhat less for Alternative 5A than for Alternative 3A.

As mentioned earlier, the greatest difference between these two alternatives is that the treatment system will eventually be unnecessary with Alternative 3A. This is an attractive benefit, as an onsite treatment facility is labor-intensive and costly.

Since the environmental and public health benefits are the same, and the present worth cost of Alternative 3A (\$10,798,000) is less than the present worth cost of Alternative 5A (\$11,868,000), and the O&M costs are the same, Alternative 3A is recommended for implementation at the site.

RECOMMENDED ALTERNATIVE

It is recommended that Alternative 3A in the FS be selected as the cost-effective alternative in accordance with Section 300.68 (j) of the NCP. This alternative is necessary to protect public health and the environment from risk created by further exposure to contaminated groundwater, leachate, sediment and

soil. This alternative substantially complies with all other environmental laws and has a total present worth cost of \$10,798,000.

DESCRIPTION OF RECOMMENDED ALTERNATIVE

This alternative includes the construction of a RCRA cap over the surface of the landfill, and the installation of gas vents. In addition, the landfill will be dewatered and groundwater flow will be controlled through the use of extraction/containment wells around the site perimeter. Contaminated sediment will be moved onsite and consolidated under the cap.

The cap will consist of a multilayer cap of 2 feet of loam or clay overlying 1 foot of a gravel/sand drainage layer over a synthetic membrane, over two feet of clay. This cap is expected to minimize infiltration through the landfill.

Approximately 40,000 gallons per day are estimated to flow from the aquifer into the landfill and out at the surface as leachate. Six extraction/containment wells (900 feet on center) drilled to a depth of 90 feet and pumping 7 gallons per minute will be installed around the landfill. With reversal of the gradient through the landfill, extracted groundwater is expected to include some leachate. Twenty feet of drawdown at the center of the landfill will lower the zone of saturation below the estimated landfill depth, eliminate upward vertical gradients, and reduce leachate production. Currently, based on the nature of the area (described as a marsh) and the measured upward gradients, groundwater appears to be flowing up into the landfill and generating leachate by flushing up through the buried wastes. Drawdown will eliminate the flushing action and will eventually dry out the landfill.

Based on pumping 7 gallons per minute from six wells, an estimated 3 months will be required to develop the steady-state, 20-foot drawdown. After approximately 15 years, leachate should not be generated because the landfill will have been dewatered. The withdrawal wells should be pumping 100 percent uncontaminated groundwater which will not require treatment. The wells will need to be operated indefinitely to maintain the effectiveness of this remedy.

While leachate is being removed, all water will be pumped from the wells to a central treatment/collection facility onsite. The preferred treatment system consists of pH adjustment, biodisc, metals removal by NaOH precipitation, and granular activated carbon finishing. Pilot and bench scale treatment plants will be developed to determine actual system design and performance. Following onsite treatment, the water will be discharged to Lebanon Creek or to the wetlands. Concentrations in the extracted groundwater may eventually, after leachate production ceases, be reduced to an acceptable level for direct discharge.

A groundwater monitoring system will be installed around the landfill.

Alternative 3A has a total present worth of \$10,798,000 with annual O&M costs of \$252,000 for the years that water treatment is necessary. After

that time, the annual O&M costs will decrease to \$44,000.

OPERATION AND MAINTENANCE

Each alternative was evaluated for present worth and O&M costs as shown in Tables 3 through 11. The O&M costs were estimated on an annual basis over 30 years. The O&M for the recommended alternative will require an offsite groundwater monitoring program consistent with RCRA closure regulations, cap repair and replacement as necessary, groundwater extraction to effectively dewater the landfill for an indefinite period of time, and operation of an onsite water (leachate and groundwater) treatment facility for as long as contaminated leachate is being produced. It is estimated that the water will need treatment for about 15 years. The cost of O&M is estimated to be \$252,000 annually for the first 15 years and \$44,000 annually thereafter. The State of Ohio will assume responsibility for long term O&M of the remedial action. The U.S. EPA will enter into a State Superfund Contract with the State of Ohio to formalize this agreement.

SCHEDULE

<u>MILESTONES</u>	<u>DATE</u>
- Approve Remedial Action (ROD)	September 1985
- Award IAG for Design	October 1985
- Begin Design	January 1986
- Complete Design	June 1986
- Award State Superfund Contract	June 1986
- Amend IAG for Construction	June 1986
- Begin Construction	October 1986
- Complete Construction	October 1987

FUTURE ACTIONS

Long-term O&M activities are necessary to maintain the effectiveness of the remedy. Since the source of contamination remains at the site, monitoring will need to continue for an indefinite period. The extraction/containment system will need to be operated indefinitely. The cap will require periodic repair and maintenance. The treatment system will need to be operated until it is determined that treatment is no longer necessary. Additional information on landfill gas production, composition, and monitoring will be gathered during the remedial design. Pilot studies will also be done as part of the design to optimize the treatment process and to assure that biological treatment will be effective.

Table 3
 COST ESTIMATE SUMMARY
 AR-2 TYPE II CAP WITH GAS MIGRATION CONTROL AND MONITORING

<u>COST COMPONENT</u>	<u>CONSTRUCTION COSTS</u>	<u>ANNUAL O&M COSTS</u>	<u>REPLACEMENT COSTS</u>
1. Site Preparation and Cap Construction for Type II Cap	2,928,000	10,000	342,000 ^b
2. Monitoring Network and Fence	140,000	15,000	0
3. Gas Migration Control	231,000	0	0
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CONSTRUCTION SUBTOTAL	3,299,000	25,000	342,000
Bid Contingencies (15%)	495,000		
Scope Contingencies (20%)	660,000		
CONSTRUCTION TOTAL	4,454,000		
Permitting and Legal (5%)	223,000		
Services During Construction (8%)	356,000		
TOTAL IMPLEMENTATION COSTS	5,033,000		
Engineering Design Costs (8%)	403,000		
TOTAL CAPITAL COSTS	5,436,000		
Annual O&M Costs		25,000	
Replacement Costs			342,000
TOTAL PRESENT WORTH ^a	6,014,000		

^a Total present worth costs are defined as the sum of the capital costs, the replacement costs, and the present worth of the annual O&M expenses over a 30-year period at 10 percent interest. The uniform present worth factor of 9.4259 was used.

^b This cost includes repair of the cap due to subsidence at years 10 and 20, and replacement of the entire cap at the end of year 30.

Table 2.4
 COST ESTIMATE SUMMARY
 AA-3A TYPE I CAP WITH GAS MIGRATION CONTROL, MONITORING,
 DEWATERING WELLS, AND WATER TREATMENT

<u>COST COMPONENT</u>	<u>CONSTRUCTION COSTS</u>	<u>ANNUAL O&M COSTS</u>	<u>REPLACEMENT COSTS</u>
1. Site Preparation and Cap Construction for Type I Cap	3,940,000	10,000	460,000 ^b
2. Monitoring Network and Fence	140,000	15,000	0
3. Gas Migration Control	231,000	0	0
4. Water Treatment	324,000	208,000	19,000
5. Ancillary Details ^c	258,000	6,000	0
6. Dewatering Wells	81,300	13,000	0
7. Electrical Power/Lighting Requirements	40,000	0	0
8. Demobilization of Water Treatment System	27,000	0	0
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CONSTRUCTION SUBTOTAL	5,051,000	252,000	479,000
Bid Contingencies (15%)	758,000		
Scope Contingencies (20%)	1,010,000		
CONSTRUCTION TOTAL	6,819,000		
Permitting and Legal (5%)	341,000		
Services During Construction (8%)	546,000		
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TOTAL IMPLEMENTATION COSTS	7,706,000		
Engineering Design Costs (8%)	616,000		
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TOTAL CAPITAL COSTS	8,322,000		
Annual O&M Costs		252,000	
Replacement Costs			479,000
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TOTAL PRESENT WORTH ^a	10,798,000		

^a Total present worth costs are defined as the sum of the capital costs, the replacement costs, and the present worth of the annual O&M expenses for the water treatment system over a 15 year period and all other O&M expenses over a 30 year period, each at 10 percent interest. The uniform present worth factors used were 7.6061 and 9.4269 respectively.

^b This cost includes repair of the cap due to subsidence at years 10 and 20, and replacement of the entire cap at the end of year 30.

^c Ancillary details for the water treatment system include a storage tank, a building to house the water treatment system, and sludge removal.

Table 5
 COST ESTIMATE SUMMARY
 AA-38 TYPE II CAP WITH GAS MIGRATION CONTROL, MONITORING,
 DEWATERING WELLS, AND WATER TREATMENT

COST COMPONENT	CONSTRUCTION COSTS	ANNUAL O&M COSTS	REPLACEMENT COSTS
1. Site Preparation and Cap Construction for Type I Cap	2,928,000	10,000	342,000 ^b
2. Monitoring Network and Fence	140,000	15,000	0
3. Gas Migration Control	231,000	0	0
4. Water Treatment	324,000	208,000	19,000
5. Ancillary Details ^c	268,000	6,400	0
6. Dewatering Wells	81,300	13,000	0
7. Electrical Power/Lighting Requirements	40,000	0	0
8. Demobilization of Water Treatment System	27,000	0	0
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CONSTRUCTION SUBTOTAL	4,039,000	252,000	361,000
Bid Contingencies (15%)	606,000		
Scope Contingencies (20%)	808,000		
CONSTRUCTION TOTAL	5,452,000		
Permitting and Legal (3%)	273,000		
Services During Construction (8%)	436,000		
TOTAL IMPLEMENTATION COSTS	6,162,000		
Engineering Design Costs (8%)	493,000		
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TOTAL CAPITAL COSTS	6,655,000		
Annual O&M Costs		252,000	
Replacement Costs			361,000
TOTAL PRESENT WORTH ^a =	9,017,000		

^a Total present worth costs are defined as the sum of the capital costs, the replacement costs, and the present worth of the annual O&M expenses for the water treatment system over a 15 year period and all other O&M expenses over a 30 year period, each at 10 percent interest. The uniform present worth factors used were 7.6061 and 9.4269 respectively.

^b This cost includes repair of the cap due to subsidence at years 10 and 20, and replacement of the entire cap at the end of year 30.

^c This cost includes repair of the cap due to subsidence at years 10 and 20, and replacement of the entire cap at the end of year 30.

Table 6
 COST ESTIMATE SUMMARY
 AA-4A TYPE I CAP WITH GAS MIGRATION CONTROL, MONITORING,
 SLURRY WALLS, AND WATER TREATMENT

COST COMPONENT	CONSTRUCTION COSTS	ANNUAL O&M COSTS	REPLACEMENT COSTS
1. Site Preparation and Cap Construction for Type I Cap	3,940,000	10,000	460,000 ^b
2. Monitoring Network and Fence	140,000	15,000	0
3. Gas Migration Control	231,000	0	0
4. Water Treatment	81,000	52,000	5,000
5. Ancillary Details ^c	67,000	2,000	1,000
6. Slurry Wall Construction	20,898,000	0	0
7. Electrical Power/Lighting Requirements	20,000	0	0
8. Demobilization of Water Treatment System	7,000	0	0
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CONSTRUCTION SUBTOTAL	25,384,000	79,000	466,000
Bid Contingencies (15%)	3,808,000		
Scope Contingencies (20%)	5,077,000		
CONSTRUCTION TOTAL	34,269,000		
Permitting and Legal (5%)	1,713,000		
Services During Construction (8%)	2,742,000		
TOTAL IMPLEMENTATION COSTS	36,724,000		
Engineering Design Costs (8%)	3,098,000		
TOTAL CAPITAL COSTS	41,822,000		
Annual O&M Costs		79,000	
Replacement Costs			466,000
TOTAL PRESENT WORTH ^a =	43,033,000		

^a Total present worth costs are defined as the sum of the capital costs, the replacement costs, and the present worth of the annual O&M expenses over a 30-year period at 10 percent interest. The uniform present worth factor of 9.4269 was used.

^b This cost includes repair of the cap due to subsidence at years 10 and 20, and replacement of the entire cap at the end of year 30.

^c Ancillary details for the water treatment system include a storage tank, a building to house the water treatment system, and sludge removal.

Table 7
 COST ESTIMATE SUMMARY
 AA-4B TYPE II CAP WITH GAS MIGRATION CONTROL, MONITORING,
 SLURRY WALLS, AND WATER TREATMENT

<u>COST COMPONENT</u>	<u>CONSTRUCTION COSTS</u>	<u>ANNUAL O&M COSTS</u>	<u>REPLACEMENT COSTS</u>
1. Site Preparation and Cap Construction for Type II Cap	2,928,000	10,000	342,000 ^b
2. Monitoring Network and Fence	140,000	15,000	0
3. Gas Migration Control	231,000	0	0
4. Water Treatment	81,000	52,000	5,000
5. Ancillary Details ^c	67,000	2,000	1,000
6. Slurry Wall Construction	20,898,000	0	0
7. Electrical Power/Lighting Requirements	20,000	0	0
8. Denobilization of Water Treatment System	7,000	0	0
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CONSTRUCTION SUBTOTAL	24,372,000	79,000	348,000
Bid Contingencies (15%)	3,656,000		
Scope Contingencies (20%)	4,874,000		
CONSTRUCTION TOTAL	32,902,000		
Permitting and Legal (5%)	1,645,000		
Services During Construction (8%)	2,632,000		
TOTAL IMPLEMENTATION COSTS	37,179,000		
Engineering Design Costs (8%)	2,974,000		
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TOTAL CAPITAL COSTS	40,153,000		
Annual O&M Costs		79,000	
Replacement Costs			348,000
TOTAL PRESENT WORTH ^a =	41,246,000		

^a Total present worth costs are defined as the sum of the capital costs, the replacement costs, and the present worth of the annual O&M expenses over a 30-year period at 10 percent interest. The uniform present worth factor of 9.4259 was used.

^b This cost includes repair of the cap due to subsidence at years 10 and 20, and replacement of the entire cap at the end of year 30.

^c Ancillary details for the water treatment system include a storage tank, a building to house the water treatment system, and sludge removal.

Table 3
 COST ESTIMATE SUMMARY
 AA-SA TYPE I CAP WITH GAS MIGRATION CONTROL, MONITORING,
 LEACHATE COLLECTION, AND WATER TREATMENT

<u>COST COMPONENT</u>	<u>CONSTRUCTION COSTS</u>	<u>ANNUAL O&M COSTS</u>	<u>REPLACEMENT COSTS</u>
1. Site Preparation and Cap Construction for Type I Cap	3,940,000	10,000	460,000 ^b
2. Monitoring Network and Fence	140,000	15,000	0
3. Gas Migration Control	231,000	0	0
4. Water Treatment	324,000	208,000	23,000
5. Ancillary Details ^c	268,000	6,400	2,000
6. Leachate Collection	497,000	13,000	1,000
7. Electrical/Power Requirements	40,000	0	0
8. Desorbilization of Water Treatment System	27,000	0	0
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CONSTRUCTION SUBTOTAL	5,467,000	252,000	486,000
Bid Contingencies (15%)	820,000		
Scope Contingencies (20%)	1,093,000		
CONSTRUCTION TOTAL	7,360,000		
Permitting and Legal (5%)	369,000		
Services During Construction (8%)	590,000		
TOTAL IMPLEMENTATION COSTS	8,339,000		
Engineering Design Costs (8%)	667,000		
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TOTAL CAPITAL COSTS	9,006,000		
Annual O&M Costs		252,000	
Replacement Costs			486,000
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TOTAL PRESENT WORTH ^a	11,868,000		

^a Total present worth costs are defined as the sum of the capital costs, the replacement costs, and the present worth of the annual O&M expenses over a 30-year period at 10 percent interest. The uniform present worth factor of 9.4259 was used.

^b This cost includes repair of the cap due to subsidence at years 10 and 20, and replacement of the entire cap at the end of year 30.

^c Ancillary details for the water treatment system include a storage tank, a building to house the water treatment system, and sludge removal.

Table 9
 COST ESTIMATE SUMMARY
 AA-5B TYPE II CAP WITH GAS MIGRATION CONTROL, MONITORING,
 LEACHATE COLLECTION, AND WATER TREATMENT

<u>COSTS COMPONENT</u>	<u>CONSTRUCTION COSTS</u>	<u>ANNUAL O&M COSTS</u>	<u>REPLACEMENT COSTS</u>
1. Site Preparation and Cap Construction for Type II Cap	2,928,000	10,000	342,000 ^b
2. Monitoring Network and Fence	140,000	15,000	0
3. Gas Migration Control	231,000	0	0
4. Water Treatment	324,000	208,000	23,000
5. Ancillary Details ^c	268,000	5,400	2,000
6. Leachate Collection	497,000	13,000	1,000
7. Electrical/Power Requirements	40,000		
8. Demobilization of Treatment System	27,000	0	0
CONSTRUCTION SUBTOTAL	4,455,000	252,000	368,000
Bid Contingencies (15%)	668,000		
Scope Contingencies (20%)	891,000		
CONSTRUCTION TOTAL	6,014,000		
Permitting and Legal (5%)	301,000		
Services During Construction (8%)	481,000		
TOTAL IMPLEMENTATION COSTS	6,796,000		
Engineering Design Costs (8%)	544,000		
TOTAL CAPITAL COSTS	7,340,000		
Annual O&M Costs		252,000	
Replacement Costs			368,000
TOTAL PRESENT WORTH^a	10,084,000		

^a Total present worth costs are defined as the sum of the capital costs, the replacement costs, and the present worth of the annual O&M expenses over a 30-year period at 10 percent interest. The uniform present worth factor of 9.4259 was used.

^b This cost includes repair of the cap due to subsidence at years 10 and 20, and replacement of the entire cap at the end of year 30.

^c Ancillary details for the water treatment system include a storage tank, a building to house the water treatment system, and sludge removal.

Table 10
 COST ESTIMATE SUMMARY
 AA-6A EXCAVATION WITH ONSITE DISPOSAL IN AN ONSITE RCRA-TYPE LANDFILL

<u>COST COMPONENT</u>	<u>CONSTRUCTION COSTS</u>	<u>ANNUAL O&M COSTS</u>	<u>REPLACEMENT COSTS</u>
1. Excavation	25,960,000	0	0
2. Monitoring Network and Fence	140,000	15,000	0
3. Gas Migration Control	231,000	0	0
4. Stockpile Area	2,500,000	0	0
5. Bottom Liner System	8,550,000	0	0
6. Replacement of Materials	17,524,000	0	0
7. Installation of a Type I Cap	3,940,000	10,000	342,000 ^b
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CONSTRUCTION SUBTOTAL	59,845,000	25,000	342,000
Bid Contingencies (15%)	8,977,000		
Scope Contingencies (20%)	11,969,000		
CONSTRUCTION TOTAL	80,791,000		
Permitting and Legal (5%)	4,040,000		
Services During Construction (8%)	6,463,000		
TOTAL IMPLEMENTATION COSTS	91,294,000		
Engineering Design Costs (8%)	7,304,000		
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TOTAL CAPITAL COSTS	98,598,000		
Annual O&M Costs		25,000	
Replacement Costs			342,000
TOTAL PRESENT WORTH ^a =	99,176,000		

^a Total present worth costs are defined as the sum of the capital costs, the replacement costs, and the present worth of the annual O&M expenses over a 30-year period at 10 percent interest. The uniform present worth factor of 9.4259 was used.

^b This cost includes repair of the cap due to subsidence at years 10 and 20, and replacement of the entire cap at the end of year 30.

Attachment 1

ENFORCEMENT (CONFIDENTIAL)

Table 11
 COST ESTIMATE SUMMARY
 AA-6B EXCAVATION WITH OFFSITE DISPOSAL IN A RCRA-PERMITTED LANDFILL

<u>COST COMPONENT</u>	<u>CONSTRUCTION COSTS</u>	<u>ANNUAL O&M COSTS</u>	<u>REPLACEMENT COSTS</u>
1. Excavation	25,960,000	0	0
2. Offsite Disposal	80,700,000	0	0
3. Backfill Excavation	7,414,000	0	0
4. Topsoil for Vegetation Cover	1,420,000	0	0
5. Transportation Costs	43,028,000	0	0
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CONSTRUCTION SUBTOTAL	159,522,000	0	0
Bid Contingencies (15%)	23,928,000		
Scope Contingencies (20%)	31,904,000		
CONSTRUCTION TOTAL	215,354,000		
Permitting and Legal (5%)	10,768,000		
Services During Construction (8%)	17,228,000		
TOTAL IMPLEMENTATION COSTS	243,350,000		
Engineering Design Costs (8%)	19,468,000		
TOTAL CAPITAL COSTS	262,818,000		
Annual O&M Costs		0	
Replacement Costs			0
TOTAL PRESENT WORTH ^a =	252,818,000		

^a Total present worth costs are defined as the sum of the capital costs, the replacement costs, and the present worth of the annual O&M expenses over a 30-year period at 10 percent interest. The uniform present worth factor of 9.4259 was used.

Attachment 2

WETLANDS ASSESSMENT

STATEMENT OF FINDINGS

This "Statement of Findings" documents the wetlands assessment performed at the New Lyme site. The statement is in accordance with Executive Order 11990 - Protection of Wetlands, which requires Federal agencies to take action to minimize the destruction, loss or degradation of wetlands, and to preserve and enhance the beneficial value of wetlands.

The New Lyme site is surrounded on three sides by over 100 acres of wetlands. The recommended alternative for the remedial action proposes to cap the landfill and draw down the groundwater level below the bottom of the landfill. These remedial actions are being taken in an effort to reduce contaminated leachate and groundwater production by eliminating vertical infiltration through the landfill and by effectively dewatering the landfill itself. This action will affect the wetlands. Approximately 15 acres of wetlands around the site may be dewatered.

Because the site is located in a wetland, there are no alternative actions or locations to be considered for taking remedial action.

The proposed action will substantially comply with state and local wetlands protection standards.

Groundwater recharge of treated water through the wetland was considered and found to be infeasible because of the low permeability of the receiving till. The design for construction of the cap will include safeguards to minimize harm to the wetlands during operations. The dewatering and treatment system will end discharge of untreated leachate to Lebanon Creek and wetlands as well as remove contaminated groundwater. Continuous pumping of the dewatering wells may lower the water level under approximately 15 acres of wetlands surrounding the site. The vegetative and faunal communities adjacent to the site are adapted to the ephemeral nature of the wetlands and any visible difference in vegetative cover or faunal complement will be minimal during operation of the dewatering system. The wetlands may gradually dry out and the plant community adjacent to the site may gradually change from wetland to upland species.

Although there will be some impact on the wetlands because of implementation of this proposed remedial action, the overall effect is beneficial. The natural or beneficial value of the wetlands relative to its current state will be enhanced because the release of contaminants into the wetlands will be eliminated and the ability of the wetlands to support wildlife will be enhanced.

Record of Decision

Remedial Alternative Selection

SITE New Lyme, Ashtabula County, Ohio

DOCUMENTS REVIEWED

The following documents describing the analysis of the cost-effectiveness of the remedial action for the New Lyme site, New Lyme, Ohio have been reviewed:

- New Lyme Remedial Investigation Report, February 1985;
- New Lyme Feasibility Study, August 1985; and,
- Summary of Remedial Alternative Selection, New Lyme Site, September 1985.

DESCRIPTION OF SELECTED REMEDY

- Installation of RCRA cap over the landfill.
- Extraction/containment wells around perimeter of landfill to dewater landfill and eliminate leachate production. Wells must operate indefinitely to maintain effectiveness of remedy.
- Onsite treatment of contaminated groundwater and leachate using biological disc, sodium hydroxide precipitation, and granular activated carbon until leachate is no longer produced and treatment becomes unnecessary (after about 15 years).
- Onsite consolidation of contaminated sediment.
- Gas control, fence, groundwater monitoring.

DECLARATIONS

Consistent with the Comprehensive Environmental Response, Compensation and Liability Act of 1980 (CERCLA), and the National Contingency Plan (40 CFR Part 300), it has been determined that taking source control action by capping the landfill and consolidating contaminated sediment under the cap, and taking management of migration action by extraction and onsite treatment of contaminated leachate and groundwater at the New Lyme site is a cost-effective remedy that provides adequate protection of public health, welfare and the environment. The State of Ohio has been consulted and agrees with the approved remedy. In addition, the action will require further operation and maintenance activities to ensure the continued effectiveness of the remedy. These activities will be considered part of the approved action for a period not to exceed one year.

021062

It has also been determined that the action being taken is appropriate when balanced against the availability of Trust Fund monies for use at other sites.

Sept. 27, 1985
Date

Alan Levin (Acting)
Regional Administrator



ADMINISTRATIVE RECORD INDEX
NEW LYNE LANDFILL SITE
ASHTABULA COUNTY, OHIO

PICNR	PRIME	PAGES	DATE	TITLE	APPROX	RECIPIENT	DOCUMENT TYPE	DOCUMENT#
2		75/10/27		Letter re: Solid Waste Disposal Site Survey	J. Burges-USEPA	J. Venable-Ashtabula Co.	Correspondence	1
2		93/06/13		Letter re: Response to Notice Letter by the former president of Environment Control Corporation	V. Colpetzer-Colpetzer-Woods Cons.	Pierre Talbot-USEPA	Correspondence	2
22		95/05/25		Letter re: Request for information for PFPs involved with the New Lyne Site	D. Constantelos-USEPA	see service list	Correspondence	3
4		95/09/09		Letter re: Notice of 10/2/85 meeting to discuss PFP involvement in the Remedial Action for the New Lyne site	D. Moran-USEPA	see service list	Correspondence	4
31		95/08/27		Transcript of New Lyne Superfund Site Public Meeting	USEPA		Meeting Notes	5
61		95/09/27		Record of Decision and Responsiveness Summary	A. Levin-USEPA		Memoranda	6
16		95/04/15		Memo re: Authorization for Supplemental Funding for Remedial Investigation/Feasibility Study for the New Lyne Landfill Site in Ashtabula County, Ohio	D. Constantelos-USEPA	V. Adams-USEPA	Memoranda	7
2		95/08/16		Memo re: Feasibility Study to now available for public review	G. Gross-USEPA	all persons interested	Press Release	8
1		95/08/17		EPA Environmental News Release: "EPA to Hold Public Meeting on New Lyne Cleanup Options"	G. McCoy-USEPA		Press Release	9
16		92/08/27		Site Investigation Report	Geology & Environmental Eng.		Reports/Studies	10
18		92/07/27		Remediation Feasibility Study	G. Gross-USEPA & Geology & Environmental Eng.		Reports/Studies	11

ADMINISTRATIVE RECORD INDEX
 DEV LYNE LANDFILL SITE
 ASHTABULA COUNTY, OHIO

ISSUE FRAME	PAGES	DATE	TITLE	AUTHOR	RECIPIENT	DOCUMENT TYPE	DOCUMENT
			Scoring Package				
5		03/01/81	Preliminary Assessment	Ecology & Environment, Inc.	USEPA	Reports/Studies	12
104		03/09/80	Remedial Action Master Plan	CR2M Hill	USEPA	Reports/Studies	13
11		03/11/77	Final Community Relations Plan	CR2M Hill	USEPA	Reports/Studies	14
60		05/11/83	Final Work Plan for the Remedial Investigation/Feasibility Study	CR2M Hill	USEPA	Reports/Studies	15
30 -		06/02/80	Final Sampling Plan	CR2M Hill	USEPA	Reports/Studies	16
90		05/02/86	Final Remedial Investigation Report - Volume 1 of 2	CR2M Hill	USEPA	Reports/Studies	17
343		05/02/86	Final Remedial Investigation Report - Volume 2 of 2 (Appendices)	CR2M Hill	USEPA	Reports/Studies	18
11		05/02/86	Addendum to Work Plan - Remedial Investigation/Feasibility Study	D. Vidokovich-CR2M Hill	E. Tyson-USEPA	Reports/Studies	19
354		05/08/85	Feasibility Study - Dev Lyne Landfill Site, Ashabula Co., Ohio	CR2M Hill	USEPA	Reports/Studies	20
22		06/05/80	Revised Community Relations Plan for Dev Lyne Landfill Site, Ohio, with cover letter attached	Comp Dresser & McVee Inc.	USEPA	Reports/Studies	21
69		06/07/80	Public Comment Protection Report Dev Lyne Landfill	CR2M Hill	USEPA	Reports/Studies	22

NEW LYME - OHIO
GUIDANCE DOCUMENTS - NOT COPIED
MAY BE REVIEWED AT EPA REGION V
OFFICES - CHICAGO, ILLINOIS

TITLE	AUTHOR	DATE
Guidance on Remedial Investigations and Feasibility Studies	USEPA	85/05/00
Interim Guidelines and Specifications for Preparing QAPP's.	USEPA	80/12/29
Interim Standard Operating Safety Guides	USEPA	82/09/00
Procedures for Planning and Implementing Off Site Response Actions	USEPA	85/05/06
CERCLA Compliance with Other Environmental Statutes	USEPA	85/02/12
Preparation of Decision Documents for Approving Fund-Financed and Potentially Responsible Party Actions Under CERCLA	USEPA	84/02/27
Remedial Action at Waste Disposal Sites, Handbook	USEPA	85/06/00
Preparation of Records of Decision for Fund-Financed and Responsible Party Remedial Actions	USEPA	84/02/28
Endangerment Assessment Handbook	USEPA drawer one	00/00/00
Toxicology Handbook	USEPA drawer one	00/00/00
Superfund Exposure Assessment Manual	USEPA drawer one	00/00/00
Superfund Public Health Evaluation Manual	USEPA drawer one	00/00/00
RI/FS Guidance	USEPA drawer three	00/00/00
CERCLA	USEPA drawer four	00/00/00
Standard Operating Safety	USEPA drawer four	00/00/00

NEW LYKE - OHIO
GUIDANCE DOCUMENTS - NOT COPIED
MAY BE REVIEWED AT EPA REGION V
OFFICES - CHICAGO, ILLINOIS

TITLE	AUTHOR	DATE
Guides		
OWSER Directive 9200.3-02	USEPA	86/10/24
OWSER Directive 9234.0-02 CERCLA Compliance With Other Environmental Statutes	USEPA	85/10/02
OWSER Directive 9240.0-01 User's Guide To The Contract Laboratory Program	USEPA	84/10/01
OWSER Directive 9280.0-01 Flood Plain Requirements	USEPA	83/11/14
OWSER Directive 9280.0-02 Policy On Flood Plains And Wetlands Assessments	USEPA	85/08/06
OWSER Directive 9285.4-01 Superfund Public Health Evaluation Manual	USEPA	86/11/07
OWSER Directive 9330.2-01 Procedures For Planning And Implementing Off-Site Response Actions	USEPA	85/05/06
OWSER Directive 9340.2-01 Preparation Of Decision Documents For Fund-Financed And PRP RA's Under CERCLA	USEPA	85/02/27
OWSER Directive 9347.0-01 Interim RCRA/CERCLA Guidance On Non-Contiguous Sites and On-Site Management Of Waste Residue	USEPA	86/03/03
OWSER Directive 9355.0-05C Guidance On Feasibility Studies Under CERCLA	USEPA	85/06/01
OWSER Directive 9355.0-06B Guidance On Remedial Investigations	USEPA	85/06/01

NEW LYKE - OHIO
GUIDANCE DOCUMENTS - NOT COPIED
MAY BE REVIEWED AT EPA REGION V
OFFICES - CHICAGO, ILLINOIS

TITLE	AUTHOR	DATE
Under CERCLA		
OWSER Directive 9355.0-10 Remedial Action Costing Procedures Manual	USEPA	85/09/01
OWSER Directive 9355.0-19 Interim Guidance On Superfund Selection of Remedy	USEPA	86/12/24
OWSER Directive 9380.0-04 Remedial Action At Waste Disposal Sites Handbook (Revised)	USEPA	84/10/01
OWSER Directive 9480.00-12C Draft Minimum Technical Guidance On Double Liner System For Landfills And Surface Impoundments - Design, Construction & Operation	USEPA	85/05/24
OWSER Directive 9850.0-01 & 9850.1 Engagement Assessment Guidance and Handbook	USEPA	85/11/22
OWSER Directive 9850.2 General Toxicology Handbook	USEPA	85/09/20
OWSER Directive 9850.03 Chemical, Physical & Biological Properties of Compounds Present at Hazardous Waste Sites	USEPA	85/09/27

ADMINISTRATIVE RECORD INDEX

UPDATE #1

NEW LYME LANDFILL
ASHTABULA COUNTY, OHIO

04/09/92

AR

DOC# =====	DATE =====	AUTHOR =====	RECIPIENT =====	TITLE/DESCRIPTION =====	PAGES =====
1	00/00/00	Constantelos, B. USEPA	Hudson, W.	EPA's Notice of Intent to Initiate Remedial Investigation and Request for Information (handwritten note says retyped for correction, unsigned)	4
2	00/00/00	Talbert, P. ORC	Hudson, W. Dispose-All, Inc.	Followup-EPA's Notice of Intent to Initiate - Remedial Investigation and Request for information (Handwritten note says letter never sent)	1
3	00/00/00			Map--New Lyme Landfill Sampling Locations	1
4	00/00/00	Constantelos, B. USEPA	Sir/ Madam	PRP Notice of Liability (unsigned)	5
5	00/00/00	Constantelos, B. USEPA	Colpetzer, T. Colpetzer and Woods	Request for Information from FRP (Letter is unsigned)	4
6	00/00/00	Groves, L. Ashtabula County Health Dept.		Sanitary Landfill Inspection Form	1
7	10/14/71	Groves, L. Ashtabula County Health Dept.		Sanitary Landfill Inspection Form	3
8	01/07/73	Groves, L. Ashtabula County Health Dept.		Sanitary Landfill Inspection Form	2
9	09/27/73	Groves, L. Ashtabula County Health Dept.		Sanitary Landfill Inspection Form	4
10	12/03/73	Groves, L. Ashtabula County Health Dept.		Sanitary Landfill Inspection Form	2
11	01/07/74	Heher, M DEPA		Sanitary Landfill Inspection Form	2
12	08/08/74	Foote, D. ECC	Groves, L. Ashtabula County Health Dept.	Request for use of Landfill by Panar Corp.	1
13	03/11/75	Groves, L. Ashtabula County Health Dept.		Sanitary Landfill Inspection Form	2

DOC#	DATE	AUTHOR	RECIPIENT	TITLE/DESCRIPTION	PAGES
=====	=====	=====	=====	=====	=====
14	11/23/75	Groves, L. Astabula County Health Dept.		Sanitary Landfill Inspection Form	2
15	11/23/75	Groves, L. Astabula County Health Dept.		Sanitary Landfill Inspection Form--Handwritten. Back page did not copy	1
16	12/03/75	Groves, L. Astabula County Health Dept.		Sanitary Landfill Inspection Form	2
17	10/25/77	Engineering-Science, Ltd.	Liviola, G.	Preliminary Investigation of Operations	6
18	10/02/79	Khourey, C. DEPA	Clark, L. Ohio LFC	InterOffice Communication--On-Site 9/12/79	2
19	05/10/82	FIT-Ecology & Environment, Inc.		Original Safety Plan	7
20	05/10/82	FIT-Ecology & Environment, Inc.		Site Safety Plan	11
21	05/27/82	McCarrin, M.	File	Site Inspection	1
22	07/00/82			Drilling Log--7/19/82-7/20/82	9
23	07/00/82	FIT-Ecology & Environment, Inc.		Revision of Original Safety Plan for Original Hazard Evaluation	1
24	07/14/82	FIT-Ecology & Environment, Inc.		Revision of Original Site Safety Plan:Site/Waste Characteristics	1
25	08/03/82	Gifford, G. DEPA		Ohio EPA H.R.S. Audit Form	4
26	08/17/82			Daily Log	2
27	11/01/82	Van Someren, R.	Byrae, S.	Analytical Results for New Lyme: SMO #1226, EPA Data Set #SF1823	40
28	03/04/83	Berg, D. DEPA	Bruce, D. USEPA	Letter Re: DHM New Lyme Sampling Data: Ground Water	2
29	04/12/83	Moran, E. USEPA	Berg, D. DEPA	New Lyme Sampling & Ground Water Data	3
30	05/12/83			Address List for the New Lyme Landfill Letter	2
31	05/27/83	Constantelos, B. USEPA	Weinberger, L., Leon Weinberger & Assoc.	EPA's Notice of Intent to Initiate Remedial Investigation and Request for Information (unsigned)	4

DOC# =====	DATE =====	AUTHOR =====	RECIPIENT =====	TITLE/DESCRIPTION =====	PAGES =====
32	05/27/83	Constantelos, B. USEPA	Hudson, W.	EPA's Notice of Intent to Initiate Remedial Investigation and Request for Information (unsigned)	4
33	05/27/83	Constantelos, B. USEPA	Liviola, G. Ashtabula County Reclaimed Lands	EPA's Notice of Intent to Initiate Remedial Investigation and Request for Information (unsigned)	4
34	05/27/83	Constantelos, B. USEPA	Sunray Recycling & Reclamation, Inc.	EPA's Notice of Intent to Initiate Remedial Investigation and Request for Information (unsigned)	4
35	05/27/83	Constantelos, B. USEPA	Webb, J.	EPA's Notice of Intent to Initiate Remedial Investigation and Request for Information (unsigned)	4
36	05/27/83	Constantelos, B. USEPA	Ashtabula County Waste, Inc.	EPA's Notice of Intent to Initiate Remedial Investigation and Request for Information (unsigned)	4
37	05/27/83	Constantelos, B. USEPA	Guy, M.	EPA's Notice of Intent to Initiate Remedial Investigation and Request for Information (unsigned)	4
38	05/27/83	Constantelos, B. USEPA	Foote, D.	EPA's Notice of Intent to Initiate Remedial Investigation and Request for Information (unsigned)	4
39	05/27/83	Constantelos, B. USEPA	Northway Environmen- tal Services, Inc.	EPA's Notice of Intent to Initiate Remedial Investigation and Request for Information (unsigned)	4
40	05/27/83	Constantelos, B. USEPA	Colpetzer, T. Colpetzer & Woods	EPA's Notice of Intent to Initiate Remedial Investigation and Request for Information	4
41	06/00/83	Constantelos, B. USEPA	Hudson, W., Dispose-All, Inc.	EPA's Notice of Intent to Initiate Remedial Investigation and Request for Information (unsigned)	4
42	06/02/83	Constantelos, B. USEPA	Dearing, N. Ashtabula County Reclaimed Lands	EPA's Notice of Intent to Initiate Remedial Investigation and Request for Information (unsigned)	4
43	06/02/83	Constantelos, B. USEPA	Whirpley, W., Ashtabula County Septic & Waste Services, Inc.	EPA's Notice of Intent to Initiate Remedial Investigation and Request for Information (unsigned)	4

DOC# =====	DATE =====	AUTHOR =====	RECIPIENT =====	TITLE/DESCRIPTION =====	PAGES =====
44	06/02/83	Constantelos, B. USEPA	Whirpley, W., Ashtabula County Septic and Waste Services	EPA's Notice of Intent to Initiate Remedial Investigation and Request for Information (Original letter with original signature)	4
45	06/03/83	Constantelos, R. USEPA	Waid, H.	EPA's Notice of Intent to Initiate Remedial Investigation and Request for Information (unsigned)	4
46	06/03/83	Constantelos, R. USEPA	Waid, Charles	EPA's Notice of Intent to Initiate Remedial Investigation and Request for Information (unsigned)	4
47	06/03/83	Constantelos, B. USEPA	Waid, Harlan	EPA's Notice of Intent to Initiate Remedial Investigation and Request for Information (unsigned)	4
48	07/05/83	Ulrich, J. Attorney	Talbert, P. ORC	Response to EPA's Notice of Intent to Initiate Remedial Investigation and Request for Information	3
49	08/09/83	Talbert, P. ORC	Liviola, G. Ashtabula County Reclaimed Lands	EPA's Notice of Intent to Initiate Remedial Investigation and Request for Information (unsigned)	1
50	08/09/83	Talbert, P. ORC	Dearing, N. Astabula County Reclaimed Lands	Followup-EPA's Notice of Intent to Initiate - Remedial Investigation and Request for Information (unsigned)	1
51	08/09/83	Talbert, P. ORC	Weinberger, L. Leon W. Weinberger & Assoc.	Followup-EPA's Notice of Intent to Initiate - Remedial Investigation and Request for Information (unsigned)	1
52	08/09/83	Talbert, P. ORC	Ashtabula County Waste, Inc.	Followup-EPA's Notice of Intent to Initiate - Remedial Investigation and Request for Information (unsigned)	1
53	08/09/83	Talbert, P. ORC	Northway Environmen- tal Services, Inc.	Followup-EPA's Notice of intent to Initiate - Remedial Investigation and Request for Information (unsigned)	1
54	08/09/83	Talbert, P. ORC	Jack Webb	Followup-EPA's Notice of Intent to Initiate - Remedial Investigation and Request for Information (unsigned)	1
55	08/16/83	Weinberger, L. Leon Weinberger & Assoc.	Talbert, P. ORC	Letter on Cooperation	1
56	12/05/83	Liviola, G. Attorney	Moran, E. USEPA	Letter permitting breaking of lock	1

DOC# =====	DATE =====	AUTHOR =====	RECIPIENT =====	TITLE/DESCRIPTION =====	PAGES =====
57	01/25/84	CH2M/Hill	USEPA	Final Sampling Plan RI	33
58	06/04/84	Videkovich, R. CH2M/Hill	Moran, E. USEPA	Cover: Technical Memorandum No. 3 & 4 (attached)	49
59	10/29/84			Affidavit of Erin M. Moran	9
60	02/00/85	Tyson, M. USEPA	File	RI Review Meeting (with handwritten post it attached)	2
61	02/06/85	Tyson, M. USEPA	Residents of New Lyne, OH	EPA Environmental News Release	1
62	02/19/85	Moran, E. USEPA	File	Offsite Well Analyses for New Lyne Landfill, RI and FS	1
63	05/15/85	Constantelos, B. USEPA	All Parties on Attached List	EPA's Notice of Intent to Initiate Remedial Investigation and Request for Information	12
64	09/06/85	Franz, W. USEPA	Tyson, M. USEPA	ROD Comments	1
65	01/30/86	Acting Director, OHA	Fabinski, L. USEPA	Health Assessment Comments	6
66	04/14/86	Moran, E. USEPA	Ferrara, S. Air Products & Chemicals, Inc.	Letter to PRP Steering Committee	2
67	04/15/86	Tyler, W. DEPA	Adamkus, V. USEPA	Support for Recommended Cleanup Alternative	2
68	06/09/86	Tyson, M. USEPA	Petersen, R. US Corps of Engineers	Letter of clarification of request for proposal	2
69	09/29/86	Donohue & Assoc.	U.S. Army Corp. of Engineers	Sampling & Quality Control Plan for Field Investigation	44
70	10/01/86	Opatken, E. USEPA		HWERL In-House Research Plans	4
71	11/21/86	Opatken, E. USEPA	Tyson, M. USEPA	Sample Analyses	5
72	12/16/86	Donohue & Associates	U.S. Army Corps of Engineers	Sampling & Quality Control Plan for Field Investigation	288
73	02/04/87	Tyson, M. USEPA	File	Scope Clarification Meeting for RD	12
74	04/10/87	Zimmerman, J, & Parry, J. Enseco	Donahue & Assoc.	Analytical Results	46
75	04/24/87	Opatken, E. USEPA	Liberick, W. USEPA	First Quarterly Report for State of Ohio--Leachate Analyses	2

DOC# =====	DATE =====	AUTHOR =====	RECIPIENT =====	TITLE/DESCRIPTION =====	PAGES =====
76	05/05/87			Notes from 10% Design Meeting (with Attached notes on Holiday Inn paper)	6
77	05/22/87	Yeskis, D. USEPA	Tyson, M. USEPA	Review of New Lyme Pump Test	4
78	05/29/87	Opatken, E. USEPA	Tyson, M. USEPA	Interia Report on New Lyme Treatability	10
79	07/02/87	Bonzo, K. OEPA	Curnyn, R. US Corps of Engineers	Letter with Comments on Water Sample Results	1
80	07/07/87	Curnyn, R. USEPA	Tyson, M. USEPA	Transmittal Record and Conference Notes from 10% Design Meeting	15
81	07/22/87	Opatken, E. USEPA	Liberick, W. USEPA	RBC Experiments with New Lyme Leachate: Second Quarterly Report	2
82	08/24/87	Mentzer D. OEPA	Distribution	New Lyme Wildlife Area Location	3
83	10/13/87	Jones, P. ODNR	Mentzer, OEPA	Letter: re: Rare or Endangered Species on Site	2
84	10/30/87	Opatken, E. USEPA	Liberick, W. USEPA	RBC Experiments with New Lyme Leachate: Third Quarterly Report	2
85	12/18/87	Carlock, S. USEPA	Conley, H. US Fish & Wildlife	Cover to Sent Documents	1
86	01/22/88	Howard, H. USEPA	Liberick, W. USEPA	RBC Experiments with New Lyme Leachate: Final Report	4
87	02/17/88			Borrow Source Meeting: Attendees, Agenda, Notes	3
88	03/29/88		Mentzer, D. OEPA	Purpose & Need of Project: Handwritten	4
89	06/20/88	Ohio Dept. of Nature Resources		Final Environmental Assessment for the Impoundment Construction of the New Lyme Wildlife Area Lake and Marsh	29

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U.S. ENVIRONMENTAL PROTECTION AGENCY
REMEDIAL ACTION

ADMINISTRATIVE RECORD
FOR
NEW LYME LANDFILL SITE
ASHTABULA COUNTY, OHIO

UPDATE #2
JUNE 17, 1999

<u>NO.</u>	<u>DATE</u>	<u>AUTHOR</u>	<u>RECIPIENT</u>	<u>TITLE/DESCRIPTION</u>	<u>PAGES</u>
1	02/24/98	Muno, W., U.S. EPA	Czeczale, M., Ohio EPA	Letter re: U.S. EPA's Concurrence with Attached OEPA's January 1998 Five Year Review Report for the New Lyme Landfill Site	305
2	09/25/98	Lawhon & Associates, Inc.	U.S. EPA/ Ohio EPA	Focused Feasibility Study for the New Lyme Landfill Site	52
3	05/00/99	U.S. EPA	Public	Proposed Plan for the New Lyme Landfill Site	7

U.S. ENVIRONMENTAL PROTECTION AGENCY
REMEDIAL ACTION

ADMINISTRATIVE RECORD
FOR
NEW LYME LANDFILL SUPERFUND SITE
ASHTABULA, OHIO

UPDATE #3
NOVEMBER 16, 1999

<u>NO.</u>	<u>DATE</u>	<u>AUTHOR</u>	<u>RECIPIENT</u>	<u>TITLE/DESCRIPTION</u>	<u>PAGES</u>
1	06/13/86	CH2M Hill	U.S. EPA	Predesign Report/Agency Review Draft for the New Lyme Landfill Site	66
2	07/28/86	U.S. EPA	File	Predesign Report/Public Comment for the New Lyme Landfill Site	40
3	07/00/87	U.S. Army Corps of Engineers/Omaha District	File	Treatability Testing and Field Investigation Report for the New Lyme Landfill Site	389
4	07/16/92	Ohio EPA	File	Inter-Office Communication re: Evaluation of Ground-water Monitoring Extraction Systems	2
5	12/00/96	Eckenfelder, Inc.	U.S. EPA	Five Year Remedy Review Investigation: Hydro-geologic Report for the New Lyme Landfill Site	192
6	02/00/97	Eckenfelder, Inc.	U.S. EPA	Five Year Remedy Review: Remedial Alternatives Analysis for the New Lyme Landfill Site	128
7	01/00/98	Ohio EPA	U.S. EPA	Five Year Review Report for the New Lyme Landfill Site w/ Cover Letter	315
8	09/25/98	Lawton & Associates, Inc.	U.S. EPA/ Ohio EPA	Focused Feasibility Study for the New Lyme Landfill Site	54
9	05/00/99	U.S. EPA	Public	Proposed Plan for the New Lyme Landfill Site	8

<u>NO.</u>	<u>DATE</u>	<u>AUTHOR</u>	<u>RECIPIENT</u>	<u>TITLE/DESCRIPTION</u>	<u>PAGES</u>
10	07/20/99	McMahon, M., McMahon, DeGulis, Hoffman & Blumenthal, L.L.P.	Pastor, S., U.S. EPA	Letter: General Electric Company's Comments on the Proposed Amendment to the Record of Decision for the New Lyme Landfill Site w/ Attached Exhibits A-D	126
11	11/16/99	U.S. EPA	Public	Responsiveness Summary for the New Lyme Landfill Site	1
12	11/16/99	U.S. EPA	Public	Record of Decision Amend- ment for the New Lyme Landfill Site	17

APPENDIX B
RECORD OF DECISION AMENDMENT

United States v. Lord Corporation et al. v. Amcast Industrial Corp.,
Civ. No. 4:89 CV 2001 (N.D. Ohio)
State of Ohio v. Aardvark Associates, Inc., et al. v. Amcast
Industrial Corp., Civ. No. 1:92 CV 0227 (N.D. Ohio)

RECORD OF DECISION AMENDMENT

FOR

NEW LYME LANDFILL

**1440 Dodgeville Road
New Lyme, Ohio 44066
Ashtabula County**

**Federal Site Identification Number
OHD 980 794 614**

RECORD OF DECISION AMENDMENT

New Lyme Landfill New Lyme, Ohio

Site Name

New Lyme Landfill

Site Location

New Lyme, Ashtabula County, Ohio

Lead Agency

U.S. Environmental Protection Agency

Supporting Agency

Ohio Environmental Protection Agency

Statement of Basis and Purpose

This plan amends the September 27, 1985, Record of Decision (ROD) for the New Lyme Landfill Superfund Site in New Lyme, Ohio. This document presents the amended plan for the New Lyme Landfill Superfund Site, and was developed in accordance with the requirements of the Comprehensive Environmental Response, Compensation, and Liability Act of 1980 (CERCLA), as amended by the Superfund Amendments and Reauthorization Act of 1986 (SARA) and, to the extent practicable, the National Oil and Hazardous Substances Pollution Contingency Plan (NCP). Specifically, this document has been prepared in compliance with CERCLA Section 117 and NCP Section 300.435(c)(2)(ii). This document explains the factual and legal basis for selecting the amended plan for this site.

In accordance with NCP Section 300.825(a)(2), the information supporting this amended plan is contained in the administrative record for this site. The administrative record can be reviewed at the Henderson Memorial Public Library, 54 East Jefferson Street, Jefferson, Ohio (ask for Laurelee Hiunger, reference librarian) or at the U.S. EPA Records Center, 77 West Jackson, Chicago, Illinois, and is available for viewing on business days from 8:30 AM to 4:30 PM.

Assessment of the Site

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

The selected plan, including any needed contingency measures, amends the final remedy for the site. The purpose of this amended plan is to discontinue that part of the 1985 ROD requiring pumping and on-site treatment of contaminated ground water and, instead, to monitor and assess ground water at the site to assure that contaminated ground water does not migrate off-site.

Description of the Selected Plan

The original plan, as described in the September 27, 1985, ROD, included the following components:

- Installation of a multi-layer protective cap over the landfill
- Installation and indefinite operation of extraction/containment wells around the perimeter of the landfill to de-water the landfill and eliminate leachate production
- On-site treatment of contaminated ground water and leachate using biological technology and granulated activated carbon until leachate was no longer produced and treatment became unnecessary (after about 15 years)
- On-site consolidation of contaminated sediment
- Gas control, fence, ground water monitoring
- Operation and maintenance of the remedy

The amended site plan includes the following components:

- shutdown of the on-site ground water treatment facility
- long-term ground water monitoring program
- contingency plan(s)
- continued operation and maintenance of the installed cap, including leachate control if necessary, and continued site security

Declaration Of Statutory Determinations

The selected plan is protective of human health and the environment, complies with Federal and State requirements that are legally applicable or relevant and appropriate to the remedial action, and is cost effective. This plan uses engineering controls such as ground water monitoring to assess contaminant mobility, toxicity, volume, and to assess the need for a contingency action. In the event of the need for contingency action implementation, the contingency action may include permanent solutions, or alternative treatment, to the maximum extent practicable, and satisfy the preference for treatment as a principal element.

Because this remedy will result in hazardous substances remaining on-site above the health-based levels, reviews will continue to be conducted every five years from date the Preliminary Close-out Report was signed by the U.S. EPA (December 31, 1992), to ensure that the remedy continues to provide adequate protection of human health and the environment.



For William E. Muno, Director
Superfund Division

16 Nov 99
Date

**DECISION SUMMARY
FOR
RECORD OF DECISION AMENDMENT
FOR
NEW LYME LANDFILL
NEW LYME, OHIO**

I. INTRODUCTION

New Lyme Landfill is located at 1440 Dodgeville Road in New Lyme, Ohio, (Ashtabula County). The landfill is mostly surrounded by a wooded, marshy area near Lebanon Creek. Surface drainage from the site can be divided into four sub-watersheds. The northern portion of the site drains directly in Lebanon Creek. The remainder of the site drains southward to an unnamed tributary of Lebanon Creek. Lebanon Creek drains into Rock Creek, upstream of Lake Roaming Rock, a public water supply.

Bedrock at the site consists of the Ohio Shale Formation, gray siliceous shale, to depths in excess of 2,200 feet. The surface of the bedrock is weathered and fractured. The weathered zone was found to extend a minimum of 10 feet below the rock surface. Bedrock is overlain by glacial till, and ranges in composition from clayey silt to silty clay to sandy clay, and contains small quantities of pebbles. The total thickness of the till ranges from approximately 20 to 35 feet. Ground water measurement data in the bedrock indicate that ground water flows east to west beneath the site. The geologic conditions and the water level data indicate that both the shale and the coarse grained lenses within the till are under confined or semi-confined conditions. In several bedrock wells, water levels rise above the ground surface. The till appears to act as an aquitard at the site. Some ground water flow occurs along fractures in the till. Coupled with the artesian conditions found generally across the site, and the upward vertical gradients found in the west and northeast, the fractures allow ground water to discharge to the surface in this general area. Constant discharges at major leachate seeps over a wide range of climatic conditions indicate that the source of water for leachate formation may be related to both ground water flow and surface infiltration, depending on the elevation of the seep in question.

II. SITE HISTORY

The New Lyme Landfill began operations in 1969. During its operation, the landfill received household, industrial, commercial, and institutional wastes. The wastes deposited at the landfill may have included cyanide sludge, coal tar distillates, asbestos, resins, paint sludge, oils, lacquer thinners, peroxide, corrosive liquids, acetone, xylene, toluene, kerosene, naphtha, benzene, linseed oil, mineral oil, fuel oil, chlorinated solvents, and laboratory chemicals. Remedial investigations conducted during 1983 and 1984 indicated that various media including the soil, ground water, sediment, and leachate were contaminated. Contamination consisted of, among other things, volatile organic compounds, phenolic compounds, tetrachloroethane, chloroform, asbestos, and heavy metals.

On September 27, 1985, U.S. EPA signed a Record of Decision (ROD) selecting a remedial action plan for the cleanup at the site. The ROD required the following:

- ◆ Installation of a multi-layer protective cap over the landfill.
- ◆ Extraction/containment wells around the perimeter of the landfill to de-water the landfill and eliminate leachate production. (The wells to operate indefinitely to maintain effectiveness of the remedy.)
- ◆ Onsite treatment of contaminated ground water and leachate using biological disc, sodium hydroxide precipitation, and granular activated carbon until leachate is no longer produced and treatment becomes unnecessary (after about 15 years).
- ◆ Onsite consolidation of contaminated sediment.
- ◆ Gas control, fence, ground water monitoring.
- ◆ Operation and maintenance of the remedy.

Reasons for Amending the 1985 ROD

The remedial action plan selected in the 1985 ROD was designed to treat contaminated ground water, to prevent precipitation and ground water from entering the landfill, as well as to minimize the potential for people or animals to come into direct contact with contaminants.

In March 1998, U.S. EPA and Ohio EPA evaluated how protective the original plan was to human health and the environment. The results of this evaluation are included in the New Lyme Landfill, Five Year Review Report. In addition to the Five Year Review Report, potentially responsible parties linked to the site performed certain ground water investigations and issued a Hydrogeological Report in December 1996 and a subsequent Remedial Alternatives Report in January 1997. U.S. EPA and Ohio EPA also conducted a focused feasibility study for the site in September 1998. The Five Year Review Report showed that the installation of the multi-layer cap over the landfill together with the current ground water pump and treat system, as a containment remedy, was protective of human health and the environment. The original remedial action has lowered the water table but has not de-watered the landfill. Additionally, with few exceptions, the ground water extracted from beneath the landfill showed no sign of contamination above the regulatory limits. Therefore, based on current information, U.S. EPA and Ohio EPA have determined that measures other than those specified in the ROD - which are discussed below - could provide the same level of protectiveness in a more cost-effective manner. U.S. EPA and Ohio EPA have determined that these changes to the original ROD are appropriate and protective of human health and the environment.

III. ROD AMENDMENT COMPONENTS

The amended plan involves the discontinuation of the onsite treatment of ground water and leachate. This would be accomplished through the complete shutdown of the current extraction system, extraction wells, and the ground water treatment plant.

To adequately assess ground water as it enters and exits the site, a long term ground water monitoring program will be implemented. Initially, a portion of the existing wells, including an off-site background well, will be sampled on a quarterly basis for two years. Four additional well clusters, (or groupings), (6, 9, 11 & 12) also will be monitored on a semi-annual basis over the two-year period with the subsequent years' monitoring requirement to be determined. Water-level data will be collected from all wells during each sampling event. The collected information is expected to allow for the detection and assessment of any ground water contamination at the site. This monitoring should also provide up gradient (background) ground water information and indications of any seasonal change in any ground water flow directions. Annual sampling of six residential wells will also be included as part of the monitoring plan. (Figure 1 contains the monitoring well network for this amended plan.)

The amended plan will also include a general contingency plan. Information obtained from the implementation of the monitoring plan will be used to determine whether contingency measures need to be implemented. The need for the implementation of contingency measures will be based on whether or not Federal and/or State standards are exceeded.

Specifically, the trigger for contingency plan implementation includes all Maximum Contaminant Levels (MCLs). If no MCL is listed for a contaminant, the trigger will be based on a 1×10^{-5} cumulative risk level. If, during a sampling event, a contaminant is detected at or above the trigger level, then confirmatory sampling will be conducted as soon thereafter as practical. If the MCL or cumulative risk level is once again detected, then the contingency plan will be implemented. The contingency plan will be approved by U.S. EPA and Ohio EPA and will include details on methods to define, among other things, the rate, concentration, and extent of the release. It will also propose actions to be taken that will protect human health and the environment. The contingency measures may include - but are not limited to - the installation of additional monitoring wells, extraction wells with or without treatment, and/or expanded sampling.

The analytical parameters to be included in the New Lyme Landfill monitoring well and residential well sampling activities are provided in Tables 1 and 2 below.

Table 1. Monitoring Well Analytical Parameters

VOCs	Cobalt, Copper
Semi-VOCs	PCBs, pesticides, herbicides
Nitrogen, Ammonia (as N)	Cyanide
Chloride, Cl	Lead
Sodium	Iron
COD	Manganese
Total Dissolved Solids	Mercury
Nitrate- Nitrite N	Nickel
Sulfate, SO ₄	Selenium
Turbidity	Silver
Antimony	Thallium
Arsenic	Vanadium
Barium	Zinc
Beryllium	Temperature (Field Measurement)
Cadmium	pH (Field Measurement)
Chromium	Specific Conductance (Field Measurement)

Table 2. Residential Well Analytical Parameters

VOCs	Total Dissolved Solids
Nitrogen, Ammonia (as N)	Nitrate - Nitrite N
Sodium	Sulfate, SO ₄
COD	Turbidity
Chloride, Cl	Iron
Manganese	

The ROD Amendment includes continued operation and maintenance of the installed cap including leachate control if necessary, and continued site security.

V. COMPARATIVE ANALYSIS

The amended plan addresses threats to the public health, safety, welfare and the environment presented by the site. This section compares the performance of the amended plan and the original plan selected in the September 27, 1985, ROD.

Evaluating the Alternatives

U.S. EPA used the following nine criteria to evaluate the original and amended plans. The Evaluation Table shown as Table 3, compares the two alternatives using these criteria.

1. Overall protection of human health and the environment determines whether a plan eliminates, reduces, or controls threats to public health and the environment through institutional controls, engineering controls, or treatment.

- ◆ The original plan is considered protective of human health and the environment. The amended plan is considered protective of human health and the environment. Under the amended plan, the monitoring well network would detect any migration of contamination outside of the waste boundary. If trigger levels are exceeded, then a contingency system shall be implemented to effectively and efficiently control the contamination.

2. Compliance with Applicable or Relevant and Appropriate Requirements (ARARs) evaluates whether the plan meets federal and state environmental statutes, regulations, and other requirements that pertain to the site or whether a waiver is justified.

- ◆ The original plan complied with all ARARs. The amended plan will comply with all ARARs.

3. Long-Term Effectiveness and Permanence considers the ability of a plan to maintain protection of human health and the environment over time and the reliability of such protection.

- ◆ The original plan offers long-term effectiveness by decreasing the magnitude of residual risk. The amended plan also offers long-term benefits. With the ground water system under natural conditions and the monitoring well network in place, any migration of contamination outside of the waste boundary should be detected. If trigger levels are exceeded, then a contingency system shall be implemented to effectively and efficiently control the contamination. Historically, contamination has not been detected above trigger levels in the current extraction well system or monitoring well network surrounding the landfill.

4. *Reduction of Contaminant Toxicity, Mobility, or Volume Through Treatment* evaluates a plan's use of treatment to reduce the harmful effects of principal contaminants, their ability to move in the environment, and the amount of contamination present.

- ◆ Although the waste remains in place, both the amended plan and the original plan could reduce toxicity, mobility, or volume of contaminants. The original plan in conjunction with the cap and ground water extraction system could reduce the toxicity, mobility, or volume of the contaminants. Likewise, the amended plan in conjunction with the original cap and applicable contingency measures, as needed, could potentially reduce the toxicity, mobility, or volume of the contaminants.

5. *Short-Term Effectiveness* considers the length of time needed to implement a plan and the risks the plan poses to workers, residents, and the environment during implementation.

- ◆ Short-term effectiveness could be achieved by both plans. The amended plan could be implemented within two to three months while creating little or no danger to workers or the community. Implementation of the amended plan would immediately provide the U.S. EPA and Ohio EPA valuable information on the true hydraulic character of the site from ground water gradient data collected under natural flow conditions.

6. *Implementability* considers the technical and administrative feasibility of implementing the plan, such as relative availability of goods and services.

- ◆ Construction of the original plan is complete. The amended plan is technically feasible and can be implemented expeditiously.

7. *Cost* includes estimated capital and operation and maintenance (O&M) costs, as well as present worth costs. Present worth cost is the total costs of a plan over time in terms of today's dollars.

- ◆ The estimated present worth cost for the amended plan activities for five years ranges between \$550,000 and \$800,000, excluding additional cost for contingency plan implementation. Capital cost for the amended plan ranges from \$100,000 to \$200,000. The estimated annual O&M cost for the amended plan ranges from \$90,000 to \$120,000. O&M cost for the amended plan for five years is \$450,000 to 600,000.
- ◆ The ROD estimated the capital cost for the original plan at \$10,798,000. The actual capital cost of the remedy as constructed exceeded the estimated cost identified in the ROD. The original plan O&M cost ranged from \$300,000 to \$600,000 per year. The O&M cost for the original plan activities for five years was \$1,500,000 to \$3,000,000.

8. *State Acceptance* considers whether the State agrees with U.S. EPA's analyses and recommendation for a change in the 1985 plan decision.

- ◆ The State of Ohio concurs in the amended plan.

9. *Community Acceptance* considers whether the local community agrees with U.S. EPA's analyses and preferred alternative.

- ◆ One public comment was received concerning the amended plan. That comment supported the amended plan. (Refer to the Responsiveness Summary for more details.)

TABLE 3. EVALUATION TABLE

<i>Evaluation Criteria</i>	<i>Amended Plan</i>	<i>Original Plan</i>
Overall Protection of Human Health and the Environment	yes	yes
Compliance with ARARs	yes	yes
Long-Term Effectiveness and Permanence	yes	yes
Reduction of Toxicity, Mobility, or Volume Through Treatment	yes (in conjunction with the original cap and with the contingency)	yes (in conjunction with the cap and the ground water extraction system)
Short-Term Effectiveness	yes	yes
Implementability	yes	yes
Cost (Present Worth)	\$1.3 million (refer to paragraph 7 above)	\$10.7 million (refer to paragraph 7 above)
Support Agency Acceptance	yes	yes
Community Acceptance	yes	yes

ARARS Identified for the Amended Plan

The following ARARs are identified for the amended plan:

- ◆ **Ohio Revised (ORC) Chapter 6111 Water Pollution Control:**
 Section 6111.04 prohibits pollution to waters (including ground water) of the State of Ohio;
 Section 6111.04.2 requires compliance with National Effluent Standards;
 Section 6111.04.3 requires permits for the discharge of wastes into wells;

Section 6111.07 prohibits violations of any rule or permit in regards to water pollution.

- ◆ *ORC Chapter 3734 Solid and Hazardous Waste*
Section 3734.02(H) prohibits digging, etc., into or on any land where a hazardous or solid waste facility is located without prior authorization of the Director of Ohio EPA;
Section 3734.11 prohibits anyone from violating any section of this chapter or any rule associated with Section.
- ◆ *ORC Chapter 3767 Nuisances*
Section 3767.13, Section 3767.14, Section 3767.17, Section 3767.18, and Section 3767.32 prohibit nuisances regarding wells, refuse, and waters.
- ◆ *Ohio Administrative Code (OAC) 3745-27-13*
This rule provides the means to grant authorization to engage in obtrusive actions in land where a hazardous or solid waste facility was operated.
- ◆ *OAC 3745-9-10 Abandonment of Test Holes and Wells*
All wells not in use must be properly abandoned.

All other ARARs relevant to the New Lyme Landfill, and identified in the 1985 ROD, will remain in effect. In addition, other ARARs may apply if warranted by the implementation of certain contingency measures.

Summary of Support Agency Comments on the ROD Amendment

The State of Ohio concurs with the amended plan.

Statutory Determinations

In accordance with CERCLA Section 121, the amended plan satisfies the following requirements:

- Protection of Human Health and the Environment
- Compliance with ARARs
- Cost Effectiveness
- Utilizes permanent solutions and alternative treatment or resource recovery technologies to the maximum extent practicable; and
- Satisfies the preference for treatment as a principal element or provide an explanation as to why this preference is not satisfied.

Because this remedy will result in hazardous substances remaining on-site above the health-based levels, reviews will continue to be conducted every five years from date the Preliminary Close-out Report was signed by the U.S. EPA (December 31, 1992), to ensure that the remedy continues to provide adequate protection of human health and the environment.

Public Participation Compliance

In compliance with Section 117 of CERCLA, and the NCP Section 300.435(c)(2)(ii), the Proposed Plan highlighting the amended plan was published. Notice was issued, and a public comment period commenced on June 21, 1999, and closed on July 21, 1999. In the Proposed Plan, the U.S. EPA offered to hold a public meeting to explain the ROD Amendment. U.S. EPA received no indication that there was any public interest in a public meeting. Hence, a public meeting was not conducted.

Since the original ROD was signed, public interest in the New Lyme Landfill site has been minimal. During the 30-day public comment period, U.S. EPA received comments from one potentially responsible party linked to the site. These comments are documented in the Responsiveness Summary but generated no significant changes to the amended plan.

RESPONSIVENESS SUMMARY

The Responsiveness summary has been prepared to meet the requirements of Sections 113(k)(2)(B)(iv) and 117(b) of CERCLA, which requires the U.S. EPA to respond "... to each of the significant comments, criticisms, and new data submitted in written or oral presentations" on a proposed plan for remedial action. The Responsiveness Summary addresses concerns expressed by the public and potentially responsible parties (PRPs) in the written and oral comments received by the U.S. EPA and the State regarding the proposed remedy for the New Lyme Landfill site. The Responsiveness summary is attached as Appendix 1.

APPENDIX 1

RESPONSIVENESS SUMMARY

The Responsiveness summary has been prepared to meet the requirements of Sections 113(k)(2)(B)(iv) and 117(b) of CERCLA, which requires the U.S. EPA to respond "... to each of the significant comments, criticisms, and new data submitted in written or oral presentations" on a proposed plan for remedial action. The Responsiveness Summary addresses concerns expressed by the public and potentially responsible parties (PRPs) in the written and oral comments received by the U.S. EPA and the State regarding the proposed remedy for the New Lyme Landfill site:

Comments from General Electric Company, a PRP, dated July 20, 1999, were received on July 21, 1999. General Electric Company supports the Proposed Plan and the proposed ROD Amendment for the New Lyme Landfill but stated its reservations about statements contained in the Focused Feasibility Study and the Proposed Plan. (Refer to the Administrative Record for these comments in their entirety.)

Response: The comments submitted by the PRP stated that there were problems with the original remedy, expressed concerns about certain assumptions in the proposed ROD amendment and stated that the focused feasibility study contains inaccurate and unreliable assumptions. The U.S. EPA and Ohio EPA disagree with various comments submitted by the PRP. However, since the comments overall support the amended plan and the ROD Amendment, U.S. EPA believes that no specific response is necessary. U.S. EPA notes the comments and information provided by the commentor.

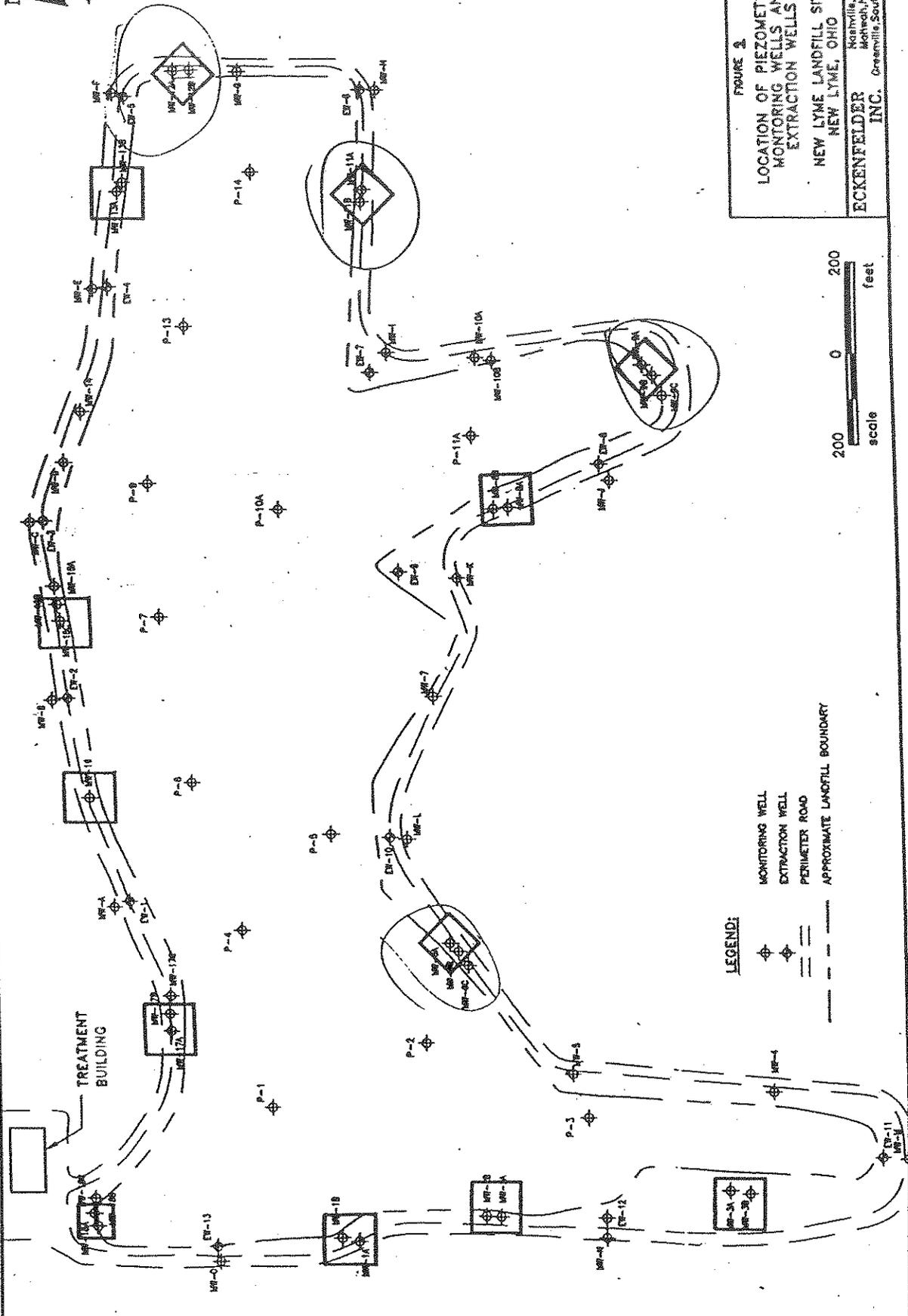


FIGURE 3
**LOCATION OF PIEZOMETERS,
MONITORING WELLS AND
EXTRACTION WELLS
NEW LYME LANDFILL SITE
NEW LYME, OHIO**
Northville, Tennessee
Madison, New Jersey
Greenville, South Carolina
**ECKENFELDER
INC.**

LEGEND:
MONITORING WELL
EXTRACTION WELL
PERIMETER ROAD
APPROXIMATE LANDFILL BOUNDARY

200 0 200
feet
scale

U.S. ENVIRONMENTAL PROTECTION AGENCY
REMEDIAL ACTION

ADMINISTRATIVE RECORD
FOR
NEW LYME LANDFILL SUPERFUND SITE
ASHTABULA, OHIO

UPDATE #3
OCTOBER 21, 1999

<u>NO.</u>	<u>DATE</u>	<u>AUTHOR</u>	<u>RECIPIENT</u>	<u>TITLE/DESCRIPTION</u>	<u>PAGES</u>
1	06/13/86	CH2M Hill	U.S. EPA	Predesign Report/Agency Review Draft for the New Lyme Landfill Site	66
2	07/28/86	U.S. EPA	File	Predesign Report/Public Comment for the New Lyme Landfill Site	40
3	07/00/87	U.S. Army Corps of Engineers/Omaha District	File	Treatability Testing and Field Investigation Report for the New Lyme Landfill Site	389
4	07/16/92	Ohio EPA	File	Inter-Office Communication re: Evaluation of Ground-water Monitoring Extraction Systems	2
5	12/00/96	Eckenfelder, Inc.	U.S. EPA	Five Year Remedy Review Investigation: Hydro-geologic Report for the New Lyme Landfill Site	192
6	02/00/97	Eckenfelder, Inc.	U.S. EPA	Five Year Remedy Review: Remedial Alternatives Analysis for the New Lyme Landfill Site	128
7	01/00/98	Ohio EPA	U.S. EPA	Five Year Review Report for the New Lyme Landfill Site w/ Cover Letter	315
8	09/25/98	Lawton & Associates, Inc.	U.S. EPA/ Ohio EPA	Focused Feasibility Study for the New Lyme Landfill Site	54
9	05/00/99	U.S. EPA	Public	Proposed Plan for the New Lyme Landfill Site	8

New Lyme Landfill AR
Update

<u>NO.</u>	<u>DATE</u>	<u>AUTHOR</u>	<u>RECIPIENT</u>	<u>TITLE/DESCRIPTION</u>	<u>PAGES</u>
10	07/20/99	McMahon, M., McMahon, DeGulis, Hoffman & Blumenthal, L.L.P.	Pastor, S., U.S. EPA	Letter: General Electric Company's Comments on the Proposed Amendment to the Record of Decision for the New Lyme Landfill Site w/ Attached Exhibits A-D	126
11	00/00/00	U.S. EPA	Public	Responsiveness Summary for the New Lyme Landfill Site (PENDING)	
12	00/00/00	U.S. EPA	Public	Record of Decision Amend- ment for the New Lyme Landfill Site (PENDING)	

APPENDIX C
STATEMENT OF WORK (SOW)

United States v. Lord Corporation et al. v. Amcast Industrial Corp.,
Civ. No. 4:89 CV 2001 (N.D. Ohio)
State of Ohio v. Aardvark Associates, Inc., et al. v. Amcast
Industrial Corp., Civ. No. 1:92 CV 0227 (N.D. Ohio)

**STATEMENT OF WORK FOR REMEDY MODIFICATIONS
AT THE NEW LYME LANDFILL SUPERFUND SITE
ASHTABULA, OHIO**

The issuance of a final Record of Decision (ROD) Amendment by the USEPA for the New Lyme Landfill will trigger a shut down of the existing groundwater extraction and treatment system and implementation of a long term groundwater monitoring program. The following tasks will be implemented in response to the ROD Amendment.

TASK 1: PREPARATION OF WORK PLANS AND RELATED DOCUMENTS

Prior to implementing the remedy modification, a Work Plan and related documents will be submitted to the Agencies for review and approval. The submitted documents will include a Work Plan for implementation of the Statement of Work (SOW) tasks presented below; a Health and Safety Plan (HASp) for field activities; a Groundwater Monitoring Plan which will include a Sampling and Analysis Plan (SAP), a Quality Assurance Project Plan (QAPP) and a Data Management Plan; a Security Plan; a generic Contingency Plan; and an Operation and Maintenance Plan for the site as constituted following shutdown of the groundwater treatment plant and the extraction wells. These documents will be submitted to the agencies in accordance with the attached Draft Schedule for Implementation of The New Lyme Statement of Work . A revised schedule will also be included with the Work Plan to reflect any changes requested by the Agencies or modifications deemed appropriate during preparation of the work plan.

TASK 2: DISASSEMBLE HEADER AND CONVEYANCE PIPES

Header pipe assemblies and related surface controls will be removed from the extraction wells and any above ground piping will be disassembled and staged for salvage. Any below ground piping will be capped at both ends and left in place.

TASK 3: EXTRACTION WELL ABANDONMENT

Pumping equipment and related piping and controls (if any) will be removed from each of the thirteen groundwater extraction wells. Each extraction well will be abandoned in accordance with current Ohio regulations and documentation will be provided to the Agencies. Water generated during well abandonment will be discharged to the surrounding ground surface. This method of discharge is appropriate as the contractor will use potable water and recent analytical data indicates that the surrounding groundwater is free of contaminants. This issue will be further addressed in the detailed work plan described in Task 1.

TASK 4: TEMPORARILY DECOMMISSION TREATMENT PLANT

The on-site groundwater treatment plant will be placed in stasis until such time as it is determined that there is no further need for it and it can be dismantled for salvage, or that it is needed as part of a downgradient groundwater extraction system. The following presents a conceptual plan for temporarily decommissioning the treatment plant. However, a more detailed plan that incorporates specific vendor information on each piece of equipment is recommended prior to shut down. This section provides the recommended procedures to preserve the equipment for start-up or dismantling. Presented in Figure 1 is a block diagram of the existing GWTS. The GWTS major units include an equalization tank with diffused air for mixing, pH adjustment tank, primary settling tank, neutralization tank, rotating biological contactor, secondary clarifier, sand filtration system including backwash tanks, granular activated carbon system, and an effluent holding tank. The solids handling system consist of a gravity thickener, sludge-conditioning tank, lime slurry tank, lime storage silo and the filter press. For this equipment, including the pumps, sensors, piping, valves, and ancillary equipment, to be preserved in such a state that it could be either started back up in a reasonable time period or dismantled for sale, the following minimum preparations will be undertaken.

Equalization Tank

All the sludge and liquid will be removed from the tank and the tank will be rinsed down with clean water. The equalization blower will be locked out and tagged out at the main power panel.

pH adjustment Tank

The tank will be drained and rinsed with clean water. The pH probe will be removed and stored according the manufacturer recommendations. The chemical feed line from the sodium hydroxide system will be drained. Any low areas of the piping that may contain residual chemical should be cut and drained. It is not recommended to use water for flushing due to the potential chemical reaction that may occur with the concentrated material. The excess sodium hydroxide can remain in the storage tank assuming the tank is of proper material of construction for the specific caustic concentration. If the system is disassembled, the contents will be pumped to 55-gallon drums or a portable storage tank for proper disposal or sale. The pumps and mixer will be locked out and tagged out at the main power panel.

Settling Tank

The solids in the primary settling tank will be removed and the tank will be drained of all liquid and rinsed down with clean water. All sludges will be disposed of properly to a permitted landfill or a municipal treatment system. The solids can either be dewatered on-site with the filter press or trucked off as a slurry. This is left up to the operator to determine the most efficient alternative. The sludge pump should continue to be serviced to maintain proper

lubrication. However, long periods of no operation (greater than 1yr) will most likely result in the pump diaphragm, o-rings and ball seats to dry out and require replacement prior to start-up.

Neutralization Tank

The tank will be drained and rinsed down of all sludge and the pH probe will be removed and stored according to manufacturer recommendation.

The mixer will be locked out and tagged out at the main power panel. The mixer should be lubricated quarterly and the mixer shaft should be rotated quarterly to distribute lubricant and prevent binding.

The acid feed pump and lines will also be drained then locked out and tagged out at the main power panel. Any low areas of the piping that may contain residual chemical should be cut and drained. It is not recommended to use water for flushing due to the possible chemical reaction that would occur with the concentrated material. The acid can be stored in the bulk storage tank as long as the tank is of proper material of construction for the specific concentration of acid.

The phosphoric acid metering pump and lines will be drained. Any low areas of the piping that may contain residual chemical will be cut and drained consistent with the above as it is not recommended to use water for flushing due to the possible chemical reaction that would occur with the concentrated material. The pump will then be locked out and tagged out at the main power panel. The phosphoric acid drum will be closed and stored in a safe approved area.

Rotating Biological Contactors

The RBC will be drained and rinsed with clean water. The motor and shaft are to be lubricated according to proper maintenance schedules. The motor and RBC shaft should be rotated quarterly to distribute lubricant and prevent binding of the shaft.

The RBC effluent pumps and lines will also be flushed with clean water and locked out and tagged out at the main power panel. The pump and motor are also to be lubricated quarterly. The motor shaft should be rotated quarterly to distribute lubricant and prevent motor and pump binding. The RBC manufacture should be contacted for more specific information on the preservation of the internal discs and components.

Biological Clarifier

The secondary clarifier will be drained, desludged and washed down with clean water. All moving mechanisms will be locked out and tagged out at the main power panel. The sludge pump is to be lubricated quarterly. The air will be turned off and the air compressor will be bled of all air. All moisture should be drained from the air tank to prevent corrosion. The air compressor will then to be locked out and tagged out at the main power panel. Any moving

scraper arms in the clarifier are to be lubricated and rotated on a quarterly schedule. The manufacturer of the internal clarifier mechanics should be contacted for specific recommendation on the preservation of the scraper and arm.

Sand Filtration System

The sand filters will be emptied of all sand to prevent biological decomposition from occurring and solidification of the sand and the recycle tank will be drained of all liquid. The sand filter effluent pumps and motors, and backwash pumps and motors are to be lubricated quarterly. The shafts are to be rotated quarterly to distribute the lubricant and prevent binding. The pumps and blower will be locked out and tagged out at the main control panel.

Granular Activated Carbon System

Carbon in the system can create odors from the build up of iron bacteria or create corrosion along the lining. Therefore, all carbon will be removed from the column and disposed of properly. At start-up, if necessary, fresh carbon will be reloaded into the two vessels. The recirculation pumps are to be lubricated quarterly. The pump motors are to be rotated quarterly to distribute lubricant and prevent binding. The pumps will be locked out and tagged out at the main power panel. The effluent holding tank can be maintained full to be used throughout the plant while the system is locked out.

Solids Handling System

The gravity thickener will be drained and rinsed with clean water. The sludge will be either dewatered through the filter press and disposed of in a permitted landfill, or hauled off to an alternate treatment facility. The method of sludge removal is the responsibility of the facility operator. The sludge pumps are to be flushed with clean water and lubricated quarterly. The pump motors are to be rotated once a quarter to distribute the lubricant and prevent binding.

The sludge-conditioning tank and lime slurry tank will be drained and washed down with clean water. The lime slurry feed pumps and lines are to be thoroughly flushed with clean water and the pumps are to be lubricated quarterly. The pump motor shafts are to be rotated quarterly to distribute the lubricant and prevent binding. The lime storage tank will be emptied of all dry material to prevent hydration of the lime and plugging of the hopper.

The filter press plates will be cleaned of all solids materials and then spaced about one half inch apart. Depending on the down time prior to start-up, if required, the filter cloths may require replacing due to dry rot. The filter press ram is to be extended but maintained with no hydraulic pressure on the system. This will allow the lubricants to be dispersed through the ram. The oil reservoirs are to be maintained and changed upon start-up, as needed. Operation of the filter press ram at least twice per year will help prevent binding.

The filter press feed pump and line will be thoroughly flushed of all solids. The pumps are to be lubricated quarterly and the motor shafts are to be rotated quarterly to distribute lubricant and prevent binding. The sludge hopper will be emptied of all dry solids. The filter press and sludge pumps will be locked out and tagged out at the main power panel.

TASK 5: IMPLEMENT LONG TERM GROUNDWATER MONITORING PROGRAM

A long-term groundwater monitoring program will be initiated by the collection of a round of groundwater samples immediately after extraction system shut-down. These samples will be collected to determine initial site conditions.

Thereafter, the long term monitoring program will initially be implemented over a two year period and will include both hydraulic and water quality monitoring. The intent of the hydraulic monitoring is to collect the data necessary to determine when static conditions have been attained following shutdown of the extraction system, and to evaluate groundwater flow directions over time. Water quality monitoring will be conducted to detect the potential release of landfill constituents to the surrounding hydrogeologic environment. At the end of seven quarters of monitoring, the collected data will be reviewed and the monitoring plan revised and submitted for Agency approval.

The initial monitoring plan includes the collection of groundwater samples from nineteen (19) monitoring wells on a quarterly basis and eight (8) additional wells on a semi-annual basis as summarized in Table 1. The semi-annual sampling of the eight additional wells will be rotated so that, as an example, they are sampled during the spring and fall of one year and then the summer and winter of the following year. This rotation will allow for the collection of at least one sample from each well representing all four quarters (seasons). In addition, during the first year of monitoring, water levels will be collected from the existing monitoring wells at the site, including those not identified for groundwater sampling, during each quarterly sampling event. Thereafter, water levels will be collected only at those locations sampled during that event. Further, water quality samples will be collected on an annual basis from six nearby residential wells as called for in the current residential sampling plan.

Analytical parameters for the on-site monitoring wells are listed in Table 2. As indicated, semi-annual sampling events during the first two years of sampling will be expanded to include pesticides/herbicides and PCBs for samples collected from the on-site monitoring wells. Residential samples will be analyzed for the reduced list of parameters on Table 3. Analytical methods will consist of the following:

VOCs by SW-846 Method 8260B
SVOCs by SW-846 Method 8270C
Pesticides/Herbicides by SW-846 Method 8081/8150
PCBs by SW-846 Method 8082

Water quality and water level data will be forwarded to the Agencies on a quarterly basis during the first two years of the monitoring program and will include a brief narrative describing the collected data. Reporting after the first two years of data collection will be determined as part of the revised monitoring program.

TASK 6: IMPLEMENTATION OF NECESSARY CONTINGENCIES

In the event that a parameter is detected in groundwater above background concentrations or its respective MCL for inorganic parameters (which ever is higher) or above its MCL or 1×10^{-5} risk level for organic parameters, the Agencies will be notified and that well will be resampled as soon as practical to confirm the detected concentration. Confirmed exceedance of the background, MCL, or risk level, as applicable, will result in the implementation of contingency plans.

Once confirmation sampling confirms that trigger levels have been exceeded, a specific contingency plan for responding to the confirmed exceedance will be developed and submitted to the Agencies for review and approval. This plan may include the installation and sampling of targeted down-gradient monitoring wells, and depending on the situation, may also include other monitoring programs and remedial actions to stop off-site migration. The type of contingency measures proposed will be based on what is necessary to protect human health and the environment. Details on the time frames for submitting specific contingency plans, general outlines for the plans, and other pertinent information will be included in the Generic Contingency Plan submitted to the Agencies for review and approval.

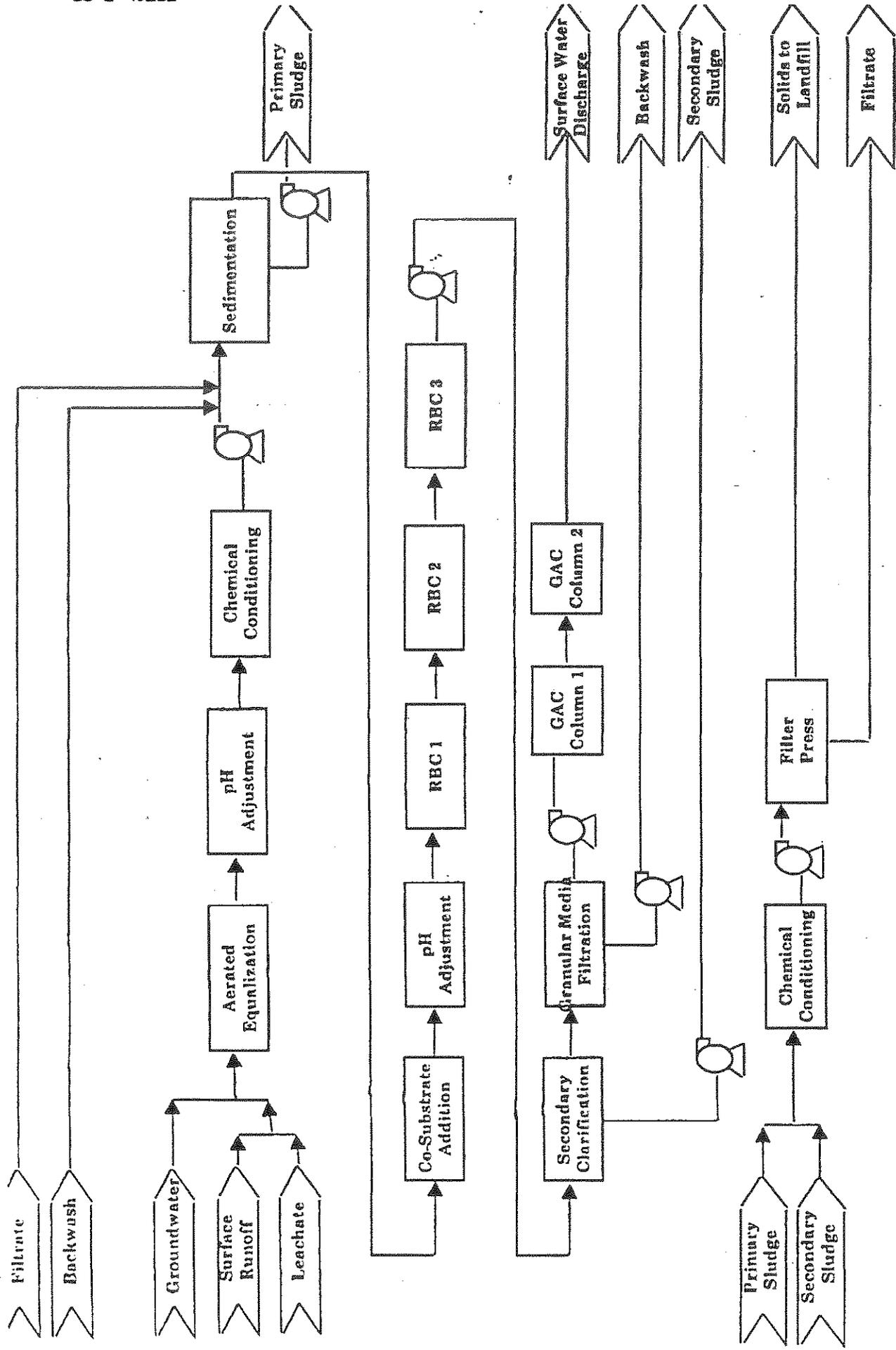


FIGURE 1
BLOCK FLOW DIAGRAM OF GWTF
ECKENFELDER

TABLE 1

MONITORING WELL LOCATIONS FOR
INCLUSION IN THE LONG-TERM MONITORING PLAN

MW-1A	MW-12A*
MW-1B	MW-12B*
MW-2A	MW-13A
MW-2B	MW-13B
MW-3A	MW-15A
MW-3B	MW-15B
MW-6A*	MW-16
MW-6B*	MW-17A
MW-8A	MW-17B
MW-8B	MW-18A
MW-9A*	MW-18B
MW-9B*	MW-22A
MW-11A*	MW-22B
MW-11B*	

* Denotes wells sampled on a semi-annual basis rotated so that each well is sampled at least once during each quarter (season). See text for additional discussion.

TABLE 2

NEW LYME LANDFILL MONITORING WELL ANALYTICAL PARAMETERS*

VOCs	Cobalt
Semi-VOCs	Copper
Nitrogen, Ammonia (as N)	Cyanide
Chloride, Cl	Lead
Sodium	Iron
COD	Manganese
Total Dissolved Solids	Mercury
Nitrate - Nitrite N	Nickel
Sulfate, SO ₄	Selenium
Turbidity	Silver
Antimony	Thallium
Arsenic	Vanadium
Barium	Zinc
Beryllium	Temperature (field measurement)
Cadmium	pH (field measurement)
Chromium	Specific Conductance (field measurement)

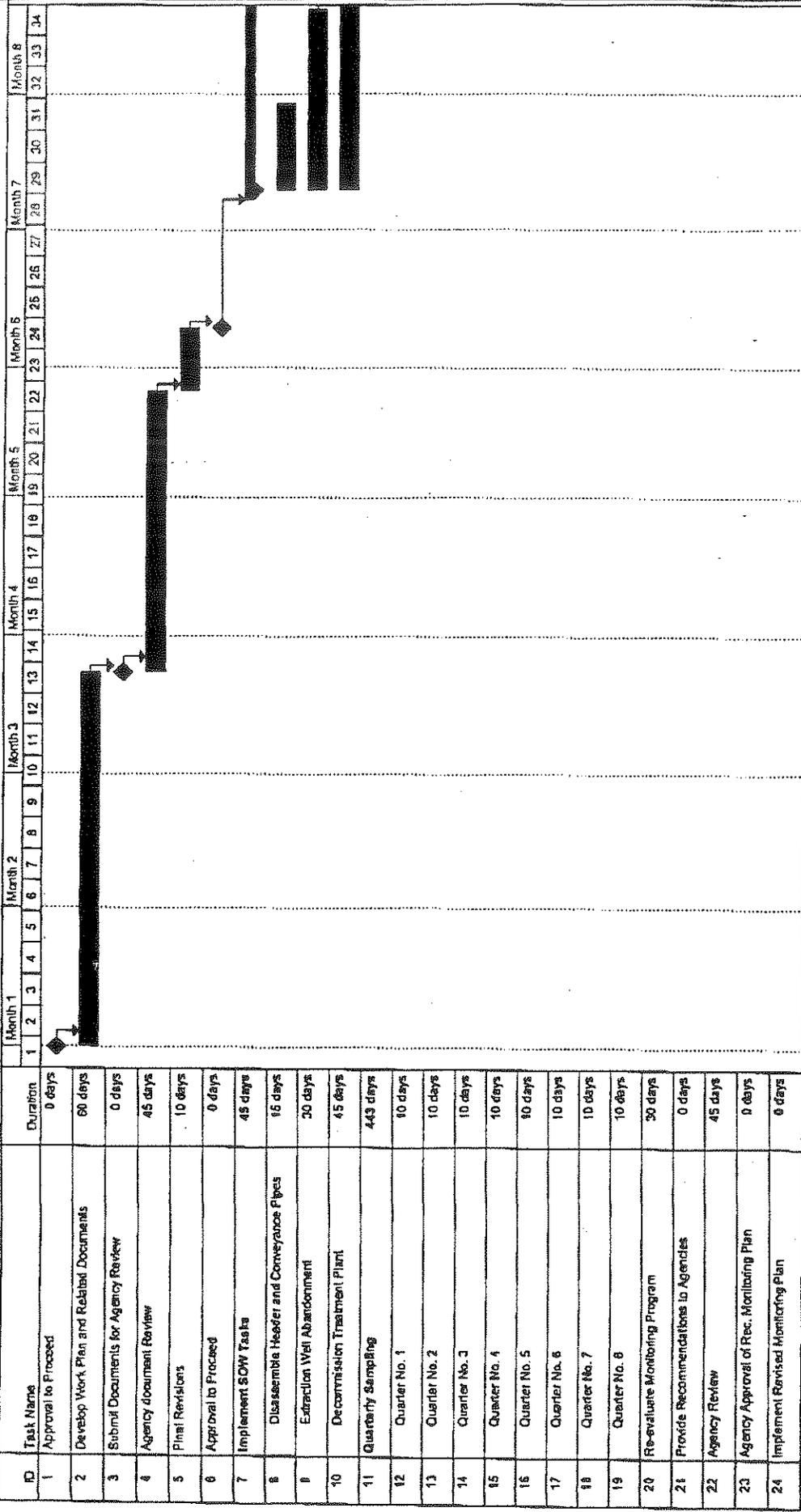
* On a semi-annual basis the parameter list will be expanded to include Pesticide/Herbicides and PCB's.

TABLE 3

NEW LYME LANDFILL RESIDENTIAL WELL
ANALYTICAL PARAMETERS

VOC₅
Nitrogen, Ammonia (as N)
Chloride, Cl
Sodium
COD
Total Dissolved Solids
Nitrate - Nitrite N
Sulfate, SO₄
Turbidity
Iron
Manganese

SCHEDULE FOR IMPLEMENTATION OF THE NEW LYME STATEMENT OF WORK (SOW)



Project: New Lyme SOW
Date: Tue 5/30/00

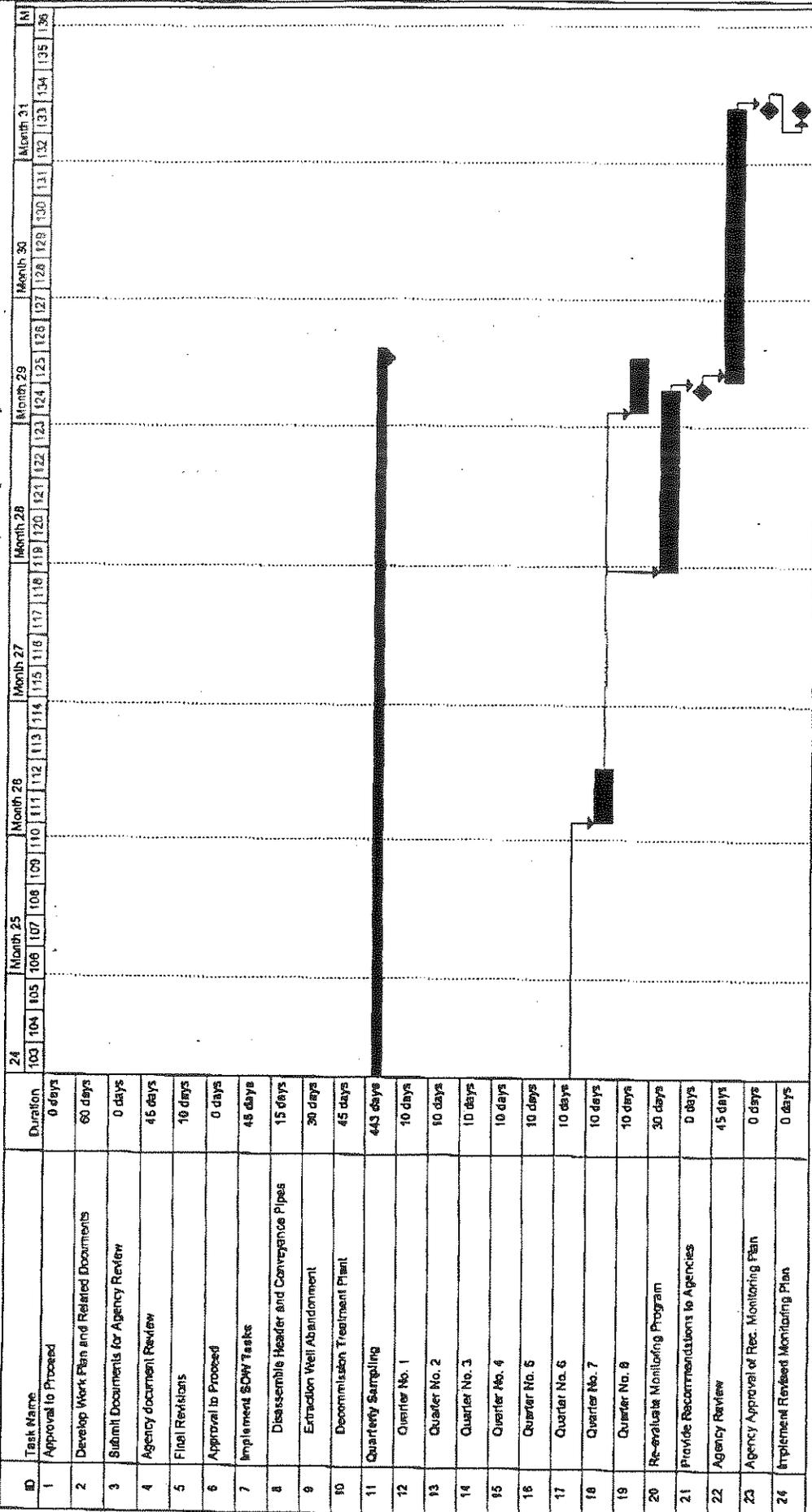
Task: [Solid Bar] Progress: [Dotted Bar] Milestone: [Diamond]

Summary: [Solid Bar] Rolled Up Task: [Solid Bar] Rolled Up Milestone: [Diamond]

Rolled Up Progress: [Solid Bar] Split: [Dotted Bar] External Tasks: [Solid Bar]

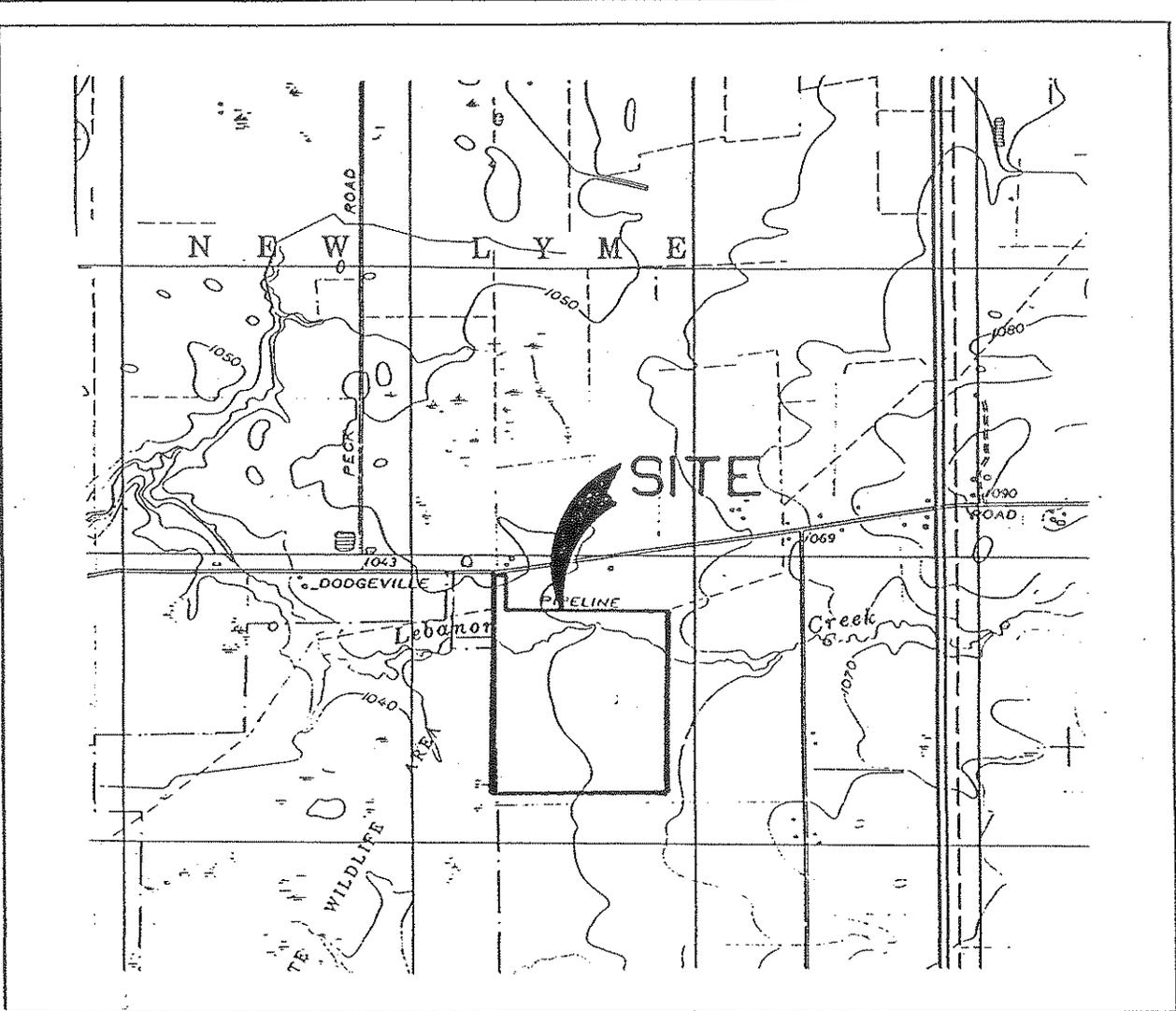
Project Summary: [Solid Bar]

SCHEDULE FOR IMPLEMENTATION OF THE NEW LYME STATEMENT OF WORK (SOW)



APPENDIX D
DESCRIPTION/MAP OF THE SITE

United States v. Lord Corporation et al. v. Amcast Industrial Corp.,
Civ. No. 4:89 CV 2001 (N.D. Ohio)
State of Ohio v. Aardvark Associates, Inc., et al. v. Amcast
Industrial Corp., Civ. No. 1:92 CV 0227 (N.D. Ohio)



New Lyme, Ohio
Ashtabula County

New Lyme, Ohio, Quadrangle, U.S.G.S., 1965 (Photorevised 1982)

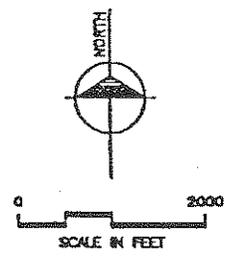


FIG1
DLH030395

FIGURE 1
SITE LOCATION MAP
NEW LYME LANDFILL
AUGUST 1998 5187002.001



APPENDIX E
SETTLING PERFORMING PARTIES

United States v. Lord Corporation et al. v. Amcast Industrial Corp.,
Civ. No. 4:89 CV 2001 (N.D. Ohio)
State of Ohio v. Aardvark Associates, Inc., et al. v. Amcast
Industrial Corp., Civ. No. 1:92 CV 0227 (N.D. Ohio).

Amcast Industrial Corp., f/k/a, Dayton Malleable.
General Electric Company.
Lord Corporation.
Meritor Automotive, Inc. (successor to Rockwell International
Corporation).
Molded Fiberglass Companies.
Monogram Industries, Inc.
PPG Industries, Inc.
Premix, Inc.
Reliance Electric Company.
Waste Management of Ohio, Inc.
Waste Management of Pennsylvania, Inc.

APPENDIX F
SETTLING NON-PERFORMING PARTIES

United States v. Lord Corporation et al. v. Amcast Industrial Corp.,
Civ. No. 4:89 CV 2001 (N.D. Ohio)
State of Ohio v. Aardvark Associates, Inc., et al. v. Amcast
Industrial Corp., Civ. No. 1:92 CV 0227 (N.D. Ohio)

Aardvark Associates, Inc./Ron and Thelma Nielson.
Air Products and Chemicals, Inc. and its formerly owned subsidiary,
Exomet, Incorporated.
Carlisle-Allen Company, Carlisle Retailers, Inc., Peebles, Inc.
Carter Lumber Company.
Chemical Solvents, Inc.
City of Ashtabula, Ohio.
Consolidated Rail Corporation.
County Disposal.
Formica Corporation.
Genevieve Waid.
Gould, Inc.
GTE Products Corp.
HBC Incorporated, Blount International Inc., Lindsay Wire, Inc.
Kmart.
Mannier Trucking/ Mr. & Mrs. Mannier.
Millennium Holdings, Inc. on behalf and for the benefit of SCM
Corporation, the Glidden Company and their respective
predecessors (including Glidden-Durkee Company and SCM Chemicals,
Inc.).
Niciu Trucking/ Mr. & Mrs. Niciu.
Norton Company.
Occidental Chemical Corporation (as successor to Diamond Shamrock
Chemicals Company, f/k/a, Diamond Shamrock Corporation).
R.L.K., Inc., d/b/a, Northeastern Disposal.
Robert Henry, d/b/a, Henry's Trucking.
Stoneridge, Inc. successor to KayDee Manufacturing.
The Stackpole Corporation.
Trans-Plastics, Inc.
United Telephone Company of Ohio.
Viacom International, Inc., successor to G&W Natural Resources
Company, Inc. and The New Jersey Zinc Company.

APPENDIX G
SETTLING DE MINIMIS PARTIES

United States v. Lord Corporation et al. v. Amcast Industrial Corp.,
Civ. No. 4:89 CV 2001 (N.D. Ohio)
State of Ohio v. Aardvark Associates, Inc., et al. v. Amcast
Industrial Corp., Civ. No. 1:92 CV 0227 (N.D. Ohio).

Allegheny College.
Andover Industries, Inc., d/b/a, Buffalo Molded Plastics.
Bessemer & Lake Erie Railroad.
BP America, Inc., The Standard Oil Company.
Champion International Corporation, a successor to Hoerner Waldorf
Company.
City of Meadville, Pennsylvania
Combustion Engineering, Inc. (Thermex).
GenCorp, Inc.
Iten Industries, Inc.
Kennametal, Inc.
Koppers Subsidiary XVIII Company, Inc., f/k/a, Parr, Inc.
Mallinckrodt Inc. f/k/a IMCERA Group Inc. and International Minerals &
Chemical Corporation.
Matlack, Inc.
Meadville Forging Company.
Olin Corporation.
Pennsylvania Electric Company.
RMI Titanium Co., f/k/a, RMI Company.
Sanborn Wire Products, Inc.
Smith & Wesson Corp., Smith & Wesson Chemical Company, Bangor Punta
Corporation, Bangor Punta Consolidated Corporation., Lear
Siegler, Inc., Lear Siegler Diversified Holdings Corp., LSDHC
Corp.
Sunbeam (Seco Warwick).
The Albert M. Higley Company.
The Great Atlantic & Pacific Tea Company.
WRISCO Industries, Inc. (Parts Processing Garvin).

APPENDIX H
LIST OF PARTIES EXCEPTED FROM CONSENT DECREE
PURSUANT TO PARAGRAPH 94

United States v. Lord Corporation et al. v. Amcast Industrial Corp.,
Civ. No. 4:89 CV 2001 (N.D. Ohio)
State of Ohio v. Aardvark Associates, Inc., et al. v. Amcast
Industrial Corp., Civ. No. 1:92 CV 0227 (N.D. Ohio).

Orwell Township.
Pneumo Abex Corporation (a/k/a Fisher, Whitman and/or Abex, Inc.).
Powell's Portable Toilets.
Zehrco Plastics, Inc (a/k/a Hubble).

