

IN THE UNITED STATES DISTRICT COURT
FOR THE DISTRICT OF VERMONT

UNITED STATES OF AMERICA
and STATE OF VERMONT

Plaintiffs,

v.

BURGESS BROTHERS, INC.,
EVEREADY BATTERY COMPANY,
INC., and CLYDE BURGESS, JR.

Defendants.

CIVIL ACTION NO. _____

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I. BACKGROUND

A. The United States, on behalf of the Administrator of the United States Environmental Protection Agency ("EPA"), filed a complaint in this matter pursuant to Sections 106 and 107 of the Comprehensive Environmental Response, Compensation, and Liability Act ("CERCLA"), 42 U.S.C. §§ 9606 and 9607, and Section 7003 of the Resource, Conservation and Recovery Act ("RCRA"), 42 U.S.C. § 6973.

B. The United States in its complaint seeks, inter alia: (1) reimbursement of costs incurred by EPA and the Department of Justice for response actions at the Burgess Brothers Superfund Site in Bennington and Woodford, Vermont, (the "Site" as defined below) together with accrued interest; and (2) performance of Remedial Design/Remedial Action ("RD/RA") by the Settling Defendants (as defined below) at the Site consistent with the National Contingency Plan, 40 C.F.R. Part 300 (as amended) ("NCP").

C. 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 March 31, 1989, 54 Fed. Reg. 13296.

D. In response to a release or a substantial threat of a release of hazardous substances at or from the Site, on or about September 4, 1991 the EPA and the Settling Defendants entered into an Administrative Order by Consent for a Remedial Investigation/Feasibility Study ("AOC") which required Settling Defendants to, inter alia, perform or finance a Remedial Investigation/Feasibility Study ("RI/FS") for the Site. On or about June 2, 1992, EPA and the Settling Defendants entered into a separate Administrative Agreement whereby the Settling Defendants agreed to reimburse EPA for certain response costs.

E. On or about August 11, 1994, Settling Defendant Eveready Battery Company, Inc. ("Eveready") filed a complaint, Civil Action No. 2:94-CV-235, in the United States District Court for the District of Vermont against the United States of America, the Department of Defense, the Department of the Army, the Department of the Navy and approximately 30 other parties seeking past costs incurred, and future costs to be incurred, by Eveready in connection with the Site.

F. On or about April 20, 1998, the United States and Eveready settled Eveready's lawsuit and dismissed the complaint pursuant to a Consent Decree ("April 20, 1998 Consent Decree") in which the United States agreed to, inter alia, (i) reimburse Eveready for a portion of the costs it had incurred in performing the RI/FS under the AOC and (ii) pay Eveready a portion of the costs it expected to incur if it performed or financed the RD/RA.

G. In accordance with the NCP and Section 121(f)(1)(F) of CERCLA, 42 U.S.C. § 9621(f)(1)(F), EPA notified the State of Vermont (the "State") on September 9, 1998 of negotiations with potentially responsible parties regarding the implementation of the remedial design and remedial action for the Site, and EPA has provided the State with an opportunity to participate in such negotiations and be a party to this Consent Decree.

H. The State of Vermont ("State") also filed a complaint against the Settling Defendants in this Court alleging that they are liable to the State under Section 107 of CERCLA, 42 U.S.C. § 9607, and under 10 V.S.A. § 6615.

I. In accordance with Section 122(j)(1) of CERCLA, 42 U.S.C. § 9622(j)(1), EPA notified the United States Department of the Interior and the National Oceanic and Atmospheric Administration on September 9, 1998, of negotiations with potentially responsible parties

regarding the release of hazardous substances that may have resulted in injury to the natural resources under Federal trusteeship and encouraged the trustees to participate in the negotiation of this Consent Decree.

J. EPA approved the Remedial Investigation on April 30, 1997; and on April 22, 1998 EPA approved the Feasibility Study.

K. Pursuant to Section 117 of CERCLA, 42 U.S.C. § 9617, EPA published notice of the completion of the FS and of the proposed plan for remedial action on June 15, 1998, in a major local newspaper of general circulation. EPA provided an opportunity for written and oral comments from the public on the proposed plan for remedial action. A copy of the transcript of the public meeting is available to the public as part of the administrative record upon which the EPA based the selection of the response action.

L. The decision by EPA on the remedial action to be implemented at the Site is embodied in a final Record of Decision ("ROD"), executed on September 25, 1998, on which the State has given its concurrence. The ROD includes EPA's explanation for any significant differences between the final plan and the proposed plan as well as a responsiveness summary to the public comments. Notice of the final plan was published in accordance with Section 117(b) of CERCLA.

M. Based on the information presently available to EPA and the State, EPA and the State believe that the Work (as defined below) will be properly and promptly conducted by the Settling Defendants if conducted in accordance with the requirements of this Consent Decree and its appendices.

N. Solely for the purposes of Section 113(j) of CERCLA, 42 U.S.C. § 9613(j), the Remedial Action selected by the ROD and the Work to be performed by the Settling Defendants shall constitute a response action taken or ordered by the President.

O. The defendants that have entered into this Consent Decree ("Settling Defendants") do not admit any liability to the Plaintiffs 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.

P. 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.

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; 42 U.S.C. §§ 9606, 9607 and 9613(b); and 42 U.S.C. § 6973. This Court also has personal jurisdiction over the Settling Defendants. Solely for the purposes of this Consent Decree and the underlying complaints, Settling Defendants waive all objections and defenses that they may have to jurisdiction of the Court or to venue in this District. Settling Defendants shall not challenge the terms of this Consent Decree or this Court's jurisdiction to enter and enforce this Consent Decree.

III. PARTIES BOUND

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

3. Settling Defendants 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 to each person representing any Settling Defendant with respect to the Site or the Work and shall condition all contracts entered into hereunder upon performance of the Work in conformity with the terms of this Consent Decree. Settling Defendants 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 Defendants 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 Defendants 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:

"April 20, 1998 Consent Decree" shall mean that document entitled Consent Decree entered into between Eveready and the United States and approved by the United States District Court for the District of Vermont on April 20, 1998 in the cause captioned: "Eveready Battery Company, Inc., plaintiff vs. United States of America, et al., defendants, Case No. 94-CV-235."

"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 XXIX). 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.

"EPA Project Coordinator" and "EPA Alternate Project Coordinator" shall mean that person designated as a Project Coordinator pursuant to Paragraph 44.

"Eveready" shall mean Settling Defendant Eveready Battery Company, Inc., a Delaware corporation.

"Future Response Costs" shall mean all 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, IX (including, but not limited to, the cost of attorney time and any monies paid to secure access and/or to secure or implement institutional controls including, but not limited to, the amount of just compensation), XV, and Section XXI. Future Response Costs shall also include all Interim Response Costs, and all Interest on the Past Response Costs that has accrued pursuant to 42 U.S.C. § 9607(a) during the period from December 31, 1998 to the date of entry of this Consent Decree.

"Institutional Controls" shall mean land and/or water use restrictions including, but not limited to, restrictions in the form of contractual agreements, restrictive easements/covenants that run with the land, and governmental controls.

"Interim Response Costs" shall mean all costs, including direct and indirect costs, (a) paid by the United States in connection with the Site between December 31, 1998 and the effective date of this Consent Decree, or (b) incurred prior to the effective date of this Consent Decree but paid after that date.

"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).

"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.

"Natural Resources" shall have the meaning provided in Section 101(16) of CERCLA, 42 U.S.C. § 9601(16).

"Natural Resource Damages" shall mean any "damages" as that term is defined in Section 101(6) of CERCLA, 42 U.S.C. § 9601(6), including damages recoverable under Section 107(a)(4)(c) of CERCLA, 42 U.S.C. § 9607(a)(4)(c), for injury to, destruction of, or loss of any and all Natural Resources, including the reasonable cost of assessing such injury, destruction or loss, as a result of releases of threats of releases at or from the Site.

"Non-Owner Settling Defendants" shall mean the Settling Defendants listed in Appendix D.

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

"Owner Settling Defendant" shall mean the Settling Defendant listed in Appendix E.

"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 Vermont, and the Settling Defendants.

"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 December 31, 1998, 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 Section X of the ROD and Section IV of the SOW.

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

"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 25, 1998, by the Director of the Office of Site Remediation and Restoration, EPA Region I, and all attachments thereto. The ROD is attached as Appendix A.

"Remedial Action" shall mean those activities, except for Operation and Maintenance, to be undertaken by the Settling Defendants to implement the ROD, in accordance with the SOW and the final Remedial Design and Remedial Action Work Plans and other plans approved by EPA.

"Remedial Action Work Plan" shall mean the document developed pursuant to Paragraph 13 of this Consent Decree and approved by EPA, and any amendments thereto.

"Remedial Design" shall mean those activities to be undertaken by the Settling Defendants to develop the final plans and specifications for the Remedial Action pursuant to the Remedial Design Work Plan.

"Remedial Design Work Plan" shall mean the document developed pursuant to Paragraph 12 of this Consent Decree and approved by EPA, and any amendments thereto.

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

"Settling Defendants" shall mean those Parties identified in Appendices D (Non-Owner Settling Defendants) and E (Owner Settling Defendant).

"Site" shall mean the Burgess Brothers Superfund Site, encompassing approximately three acres, located at RR #3 between Burgess Road and the Walloomsac Brook on property owned by members of the Burgess family in Woodford and in Bennington, Vermont, and described generally in Appendix C.

"State" shall mean the State of Vermont.

"State Future Response Costs" shall mean all costs, not inconsistent with the National Contingency Plan, direct and indirect costs, other than State Oversight Costs, that the State incurs on and after the effective date of the Consent Decree, including, but not limited to costs that the State may incur: (i) in developing any plans, reports or other items which Settling Defendants fail to submit under this Consent Decree; (ii) in modifying any plans, reports, and other items pursuant to Section XI (EPA Approval of Plans and Other Submissions) except for costs related to the review of any such submissions; (iii) in implementing the Work under Section VI (Performance of the Work by Settling Defendants); (iv) in enforcing the terms of this Consent Decree; (v) in connection with Section VII (Remedy Review); (vi) in connection with Section XV (Emergency Response); and (vii) in connection with Paragraph 86 of Section XXI (State's Post-Certification Reservations).

"State Oversight Costs" shall mean all costs, not inconsistent with the National Contingency Plan, including, but not limited to, direct and indirect costs, that the State incurs on and after the effective date of the Consent Decree in reviewing or developing plans, reports and other items pursuant to the 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, and the costs incurred pursuant to Section IX (Access and Institutional Controls) (including, but not limited to, the cost of attorney time and any monies paid to secure access and/or to secure or implement institutional controls, including, but not limited to, the amount of just compensation).

"State Project Coordinator" and "State Alternate Project Coordinator" shall mean that person designated as a Project Coordinator pursuant to Paragraph 44.

"Statement of Work" or "SOW" shall mean the statement of work for implementation of the Remedial Design, Remedial Action, and Operation and Maintenance at the Site, as set forth in Appendix B 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 Defendants to supervise and direct the implementation of the Work under this Consent Decree.

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

"VTDEC" shall mean the Vermont Department of Environmental Conservation and any successor departments or agencies of the State.

"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); (3) any "solid waste" under Section 1004(27) of RCRA, 42 U.S.C. § 6903(27); and (4) any "hazardous material" under 10 V.S.A. § 6602(16).

"Work" shall mean all activities Settling Defendants are required to perform under this Consent Decree and the SOW, except those required by Section XXV (Retention of Records).

V. GENERAL PROVISIONS

5. **Objectives of the Parties.** The objectives of the Parties in entering into this Consent Decree are to protect public health or welfare or the environment at the Site by the design and implementation of response actions at the Site by the Settling Defendants, to reimburse response costs of the Plaintiffs, to satisfy the obligations of the Settling Defendants to Plaintiffs for Natural Resource Damages, and to resolve the claims of Plaintiffs against Settling Defendants as provided in this Consent Decree.

6. Commitments by Settling Defendants

a. Settling Defendants shall finance and perform the Work in accordance with this Consent Decree, the ROD, the SOW, and all work plans and other plans, standards, specifications, and schedules set forth herein or developed by Settling Defendants and approved by EPA pursuant to this Consent Decree. Settling Defendants shall also reimburse the United States for Past Response Costs and Future Response Costs and the State for State Oversight Costs and State Future Response Costs, as provided in this Consent Decree.

b. The obligations of Settling Defendants 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 Defendants to implement the requirements of this Consent Decree, the remaining Settling Defendants shall complete all such requirements.

7. **Compliance With Applicable Law.** All activities undertaken by Settling Defendants pursuant to this Consent Decree shall be performed in accordance with the requirements of all applicable federal and state laws and regulations. Settling Defendants must

also comply with all applicable or relevant and appropriate requirements of all Federal and state environmental laws as set forth in the ROD and the SOW. The activities conducted pursuant to this Consent Decree, if approved by EPA, 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 Defendants shall submit timely and complete applications and take all other actions necessary to obtain all such permits or approvals.

b. The Settling Defendants may seek relief under the provisions of Section XVIII (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 but shall be entitled to such relief only if they have filed timely and complete permit applications.

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.

9. Notice to Successors-in-Title

a. At least 30 days prior to the conveyance of any interest in property located within the Site including, but not limited to, fee interests, leasehold interests, and mortgage interests, the Owner Settling Defendant(s) conveying the interest shall give the grantee written notice of (i) this Consent Decree, (ii) any instrument by which an interest in real property has been conveyed that confers a right of access to the Site (hereinafter referred to as "access easements") pursuant to Section IX (Access and Institutional Controls), and (iii) any instrument by which an interest in real property has been conveyed that confers a right to enforce restrictions on the use of such property (hereinafter referred to as "restrictive easements") pursuant to Section IX (Access and Institutional Controls). At least 30 days prior to such conveyance, the Owner Settling Defendant(s) conveying the interest shall also give written notice to EPA and the State of the proposed conveyance, including the name and address of the grantee, and the date on which notice of the Consent Decree, access easements, and/or restrictive easements was given to the grantee.

b. In the event of any such conveyance, the Owner Settling Defendant's obligations under this Consent Decree, including, but not limited to, its obligation to provide or secure access and institutional controls, as well as to abide by such institutional controls, pursuant to Section IX (Access and Institutional Controls) of this Consent Decree, shall continue to be met by the Owner Settling Defendant(s). In no event shall the conveyance release or otherwise affect the liability of the Owner Settling Defendant(s) to comply with all provisions of this Consent Decree, absent the prior written consent of EPA. If the United States approves, after a reasonable opportunity for review and comment by the State, the grantee may perform some or all of the Work under this Consent Decree.

VI. PERFORMANCE OF THE WORK BY SETTling DEFENDANTS

10. The Settling Defendants shall perform the Work for the Site as described in and according to all provisions of this Consent Decree; the ROD, attached hereto as Appendix A; the SOW (which the Parties agree is consistent with the ROD), attached hereto as Appendix B; and any modifications thereto or submittals or schedules thereunder. The ROD, the SOW, and all modifications to the SOW, and, upon approval, any attachments and submittals thereunder,

are hereby incorporated by reference and made an enforceable part of this Consent Decree. The Work must meet all applicable or relevant and appropriate federal and state environmental laws and standards, Performance Standards, cleanup goals, and remedial action objectives described in the ROD, SOW, or any amendments thereto. As described with more particularity in the SOW, the major components of the Remedial Action for the Site are as follows:

- a. a multi-barrier, low permeability cap, with drainage controls, over the landfill area;
- b. a single-barrier cap over the marshy area;
- c. a landfill gas management system;
- d. a soil vapor extraction/air sparging system within the former lagoon cells, including treatment of off-gas from the system;
- e. long-term surface water, groundwater and sediment monitoring to ensure the long-term effectiveness of the remedy;
- f. implementation of institutional controls, including access restriction, deed restrictions, land-use restrictions, groundwater use restrictions, or easements and/or other controls;
- g. reviews at least every five years and modeling and evaluation of contaminant degradation rates and pathways to evaluate the effectiveness of the natural attenuation of contamination; and
- h. operation and maintenance of the Remedial Action.

11. Selection of Supervising Contractor

a. All aspects of the Work to be performed by Settling Defendants pursuant to Sections VI (Performance of the Work by Settling Defendants), 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 a reasonable opportunity for review and comment by the State. Within 15 days after EPA signature of this Consent Decree, Settling Defendants shall notify EPA and the State in writing of the name, title, and qualifications of any contractor proposed to be the Supervising Contractor. EPA will issue a notice of disapproval or an authorization to proceed. If at any time thereafter, Settling Defendants propose to change a Supervising Contractor, Settling Defendants shall give such notice to EPA and the State and must obtain an authorization to proceed from EPA, after a reasonable opportunity for review and comment by the State, 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 Defendants and the State in writing. Settling Defendants shall then submit to EPA and the State 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 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 Defendants may select any contractor from that list that is not disapproved and shall notify EPA and the State 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 Defendants from

meeting one or more deadlines in a plan approved by the EPA pursuant to this Consent Decree, Settling Defendants may seek relief under the provisions of Section XVIII (Force Majeure) hereof.

12. Remedial Design.

a. Within 21 days after the date of EPA's issuance of an authorization to proceed pursuant to Paragraph 11, Settling Defendants shall submit to EPA and the State a work plan for the design of the Remedial Action at the Site ("Remedial Design Work Plan" or "RD Work Plan"). The Remedial Design Work Plan shall provide for design of the remedy set forth in the ROD, in accordance with the SOW and for achievement of the Performance Standards and other requirements set forth in the ROD, this Consent Decree and/or the SOW. Upon its approval by EPA, the Remedial Design Work Plan shall be incorporated into and become enforceable under this Consent Decree.

b. The Remedial Design Work Plan shall include the plans and schedules for implementation of all remedial design and pre-design tasks as identified in the SOW. In addition, the Remedial Design Work Plan shall include a schedule for completion of the Remedial Action Work Plan.

c. Upon approval of the Remedial Design Work Plan by EPA, after a reasonable opportunity for review and comment by the State, Settling Defendants shall implement the Remedial Design Work Plan. The Settling Defendants shall submit to EPA and the State all plans, submittals and other deliverables required under the approved Remedial Design Work Plan in accordance with the approved schedule for review and approval pursuant to Section XI (EPA Approval of Plans and Other Submissions). Unless otherwise directed by EPA, Settling Defendants shall not commence Remedial Design activities at the Site prior to approval of the Remedial Design Work Plan.

13. Remedial Action.

a. Within 60 days after the date of the approval of the Final Remedial Action Design Report, Settling Defendants shall submit to EPA and the State, a work plan for the performance of the Remedial Action at the Site ("Remedial Action Work Plan") and a Project Operations Plan ("POP"). The Remedial Action Work Plan shall provide for construction and implementation of the remedy set forth in the ROD and achievement of the Performance Standards, in accordance with this Consent Decree, the ROD, the SOW, and the design plans and specifications developed in accordance with the Remedial Design Work Plan and approved by EPA. Upon their approval by EPA, the Remedial Action Work Plan and POP shall be incorporated into and become enforceable under this Consent Decree.

b. Upon approval of the Remedial Action Work Plan by EPA, after a reasonable opportunity for review and comment by the State, Settling Defendants shall implement the activities required under the Remedial Action Work Plan. The Settling Defendants shall submit to EPA and the State all plans, submittals, or other deliverables required under the SOW and the approved Remedial Action Work Plan in accordance with the approved schedule for review and approval pursuant to Section XI (EPA Approval of Plans and Other Submissions). Unless otherwise directed by EPA, Settling Defendants shall not commence physical Remedial Action activities at the Site prior to approval of the Remedial Action Work Plan.

14. The Settling Defendants shall continue to implement the Remedial Action and O&M until the Performance Standards are achieved or for so long as is otherwise required under this Consent Decree.

15. Modification of the SOW or Related Work Plans.

a. If EPA determines that modification 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 set forth in the ROD, EPA may require that such modification be incorporated in the SOW and/or such work plans. Provided, however, that a modification 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.

b. For the purposes of this Paragraph 15 and Paragraphs 50 and 51 only, the "scope of the remedy selected in the ROD" is: capping of landfill and marsh soils, treatment of contaminated landfill "hot spots", natural attenuation of the groundwater, implementation of institutional controls, long-term monitoring of surface water, groundwater, sediments and soil gas, operation and maintenance, groundwater modeling, and reviews of the Site at least every five years to ensure the protectiveness of the remedy.

c. If Settling Defendants object to any modification determined by EPA to be necessary pursuant to this Paragraph, they may seek dispute resolution pursuant to Section XIX (Dispute Resolution), Paragraph 68 (record review). The SOW and/or related work plans shall be modified in accordance with final resolution of the dispute, but Settling Defendants shall continue any work specified in the SOW and/or in work plans developed pursuant to the SOW not subject to the modification and perform any undisputed portion of the modification.

d. Settling Defendants shall implement any work required by any modifications 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 State's authority to require performance of further response actions as otherwise provided in this Consent Decree.

16. Settling Defendants acknowledge and agree that nothing in this Consent Decree, the SOW, or the Remedial Design or Remedial Action Work Plans constitutes a warranty or representation of any kind by Plaintiffs that compliance with the work requirements set forth in the SOW and the Work Plans will achieve the Performance Standards.

17. Settling Defendants 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 Project Coordinator 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 Defendants shall include in the written notification the following information, where available: (1) the name and location of the facility to which the Waste Material is 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 Defendants 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 Defendants following the award of the contract for Remedial Action construction. The Settling Defendants shall provide the information required by Paragraph 17.a as soon as practicable after the award of the contract and before the Waste Material is actually shipped.

VII. REMEDY REVIEW

18. Periodic Review. Settling Defendants shall conduct any studies and investigations required in order to permit EPA to conduct reviews of whether the Remedial Action is protective of human health and the environment at least every five years as required by Section 121(c) of CERCLA and any applicable regulations.

19. EPA Selection of Further Response Actions. If EPA determines, after reasonable opportunity for review and comment by the State, at any time, that the Remedial Action is not protective of human health and the environment, EPA may select further response actions for the Site in accordance with the requirements of CERCLA and the NCP.

20. Opportunity To Comment. Settling Defendants 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.

21. Settling Defendants' Obligation To Perform Further Response Actions. If EPA, after reasonable opportunity for review and comment by the State, selects further response actions for the Site, the Settling Defendants shall undertake such further response actions to the extent that the reopener conditions in Paragraph 83 or Paragraph 84 (United States' reservations of liability based on unknown conditions or new information) are satisfied. Settling Defendants may invoke the procedures set forth in Section XIX (Dispute Resolution) to dispute (1) EPA's determination that the reopener conditions of Paragraph 83 or Paragraph 84 of Section XXI (Covenants Not To Sue by Plaintiffs) are satisfied, (2) EPA's determination that the Remedial Action is not protective of human health or the environment, or (3) EPA's selection of the further response actions. Disputes pertaining to whether the Remedial Action is protective or to EPA's selection of further response actions shall be resolved pursuant to Paragraph 68 (Record Review).

22. Submissions of Plans. If Settling Defendants are required to perform the further response actions pursuant to Paragraph 21, they shall submit a plan for such work to EPA for approval, after reasonable opportunity for review and comment by the State, in accordance with the procedures set forth in Section VI (Performance of the Work by Settling Defendants) and shall implement the plan approved by EPA in accordance with the provisions of this Decree.

VIII. QUALITY ASSURANCE, SAMPLING, and DATA ANALYSIS

23. Settling Defendants 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 Defendants 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 Defendants shall submit to EPA for approval, after a reasonable opportunity for review and comment by the State, a Quality Assurance Project Plan ("QAPP") that is consistent with the SOW, the NCP and applicable guidance documents. 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 Defendants shall ensure that EPA and State personnel and their authorized representatives are allowed access at reasonable times to all laboratories utilized by Settling Defendants in implementing this Consent Decree. In addition, Settling

Defendants shall ensure that such laboratories shall analyze all samples submitted by EPA pursuant to the QAPP for quality assurance monitoring. Settling Defendants 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 Defendants 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 Defendants 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.

24. Upon request, the Settling Defendants shall allow split or duplicate samples to be taken by EPA and the State or their authorized representatives. Settling Defendants shall notify EPA and the State not less than 28 days in advance of any sample collection activity unless shorter notice is agreed to by EPA. In addition, EPA and the State shall have the right to take any additional samples that EPA or the State deem necessary. Upon request, EPA and the State shall allow the Settling Defendants to take split or duplicate samples of any samples they take as part of the Plaintiffs' oversight of the Settling Defendants' implementation of the Work.

25. Settling Defendants shall submit five copies to EPA and two copies to the State of the results of all sampling and/or tests or other data obtained or generated by or on behalf of Settling Defendants with respect to the Site and/or the implementation of this Consent Decree unless EPA or the State, respectively agrees otherwise.

26. 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

27. If the Site, or any other property where access and/or land/water use restrictions are needed to implement this Consent Decree, is owned or controlled by any of the Settling Defendants, such Settling Defendants shall:

a. commencing on the date of lodging of this Consent Decree, provide the United States, the State, and their representatives, including EPA and its contractors, with access at all reasonable times to the Site, or such other property, for the purpose of conducting any activity related to this Consent Decree including, but not limited to, the following activities:

- (1) Monitoring the Work;
- (2) Verifying any data or information submitted to the United States or the State;
- (3) Conducting investigations relating to contamination at or near the Site;
- (4) Obtaining samples;
- (5) Assessing the need for, planning, or implementing additional response actions at or near the Site;
- (6) Implementing the Work pursuant to the conditions set forth in Paragraph 89 (Work Takeover) of this Consent Decree;

(7) Inspecting and copying records, operating logs, contracts, or other documents maintained or generated by Settling Defendants or their agents, consistent with Section XXIV (Access to Information);

(8) Conducting periodic reviews of the Work including, but not limited to, reviews required by CERCLA and the NCP.

(9) Assessing Settling Defendants' compliance with this Consent Decree; and

(10) Determining whether the Site or other property is being used in a manner that is prohibited or restricted, or that may need to be prohibited or restricted, by or pursuant to this Consent Decree;

b. commencing on the date of lodging of this Consent Decree, refrain from using the Site, or such other property, in any manner that would interfere with or adversely affect the integrity or protectiveness of the remedial measures to be implemented pursuant to this Consent Decree. Such restrictions shall include, but are not limited to, the following:

(1) Prohibitions against the extraction, pumping or use of groundwater at the Site or the extraction, pumping or use of off-Site groundwater containing contamination above the Performance Standards;

(2) Prohibitions against activities, including earth removal, excavation, or construction, that would adversely affect the integrity or protectiveness of the remedial measures to be implemented pursuant to this Consent Decree;

(3) A restriction on the use of the Site for other than industrial or commercial uses only; and

(4) Prohibitions against the installation of water supply, drinking water, or other wells that could adversely impact or affect contaminated groundwater at the Site.

c. execute and record in the Town Clerk's Offices for the Towns of Bennington and Woodford, Bennington County, Vermont, an easement, running with the land, that (i) grants a right of access for the purpose of conducting any activity related to this Consent Decree including, but not limited to, those activities listed in Paragraph 27.a of this Consent Decree, and (ii) grants the right to enforce the land/water use restrictions listed in Paragraph 27.b of this Consent Decree, or other restrictions that EPA determines are necessary to implement, ensure non-interference with, or ensure the protectiveness of the remedial measures to be performed pursuant to this Consent Decree. Such Settling Defendants shall grant the access rights and the rights to enforce the land/water use restrictions to one or more of the following persons, as determined by EPA, (i) the United States, on behalf of EPA, and its representatives, (ii) the State and its representatives, (iii) the other Settling Defendants and their representatives, and/or (iv) other appropriate grantees. To implement the requirements of this subparagraph, Settling Defendants shall, within 45 days of entry of this Consent Decree, submit to EPA and the State for review and approval, with respect to such property:

(1) A draft easement, in substantially the form attached hereto as Appendix F, that is enforceable under the laws of the State of Vermont, free and clear of all prior liens and encumbrances (except as approved by EPA), and acceptable under the Attorney General's Title Regulations promulgated pursuant to 40 U.S.C. § 255; and

(2) A current title commitment or report prepared in accordance with the U.S. Department of Justice Standards for the Preparation of Title Evidence in Land Acquisitions by the United States (1970) (the "Standards").

Within 15 days of EPA's and the State's approval and acceptance of the easement, such Settling Defendants shall update the title search and, if it is determined that nothing has occurred since the effective date of the commitment or report to affect the title adversely, record the easement with the Town Clerk's Offices for the Towns of Bennington and Woodford, Bennington County, Vermont. Within 15 days of receipt of the original recorded easement, such Settling Defendants shall provide EPA and the State with final title evidence acceptable under the Standards, and a certified copy of the original recorded easement showing the clerk's recording stamps.

28. If the Site, or any other property where access and/or land/water use restrictions are needed to implement this Consent Decree, is owned or controlled by persons other than any of the Settling Defendants, Settling Defendants shall use best efforts to secure from such persons:

a. an agreement to provide access thereto for Settling Defendants, as well as for the United States on behalf of EPA, and the State, as well as their representatives (including contractors), for the purpose of conducting any activity related to this Consent Decree including, but not limited to, those activities listed in Paragraph 27.a of this Consent Decree;

b. an agreement, enforceable by the Settling Defendants and the United States, to abide by the obligations and restrictions established by Paragraph 27.b of this Consent Decree, or that are otherwise necessary to implement, ensure non-interference with, or ensure the protectiveness of the remedial measures to be performed pursuant to this Consent Decree; and

c. if EPA so requests, the execution and recordation in the Town Clerk's Offices for the Towns of Bennington and Woodford, Bennington County, Vermont, of an easement, running with the land, that (i) grants a right of access for the purpose of conducting any activity related to this Consent Decree including, but not limited to, those activities listed in Paragraph 27.a of this Consent Decree, and (ii) grants the right to enforce the land/water use restrictions listed in Paragraph 27.b of this Consent Decree, or other restrictions that EPA determines are necessary to implement, ensure non-interference with, or ensure the protectiveness of the remedial measures to be performed pursuant to this Consent Decree. The access rights and/or rights to enforce land/water use restrictions shall be granted to one or more of the following persons, as determined by EPA, (i) the United States, on behalf of EPA, and its representatives, (ii) the State and its representatives, (iii) the other Settling Defendants and their representatives, and/or (iv) other appropriate grantees. Within 45 days after the date of EPA's request, Settling Defendants, to implement the requirements of this subparagraph, shall submit to EPA and the State for review and approval, with respect to such property:

(1) A draft easement, in substantially the form attached hereto as Appendix F, that is enforceable under the laws of the State of Vermont, free and clear of all prior liens and encumbrances (except as approved by EPA), and acceptable under the Attorney General's Title Regulations promulgated pursuant to 40 U.S.C. § 255; and

(2) A current title commitment or report prepared in accordance with the U.S. Department of Justice Standards for the Preparation of Title Evidence in Land Acquisitions by the United States (1970) (the "Standards").

Within 15 days of EPA's and the State's approval and acceptance of the easement, Settling Defendants shall update the title search and, if it is determined that nothing has occurred since the effective date of the commitment or report to affect the title adversely, the easement shall be recorded with the Town Clerk's Offices for the Towns of Bennington and Woodford,

Bennington County, Vermont. Within 15 days of receipt of the original recorded easement, Settling Defendants shall provide EPA and the State with final title evidence acceptable under the Standards, and a certified copy of the original recorded easement showing the clerk's recording stamps.

29. For purposes of Paragraph 28 of this Consent Decree, "best efforts" includes the payment of reasonable sums of money in consideration of access, access easements, land/water use restrictions, and/or restrictive easements. If any access or land/water use restriction agreements required by Paragraphs 28.a or 28.b of this Consent Decree are not obtained within 45 days of the date of entry of this Consent Decree, or any access easements or restrictive easements required by Paragraph 28.c of this Consent Decree are not submitted to EPA in draft form within 45 days of EPA's request, Settling Defendants shall promptly notify the United States in writing, and shall include in that notification a summary of the steps that Settling Defendants have taken to attempt to comply with Paragraph 28 of this Consent Decree. The United States may, as it deems appropriate, assist Settling Defendants in obtaining access or land/water use restrictions, either in the form of contractual agreements or in the form of easements running with the land. Settling Defendants shall reimburse the United States in accordance with the procedures in Section XVI (Reimbursement of Response Costs), for all costs incurred, direct or indirect, by the United States in obtaining such access and/or land/water use restrictions including, but not limited to, the cost of attorney time and the amount of monetary consideration paid or just compensation.

30. If EPA determines, after reasonable opportunity for review and comment by the State, that land/water use restrictions in the form of state or local laws, regulations, ordinances or other governmental controls are needed to implement the remedy selected in the ROD, ensure the integrity and protectiveness thereof, or ensure non-interference therewith, Settling Defendants shall cooperate with EPA's and the State's efforts to secure such governmental controls.

31. Notwithstanding any provision of this Consent Decree, the United States and the State retain all of their access authorities and rights, as well as all of their rights to require land/water use restrictions, including enforcement authorities related thereto, under CERCLA, RCRA and any other applicable statute or regulations.

X. REPORTING REQUIREMENTS

32. In addition to any other requirement of this Consent Decree, Settling Defendants shall submit to EPA and the State two copies of written monthly progress reports that:

- (a) describe the actions which have been taken toward achieving compliance with this Consent Decree and the SOW during the previous month;
- (b) include a summary of all results of sampling and tests and all other data received or generated by Settling Defendants 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 two months 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 Defendants have proposed to EPA or that have been approved by EPA; and
- (g) describe all activities undertaken in support of the Community Relations Plan during the previous month and those to be undertaken in the next two months. Settling Defendants shall

submit these progress reports to EPA and the State by the 15th day of every month, or more frequently as appropriate, following the entry of this Consent Decree until EPA approval of the Settling Defendants' Final Remedial Construction Report (as defined in the SOW), unless the time for submitting such reports is modified by the EPA Project Coordinator, with a reasonable opportunity for review and comment by the State. If requested by EPA or the State, Settling Defendants shall also provide briefings for EPA and the State to discuss the progress of the Work. Annually, Settling Defendants shall submit a written summary of all costs incurred to date by the Settling Defendants in performing the Work.

33. The Settling Defendants shall notify 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.

34. Upon the occurrence of any event during performance of the Work that Settling Defendants 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 Defendants shall within 24 hours of the onset of such event orally notify the EPA Project Coordinator or the Alternate EPA Project Coordinator (in the event of the unavailability of the EPA Project Coordinator), or, in the event that neither the EPA Project Coordinator or Alternate EPA Project Coordinator is available, the Emergency Response Section, Region I, United States Environmental Protection Agency. The Settling Defendants shall also orally notify the State Project Coordinator within 24 hours of the onset of such event. These reporting requirements are in addition to the reporting required by CERCLA Section 103 or EPCRA Section 304.

35. Within 20 days of the onset of such an event, Settling Defendants shall furnish to Plaintiffs a written report, signed by the Settling Defendants' 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 Defendants shall submit a report setting forth all actions taken in response thereto.

36. Settling Defendants shall submit five copies of all plans, reports, and data required by the SOW, the Remedial Design Work Plan, the Remedial Action Work Plan, or any other approved plans to EPA in accordance with the schedules set forth in such plans. Settling Defendants shall simultaneously submit two copies of all such plans, reports and data to the State.

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

XI. EPA APPROVAL OF PLANS AND OTHER SUBMISSIONS

38. 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 State, 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 Defendants modify the submission; or (e) any combination of the above. However, EPA shall not modify a submission without first providing Settling Defendants 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.

39. In the event of approval, approval upon conditions, or modification by EPA, pursuant to Paragraph 38(a), (b), or (c), Settling Defendants 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 XIX (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 38(c) and the submission has a material defect, EPA retains its right to seek stipulated penalties, as provided in Section XX (Stipulated Penalties).

40. a. Upon receipt of a notice of disapproval pursuant to Paragraph 38(d), Settling Defendants 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 XX, 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 41 and 42.

b. Notwithstanding the receipt of a notice of disapproval pursuant to Paragraph 38(d), Settling Defendants 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 Defendants of any liability for stipulated penalties under Section XX (Stipulated Penalties).

41. In the event that a resubmitted plan, report or other item, or portion thereof, is disapproved by EPA, EPA may again require the Settling Defendants 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 Defendants 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 XIX (Dispute Resolution).

42. If upon resubmission, a plan, report, or item is disapproved or modified by EPA due to a material defect, Settling Defendants shall be deemed to have failed to submit such plan, report, or item timely and adequately unless the Settling Defendants invoke the dispute resolution procedures set forth in Section XIX (Dispute Resolution) and EPA's action is overturned pursuant to that Section. The provisions of Section XIX (Dispute Resolution) and Section XX (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 may accrue for such violation from the date on which the initial submission was originally required, as provided in Section XX.

43. 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

44. Within 20 days of lodging this Consent Decree, Settling Defendants, the State 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. If a Project Coordinator or Alternate Project Coordinator 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 Defendants' 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 Defendants' Project Coordinator shall not be an attorney for any of the Settling Defendants 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.

45. Plaintiffs may designate other representatives, including, but not limited to, EPA and State employees, and federal and State contractors and consultants, to observe and monitor the progress of any activity undertaken pursuant to this Consent Decree. EPA's Project Coordinator and Alternate Project Coordinator 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 Project Coordinator or Alternate Project Coordinator 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.

XIII. ASSURANCE OF ABILITY TO COMPLETE WORK

46. Within 30 days of entry of this Consent Decree, Settling Defendants shall establish and maintain financial security in the amount of \$3.6 million 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 equalling 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 Defendants; or
- e. A demonstration that one or more of the Settling Defendants satisfy the requirements of 40 C.F.R. Part 264.143(f).

47. If the Settling Defendants seek to demonstrate the ability to complete the Work through a guarantee by a third party pursuant to Paragraph 46.d of this Consent Decree, Settling Defendants shall demonstrate that the guarantor satisfies the requirements of 40 C.F.R. Part 264.143(f). If Settling Defendants seek to demonstrate their ability to complete the Work by means of the financial test or the corporate guarantee pursuant to Paragraph 46.d or 46.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 Defendants 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 46 of this Consent Decree. Settling Defendants' inability to demonstrate financial ability to complete the Work shall not excuse performance of any activities required under this Consent Decree.

48. If Settling Defendants can show that the estimated cost to complete the

remaining Work has diminished below the amount set forth in Paragraph 46 above after entry of this Consent-Decree, Settling Defendants 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 Defendants shall submit a proposal for such reduction to EPA, in accordance with the requirements of this Section, and may reduce the amount of the security upon approval by EPA. In the event of a dispute, Settling Defendants may reduce the amount of the security in accordance with the final administrative or judicial decision resolving the dispute.

49. Settling Defendants may change the form of financial assurance provided under this Section at any time, upon notice to and approval by EPA, provided that the new form of assurance meets the requirements of this Section. In the event of a dispute, Settling Defendants 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

50. Completion of the Remedial Action

a. Within 90 days after Settling Defendants conclude that the Remedial Action has been fully performed and the Performance Standards have been attained, Settling Defendants shall schedule and conduct a pre-certification inspection to be attended by Settling Defendants, EPA, and the State. If, after the pre-certification inspection, the Settling Defendants still believe that the Remedial Action has been fully performed and the Performance Standards have been attained, they shall submit a written report requesting certification to EPA for approval, with a copy to the State, pursuant to Section XI (EPA Approval of Plans and Other Submissions) within 30 days of the inspection. In the report, a registered professional engineer and the Settling Defendants' Project Coordinator shall state that the Remedial Action 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 Defendant or the Settling Defendants' 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, after reasonable opportunity to review and comment by the State, determines that the Remedial Action or any portion thereof has not been completed in accordance with this Consent Decree or that the Performance Standards have not been achieved, EPA will notify Settling Defendants in writing of the activities that must be undertaken by Settling Defendants pursuant to this Consent Decree to complete the Remedial Action and achieve the Performance Standards. Provided, however, that EPA may only require Settling Defendants 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 that term is defined in Paragraph 15.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 Defendants to submit a schedule to EPA for approval pursuant to Section XI (EPA Approval of Plans and Other Submissions). Settling Defendants 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 XIX (Dispute Resolution).

b. If EPA concludes, based on the pre-certification inspection and the initial or any subsequent report requesting Certification of Completion and after a reasonable opportunity for review and comment by the State, that the Remedial Action 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 Defendants. This certification shall constitute the Certification of Completion of the Remedial Action for purposes of this Consent Decree, including, but not limited to, Section XXI (Covenants Not to Sue by Plaintiffs). Certification of Completion of the Remedial Action shall not affect Settling Defendants' obligations under this Consent Decree.

51. Completion of the Work

a. Within 90 days after Settling Defendants conclude that all phases of the Work (including O & M), have been fully performed, Settling Defendants shall schedule and conduct a pre-certification inspection to be attended by Settling Defendants, EPA and the State. If, after the pre-certification inspection, the Settling Defendants still believe that the Work has been fully performed, Settling Defendants 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 Defendant or the Settling Defendants' 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 the review of the written report, EPA, after reasonable opportunity to review and comment by the State, determines that any portion of the Work has not been completed in accordance with this Consent Decree, EPA will notify Settling Defendants in writing of the activities that must be undertaken by Settling Defendants pursuant to this Consent Decree to complete the Work. Provided, however, that EPA may only require Settling Defendants 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 that term is defined in Paragraph 15.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 Defendants to submit a schedule to EPA for approval pursuant to Section XI (EPA Approval of Plans and Other Submissions). Settling Defendants 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 XIX (Dispute Resolution).

b. If EPA concludes, based on the pre-certification inspection and the initial or any subsequent request for Certification of Completion by Settling Defendants and after a reasonable opportunity for review and comment by the State, that the Work has been performed in accordance with this Consent Decree, EPA will so notify the Settling Defendants in writing.

XV. EMERGENCY RESPONSE

52. 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 Defendants shall, subject to Paragraph 53, immediately take all appropriate action to prevent, abate, or minimize such release or threat of release, and shall immediately notify the EPA's Project Coordinator, or, if the Project Coordinator is unavailable, EPA's Alternate Project Coordinator. If neither of these persons is available, the Settling Defendants shall notify the EPA Emergency Response Unit, Region I. The Settling Defendants shall also notify the State Project Coordinator. Settling Defendants shall take such actions in consultation with EPA's Project Coordinator 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 Defendants fail to take appropriate response action as required by this Section, and EPA or, as appropriate, the State takes such action, Settling Defendants shall reimburse EPA and the State all costs of the response action not inconsistent with the NCP pursuant to Section XVI (Reimbursement of Response Costs).

53. 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 XXI (Covenants Not to Sue by Plaintiffs).

XVI. REIMBURSEMENT OF RESPONSE COSTS AND PAYMENT FOR NATURAL RESOURCE DAMAGES

54. Within 30 days of the Effective Date of this Consent Decree, Settling Defendants shall:

a. pay to the EPA Hazardous Substance Superfund Three Hundred Seventy Four Thousand One Hundred Forty Three and 51/100 dollars (\$374,143.51), plus Interest, 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 the U.S.A.O. file number, the EPA Region Site/Spill ID # 01-B5, and DOJ case number 90-11-3-1454. Interest on all amounts to be paid under Paragraph 54(a) and 54(b) shall begin to accrue from the date this Consent Decree is lodged with the Court. Payment shall be made in accordance with instructions provided to the Settling Defendants by the Financial Litigation Unit of the United States Attorney's Office for the District of Vermont 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 Defendants shall send notice that such payment has been made to the United States as specified in Section XXVI (Notices and Submissions) and to Michael Manlogon, Financial Management Officer, EPA Region I, One Congress Street, Suite 1100, Boston, MA 02114.

b. pay to the United States Department of the Interior ("DOI"), in its capacity as natural resource trustee, One Hundred Thousand (\$100,000.00) dollars, plus Interest. Payment shall be made using the U.S. Treasury's Remittance Express program, or, in the event said program is not available to Settling Defendants, then via Federal Wire Transfer. Payment shall be made in accordance with the instructions provided by the DOI. Any payments received after 4:00 p.m. Eastern Time shall be credited on the next business day. Settling Defendants' notice to DOI that such payment has been made shall be sent to:

Bruce Nesslage
DOI Restoration Fund
NBC/Division of Financial Management Services

Branch of Accounting Operations
Mail Stop 1313
1849 C. Street N.W.
Washington, D.C. 20240

and shall reference Account Number 14X5198 (NRDAR), shall state that the payment is for Natural Resource Damages with respect to the Burgess Brothers Superfund Site, situated in Bennington and Woodford, Vermont, and is being paid by Settling Defendants, and shall reference that the payment is for natural resource damages under the trusteeship of the Department of the Interior. An additional copy of the notice letter and check shall be sent by Settling Defendants to the United States as follows:

Michael Bartlett, Supervisor
New England Field Office
U.S. Fish and Wildlife Service
22 Bridge Street, Unit 1
Concord, NH 03301

Mark Barash
U.S. Department of the Interior
Office of the Northeast Regional Solicitor
One Gateway Center, Suite 612
Newton Corner, MA 02158

and

Andrew L. Raddant
Regional Environmental Officer
Office of Environmental Policy and Compliance
U.S. Department of the Interior
408 Atlantic Avenue, Room 142
Boston, MA 02110

55. a. Settling Defendants shall reimburse the EPA Hazardous Substance Superfund for all Future Response Costs not inconsistent with the National Contingency Plan. On a periodic basis, the United States will send Settling Defendants a bill requiring payment that includes 1) a line-item summary of costs incurred during the preceding year; the summary will include a breakdown of costs by category, including without limitation payroll, travel, indirect costs, and contracts, and a brief narrative of work related to such costs (generally one to two paragraphs in length); and 2) technical portions of the periodic progress reports submitted to EPA by EPA's oversight contractor that will include for field activities a daily summary of tasks and personnel. The technical portions of the periodic progress reports will have been redacted to remove confidential business information as defined by 40 C.F.R. Part 2, Subpart B, enforcement confidential information as defined pursuant to the Freedom of Information Act, 5 U.S.C. § 552, and any other privileged or confidential information. Settling Defendants agree to reimburse the Hazardous Substances Superfund for all costs related to the preparation of this supporting material. Settling Defendants shall make all payments within 30 days of Settling Defendants' receipt of each bill requiring payment, except as otherwise provided in Paragraph 56. The Settling Defendants 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 Site/Spill ID # 01-B5, the DOJ case number 90-11-3-4154, and the name and address of the Party making payment. The Settling Defendants shall send the check(s) to EPA Region I, Attn: Superfund Accounting, P.O. Box 360197M, Pittsburgh, PA 15251 and shall send copies of the check(s) to the United States as specified in Section XXVI (Notices and Submissions) and to Michael Manlogon, Financial Management Officer, EPA Region I, One Congress Street, Suite 1100, Boston, MA 02114.

b. Settling Defendants shall reimburse the State for all (i) State Oversight Costs not otherwise reimbursed by the United States and not inconsistent with the National Contingency Plan, up to a total reimbursement of \$90,000 (Ninety Thousand Dollars), and (ii) State Future Response Costs not otherwise reimbursed by the United States and not inconsistent with the National Contingency Plan. On a periodic basis, the State will send the Settling Defendants a bill requiring payment that includes 1) a line-item summary of costs incurred during the preceding year; the summary will include a breakdown of costs by category, including without limitation payroll, travel, indirect costs, and contracts, and a brief narrative of work related to such costs (generally one to two paragraphs in length); and 2) technical portions of the periodic progress reports submitted to the State by the State's oversight contractor that will include for field activities a daily summary of tasks and personnel. The technical portions of the periodic progress reports will have been redacted to remove confidential business information as defined by 40 C.F.R. Part 2, Subpart B, enforcement confidential information as defined pursuant to the Freedom of Information Act, 5 U.S.C. § 552, and any other privileged or confidential information. Settling Defendants agree to reimburse the State for all costs related to the preparation of this supporting material. Settling Defendants shall make all payments within 30 days of Settling Defendants' receipt of each bill requiring payment, except as otherwise provided in Paragraph 56. All payments to the State under this Section shall be made payable to State Treasurer and shall be mailed to Secretary, Vermont Agency of Natural Resources, 103 South Main Street, Waterbury, VT 05671. Copies of the check and transmittal letter shall be sent to John Schmeltzer, State Project Coordinator, and Mary McCabe, Assistant Attorney General, at the addresses listed in Paragraph 108.

56. Settling Defendants may contest payment of any Future Response Costs, State Oversight Costs, or State Future Response Costs under Paragraph 55 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 (if the United States' accounting is being disputed) or the State (if the State's accounting is being disputed) pursuant to Section XXVI (Notices and Submissions). Any such objection shall specifically identify the contested Future Response Costs, State Oversight Costs, or State Future Response Costs and the basis for objection. In the event of an objection, the Settling Defendants shall within the 30 day period pay all uncontested Future Response Costs, State Oversight Costs, or State Future Response Costs to the United States or the State in the manner described in Paragraph 55. Simultaneously, the Settling Defendants shall establish an interest-bearing escrow account in a federally-insured bank duly chartered in the State of Vermont and remit to that escrow account funds equivalent to the amount of the contested Future Response Costs, State Oversight Costs, or State Future Response Costs. The Settling Defendants shall send to the United States, as provided in Section XXVI (Notices and Submissions), and the State a copy of the transmittal letter and check paying the uncontested Future Response Costs, State Oversight Costs, or State 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 Defendants shall initiate the Dispute Resolution procedures in Section XIX (Dispute Resolution). If the United States or the State prevails in the dispute, within 5 days of the resolution of the dispute, the Settling Defendants shall pay the sums due (with accrued interest) to the United States or the State, if State costs are disputed, in the manner described in Paragraph 55. If the Settling Defendants prevail concerning any aspect of the contested costs, the Settling Defendants shall pay that portion of the costs (plus associated accrued interest) for which they did not prevail to the United States or the State, if State costs are disputed, in the manner described in Paragraph 55; Settling Defendants 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 XIX (Dispute Resolution) shall be the exclusive mechanisms for resolving disputes regarding the Settling Defendants' obligation to reimburse the United States for Future Response Costs and the State for State Oversight Costs or State Future Response Costs.

57. In the event that the payments required by Paragraph 54 are not made within 30 days of the effective date of this Consent Decree or the payments required by Paragraph 55 are not made within 30 days of the Settling Defendants' receipt of the bill, Settling Defendants shall pay Interest on the unpaid balance. The Interest to be paid on Past Response Costs under this Paragraph shall begin to accrue 30 days after the date of lodging this Consent Decree with the Court. The Interest on Future Response Costs, State Oversight Costs, and State Future Response Costs shall begin to accrue upon Settling Defendants' receipt of the bill. The Interest shall accrue through the date of the Settling Defendant's 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 Defendants' failure to make timely payments under this Section. The Settling Defendants shall make all payments required by this Paragraph in the manner described in Paragraphs 54 and 55.

XVII. INDEMNIFICATION AND INSURANCE

58. 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 Defendants as EPA's authorized representatives under Section 104(e) of CERCLA. Settling Defendants 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 Defendants, 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 Defendants as EPA's authorized representatives under Section 104(e) of CERCLA. Further, the Settling Defendants 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 Defendants, 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 Defendants in carrying out activities pursuant to this Consent Decree. Neither the Settling Defendants nor any such contractor shall be considered an agent of the United States or the State in carrying out activities pursuant to this Consent Decree.

b. The United States and the State shall give Settling Defendants notice of any claim for which the United States or the State plans to seek indemnification pursuant to Paragraph 58, and shall consult with Settling Defendants prior to settling such claim.

59. Settling Defendants 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 Defendants 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 Defendants 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 Defendants and any person for performance of Work on or relating to the Site, including, but not limited to, claims on account of construction delays.

60. No later than 15 days before commencing any on-site Work, Settling Defendants shall secure, and shall maintain until the first anniversary of EPA's Certification of Completion of the Remedial Action pursuant to Paragraph 50.b of Section XIV (Certification of Completion) comprehensive general liability insurance with limits of one and one-half million dollars, combined single limit, and automobile liability insurance with limits of one and one-half million dollars, combined single limit, naming the United States and the State as additional insureds. In addition, for the duration of this Consent Decree, Settling Defendants 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 Defendants in furtherance of this Consent Decree. Prior to commencement of the Work under this Consent Decree, Settling Defendants shall provide to EPA and the State certificates of such insurance and a copy of each insurance policy. Settling Defendants shall resubmit such certificates and copies of policies each year on the anniversary of the effective date of this Consent Decree. If Settling Defendants demonstrate by evidence satisfactory to EPA and the State 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 Defendants need provide only that portion of the insurance described above which is not maintained by the contractor or subcontractor.

XVIII. FORCE MAJEURE

61. "Force majeure," for purposes of this Consent Decree, is defined as any event arising from causes beyond the control of the Settling Defendants, of any entity controlled by Settling Defendants, or of Settling Defendants' contractors, that delays or prevents the performance of any obligation under this Consent Decree despite Settling Defendants' best efforts to fulfill the obligation. The requirement that the Settling Defendants 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.

62. 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 Defendants shall notify orally EPA's Project Coordinator or, in his or her absence, EPA's Alternate Project Coordinator or, in the event both of EPA's designated representatives are unavailable, the Director of the Office of Site Remediation and Restoration, EPA Region I, and the State's Project Coordinator within 48 hours of when Settling Defendants first knew that the event might cause a delay. Within 5 working days thereafter, Settling Defendants shall provide in writing to EPA and the State 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 Defendants' 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 Defendants, such event may cause or contribute to an endangerment to public health, welfare or the environment. The Settling Defendants 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 Defendants 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 Defendants shall be deemed to know of any circumstance of which Settling Defendants, any entity controlled by Settling Defendants, or Settling Defendants' contractors knew or should have known.

63. If EPA, after a reasonable opportunity for review and comment by the State, 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 a reasonable opportunity for review and comment by the State, 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 a reasonable opportunity for review and comment by the State, 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 Defendants in writing of its decision. If EPA, after a reasonable opportunity for review and comment by the State, agrees that the delay is attributable to a force majeure event, EPA will notify the Settling Defendants in writing of the length of the extension, if any, for performance of the obligations affected by the force majeure event.

64. If the Settling Defendants elect to invoke the dispute resolution procedures set forth in Section XIX (Dispute Resolution), they shall do so no later than 15 days after receipt of EPA's notice. In any such proceeding, Settling Defendants 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 Defendants complied with the requirements of Paragraphs 61 and 62, above. If Settling Defendants carry this burden, the delay at issue shall be deemed not to be a violation by Settling Defendants of the affected obligation of this Consent Decree identified to EPA and the Court.

XIX. DISPUTE RESOLUTION

65. 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. The procedures for resolution of disputes which involve EPA are governed by Paragraphs 66 to 70. The State may participate in such dispute resolution proceedings to the extent specified in Paragraphs 66 to 70. Disputes exclusively between the State and the Settling Defendants are governed by Paragraph 71. 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 Defendants that have not been disputed in accordance with this Section.

66. 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 one Party sends the other Parties a written notice of dispute.

67. a. In the event that the Parties cannot resolve a dispute by informal negotiations under the preceding Paragraph, then the position advanced by EPA, after reasonable opportunity for review and comment by the State, shall be considered binding unless, within 14 days after the conclusion of the informal negotiation period, Settling Defendants invoke the formal dispute resolution procedures of this Section by serving on the United States and the State 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 Settling Defendants. The Statement of Position shall specify the Settling Defendants' position as to whether formal dispute resolution should proceed under Paragraph 68 or Paragraph 69.

b. Within 14 days after receipt of Settling Defendants' Statement of Position, EPA, after reasonable opportunity for review and comment by the State, will serve on Settling Defendants 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. The State, after reasonable opportunity for review and comment by EPA, may also serve a Statement of Position within the fourteen-day time limit set forth above in this Paragraph. EPA's Statement of Position shall include a statement as to whether formal dispute resolution should proceed under Paragraph 68 or 69. Within 10 days after receipt of EPA's and/or the State's Statement of Position, Settling Defendants may submit a Reply.

c. If there is disagreement between EPA and the Settling Defendants as to whether dispute resolution should proceed under Paragraph 68 or 69, the Parties to the dispute shall follow the procedures set forth in the paragraph determined by EPA to be applicable. However, if the Settling Defendants ultimately appeal 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 68 and 69.

68. 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 Defendants regarding the validity of the ROD's provisions.

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 Settling Defendants, EPA, or the State.

b. The Director of the Office of Site Remediation and Restoration, EPA Region I, will issue, after reasonable opportunity for review and comment by the State, a final administrative decision resolving the dispute based on the administrative record described in Paragraph 68.a. This decision shall be binding upon the Settling Defendants, subject only to the right to seek judicial review pursuant to Paragraph 68.c. and d.

c. Any administrative decision made by EPA pursuant to Paragraph 68.b shall be reviewable by this Court, provided that a motion for judicial review of the decision is filed by the Settling Defendants 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 may file a response to Settling Defendants' motion within 30 days.

d. In proceedings on any dispute governed by this Paragraph, Settling Defendants shall have the burden of demonstrating that the decision of the Site Remediation and Restoration Office 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 68.a.

69. 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 Settling Defendants' Statement of Position submitted pursuant to Paragraph 67 and any State Statement of Position, if any, the Director of the Office of Site Remediation and Restoration, EPA Region I, will issue, after reasonable opportunity for review and comment by the State, a final decision resolving the dispute. The Director's decision shall be binding on the Settling Defendants unless, within 10 days of receipt of the decision, the Settling Defendants 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 may file a response to Settling Defendants' motion within 30 days.

b. Notwithstanding Paragraph N 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.

70. The invocation of formal dispute resolution procedures under this Section shall not extend, postpone or affect in any way any obligation of the Settling Defendants under this Consent Decree, not directly in dispute, unless EPA, after reasonable opportunity for review and comment by the State, 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 79. 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 Defendants do not prevail on the disputed issue, stipulated penalties shall be assessed and paid as provided in Section XX (Stipulated Penalties).

71. Disputes Solely between the State and Settling Defendants. Disputes arising under the Consent Decree between the State and the Settling Defendants that relate to State Oversight Costs or State Future Response Costs owed to the State, the Settling Defendants' failure to submit deliverables to the State, or assessment of stipulated penalties by the State shall be governed in the following manner. The procedures for resolving the disputes mentioned in this Paragraph shall be the same as provided for in Paragraphs 66 to 70, except that each reference to EPA shall be read as a reference to VTDEC, each reference to the Director of the Office of Site Remediation and Restoration, EPA Region I, shall be read as a reference to the Commissioner of VTDEC, each reference to the United States shall be read as a reference to the State, and each reference to the State shall be read as a reference to the United States.

XX. STIPULATED PENALTIES

72. a. Settling Defendants shall be liable for stipulated penalties in the amounts

set forth in Paragraph 73 for failure to comply with the requirements of this Consent Decree specified below, unless excused under Section XVIII (Force Majeure). When the United States enforces stipulated penalties, the United States shall receive 90% of the stipulated penalties received and the State shall receive 10% of the stipulated penalties received. When the State enforces stipulated penalties, the State shall receive 90% of the stipulated penalties received and the United States shall receive 10% of the stipulated penalties received. The fact that the United States or the State, under the circumstances set out below, may pursue stipulated penalties shall not increase the total liability of the Settling Defendants for stipulated penalties. "Compliance" by Settling Defendants 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.

b. The United States shall have the first opportunity to pursue stipulated penalties for all violations of this Consent Decree. If the United States does not pursue stipulated penalties within 45 days of the date on which the United States becomes aware that there was a failure to comply, then, subject to Paragraph 72.c., the State may pursue stipulated penalties in the same manner as the United States is authorized to pursue stipulated penalties under this Consent Decree.

c. The State may pursue stipulated penalties, after expiration of the 45 days only if:

(i) the State has provided written notice to the United States which identifies the failure to comply which would be the basis for stipulated penalties and the Party or Parties from whom penalties would be sought;

(ii) the State has, after providing the written notice, consulted with the United States regarding any reasons EPA may have for not pursuing the stipulated penalties, and the State has, after completion of the consultation, provided further written notice to the United States of a date, not less than 30 days from the date of such notice, when the State intends to seek stipulated penalties; and

(iii) EPA has not issued the Settling Defendants a written demand for payment of the penalties.

d. Nothing herein shall preclude the United States from pursuing stipulated penalties except where the State has already pursued stipulated penalties in accordance with subparagraphs b and c.

73. The following stipulated penalties shall be payable per violation per day to the United States or the State for any noncompliance with the requirements of the Consent Decree, including but not limited to, failure to provide access or institutional controls, failure to reimburse response costs, failure to comply with the schedule set forth in the SOW and in any deliverables or submittals thereunder, and failure to submit timely or adequate deliverables.

<u>Penalties Per Violation Per Day</u>	<u>Period of Noncompliance</u>
\$ 2,000	1st through 14th day
\$ 3,000	15th through 30th day
\$ 5,000	31st day and beyond

74. In the event that EPA or the State assumes performance of a portion or all of the Work pursuant to Paragraph 89 of Section XXI (Covenants Not to Sue by Plaintiffs), Settling

Defendants shall be liable for the following stipulated penalties:

- \$900,000 If work performance is assumed any time before the date EPA approves the final Remedial Action Work Plan or the Project Operations Plan (as defined in the SOW), whichever is later.
- \$700,000 If work performance is assumed on or after the date EPA approves the final Remedial Action Work Plan or the Project Operations Plan, whichever is later, but before the date EPA issues a Certification of Completion of the Remedial Action, pursuant to Paragraph 50.b of Section XIV(Certification of Completion).
- \$500,000 If work performance is assumed on or after the date EPA issues a Certification of Completion of the Remedial Action, pursuant to Paragraph 50.b of Section XIV(Certification of Completion).

Notwithstanding the foregoing provisions of this Paragraph, if EPA determines that additional work is required pursuant to Paragraph 15 (Modification of the SOW or Related Work Plans) or Paragraph 21 (Settling Defendants' Obligation To Perform Further Response Actions) and EPA or the State assumes performance of a portion or all of such Work pursuant to Paragraph 89 of Section XXI (Covenants Not to Sue by Plaintiffs), Settling Defendants shall be liable for a stipulated penalty in the amount of \$750,000.

75. 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 (EPA Approval of Plans and Other Submissions), during the period, if any, beginning on the 31st day after EPA's receipt of such submission until the date that EPA notifies Settling Defendants of any deficiency; (2) with respect to a decision by the Director of the Office of Site Remediation and Restoration, EPA Region I, under Paragraph 68.b or 69.a of Section XIX (Dispute Resolution), during the period, if any, beginning on the 21st day after the date that Settling Defendants' 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 XIX (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.

76. Following EPA's determination, after reasonable opportunity for review and comment by the State, that Settling Defendants have failed to comply with a requirement of this Consent Decree, EPA or the State as provided in Paragraph 72.b may give Settling Defendants written notification of the same and describe the noncompliance. EPA and/or the State may send the Settling Defendants a written demand for the payment of the penalties. However, penalties shall accrue as provided in the preceding Paragraph regardless of whether EPA or the State has notified the Settling Defendants of a violation.

77. All penalties accruing under this Section shall be due and payable to the United States and the State within 30 days of the Settling Defendants' receipt from EPA or the State of a demand for payment of the penalties, unless Settling Defendants invoke the Dispute Resolution procedures under Section XIX (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 EPA Region I, Attn: Superfund Accounting, P.O. Box 360197M, Pittsburgh, PA 15251, shall indicate that the payment is for stipulated penalties, and shall reference the EPA Region and Site/Spill ID # 01-B5, the DOJ

Case Number 90-11-3-1454, 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 Parties as provided in Section XXVI (Notices and Submissions). All payments to the State under this Section shall be made payable to State Treasurer and shall be mailed to Secretary, Vermont Agency of Natural Resources, 103 South Main Street, Waterbury, VT 05671.

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

79. Penalties shall continue to accrue as provided in Paragraph 75 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 that is not appealed to this Court, accrued penalties determined to be owing shall be paid to EPA and/or the State within 15 days of the agreement or the receipt of the decision or order;

b. If the dispute is appealed to this Court and the United States or the States prevails in whole or in part, Settling Defendants shall pay all accrued penalties determined by the Court to be owed to EPA and/or 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 Defendants shall pay all accrued penalties determined by the District Court to be owing to the United States and/or 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/or the State or to Settling Defendants to the extent that they prevail.

80. a. If Settling Defendants fail to pay stipulated penalties when due, the United States or the State may institute proceedings to collect the penalties, as well as Interest. Settling Defendants shall pay Interest on the unpaid balance, which shall begin to accrue on the date of demand made pursuant to Paragraph 76.

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 Defendants' 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(l) of CERCLA. Provided, however, that the United States shall not seek civil penalties pursuant to Section 122(l) of CERCLA for any violation for which a stipulated penalty has been assessed hereunder, except in the case of a willful violation of the Consent Decree.

81. Notwithstanding any other provision of this Section, the United States or the State may, in its unreviewable discretion, decide not to seek stipulated penalties or waive any portion of stipulated penalties that have accrued pursuant to this Consent Decree. Waiver by the United States or the State shall not affect the other's right to pursue stipulated penalties.

XXI. COVENANTS NOT TO SUE BY PLAINTIFFS

82. In consideration of the actions that will be performed and the payments that will be made by the Settling Defendants under the terms of the Consent Decree, and except as specifically provided in Paragraphs 83, 84, 88, and 91 of this Section, the United States on behalf of EPA, the DOI, and the National Oceanic and Atmospheric Administration ("NOAA") covenants not to sue or to take administrative action against Settling Defendants pursuant to Sections 106 and 107(a) of CERCLA and Section 7003 of RCRA relating to the Site. In

consideration of the actions that will be performed and the payments that will be made by the Settling Defendants under the terms of this Consent Decree, and except as specifically provided in Paragraphs 85, 86 and 88 of this Section, the State covenants not to sue or take administrative action relating to the Site against the Settling Defendants regarding Natural Resource Damages or pursuant to 107(a) of CERCLA and 10 V.S.A. § 6615. 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 54 of Section XVI (Reimbursement of Response Costs). With respect to future liability, these covenants not to sue shall take effect upon Certification of Completion of Remedial Action by EPA pursuant to Paragraph 50.b of Section XIV (Certification of Completion). These covenants not to sue are conditioned upon the satisfactory performance by Settling Defendants of their obligations under this Consent Decree. These covenants not to sue extend only to the Settling Defendants and do not extend to any other person.

83. 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 Defendants

- a. to perform further response actions relating to the Site or
- b. to reimburse the United States for additional costs of response if, prior to Certification of Completion of the Remedial Action:

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

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

and EPA determines that these previously unknown conditions or information together with any other relevant information indicates that the Remedial Action is not protective of human health or the environment.

84. 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 Defendants

- a. to perform further response actions relating to the Site or
- b. to reimburse the United States for additional costs of response if,
subsequent to Certification of Completion of the Remedial Action:

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

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

and EPA determines that these previously unknown conditions or this information together with other relevant information indicate that the Remedial Action is not protective of human health or the environment.

85. 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, jointly with or separately from, the United States to institute proceedings in this action or in a new action under Section 107 of CERCLA, 42 U.S.C. § 9607, or under 10 V.S.A. § 6615,

seeking to compel any or all of the Settling Defendants (1) to perform other response actions at the Site, or (2) to reimburse the State for response costs for other response actions at the Site, to the extent that EPA has determined that such response actions required under (1) and (2) above in this Paragraph will not significantly delay or be inconsistent with the Remedial Action, if, prior to Certification of Completion of the Remedial Action:

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

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

and the VTDEC Commissioner, or his or her delegate, determines, pursuant to V.S.A. Ch. 159, 201 and 211, based on these previously unknown conditions or this information together with any other relevant information that the response actions taken are not protective of public health, safety, welfare or the environment. The United States reserves all rights it may have under applicable law, to oppose any determinations made or any actions taken, ordered or proposed by the State pursuant to this Paragraph.

86. State's Post-certification Reservations. Notwithstanding any other provision of this Consent Decree, the State reserves, and this Consent Decree is without prejudice to, the right, jointly, with or separately from, the United States to institute proceedings in this action or in a new action under Section 107 of CERCLA, 42 U.S.C. § 9607, or under 10 V.S.A. § 6615, seeking to compel any or all of the Settling Defendants (1) to perform other response actions at the Site, or (2) to reimburse the State for response costs for other response actions at the Site, to the extent that EPA has determined that such response actions required under (1) and (2) above in this Paragraph will not significantly delay or be inconsistent with the Remedial Action, if, subsequent to Certification of Completion of Remedial Action:

(i) conditions at the Site, previously unknown to the State, are discovered or become known to the State after the Certification of Completion, or

(ii) information previously unknown to the State is received by the State, in whole or in part, after the Certification of Completion,

and the VTDEC Commissioner, or his or her delegate, determines, pursuant to V.S.A. Ch. 159, 201 and 211, based on these previously unknown conditions or this information together with any other relevant information, that the response actions taken are not protective of public health, safety, welfare or the environment. The United States reserves all rights it may have under applicable law, to oppose any determinations made or any actions taken, ordered or proposed by the State pursuant to this Paragraph.

87. For purposes of Paragraphs 83 and 85, the information and the conditions known to EPA, under Paragraph 83, and information and the conditions known to the State, under Paragraph 85, shall include only that information and those conditions known to EPA or the State, as applicable, as of the date the ROD was signed and set forth in the Record of Decision for the Site and the administrative record supporting the Record of Decision. For purposes of Paragraph 84 and 86, the information and the conditions known to EPA, under Paragraph 84, and the conditions known to the State, under Paragraph 86, shall include only that information and those conditions known to EPA or the State, as applicable, as of the date of Certification of Completion of the Remedial Action and set forth in the Record of Decision, the administrative record supporting the Record of Decision, the post-ROD administrative record, or in any information received by EPA and the State pursuant to the requirements of this Consent Decree prior to Certification of Completion of the Remedial Action.

88. General reservations of rights. The covenants not to sue set forth above do not

pertain to any matters other than those expressly specified in Paragraph 82. Subject to the April 20, 1998 Consent Decree, the United States and the State reserve, and this Consent Decree is without prejudice to, all rights against Settling Defendants with respect to all other matters, including but not limited to, the following:

- a. claims based on a failure by Settling Defendants to meet a requirement of this Consent Decree;
- b. liability arising from the past, present, or future disposal, release, or threat of release of Waste Materials outside of the Site;
- c. liability for future disposal of Waste Material at the Site, other than as provided in the ROD, the Work, or otherwise ordered by EPA;
- d. criminal liability;
- e. liability for violations of federal or state law ;
- f. liability, prior to Certification of Completion of the Remedial Action, for additional response actions that EPA determines are necessary to achieve Performance Standards, but that cannot be required pursuant to Paragraph 15 (Modification of the SOW or Related Work Plans); and
- g. claims seeking, or liability for, the securing and implementation of supplemental institutional controls, and liability for any response costs incurred relating to the implementation or securing of supplemental institutional controls.

89. Work Takeover. In the event EPA determines, after a reasonable opportunity for review and comment by the State, that Settling Defendants 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 may assume the performance of all or any portions of the Work as EPA determines necessary. Settling Defendants may invoke the procedures set forth in Section XIX (Dispute Resolution), Paragraph 68, to dispute EPA's determination that takeover of the Work is warranted under this Paragraph. Costs incurred by the United States in performing the Work pursuant to this Paragraph shall be considered Future Response Costs that Settling Defendants shall pay pursuant to Section XVI (Reimbursement of Response Costs).

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

91. Reservations Concerning Natural Resource Injury. Notwithstanding any other provision of this Consent Decree, the United States, on behalf of DOI and NOAA, its natural resource trustees, reserves the right to institute proceedings against Settling Defendants in this action or in a new action seeking recovery of Natural Resource Damages based upon (1) conditions with respect to the Site, unknown to the United States at the date of lodging of this Consent Decree, that result in releases or threatened releases of hazardous substances that contribute to injury to, destruction of, or loss of natural resources, or (2) information received after the date of lodging of the Consent Decree which indicates that there is injury to, destruction of, or loss of natural resources of a type that was unknown, or of a magnitude greater than was known, to the United States at the date of lodging of this Consent Decree.

XXII. COVENANTS BY SETTLING DEFENDANTS

92. Covenant Not to Sue. Subject to Paragraph 96 and the reservations in

Paragraph 93, Settling Defendants hereby covenant not to sue and agree not to assert any claims or causes of action against the United States, including any department, agency, or instrumentality of the United States, or the State, including any department, agency, or instrumentality of 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 under CERCLA Sections 107 or 113 related to the Site including, but not limited to, those that were expressly released pursuant to the April 20, 1998 Consent Decree;

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

d. any claims for costs, fees or expenses incurred in this action, including claims under 28 U.S.C. § 2412 (including claims under the Equal Access to Justice Act, as amended, 28 U.S.C. § 2412(d));

e. any claims under the United States Constitution, the Tucker Act, 28 U.S.C. § 1491, or at common law, arising out of or relating to, past or future access to, imposition of deed restrictions, or other restrictions on the use or enjoyment of property owned or controlled by the Settling Defendants; and

f. any claims, disputes, or dispute resolution regarding Settling Defendants' payments for response and oversight costs already billed and paid by Settling Defendants under the RI/FS AOC. Settling Defendants waive any rights to pursue dispute resolution either under this Consent Decree or under the RI/FS AOC for such payments.

93. The Settling Defendants 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 Defendants' 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.

94. 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).

95. Waiver of Claims against De Micromis Parties. Settling Defendants agree not to assert any claims and to waive all claims or causes of action that they may have for all matters relating to the Site, including for contribution, against any person where the person's liability to Settling Defendants with respect to the Site is based solely on having arranged for disposal or treatment, or for transport for disposal or treatment, of hazardous substances at the Site, or having accepted for transport for disposal or treatment of hazardous substances at the Site, if

the materials contributed by such person to the Site containing hazardous substances did not exceed the greater of (i) 0.002% of the total volume of waste at the Site, or (ii) 110 gallons of liquid materials or 200 pounds of solid materials. This waiver shall not apply to any claim or cause of action against any person meeting the above criteria if EPA has determined that the materials contributed to the Site by such person contributed or could contribute significantly to the costs of response at the Site.

XXIII. EFFECT OF SETTLEMENT; CONTRIBUTION PROTECTION

96. Nothing in this Consent Decree shall limit or expand any rights, duties, or defenses that Eveready has pursuant to the April 20, 1998 Consent Decree.

97. Except as provided in Paragraph 95 (Waiver of Claims Against De Micromis Parties), 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 Consent Decree may have under applicable law. Subject to the April 20, 1998 Consent Decree and except as provided in Paragraph 95 (Waiver of Claims Against De Micromis Parties), 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.

98. The Parties agree, and by entering this Consent Decree this Court finds, that the Settling Defendants 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. The "matters addressed" in this Consent Decree are Past Response Costs, Future Response Costs, Interim Response Costs, State Future Costs, State Oversight Costs, the Work, and Natural Resource Damages.

99. The Settling Defendants agree that with respect to any further suit or claim for contribution brought by them against parties other than the Settling Federal Agencies (as defined in the April 20, 1998 Consent Decree) that entered into the April 20, 1998 Consent Decree 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.

100. The Settling Defendants 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 30 days of service of the complaint on them. In addition, Settling Defendants shall notify the United States and the State within 30 days of service or receipt of any Motion for Summary Judgment and within 30 days of receipt of any order from a court setting a case for trial.

101. Subject to the April 20, 1998 Consent Decree, 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 Defendants 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 XXI (Covenants Not to Sue by Plaintiffs).

XXIV. ACCESS TO INFORMATION

102. Settling Defendants 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 Defendants 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.

103. a. Settling Defendants 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). Documents or information determined to be confidential by EPA will be afforded the protection specified in 40 C.F.R. Part 2, Subpart B. If no claim of confidentiality accompanies documents or information when they are submitted to EPA and the State, or if EPA has notified Settling Defendants 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 Defendants.

b. The Settling Defendants 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 Defendants 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 Defendants. 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.

104. 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.

XXV. RETENTION OF RECORDS

105. Until 10 years after the Settling Defendants' receipt of EPA's notification pursuant to Paragraph 51.b of Section XIV (Certification of Completion of the Work), each Settling Defendant shall 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. Until 10 years after the Settling Defendants' receipt of EPA's notification pursuant to Paragraph 51.b of Section XIV (Certification of Completion), Settling Defendants 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.

106. At the conclusion of this document retention period, Settling Defendants 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 Defendants shall deliver any such records or documents to EPA or the State. The Settling Defendants 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 Defendants 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 Defendants. 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. Settling Defendants shall preserve and retain any privileged documents or records until the resolution of any dispute regarding their privileged status.

107. Each Settling Defendant hereby certifies individually that, to the best of its knowledge and belief, after thorough inquiry, it has not altered, mutilated, discarded, destroyed or otherwise disposed of any records, documents or other information relating to its potential liability regarding the Site since the earlier of 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.

XXVI. NOTICES AND SUBMISSIONS

108. 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, and the Settling Defendants, respectively.

As to the United States:

Chief, Environmental Enforcement Section
Environment and Natural Resources Division
U.S. Department of Justice
P.O. Box 7611
Washington, D.C. 20044-7611
Re: DJ # 90-11-3-1454

As to EPA:

Director, Office of Site Remediation and
Restoration, Region I
United States Environmental Protection Agency
One Congress Street
Suite 1100 – Mail Code HBT
Boston, MA 02114-2023
Re: Burgess Brothers Superfund Site

Ronald Jennings
EPA Project Coordinator
United States Environmental Protection Agency
Region I
One Congress Street
Suite 1100 – Mail Code HBT

Boston, MA 02114-2023
Re: Burgess Brothers Superfund Site

As to the State:

John Schmeltzer
State Project Coordinator
Site Management Section
103 South Main Street, West Building
Waterbury, VT 05671-0404
Re: Burgess Brothers Superfund Site

Mary McCabe
Assistant Attorney General
Office of the Attorney General
109 State Street
Montpelier, VT 05609-1001
Re: Burgess Brothers Superfund Site

As to the Settling Defendants:

Harry Strachen
General Counsel
Eveready Battery Company, Inc.
835 South 8th Street -- 1EBC
St. Louis, MO 63164

Tom Hauser
Eveready Battery Company, Inc.
25225 Detroit Road
Westlake, OH 44145

XXVII. EFFECTIVE DATE

109. 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.

XXVIII. RETENTION OF JURISDICTION

110. This Court retains jurisdiction over both the subject matter of this Consent Decree and the Settling Defendants 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 XIX (Dispute Resolution) hereof.

XXIX. APPENDICES

111. The following appendices are attached to and incorporated into this Consent Decree:

"Appendix A" is the ROD.

"Appendix B" is the SOW.

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

"Appendix D" is the complete list of the Non-Owner Settling Defendants.

"Appendix E" is the complete list of the Owner Settling Defendant.

"Appendix F" is the Draft Deed Restrictions.

XXX. COMMUNITY RELATIONS

112. As requested by EPA, Settling Defendants shall propose to EPA and the State their participation in the community relations plan to be developed by EPA. EPA will determine, after a reasonable opportunity for review and comment by the State, the appropriate role for the Settling Defendants under the Plan. Settling Defendants shall also cooperate with EPA and the State in providing information regarding the Work to the public. As requested by EPA or the State Settling Defendants 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 State to explain activities at or relating to the Site.

XXXI. MODIFICATION

113. Schedules specified in this Consent Decree for completion of the Work may be modified by agreement of EPA, after a reasonable opportunity for review and comment by the State, and the Settling Defendants. All such modifications shall be made in writing.

114. Except as provided in Paragraph 15 ("Modification of the SOW or related Work Plans"), no modifications shall be made to the Consent Decree or SOW without written notification to and written approval of the United States and Settling Defendants. 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.

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

XXXII. LODGING AND OPPORTUNITY FOR PUBLIC COMMENT

116. 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 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 Defendants consent to the entry of this Consent Decree without further notice. The State may withdraw or withhold its consent to the entry of this Consent Decree if comments received disclose facts or considerations which show that the Consent Decree violates State law. The United States reserves the right to challenge in court the State withdrawal from the Consent Decree, including the right to argue that the requirements of state law have been waived, pre-empted or otherwise rendered inapplicable by federal law. The State reserves the right to oppose the United States' position taken in opposition to the proposed withdrawal. In addition, in the event of the United States' withdrawal from this Consent Decree, the State reserves its right to withdraw from this Consent Decree.

117. 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.

XXXIII. SIGNATORIES/SERVICE

118. Each undersigned representative of a Settling Defendant to this Consent Decree, the Section Chief, Environmental Enforcement Section, Environment and Natural Resources Division of the Department of Justice, and the Assistant Attorney General for the State of Vermont 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.

119. Each Settling Defendant 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 Defendants in writing that it no longer supports entry of the Consent Decree.

120. Each Settling Defendant 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 Defendants 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.

XXXIV. FINAL JUDGMENT

121. Upon approval and entry of this Consent Decree by the Court, this Consent Decree shall constitute a final judgment between and among the United States and the Settling Defendants. The Court finds that there is no just reason for delay and therefore enters this judgment as a final judgment under Fed. R. Civ. P. 54 and 58.

SO ORDERED THIS __ DAY OF _____, 1999.

United States District Judge

Date _____

Date

Date _____

- 42 -

THE UNDERSIGNED PARTY enters into this Consent Decree in the matter of United States v. Burgess Brothers, Inc., and the State of Vermont v. Burgess Brothers, Inc. relating to the Burgess Brothers Superfund Site.

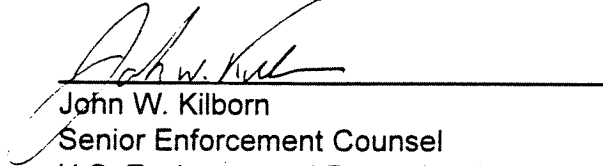
FOR THE UNITED STATES ENVIRONMENTAL
PROTECTION AGENCY

6/15/99
Date



John P. DeVillars
Regional Administrator, Region I
U.S. Environmental Protection Agency
One Congress Street
Suite 1100
Boston, MA 02114-2023

6/1/99
Date



John W. Kilborn
Senior Enforcement Counsel
U.S. Environmental Protection Agency
Region I
One Congress Street
Suite 1100 - Mail Code SES
Boston, MA 02114-2023

THE UNDERSIGNED PARTY enters into this Consent Decree in the matter of United States v. Burgess Brothers, Inc., and the State of Vermont v. Burgess Brothers, Inc. relating to the Burgess Brothers Superfund Site.

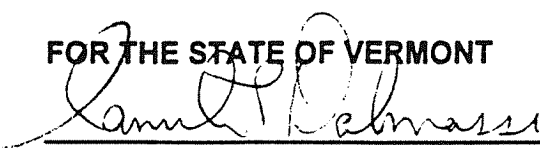
5/14/99

Date

5-14-99

Date

FOR THE STATE OF VERMONT

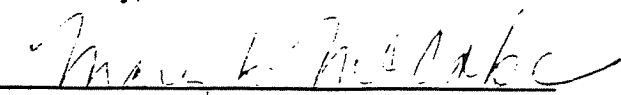

Cqnute Dalmasse

Commissioner

Vermont Department of Environmental
Conservation

103 South Main Street

Waterbury, VT 05671-0404


Mary K. McCabe

Assistant Attorney General

State of Vermont

Office of the Attorney General

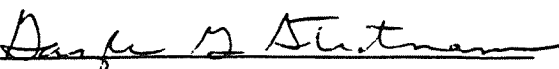
109 State Street

Montpelier, VT 05609-1001

THE UNDERSIGNED PARTY enters into this Consent Decree in the matter of United States v. Burgess Brothers, Inc., and the State of Vermont v. Burgess Brothers, Inc. relating to the Burgess Brothers Superfund Site.

FOR EVEREADY BATTERY COMPANY, INC.

5/13/99
Date

Signature: 
Name (print): Gayle G. Stratmann
Title: Assistant General Counsel
Address: Eveready Battery Company, Inc.
Checkerboard Square - 1EBC
St. Louis, MO 63164

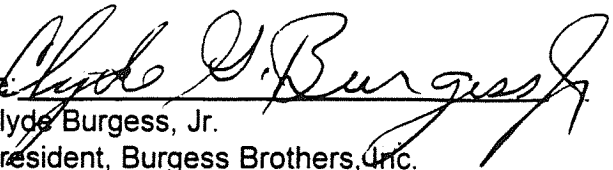
Agent Authorized to Accept Service on Behalf of Above-signed Party:

Name: Harry Strachen
Title: General Counsel
Address: Eveready Battery Company, Inc.
835 South 8th Street -- 1EBC
St. Louis, MO 63164
Ph. Number: (314) 982-2990

THE UNDERSIGNED PARTY enters into this Consent Decree in the matter of United States v. Burgess Brothers, Inc., and the State of Vermont v. Burgess Brothers, Inc. relating to the Burgess Brothers Superfund Site.

FOR BURGESS BROTHERS, INC.

5/12/99
Date

Signature: 

Name: Clyde Burgess, Jr.

Title: President, Burgess Brothers, Inc.

Address: RR # 3, Box 1130
Bennington, VT 05201

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

Name: Clyde Burgess, Jr.

Title: President, Burgess Brothers, Inc.

Address: RR # 3, Box 1130
Bennington, VT 05201

Ph. Number: (802) 442-3345

THE UNDERSIGNED PARTY enters into this Consent Decree in the matter of United States v. Burgess Brothers, Inc., and the State of Vermont v. Burgess Brothers, Inc. relating to the Burgess Brothers Superfund Site.

CLYDE BURGESS, JR.

5/12/99

Date

Signature: Clyde N. Burgess Jr.

Name: Clyde Burgess, Jr.

Title: N/A

Address: c/o Burgess Brothers, Inc.

RR #, Box 1130

Bennington, VT 05210-9217

DECLARATION FOR THE RECORD OF DECISION

BURGESS BROTHERS SUPERFUND SITE

Bennington and Woodford, Vermont

Statement of Purpose

This Decision Document presents the selected remedial action for the Burgess Brothers Superfund Site in Bennington and Woodford, Vermont, developed in accordance with the Comprehensive Environmental Response, Compensation and Liability Act of 1980 (CERCLA), as amended, 42 U.S.C. §§ 9601 et. seq., and the National Oil and Hazardous Substances Pollution Contingency Plan (NCP) as amended, 40 C.F.R. Part 300. The Administrator for EPA-New England has delegated the authority to approve this Record of Decision (ROD) to the Director of the Office of Site Remediation and Restoration (OSRR).

The State of Vermont has concurred with the selected remedy.

Statement of Basis

This decision is based on the Administrative Record which has been developed in accordance with Section 113(k) of CERCLA and which is available for public review at the Bennington Free Library, Bennington, Vermont, and at the EPA - New England Office of Site Remediation and Restoration Records Center in Boston, Massachusetts. The Administrative Record Index (Appendix D to the ROD) identifies each of the items comprising the Administrative Record upon which the selection of the remedial action is based.

Assessment of the Site

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

Description of the Selected Remedy

This ROD sets forth the selected remedy for the Burgess Brothers Superfund Site which addresses both the source control and the management of migration of contaminants from the Site. The remedial measures described in this ROD will minimize further migration of contamination into the groundwater and surface water, will eliminate the potential for direct contact and/or incidental ingestion of the material within the landfill, will control landfill gas and prevent exposure to landfill gas containing hazardous substances, and will replace any portion of wetlands destroyed as a result of implementing the selected remedy.

The selected remedy consists of operating and maintaining controls to prevent exposure to contaminated soil and to achieve the restoration of groundwater and the protection of surface

water. The major components of the selected remedy include:

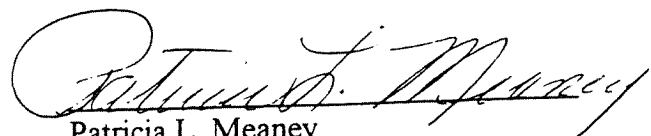
- A multi-barrier (or "composite barrier") cap over the Landfill Area. The need for a gas collection and treatment system will be evaluated during design.
- A cap over the soils in the Marshy Area. Any wetlands impacted by the installation of the cap will be restored or replaced, preferably on-site. Cap specifications will be determined during design.
- Hot spot remediation of the Former Lagoon Cells within the Landfill Area using soil-vapor extraction (SVE) and air sparging.
- Natural attenuation of contaminated groundwater beyond the area of influence of the SVE and air sparging system.
- The establishment of institutional controls to protect the capped areas and to prevent the use of groundwater potentially impacted by the Site, and to inform future purchasers of the groundwater restrictions associated with the property. Restrictions on the use of groundwater will include the current contaminant plume area and an associated buffer zone.
- Long-term monitoring of the groundwater, surface water, and sediments to evaluate the overall effectiveness of the remedy.
- A review of the Site every five years after the initiation of the remedial action to assure that the remedial action continues to protect human health and the environment.

Declaration

The selected remedy is protective of human health and the environment, attains federal and state requirements that are applicable or relevant and appropriate for this remedial action, and is cost-effective. This remedy satisfies the statutory preference for remedies that utilize treatment as a principal element to reduce the toxicity, mobility, or volume of hazardous substances. The selected remedy is equally protective and more cost effective and implementable than the alternatives evaluated. This remedy also utilizes permanent solutions and alternative treatment technologies to the maximum extent practicable.

As this remedy will result in hazardous substances remaining onsite above health-based levels, a review will be conducted within five years after commencement of the remedial action to ensure that the remedy continues to provide adequate protection of human health and the environment.

7/25/98
DATE


Patricia L. Meaney
Director, Office of Site Remediation and Restoration
U.S. EPA - New England Region

**U.S. ENVIRONMENTAL PROTECTION AGENCY
REGION I - NEW ENGLAND**

RECORD OF DECISION

for the

**BURGESS BROTHERS SUPERFUND SITE
BENNINGTON AND WOODFORD, VERMONT**

September 1998

BURGESS BROTHERS SUPERFUND SITE

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ROD DECISION SUMMARY
September 1998

I. SITE NAME, LOCATION AND DESCRIPTION

A. General Description

The Burgess Brothers Superfund Site (the "Site") is located in the towns of Woodford and Bennington, Bennington County, Vermont, between Burgess Road and the Walloomsac Brook. (Appendix A, Figure 1). Access to the Site is through the Burgess Brothers Construction Company's facility on Burgess Road, approximately 1.1 miles southeast of the junction of Burgess Road and State Highway 9. The Green Mountain National Forest borders the Site to the north. The latitude of the Site is 42°52'40" and the longitude is 73°09'00". The Site consists of approximately three acres located in the northeastern section of a 60-acre parcel which is owned by Clyde Burgess, Jr.

The Site includes the following six areas (see Appendix A, Figure 5):

- Landfill Area - which is the waste disposal area.
- Lagoon Area - former lagoon cells which are located within the Landfill Area. This area consists of two former waste disposal cells where solvent and reserve energizer battery waste were reportedly disposed.
- Soil Staging Area - located north of the Landfill Area.
- Area West of Landfill - includes the areas to the west of the Landfill Area, downslope of the landfill, and in the vicinity of a temporary access Landfill Road.
- Marshy Area - located south and southeast downslope of the landfill and consists of several small wetland areas.
- Hillside Area - includes areas upslope and to the east of the Marshy Area and Landfill Area on Harmon Hill.

As stated above, the Site consists of approximately three acres. The Landfill Area occupies approximately two acres which includes the two former Lagoon Cells. The Lagoon Area occupies approximately 4,000 square feet (0.09 acres) of the landfill. The Marshy Area and area impacted by the contaminated groundwater plume occupy approximately one acre beyond the Landfill Area. Both the landfill and lagoon cells have been covered with clean soils from the

Burgess Brothers property.

The primary land use in the vicinity of the site is undeveloped forest. Industrial, commercial, and residential properties are located along Burgess Road, approximately one mile southwest of the Site. Although Bennington, Vermont contains many historic structures, no cultural resources have been identified in the immediate vicinity of the Site.

Two municipal water supply systems, Ryder Spring and Morgan Spring, are located within one mile of the Site. These systems are operated by the Bennington Water Department. Two private drinking water wells have been identified within one mile of the Site.

A new housing development is being constructed just north of the Site. This construction is not expected to impact environmental conditions at the Site as the development will be connected to town water and sewerage (Publicly Owned Treatment Works (POTW)).

Several drainage swales flow down from the Hillside Area into the Marshy Area, then southwesterly into an unnamed stream. The unnamed stream flows southwesterly into Barney Brook which empties into the Walloomsac River. Both Barney Brook and the Walloomsac River are classified by the State of Vermont as Class B waters, which are defined as waters of a quality that consistently exhibit good aesthetic value and provide high quality habitat for aquatic biota, fish, and wildlife. The uses of Class B waters are public water supply (with filtration and disinfection), irrigation and other agricultural uses, swimming, and recreation.

The groundwater at the Site is classified by the State of Vermont as Class III, defined as suitable for individual domestic drinking water, irrigation, agricultural, and industrial/commercial use. Class I and II waters are aquifers that are currently in use, or have probability of use, as a public drinking water supply.

A more complete description of the Site can be found in Section 1 of the July 1996 Remedial Investigation Report.

B. Geology and Hydrology

Site geology consists of an unconsolidated overburden comprised of a kame sand and ablation glacial till, underlain by a lodgement till, underlain by bedrock (Appendix A, Figure 2). Combined, the kame sand and ablation glacial till are up to 35 feet thick. The lodgement till, which separates the kame sand and ablation glacial till from the bedrock, is approximately 35 to 90 feet thick. Bedrock consists of shallow weathered bedrock, deep weathered bedrock, and competent bedrock. The weathered bedrock consists of weathered schist and gneiss. The competent bedrock, found at upwards of 400 feet in depth, consists of massive to thickly bedded

quartzite with frequent high angle fractures.

The Site contains two groundwater flow paths. Shallow groundwater flow in the kame sand and ablation glacial till is generally from the landfill to the south-southeastward into the Marshy Area. The shallow groundwater in the Marshy Area discharges to a drainage swale (Swale 2) (Appendix A, Figure 3). Deep groundwater flow in the weathered and competent bedrock is towards the west-southwest, generally following the hill slope topography.

Groundwater elevation data indicate generally upward gradients in the kame sand and ablation glacial till in the Marshy Area, with groundwater discharging to surface water. Vertical gradients in the Landfill Area also appear to be slightly upward.

Additional information about the site geology and hydrology can be found in Section 2 of the July 1996 Remedial Investigation Report.

II. SITE HISTORY AND ENFORCEMENT ACTIVITIES

A. Land Use and Response History

Activities at the Site began as sand and gravel mining operations in the 1940s. Starting in the early 1950's the Site was used as a metal salvage facility and as a disposal area. Metals, sludges, and rejected small appliance and military speciality batteries were also disposed at the Site. The two Lagoon Cells (unlined pits) received liquid wastes and sludge from approximately 1967 to 1976. These wastes consisted of lead sludges, lead contaminated wastewater, spent solvents (primarily PCE and TCE), and battery waste. Manganese dioxide cells (containing zinc and mercury) were also disposed. Approximately 2,371,100 gallons of liquid waste and 241,090 pounds of solid or semi-solid wastes were disposed of at the Site from 1971-1976. An unknown quantity of waste, primarily lead sludge, was also disposed of at the Site from the 1960's through 1971.

Numerous investigations have been performed at the Site to evaluate the environmental impact of the disposal operation which occurred in the Landfill Area and former Lagoon Cells. A listing of previous site investigation activities is provided in Appendix A, Table 1.

The Vermont Department of Environmental Conservation (VTDEC) (then Vermont Agency of Environmental Conservation (VTAEC)) conducted a Preliminary Assessment in 1985 and EPA proposed the Site for listing on the National Priorities List (NPL) on June 24, 1988. On March 31, 1989 the Site was added to the NPL.

A Remedial Investigation/Feasibility Study (RI/FS) was begun at the Site in 1991 and completed

in 1998. The EPA completed a Baseline Risk Assessment in 1997. A more detailed discussion of the findings of the investigations is provided in the July 1996 Remedial Investigation Report and the February 1997 Supplemental Remedial Investigation Report.

B. Enforcement History

VTAEC inspected the Site several times during the late 1960's and 1970's to evaluate disposal practices and environmental impacts. In August 1976, VTAEC disallowed disposal operations at the Site.

From 1984 - 1989, preliminary investigations and periodic monitoring of soil, surface water, groundwater, and leachate were performed by the State, EPA, and Union Carbide Corporation, as identified in Appendix A, Table 1.

On May 10, 1991, EPA notified five parties of their potential liability with respect to the Site. These parties either owned or operated the facility, generated wastes that were shipped to the facility, arranged for the disposal of wastes at the facility, or transported wastes to the facility. These parties consisted of Clyde Howe, owner, Clyde Burgess, Jr., operator, Union Carbide Corporation, Inc., generator, Eveready Battery Company, Inc., generator, and Burgess Brothers Construction Company, Inc., generator and transporter. Negotiations commenced with these potentially responsible parties (PRPs) regarding performance of a Remedial Investigation/Feasibility Study (RI/FS).

On August 13, 1991, EPA entered into an Administrative Order by Consent, U.S. EPA Region I CERCLA Docket No. I-90-1100, with Clyde Burgess, Jr., Burgess Brothers Construction Company, Inc., and Eveready Battery Company, Inc. for the performance of an RI/FS. These three PRPs also agreed to reimburse EPA and the State of Vermont for a portion of past costs under a separate Administrative Order by Consent, U.S. EPA Region I CERCLA Docket No. I-90-1101.

Pursuant to the Administrative Order by Consent, the settling PRPs retained a contractor and conducted the RI/FS under EPA oversight.

III. COMMUNITY PARTICIPATION

Throughout the Site's history, community concern and involvement has been fairly low. EPA has kept the community and other interested parties apprised of the Site activities through informational fact sheets, press releases, and public meetings. On June 10, 1998, EPA issued a Proposed Plan for the cleanup of the site.

On June 11, 1998, EPA published a notice and brief analysis of the Proposed Plan in the Bennington Banner. On June 15, 1998 EPA made the Proposed Plan and Administrative Record available to the public by placing a copy in the Bennington Free Library, Bennington, Vermont, and at EPA's office in Boston. On June 23, 1998, EPA held an informational meeting/public hearing at the Bennington Free Library to discuss the results of the Remedial Investigation and the cleanup alternatives presented in the Feasibility Study. During this meeting EPA presented the Proposed Plan and accepted oral comments. The public comment period ran from June 15 through July 15, 1998. A transcript of this meeting, the comments EPA received, and EPA's responses to the those comments are included in the responsiveness summary in Appendix E.

IV. SCOPE AND ROLE OF OPERABLE UNIT OR RESPONSE ACTION

The entire site has been addressed as a single operable unit, addressing both source control and management of migration to obtain a comprehensive approach for Site remediation. The selected remedy was developed by combining various components of different source control and management of migration alternatives. In summary, the remedy provides for the following actions which will address the principal threats to human health and the environment posed by the Site:

- A multi-barrier (or "composite barrier") cap over the Landfill Area. The need for a gas collection and treatment system will be evaluated during design.
- A cap over the soils in the Marshy Area. Any wetlands impacted by the installation of the cap will be restored or replaced, preferably on-site. Cap specifications will be determined during design.
- Hot spot remediation of the Former Lagoon Cells within the Landfill Area using soil-vapor extraction (SVE) and air sparging.
- Natural attenuation of contaminated groundwater beyond the area of influence of the SVE and air sparging system.
- The establishment of institutional controls to protect the capped areas and to prevent the use of groundwater potentially impacted by the Site, and to inform future purchasers of the groundwater restrictions associated with the property. Restrictions on the use of groundwater will include the current contaminant plume and a buffer zone.
- Long-term monitoring of the groundwater, surface water, and sediments to evaluate the overall effectiveness of the remedy.

- A review of the Site every five years after the initiation of the remedial action to assure that the remedial action continues to protect human health and the environment.

Remedial activities at the Site are comprehensive and intended to be a final remedy.

V. SUMMARY OF SITE CHARACTERISTICS

Sections 2.4 and 2.5 of the Feasibility Study Report contain an overview of the Remedial Investigation. The significant findings of the Remedial Investigation are summarized below.

A. Source Area (Landfill and Lagoon Cells)

The source of contamination at the Site is a two acre landfill. From the 1950's into the 1970's, the landfill received municipal type refuse, such as wood, newspaper, steel, cardboard, and cinders. Starting in the 1960's, the landfill also received small appliance batteries and lead sludge from the manufacture of batteries. The landfilled materials are located within a kame sand deposit primarily above the groundwater table, however, groundwater contamination does occur through snow melt and rain percolating through the waste material then into the groundwater table. The primary contaminants are volatile organic compounds (VOCs) and metals. The surface area of the landfill is approximately 60,000 square feet (1.4 acres) and the depth of the landfill ranges from 8 to 14 feet. The landfill's estimated volume is approximately 27,000 cubic yards.

Within the landfill are two former Lagoon Cells. These former Lagoon Cells consist of two unlined pits that received wastes such as lead plater sludge, reserve energizer battery processing waste, and spent solvents. The Lagoon Cells are considered a "hot spot" within the landfill due to significantly elevated levels of VOCs, semi-VOCs, and metals. Contaminants from the landfill, and specifically the Lagoon Cells, have impacted the soil and groundwater within the Marshy Area which is located downslope and down gradient. The areas of former Lagoon Cells 1 and 2 are estimated to be 960 square feet (0.02 acres) and 3,170 square feet (0.07 acres), respectively, and the average depth of each lagoon is 15 feet. The Lagoon Cells combined estimated volume is approximately 2,300 cubic yards.

B. Soil

As stated above, elevated levels of VOCs, semi-VOCs, and metals are found within the landfill and, more specifically, within the Lagoon Cells which are considered a "hot spot". To determine treatment viability, a soil vapor extraction (SVE) pilot study was completed during October and November 1996 to treat the soils within and surrounding the Lagoon Cells. The results of the

pilot study indicate that SVE would be a successful technology for removing contaminants within the unsaturated soils. The volume of impacted soils from the former Lagoon Cells 1 and 2 is approximately 530 cubic yards and 1760 cubic yards, respectively.

Outside the source area, the primary area of impacted soils is within the Marshy Area located downslope and down gradient of the landfill (See Appendix A, Figure 5). Significantly elevated levels of VOCs, semi-VOCs, and metals are all found within the Marshy Area. The Marshy Area soils appear to have been impacted from historical disposal practices in the landfill and, specifically, in the Lagoon Cells. Liquid wastes that were placed into the lagoon cells seeped through the landfill, into the Marshy Area soils, and into Swale 2.

Small quantities of pesticides and PCBs were detected in surface and subsurface soils, primarily in the former Lagoon Cell areas. The small quantities of pesticides and PCBs detected do not indicate the presence of a pesticide or PCB source area that would pose a risk in groundwater, surface water, or sediments.

C. Groundwater

Groundwater Contamination

Water which percolates through the landfill enters the overburden groundwater system, which is groundwater above bedrock. Groundwater flow in this strata is generally from the Landfill Area to the south-southeastward into the Marshy Area. Shallow groundwater in the Marshy Area discharges to Drainage Swale 2. Topography and current groundwater flow patterns result in groundwater from the landfill and Harmon Hill converging in the vicinity of Swale 2 (see Appendix A, Figure 4).

Elevated levels of VOCs are found in the overburden groundwater in the Landfill Area, Lagoon Cells, Marshy Area, and downgradient of the landfill southwesterly towards well cluster W-09. The highest concentrations of VOCs and metals are found within the Lagoon Cells and Marshy Area. The primary source of VOCs and metals in shallow groundwater is the Landfill Area, and in particular, the former Lagoon Cells. Overall, the shallow groundwater contaminant plume is located within the kame sand/ablation glacial till and has an areal extent of approximately 700 feet by 300 feet. The southeastern edge of the plume is slightly east of Drainage Swale 2. The plume also extends slightly south of the W-09 well cluster. The western limit of the contaminant plume is between a temporary well access road and well W-26T (see Appendix A, Figure 5).

Vertical flow paths indicate generally upward gradients in the kame sand and ablation glacial till in the Marshy Area, with groundwater discharging to surface water. Available data on vertical gradients in the Landfill Area also indicate a slightly upward gradient. A dense lodgement till

separates the kame sand/ablation glacial till from the deeper bedrock. This dense till along with generally upward groundwater gradients suggests that dissolved phase contaminant migration from the kame sand/ablation glacial till into the bedrock is not expected. Sampling has confirmed this as the bedrock groundwater does not appear to be impacted by site related contaminants.

Two residential drinking water wells and two public water supplies, Ryder Spring and Morgan Spring were sampled during this remedial investigation. No site related contaminants were detected in any of these drinking water supplies.

Potential for DNAPL

There is a potential for a dense, non-aqueous phase liquid (DNAPL) to be present at the Site. Concentrations of trichloroethylene (TCE) were detected in the Lagoon Cell sludges above the solubility limit for TCE, suggesting the potential for a DNAPL. Concentrations of VOCs were detected in groundwater at up to 14% of their solubility which may be indicative of a DNAPL, however, it was not observed at any well locations.

Concentrations of VOCs were up to two orders of magnitude lower in the ablation glacial till than in the upper strata of kame sand and were significantly lower than the solubility limit. The lower levels of VOCs detected in the ablation glacial till indicate that if a DNAPL is present, it is limited to the upper layer of kame sand. Based on the distribution of VOCs, the potential for DNAPL appears to be localized within the immediate vicinity of the former Lagoon Cells and the northeast portion of the Landfill Area near well SBW-21. (Appendix A, Figure 5)

Contaminant Migration

VOC migration in groundwater is primarily through dissolved phase transport. The primary direction of VOC contaminant migration is from the Landfill Area towards the south-southeast into the Marshy Area. The extent of the groundwater VOC plume in the south-southeast direction appears to be constrained by discharge of contaminated groundwater to surface water in Marshy Area sediments. Limited migration of VOCs is observed towards the west, which is likely associated with dispersion because groundwater flow is generally towards the south-southeast.

As stated above, the concentrations of VOCs detected in groundwater indicate the potential of DNAPL. If present, DNAPL migration in the kame sand would be downward under gravity. Lateral dispersion and adsorption of DNAPL, in conjunction with downward migration, would continue until the ablation glacial till is encountered, which would serve as a confining layer. Based on till contour maps (see Appendix A, Figure 6) a DNAPL in the Landfill Area or former Lagoon Cells would be directed towards the Marshy Area.

The source of metals in shallow groundwater is the landfill, primarily the Lagoon Cell areas.

Low flow groundwater sampling indicates that metals in soils, with the exception of iron, manganese and thallium, are generally insoluble and immobile in groundwater. The groundwater metals plume, with the exception of iron, manganese, and thallium, is limited to the immediate vicinity of the landfill.

The dense lodgement till layer between the overburden material and bedrock is likely a barrier to vertical migration of contaminants. In addition, vertical gradients in the kame sand and ablation glacial till appear to be upward. Therefore, migration of dissolved phase contaminants into the shallow and deep weathered bedrock and competent bedrock is not expected.

D. Surface Water/Sediments

Surface Water

Elevated levels of VOCs were found in the surface water in Swale 2 next to the Landfill Area and Marshy Area. VOC concentrations decreased downstream in Swale 2 and the Unnamed Stream. VOCs were not detected in Barney Brook above State and Federal water quality standards.

Metal concentrations above State and Federal water quality standards were highest in Swale 2 next to the Landfill Area and Marshy Area. Metal concentrations also decreased downstream in Swale 2, the Unnamed Stream, and Barney Brook. Concentrations of lead, mercury, nickel, and zinc were detected above the National Oceanic and Atmospheric Administration (NOAA) Effects Range Low (ER-L) concentrations in surface water samples next to the Landfill Area and Marshy Area. The impacts to surface water quality is reduced, however, as the stream flows toward Barney Brook.

The source of VOCs and metals in surface water is from landfill leachate seeps and groundwater discharge to surface water.

Sediments

VOCs were also detected in sediments with concentrations being the highest next to the Landfill Area and Marshy Area and decreasing downstream. The concentrations of VOCs detected in groundwater and surface water were generally higher than those detected in sediment suggesting that the VOCs detected in sediment samples are likely associated with groundwater entrained in soil particles.

Metal concentrations have been compared with NOAA ER-Ls. Metals were not detected in the downstream sample locations above these levels, indicating that the extent of impacts to sediment is limited to within the Marshy Area downslope and downgradient of the landfill. The likely source of metals in sediment is from landfill leachate seeps and from surface transport of

soils downslope from the landfill via surface water runoff.

Contaminant Migration

VOCs in surface water likely volatilize to the atmosphere or undergo biodegradation or photodegradation. The downstream edge of the VOC plume in surface water is between sampling locations SW-15 and SW-04 in the unnamed stream. Because VOCs in surface water tend to volatilize rapidly, they are not likely to partition to sediments.

The concentrations of metals in surface water were highest in the Landfill Area and decrease downstream in Swale 2 and the Unnamed Stream and Barney Brook. A similar suite of metals were detected in soil samples from the Landfill Area and former Lagoon Cells, and Marshy Area soils. This trend suggests that the impact to surface water quality originates in the Landfill Area and is reduced as the stream flows toward Barney Brook. However, some metals, including antimony, lead and silver are present at all locations at similar concentrations. A contributing source of these metals may be natural and not related to impacts from the landfill.

VOCs were detected in sediment samples from drainage Swale 2, however, they are likely associated with groundwater entrained in the soil particles. Concentrations of lead, mercury, nickel, and zinc were detected above NOAA ER-L concentrations in stream sediments from the Landfill Area. Metals were not detected in downstream sampling locations above NOAA ER-L levels, indicating that these metals are relatively immobile. The source of metals is likely from leachate seeps in the landfill.

A complete discussion of Site characteristics can be found in the July 1996 Remedial Investigation Report in Sections 2, 3, 4, and 5 and in the February 1997 Supplemental Remedial Investigation Report, Sections 3, 4, and 5.

E. Air

An air quality assessment was performed as part of the RI. This included the use of field instruments to provide an initial screening of potential gas emissions on December 30, 1991 and a quantitative analysis of ambient air using an eight hour sampling device on October 14, 1992. These air studies confirmed that no significant concentrations of site-related residues were being transported from the Site via air transport at concentrations that would impact public health.

F. Leachate

VOCs and metals were detected in leachate above State and Federal water quality standards. These VOCs and metals were also detected in the Landfill Area and particularly in the Lagoon

Area soils and groundwater samples. The highest concentrations were at a location immediately downslope and down gradient of the former Lagoon Cells at leachate seep LS-03. (see Appendix A, Figure 5). The source of VOCs and metals in leachate is the Landfill Area, and particularly the former Lagoon Cells.

G. Wetlands

Ecological studies at the Site included a cover type analysis, wildlife receptor and habitat evaluation, wetland delineation, a water quality survey, and a bioassessment of benthic macroinvertebrates. Habitats at the Burgess Brothers Site consist of mixed deciduous forest with limited shrub cover, palustrine forested wetlands, and streams.

Several shallow intermittent drainage swales are present along the steep upgradient areas of the Hillside Area to the east of the Site. These swales flow towards the eastern edge of the landfill then southerly to the unnamed stream. One of the drainage swales, Swale 2, had deposits of orange oxides evident where landfill leachate enters the swale. The swales converge in a low lying area to create several small wetland areas.

The wetlands are primarily mixed deciduous/conifer forest but with a more open canopy and associated shrub cover than found in the forested area surrounding the site. The wetlands and swales flow into a perennial unnamed stream, then into Barney Brook.

Significant natural communities or threatened and endangered species are not known to be present at the Burgess Brothers Site or in nearby Barney Brook.

A complete discussion of Site characteristics can be found in the Remedial Investigation Report in Sections 2, 3, 4, and 5.

VI. SUMMARY OF SITE RISKS

EPA performed both a human health and ecological baseline Risk Assessment to estimate the probability and magnitude of potential adverse human health and ecological effects from exposure to contaminants associated with the Site. The human health risk assessment followed a four step process: 1) contaminant identification, which identified those hazardous substances which, given the specifics of the Site, were of significant concern; 2) exposure assessment, which identified actual or potential exposure pathways, characterized the potentially exposed populations, and determined the extent of possible exposure; 3) toxicity assessment, which considered the types and magnitude of adverse health effects associated with exposure to hazardous substances; and 4) risk characterization, which integrated the three earlier steps to

summarize the potential and actual risks posed by hazardous substances at the Site, including carcinogenic and non-carcinogenic risks. The results of the human health risk assessment for the Burgess Brothers Site are discussed below followed by the conclusions of the ecological risk assessment.

A. Human Health Risk Assessment

The 79 Contaminants of Concern (COCs) presented in Table 2, Appendix A, constitute a representative subset of all the contaminants identified at the Site during the Remedial Investigation (RI). These include 11 surface soil, 14 subsurface soil, 16 shallow groundwater, 4 deep groundwater, 7 sediment, 13 surface water, 11 leachate, and 3 ambient air COCs. The COCs were selected to represent potential Site related hazards based on toxicity, concentration, frequency of detection, and mobility and persistence in the environment. A summary of the health effects of each COC is located in Appendix C of the Final Risk Assessment Report (April 1997).

Potential human health effects associated with exposure to the COCs were estimated quantitatively or qualitatively through the development of several hypothetical exposure pathways. These pathways were developed to reflect the potential for exposure to hazardous substances based on present uses, potential future uses, and the location of the Site. At present, the site consists of a landfill that includes two former waste lagoons. Sand and gravel mining and metal salvage operations are conducted on an area abutting the Site. The Site is also used by hunters of small game as it abuts a state forest and access is not restricted. Consequently, current exposure to site contaminants is believed to be to site trespassers, hunters, and site employees. These receptor populations are thought to have occasional contact with surface soils, sediments and surface water. Quantitative assessments of exposure via incidental ingestion of surface soils and sediments were performed whereas qualitative assessments were performed for dermal contact with surface soils, sediments, and incidental ingestion and dermal contact with surface water. Incidental ingestion by site workers of sub-surface soils was also evaluated quantitatively in the risk assessment.

Although future site use is not expected to change, portions of the site may support residential development in the future (areas beyond the landfill and wetlands). Thus, surface soils at the site (beyond the landfill and wetlands) were also considered as sources of potential exposure via incidental ingestion by a young child (0-6 yrs) and quantitatively evaluated in the risk assessment.

While groundwater is used as a potable water supply by residents in the area, sampling of private wells to date has not indicated that site contaminants are currently impacting nearby water supplies. Since the potential exists for site contaminants to impact drinking water supplies in the future, ingestion of contaminated groundwater was considered as a future potential exposure and

quantitatively evaluated in the risk assessment. Dermal contact and inhalation of VOCs from domestic use of contaminated groundwater were also evaluated as a future potential exposure pathway but only qualitatively in the risk assessment.

Qualitative evaluations of exposure were performed for dermal exposure to soils and sediments, inhalation of VOCs and SVOCs from soils and surface water, and exposures to leachate because of the lack of an EPA endorsed approach to measure such exposure or the highly intermittent nature of the exposure.

For each exposure pathway quantitatively evaluated, an average and a reasonable maximum exposure estimate was generated corresponding to exposure to the average and the maximum concentration detected in that particular medium. Complete exposure pathway assumptions can be found in Tables 3-3 through 3-8 of the Final Risk Assessment Report.

Excess lifetime cancer risks were determined for each exposure pathway by multiplying the exposure level with the chemical-specific cancer potency factor. Cancer potency factors have been developed by EPA from epidemiological or animal studies to reflect a conservative "upper bound" of the risk posed by potentially carcinogenic compounds. That is, the true risk is unlikely to be greater than the risk predicted. The resulting risk estimates are expressed in scientific notation as a probability (e.g. 1×10^{-6} for 1/1,000,000) and indicate that an average individual is not likely to have greater than a one in a million chance of developing cancer over 70 years as a result of site-related exposure to the compound at the stated concentration. Current EPA practice considers carcinogenic risks to be additive when assessing exposure to a mixture of hazardous substances.

A hazard quotient (HQ) was also calculated for each pathway as EPA's measure of the potential for non-carcinogenic health effects. A hazard quotient is calculated by dividing the exposure level by the reference dose (RfD) or other suitable benchmark for non-carcinogenic health effects for an individual compound. Reference doses have been developed by EPA to protect sensitive individuals over the course of a lifetime and they reflect a daily exposure level that is likely to be without an appreciable risk of an adverse health effect. RfDs are derived from epidemiological or animal studies and incorporate uncertainty factors to help ensure that adverse health effects will not occur. The hazard quotient is often expressed as a single value (e.g. 0.3) indicating the ratio of the stated exposure as defined to the reference dose value (in this example, the exposure as characterized is approximately one third of an acceptable exposure level for the given compound). The hazard quotient is only considered additive for compounds that have the same or similar toxic endpoint and the sum is referred to as the hazard index (HI). (For example: The hazard quotient for a compound known to produce liver damage should not be added to a second whose toxic endpoint is kidney damage).

Risk estimates developed in the Risk Assessment were considered by EPA in light of the

Agency's mission to protect public health and the environment. EPA generally considers cancer risks in excess of 10^{-4} and noncarcinogenic hazards in excess of unity in determining the need for remedial action at a Site. Tables 3 & 4 (in Appendix A) depict the carcinogenic and noncarcinogenic hazard summary for the contaminants of concern, the mediums evaluated, and the present and potential future exposure pathways corresponding to the average and the Reasonable Maximum Exposure (RME) scenarios. Appendix B of the Final Risk Assessment report presents the chemical-specific risk estimates for each exposure pathway.

The greatest risks were projected for the future ingestion of shallow groundwater at the Site. Both average (1×10^{-3}) and maximum (7×10^{-2}) cancer risk estimates exceed EPA's benchmark of 10^{-4} . Vinyl chloride, tetrachloroethene, trichloroethene, and 1,1-dichloroethene are some of the key contributors to these risk estimates.

The highest noncarcinogenic hazard potential ($HI=300$) was also projected with the ingestion of maximum concentrations of shallow groundwater from wells at the Site. Both average ($HI=20$) and maximum ($HI=300$) noncancer hazard estimates exceed EPA's benchmark of unity. Trichloroethene, 1,2-dichloroethene (total), benzene, and tetrachloroethene as some of the key contributors to these risk estimates.

Inhalation of VOCs from domestic use of contaminated shallow groundwater would increase any risk associated with residential groundwater use. Although no established toxicity value is available for lead, a National Interim Primary Drinking Water Regulation (NIPDWR) is available (15 ug/l) and was used as a comparison for risk evaluation purposes. Both average (30 ug/l) and maximum (72 ug/l) shallow groundwater concentrations of lead exceeded the NIPDWR.

All carcinogenic and noncarcinogenic risk values estimated for consumption of groundwater from deeper aquifers were below 10^{-4} or a $HI < 1$ and were not determined to warrant a remedial action. Exposure to surface and subsurface soils outside of the landfill boundary were below 10^{-4} or a $HI < 1$ and were not determined to warrant a remedial action. All carcinogenic and noncarcinogenic risk values estimated for exposure to stream sediments and surface water were also below 10^{-4} or a $HI < 1$. Low levels of VOCs were measured in the air at the Site during invasive activities. Limited sampling precluded reliable estimates of risks to receptor populations. Due to the isolated and inaccessible location and intermittent nature of leachate areas, exposure of receptor populations to leachate was estimated qualitatively and was determined to be within an acceptable risk range.

B. Baseline Ecological Risk Assessment

An ecological risk assessment was also produced as part of the Burgess Brothers risk assessment, beginning on page 4-1 of the Final Risk Assessment Report.

The ecological assessment analyzed potential risks associated with exposure of Site biota to contaminants in four mediums of concern: surface waters of the swales and unnamed stream, leachate, stream sediments, and surface soils. Available criteria and guidelines were reviewed for use as benchmark values for evaluating chemical toxicity to ecological receptors. These guidelines include EPA Ambient Water Quality Criteria (AWQC) and the Ontario Ministry of the Environment (MOE) sediment guidelines for comparison to Site surface waters and sediment contaminant concentrations. Surface soil risk was evaluated by comparing estimated exposure doses received by selected indicator species with applicable wildlife chronic no observable effect level (NOEL) toxicity values.

Surface water and leachate COCs for which no criteria exist were evaluated by searching the Aquatic Information Retrieval (AQUIRE) database for applicable toxicity information. In the absence of a MOE sediment guideline for a particular organic contaminant, a sediment quality value was calculated using the equilibrium partitioning method. Inorganics lacking MOE sediment guidelines were assessed by comparing detected concentrations with the National Oceanic and Atmospheric Administration (NOAA) sediment guidelines. Surface soils were evaluated by estimating exposure doses received by indicator species (meadow vole, short-tailed shrew, and American robin). These doses were then compared with toxicity data obtained in the scientific literature.

Overall evaluation of potential risk to ecological receptors is estimated in the ecological risk assessment through the calculation of risk indexes. If the total risk index is greater than one, this indicates that exposure to all COCs within that medium may pose a risk to organisms. The risk indexes for the four mediums can be found in Tables 4-9 through 4-14 of the Final Risk Assessment Report.

The conclusions of the ecological risk assessment were as follows. Surface water quality in the unnamed stream is impacted by elevated concentrations of silver and antimony, however, neither of these inorganics were found at elevated levels near the disposal area and may not be site related. Elevated levels of organics (TCE and PCE) were found at a leachate seep. Sediment concentrations of nickel, cadmium, manganese, and lead are elevated resulting in a slightly elevated risk (mean HI=7, max HI=22). Concentrations of iron were also elevated in sediments, however, it appears that these levels may be naturally occurring.

Risks to terrestrial species exposed to contaminants in surface soil was assessed by modeling exposure to three indicator species. Concentrations of metals in the surface soils from outside the landfill area may have a slight impact on shrews (insectivores) (HI=29) and meadow vole (herbivores) (HI=9). Higher trophic levels (American robin) (HI=130) were found to have greater risks associated with soil contaminants at the Site.

C. Risk Assessment Conclusions

In summary, the human health and ecological risk assessments indicate that actual or threatened releases of hazardous substances from this Site, if not addressed by implementing the response action selected in this ROD, may present an imminent and substantial endangerment to the public health, welfare, or the environment. Specifically, the human health risk assessment identified future ingestion of shallow groundwater as posing probable health risks exceeding EPA risk management criteria. In addition, exposure to contaminants in surface soils outside of the landfill boundary may impact some wildlife species foraging in those areas.

The response action selected in this ROD addresses the risks at the Site by minimizing the potential for transfer of hazardous substances from the soil and solid waste into the groundwater, surface water, and sediment; preventing direct contact with hazardous substances in the soil or solid waste; preventing further migration of contaminated groundwater; restoring contaminated groundwater to drinking water standards; and preventing ingestion of contaminated groundwater.

VII. DEVELOPMENT AND SCREENING OF ALTERNATIVES

A. Statutory Requirements/Response Objectives

Under its legal authorities, EPA's primary responsibility at Superfund sites is to undertake remedial actions that are protective of human health and the environment. In addition, Section 121 of CERCLA establishes several other statutory requirements and preferences, including: a requirement that EPA's remedial action, when complete, must comply with all federal and more stringent state environmental standards, requirements, criteria or limitations, unless a waiver is invoked; a requirement that EPA select a remedial action that is cost effective and that utilizes permanent solutions and alternative treatment technologies or resource recovery technologies to the maximum extent practicable; and a preference for remedies in which treatment which permanently and significantly reduces the volume, toxicity or mobility of the hazardous substances is a principal element over remedies not involving such treatment. Response action alternatives were developed to be consistent with these Congressional mandates.

Based on preliminary information relating to types of contaminants, environmental media of concern, and potential exposure pathways, remedial action objectives were developed to aid in the development and screening of alternatives. These remedial action objectives were developed to mitigate existing and future potential threats to public health and the environment. These response objectives were:

Landfill:

- Prevent, to the extent practicable, the potential for water to contact or infiltrate through the debris mass and lagoon.
- Prevent, to the extent practicable, the generation of landfill seeps and the migration of landfill impacted surface water into the unnamed streams adjacent to the landfill (Marshy Area).
- Control landfill gas emissions so methane gas does not present an explosion hazard; prevent, to the extent practicable, the inhalation of landfill gas containing hazardous substances, pollutants or contaminants; and meet state and federal air standards.
- Prevent, to the extent practicable, the migration of contaminated groundwater/leachate beyond the points of compliance by controlling the source of the contamination.
- Minimize the potential for slope failure of the debris mass associated with the landfill cap.
- Prevent, to the extent practicable, direct contact with and ingestion of soil/debris within the landfill and beneath the landfill.
- Control, to the extent practicable, surface water runoff to minimize erosion.
- Prevent, to the extent practicable, the migration of contamination from the lagoon area.
- Prevent, to the extent practicable, the saturation of the landfill debris mass from upgradient groundwater.

Groundwater:

- Prevent, to the extent practicable, the ingestion of landfill impacted bedrock groundwater exceeding MCLs, Vermont Primary Groundwater Quality Standards, or in their absence, the more stringent of an excess cancer risk of 1×10^{-6} for each compound or a hazard quotient of unity for each noncarcinogenic compound by any individual who may use the bedrock groundwater or within an area that the groundwater could become

impacted as a result of pumping activities.

- Restore the bedrock groundwater at the edge of the Waste Management Unit to: MCLs, Vermont Primary Groundwater Quality Standards, or in their absence, the more stringent of an excess cancer risk of 1×10^{-6} for each compound or a hazard quotient of unity for each noncarcinogenic compound.

Surface Water:

- Protect off-site surface water by preventing the occurrence of landfill impacted seeps.
- Prevent, to the extent practicable, ecological impacts from contaminants in the Marshy Area.
- Meet federal and state applicable or relevant and appropriate requirements (ARARs) for any surface water discharge.

Ecological:

- Protect surface water, to the extent practicable, from exceedances of the Ambient Water Quality Criteria (AWQC) Acute and Chronic Standards.
- Protect sediments, to the extent practicable, from exceedances of the Aquatic Sediment Quality Guidelines of the Ontario Ministry of the Environment.

B. Technology and Alternative Development and Screening

CERCLA and the NCP set forth the process by which remedial actions are evaluated and selected. In accordance with these requirements, a range of alternatives was developed for the Site.

EPA has established the concept of a presumptive remedy as a mechanism to streamline Site studies and cleanup actions. The objective of the presumptive remedies approach is to use cleanup techniques shown to be effective in the past at similar sites. Presumptive remedies are expected to be used at all appropriate sites except under unusual circumstances. EPA's "Presumptive Remedy for CERCLA Municipal Landfill Sites" establishes containment as the presumptive remedy for CERCLA municipal landfills and this guidance was evaluated during

the screening of alternatives for this Site.

Because the Site does not fall into the definition of a municipal landfill, the Feasibility Study included an evaluation of excavation/disposal as well as containment as potential remedies for the landfill. Excavation/disposal was considered due to the relatively small size of the landfill (approximately 27,000 yd³), however, this alternative was eliminated in the initial screening process due to high costs and short term hazards. The containment alternative was carried throughout the Feasibility Study. The two lagoons, which accepted principally industrial wastes, were determined to be hot spots that require additional remedial responses to reduce the toxicity, mobility, or volume of hazardous substances.

As discussed in Section 4 of the Feasibility Study, the RI/FS identified, assessed, and screened technologies based on implementability, effectiveness, and cost. These technologies were combined into remedial alternatives which included source control and management of migration components. The purpose of the initial screening was to narrow the number of potential remedial actions for further detailed analysis while preserving a range of options. Section 5 of the Feasibility Study presented the remedial alternatives developed by combining the technologies identified in the previous screening process in the categories identified in Section 300.430(e)(3) of the NCP.

In summary, the various source control and management of migration remedial alternatives presented and screened in Section 5 of the Feasibility Study were combined to obtain four comprehensive alternatives for detailed analysis. Section 6 of the Feasibility Study Report presents the detailed analysis of these four alternatives.

VIII. DESCRIPTION OF ALTERNATIVES

This Section provides a narrative summary of each alternative evaluated. A detailed assessment of each alternative can be found in Section 6.0 of the Feasibility Study Report.

The remedial alternatives that underwent detailed analysis for the Site are the following:

Alternative 1 - No Action

- Groundwater, surface water and leachate monitoring

Alternative 2 - Capping and Lagoon Treatment/Natural Attenuation

- Groundwater, surface water and sediment monitoring
- Institutional controls, such as a deed notice
- Capping and Lagoon Treatment
- Natural Attenuation

Alternative 3 - Capping and Lagoon Treatment/Pump and Treat

- Groundwater, surface water and sediment monitoring
- Institutional controls, such as a deed notice
- Capping and Lagoon Treatment
- Pump and Treat

Alternative 4 - Capping and Lagoon Treatment/Treatment Wall

- Groundwater, surface water and sediment monitoring
- Institutional controls, such as a deed notice
- Capping and Lagoon Treatment
- Treatment Wall

All of the alternatives include long-term environmental monitoring and five-year reviews. All of the alternatives, except for Alternative 1 (No Action), include institutional controls to prevent the use of contaminated groundwater and to protect the containment system.

Alternative 1: No Action

The no action alternative was evaluated in detail in the Feasibility Study to serve as a baseline for evaluating other remedial alternatives under consideration. Under this alternative, no treatment or containment of the landfill, lagoons, or wetland areas would occur and no effort would be made to treat or prevent the further migration of contaminated groundwater. There would also be no access restrictions or institutional controls to prevent the use of contaminated groundwater. Groundwater, surface water, and leachate would be periodically monitored at the Site for a period of 30 years and would undergo an evaluation of data every five years.

<i>Estimated Time for Design and Construction:</i>	<i>Not Applicable</i>
<i>Estimated Capital Cost:</i>	<i>\$0</i>
<i>Estimated Operation and Maintenance Cost (net present worth)¹:</i>	<i>\$930,000</i>
<i>Estimated Total Cost (net present worth):</i>	<i>\$930,000</i>

¹Note: Estimated costs for each alternative are based on 30 years of operation and a 7% interest rate.

Alternative 2 - Capping and Lagoon Treatment/Natural Attenuation

Alternative 2 would consist of the following components:

- Construction and maintenance of a multi-barrier cap over the Landfill Area.
- Construction and maintenance of a cap over soils in the Marshy Area.
- Implementation of SVE/air sparging in the former Lagoon Cells.
- Institutional controls, such as a deed notice and the installation of a perimeter industrial fence.
- Natural Attenuation: modeling and evaluation of contaminant degradation rates and pathways.

Each component is discussed below:

Multi-barrier Cap Over the Landfill Area

The multi-barrier cap would consist of covering the landfill and lagoons (approximately 2 acres) with multi-layer caps, consistent with the RCRA Subtitle C requirements listed in 40 CFR (Part 264). A typical multi-layer cap, as would be required at this Site, would consist of (from top to bottom):

- six inches of topsoil to support a vegetative cover.
- 30 inches of soil fill to provide a root zone and protection for the underlying components or 18 inches of soil if using sand for drainage.
- a nonwoven geotextile filter fabric to minimize fill material from clogging the drainage layer.
- a geonet/geotextile drainage layer or 12 inches of sand to prevent ponding of water over the synthetic barrier.
- a 60 mil very low density polyethylene (VLDPE) or equivalent to act as the main barrier that prevents water from infiltrating into the landfill.
- a low hydraulic conductivity geosynthetic clay liner to minimize potential leakage throughout the low hydraulic conductivity geomembrane into the landfill.
- a base layer of six inches of silt or silty sand to establish a base grade for the landfill cap.

The above cap would be utilized for all areas having slopes of less than or equal to 5%. For all side slope areas, designed with a 3:1 slope, a minor variation of the base liner design would be implemented. From top to bottom, the side slope cap would consist of:

- six inches of topsoil to support a vegetative cover.
- 30 inches of soil fill to provide a root zone and protection for the underlying

- components or 18 inches of soil if using sand for drainage.
- a nonwoven geotextile filter fabric to minimize fill material from clogging the drainage layer.
- a geonet/geotextile drainage layer or 12 inches of sand to prevent ponding of water over the synthetic barrier.
- a textured geomembrane, 60 mil very low density polyethylene (VLDPE) or equivalent to act as the main barrier which prevents water infiltration from entering the landfill.
- a base layer of six inches of silt or silty sand to establish a base grade for the landfill and enhance side slope stability.

Landfill gas system requirements for the landfill have been evaluated in accordance with USEPA's New Source Performance Standards (NSPS) for Municipal Solid Waste (MSW) Landfills (40 CFR Part 60 Subpart WWW). Although not directly applicable, the NSPS test method was employed as a preliminary screen to evaluate whether a passive or an active gas system should be used.

Emission rates of three compounds versus the VTDEC action levels were evaluated using the NSPS method and soil gas data collected as part of the RI. These compounds were TCE, PCE, and toluene. The highest concentration detected in soil gas within the landfill, but outside of the former Lagoon Cells, were used as parameters. Data collected from within the former Lagoon Cells was excluded because the SVE system would collect and treat all soil gas generated in this area.

The preliminary screening found emission rates for the three compounds were a minimum of three orders of magnitude below the action levels for each compound. If confirmed, a passive gas management system would likely be a component of the multi-barrier cap. Further evaluation of landfill gas generation will determine the need for a passive or an active landfill gas management system. Post-construction sampling pursuant to a Demonstration of Compliance Plan, to be prepared during the remedial design, will determine whether treatment of landfill gas will be required.

Capping of the Soils in the Marshy Area

The cap over the marshy area soils would be constructed using either an impermeable or permeable barrier. For costing purposes, the evaluation of the single-barrier cap was performed based on the following cross-section (from top to bottom) described below. The specific type of cap would be determined during design.

- Approximately four inches of topsoil
- Approximately twelve inches of drainage sand
- 40 mil HDPE geomembrane
- Geocomposite drainage material
- Approximately two feet of soil as a subbase

Again, the type of cap would be determined during design. Factors such as constructability, maintenance, and ability to achieve remedial action objectives would be used in the selection process.

The cap would cover approximately one-half acre area of wetlands, eliminating the potential for direct contact and providing a barrier against animals burrowing into the Marshy Area soils. To stabilize the topsoil cover, the area would be completed with approximately 4-inches of topsoil and hydroseeded. To promote positive drainage from the area, existing soils would be shaped to achieve a minimum 3% grade toward drainage swales that would be constructed as part of the multi-layer landfill cap.

All wetlands required to be capped would be replicated. The wetlands would be constructed on the Burgess Brothers property, if feasible. The exact location and construction of wetlands replication would be determined during design under a site specific Wetlands Mitigation Plan.

SVE and Air Sparging in Lagoon Cells

An SVE system, in conjunction with an air sparging system, would be used to remediate soils in the Lagoon Cells. The air sparging system would remediate saturated zone soils by forcing air into the groundwater beneath the lagoons. The induced air flow produced by the air sparging system would accelerate the volatilization of the VOCs in the saturated zone, pushing the VOCs upwards into the soils in the unsaturated zone.

Air extraction wells would then be used to remove VOCs from the unsaturated zone as part of the SVE system. VOCs would be removed by inducing an air flow in the subsurface, producing, in effect, a subsurface vacuum. VOCs contained within the unsaturated zone would be pulled into the air extraction wells where they would be removed from the subsurface for treatment.

An SVE pilot study was performed at the site in 1996 which consisted of six extraction wells and two vapor extraction units. The off-gas treatment was activated carbon which proved to be sufficient. While the type of off-gas treatment for the SVE/air sparging system would be selected during design, for costing purposes it was assumed to be activated carbon.

It is anticipated that it would be necessary to operate the SVE/air sparging system continuously

for a period of six months to two years, then periodically over a period of perhaps several years to remove the estimated quantity of VOCs from the former Lagoon Cells. Once contaminant levels were adequately reduced, the system would be shut down for a period of time, then restarted to ensure contaminant levels had not increased. This shutting down and restarting process would be done several times over a period of time to ensure contaminant levels were not increasing during periods of shut down. Over time, contaminant levels would be expected to decrease to levels where the SVE/air sparging system could be discontinued. If DNAPL is determined to be present, however, the SVE/air sparging may not completely remove the VOC source and an alternate treatment approach would be evaluated.

Institutional Controls

A deed notice or other institutional controls would be used to ensure future site uses are consistent with potential risks, do not endanger the integrity of the remedy, and restrict impacted groundwater from being used as a drinking water source until the remedial action objectives have been met. Access to the Site would also be restricted, reducing potential risks from contact with the landfill and to protect the cap from damage that could be caused by unauthorized vehicles traveling over the landfill.

Natural Attenuation: Modeling and Evaluation of Contaminant Degradation Rates and Pathways

Natural attenuation is the naturally occurring processes in the environment which act without human intervention to reduce the mass, toxicity, mobility, volume, or concentration of contaminants. These in situ processes include biodegradation, dispersion, dilution, sorption, volatilization, and/or chemical and biological stabilization or destruction of contaminants. All of these processes play an integral role in natural attenuation.

The natural attenuation portion of this alternative includes a quantitative evaluation to estimate the time frame for achieving the remedial action objectives. Three-dimensional modeling was performed to simulate how contaminants in groundwater would react to source control activities. Future groundwater monitoring data would be used to recalibrate the model as necessary. The modeling effort used to evaluate natural attenuation is presented in Appendix A of the Feasibility Study Report.

The results of the model simulations indicate that remedial action objectives would be achieved within seven years of instituting source control measures. If DNAPLs are present, however, the time frame for achieving the remedial action objectives could be longer.

Groundwater, surface water, and sediment would be periodically monitored at the Site for a period of 30 years and would undergo an evaluation of data every five years.

<i>Estimated Time for Design and Construction</i>	<i>1 year</i>
<i>Estimated Capital Cost:</i>	<i>\$1,633,000</i>
<i>Estimated Operation and Maintenance Cost (net present worth):</i>	<i>\$1,941,000</i>
<i>Estimated Total Cost (net present worth):</i>	<i>\$3,600,000</i>

Alternative 3 - Capping and Lagoon Treatment/Pump and Treat

Alternative 3 would include a multi-barrier cap over the landfill, a cap over the soils in the Marshy Area, an SVE/air sparging system for the Lagoon Area soils, institutional controls, and the installation and operation of a system to extract and treat contaminated groundwater from the landfill area. The groundwater treatment system would prevent further migration of contaminants and allow for the restoration of downgradient aquifers to federal and state drinking water standards.

The source control measures consisting of a multi-barrier cap over the landfill, cap over the soils in the Marshy Area, SVE/air sparging system for the Lagoon Area soils, and institutional controls are the same as those described under Alternative 2. The management of migration measures for this Alternative, however, would be different. Alternative 3's groundwater treatment system, pump and treat, would include a collection trench, pretreatment for inorganics, treatment for organics, and discharge to surface water. These elements are described below.

Collection trench

Groundwater would be collected using a collection trench. The trench would be constructed to the depth of the lodgement till (approximately 10-30 feet). Piping along with filter fabric, impermeable barriers, and groundwater collection structures (i.e., manholes) would be installed through a biodegradable slurry placed into the trench to maintain the trench walls. Once installed, the trench would be backfilled with crushed stone, displacing the majority of the biodegradable slurry. Due to the high water table in the Marshy Area traditional trench construction would not be feasible. Biopolymer trenching techniques would be used which would eliminate the need for shoring and dewatering, along with associated groundwater treatment.

Pretreatment for Inorganics

Groundwater from the collection trench would first be treated for the removal of inorganics to improve system efficiency as well as to satisfy discharge limits for metals. Groundwater would be pumped into an equalization/settling tank then pass through a particle filter to remove large suspended solids (See Figure 7, Appendix A). Inorganics would precipitate in a sludge that would be processed, characterized, and appropriately disposed off-site.

Treatment for Organics (VOCs)

After inorganic treatment, organics would be treated using an air stripper. Groundwater would be pumped to the top of an air stripper and a blower would be used to force ambient air counter to the water flow. The water would then be pumped through liquid-phase carbon to reduce the concentrations of residual VOCs as well as inorganics.

The ambient air forced through the treated groundwater would be treated prior to discharge. The type of off-gas treatment would be selected during pre-design. For costing purposes, it was assumed that activated carbon would be used to treat the off-gas.

Discharge to Surface Water

Treated groundwater would be discharged to the unnamed stream. The exact point of surface water discharge would be determined during the design phase. For cost estimating purposes, a discharge point located 100 feet from the treatment plant was assumed.

Modeling indicates that the groundwater remedial objectives would be achieved in approximately seven years. The treatment system was, therefore, anticipated to operate for seven years or less. During that time, residual VOCs and inorganics in groundwater would be treated to prevent migration beyond the compliance boundary. However, if DNAPLs are present, the groundwater pump and treat system could need to be operated indefinitely to achieve the remedial action objectives.

Groundwater, surface water, and sediment would be periodically monitored at the Site for a period of 30 years and would undergo an evaluation of data every five years.

<i>Estimated Time for Design and Construction</i>	<i>2 years</i>
<i>Estimated Capital Cost:</i>	<i>\$3,112,000</i>
<i>Estimated Operation and Maintenance Cost (net present worth):</i>	<i>\$2,838,000</i>
<i>Estimated Total Cost (net present worth):</i>	<i>\$6,000,000</i>

Alternative 4 - Capping and Lagoon Treatment/Treatment Wall

Alternative 4 would include a multi-barrier cap over the landfill, a cap over the soils in the Marshy Area, an SVE/air sparging system for the Lagoon Area soils, institutional controls, and the installation of a treatment wall to treat contaminated groundwater from the Landfill Area. The groundwater treatment system would prevent migration of contaminants from the Landfill Area and allow for the restoration of down gradient aquifers to federal and state drinking water standards.

The multi-barrier cap over the landfill, cap over the soils in the Marshy Area, SVE/air sparging system for the Lagoon Area soils, and institutional controls are all the same as those described under Alternative 2. This Alternative differs from the others in that the groundwater treatment system, a treatment wall, would include the construction and maintenance of a subsurface permeable treatment wall for the passive treatment of groundwater using in-situ iron materials to degrade VOCs.

Treatment Wall

A treatment wall is an innovative technology consisting of a permeable granular iron material installed across the groundwater flow path. As groundwater flows through the treatment wall, the granular iron would degrade halogenated organics into nontoxic by-products, such as hydrogen gas, ethenes, ethane, and chloride in solution. The degradation would occur under natural groundwater flow conditions and would not have any associated mechanical components.

The treatment wall would be constructed to the depth of the lodgement till (approximately 10-30 feet) and would be approximately 150 foot-wide and three feet thick. An additional 100 feet of slurry wall would be installed at each end of the treatment wall to provide an "funnel and gate" effect (see Figure 8, Appendix A). The actual dimensions would be determined during design.

Modeling indicates that after seven years the treatment wall would no longer be necessary to maintain because the remedial action objectives will have been achieved upgradient of the treatment wall. If additional time is required to obtain remedial action objectives, however, the effectiveness of the treatment wall may diminish. If this occurs, the granular iron would be replaced in order maintain effective groundwater treatment. If DNAPLs are present, the treatment wall would need to be maintained indefinitely to achieve remedial action objectives.

Groundwater, surface water, and sediment would be periodically monitored at the Site for a period of 30 years and would undergo an evaluation of data every five years.

<i>Estimated Time for Design and Construction</i>	<i>2 years</i>
<i>Estimated Capital Cost:</i>	<i>\$3,962,000</i>
<i>Estimated Operation and Maintenance Cost (net present worth):</i>	<i>\$1,875,000</i>
<i>Estimated Total Cost (net present worth):</i>	<i>\$5,800,000</i>

IX. SUMMARY OF THE COMPARATIVE ANALYSIS OF ALTERNATIVES

A. Evaluation Criteria

Section 121(b) (1) of CERCLA presents several factors that, at a minimum, EPA is required to consider in its assessment of alternatives. Building upon these specific statutory mandates, the NCP articulates nine evaluation criteria to be used in assessing the individual remedial alternatives.

A detailed analysis was performed on the alternatives using the nine evaluation criteria in order to select a Site remedy. The following is a summary of the comparison of each alternative's strength and weakness with respect to the nine evaluation criteria. These criteria are summarized as follows:

Threshold Criteria

The two threshold criteria described below must be met in order for the alternatives to be eligible for selection in accordance with the NCP.

1. **Overall protection of human health and the environment** addresses whether or not a remedy provides adequate protection and describes how risks posed through each pathway are eliminated, reduced or controlled through treatment, engineering controls, or institutional controls.
2. **Compliance with applicable or relevant and appropriate requirements (ARARs)** addresses whether or not a remedy will meet all of the ARARs of Federal and State environmental laws and/or provide grounds for invoking a waiver.

Primary Balancing Criteria

The following five criteria are utilized to compare and evaluate the elements of one alternative to another that meet the threshold criteria.

3. **Long-term effectiveness and permanence** addresses the criteria that are utilized to assess alternatives for the long-term effectiveness and permanence they afford, along

with the degree of certainty that they will prove successful.

4. **Reduction of toxicity, mobility, or volume through treatment** addresses the degree to which alternatives employ recycling or treatment that reduces toxicity, mobility, or volume, including how treatment is used to address the principal threats posed by the Site.
5. **Short term effectiveness** addresses the period of time needed to achieve protection and any adverse impacts on human health and the environment that may be posed during the construction and implementation period, until cleanup goals are achieved.
6. **Implementability** addresses the technical and administrative feasibility of a remedy, including the availability of materials and services needed to implement a particular option.
7. **Cost** includes estimated capital and Operation and Maintenance (O&M) costs, as well as present-worth costs.

Modifying Criteria

The modifying criteria are used in the final evaluation of remedial alternatives generally after EPA has received public comment on the RI/FS and Proposed Plan.

8. **State acceptance** addresses the State's position and key concerns related to the preferred alternative and other alternatives, and the State's comments on ARARs or the proposed use of waivers.
9. **Community acceptance** addresses the public's general response to the alternatives described in the Proposed Plan and RI/FS report.

A detailed tabular assessment of each alternative according to the nine criteria can be found in Appendix A, Table 5 of this Record of Decision.

Following the detailed analysis of each individual alternative, a comparative analysis, focusing on the relative performance of each alternative against the nine criteria, was conducted. This comparative analysis can be found in Section 6.0 of the Feasibility Study Report.

The section below presents the nine criteria and a brief narrative summary of the alternatives and the strengths and weaknesses according to the detailed and comparative analysis.

B. Summary of the Comparative Analysis of Alternatives

1. Overall Protection of Human Health and the Environment

EPA's "Presumptive Remedy for CERCLA Municipal Landfill Sites" establishes containment as the presumptive remedy for CERCLA municipal landfills. Although the Burgess Brothers landfill is not primarily a municipal landfill, it did receive municipal type waste co-disposed with industrial waste. While the FS evaluated other alternatives, it was found that containment would be the only practical alternative for addressing the landfill.

All of the alternatives, except for the No Action Alternative, provide a similar level of protection for human health and the environment concerning the potential for direct contact with soil, sediments, and solid waste. Consistent with the Presumptive Remedy, all of the action alternatives include the construction of caps and institutional controls to protect the integrity of the caps. The caps would prevent ingestion and dermal contact of soil or solid waste. Capping would also prevent further transport of contaminants into stream sediments. The No Action Alternative would not be protective of human health or the environment because it would allow a continued release of contaminants and a possible spreading of contamination to currently uncontaminated areas.

Capping would effectively reduce infiltration and thereby halt the leaching of contaminants from the soil and solid waste into shallow groundwater and surface waters. This would ultimately result in an improvement of down gradient groundwater quality and a reduction of the risks to human health associated with future ingestion of shallow groundwater.

Installation and operation of an air sparging/soil vapor extraction system within the Lagoon Area (Alternatives 2, 3, and 4) would significantly contribute to the protection of human health risks, since the system would reduce the toxicity, mobility, or volume of hazardous substances within the landfill that could impact groundwater.

With respect to exposure to contaminated groundwater, all of the alternatives, except for the No Action Alternative, would provide overall protection to human health and the environment as long as institutional controls are in place. In the long-term, alternatives that address the contaminants within the Landfill Area and Lagoon Area (Alternatives 2, 3, and 4) would be protective of human health by preventing further migration of contaminants beyond the compliance boundary and allowing for the restoration of the downgradient aquifer.

The expected timeframes for all action alternatives to achieve the chemical-specific groundwater remedial objectives at the compliance boundary are similar. Alternative 2 (natural attenuation) would take approximately 7 years to meet remedial action objectives (RAOs). Alternatives 3 (pump and treat) and 4 (treatment wall) would take approximately 2

years to meet RAOs, however, the treatment systems in both alternatives would have to be operated for an additional 5 years (for a total of 7 years) before RAOs were maintained without the aid of continued ground water treatment. (See Figure 9, Appendix A) The difference in these expected timeframes of Alternatives 2, 3, and 4 are not considered significant. If DNAPLs are present, however, the time frame for achieving the remedial action objectives for all alternatives would be longer.

In summary, all of the alternatives, except for the No Action Alternative, would provide similar levels of protection of human health and the environment. Alternative 3 (pump and treat) and 4 (treatment wall) would be slightly more protective than Alternative 2 (natural attenuation) because the remedial action objectives would be achieved in a slightly shorter time frame.

2. Compliance with ARARs

Tables 6-1 through 6-4 of the Feasibility Study Report provide a listing of all chemical-specific, action-specific, and location-specific ARARs for each alternative. Contained within Appendix B of this Record of Decision is a table (Table 6-2) of all chemical-specific, action-specific, and location-specific ARARs for EPA's selected alternative.

Alternative 1 (No Action) would not comply with federal and state hazardous waste regulations and federal and state drinking water standards. The landfill would not be capped in accordance with RCRA requirements and groundwater impacts would continue indefinitely beyond the compliance boundary.

All of the alternatives, except for No Action, would meet the federal and state hazardous waste regulations by complying with the closure and post-closure requirements for hazardous waste facilities within the 30 year evaluation period. These alternatives will also meet federal and state wetlands ARARs by minimizing adverse effects to wetlands and mitigating any unavoidable impacts.

Each of the action alternatives would lead to compliance with the chemical-specific groundwater remedial objectives in a reasonable time frame. As stated in the previous section, the time to achieve the chemical-specific groundwater remedial action objectives is similar, varying from two to seven years, depending on the alternative selected.

3. Long-Term Effectiveness and Permanence

The No Action Alternative would not be effective or permanent in reducing long-term risk;

soil and solid waste would continue to be available for exposure to human and ecological receptors and contaminants would continue to leach into groundwater and migrate beyond the compliance boundary

The residual risk following the completion of remedial actions for Alternatives 2, 3, and 4 would be equal. Each alternative, therefore, would be equally effective and reliable in the long term as the remedial action objectives would be achieved under all three alternatives. The risks associated with the landfill material would be the same because all three alternatives have the same source control measures (SVE/air sparging, and capping). Although the management of migration remedial activities for the three action alternatives vary, they would have similar long-term effectiveness.

In summary, Alternatives 2, 3, and 4 would be equally effective and reliable in the long term in preventing exposure to contaminated soil, solid waste, and sediment.

4. Reduction of Toxicity, Mobility and Volume through Treatment

Alternative 1 (No Action) would not provide a reduction in contaminant toxicity, mobility, or volume because it provides only for continued monitoring of site contaminants without any remedial activities.

All of the action alternatives (Alternatives 2 (natural attenuation), 3 (pump and treat), and 4 (treatment wall)) provide for an SVE/air sparging system in the Lagoon Area combined with ground water remediation. Each of these three alternatives meet the remedial action objectives and offer a similar amount of reduction in mobility, toxicity, and volume of contaminants through treatment. Alternative 3 would transfer toxicity to residual materials from the treatment processes, such as sludge and carbon filters, which would be disposed at an appropriate facility or recycled. Alternative 4 may require the replacement and disposal of the granular iron in the treatment wall over time as efficiency decreases. Alternative 2 would not create any wastes for disposal and would reduce the toxicity and volume of the contaminants through naturally occurring treatment processes, such as biodegradation. An exception to this may be the potential for biotransformation of chlorinated compounds such as TCE and PCE to vinyl chloride which is more toxic. However, the effects of this are expected to be minor due to source control, dilution, dispersion, and sorption, all of which would reduce concentrations of vinyl chloride.

If DNAPL is found to be present, however, the degree to which the toxicity and volume would be reduced under all alternatives is uncertain.

5. Short-Term Effectiveness

Alternative 1 (No Action) would pose the lowest risks to Site workers during implementation since there is no construction involved, however, short-term protection of human health and the environment would not be achieved since exposure to contaminated soil, solid waste, or groundwater would not be prevented. Potential short-term risks associated with implementing and installing the SVE/air sparging systems and caps (Alternatives 2, 3 and 4) would be relatively small. Site workers would be potentially exposed to contaminants during implementation and installation of the SVE/air sparging system, regrading, and construction of the caps, however, these exposures can be controlled through routine monitoring and implementing health and safety measures.

Alternative 2 would have fewer short-term risks than the other two action alternatives since construction for ground water treatment would not be required. All action alternatives would achieve similar short-term protection of human health and the environment through capping and institutional controls to prevent the use of contaminated groundwater.

6. Implementability

All of the Alternatives evaluated are implementable. Alternative 1 (No Action) would be the easiest to implement as it does not involve any construction. Alternative 2 would also be easy to implement as construction would include only the SVE/air sparging system and caps which would utilize standard materials and construction techniques. Alternatives 3 and 4 would be the most difficult to implement as the ground water treatment systems would require speciality contractors and construction techniques.

Alternative 3 (pump and treat) would be the most difficult to implement. It would require speciality contractors to install a collection trench which, because of a high ground water table, could not be constructed conventionally. Biopolymer trenching techniques would be necessary which would include the introduction of a biodegradable slurry during excavation. The installation of piping, filter fabric, impermeable barriers, and ground water collection structures would take place through the slurry itself. Alternative 3 would also require the construction of a water treatment system, installation of electric and other utilities, and meeting effluent standards for a surface water discharge which may be difficult to attain for inorganics, even with pretreatment. While this alternative is implementable, it would be the most difficult to implement.

Alternative 4 (treatment wall) would be more difficult to implement than Alternative 1 and 2 as it would require construction of a treatment wall that would have to be installed by speciality contractors. Only a few contractors have installation experience with the technology as very few full scale systems have been installed. The depth of the treatment

wall is estimated at 30 feet which would require speciality shoring during installation.

Alternative 2 would be the easiest of the action alternatives to implement as the construction of a ground water treatment system would not be required.

7. Cost

A table summarizing the present worth costs of each of the alternatives is provided below.

Summary of Estimated Remedial Costs

Alternative	Total Projected Cost
1 - No Action	\$930,000
2 - Capping and Lagoon Treatment/Natural Attenuation	\$3,600,000
3 - Capping and Lagoon Treatment/Pump and Treat	\$6,000,000
4 - Capping and Lagoon Treatment/Treatment Wall	\$5,800,000

Note: Costs include construction and operation and maintenance costs over the 30 year evaluation period, using a 7% discount rate.

As listed above, Alternative 1 (No Action) would be the least costly alternative. The only associated costs would be the semi-annual monitoring of site conditions.

Alternative 2 (Natural Attenuation) is the least costly of the action alternatives. Associated costs for the construction and maintenance of caps over the Landfill Area and Marshy Area are roughly equal to those associated with the operation and maintenance of the SVE/air sparge system. After the SVE/air sparging is complete, the only associated costs would be semi-annual monitoring of site conditions and periodic re-evaluation of the groundwater modeling results.

Costs associated with Alternatives 3 (Pump and Treat) and Alternative 4 (Treatment Wall) are on the same order of magnitude with each other. However, if a longer O&M period is required than the estimated seven year period to meet remedial action objectives, the costs associated with Alternative 3 would increase at a faster rate than Alternative 4.

8. State Acceptance

The Vermont Department of Environmental Conservation (VT DEC) has been involved with the study and oversight of the Burgess Brothers Superfund Site since the mid-1980s. The VT DEC has reviewed the Remedial Investigation, Feasibility Study, and Risk Assessment reports. The public comment period, and the EPA's responses to their comments are summarized in the Responsiveness Summary in Appendix E to this Record of Decision.

In general, the state has supported the preferred alternative set forth in the Proposed Plan. The State's declaration of concurrence with this Record of Decision is attached as Appendix C.

9. Community Acceptance

The comments received from the community on the RI/FS and the Proposed Plan during the public comment period, and EPA's responses to the comments, are summarized in the Responsiveness Summary in Appendix E of this document. Although very few comments were received, there was overall support of EPA's selected remedy. The focus of the comments included access restrictions, impacts to the community during construction activities, and overall environmental impacts. EPA's responses can be found in Appendix E.

X. THE SELECTED REMEDY

The remedy selected to address contamination at the Burgess Brothers Superfund Site is Alternative 2, which includes construction of a multi-barrier cap on the Landfill Area, construction of a cap over the soils in the Marshy Area, SVE/air sparging in the former lagoon cells, institutional controls, natural attenuation, long-term monitoring, and five-year reviews. This remedy addresses all of the contamination at the Site. A detailed description of the cleanup levels and the selected remedy is presented below.

A. Interim Groundwater Cleanup Levels

Interim cleanup levels have been established in groundwater for all contaminants of concern identified in the Baseline Risk Assessment found to pose an unacceptable risk to either human health or the environment. Interim cleanup levels have been set based on the ARARs (e.g., non-zero Federal Drinking Water Maximum Contaminant Level Goals (MCLGs) and MCLs, and Vermont Primary Groundwater Quality Standards (VPGQS)) as available, or other suitable criteria described below. Periodic assessments of the protection afforded by remedial actions will be made as the remedy is being implemented and at the completion of the remedial action.

At the time that Interim Groundwater Cleanup Levels identified in this ROD, newly promulgated ARARs, and modified ARARs have been achieved and have not been exceeded for a period of three consecutive years, a risk assessment shall be performed on the residual groundwater contamination to determine whether the remedial action is protective. This risk assessment of the residual groundwater contamination shall follow EPA procedures and will assess the cumulative carcinogenic and non-carcinogenic risks posed by ingestion of groundwater and inhalation of VOCs from domestic water usage.

If, after review of the risk assessment, the remedial action is not determined to be protective by EPA, the remedial action shall continue or be modified until either protective levels are achieved and are not exceeded for a period of three consecutive years, or until a remedy is otherwise deemed protective. Once the remedy is deemed protective, the levels achieved shall constitute the final cleanup levels for this Record of Decision and shall be considered performance standards for this Site.

Because the aquifer at and beyond the compliance boundary for the Landfill is a potential source of drinking water, MCLs and non-zero MCLGs established under the Safe Drinking Water Act are ARARs. The State of Vermont has classified the aquifer under and beyond the compliance boundary for the Landfill as Class III, suitable as a source of water for individual domestic drinking water supply, irrigation, agricultural use, and general industrial and commercial use. Vermont Primary Groundwater Quality Standards established under the Groundwater Protection Rule and Strategy are also ARARs.

Interim cleanup levels for known, probable, and possible carcinogenic compounds (Classes A, B, and C, respectively) have been established to protect against potential carcinogenic effects and to conform with ARARs. Because the MCLGs for Class A & B compounds are set at zero and are thus not suitable for use as interim cleanup levels, MCLs have been selected as the interim cleanup levels for these Classes of compounds. Because the MCLGs for the Class C compounds are greater than zero, and can readily be confirmed, MCLGs have been selected as the interim cleanup levels for Class C compounds.

Interim cleanup levels for Class D and E compounds (not classified, and no evidence of carcinogenicity) have been established to protect against potential non-carcinogenic effects and to conform with ARARs. Because the MCLGs for these Classes are greater than zero and can readily be confirmed, MCLGs have been selected as the interim cleanup levels for these classes of compounds.

In situations where a promulgated State standard is more stringent than values established under the Safe Drinking Water Act, the State standard was used as the interim cleanup level. In the absence of an MCLG, an MCL, a proposed MCLG, proposed MCL, State standard, or other suitable criteria to be considered (i.e., health advisory, state guideline), an interim cleanup level was derived for each compound having carcinogenic potential (Classes A, B, and C compounds) based on a 10^{-6} excess cancer risk level per compound considering the ingestion of groundwater

from domestic water usage.

In the absence of the above standards and criteria, interim cleanup levels for all other compounds (Classes D and E) were established based on a level that represent an acceptable exposure level to which the human population including sensitive subgroups may be exposed without adverse affect during a lifetime or part of a lifetime, incorporating an adequate margin of safety (hazard quotient = 1) considering the ingestion of groundwater from domestic water usage. If a value described by any of the above methods was not capable of being detected with good precision and accuracy, or was below what was deemed to be the background value, then the practical quantification limit or background value was used as appropriate for the Interim Groundwater Cleanup Level.

Table 1 below summarizes the Interim Cleanup Levels for carcinogenic and non-carcinogenic contaminants of concern identified in groundwater.

TABLE 1: INTERIM GROUNDWATER CLEANUP LEVELS

Carcinogenic Contaminants

Carcinogenic Contaminants of Concern (Class)	Interim Cleanup Level (µg/l)	Basis	Level of Risk ^{*1}
1,1-Dichloroethene (C)	7	MCLG	7×10^{-5}
1,2-Dichloroethane (B2)	5	MCL	8×10^{-6}
Benzene (A)	5	MCL	3×10^{-6}
Chloroform (B2)	6	MCL	6×10^{-7}
Methylene Chloride (B2)	5	MCL	7×10^{-7}
Tetrachloroethene (B2-C)	5	MCL	$5 \times 10^{-6} \text{ }^{*2}$
Trichloroethene (B2-C)	5	MCL	$1 \times 10^{-6} \text{ }^{*2}$
Vinyl Chloride (A)	2	MCL	$7 \times 10^{-5} \text{ }^{*2}$
1,4-Dichlorobenzene (C)	75	MCLG	$3 \times 10^{-5} \text{ }^{*2}$
Bis(2-Ethylhexyl)Phthalate (B2)	6	MCL	1×10^{-6}
Arsenic (A)	50	MCL	9×10^{-4}
Lead (B2)	15	NIPDWR ^{*5}	-

TOTAL:

1×10^{-3}

TABLE 1: INTERIM GROUNDWATER CLEANUP LEVELS - Continued

Noncarcinogenic Contaminants

Noncarcinogenic Contaminants of Concern (Class)	Interim Cleanup Level (µg/l)	Basis	Target Endpoint of Toxicity	Hazard Quotient
1,1-Dichloroethene (C)	7	MCL	liver	0.02
1,2-Dichloroethane (B2)	5	MCL	-	no data
1,2-Dichloroethene - cis (D)	70	MCLG	blood	0.19 ^{*2}
1,2-Dichloroethene - trans (D)	100	MCLG	blood	0.14
Benzene (A)	5	MCL	-	no data
Chlorobenzene (D)	100	VPGQS ^{*3}	liver	0.14
Chloroform (B2)	6	VPGQS ^{*3}	liver	0.02
Methylene Chloride (B2)	5	MCL	liver	0.002
Tetrachloroethene (B2-C)	5	MCL	liver	0.01
Trichloroethene (B2-C)	5	MCL	liver	0.02 ^{*2}
Vinyl Chloride (A)	2	MCL	-	no data
1,4-Dichlorobenzene (C)	75	MCL	liver	0.01 ^{*2}
Bis(2-Ethylhexyl)Phthalate (B2)	6	MCL	liver	0.008
Arsenic (A)	50	MCL	skin	4.5
Lead (B2)	15	NIPDWR ^{*5}	CNS	no data
Manganese (D)	840	Hazard Potential	CNS	1.0
Thallium (D)	2	MCL	blood	0.7 ^{*4}

TOTAL HAZARD INDEX:	Liver	0.4
	Blood	1.0
	CNS	1.0
	Skin	4.5

TABLE 1 FOOTNOTES:

- *¹ Based on consumption of 2 liters water/day, 350 days/year, for 30 years. Risk attributed to inhalation of VOCs from domestic use of contaminated water are estimated to be no more than risks attributed to their direct ingestion.
- *² Provisional risk estimates as compound undergoing toxicological review at time of ROD.
- *³ Vermont Primary Groundwater Quality Standard - Enforcement Standard, Vermont Groundwater Protection Rule and Strategy, Subchapter 7, 12-702
- *⁴ Based on reference dose for thallium sulfate
- *⁵ National Interim Primary Drinking Water Regulation (NIPDWR)

While these interim cleanup levels are consistent with ARARs or suitable to be considered (TBC) criteria for groundwater, a cumulative risk that could be posed by these compounds may exceed EPA's goals for remedial action. Consequently, these levels are considered to be interim cleanup levels for groundwater until a final determination of protectiveness is made. The final determination of protectiveness will be based on the Interim Groundwater Cleanup Levels identified in the ROD, newly promulgated ARARs and modified ARARs which call into question the protectiveness of the remedy, and a risk assessment of residual contamination. A determination of protectiveness must be obtained at the completion of the remedial action at the points of compliance. The points of compliance are identified in Figure 10 (in Appendix A) and defined by monitoring wells W-05, W-03, W-03T, W-04S, W-04D, W-04T, W-25S1, W-25SI, W-25B and any new monitoring wells installed in this area.

B. Performance Levels for Surface Water and Sediment

Groundwater from the Landfill Area and former Lagoon Area discharges directly to the surface water and sediments. To evaluate the effectiveness of both the source control and groundwater cleanup measures, "performance levels" have been established for contaminants detected in surface water and sediments. These performance levels are based on State and Federal regulatory standards and/or utilized guidelines.

The Baseline Risk Assessment concluded that surface water and sediments may pose an unacceptable risk to some forms of wildlife. Therefore, the performance levels will also be used to determine if further action, at a later time, may be necessary to address any risks from surface

water and sediments.

Contaminants for which performance levels have been set include VOCs and metals. The cleanup and performance levels set for contaminants in surface water and sediments are listed in Tables 2 and 3, respectively.

TABLE 2: SURFACE WATER PERFORMANCE LEVELS

Contaminant of Concern	Performance Level (ppb)	Basis
1,1-Dichloroethlene	0.057	AWQC* ¹
Dichlorobromomethane	0.27	AWQC* ¹
Tetrachloroethene	0.8	AWQC* ¹
Trichloroethene	2.7	AWQC* ¹
Vinyl Chloride	2	AWQC* ¹
Aluminum	87	AWQC* ¹
Antimony	14	AWQC* ¹
Arsenic	0.018	AWQC* ¹
Cobalt	10	Risk Based* ³
Copper	8	VTWQS* ²
Cyanide	5.2	AWQC* ¹
Iron	1000	VTWQS* ²
Lead	1.5	VTWQS* ²
Manganese	4100	Risk Based* ³
Mercury	0.012	AWQC* ¹
Nickel	108	VTWQS* ²
Selenium	5	AWQC* ¹
Silver	1.2	AWQC* ¹
Thallium	1.7	AWQC* ¹
Zinc	58.9	VTWQS* ²

FOOTNOTES FOR TABLE 2:

- *¹ Federal Clean Water Act - Ambient Water Quality Criteria (AWQC)
- *² State of Vermont Water Quality Standards (VTWQS), effective April 21, 1997
- *³ Biesinger & Christensen, 1972

TABLE 3: SEDIMENTS PERFORMANCE LEVELS

Contaminant of Concern	Performance Level (ppm)	Basis* ¹
Arsenic	6	MOE
Cadmium	0.6	MOE
Chromium	26	MOE
Copper	16	MOE
Iron	20000	MOE
Lead	31	MOE
Manganese	460	MOE
Mercury	0.2	MOE
Nickel	16	MOE
Zinc	120	MOE

FOOTNOTES FOR TABLE 3:

- *¹ Ontario Ministry of the Environment (MOE) Sediment Quality Guidelines

C. Description of Remedial Components

The selected remedy for the site includes construction and maintenance of a multi-barrier cap over the Landfill Area, construction and maintenance of a cap over the soils in the Marshy Area, SVE/air sparging in the former Lagoon Area, institutional controls such as a deed notice, long term monitoring, operation and maintenance, and a review of the Site conditions every five years.

1. Multi-Barrier Cap Over the Landfill Area

Capping of the Landfill: The top slope of the Landfill Area will be graded at approximately three percent and the side slopes will be graded at three horizontal to one vertical (3:1) or flatter. No side slope will be graded more steeply than 3:1. Prior to any intrusive activity, erosion and sedimentation controls will be implemented to protect the swales, unnamed stream, and wetlands adjacent to and south of the Landfill Area. These controls will be inspected on a routine basis and maintained until soil stabilization is established.

Grading of the Landfill Area will take into account the adjacent swales, unnamed stream, and wetlands and minimize adverse effects to these areas. As grading of the landfill will require the loss of some wetlands, these wetlands will be replicated. The adjacent swales will be re-routed through a conduit beneath or adjacent to the landfill and Marshy Area cap. The exact approach will be determined during remedial design.

A continuous multi-layer (or "composite barrier") cap will be constructed over the Landfill Area. The cap will be designed, constructed, operated, and maintained to meet the performance requirements of the Resource Conservation and Recovery Act ("RCRA") Subtitle C regulations specified in ARARs Table 6-2 of Appendix B. The cap shall also be designed to meet the requirements of the following EPA technical guidance documents: "Final Covers on Hazardous Waste Landfills and Surface Impoundments" (EPA/530-SW-89-047, July 1989); "Construction Quality Management for Remedial Action and Remedial Design Waste Containment Systems" (EPA/540/R-92/073, October 1992); "QA and QC for Waste Containment Facilities" (EPA/600/R-93/182, September 1993) and Alternative Cap Design Guidance for Unlined Hazardous Waste Landfills, EPA Region I, September 30, 1997. The multi-barrier cap, from bottom to top, will achieve the following minimum requirements:

- a. The base layer will be comprised of fill material. This material will be used to establish the base grade of the Landfill. Given the steep eastern slope of the Landfill, the base grade of this slope is expected to be a maximum of 3:1 (horizontal:vertical). This layer will be a minimum of six inches on the top slopes and a minimum of 6 inches on the 3:1 side slopes.
- b. The bottom low hydraulic conductivity layer will be installed to minimize potential leakage through the low hydraulic conductivity geomembrane into the Landfill. This layer will act as a safeguard to the geomembrane, and will consist of compacted clay or a reinforced geosynthetic clay liner (GCL). This layer will have a hydraulic conductivity no greater than 1×10^{-7} cm/sec. Because the interface frictional resistance between the GCL and the geomembrane can be very low, particularly when the GCL becomes hydrated, this layer will only be utilized on areas having slopes less than 6:1 to ensure cap slope stability. On slopes greater than 6:1, a silty sand or sandy silt layer will be

placed beneath the geomembrane to enhance side slope stability. This soil is anticipated to be at least 12 inches in thickness and will have a hydraulic conductivity no greater than 1×10^{-4} cm/sec.

3. The top low hydraulic conductivity layer will be a synthetic barrier. This will be the main barrier which prevents water infiltration from entering the Landfill. This synthetic barrier will be a type of flexible geomembrane, 60 mil linear low density polyethylene (LLDPE) or equivalent, selected to prevent infiltration. The geomembrane on the slopes greater than 6:1 must be textured to minimize the potential for sliding.
- d. A drainage layer will be installed above the synthetic barrier to prevent the ponding of water over the synthetic barrier. This layer will be composed of either 12 inches of sand or gravel with a minimum hydraulic conductivity of 1×10^{-1} cm/sec, or a geocomposite drainage material with an equivalent transmissivity of at least 3×10^{-4} m²/sec.
- e. The filter layer will be composed of nonwoven geotextile filter fabric to minimize fill material from clogging the granular drainage layer. A filter layer may not be required if the drainage layer is a geocomposite.
- f. The top layer will be the vegetative cover. This layer will: (1) provide frost protection; (2) provide adequate water-holding capacity to attenuate rainfall infiltration to the drainage layer and to sustain vegetation through dry periods; and (3) provide sufficient thickness to allow for expected long-term erosion losses. The side slope will be terraced to minimize erosion of the multi-layer caps so that no more than 2 tons per acre per year of soil loss occurs. The thickness of the top layer is anticipated to be a minimum of 36 inches and will be based on local maximum frost depth penetrations. No deep-rooted plants will be allowed to become established on the capped area.

Air: A landfill gas management system will be implemented to insure that landfill gas does not build up beneath the caps or migrate laterally. In addition, a collection system may be needed to ensure that gases containing VOCs are properly treated prior to venting. The appropriate gas management system for the Landfill Area will be determined during design and will be based on the compliance criteria discussed below.

The point of compliance for air, consistent with the NCP, shall be the point(s) of the maximum exposed individual, considering reasonable expected use of the Site and surrounding area. The maximum exposed individuals include: (1) adjacent residents; (2) operation and maintenance personnel; and (3) individuals working at the Burgess Brothers facility. The gas collection system shall prevent an unacceptable risk of exposure to the maximum exposed individuals by controlling the release of landfill gas and treating collected

landfill gas, if necessary. Any gas collection and treatment system shall also comply with the federal and state air ARARs.

Surface Water/Wetlands: Surface water drainage controls will be constructed to minimize erosion of the caps. As determined by the final design, drainage channels will be installed in certain areas on the top and perimeter of the Landfill Area to control runoff. The Landfill Area will also be revegetated and the vegetation maintained to prevent erosion. Stormwater runoff from the Landfill will be managed in accordance with Vermont Water Quality Standards. The drainage system of the caps must be capable of handling a 25 year, 24 hour storm event.

Mitigation for wetlands impacts, which will be unavoidable due to necessary grading for the cap over the Landfill Area, will be accomplished consistent with State and Federal laws and guidance. Potential successful mitigation sites will be identified on the basis of topographic location, water source and transport, hydrodynamics, and site morphometry and soils. On-site and in-kind mitigation is preferable where achievable. Creation of any wetlands will need to take into account buffer zones and upland transition zones. A reference wetland may be identified and used to monitor and evaluate the impact of natural fluctuations on the mitigation success.

Long-term monitoring: Long-term monitoring of the surface water, shallow and deep groundwater, sediments, and residential water supplies will be performed. This monitoring will focus on establishing long-term trends in each media and confirming the restoration of the media. The Long-Term Monitoring Program will develop a method for tracking the restoration of the groundwater to confirm that the cleanup model was accurate. The Long-Term Monitoring Plan will also include goals to evaluate the effectiveness of the selected remedy.

Operation and Maintenance: The integrity of the cap, the gas collection system, surface water controls, and wetlands replication will also be monitored regularly and maintained to meet the objectives set forth in this ROD. Access to the capped areas will be controlled by the installation and maintenance of an industrial fence.

2. Cap Over the Soils in the Marshy Area

A cap over the marshy area soils will be constructed using either an impermeable or permeable barrier. The type of barrier will be based on factors such as constructability, maintenance, and ability to achieve remedial action objectives. The specific type of cap will be determined during design.

The cap will have the following cross-section, at a minimum, from top to bottom:

- A top layer of 24 inches that includes a minimum of four inches of topsoil
- An impermeable or permeable barrier
- A geocomposite drainage material, if necessary
- Two feet of soil as a subbase, if necessary

The cap will cover the approximately one-half acre area, minimizing potential contact with and providing a barrier against burrowing animals into the Marshy Area soils. To stabilize the topsoil cover, the area will be completed with approximately 4 inches of topsoil and hydroseed. To promote positive drainage from the area, existing soils will be shaped to achieve a minimum 3% grade toward drainage swales that will be constructed as part of the multi-barrier cap over the Landfill Area.

Requirements for landfill gas generation, surface water drainage, mitigation for wetlands impacted by the capping of the Marshy Area, and long-term maintenance will be the same as those requirements required for the capping of the Landfill Area.

3. SVE/Air Sparging in the Former Lagoon Area

An SVE system, in conjunction with an air sparging system, will be used to remediate soils in the Lagoon Area. The air sparging system will remediate saturated zone soils by forcing air into the groundwater beneath the lagoon area. This induced air flow will accelerate the volatilization of VOCs in the saturated zone, forcing them upwards into the soils in the unsaturated zone.

The SVE system will include air extraction wells to remove VOCs from the vadose zone soils. The VOCs will be removed by pulling air through the extraction wells producing a vacuum in the subsurface. VOCs contained within the vadose zone will migrate toward the air extraction wells, where they will be removed from the subsurface for treatment. Any condensate collected from system operation will be characterized and treated off-site, as appropriate.

Based on the results of a pilot study that was performed at the site, an SVE system consisting of six extraction wells and two vapor extraction units will be used to remediate the lagoon soils. The type of off-gas treatment for the SVE/air sparging system will be selected during pre-design. Installation and start-up of the system will be performed in such a way as to prevent, to the extent practicable, mobilization of DNAPL if it is present. Specific actions to address potential DNAPL will be defined during design.

It is anticipated that it would be necessary to operate the SVE/air sparging system continuously for a period of six months to two years, then periodically over a period of perhaps several years

to remove sufficient quantities of VOCs from the former Lagoon Cells. Once contaminant levels are adequately reduced, the system will be shut down for a period of time, then restarted to ensure contaminant levels do not increase. This shutting down and restarting process will be done several times over a period of time to ensure contaminant levels do not increase during periods of shut down. Over time, contaminant levels are expected to decrease to levels where the SVE/air sparging system can be discontinued. If DNAPL is determined to be present, however, the SVE/air sparging may not sufficiently remove the VOC source and an alternate treatment approach may be evaluated.

During operation, the system's performance will be monitored on a regular basis and adjusted as warranted by the performance data collected during operation.

4. Institutional Controls

Institutional controls will be established to protect the capped areas, to prevent the use of groundwater potentially impacted by the Site, and to inform future purchasers of the groundwater restrictions associated with the property. These institutional controls will consist of deed restrictions which are enforceable and reliable for long-term protection. Restrictions to protect the Landfill Area and Marshy Area caps will include controlling access to these areas and prohibiting excavation or other disturbances which may adversely affect the integrity of the caps.

The restrictions on use of groundwater will extend from the upgradient perimeter of the Landfill Area to at least all down gradient boundaries of the contaminant plume in both overburden and bedrock. The restrictions will also include a buffer zone around the contaminated area adequate to insure that new private or public water supply wells in the vicinity would not induce movement of the contaminants into uncontaminated areas or interfere with any remedial action at the Site. Groundwater use restrictions beyond the point of compliance will remain in effect until contaminant levels reach and maintain groundwater cleanup levels in both the downgradient bedrock and overburden aquifers. Groundwater use restrictions for the area upgradient of the point of compliance, including the Landfill Area, will remain in effect until contaminant levels reach and maintain groundwater cleanup levels in both the downgradient bedrock and overburden aquifers.

5. Long-Term Monitoring

An environmental monitoring program will be implemented to evaluate the overall effectiveness of the remedy. The monitoring program will include selected groundwater monitoring wells, and surface water and sediment from the adjacent wetlands. In addition, groundwater in overburden and bedrock monitoring wells immediately downgradient of the Landfill Area will be monitored

on a regular basis to insure that the contaminant plume is not spreading into previously uncontaminated areas.

6. Operations and Maintenance

Operations and maintenance (O&M) activities will be conducted to insure the proper operation of the remedy. O&M will include periodic monitoring and necessary maintenance of the capped areas, maintenance of perimeter fence, landfill gas collection system and treatment system, if necessary, and any wetland replication areas associated with the remedy.

7. Five-Year Review

To the extent required by law, EPA will review the Site at least once every five years after initiation of the remedial action at the Site since hazardous substances, pollutants or contaminants will remain at the Site to assure that the remedial action continues to protect human health and the environment. EPA will also review the Site before the Site is proposed for deletion from the National Priorities List (NPL).

D. Contingency for Alternate Response Action

EPA has estimated that interim ground water cleanup levels will be obtained within 7 years after initiation of the source control components. Modeling of the contaminant source and plume to confirm the effectiveness of the selected remedy and to refine the predicted timeframe for achieving remedial action objectives will be done, at a minimum, two years after the initiation of the source control components and again prior to any five year review. If, at any time, EPA determines that the selected remedy is not effective and that remedial action objectives will not be attained within an acceptable timeframe, an alternate remedial action will be evaluated and implemented.

XI. STATUTORY DETERMINATIONS

The remedial action selected for implementation at the Burgess Brothers Superfund Site is consistent with CERCLA and, to the extent practicable, the NCP. The selected remedy is protective of human health and the environment, attains ARARs and is cost effective. The selected remedy also partially satisfies the statutory preference for treatment which permanently and significantly reduces the mobility, toxicity or volume of hazardous substances as a principal element. Additionally, the selected remedy utilizes alternate treatment technologies or resource recovery technologies to the maximum extent practicable.

A. Selected Remedy is Protective of Human Health and the Environment

The remedy at this Site will permanently reduce the risks posed to human health and the environment by eliminating, reducing or controlling exposures to human and ecological receptors through treatment, engineering controls, and institutional controls; more specifically, the SVE/air sparging system will treat and reduce the volume of hazardous substances at the Site. The installation of Landfill and Marshy Area caps will prevent ingestion and dermal contact of soil or solid waste. Capping will also prevent further transport of contaminants into the wetland and swales and unnamed stream sediments. Capping will effectively eliminate infiltration and thereby halt the leaching of contaminants from the soil and solid waste into groundwater. This will ultimately result in an improvement of downgradient groundwater quality and a reduction of the risks to human health associated with ingestion of contaminated groundwater. Institutional controls will be implemented to prevent the use of contaminated groundwater until cleanup goals have been met. Long-term monitoring will insure that the remedy remains protective of human health and the environment.

Moreover, the selected remedy will achieve potential human health risk levels that attain the 10^{-4} to 10^{-6} incremental cancer risk range and a level protective of noncarcinogenic endpoints, and will comply with ARARs. At the time that the Interim Groundwater Cleanup Levels identified in the ROD and newly promulgated ARARs and modified ARARs which call into question the protectiveness of the remedy have been achieved and have not been exceeded for a period of three consecutive years, a risk assessment shall be performed on the residual groundwater contamination to determine whether the remedial action is protective. This risk assessment of the residual groundwater contamination shall follow EPA procedures and will assess the cumulative carcinogenic and non-carcinogenic risks posed by ingestion of groundwater and inhalation of VOCs from domestic water usage. If, after review of the risk assessment, the remedial action is not determined to be protective by EPA, the remedial action shall continue or be modified until protective levels are achieved and have not been exceeded for a period of three consecutive years, or until the remedy is otherwise deemed protective. Once the remedy is deemed protective, the levels achieved shall constitute the final cleanup levels for this Record of Decision and shall be considered performance standards for this Site.

B. The Selected Remedy Attains ARARs

This remedy will meet or attain all applicable or relevant and appropriate federal and state environmental requirements that apply to the Site. A detailed listing of the specific ARARs can be found in Appendix B of this ROD. These tables give a brief synopsis of the ARARs and an explanation of the actions necessary to meet the relevant and appropriate actions at the Site. In addition to ARARs, the tables describe standards that are not ARARs but are To-Be-Considered (TBC) with respect to remedial actions. The specific ARARs include the following:

Chemical-Specific

Medium	Requirements	Status
Groundwater	Vermont Groundwater Protection Regulations (EPR 12-702)	Applicable, for Enforcement Standards
	Vermont Health Advisories	To Be Considered
	Federal Safe Drinking Water Act - Maximum Contaminated Levels (MCLs) for Organic and Inorganic Chemicals (40 CFR 141 Subparts B, G and I)	Relevant and Appropriate
	Federal Safe Drinking Water Act - Maximum Contaminant Level Goals (MCLGs) for Organic and Inorganic Chemicals (40 CFR 151 Subpart F)	Relevant and Appropriate if non-zero
	EPA Reference Doses (RfDs) and EPA Carcinogen Assessment Group Potency Factors	To Be Considered
	EPA Health Advisories	To Be Considered

Action-Specific

Medium	Requirements	Status
Air	Vermont Air Pollution Control Regulations (10 VSA Section 551 et. seq.; EPR 5-101, 5-211, 5-231 to 5-252, 5-253.20, 5-261, 5-301 to 5-311, 5-501 to 5-502, and 5-1010)	Applicable
	Federal RCRA Air Emission Standards for Equipment Leaks, 40 CFR Part 264, Subpart BB	Applicable, if threshold limits are exceeded
	Federal RCRA Air Emission Standards for Process Vents, 40 CFR Part 264, Subpart AA	Applicable, if threshold limits are exceeded
	Federal Clean Air Act - Non-Methane Organic Compounds (40 CFR Part 60 Subpart WWW)	Relevant and appropriate, if threshold limits are exceeded

Action-Specific (continued)

Groundwater	Vermont Groundwater Protection Regulations (10 VSA Chapter 48; EPR 12-704 and 12-705)	Applicable
Surface Water	Vermont Water Quality Standards (10 VSA Chapter 47; EPR Sections 1 - 04, 2-01, 2-02, 2-03, 2-05, 3-01, 3-03, 3-04, and Appendix C and D)	Relevant and Appropriate
	Federal Clean Water Act - Ambient Water Quality Criteria	Relevant and Appropriate
Sediment	Ontario Ministry of the Environment Sediment Quality Guidelines	To Be Considered
Landfill Material	Federal RCRA Subtitle C, Regulations, 40 CFR Part 264 Subpart N - Landfills, Section 264.310*	Relevant and Appropriate
	Federal RCRA Subtitle C Regulations, 40 CFR Part 264 Subpart B - General Facility Standards, Section 264.19*	Relevant and Appropriate
	Federal RCRA Subtitle C Regulations, 40 CFR Part 264 Subpart F - Releases from Solid Waste Management Units, Sections 264.95, 264.96(a) and (c), 264.97, 264.98 and 264.99*	Relevant and Appropriate
	Federal RCRA Subtitle C Regulations, 40 CFR Part 264 Subpart G - Closure and Post Closure, Sections 264.111, 264.114, and 264.177*	Applicable
	USEPA Technical Guidance Document: Final Covers on Hazardous Waste Landfills and Surface Impoundments (EPA/530-SW-89-047)	To Be Considered
	USEPA Technical Guidance Document: Construction Quality Management for Remedial Action and Remedial Design Waste Containment Systems (EPA/540/R-92/073, October 1992)	To Be Considered
	USEPA Technical Guidance Document: QA and QC for Waste Containment Facilities (EPA/600/R-93/182, September 1993)	To Be Considered
	USEPA Technical Guidance Document: Alternative Cap Design Guidance for Unlined Hazardous Waste Landfills, EPA Region I, September 30, 1997.	To Be Considered

Notes: * RCRA requirements are made effective by the Vermont Hazardous Waste Regulations (EPR7-502).

ATTACHMENT A

PROJECT OPERATIONS PLAN

Before any field activities commence on the Site, Settling Defendants shall submit several site-specific plans to establish procedures to be followed by the Settling Defendants in performing field, laboratory and analysis work, and community and agency liaison activities. These site-specific plans include the:

- A. Site Management Plan (SMP),
- B. Sampling and Analysis Plan (SAP),
- C. Health and Safety Plan (HSP), and
- D. Community Relations Support Plan (CRSP).

These plans shall be combined to form the Site Project Operations Plan (POP). The four components of the POP are described in A through D herein.

The format and scope of each Plan shall be modified as needed to describe the sampling, analyses, and other activities that are clarified as the RD/RA progresses. EPA, after reasonable opportunity for review and comment by VTDEC, may modify the scopes of these activities at any time during the RD/RA at the discretion of EPA in response to the evaluation of RD/RA results, changes in RD/RA requirements, and other developments or circumstances.

A. Site Management Plan (SMP)

The Site Management Plan (SMP) shall describe how the Settling Defendants will manage the project to complete the Work required at the Site. As part of the plan the Settling Defendants shall perform the following tasks:

1. Provide a comprehensive map of the Site in relative scale identifying all benchmarks and other features of the Site.
2. Clearly indicate the exclusion zone, contamination reduction zone, and clean area for on-site activities.
3. Provide for the security of government and private property on the Site.
4. Prevent unauthorized entry to the Site which might result in exposure of persons to potentially hazardous conditions.
5. Establish the location of a field office for on-site activities.

6. Provide contingency and notification plans for potentially dangerous activities associated with the RD/RA.
7. Monitor airborne contaminants released by Site activities which may affect the local populations.

The overall objective of the Site Management Plan is to provide EPA and the VTDEC with a written understanding and commitment of how various project aspects such as access, security, contingency procedures, management responsibilities, waste disposal, budgeting, and data handling are being managed by the Settling Defendants. Specific objectives and provisions of the Site Management Plan shall include, but are not limited to the following:

1. Communicate to EPA, VTDEC, and the public the organization and management of the RD/RA, including key personnel and their responsibilities.
2. Provide a list of contractors and subcontractors of the Settling Defendants in the RD/RA and description of their activities and roles.
3. Provide for the proper disposal of materials used and wastes generated during the RD/RA (e.g., drill cutting, extracted ground water, protective clothing, disposable equipment). These provisions shall be consistent with the off-site disposal requirements of SARA, RCRA, and applicable state laws. The Settling Defendants, or their authorized representative, or another party acceptable to EPA and VTDEC shall be identified as the generator of wastes for the purpose of regulatory or policy compliance.
4. Provide plans and procedures for organizing, manipulating, and presenting the data generated and for verifying its quality before and during the RD/RA.

The last item shall include a description of the computer data base management systems that are compatible with hardware available to EPA Region I personnel for handling media-specific sampling results obtained before and during the RD/RA. The description shall include data input fields, examples of data base management output from the coding of all RD/RA sample data, appropriate quality assurance/quality control to ensure accuracy, and capabilities of data manipulation. To the degree possible, the data base management parameters shall be compatible with the EPA Region I data storage and analysis system.

B. Sampling and Analysis Plan (SAP)

The SAP shall be consistent with Section VIII of the Consent Decree, Quality Assurance, Sampling, and Data Analysis. The SAP consists of both (1) a Quality Assurance Project Plan (QAPjP) that describes the policy, organization, functional activities, and the quality assurance and quality control protocols necessary to achieve the data quality objectives dictated by the intended use of the data; and (2) the Field Sampling Plan (FSP) that provides guidance for all fieldwork by defining in detail the sampling and data-gathering methods to be used on a project. Components required by these two plans are described below. Additional guidance on the topics covered in each of these plans and the integration of the QAPjP and the FSP into the SAP can be found in the Guidance for Conducting Remedial Investigations and Feasibility Studies Under CERCLA, (EPA/540/G-89/004, OSWER Directive 9355.3-01, October, 1988) and the references contained in that document. In addition, the FSP and QAPjP should be submitted as a single document (although they may be bound separately to facilitate use of the FSP in the field.)

The overall objectives of the Sampling and Analysis Plan are as follows:

1. to document specific objectives, procedures, and rationales for fieldwork and sample analytical work;
2. to provide a mechanism for planning and approving Site and laboratory activities;
3. to ensure that sampling and analysis activities are necessary and sufficient; and
4. to provide a common point of reference for all parties to ensure the comparability and compatibility of all objectives and the sampling and analysis activities.

To achieve this last objective, the SAP shall document all field and sampling and analysis objectives as noted above, as well as all data quality objectives and specific procedures/protocols for field sampling and analysis set forth by the Site Management Plan.

The following critical elements of the SAP shall be described for each sample medium (e.g., ground water, surface water, soil, sediment, air, and soil gas) and for each sampling event:

1. sampling objectives;
2. data quality objectives, including data uses and the rationale for the selection of analytical levels and detection limits (see Data Quality Objectives Development Guidance for Uncontrolled Hazardous Waste Site Remedial Response Activities;

OSWER Directive 9355.07, March 1987; and Guidance for Data Useability in Risk Assessment; EPA/540/G-90-008, October 1990.

3. site background update, including an evaluation of the validity, sufficiency, and sensitivity of existing data;
4. sampling locations and rationale;
5. sampling procedures and rationale and references;
6. numbers of samples and justification;
7. numbers of field blanks, trip blanks, and duplicates;
8. sample media (e.g., ground water, surface water, sediment, air, and soil gas);
9. sample equipment, containers, minimum sample quantities, sample preservation techniques, and maximum holding times;
10. instrumentation and procedures for the calibration and use of portable air, soil gas, or water-monitoring equipment to be used in the field;
11. chemical and physical parameters in the analysis of each sample;
12. chain-of-custody procedures must be clearly stated (see EPA NEIC Policies and Procedures Manual, EPA 330/9-78 001-R) May 1978, revised May 1986;
13. procedures to eliminate cross-contamination of samples (such as dedicated equipment);
14. sample types, including collection methods and if field and laboratory analyses will be conducted;
15. laboratory analytical procedures, equipment, and detection limits;
16. equipment decontamination procedures;
17. consistency with the other parts of the Work Plan(s) by having identical objectives, procedures, and justification, or by cross-reference;
18. analysis from each medium for all Hazardous Substance List (HSL) inorganic and organic analytes and;

19. for any limited field investigation (field screening technique), provisions for the collection and laboratory analysis of parallel samples and for the quantitative correlation analysis in which screening results are compared with laboratory results.

The SAP must be the framework of all anticipated field activities (e.g., sampling objectives, evaluation of existing data, standard operating procedures) and contain specific information on each round of field sampling and analysis work (e.g., sampling locations and rationale, sample numbers and rationale, analyses of samples). During the RD/RA, the SAP shall be revised as necessary to cover each round of field or laboratory activities. Revisions or a statement regarding the need for revisions shall be included in each deliverable describing all new field work.

The SAP shall allow for notifying EPA and VTDEC, at a minimum, **four weeks** before field sampling or monitoring activities commence. The SAP shall also allow split, replicate, or duplicate samples to be taken by EPA (or their contractor personnel), VTDEC, and by other parties approved by EPA. At the request of EPA or VTDEC, the Settling Defendants shall provide these samples in appropriately pre-cleaned containers to the government representatives. Identical procedures shall be used to collect the Settling Defendants and the parallel samples unless otherwise specified by EPA or VTDEC. Several references shall be used to develop the SAP, for example:

1. Guidance for Conducting Remedial Investigations and Feasibility Studies Under CERCLA (OSWER Directive 9355.3-01, EPA/540/G-89/004, October 1988);
2. Data Quality Objectives for Remedial Response Activities Development Process, EPA/540/G-87/003, (OSWER Directive 9355.0-7B, March 1987);
3. Data Quality Objectives for Remedial Response Activities, example scenario: RI/FS Activities at a site with contaminated Soil and Ground Water (OSWER Directive 9355.0-7B, EPA/540/G-87/002, March 1987);
4. Test Methods for Evaluating Solid Waste, Physical/Chemical Method (EPA Pub. SW-846, Third Edition);
5. Analytical methods as specified in CFR 40 CFR Parts 136, 141.23, 141.24 and 141.25 and Agency manuals documenting these methods; and
6. Statement of Works for Inorganic and Organic Analyses, EPA Contract Laboratory Program.
7. Guidance for Data Useability in Risk Assessment, EPA/540/G-90-008, October 1990.

8. Ecological Assessment of Hazardous Waste Sites: A field and Laboratory Reference, EPA/600/3-89013, March 1989.

B.1 Quality Assurance Project Plan (QAPjP)

The Quality Assurance Project Plan (QAPjP) shall document in writing site-specific objectives, policies, organizations, functional activities, and specific quality assurance/quality control activities designed to achieve the data quality objectives (DQO's) of the RD/RA. The QAPjP developed for this project shall document quality control and quality assurance policies, procedure, routines, and specifications. All project activities throughout the RD/RA shall comply with the QAPjP. All QAPjP and sampling and analysis objectives and procedures shall be consistent with Interim Guidelines and Specifications for Preparing Quality Assurance Project Plans (EPA, 1983 - EPA, QAMS- 005/80, 1980). All analytical methods shall be consistent with EPA analytical protocols and methods.

The 16 basic elements of the QAPjP plan are:

1. title page with provision for approval signatures of principal investigators;
2. table of contents;
3. project description;
4. project organization and responsibility;
5. quality assurance objectives for measurement data, in terms of precision, accuracy, completeness, representativeness, and comparability;
6. sampling procedures;
7. sample custody;
8. calibration procedures and frequency;
9. analytical procedures, which must be EPA approved or equivalent methods;
10. data reduction, validation and reporting;
11. internal quality control checks and frequency;
12. performance and system audits and frequency;

13. preventive maintenance procedures and schedules;
14. specific routine procedures to be used to assess the precision, accuracy, and completeness of data and to assess specific measurement parameters involved;
15. corrective action; and
16. quality assurance reports to management.

As indicated in EPA/QAMS-005/80, the above list of essential elements must be considered in the QAPjP for the RD/RA. If a particular element is not relevant to the project, the reasons must be provided.

Information in a plan other than the QAPjP may be cross-referenced clearly in the QAPjP provided that all objectives, procedures, and rationales in the documents are consistent, and the reference material fulfills the requirements of EPA/QAMS-005/80. Examples of how this cross-reference might be accomplished can be found in the Data Quality Objectives for Remedial Response Activities, Development Process, EPA/540/6-87/003 (OSWER Directive 9355.0-7B), March 1987 and the Data Quality Objectives for Remedial Response Activities, Example Scenario, EPA/540/G-87/004 (OSWER Directive 9355.0-7B), March 1987. EPA-approved analytical methods or alternative methods approved by EPA shall be used, and their corresponding EPA-approved guidelines shall be applied when they are available and applicable.

The QA/QC for any laboratory used during the RD/RA shall be included in the QAPjP. When this work is performed by a contractor to the private party, each laboratory performing chemical analyses shall meet the following requirements:

1. be approved by the State Laboratory Evaluation Program, if available;
2. have successful performance in one of EPA's National Proficiency Sample Programs (i.e., Water Supply or Water Pollution Studies or the State's proficiency sampling program);
3. be familiar with the requirements of 48 CFR Part 1546 contract requirements for quality assurance; and
4. have a QAPjP for the laboratory including all relevant analysis. This plan shall be referenced as part of the contractor's QAPjP.

The Settling Defendants are required to certify that all data have been validated by an independent person according to Region I's Laboratory Data Validation Functional

Guidelines for Evaluating Organic and Inorganic Analyses (amended as necessary to account for the differences between the approved analytical methods for the project and the Contract Laboratory Procedures (CLP) procedures). These approved methods shall be contained in the QAPjP. The independent person shall not be the laboratory conducting the analyses and should be a person familiar with EPA Region I data validating procedures. The independent person performing the validation shall insure that the data packages are complete and, all discrepancies have been resolved if possible, and the appropriate data qualifiers have been applied. The Settling Defendants shall keep the complete data package and make it available to EPA and VTDEC on request. The complete data package must include the following:

- o Narrative stating method used and explanation of any problems
- o Tabulated summary forms for samples, standards and QC
- o Raw data for samples, standards and QC
- o Sample preparation logs and notebook pages
- o Sample analysis logs and/or notebook pages
- o Chain of custody sample tags
- o An example calculation for every method per matrix.

B.2 Field Sampling Plan (FSP)

The objective of the Field Sampling Plan is to provide EPA and all parties involved with the collection and use of field data with a common written understanding of all field work. The FSP should be written so that a field sampling team unfamiliar with the Site would be able to gather the samples and field information required. Guidance for the selection of field methods, sampling procedures, and custody can be acquired from the Compendium of Superfund Field Operations Methods (OSWER Directive 9355.0-14, EPA/540/P-87/001), December 1987, which is a compilation of demonstrated field techniques that have been used during remedial response activities at hazardous waste sites. The FSP shall be site-specific and shall include the following elements:

Site Background. If the analysis of the existing Site details is not included in the Work Plan or in the QAPjP, it must be included in the FSP. This analysis shall include a description of the Site and surrounding areas and a discussion of known and suspected contaminant sources, probable transport pathways, and other information about the Site. The analysis shall also include descriptions of specific data gaps and ways in which sampling is designed to fill those gaps. Including this discussion in the FSP will help orient the sampling team in the field.

Sampling Objectives. Specific objectives of sampling effort that describe the intended uses of data must be clearly and succinctly stated.

Sampling Location and Frequency. This section of the FSP identifies each matrix to be collected and the constituents to be analyzed. Tables shall be used to clearly identify the number of samples, the type of sample (water, soil, etc.), and the number of quality control samples (duplicates, trip blanks, equipment blanks, etc.). Figures shall be included to show the locations of existing or proposed sample points.

Sample Designation. A sample numbering system shall be established for the project. The sample designation should include the sample or well number, the sample round, the sample matrix (e.g., surface soil, ground water, soil boring), and the name of the Site.

Sampling Equipment and Procedures. Sampling procedures must be clearly written. Step-by-step instructions for each type of sampling that are necessary to enable the field team to gather data that will meet the Data Quality Objectives (DQOs). A list should include the equipment to be used and the material composition (e.g., Teflon, stainless steel) of equipment along with decontamination procedures.

Sampling Handling and Analysis. A table shall be included that identifies sample preservation methods, types of sampling jars, shipping requirements, and holding times. Examples of paperwork such as traffic reports, chain-of-custody forms, packing slips, and sample tags filled out for each sample as well as instructions for filling out the paperwork must be included. Field documentation methods including field notebooks and photographs shall be described.

C. Health and Safety Plan (HSP)

The objective of the site-specific Health and Safety Plan is to establish the procedures, personnel responsibilities and training necessary to protect the health and safety of all on-site personnel during the RD/RA. The plan shall provide for routine but hazardous field activities and for unexpected Site emergencies.

The site-specific health and safety requirements and procedures in the HSP shall be updated based on an ongoing assessment of Site conditions, including the most current information on each medium. For each field task during the RD/RA, the HSP shall identify:

1. possible problems and hazards and their solutions;
2. environmental surveillance measures;
3. specifications for protective clothing;

4. the appropriate level of respiratory protection;
5. the rationale for selecting that level; and
6. criteria, procedures, and mechanisms for upgrading the level of protection and for suspending activity, if necessary.

The HSP shall also include the delineation of exclusion areas on a map and in the field. The HSP shall describe the on-site person responsible for implementing the HSP for the Settling Defendants representatives at the Site, protective equipment personnel decontamination procedures, and medical surveillance. The HSP shall comply with the following documents, as appropriate:

1. Interim Standard Operations Safety Guides (Hazardous Response Support Division, Office of Emergency and Remedial Response EPA, Wash. D.C. 1982);
2. Superfund Public Health Evaluation Manual (OSWER Directive 9285.41, EPA/540/1-861060, EPA 1986);
3. Hazardous Waste Operations and Emergency Response (Department of Labor, Occupational Safety and Health Administration, (OSHA) 29 CFR Part 1910); and
4. Occupational Safety and Health Guidance Manual for Hazardous Waste Site Activities: Appendix B (NIOSH/OSHA/EPA 1986).

OSHA regulations at 40 CFR 1910 and Chapter 9 of the Interim Standard Operating Safety Guide, which describes the routine emergency provisions of a site-specific health and safety plan, shall be the primary reference used by the Settling Defendants in developing and implementing the Health and Safety Plan.

The measures in the HSP shall be developed and implemented to ensure compliance with all applicable state and Federal occupational health and safety regulations. The HSP shall be updated at the request of EPA during the course of the RD/RA and as necessary.

D. Community Relations Support Plan (CRSP)

EPA may develop a revised Community Relations Support Plan (CRP) to describe public information and public involvement activities anticipated during the RD/RA and delisting. The Settling Defendants may be required to also develop a CRSP, whose objective is to ensure and specify adequate support from the Settling Defendants for the community relations efforts of EPA. This support shall be at the request of EPA and may include:

1. participation in public informational or technical meetings, including the provision of presentations, logistical support, visual aids and equipment;
2. publication and copying of fact sheets or updates;
3. assistance in preparing a responsiveness summary after the public RD/RA comment period, and;
4. assistance in placing EPA public notices in print.

2.0 SITE CHARACTERIZATION

2.1 SITE DESCRIPTION

2.1.1 Site Location

The site is located in Woodford and Bennington, Vermont, between Burgess Road and the Walloomsac Brook. Access to the site is through the Burgess Brothers facility on Burgess Road, approximately 1.1 miles southeast of the junction of Burgess Road and State Highway 9. The Green Mountain National Forest borders the site to the north. The latitude of the site is 42°52'40" and the longitude is 73°09'00".

2.1.2 General Site Description

The site consists of an approximately three acres area located in the northeastern section of a 60-acre parcel which is owned by Clyde Burgess, Jr. The site location is shown in Figure 1 and the site topography is provided in Figure 2A.

The FS includes references to the following six areas, as shown on Figure 2A and 2B:

Landfill Area - which is the waste disposal area

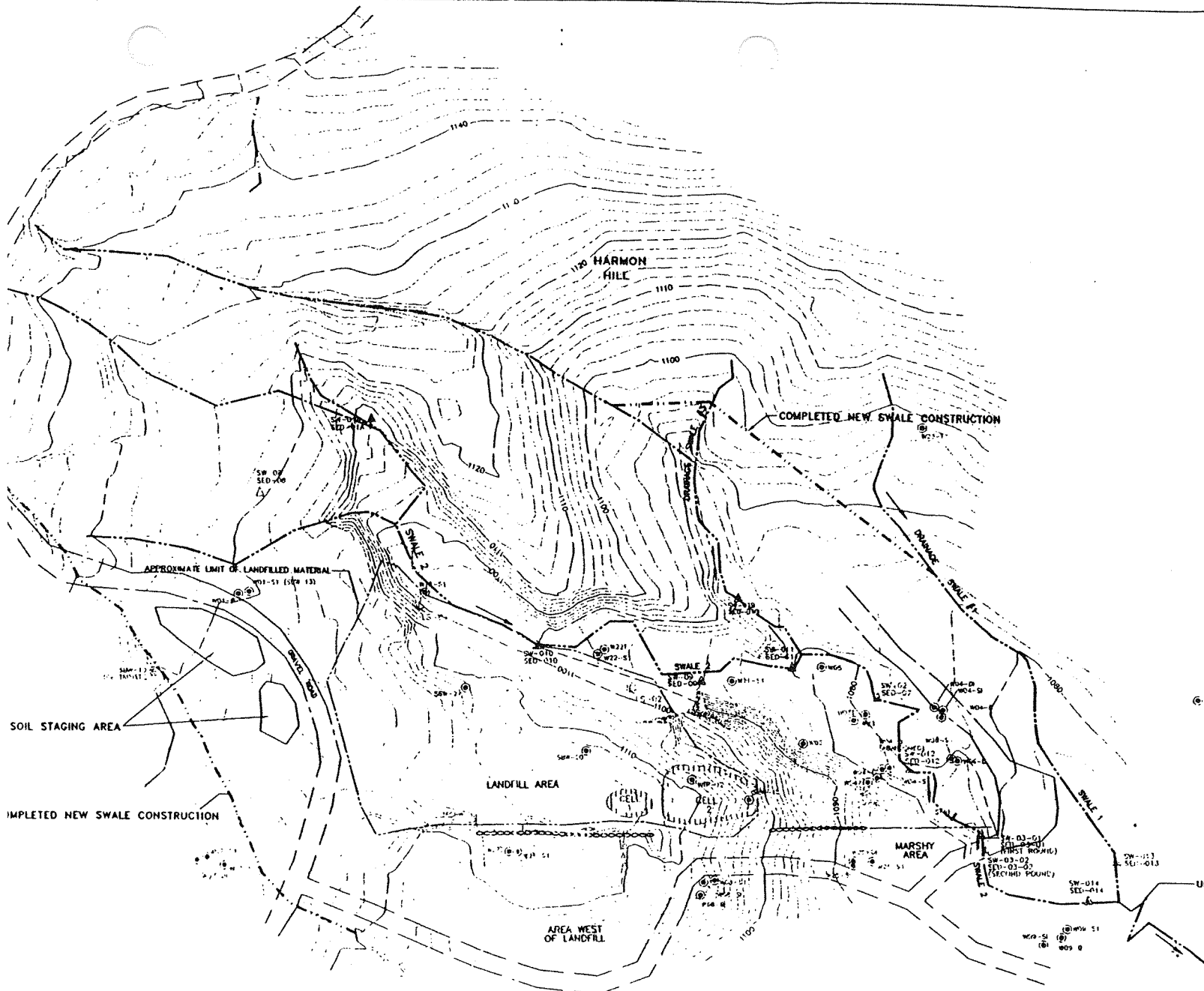
Lagoon Cells - are located within the Landfill Area and consist of two former waste disposal cells where solvent and reserve energizer battery wastes were reportedly disposed

Area West of Landfill - includes the areas to the west of the Landfill Area, downslope of the landfill and in the vicinity of the Landfill Road

Marshy Area - is located downslope of the landfill and consists of a wetland area with hillslope drainage swales

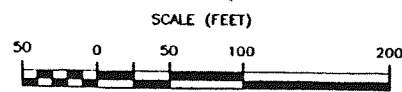
Hillside Area - includes areas upslope and to the east of the Marshy Area and Landfill Area on Harmon Hill

The landfill occupies approximately two acres and the two former Lagoon Cells, within the Landfill Area, occupy approximately 4,000-square feet. Both the lagoon and landfill have been covered with clean soils from the property.



LEGEND

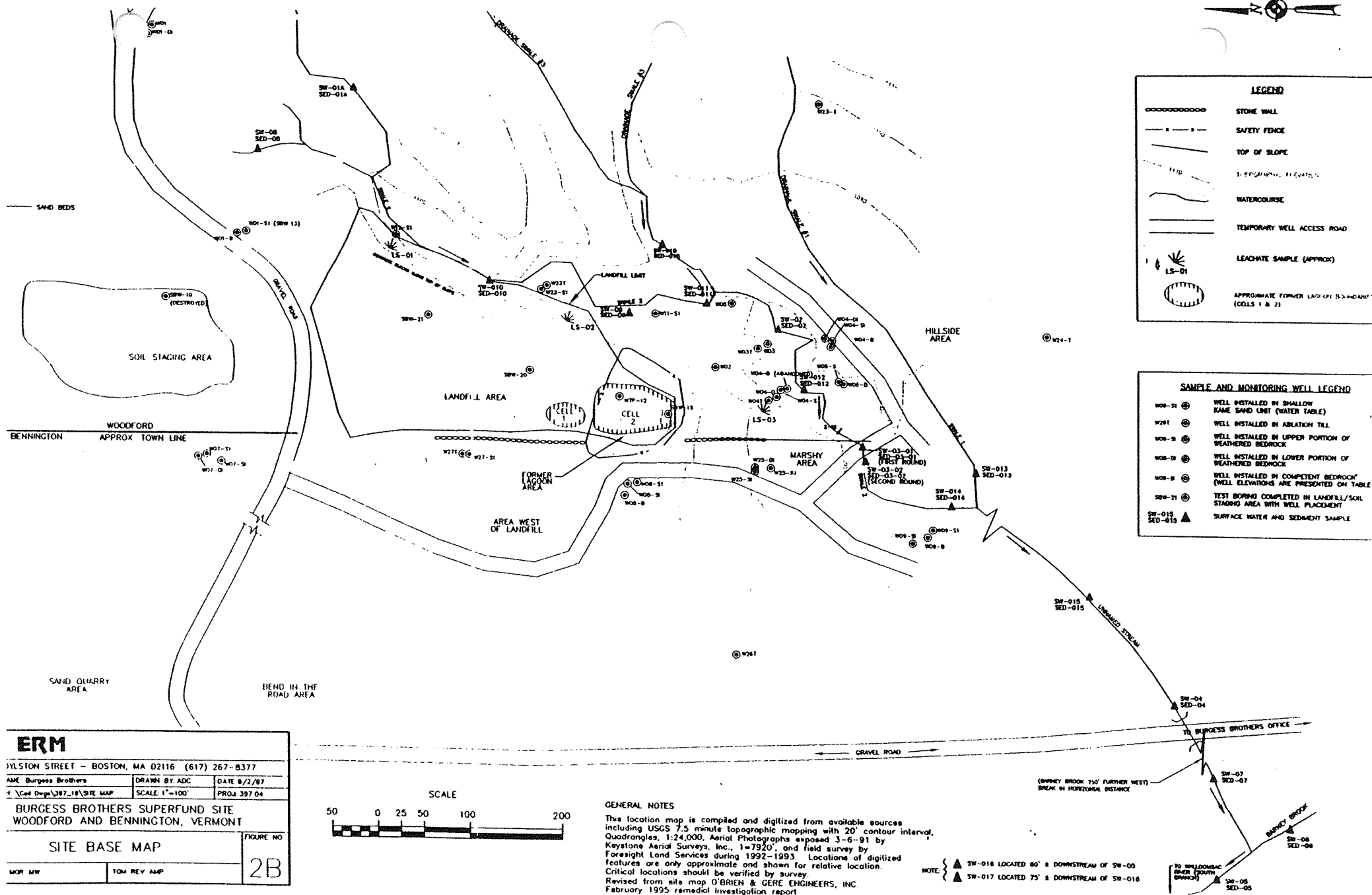
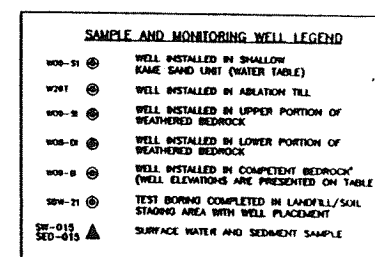
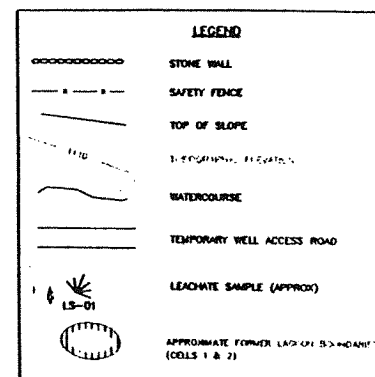
- EXISTING TOPOGRAPHIC CONTOURS
- EXISTING DRAINAGE SWALE
- MONITORING WELLS
- SURFACE WATER - SEDIMENT SAMPLES



ERM

399 BOYLSTON STREET - BOSTON, MA 02116 (617) 267-8377

CLIENT NAME: Burgess Brothers		DRAWN BY: ADC	DATE: 9/2/9
FILE PATH: \\vms.stud\Conf\Dep\307_10\fig_2		SCALE: 1"=100'	PROJ: 307 11
Burgess Brothers Superfund Site Woodford & Bennington, Vermont Site Base Map			
PROJECT MGR: MW		TQM REV: GAD	



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APPENDIX D

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The following Parties constitute the Non-Owner Settling Defendants: Burgess Brothers, Inc., and Eveready Battery Company, Inc.

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APPENDIX E

The following Party is the Owner Settling Defendant: Clyde Burgess, Jr.

APPENDIX F

GRANT OF ENVIRONMENTAL PROTECTION EASEMENT AND DECLARATION OF RESTRICTIVE COVENANTS

1. This Grant of Environmental Protection Easement and Declaration of Restrictive Covenants ("Grant") is made this _____ day of _____, 1999, by and between CLYDE BURGESS, JR., an individual owning property in the Towns of Bennington and Woodford, County of Bennington, State of Vermont (hereinafter, including his heirs, successors, and assigns, "Grantor"), and the SECRETARY OF THE AGENCY OF NATURAL RESOURCES OF THE STATE OF VERMONT (hereinafter, including its successors and assigns, "Grantee"), with a place of business in Waterbury, in the County of Washington and State of Vermont.

WITNESSETH:

2. WHEREAS, Grantor is the legal title holder in fee simple of a parcel of land located in the Towns of Bennington and Woodford, County of Bennington, State of Vermont, more particularly described in Exhibit A attached hereto and made a part hereof (the "Property"); and

3. WHEREAS, the Property contains the Burgess Brothers Superfund Site (defined below), which the United States Environmental Protection Agency ("EPA"), pursuant to Section 105 of the Comprehensive Environmental Response, Compensation and Liability Act ("CERCLA"), 42 U.S.C. § 9605, placed on the National Priorities List ("NPL"), set forth at 40 C.F.R. Part 300, Appendix B, by publication in the Federal Register on March 31, 1989; and

4. WHEREAS, in a Record of Decision dated September 25, 1998 (the "ROD"), the Director of the Office of Site Remediation and Restoration, EPA Region 1, selected a remedial action for the Site that provides for the following actions (the "Remedial Action"):

- a. A multi-barrier cap over the former landfill area (as described in the ROD).
- b. A cap over the soils in the marshy area (as described in the ROD) located southeast of the landfill area.

- c. Hot spot treatment of the former lagoon cells within the landfill area using a soil-vapor extraction ("SVE") and air sparging system.
- d. Natural attenuation of contaminated groundwater beyond the area of influence of the SVE and air sparging system.
- e. Institutional controls to prevent the use of contaminated groundwater, to protect the capped areas, and to inform future purchasers of the Property of the institutional controls;
- f. Long-term monitoring of site groundwater, surface water, and sediments to evaluate the overall effectiveness of the remedy; and
- g. A review of the Site every five years to ensure that the remedy continues to protect human health and the environment; and

5. WHEREAS, under the terms of a Consent Decree, dated XXXXXX, 1999, entered into, by and between Grantor, Burgess Brothers, Inc., Eveready Battery Company, the Grantee, and the United States, Civil Action No. XXXXXX (the "Consent Decree"), Grantor, together with the other settling defendants named in the Consent Decree, agreed to perform the Remedial Action identified in the ROD in order to protect public health and welfare and the environment from the actual or threatened release of hazardous substances at or from the Site.

6. WHEREAS, pursuant to the terms of the Consent Decree, the Grantor agreed (i) to grant a permanent right of access over the Property to the Grantee for purposes of implementing, facilitating and monitoring the Remedial Action; and (ii) to impose on the Property use restrictions as covenants that will run with the land for the purpose of protecting human health and the environment; and

7. WHEREAS, the following terms as used herein shall be defined as follows:

- a. The "Environmental Restriction Area" shall mean that portion of the Property as described in Exhibit B and as shown on the "Plan of Environmental Restriction Area" to be recorded herewith.

- b. The "Site" shall mean the Burgess Brothers Superfund Site, encompassing approximately three acres, located at RR #3 between Burgess Road and the Walloomsac Brook on property owned by members of the Burgess family located in the Towns of Woodford and Bennington, Vermont, and described generally on the map attached as Appendix C.
- c. The "Landfill Cap Area" shall mean that portion of the Property as described in Exhibit B and as shown on the "Plan of Environmental Restriction Area" to be recorded herewith.

8. WHEREAS, Grantor agrees to grant the following easements, rights, obligations, and restrictions, as more particularly set forth below, to the Grantee;

NOW, THEREFORE:

9. Grant: Grantor, on his behalf, and on behalf of his heirs, successors, and assigns, in consideration of the terms of the Consent Decree, does hereby subject the Property to the restrictions on use set forth below, and does remise, release and forever quit claim to the Grantee, and its successors and assigns, (i) the perpetual right to enforce said use restrictions, and (ii) an environmental protection easement of the nature and character, and for the purposes hereinafter set forth, with respect to the Property.

10. Purpose: The purpose of this instrument is to give the Grantee the right to limit certain uses of the Property to reduce the risk that contaminants on the Property may pose to human health and the environment and to give Grantee a right of access to the Property for the purposes described below.

11. Declaration of Restrictive Covenants: The following covenants, conditions, and restrictions apply to the use of the Environmental Restriction Area, run with the land, and are binding on the Grantor and all other persons. Grantor shall neither perform, nor suffer, allow or cause any other person to perform, any of the following activities or uses in, on, upon, through, over or under the Environmental Restriction Area:

- a. No use shall be made that disturbs the integrity or performance of any of the layers of the cap, any surface water diversion systems or swales, the landfill gas collection system, the SVE and air sparging system, or any other structure or system for maintaining the

effectiveness of the Remedial Action, whether in place now or in the future. No use shall be made that disturbs the function of any monitoring well or other system for monitoring any response action.

- b. Groundwater shall not be used in any manner, including, but not limited to, use as a drinking water supply, and no water supply or other groundwater well shall be installed, except for groundwater monitoring wells installed pursuant to plans approved in writing in advance by Grantee and the EPA.
- c. No excavation, digging, drilling, or other intrusive activity into or disturbance of the soil.
- d. No use shall be made that in any manner would interfere with or adversely affect the integrity or protectiveness of the Remedial Action.
- e. The Environmental Restriction Area shall be used solely for industrial and commercial purposes, unless other uses are approved in writing in advance by Grantee and the EPA.

12. Permitted Uses: Grantor may perform, suffer, allow or cause any person to perform the following activities and uses in, on, upon, through, over or under the Property:

a. Notwithstanding the provisions of Paragraph 11.c, in the portion of the Property outside boundaries of the "Landfill Cap Area," Grantor is expressly permitted to (i) store or stage materials, including without limitation, soil, and (ii) to construct buildings on the surface grade that do not contain subsurface basements, provided such activities shall not violate any other restriction established hereunder or interfere with or adversely affect the integrity or protectiveness of the Remedial Action. Grantor shall give Grantee and EPA at least thirty (30) days advance written notice of the construction of any building in the Environmental Restriction Area.

b. Notwithstanding the provisions of Paragraph 11.c., Grantor is expressly allowed to conduct soil and groundwater sampling and monitoring, provided that such sampling and monitoring has been approved in advance by the EPA, with reasonable opportunity for review and comment by the Vermont Department of Environmental Conservation.

13. Emergency Excavation: If it becomes necessary to excavate a portion of the Environmental Restriction Area in response to an emergency such as fire or flood, the Restrictive Covenants of Paragraph 11 above, which would otherwise restrict excavation, shall be suspended with respect to such emergency excavation for the duration of such emergency, provided that Grantor:

- a. Orally notifies the Grantees' Project Coordinator and EPA's Project Coordinator, or, in his or her absence, EPA's Alternate Project Coordinator (as such coordinators are described in the Consent Decree), or if both of EPA's designated representatives are unavailable, the Director of the Office of Site Remediation and Restoration, EPA Region I, of such emergency, as soon as possible, but no more than two hours after having learned thereof, to be followed with a written notice to the Grantee and the EPA; and
- b. Limits the actual disturbance involved in such excavation to the minimum reasonable necessary to adequately respond to the emergency.

This provision shall not waive liability for releases of hazardous substances, nor shall this provision excuse compliance with CERCLA or any other applicable federal or state laws and regulations.

14. Environmental Protection Easement: Grantor hereby grants to the Grantee an irrevocable, permanent, and continuing right of access at all reasonable times to the Property for the purpose of:

- a. Implementing, monitoring, and/or maintaining the Remedial Action;
- b. Verifying any data or information submitted to the United States or the Grantee;
- c. Conducting investigations relating to contamination at or near the Site;
- d. Obtaining samples;
- e. Assessing the need for, planning, monitoring, or implementing response actions other than the Remedial Action at or near the Site;

- f. Conducting periodic reviews of the activities performed pursuant to the Consent Decree including, but not limited to, reviews required by CERCLA and the National Contingency Plan ("NCP").
- g. Assessing compliance with this Grant, the Consent Decree, or any state or federal environmental laws or regulations; and
- h. Determining whether the Site or other property is being used in a manner that is prohibited or restricted, or that may need to be prohibited or restricted, by or pursuant to this Grant or the Consent Decree.

Grantee and EPA shall give reasonable notice to Grantor prior to accessing the Property, except in the case of emergencies.

15. Reserved Rights of Grantor: Grantor hereby reserves unto himself, and his heirs, successors, and assigns, all rights and privileges in and to the use of the Property which are not incompatible with the restrictions, rights and easements granted herein.

16. Nothing in this document shall limit or otherwise affect the EPA's or the Grantee's rights of entry and access or to issue orders or take response actions to the extent provided by law or regulation or in the Consent Decree.

17. No Public Access and Use: No right of access or use by the general public to any portion of the Property is conveyed by this instrument.

18. Amendment, Modification, and Release: This Grant may be amended, modified, or released only by written agreement between Grantor and the Grantee, after a reasonable opportunity for review and comment by EPA, in accordance with CERCLA and the NCP, to the extent applicable. Grantor may submit to EPA and the Grantee a proposal for modifying or withdrawing the Restrictive Covenants or any portion thereof. Said proposal shall demonstrate that the Restrictive Covenants contained herein may be modified or withdrawn in whole or in part consistent with the public interest and the public purposes of protecting human health and the environment. The Restrictive Covenants may be modified, or terminated in whole or in part, in writing by written agreement between Grantor and the Grantee, but only with written concurrence of the EPA.

The Grantee shall issue a written decision with an explanation of the reasons for the approval, modification, or denial of such petition. If requested by the Grantor, such writing shall be executed by Grantee in recordable form. Grantor shall pay any and all recording fees, land transfer taxes and other such transactional costs associated with any such amendment, modification, or release.

19. Notice Requirement: Grantor agrees to include in any instrument conveying any interest in any portion of the Property, including but not limited to deeds, leases and mortgages, a notice which is in the following form:

**NOTICE: THE INTEREST CONVEYED HEREBY IS
SUBJECT TO AN ENVIRONMENTAL PROTECTION
EASEMENT AND DECLARATION OF RESTRICTIVE
COVENANTS, DATED _____, 19____, RECORDED IN
THE LAND RECORDS OF THE TOWNS OF BENNINGTON
AND WOODFORD ON _____, 19____, IN BOOK
_____, PAGE _____, AND IN BOOK _____,
PAGE _____, RESPECTIVELY, IN FAVOR OF, AND
ENFORCEABLE BY, THE STATE OF VERMONT.**

Within thirty (30) days of the date any such instrument of conveyance is executed, Grantor must provide Grantee with a certified true copy of said instrument and, if it has been recorded in the public land records, its recording reference.

20. Enforcement: The Grantee shall be entitled to seek any relief available at law or equity in enforcing this instrument including, without limitation, damages and specific performance. Any injunctive relief obtained could include, without limitation, the issuance of an order to modify or remove any improvements constructed in violation of the restrictions set forth in this instrument. All reasonable costs and expenses of the Grantee, including, but not limited to, attorneys' fees, incurred in any action to enforce the terms of this instrument shall be borne by the Grantor or its successors in interest to the Property. All remedies available hereunder shall be in addition to any and all other remedies at law or in equity, including, without limitation, CERCLA, which remedies the Grantee fully reserves. Enforcement of the terms of this instrument shall be at the discretion of the Grantee, and any forbearance, delay or omission to exercise its rights under this instrument in the event of a breach of any term of this instrument shall not be deemed to be a waiver by the Grantee of such term or of any subsequent breach of the same or any other term, or of any of the rights of the Grantee under this instrument.

21. Damages: Grantee shall be entitled to recover damages for violations of the terms of this instrument, or for any injury to the Remedial Action, to the public or to the environment protected by this instrument.

22. Waiver of Certain Defenses: Grantor hereby waives any defense of laches, estoppel, or prescription.

23. Covenants: Grantor hereby covenants to and with the Grantee that the Grantor is lawfully seized in fee simple of the Property, that the Grantor has a good and lawful right and power to sell and convey it or any interest therein, that the Property is free and clear of encumbrances, and that the Grantor will forever warrant and defend the title thereto and the quiet possession thereof.

24. Notices: Any notice, demand, request, consent, approval, or communication that either party desires or is required to give to the other shall be in writing and shall either be served personally or sent by overnight mail or certified mail, return receipt requested, postage prepaid, addressed as follows:

To Grantor:

Clyde Burgess, Jr.
c/o Burgess Brothers, Inc.
RR # 3, Box 1130
Bennington, VT 05201

To Grantee:

Commissioner
Vermont Department of Environmental
Conservation
103 South Main Street
Waterbury, VT 05671-0404
Attn: Burgess Brothers Superfund Site

To EPA:

Ronald Jennings
EPA Project Coordinator
U.S. Environmental Protection Agency
Suite 1100 - Mail Code HBT
One Congress Street
Boston, MA 02114

Re: Burgess Brothers Superfund Site

25. General Provisions:

a. Controlling Law: The interpretation and performance of this instrument shall be governed by the laws of the State of Vermont.

b. Liberal Construction: Any general rule of construction to the contrary notwithstanding, this instrument shall be liberally construed in favor of the grant to effect the purpose of this instrument and the policy and purpose of CERCLA. If any provision of this instrument is found to be ambiguous, an interpretation consistent with the purpose of this instrument that would render the provision valid shall be favored over any interpretation that would render it invalid.

c. Severability: If any provision of this instrument, or the application of it to any person or circumstance, is found to be invalid, the remainder of the provisions of this instrument, or the application of such provisions to persons or circumstances other than those to which it is found to be invalid, as the case may be, shall not be affected thereby.

d. No Forfeiture: Nothing contained herein shall result in a forfeiture or reversion of Grantor's title in any respect.

e. Successors: The covenants, terms, conditions, and restrictions of this instrument shall be binding upon, and inure to the benefit of, the parties hereto and their respective successors and assigns and shall continue as a servitude running in perpetuity with the Property. The term "Grantor," wherever used herein, and any pronouns used in place thereof, shall include the person named at the beginning of this document, identified as "Grantor" and his heirs, successors, successors-in-title, and assigns. The term "Grantee," wherever used herein, and any pronouns used in place thereof, shall include the Secretary of the Agency of Natural Resources of the State of Vermont and its successors and assigns. The rights of the Grantee and Grantor under this instrument are freely assignable, subject to the notice provisions hereof.

f. Termination of Rights and Obligations: A party's rights and obligations under this instrument terminate upon transfer of the party's interest in the Easement or Property,

except that liability for acts or omissions of a party occurring during its ownership shall survive transfer.

g. Captions: The captions in this instrument have been inserted solely for convenience of reference and are not a part of this instrument and shall have no effect upon construction or interpretation.

TO HAVE AND TO HOLD unto the Grantee and its assigns forever.

IN WITNESS WHEREOF, CLYDE BURGESS, JR., has executed this instrument the day and year first above written.

CLYDE BURGESS, JR.

In the presence of:

Witness

STATE OF VERMONT)
COUNTY OF BENNINGTON) ss

On this __ day of ____, 19__, personally appeared Clyde Burgess, Jr., signer and sealer of the foregoing written conveyance and acknowledged the same to be his free act and deed.

Before me,

Notary Public

My Commission Expires: ____.

Attachments: Exhibit A - Legal Description of the Property
 Exhibit B - Description of the Environmental
 Restriction Area
 Exhibit C - Description of the Site

Exhibit A

Legal Description of the Property

[TO BE ADDED]

Exhibit B

**Legal Metes and Bounds Description of the Environmental
Restriction Area and the Landfill Cap Area and Surveyed Plan of
Environmental Restriction Area**

[TO BE ADDED]

Exhibit C

Description of the Site

[TO BE ADDED]

Location-Specific

Medium	Requirements	Status
Wetlands	Federal Executive Order on Protection of Wetlands (E.O. 11990, 40 CFR Part 6, Appendix A)	Applicable
	Federal Fish and Wildlife Coordination Act (16 USC 661 et seq.) 40 CFR Part 6	Applicable
	Federal Clean Water Act (33 USC 1344), US Army Corps of Engineers Nationwide Permit Program (33 CFR Part 330), and Federal Guidelines for Specification of Disposal Sites" (40 CFR Part 230)	Applicable

Principal Hazardous Waste ARARs

RCRA regulations and the current State of Vermont Hazardous Waste Regulations are ARARs for this remedy. In those limited instances where these regulations may conflict, the more stringent regulation will be followed.

Principal ARARs for Groundwater Protection

It has been determined by EPA that the groundwater in the overburden and bedrock aquifers beyond the points of compliance is a potential future drinking water source. While Maximum Contaminant Levels (MCLs) and non-zero Maximum Contaminant Level Goals (MCLGs) promulgated under the federal Safe Drinking Water Act are not applicable to groundwater, they are relevant and appropriate to groundwater cleanup because the groundwater may be used in the future as a drinking water source. The NCP requires that usable groundwaters be restored to their beneficial uses whenever practicable. See 40 CFR 300.430(a)(iii)(F).

Primary Enforcement Groundwater Standards, contained in the State of Vermont Groundwater Protection Act Regulations are applicable. The aquifer is classified by the State of Vermont as a Class III aquifer, suitable as a source of water for individual domestic drinking water supply, irrigation, agricultural use and industrial/commercial use. A management objective for Class III groundwaters is compliance with the Vermont Groundwater Standards.

Principal ARARs/TBCs for Wetland Protection

The federal Clean Water Act and Executive Order 11990 (Protection of Wetlands) are ARARs for the portion of the remedy constructed in or affecting the wetlands at the Site. These rules (i) prohibit activity that adversely affects wetlands unless there is no practicable alternative to such adverse effect, and (ii) require that all practicable measures be taken to minimize harm to wetlands. Because of the landfill's proximity to the wetlands and because soils within the Marshy Area are contaminated, it will be necessary to cap a portion of the wetlands that are adjacent to the Landfill Area. The capping and the resulting filling of the wetlands are required for source control for all alternatives considered. The No Action alternative does not require the filling of wetlands, but that alternative is not protective of human health and the environment. Alternatives to the filling – such as excavating the wetlands, replacing the excavated area with clean soil, then restoring the wetland – were considered and rejected. The RI included a delineation and assessment of the wetlands. The FS contains more detail regarding the necessity of filling the Marshy Area wetland and alternatives considered.

Construction will be conducted to avoid or minimize any damage to flora and fauna within the portions of the wetland that will not be capped. Measures will also be taken in constructing the cap to control erosion and runoff. Any wetlands lost will be replaced through replication efforts, either off-site or on-site. EPA will coordinate any wetlands replication with U.S. Fish and Wildlife and with the Vermont DEC. The wetlands in the Marshy Area are Class III wetlands and are not protected by State regulations.

Accordingly, EPA has determined that there is no practicable alternative to filling wetlands in a portion of the Marshy Area and that the selected remedy includes all practicable measures to minimize harm to wetlands. EPA notified the public of the wetlands impacts in a Progress Update in April 1998 and in the Proposed Plan. EPA did not receive any comments regarding wetlands during the public comment period.

Principal ARARs for Air Quality Protection

State Air Pollution Control Regulations establish air quality standards and allowable discharges, list hazardous contaminants, and set Hazard Limiting Values and Action Limits. RCRA requirements for air emissions from process vents and equipment leaks are also included as potential ARARs. The remedy, specifically the VOC emissions from the SVE/air sparging system, will attain these ARARs. Federal air regulations also require the collection, control, and monitoring of Non-Methane Organic Compounds (NMOCs) such as benzene and ethane from landfills. The landfill gas venting system will be designed to satisfy these performance standards, if threshold limits are exceeded. Landfill construction will address State requirements

regarding particulates and odors through engineering controls.

Principal ARARs for Surface Water Protection

Several different ARARs address the protection of surface water bodies (including wetlands which are addressed separately in this section). ARARs include the Vermont Water Quality Standards and the Ambient Water Quality Criteria (AWQC) pursuant to the Clean Water Act. Source control measures will control erosion, runoff, and contaminant migration and thereby improve surface water quality over time. Water quality standards will be used to measure the effectiveness of source control measures.

C. The Selected Remedial Action is Cost-Effective

In the Agency's judgment, the selected remedy (Alternative 2) is cost effective, i.e., the remedy affords overall effectiveness proportional to its costs. In selecting this remedy, once the alternatives were identified that are protective of human health and the environment and that attain ARARs, EPA evaluated the overall effectiveness of each alternative by assessing the relevant three criteria: long term effectiveness and permanence; reduction in toxicity, mobility, and volume through treatment; and short term effectiveness. The relationship of the overall effectiveness of the selected remedial alternative was determined to be proportional to its costs.

The present worth costs of this remedial alternative, as presented in the Proposed Plan, are:

<i>Estimated Capital Cost</i>	<i>\$1,633,000</i>
<i>Estimated Operations and Maintenance Cost:</i>	<i><u>\$1,941,000</u></i>
<i>Estimated Total Cost:</i>	<i>\$3,600,000</i>

For comparison, the estimated total costs for the other alternatives that meet the threshold criteria for protection of human health and the environment and compliance with ARARs are:

Alternative 3	\$6,000,000
Alternative 4	\$5,800,000

The selected remedy (Alternative 2) is the least expensive of those alternatives that meet the threshold criteria. The additional costs for Alternative 3 are related to extraction and treatment of groundwater down gradient of the landfill. Because extraction and treatment of the down gradient plume would not appreciably reduce the time for groundwater restoration to drinking

water standards, EPA believes that these additional costs are not justified.

Alternative 4 includes the construction of a treatment wall to restrict contaminant transport into the shallow groundwater aquifer. Restricting contaminant transport, however, will primarily be accomplished through the source control components included for all Alternatives, specifically, capping the landfill and by performing SVE/air sparging in the former Lagoon Area. The treatment wall would not provide significant additional benefits in restricting contaminant transport beyond these source control measures. The treatment wall would also not appreciably reduce the time required for groundwater restoration to drinking water standards. For these reasons, EPA believes that additional costs for the construction of a treatment wall are not justified.

D. The Selected Remedy Utilizes Permanent Solutions and Alternative Treatment or Resource Recovery Technologies to the Maximum Extent Practicable.

Once the Agency reviewed those alternatives that attain ARARs and that are protective of human health and the environment, EPA identified which alternatives utilize permanent solutions and alternative treatment technologies or resource recovery technologies to the maximum extent practicable. This determination was made by deciding which one of the identified alternatives provides the best balance of trade-offs among alternatives in terms of: 1) long-term effectiveness and permanence; 2) reduction of toxicity, mobility or volume through treatment; 3) short-term effectiveness; 4) implementability; and 5) cost. The balancing test emphasized long-term effectiveness and permanence and the reduction of toxicity, mobility and volume through treatment; and considered the preference for treatment as a principal element, the bias against off-site land disposal of untreated waste, and community and state acceptance. The selected remedy provides the best balance of trade-offs among the alternatives.

In evaluating the alternatives, the presumptive remedy for municipal landfills, which acknowledges removal of the landfill contents as an impractical alternative, was used as a guidance document. Consistent with the presumptive remedy guidance document, containment was identified as the presumptive approach for source control. Treatment options for areas other than hot spots were determined not to be cost effective as only insignificant risk reduction could be obtained from significant increases in remediation costs.

All of the alternatives (except the No Action Alternative) have the same approach for treatment of the contaminant source. They all provide long-term effectiveness and permanence by capping the Landfill Area and Marshy Area to prevent exposure to contaminated soil and solid waste and by performing SVE/air sparging in the Lagoon Area soils to treat the hot spot. Both capping and SVE/air sparging will prevent continued migration of contaminants to groundwater, surface

water, and sediments in the long-term. The differences in the alternatives, and what has been evaluated in the balancing test, is the way groundwater would be remediated.

The selected remedy (Alternative 2) utilizes natural attenuation for groundwater remediation which offers the same degree of long-term effectiveness and permanence as the other alternatives. Natural attenuation also offers a similar level of reduction of toxicity, mobility and volume of contaminants. The short-term effectiveness of achieving drinking water standards of the selected remedy (7 years) is relatively equal to that of the other alternatives (2 years) and EPA considers these time frames to be reasonably similar. Of all the alternatives, the selected remedy is the easiest to implement and has the lowest costs.

Both the community and the State of Vermont support Alternative 2 (natural attenuation) as the selected remedy.

E. The Selected Remedy Satisfies the Preference for Treatment Which Permanently and Significantly Reduces the Toxicity, Mobility, or Volume of the Hazardous Substances as a Principal Element

All of the alternatives offer a similar degree of reduction of toxicity, mobility or volume through treatment within a reasonably similar time frame. Alternative 2 will achieve drinking water standards within 7 years, Alternatives 3 and 4 achieve drinking water standards within 2 years. Both Alternatives 3 and 4, however, would create additional wastes. Alternative 3 would generate sludge as a by-product of the water treatment process and Alternative 4 would require replacement and disposal of the granular iron contents of the treatment wall once metal precipitation and biofouling affected performance.

As stated previously, the Burgess Brothers landfill is not primarily a municipal landfill, however, it did receive municipal type waste co-disposed with industrial waste and is characteristically similar. Because of this, EPA's guidances on CERCLA Municipal Landfill Sites have been considered in determining the selection of a remedy.

CERCLA and the NCP set forth the process by which remedial actions are evaluated and selected. Because many CERCLA municipal landfill sites share similar characteristics, they lend themselves to remediation by similar technologies. EPA has established a number of expectations as to the types of technologies that should be considered and alternatives that should be developed; they are listed in the National Contingency Plan (40 CFR 300.430 (a) (1) and the EPA guidance document for municipal landfill sites "Conducting Remedial Investigation/Feasibility Studies for CERCLA Municipal Landfill Sites" EPA/540/P-91/001).

For CERCLA municipal landfill sites, it is expected that:

1. The principal threats posed by a site will be treated wherever practical, such as in the case of remediation of a hot spot.
2. Engineering controls such as containment will be used for waste that poses a relatively low long-term threat or where treatment is impractical.
3. A combination of methods will be used as appropriate to achieve protection of human health and the environment. An example of combined methods for municipal landfill sites would be treatment of hot spots in conjunction with containment of the landfill contents.
4. Institutional controls such as deed restrictions will be used to supplement engineering controls, as appropriate, to prevent exposure to hazardous wastes.
5. Innovative technologies will be considered when such technologies offer the potential for superior treatment performance or lower costs for performance similar to that of demonstrated technologies.
6. Groundwater will be returned to beneficial uses whenever practical, within a reasonable time, given the particular circumstances of the site.

The remedy selected in this ROD partially satisfies the preference set forth in CERCLA and the NCP for treatment. Potential exposure to and ingestion of contaminated groundwater is the principal threat posed by the site. The selected remedy is a containment remedy which includes the treatment of hot spots as well as engineering controls supplemented by institutional controls. EPA has determined that capping, hot spot remediation, and natural attenuation will be effective in the restoration of groundwater and that a more aggressive groundwater treatment strategy would not provide additional benefits at this site.

The selected remedy partially satisfies the statutory preference for treatment as a principal element by treating the soils in the Lagoon Area which result in the removal of contaminants. This action will reduce the toxicity, mobility, and volume of the contaminants in the source area. The remaining contents of the landfill will be contained under the multi-layer cap.

XII. DOCUMENTATION OF SIGNIFICANT CHANGES

EPA presented a Proposed Plan that described the preferred alternative for remediation of the Site on June 15, 1998. EPA did not receive any significant comments on the proposed remedy.

EPA has changed performance levels for some constituents in surface water from those presented in the Proposed Plan. Specifically, copper, lead, nickel, and zinc have performance levels of 6.5, 1.3, 87.7, and 58.9 ppb, respectively. These values are specified in Table 2 of this ROD and have been changed based on an assumed water hardness of 50 mg/l CaCO₃.

The performance level for silver has also changed to 1.2 ppb. This value is based on EPA's Ambient Water Quality Criteria.

The selected remedy in this ROD is consistent with the proposed plan.

XIII. STATE ROLE

The Vermont Department of Environmental Conservation has reviewed the various alternatives and has indicated its support for the selected remedy. The State has also reviewed the Remedial Investigation, Baseline Risk Assessment and Feasibility Study Report to determine if the selected remedy is in compliance with applicable or relevant and appropriate State environmental laws and regulations. The State of Vermont concurs with the selected remedy for the Burgess Brothers Superfund Site. A copy of the declaration of concurrence is attached as Appendix C.

APPENDIX A
TABLES AND FIGURES

TABLE 1

Summary of Previous Investigation Activities

<u>Date</u>	<u>Lead Organization</u>	<u>Purpose/Activity</u>
6/1976	VTAEAC	Site inspection; collected three surface water samples and one leachate sample.
1984	VTAEAC	Sampled surface water, leachate, and private drinking water supplies.
1985	VTAEAC	Completed Preliminary Assessment and Site Investigation (PASI).
1985	Eveready	Installed groundwater monitoring wells and test pits to characterize the shallow subsurface conditions. Sampled groundwater, soil, and surface water.
2/89	EPA	Site inspection; sampled surface water.
3/89	EPA	Site listed on NPL.
3/89	Eveready	Sampled existing monitoring wells, collected surface water, and soil samples
4/89	EPA	Conducted soil gas survey, soil sampling in lagoon and marshy areas, and surface water sampling.
5/91	VTDEC	Sampling of private drinking water supplies.
12/91-1/92	Settling Parties	Conducted Limited Field Investigation consisting of records review, ground-penetrating radar, air sampling and soil vapor screening.
9/92-8/94	Settling Parties	Conducted Phase 1A and 1B RI consisting of seismic refraction survey, soil gas sampling, installation of test pits, air monitoring, installation of monitoring wells and an ecological assessment. In addition, sampled and analyzed soils, surface water, sediments, leachate/seeps and groundwater.
11/94-11/96	Settling Parties	Long Term Monitoring Program (LTMP) sampling of groundwater, surface water, and leachate sampling. Groundwater sampling conducted using conventional purging and sampling techniques.
6/96-2/97	Settling Parties	Supplemental RI conducted to re-evaluate groundwater sampling results found during the RI and LTMP sampling.

**ROD DECISION SUMMARY
BURGESS BROTHERS SUPERFUND SITE**

September 25, 1998

3/1998

Settling Parties

Completed Feasibility Study for the Site.

TABLE 1

Summary of Previous Investigation Activities

<u>Date</u>	<u>Lead Organization</u>	<u>Purpose/Activity</u>
6/1976	VTAEC	Site inspection; collected three surface water samples and one leachate sample.
1984	VTAEC	Sampled surface water, leachate, and private drinking water supplies.
1985	VTAEC	Completed Preliminary Assessment and Site Investigation (PASI).
1985	Eveready	Installed groundwater monitoring wells and test pits to characterize the shallow subsurface conditions. Sampled groundwater, soil, and surface water.
2/89	EPA	Site inspection; sampled surface water.
3/89	EPA	Site listed on NPL.
3/89	Eveready	Sampled existing monitoring wells, collected surface water, and soil samples
4/89	EPA	Conducted soil gas survey, soil sampling in lagoon and marshy areas, and surface water sampling.
5/91	VTDEC	Sampling of private drinking water supplies.
12/91-1/92	Settling Parties	Conducted Limited Field Investigation consisting of records review, ground-penetrating radar, air sampling and soil vapor screening.
9/92-8/94	Settling Parties	Conducted Phase 1A and 1B RI consisting of seismic refraction survey, soil gas sampling, installation of test pits, air monitoring, installation of monitoring wells and an ecological assessment. In addition, sampled and analyzed soils, surface water, sediments, leachate/seeps and groundwater.
11/94-11/96	Settling Parties	Long Term Monitoring Program (LTMP) sampling of groundwater, surface water, and leachate sampling. Groundwater sampling conducted using conventional purging and sampling techniques.
6/96-2/97	Settling Parties	Supplemental RI conducted to re-evaluate groundwater sampling results found during the RI and LTMP sampling.
3/1998	Settling Parties	Completed Feasibility Study for the Site.

TABLE 2

CONTAMINANTS OF POTENTIAL CONCERN FOR EACH MEDIUM AT
THE BURGESS BROTHERS SUPERFUND SITE

	Shallow Ground Water	Deep Ground Water	Surface Soils	Surface and Subsurface Soils	Surface Water	Sediments	Leachate	Air
VOCs								
Benzene	X							
2-Butanone				X				
Carbon Disulfide					X			
Carbon tetrachloride								X
Chlorobenzene	X							
Chloroform	X	X						
1,4-Dichlorobenzene	X						X	
1,2-Dichloroethane	X							
1,1-Dichloroethene	X				X			
1,2-Dichloroethene (total)	X				X		X	
Methylene Chloride	X							
4-Methyl-2-pentanone				X	X			
Tetrachloroethene	X				X		X	X
Chloroethene	X				X		X	X
Hydrogen Chloride	X		X	X	X	X		
BNAs								
Acenaphthylene				X				
Benzo(a)anthracene			X	X				
Benzo(a)pyrene			X	X				
Benzo(b)fluoranthene			X	X				
Bis(2-ethylhexyl)phthalate	X	X						
Indeno(1,2,3-cd)pyrene			X	X				
Phenanthrene			X	X				
Metals								
Aluminum					X	X	X	
Antimony					X		X	
Arsenic	X		X	X	X	X		
Barium							X	
Beryllium			X	X		X	X	
Iron	X	X	X	X	X	X	X	
Lead			X	X	X	X	X	
Manganese	X	X	X	X	X	X	X	
Thallium	X							

TABLE 3

SUMMARY OF CARCINOGENIC RISK ESTIMATED FOR THE BURGESS BROTHERS SITE

Scenario	Receptor	Present/ Future	Total Risk Average (Central Tendency)	Reasonable Maximum
SHALLOW GROUND WATER				
Ingestion	Adjacent Resident	F	1E-03*	7E-02*
DEEP GROUND WATER				
Ingestion	Adjacent Resident	F	2E-07	1E-06
SURFACE SOILS				
Ingestion	Youth Trespasser	P/F	5E-07	2E-06
Dermal Contact	Youth Trespasser	P/F	NC _i	NC _i
		Total	5E-07	2E-06
Ingestion	Adjacent Resident	F	2E-05	1E-04
Dermal Contact	Adjacent Resident	F	NC _i	NC _i
		Total	2E-05	1E-04
FACE AND SUBSURFACE SOILS				
Ingestion	Excavation Worker	F	2E-07	1E-06
Dermal Contact	Excavation Worker	F	NC _i	NC _i
		Total	2E-07	1E-06
SURFACE WATER				
Ingestion	Youth Trespasser	P/F	NC _i	NC _i
Dermal Contact	Youth Trespasser	P/F	2E-07	2E-06
		Total	2E-07	2E-06
SEDIMENTS				
Ingestion	Youth Trespasser	P/F	7E-08	2E-07
Dermal Contact	Youth Trespasser	P/F	NC _i	NC _i
		Total	7E-08	2E-07

*Exceeds 10⁻⁴ riskNC_i - Not calculated. EPA guidance calls for assessment of dermal exposure of cadmium, PCBs, and dioxins only, none of which are soil COCs at the Burgess Brother's Site.NC_i - Not calculated because drainage swale surface water bodies are too shallow for swimming, thus limiting the likelihood of incidental ingestion

TABLE 4

SUMMARY OF NONCARCINOGENIC HAZARD INDICES (HIs)
ESTIMATED FOR THE BURGESS BROTHERS SITE

Scenario	Receptor	Present/ Future	Chronic HI Average (Central Tendency)	Reasonable Maximum
SHALLOW GROUND WATER				
Ingestion	Adjacent Resident	F	2E+01*	3E+02
DEEP GROUND WATER				
Ingestion	Adjacent Resident	F	6E-02	4E-01
SURFACE SOILS				
Ingestion	Youth Trespasser	P/F	2E-03	1E-02
Dermal Contact	Youth Trespasser	P/F	NC _i	NC _i
		Total	2E-03	1E-02
Ingestion	Adjacent Resident (child)	F	6E-01	6E-01
	Adjacent Resident (adult)	F	2E-02	7E-02
Incidental Contact	Adjacent Resident (child)		NC _i	NC _i
	Adjacent Resident (adult)		NC _i	NC _i
SURFACE AND SUBSURFACE SOILS				
Ingestion	Excavation Worker	F	5E-02	2E-01
Dermal Contact	Excavation Worker	F	NC _i	NC _i
		Total	5E-02	2E-01
SURFACE WATER				
Ingestion	Youth Trespasser	P/F	NC _i	NC _i
Dermal Contact	Youth Trespasser	P/F	2E-03	3E-02
		Total	2E-03	3E-02
SEDIMENTS				
Ingestion	Youth Trespasser	P/F	1E-03	3E-03
Dermal Contact	Youth Trespasser	P/F	NC _i	NC _i
		Total	1E-03	3E-03

*HI and/or HQ exceeds one (1)

NC_i - Not calculated. EPA guidance calls for assessment of dermal exposure of cadmium, PCBs, and dioxins only.

NC_i - Not calculated because drainage swale surface water bodies are too shallow for swimming, thus precluding incidental ingestion.



HORIZONTAL VELOCITIES

KAME SANDS	10-30 FT./RP
TILL	7 FT./RP
WEATHERED BEDROCK	5-8 FT./RP

AVERAGE HYDRAULIC CONDUCTIVITIES

	FL/D	CM/SEC
MARSHY AREA KAME	0.15	5.3×10^{-6}
LANDFILL AREA KAME	0.12	4.2×10^{-5}
LANDFILL MATERIALS	0.1	3.5×10^{-5}
ABLATION TILL	0.05	1.8×10^{-5}

K = HYDRUALIC CONDUCTIVITY (FT./D)

SCALE

VERTICAL SCALE 1"=20'
HORIZONTAL SCALE 1"=100'

- LANDFILL MATERIAL
- KAME SAND
- ABLATION GLACIAL TILL
- LODGEMENT GLACIAL TILL
- WEATHERED BEDROCK

 ERM-New England, Inc.			
203 PORTLAND STREET - BOSTON, MA 02114 (617) 742-8228			
CLIENT NAME: Burgess Brothers		DRAWING SHEET NO.	DATE: 02/10/91
FILE NAME: SUPPL_03.dwg		SCALE: AS SHOWN	PROJECT NO: 01
Burgess Brothers Superfund Site Woodford & Bennington, Vermont			
North-South Geologic Cross Section			FIGURE NO. 2
PROJECT WORK SHEET		TOWN REV. NO.	

FIGURE 3

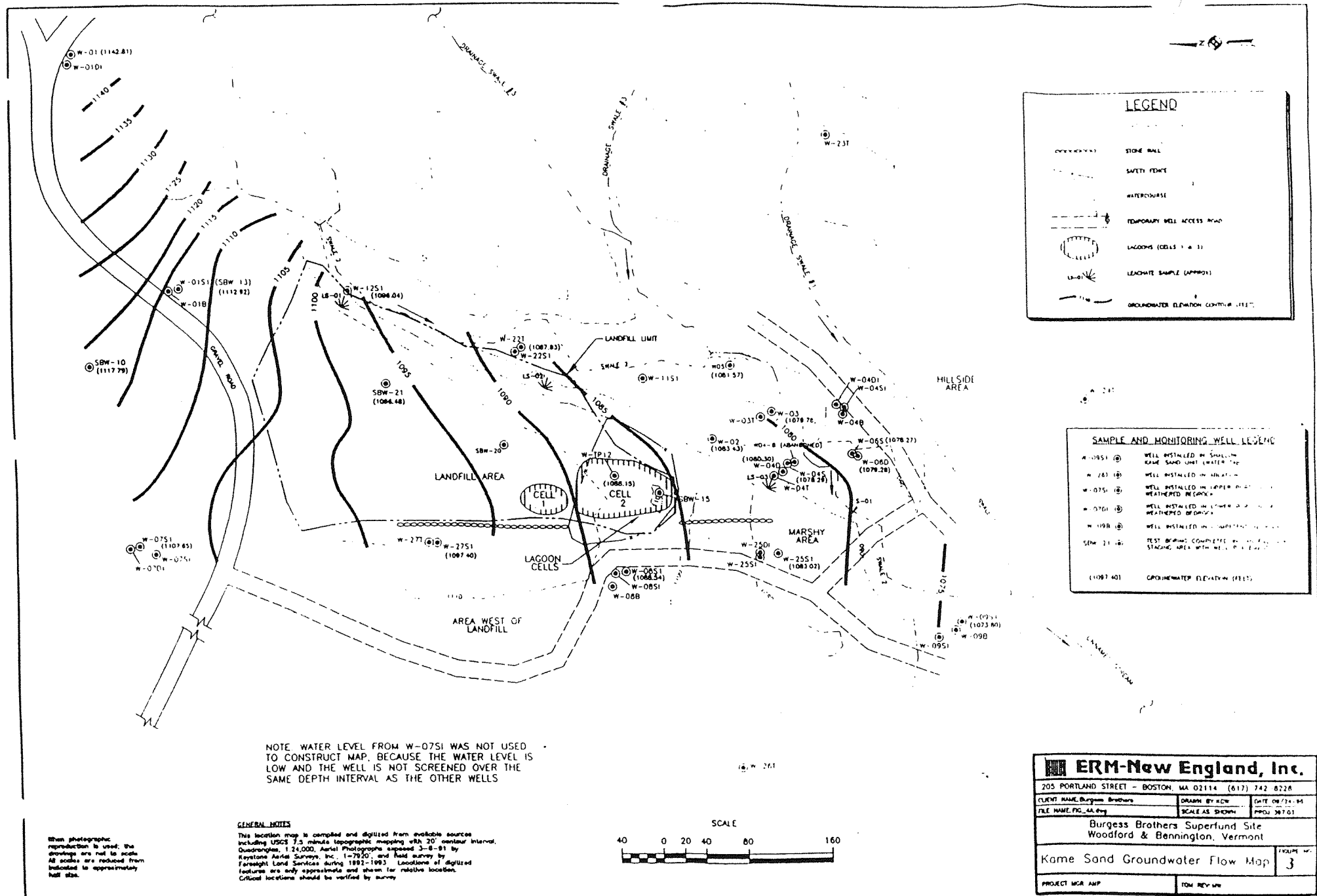


FIGURE 4

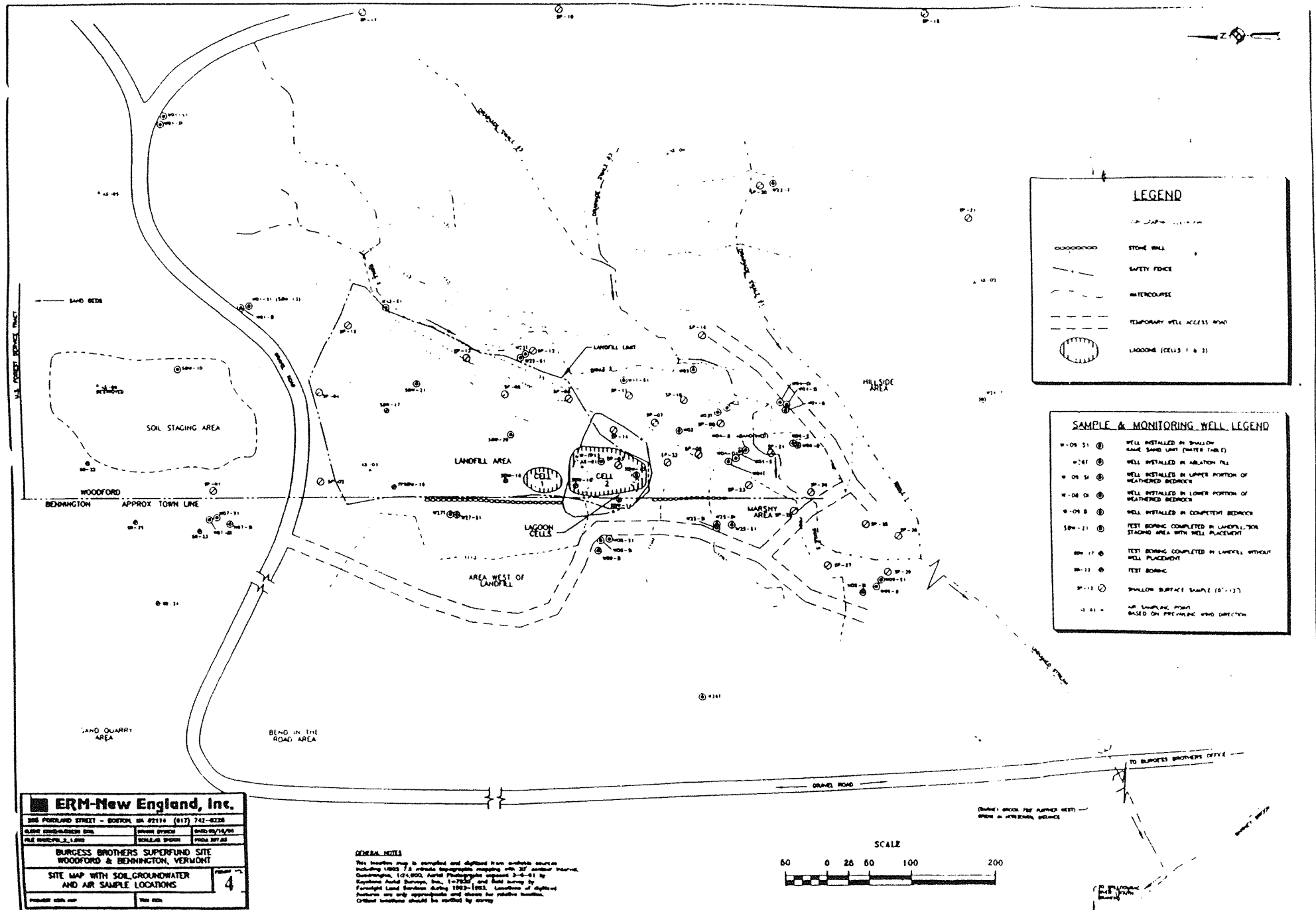
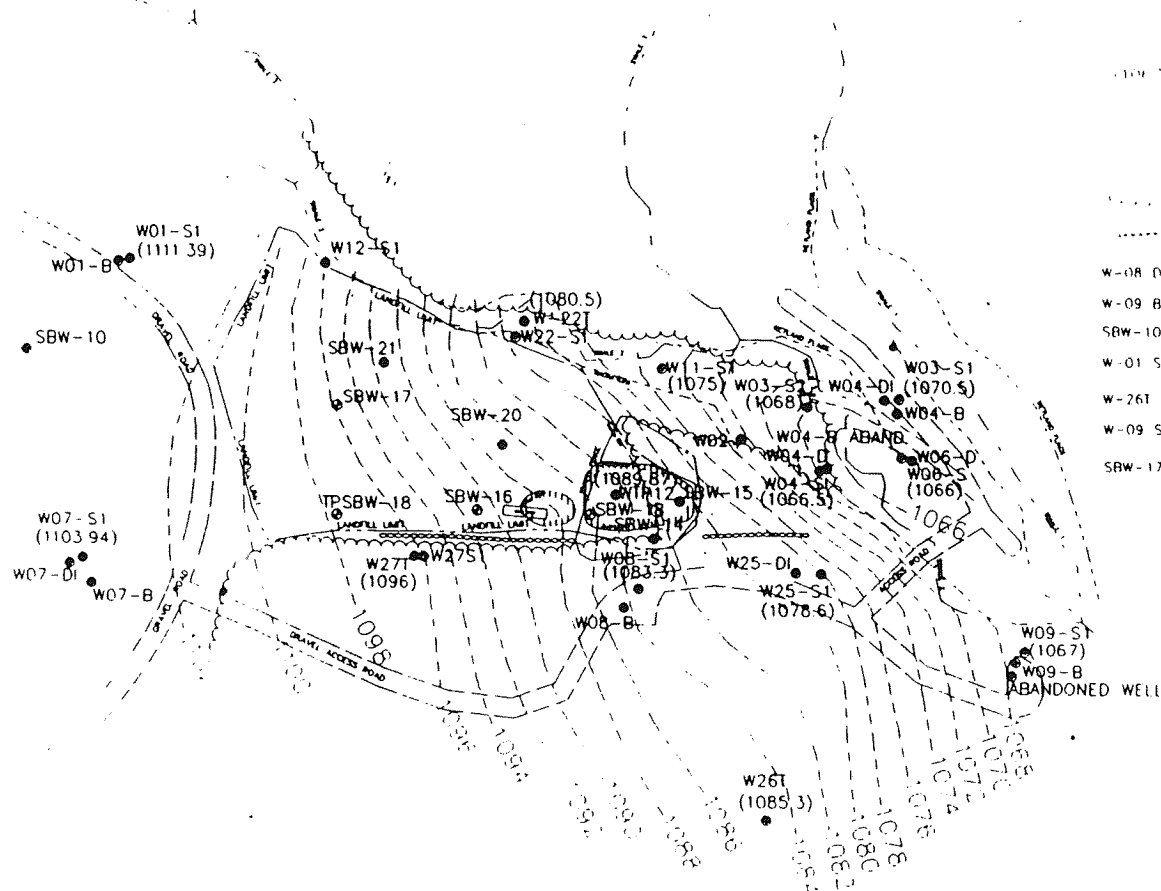


FIGURE 6

NOTES

- 1 ELEVATIONS RELATIVE TO MEAN SEA LEVEL
- 2 UNITS = FEET
- 3 SEE SITE PLAN FOR INFORMATION CONCERNING GENERATION OF THE BASE MAP AND DETAILS OF OTHER SAMPLING POINTS



ELEVATION OF TOP OF
ABLATION HILL SURFACE
AND CONTOUR

DRAINAGE DITCH OR
UNNAMED STREAM

EDGE OF WOODLANDS

STONE WALL

- W-08 DI ● WELL INSTALLED IN LOWER PORTION OF WEATHERED BEDROCK
- W-09 B ● WELL INSTALLED IN COMPLETE DEEP
- SBW-10 ● TEST BORING COMPLETED IN LANDFILL SOIL STAGING AREA WITH WELL PLACEMENT
- W-01 S1 ● WELL INSTALLED IN SHALLOW FILL UNIT (WATER TABLE)
- W-261 ● WELL INSTALLED IN ABLATED HILL
- W-09 S1 ● WELL INSTALLED IN UPPER PORTION OF WEATHERED BEDROCK
- SBW-17 ● SOIL BORING COMPLETED WITH NO WELL PLACEMENT



OBRIEN & GERE
ENGINEERS, INC.

BURGESS BROTHERS SUPERFUND
REMEDIAL INVESTIGATION
TOP OF ABLATION HILL
CONTOUR MAP

FILE #

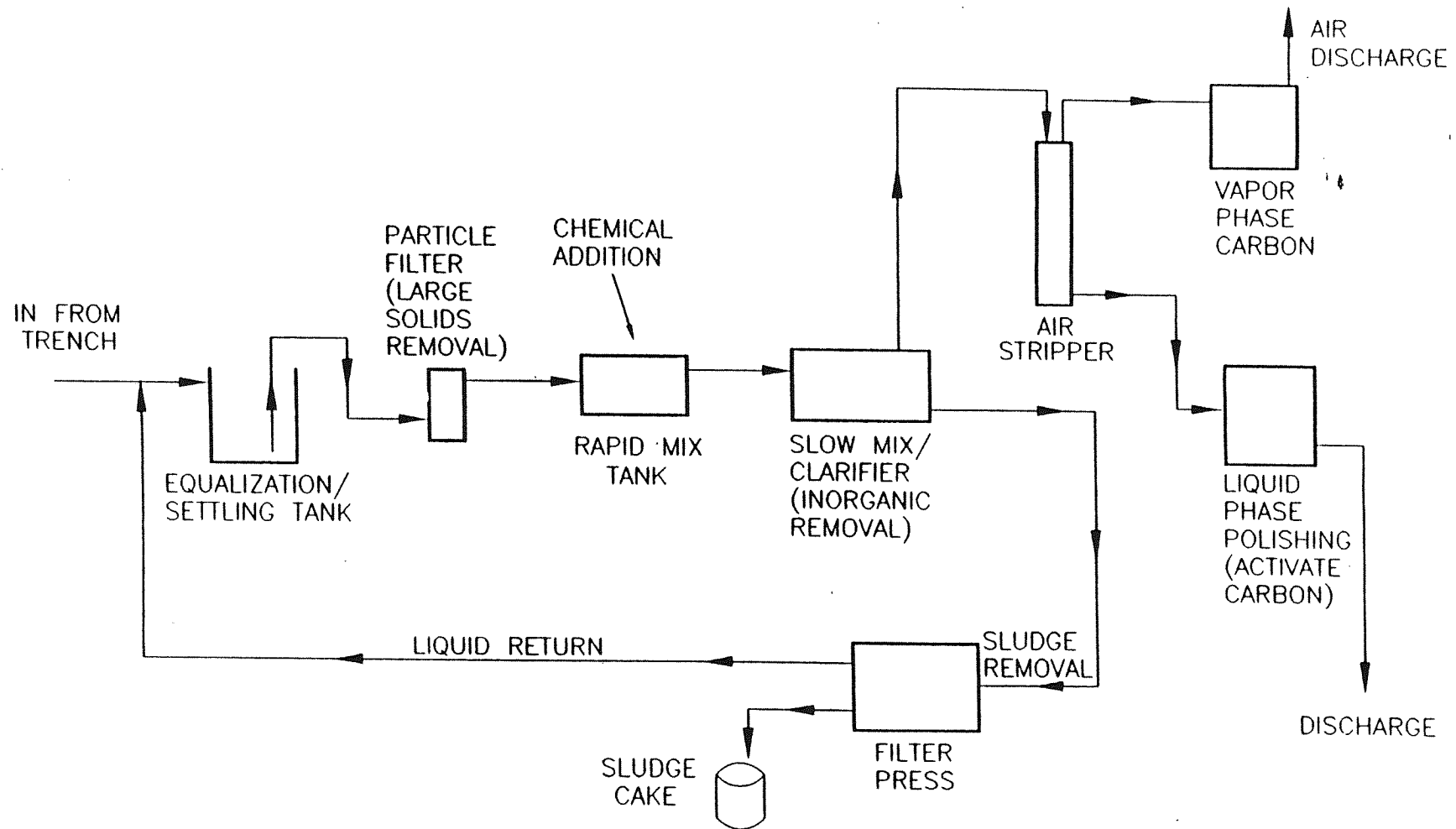
DATE

BY

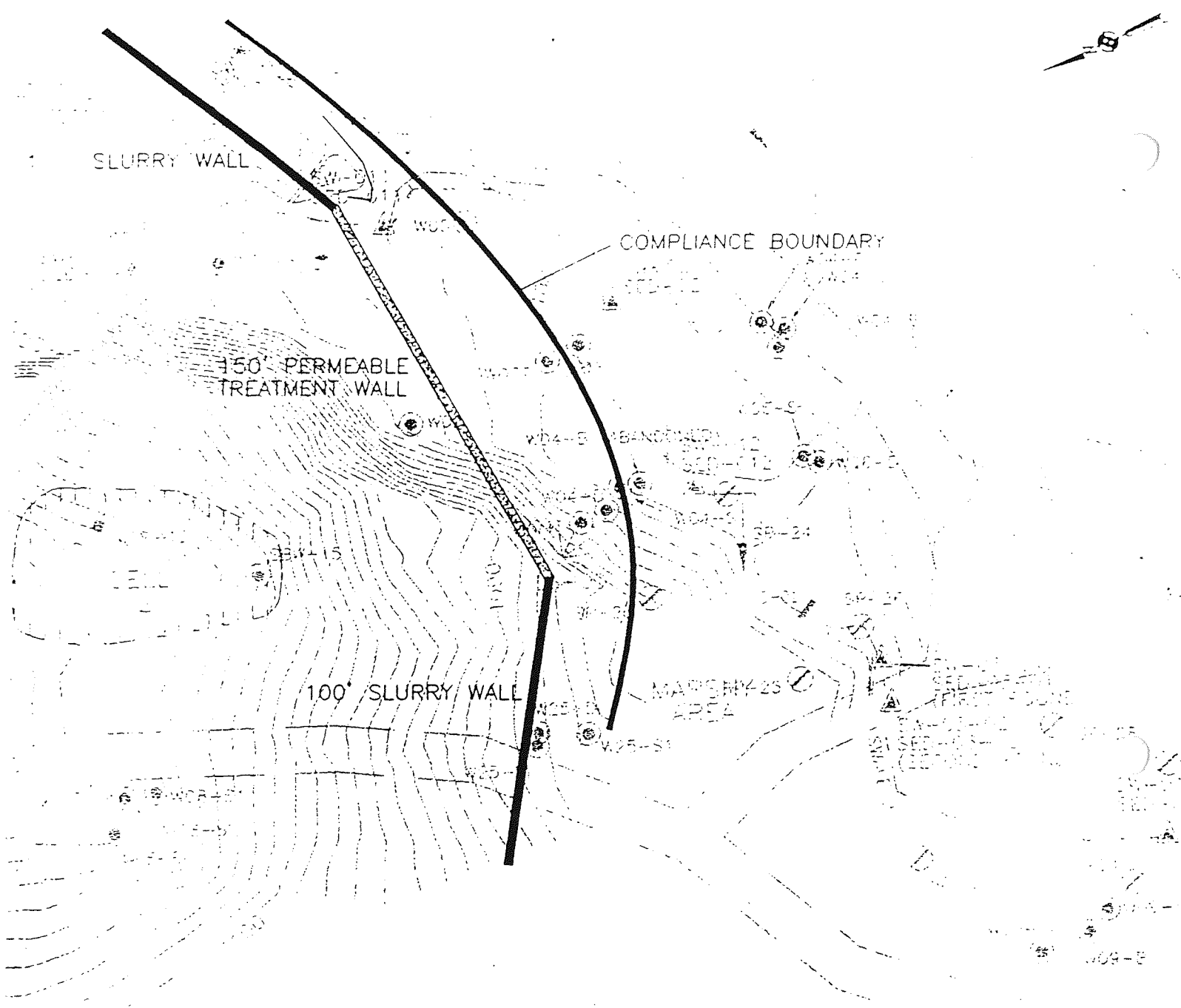
REVISION

FIGURE 7

PROCESS FLOW DIAGRAM OF GROUNDWATER PUMP & TREAT SYSTEM...



399 BOYLSTON STREET - BOSTON, MA 02116 (617) 267-8377		
CLIENT NAME: Burgess Brothers	DRAWN BY: ADC	DATE: 9/2/97
FILE PATH: d:\Fees.Study\Cad Draw\397_10\Fig_6	SCALE: N.T.S.	PROJ: 397_10
Burgess Brothers Superfund Site Woodford & Bennington, Vermont		
Process Flow Diagram of Groundwater Pump & Treat System		FIGURE NO. 7
PROJECT MGR: MW	TQM REV: GAO	



LEGEND

EXISTING TOPOGRAPHIC CONTOURS
EXISTING DRAINAGE SWALE

SCALE (FEET)

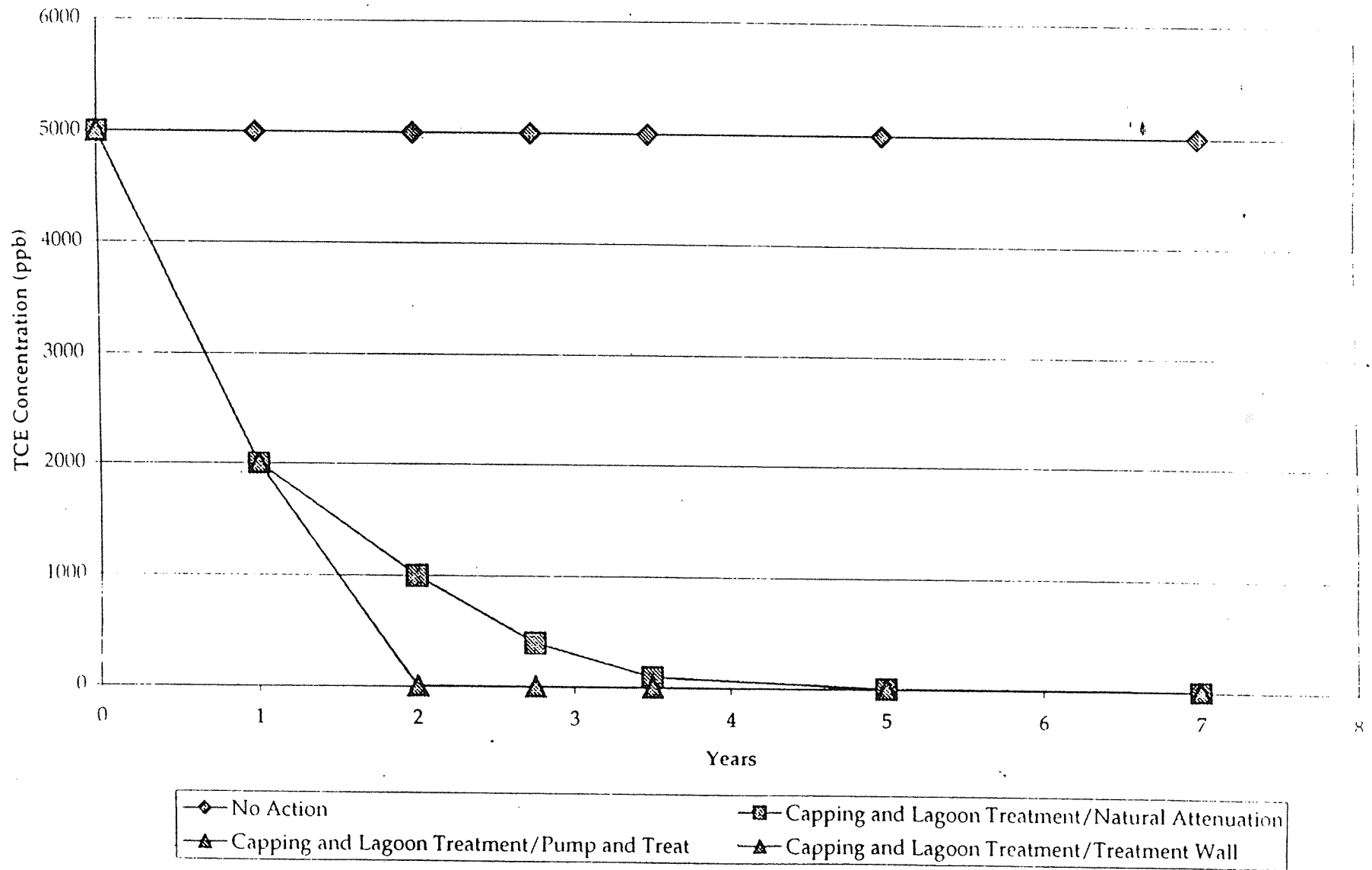
0 12.5 25 50

 ERM		
399 BOYLSTON STREET - BOSTON, MA 02116 (617) 267-8377		
CLIENT NAME: Burgess Brothers	DRAWN BY: ADC	DATE: 8/2/97
FILE PATH: J:\Feas.Study\Cod Dregs\397_10\Fig_9	SCALE: 1" = 50'	PROJ: 397_10
Burgess Brothers Superfund Site Woodford & Bennington, Vermont		
Layout of Treatment System		FIGURE NO. 8
PROJECT MGR: MW	TCM REV: GAD	

FIGURE 8

URE 9

Figure 9 - Comparative Evaluation of Concentration of TCE at Compliance Boundary



Note: This figure is for comparative purposes only. Projected time frames and TCE concentrations are estimated based on modeling.

TABLE 5

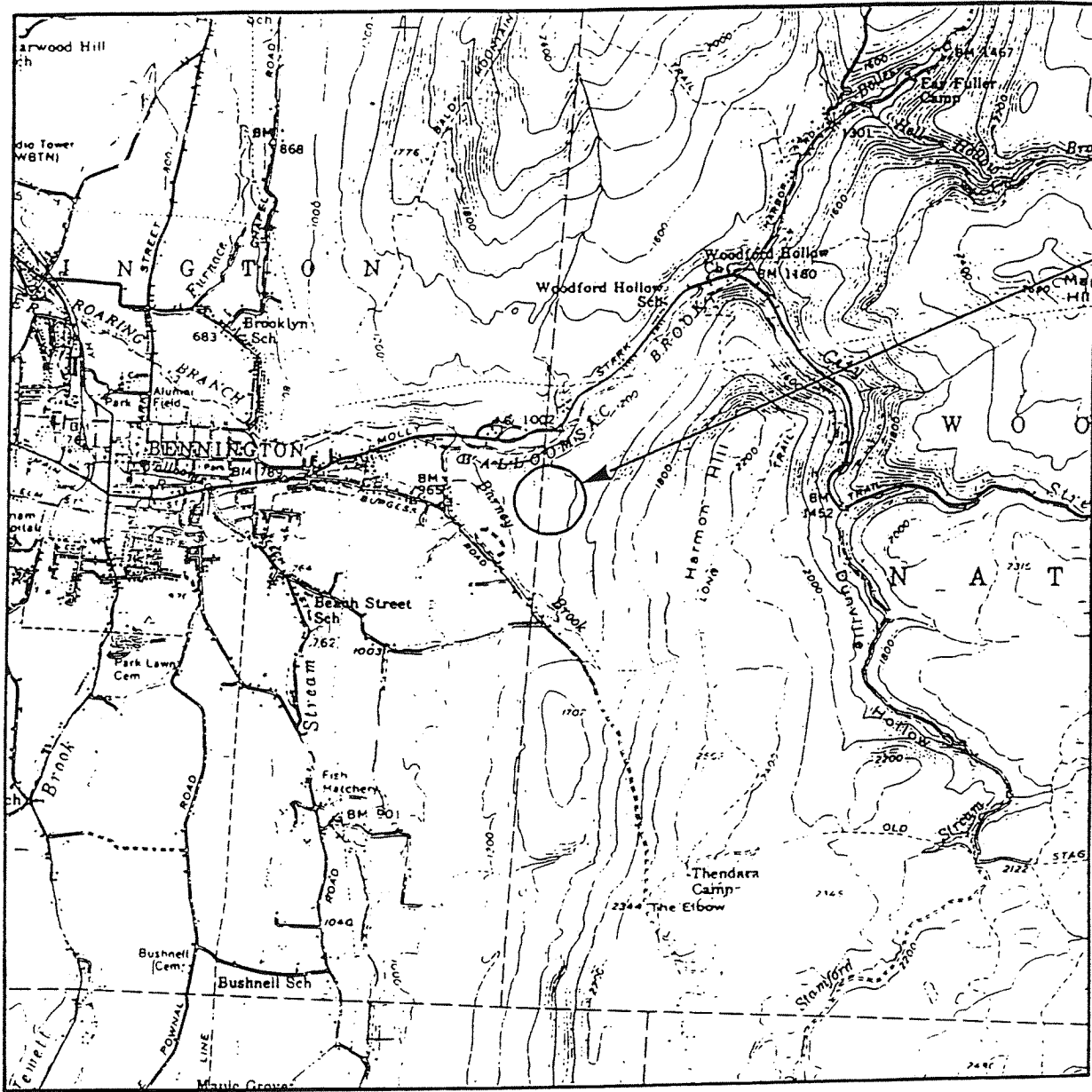
**BURGESS BROTHERS SUPERFUND SITE
COMPARATIVE ANALYSIS SUMMARY**

Alternative	Overall Protectiveness	Compliance with ARARs	Long-Term Effectiveness & Permanence
1. No Action	Human Health: No reduction of risks associated with direct contact with soil and ingestion of groundwater. Ecological: No reduction of risks associated with leachate or marshy area soils.	Will not achieve Federal or State groundwater ARARs. Will not achieve State hazardous waste management ARARs. Will not achieve Federal or State wetlands ARARs.	Residual risks unchanged. No long-term effectiveness.
2. Capping and Lagoon Treatment/Natural Attenuation	Human Health: Reduces risks associated with direct contact with soil and ingestion of groundwater. Institutional controls reduce risks associated with ingestion of groundwater. Ecological: Reduces risks of contact with Marshy Area soils and leachate.	Will achieve Federal and State groundwater ARARs. Will achieve State hazardous waste management ARARs. Will achieve Federal and State wetlands ARARs.	Residual risks reduced. Capping and groundwater extraction reliable and effective for long term control. SVE/air sparging and provide permanence by reducing source. Long term improvement of ground water quality.
3. Capping and Lagoon Treatment/Pump and Treat	Human Health: Reduces risks associated with direct contact with soil and ingestion of groundwater. Institutional controls reduce risks associated with ingestion of groundwater. Ecological: Reduces risks of contact with Marshy Area soils and leachate	Will achieve Federal and State groundwater ARARs. Will achieve State hazardous waste management ARARs. Will achieve Federal and State wetlands ARARs.	Residual risks reduced. Capping and groundwater extraction reliable and effective for long term control. SVE/air sparging and provide permanence by reducing source. Long term improvement of ground water quality.
4. Capping and Lagoon Treatment/Treatment Wall	Human Health: Reduces risks associated with direct contact with soil and ingestion of groundwater. Institutional controls reduce risks associated with ingestion of groundwater. Ecological: Reduces risks of contact with Marshy Area soils and leachate	Will achieve Federal and State groundwater ARARs. Will achieve State hazardous waste management ARARs. Will achieve Federal and State wetlands ARARs.	Residual risks reduced. Capping and groundwater extraction reliable and effective for long term control. SVE/air sparging and provide permanence by reducing source. Long term improvement of ground water quality.

**BURGESS BROTHERS SUPERFUND SITE
COMPARATIVE ANALYSIS SUMMARY**

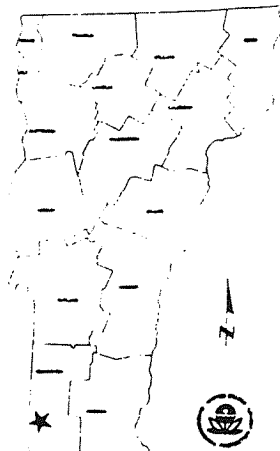
Alternative	Reduction of Toxicity, Mobility, and Volume (TMV) through Treatment	Short-Term Effectiveness	Implementability	Estimated Costs
1. No Action	No reduction of TMV through treatment.	Lowest potential risk to community and workers. No impact to wetlands. No short term exposure protection Minimal implementation time.	Easiest to implement.	\$930,000
2. Capping and Lagoon Treatment/Natural Attenuation	Reduction of toxicity of lagoon soils through treatment. Reduction of mobility through capping. Reduction of TMV of groundwater through treatment. Groundwater treatment does not generate any additional wastes.	Minimal short-term risks to workers and community during cap construction . Some wetlands impacts - will require replacement. Short term exposure protection through capping and institutional controls. 12 month implementation time.	Capping, SVE/air sparging and natural attenuation easy to implement. Institutional controls require cooperation of landowners.	\$3,600,000
3. Capping and Lagoon Treatment/Pump and Treat	Reduction of toxicity of lagoon soils through treatment. Reduction of mobility through capping. Reduction of TMV of groundwater through treatment, however, wastes would be generated as part of the treatment process (sludge).	Minimal short-term risks to workers and community during cap construction . Some wetlands impacts - will require replacement. Short term exposure protection through capping and institutional controls. 2 year implementation time.	Capping and SVE/air sparging easy to implement. Institutional controls require cooperation of landowners. Specialty contractors required to construct GW collection trench. May be problems with discharge of treated GW.	\$6,000,000
4. Capping and Lagoon Treatment/Treatment Wall	Reduction of toxicity of lagoon soils through treatment. Reduction of mobility through capping. Reduction of TMV of groundwater through treatment, however, wastes would be generated as part of the treatment process (replacement of spent granular iron)	Minimal short-term risks to workers and community during cap construction . Some wetlands impacts - will require replacement. Short term exposure protection through capping and institutional controls. 2 year implementation time.	Capping and SVE/air sparging easy to implement. Institutional controls require cooperation of landowners. Specialty contractors required to construct treatment wall.	\$5,800,000

FIGURE 1



SITE

VERMONT



SITE

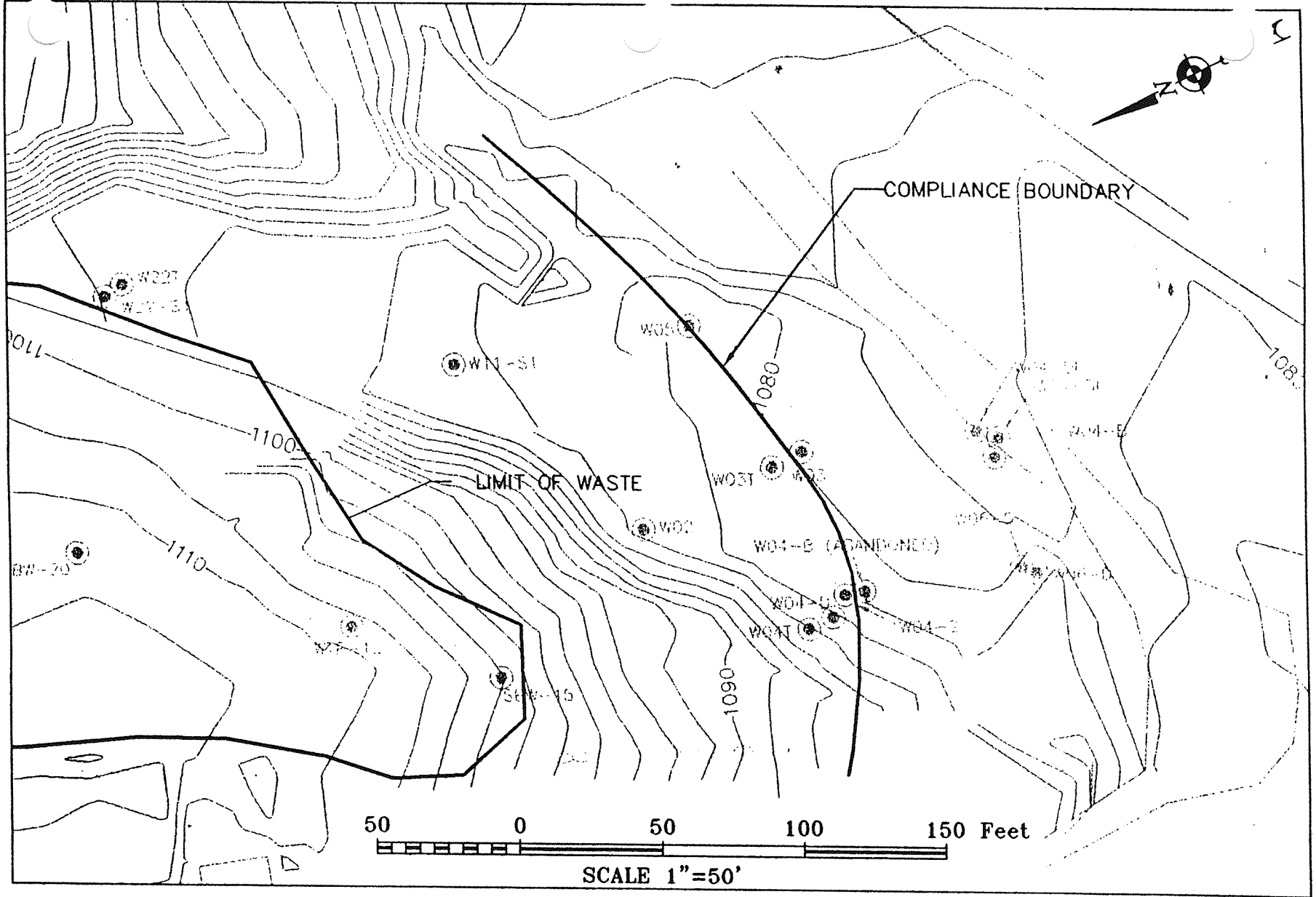


Figure 10

ENVIRONMENTAL PARTNERS GROUP, INC. P.O. BOX 730, HINGHAM, MA 02043			
Project:	Burgess Bros. Landfill	Date:	8/27/98
File Name:	Compliance_Plan	Scale:	1"=50'
		Drawn By:	KM
		PM:	MNW
Burgess Brothers Superfund Site			
COMPLIANCE BOUNDARY			FIGURE NO. 10

APPENDIX B

**APPLICABLE OR RELEVANT AND APPROPRIATE
REQUIREMENTS (ARARS)**

Burgess Brothers Superfund Site
 Bennington and Woodford, Vermont

Type	Medium	Requirements	Status	Synopsis of Requirements	Action to be Taken to Attain ARAR
Chemical-Specific	Groundwater	Vermont Groundwater Protection Regulations (EPR 12-702)	Applicable, for Enforcement Standards	Establish primary groundwater quality standards. Enforcement standards are applicable. Preventative action limits are not an ARAR.	Groundwater quality would improve due to the treatment of the lagoon soils and construction of a multi-barrier cap over the landfill. Source remediation and natural degradation processes would reduce the concentrations to below the primary groundwater quality standards.
		Vermont Health Advisories	To Be Considered	Vermont developed health advisories as guidance criteria for drinking water in the absence of Federal Maximum Contaminant Levels.	Considered in selection of remedial alternative, and will be used in the absence of numerical standards.
		Federal Safe Drinking Water Act - Maximum Contaminated Levels (MCLs) for Organic and Inorganic Chemicals (40 CFR 141 Subparts B, G and I)	Relevant and Appropriate	MCLs have been promulgated for a number of common organic and inorganic chemicals and action levels for lead and copper. These levels regulate the concentration of contaminants in public drinking water supplies, but may also be considered appropriate for groundwater aquifers potentially used for drinking water.	Groundwater quality would improve due to the treatment of the lagoon soils and construction of a multi-barrier cap over the landfill. Source remediation and natural degradation processes would reduce the concentrations to below MCLs.
		Federal Safe Drinking Water Act - Maximum Contaminant Level Goals (MCLGs) for Organic and Inorganic Chemicals (40 CFR 151 Subpart F)	Relevant and Appropriate, if non-zero	Establishes MCLGs for organic and inorganic contaminants. MCLGs that are non-zero will be relevant and appropriate.	Groundwater quality would improve due to the treatment of the lagoon soils and construction of a multi-barrier cap over the landfill. Source remediation and natural degradation processes would reduce the concentrations to below MCLGs.

Table 6-2

R Compliance: Alternative 2 – Capping and Lagoon Treatment/
Feasibility Study Attenuation

Burgess Brothers Superfund Site
Bennington and Woodford, Vermont

Type	Medium	Requirements	Status	Synopsis of Requirements	Action to be Taken to Attain ARAR
		EPA Reference Doses (RfDs) and EPA Carcinogen Assessment Group Potency Factors	To Be Considered	RfDs are dose levels EPA has developed for use in risk characterization due to non-carcinogens in various media. The Potency Factors are used to evaluate an acceptable risk from a carcinogen.	Considered in selection of remedial alternative, and will be used in the absence of numerical standards.
		EPA Health Advisories	To Be Considered	EPA publishes contaminant-specific health advisories that indicate the non-carcinogenic risks associated with consuming contaminated drinking water.	Considered in selection of remedial alternative, and will be used in the absence of numerical standards.
Location-Specific	Wetlands	Federal Executive Order on Protection of Wetlands (E.O. 11990, 40 CFR Part 6, Appendix A)	Applicable	Requires federal agencies to avoid impacts associated with the destruction or loss of wetlands, minimize potential harm, preserve and enhance wetlands, and avoid support of new construction in wetlands if a practicable alternative exists.	Impacted wetlands would be restored or replicated.
		Federal Fish and Wildlife Coordination Act (16 USC 661 et. seq.) 40 CFR Part 6	Applicable	Establishes requirements for a consultation with U.S. Fish and Wildlife Service and state wildlife agencies to mitigate losses of fish and wildlife that result from modification of a water body.	Fish and Wildlife Service has been consulted regarding potential impacts to water bodies.
		Federal Clean Water Act (33 USC 1344), US Army Corps of Engineers Nationwide Permit Program (33 CFR Part 330), and Federal Guidelines for Specification of Disposal Sites" (40 CFR Part 230)	Applicable	Under this requirement, no activity that adversely affects a wetland shall be permitted if a practicable alternative that has less effect is available. The requirements also describe actions to minimize adverse impacts.	Permit conditions would be evaluated during pre-design. Impacted wetlands will be restored or replicated.

Burgess Brothers Superfund Site
Bennington and Woodford, Vermont

Type	Medium	Requirements	Status	Synopsis of Requirements	Action to be Taken to Attain ARAR
Action-Specific	Air	Vermont Air Pollution Control Regulations (10 VSA Section 551 et. seq. EPR 5-101, 5-211, 5-231 to 5-252, 5-253.20, 5-261, 5-301 to 5-311, 5-501 to 5-502, and 5-1010)	Applicable	Establishes air quality standards and allowable discharges.	SVE/air sparge system and system generator would be designed to satisfy discharge limits.
		Federal RCRA Air Emission Standards for Equipment Leaks, 40 CFR Part 264, Subpart BB	Applicable, if threshold limits are exceeded	Standards for air emissions for equipment that contains or contacts RCRA wastes with organic concentrations of at least 10% by weight.	SVE/air sparge system would be designed to satisfy emission standards if threshold limits are exceeded.
		Federal RCRA Air Emission Standards for Process Vents, 40 CFR Part 264, Subpart AA	Applicable, if threshold limits are exceeded	Standards for air emissions from process vents associated with distillation, fractionation, thin film evaporation, column extraction or air steam stripping operations that treat RCRA substances and have total organic concentrations of 10 ppm or greater.	SVE/air sparge system would be designed to satisfy emission standards if threshold limits are exceeded.
		Federal Clean Air Act - Non-Methane Organic Compounds (40 CFR Part 60 Subpart WWW)	Relevant and Appropriate, if threshold limits are exceeded	Regulations require NMOC-specific gas collection and control systems, monitoring, and gas generation estimates. The rule establishes a performance standard for NMOCs emissions of greater than 50 megagrams/year from municipal solid waste landfills.	Landfill gas venting system would be designed to satisfy performance standards if threshold limits are exceeded.
	Groundwater	Vermont Groundwater Protection Regulations (10 VSA Chapter 48, EPR 12-704 and 12-705)	Applicable	Establish standards and requirements for groundwater monitoring.	The groundwater monitoring program would be designed to satisfy these requirements.

Burgess Brothers Superfund Site
 Bennington and Woodford, Vermont

Type	Medium	Requirements	Status	Synopsis of Requirements	Action to be Taken to Attain ARAR
	Surface Water	Vermont Water Quality Standards (10 VSA Chapter 47, EPR Sections 1-04, 2-01, 2-02, 2-03, 2-05, 3-01, 3-03, 3-04, and Appendix C and D)	Relevant and Appropriate	Outlines criteria for discharging to surface waters, such as dissolved oxygen, temperature, nutrients, pH, and alkalinity, and outlines water quality criteria for protection of aquatic biota.	Source control measures would control erosion, runoff and contaminant migration and thereby improve surface water quality over time. Water Quality Standards will be used to measure the effectiveness of source control measures.
		Federal Clean Water Act - Ambient Water Quality Criteria	Relevant and Appropriate	Pursuant to Section 304(a)(1) of the Clean Water Act, the EPA establishes Ambient Water Quality Criteria. These criteria present scientific data and guidance on the environmental effects of pollutants. The criteria can contribute to establishing regulatory requirements that govern impacts to water quality.	Source control measures would control erosion, runoff and contaminant migration and thereby improve surface water quality over time. Water Quality Criteria will be used to measure the effectiveness of source control measures.
	Sediment	Ontario Ministry of the Environment Sediment Quality Guidelines	To be Considered	The Sediment Quality Guidelines present scientific data and guidance on the environmental effects of pollutants. The criteria can contribute to establishing requirements that govern impacts to sediment quality.	Sediment quality would improve due to the presence of a cap. However, existing inorganic concentrations would not change significantly. Sediment Quality Guidelines will be used to measure the effectiveness of source control measures.
	Landfill Material	Federal RCRA Subtitle C, Regulations, 40 CFR Part 264 Subpart N - Landfills, Section 264.310 *	Relevant and Appropriate	Requirements for Hazardous Waste landfill closure.	Landfill cap design and construction would satisfy requirements.

Burgess Brothers Superfund Site
Bennington and Woodford, Vermont

Type	Medium	Requirements	Status	Synopsis of Requirements	Action to be Taken to Attain ARAR
		Federal RCRA Subtitle C Regulations, 40 CFR Part 264 Subpart B - General Facility Standards, Section 264.19 *	Relevant and Appropriate	Requirements for developing a Construction Quality Assurance Program for final cover system.	Landfill cap construction would satisfy requirements.
		Federal RCRA Subtitle C Regulations, 40 CFR Part 264 Subpart F - Releases from Solid Waste Management Units, Sections 264.95, 264.96(a) and (c), 264.97, 264.98 and 264.99 *	Relevant and Appropriate	Groundwater monitoring requirements and compliance points for determining the need for additional monitoring and corrective action.	The groundwater monitoring program would be designed to satisfy these requirements.
		Federal RCRA Subtitle C Regulations, 40 CFR Part 264 Subpart G - Closure and Post Closure, Sections 264.111, 264.114, and 264.117 *	Relevant and Appropriate	Establishes performance standards for closure of hazardous waste landfills and groundwater monitoring.	Landfill closure and post-closure requirements would be satisfied.
		USEPA Technical Guidance Document: <i>Final Covers on Hazardous Waste Landfills and Surface Impoundments</i> (EPA/530-SW-89-047)	To Be Considered	Presents technical specifications for the design of multi-barrier covers at landfills at which hazardous wastes were disposed.	Guidance would be considered during design of landfill cap.
		USEPA Technical Guidance Document: <i>Construction Quality Management for Remedial Action and Remedial Design Waste Containment Systems</i> (EPA/540/R-92/073, October 1992)	To Be Considered	Presents technical specifications for the design of multi-barrier covers at landfills at which hazardous wastes were disposed.	Guidance would be considered during design of landfill cap.

Burgess Brothers Superfund Site
Bennington and Woodford, Vermont

Type	Medium	Requirements	Status	Synopsis of Requirements	Action to be Taken to Attain ARAR
		USEPA Technical Guidance Document: QA and QC for Waste Containment Facilities (EPA/600/R-93/182, September 1993)	To Be Considered	Presents technical specifications for the design of multi-barrier covers at landfills at which hazardous wastes were disposed.	Guidance would be considered during design of landfill cap.
		USEPA Technical Guidance Document: Alternative Cap Design Guidance for Unlined Hazardous Waste Landfills, EPA Region I, September 30, 1997.	To Be Considered	Presents technical specifications for the design of multi-barrier covers at landfills at which hazardous wastes were disposed.	Guidance would be considered during design of landfill cap.

* RCRA requirements are made effective by the Vermont Hazardous Waste Regulations (EPR 7-502).

APPENDIX C

**STATE OF VERMONT
DECLARATION OF CONCURRENCE**

Department of Fish and Wildlife
Department of Forests, Parks and Recreation
Department of Environmental Conservation
State Geologist
RELAY SERVICE FOR THE HEARING IMPAIRED
TDD/Voicemail: 802-253-6191
Voice: 802-253-6195

AGENCY OF NATURAL RESOURCES
Department of Environmental Conservation
Commissioner's Office
103 South Main Street / West Building
Waterbury, Vermont 05671-0404
802-241-3800
FAX 802-241-3296

September 18, 1998

Mary Jane O'Donnell, Chief, ME/VT/CT Superfund Section
Office of Site Remediation and Restoration
U.S. Environmental Protection Agency, Region 1
J.F. Kennedy Federal Building
Boston, Massachusetts, 02203-0001

RE: Concurrence with Record of Decision (ROD) for Burgess Brothers Superfund Site
Bennington, VT (Site #77-0007)

Dear Mary Jane:

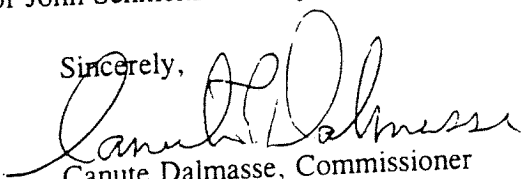
The State of Vermont concurs with the **Record of Decision (ROD)** proposed by the Environmental Protection Agency (EPA) for the Burgess Brothers Superfund Site. This concurrence is based on input from my staff, who have reviewed the *Record of Decision Final Draft* dated August 26, 1998. They have reported to me that the ROD comprehensively and accurately addresses past Superfund activities that led to the selected site remedy, which consists of the following:

- Multi-Barrier Cap Over the Landfill Area;
- Cap Over the Soils in the Marshy Area;
- SVE/Air Sparging in the Former Lagoon Area;
- Institutions Controls, such as deed restrictions and access controls;
- Long-term Monitoring;
- Five-Year Review; and
- Contingency for Alternative Response Action

The State believes that the selected remedy is protective of human health and the environment, meets all state requirements that are applicable to remedial action, and is cost effective. We look forward to working with the EPA during the remedial design and remedial action phases of the selected remedy.

I appreciate the work that you and your staff have done to develop this remedy and to keep the DEC updated. If you need additional information on the State's position concerning the ROD, please do not hesitate to contact me, George Desch, or John Schmeltzer of my staff.

Sincerely,



Canute Dalmasse, Commissioner
Department of Environmental Conservation

cc: George Desch, Department of Environmental Conservation
John Schmeltzer, Department of Environmental Conservation

s/770007/rod.con

APPENDIX D
ADMINISTRATIVE RECORD INDEX

Burgess Brothers Landfill
NPL Site

Administrative Record

Index

Compiled: May 7, 1998
Updated: August 28, 1998

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

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

Introduction

This document is the Index to the Administrative Record for the remedial action at the Burgess Brothers Landfill Superfund Site. The citations in the Index are for those documents that EPA relied upon in selecting a response action at the Site. Site-specific documents are cited in Section I of the Index, and EPA guidance documents are cited in Section II. Documents cited in Section I of the Index are ordered by the Document Number that appears at the end of each citation.

The Administrative Record is available for public review at the EPA Region I Office of Site Remediation and Restoration (OSRR) Records Center in Boston, Massachusetts [(617) 573-5729], and the Bennington Free Library, 101 Silver Street, Bennington, Vermont [(802) 442-9051]. The EPA guidance documents cited in Section II are available for review only at the OSRR Records Center. The Staff of the OSRR Records Center recommends that you set up an appointment prior to your visit.

Questions concerning the Administrative Record should be addressed to the Project Manager for the Burgess Brothers Landfill Superfund Site.

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

Burgess Brothers Landfill Site
NPL Site Remedial Administrative Record

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Documents 000026-000029

Volume VII

Documents 000030-000042

Volume VIII

Documents 000043-000058

Volume IX

Documents 000059-000062

Section I

ADMINISTRATIVE RECORD INDEX
BURGESS BROTHERS LANDFILL

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Page 1

01.02 SITE ASSESSMENT - PRELIMINARY ASSESSMENT

Title: Potential Hazardous Waste Site Preliminary
Assessment Form.
Authors: US EPA REGION I
Date: April 4, 1984
Format: FORM
AR No. 01.02.1

No. Pgs: 4
Document No. 000001

01.03 SITE ASSESSMENT - SITE INSPECTION/INVESTIGATION

Title: Site Analysis, Burgess Brothers Landfill,
Bennington County, Vermont.
Authors: US EPA REGION I
Date: May 1991
Format: REPORT, STUDY
AR No. 01.03.1

No. Pgs: 38
Document No. 000002

5 SITE ASSESSMENT - CORRESPONDENCE RELATED TO SITE ASSESSMENT

Title: Burgess Brothers Landfill, Woodford, VT, National
Priorities List Form.
Authors: US EPA RI REMEDIAL RESPONSE PROGRAM
Date: November 1988
Format: FORM
AR No. 01.05.1

No. Pgs: 1
Document No. 000003

03.01 REMEDIAL INVESTIGATION - CORRESPONDENCE

Title: Request to Revise the Remedial Investigation Work
Plan.
Addressee: SHEILA M. ECKMAN - US EPA RI WASTE MANAGEMENT
DIVISION
Authors: CHERYL L. CUNDALL - O'BRIEN & GERE ENGINEERS,
INC.
Date: September 25, 1992
Format: CORRESPONDENCE
AR No. 03.01.1

No. Pgs: 5
Document No. 000004

ADMINISTRATIVE RECORD INDEX
BURGESS BROTHERS LANDFILL

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Page 2

Title: Transmittal of Remedial Investigation Documents.
Addressee: SUSAN PAJU - BENNINGTON FREE LIBRARY
Authors: RONALD JENNINGS - US EPA REGION I
Date: October 1, 1992
Format: CORRESPONDENCE
AR No. 03.01.2
No. Pgs: 1
Document No. 000005

Title: Review of Chromium Data for Sediment Sampling.
Addressee: RONALD JENNINGS - US EPA REGION I
Authors: CHERYL L. CUNDALL - O'BRIEN & GERE ENGINEERS,
INC.
Date: October 14, 1992
Format: CORRESPONDENCE
AR No. 03.01.3
No. Pgs: 4
Document No. 000006

Title: Evaluation of Soil Vapor Study Results.
Addressee: RONALD JENNINGS - US EPA REGION I
Authors: CHERYL L. CUNDALL - O'BRIEN & GERE ENGINEERS,
INC.
Date: October 19, 1992
Format: CORRESPONDENCE
AR No. 03.01.4
No. Pgs: 7
Document No. 000007

Title: Proposal to Modify Sampling Parameters.
Addressee: RONALD JENNINGS - US EPA REGION I
Authors: CHERYL L. CUNDALL - O'BRIEN & GERE ENGINEERS,
INC.
Date: October 20, 1992
Format: CORRESPONDENCE
AR No. 03.01.5
No. Pgs: 3
Document No. 000008

Title: Approval to Modify Sampling Activities.
Addressee: RONALD JENNINGS - US EPA REGION I
Authors: CHERYL L. CUNDALL - O'BRIEN & GERE ENGINEERS,
INC.
Date: October 21, 1992
Format: CORRESPONDENCE
AR No. 03.01.6
No. Pgs: 2
Document No. 000009

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Title: Conditional Approval of work plan revision.
Addressee: CHERYL L. CUNDALL - O'BRIEN & GERE ENGINEERS,
INC.
Authors: RONALD JENNINGS - US EPA REGION I
Date: October 23, 1992
Format: CORRESPONDENCE
AR No. 03.01.7
No. Pgs: 2
Document No. 000010

Title: Road Construction Approval.
Addressee: CHERYL L. CUNDALL - O'BRIEN & GERE ENGINEERS,
INC.
Authors: RONALD JENNINGS - US EPA REGION I
Date: December 8, 1992
Format: CORRESPONDENCE
AR No. 03.01.8
No. Pgs: 3
Document No. 000011

Title: Conditional Permission to Construct a Stream
Crossing.
Addressee: ROBERT GANLEY - O'BRIEN & GERE ENGINEERS, INC.
Authors: RONALD JENNINGS - US EPA REGION I
Date: March 29, 1993
Format: CORRESPONDENCE
AR No. 03.01.9
No. Pgs: 2
Document No. 000012

Title: Sampling Requirements Between Phase 1A & Phase
1B.
Addressee: ROBERT GANLEY - O'BRIEN & GERE ENGINEERS, INC.
Authors: MARY J O'DONNELL - US EPA REGION I
Date: October 26, 1993
Format: CORRESPONDENCE
AR No. 03.01.10
No. Pgs: 2
Document No. 000013

Title: Conditional Approval of Phase 1A Deliverables.
Addressee: GEOFF SEIBEL - DE MAXIMUS, INC.
Authors: MARY J O'DONNELL - US EPA REGION I
Date: April 14, 1994
Format: CORRESPONDENCE
AR No. 03.01.11
No. Pgs: 3
Document No. 000014

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03.02 REMEDIAL INVESTIGATION - SAMPLING & ANALYSIS DATA

Title: Sampling and Analysis Data. No. Pgs: 1
Format: Document No. 000015
AR No. 03.02.1

Title: Ground Penetrating Radar Survey, Burgess Brothers
Landfill Site, Woodford and Bennington, Vermont.
Addressee: US EPA REGION I
Authors: HAGER-RICHTER GEOSCIENCE, INC.
Date: January 1992 No. Pgs: 14
Format: REPORT, STUDY Document No. 000016
AR No. 03.02.2

Title: Soil Vapor Extraction System Pilot Study Summary
Report, Burgess Brothers Landfill Site.
Addressee: US EPA REGION I
Authors: ENVIRONMENTAL RESOURCES MANAGEMENT
Date: May 12, 1997 No. Pgs: 14
Format: REPORT, STUDY Document No. 000017
AR No. 03.02.3

03.04 REMEDIAL INVESTIGATION - INTERIM DELIVERABLES

Title: Health and Safety Plan, Limited Field
Investigation, Burgess Brothers Landfill
Superfund Site, Woodford/Bennington, Vermont.
Addressee: US EPA REGION I
Authors: O'BRIEN & GERE ENGINEERS, INC.
Date: December 1991 No. Pgs: 20
Format: REPORT, STUDY Document No. 000018
AR No. 03.04.1

Title: Final Health and Safety Plan, Remedial
Investigation/Feasibility Study, Burgess Brothers
Site.
Addressee: US EPA REGION I
Authors: O'BRIEN & GERE ENGINEERS, INC.
Date: September 1992 No. Pgs: 39
Format: REPORT, STUDY Document No. 000019
AR No. 03.04.2

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Title: Quality Assurance Project Plan, Remedial
Investigation, Burgess Brothers Site, Woodford
and Bennington, Vermont.
Addressee: US EPA REGION I
Authors: O'BRIEN & GERE ENGINEERS, INC.
Date: September 1992
Format: REPORT, STUDY No. Pgs: 243
AR No. 03.04.3 Document No. 000020

Title: Quality Assurance Project Plan, Addendum No. 1,
Phase 1B Investigation, Burgess Brothers
Superfund Site.
Addressee: US EPA REGION I
Authors: O'BRIEN & GERE ENGINEERS, INC.
Date: April 1994
Format: REPORT, STUDY No. Pgs: 33
AR No. 03.04.4 Document No. 000021

6 REMEDIAL INVESTIGATION - REMEDIAL INVESTIGATION REPORTS

Title: Final Remedial Investigation Report, Volume I -
Text, Tables, and Figures, Burgess Brothers
Superfund Site, Woodford and Bennington, Vermont.
Addressee: US EPA REGION I
Authors: O'BRIEN & GERE ENGINEERS, INC.
Date: July 1996
Format: REPORT, STUDY No. Pgs: 413
AR No. 03.06.1 Document No. 000022

Title: Final Remedial Investigation Report, Volume II -
Appendices, Burgess Brothers Superfund Site.
Addressee: US EPA REGION I
Authors: O'BRIEN & GERE ENGINEERS, INC.
Date: July 1996
Format: REPORT, STUDY No. Pgs: 747
AR No. 03.06.2 Document No. 000023

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Title: Final Remedial Investigation Report, Volume 3 -
Appendices, Burgess Brothers Superfund Site.
Addressee: US EPA REGION I
Authors: O'BRIEN & GERE ENGINEERS, INC.
Date: July 1996
Format: REPORT, STUDY No. Pgs: 645
AR No. 03.06.3 Document No. 000024

Title: Draft Supplemental Remedial Investigation Report,
Volume I, Revision 2, Burgess Brothers Superfund
Site with Transmittal Letter.
Addressee: US EPA REGION I
Authors: ERM-NEW ENGLAND, INC.
Date: February 21, 1997
Format: REPORT, STUDY No. Pgs: 228
AR No. 03.06.4 Document No. 000025

Title: Draft Supplemental Remedial Investigation Report,
Volume II, Revision 2, Burgess Brothers Superfund
Site.
Addressee: US EPA REGION I
Authors: ERM-NEW ENGLAND, INC.
Date: February 21, 1997
Format: REPORT, STUDY No. Pgs: 276
AR No. 03.06.5 Document No. 000026

03.07 REMEDIAL INVESTIGATION - WORK PLANS AND PROGRESS REPORTS

Title: Work Plan, Limited Field Investigation, Burgess
Brothers Superfund Site.
Addressee: US EPA REGION I
Authors: O'BRIEN & GERE ENGINEERS, INC.
Date: December 1991
Format: WORK PLAN No. Pgs: 61
AR No. 03.07.1 Document No. 000027

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Title: Work Plan, Final, Remedial Investigation, Burgess
Brothers Superfund Site.
Addressee: US EPA REGION I
Authors: O'BRIEN & GERE ENGINEERS, INC.
Date: September 1992
Format: REPORT, STUDY
AR No. 03.07.2
No. Pgs: 114
Document No. 000028

Title: Well Drilling Program Modification.
Addressee: RONALD JENNINGS - US EPA REGION I
Authors: ROBERT GANLEY - O'BRIEN & GERE ENGINEERS, INC.
Date: April 8, 1993
Format: CORRESPONDENCE
AR No. 03.07.3
No. Pgs: 5
Document No. 000029

Title: Work Plan Phase 1B Investigation, Burgess
Brothers Superfund Site.
Addressee: US EPA REGION I
Authors: O'BRIEN & GERE ENGINEERS, INC.
Date: April 1994
Format: WORK PLAN
AR No. 03.07.4
No. Pgs: 50
Document No. 000030

Title: Final Long-Term Monitoring Plan, Remedial
Investigation, Burgess Brothers Superfund Site.
Addressee: US EPA REGION I
Authors: O'BRIEN & GERE ENGINEERS, INC.
Date: April 1994
Format: WORK PLAN
AR No. 03.07.5
No. Pgs: 15
Document No. 000031

Title: Risk Assessment Work Plan, Burgess Brothers
Superfund Site, Woodford and Bennington, Vermont.
Addressee: US EPA REGION I
Authors: TRC COMPANIES, INC.
Date: June 1994
Format: REPORT, STUDY
AR No. 03.07.6
No. Pgs: 21
Document No. 000032

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Title: Risk Assessment Work Plan, Addendum, Burgess
Brothers Superfund Site.
Addressee: US EPA REGION I
Authors: ERM-NEW ENGLAND, INC.
Date: July 1996
Format: REPORT, STUDY
AR No. 03.07.7
No. Pgs: 3
Document No. 000033

Title: Soil Vapor Extraction Pilot Study, Burgess
Brothers Superfund Site.
Addressee: US EPA REGION I
Authors: ERM-NEW ENGLAND, INC.
Date: September 20, 1996
Format: WORK PLAN
AR No. 03.07.8
No. Pgs: 90
Document No. 000034

Title: Risk Assessment Work Plan, Addendum, Burgess
Brothers Superfund Site.
Addressee: US EPA REGION I
Authors: ERM-NEW ENGLAND, INC.
Date: October 1996
Format: REPORT, STUDY
AR No. 03.07.9
No. Pgs: 3
Document No. 000035

Title: Comments Concerning the Soil Vapor Extraction
Pilot Study Work Plan.
Addressee: RONALD JENNINGS - US EPA REGION I
Authors: PATRICE SVETAKA - METCALF & EDDY, INC.
Date: October 8, 1996
Format: CORRESPONDENCE
AR No. 03.07.10
No. Pgs: 2
Document No. 000036

Title: Request for Approval to Modify the SVE Pilot
Study Off-Gas Treatment.
Addressee: RONALD JENNINGS - US EPA REGION I
Authors: GEOFF SEIBEL - DE MAXIMUS, INC.
Date: October 14, 1996
Format: CORRESPONDENCE
AR No. 03.07.11
No. Pgs: 5
Document No. 000037

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BURGESS BROTHERS LANDFILL

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Title: Response to EPA Approval of SVE Work Plan and Addendum 1.
Addressee: RONALD JENNINGS - US EPA REGION I
Authors: MARK WHITE - STATE OF VERMONT
Date: November 15, 1996
Format: CORRESPONDENCE
AR No. 03.07.12
No. Pgs: 3
Document No. 000038

Title: Risk Assessment Work Plan, Addendum, Burgess Brothers Superfund Site.
Addressee: US EPA REGION I
Authors: ERM-NEW ENGLAND, INC.
Date: March 1997
Format: REPORT, STUDY
AR No. 03.07.13
No. Pgs: 3
Document No. 000039

03.09 REMEDIAL INVESTIGATION - HEALTH ASSESSMENTS

Title: Preliminary Health Assessment for Burgess Brothers Landfill, Woodford, Bennington County, Vermont with Transmittal Letter.
Addressee: US EPA REGION I
Date: December 27, 1991
Format: REPORT, STUDY
AR No. 03.09.1
No. Pgs: 17
Document No. 000040

03.10 REMEDIAL INVESTIGATION - ENDANGERMENT/BASELINE RISK ASSESSMENTS

Title: Risk Assessment Addendum, Burgess Brothers Superfund Site, Bennington/Woodford, Vermont.
Addressee: US EPA REGION I
Format: REPORT, STUDY
AR No. 03.10.1
No. Pgs: 13
Document No. 000041

Title: Risk Assessment, Volume 1, Burgess Brothers Superfund Site, Woodford, Vermont.
Addressee: US EPA REGION I
Date: April 1997
Format: REPORT, STUDY
AR No. 03.10.2
No. Pgs: 189
Document No. 000042

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Title: Risk Assessment, Volume 2, Burgess Brothers
Superfund Site, Woodford, Vermont,
Addressee: US EPA REGION I
Date: April 1997
Format: REPORT, STUDY
AR No. 03.10.3
No. Pgs: 181
Document No. 000043

Title: Risk Assessment - Addendum 2, Burgess Brothers
Superfund Site, Bennington and Woodford, Vermont.
Authors: US EPA REGION I
Date: May 1997
Format: REPORT, STUDY
AR No. 03.10.4
No. Pgs: 3
Document No. 000044

04.06 FEASIBILITY STUDY - FEASIBILITY STUDY REPORTS

Title: Final Feasibility Study Report, Burgess Brothers
Superfund Site, Woodford and Bennington, Vermont.
Addressee: US EPA RI WASTE MANAGEMENT DIVISION
Authors: ERM-NEW ENGLAND, INC.
Date: March 20, 1998
Format: REPORT, STUDY
AR No. 04.06.1
No. Pgs: 393
Document No. 000059

04.09 FEASIBILITY STUDY - PROPOSED PLANS FOR SELECTED REMEDIAL ACTION

Title: Proposed Plan for the Burgess Brothers Superfund
Site.
Authors: US EPA REGION I
Date: June 1998
Format: REPORT, STUDY
AR No. 04.09.1
No. Pgs: 13
Document No. 000060

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05.03 RECORDS OF DECISION - RESPONSIVENESS SUMMARIES

Title: Comments on Proposed Plan.
Addressee: US EPA REGION I
Authors: JANET THOMPSON
Date: July 1998
Format: MEMORANDUM
AR No. 05.03.1

No. Pgs: 2
Document No. 000061

Title: Comments on Proposed Plan.
Addressee: US EPA REGION I
Authors: DONALD DAVIS
Date: July 1998
Format: MEMORANDUM
AR No. 05.03.2

No. Pgs: 2
Document No. 000062

09.01 STATE COORDINATION - CORRESPONDENCE

Title: Comments on the Limited Field Investigation Work Plan.
Addressee: SHEILA M. ECKMAN - US EPA REGION I
Authors: DAVE SHEPARD - STATE OF VERMONT
Date: November 1, 1991
Format: CORRESPONDENCE
AR No. 09.01.1

No. Pgs: 9
Document No. 000045

Title: Comments on the Final Limited Field Investigation Work Plan.
Addressee: SHEILA M. ECKMAN - US EPA REGION I
Authors: DAVE SHEPARD - STATE OF VERMONT
Date: December 31, 1991
Format: MEMORANDUM
AR No. 09.01.2

No. Pgs: 2
Document No. 000046

Title: Comments Concerning the Design of the Proposed Soil Vapor Extraction.
Addressee: RONALD JENNINGS - US EPA REGION I
Authors: LYNDA PROVENCHER - STATE OF VERMONT
Date: October 16, 1996
Format: CORRESPONDENCE
AR No. 09.01.3

No. Pgs: 1
Document No. 000047

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10.01 ENFORCEMENT/NEGOTIATION - CORRESPONDENCE

Title: Request for a Copy of the Proposed Administrative Settlement.
Addressee: RONA GREGORY - US EPA REGION I
Authors: WILLIAM A. SHIRLEY
Date: June 18, 1992
Format: LETTER
AR No. 10.01.1
No. Pgs: 3
Document No. 000055

Title: Request for Copy of Proposed Administrative Settlement.
Addressee: RONA GREGORY - US EPA REGION I
Authors: EVELYN BROWN - COHEN, SHAPIRO, POLISHER, SHIEKMAN, AND
Date: July 6, 1992
Format: LETTER
AR No. 10.01.2
No. Pgs: 2
Document No. 000056

Title: Proposed Administrative Settlement Request.
Addressee: RONA GREGORY - US EPA REGION I
Authors: KELLY E. GALE - COLL DAVIDSON CARTER SMITH SALTER & BRAC
Date: August 3, 1992
Format: LETTER
AR No. 10.01.3
No. Pgs: 2
Document No. 000057

Title: Transmittal of Proposed Administrative Settlement Docket No. I-91-1101.
Addressee: KINSEL LIBRARIAN - METCALF & EDDY, INC.
Authors: RONA GREGORY - US EPA REGION I
Date: September 11, 1992
Format: LETTER
AR No. 10.01.4
No. Pgs: 1
Document No. 000058

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10.07 ENFORCEMENT/NEGOTIATION - EPA ADMINISTRATIVE ORDERS

Title: Administrative Order by Consent for Remedial
Investigation/Feasibility Study, US EPA Docket
No. I-91-1101.
Authors: US EPA REGION I
Date: August 27, 1991
Format: LITIGATION No. Pgs: 53
AR No. 10.07.1 Document No. 000048

Title: Administrative Agreement for Cost Recovery, US
EPA Region I CERCLA Docket No. 1101.
Authors: US EPA REGION I
Date: August 20, 1992
Format: LITIGATION No. Pgs: 12
AR No. 10.07.2 Document No. 000049

09 ENFORCEMENT/NEGOTIATION - PLEADINGS

Title: Complaint, Eveready Battery Company, Inc.,
Plaintiff v. United States of America, et al.
Authors: US EPA REGION I
Date: August 11, 1994
Format: LITIGATION No. Pgs: 24
AR No. 10.09.1 Document No. 000050

13.02 COMMUNITY RELATIONS - COMMUNITY RELATIONS PLANS

Title: Community Relations Plan, Burgess Brothers Site,
Bennington, VT.
Authors: US EPA REGION I
Date: February 1995
Format: REPORT, STUDY No. Pgs: 15
AR No. 13.02.1 Document No. 000051

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16.01 NATURAL RESOURCE TRUSTEE - CORRESPONDENCE

Title: Contaminant Release Notification.
Addressee: KENNETH FINKLESTEIN - NATIONAL OCEANIC &
ATMOSPHERIC ADMINISTRATION
Authors: MERRILL S. HOHMAN - US EPA REGION I
Date: April 29, 1991
Format: CORRESPONDENCE
AR No. 16.01.1

No. Pgs: 2
Document No. 000052

Title: Contamination Release Notification.
Addressee: WILLIAM PATTERSON - US DEPARTMENT OF THE INTERIOR
Authors: MERRILL S. HOHMAN - US EPA REGION I
Date: April 29, 1991
Format: CORRESPONDENCE
AR No. 16.01.2

No. Pgs: 2
Document No. 000053

17.05 SITE MANAGEMENT RECORDS - SITE DESCRIPTIONS/CHRONOLOGIES

Title: Site Description, Burgess Brothers Landfill,
Woodford, Vermont.
Authors: US EPA REGION I
Date:
Format: MISCELLANEOUS
AR No. 17.05.1

No. Pgs: 2
Document No. 000054

Section II

GUIDANCE DOCUMENTS

The EPA guidance documents listed below were considered during the process of selecting the response action for the Burgess Brothers Landfill Superfund Site. These EPA guidance documents may be reviewed at the EPA Region I Office of Site Remediation and Restoration Records Center, 90 Canal Street, Boston, MA 02114.

1. Air Stripper Control Guidance, Gitto, Louis F. OSWER # 9355.0-28. July 12, 1989. [C110]
2. ARARs Fact Sheet: Compliance with the Clean Air Act and Associated Air Quality Requirements, September 1, 1992. [C281]
3. ARARs Q's and A's (Quick Reference Fact Sheet), OSWER # 9234.2-01FS. May 1, 1989. [3006]
4. ARARs Q's and A's: Compliance with Federal Water Quality Criteria, Office of Solid Waste and Emergency Response. OSWER # 9234.2-09/FS. June 1, 1990. [C192]
5. CERCLA Compliance with Other Laws Manual (Draft), Office of Emergency and Remedial Response. OSWER # 9234.1-01. August 8, 1988. [3002]
6. CERCLA Compliance with Other Laws Manual Part II: Clean Air Act and Other Environmental Statutes and State Requirements, OSWER # 9234.1-02. August 1, 1989. [3013]
7. Comprehensive Environmental Response, Compensation and Liability Act of 1980 as Amended by PL 99-499, October 17, 1986, October 17, 1986. [C018]
8. Conducting Remedial Investigations/Feasibility Studies for CERCLA Municipal Landfill Sites, OSWER # 9355.3-11. February 1, 1991. [C177]
9. Interim Final Guidance For Conducting Remedial Investigations and Feasibility Studies Under CERCLA, Office of Solid Waste and Emergency Response/Office of Emergency and Remedial Response. OSWER # 9355.3-01. [2002]
10. National Oil and Hazardous Substances Pollution Contingency Plan. [C063]
11. Presumptive Remedy for CERCLA Municipal Landfill Sites, OSWER # 9355.0-49FS. September 1, 1993. [C157]
12. Risk Assessment Guidance for Superfund, Volume I, Human Health Evaluation Manual (Part A). Interim Final, (EPA/540/1-89/002). December 1, 1989. [C174]

GUIDANCE DOCUMENTS (continued)

13. Risk Assessment Guidance for Superfund, Volume II, Environmental Evaluation Manual. (EPA/540/1-89/001). March 1, 1989. [5024]
14. Streamlining the RI/FS for CERCLA Municipal Landfill Sites. OSWER # 9355.3-11FS. September 1, 1990. [C176]

APPENDIX E

RESPONSIVENESS SUMMARY

BURGESS BROTHERS SUPERFUND SITE

RESPONSIVENESS SUMMARY

SEPTEMBER 1998

BURGESS BROTHERS SUPERFUND SITE RESPONSIVENESS SUMMARY

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B	Transcript From the June 23, 1998 Public Hearing	<u>B-1</u>

BURGESS BROTHERS DRAFT RESPONSIVENESS SUMMARY

PREFACE

The U.S. Environmental Protection Agency (EPA) held a 30-day public comment period from June 15 to July 15, 1998 to provide an opportunity for public comment on the Proposed Plan to address contamination at the Burgess Brothers Superfund Site in Bennington and Woodford, Vermont (the "Site"). The EPA prepared the Proposed Plan based on the results of the Remedial Investigation (RI) and Feasibility Study (FS). The RI was conducted to determine the nature and extent of site contamination and to identify potential risks to human health and the environment. The FS examined and evaluated various options, or alternatives, for addressing the contamination. The Proposed Plan, issued on June 10, 1998, presented the EPA's preferred alternative for the site before the start of the public comment period. All documents which were used in the EPA's selection of the preferred alternative were placed in the site Administrative Record, which is available for public review at the EPA Records Center, 90 Canal Street, Boston, Massachusetts, and at the Bennington Free Library, 101 Silver Street, Bennington, Vermont.

The purpose of this Responsiveness Summary is to document the EPA's responses to the questions and comments raised during the public comment period. The EPA considered all of the comments summarized in this document before selecting a final remedial alternative to address contamination at the site.

This Responsiveness Summary is organized into the following sections:

- I. **Overview of Remedial Alternatives Considered in the FS and Proposed Plan, including the Preferred Alternative** - This section briefly outlines the remedial alternatives evaluated in the FS and the Proposed Plan, including the EPA's preferred alternative.
- II. **Site History and Background on Community Involvement and Concerns** - This section provides a brief history of the site and an overview of community interests and concerns regarding the site.

III. **Summary of Comments Received During the Public Comment Period** - This section summarizes and provides the EPA's responses to the oral and written comments received from the public during the comment period.

IV. **Changes in Selected Remedy Based on Public Comments** - This section summarizes changes that were made to the preferred remedy in the Proposed Plan based on EPA's consideration of the comments received during the public comment period.

In addition, two attachments are included with this Responsiveness Summary. Attachment A lists community participation activities conducted by the EPA and VT DEC to date at the site. Attachment B contains a copy of the transcript from the public hearing held on Tuesday, June 23, 1998 in Bennington, Vermont. The original comments submitted by citizens, the State of Vermont, and PRPs are available in the Administrative Record.

I. OVERVIEW OF REMEDIAL ALTERNATIVES CONSIDERED IN THE FS AND PROPOSED PLAN

Using information gathered during the RI and the Risk Assessment, the EPA identified several cleanup objectives for the Burgess Brothers Site.

The primary cleanup objectives are to reduce risks to public health and the environment by 1) preventing direct exposures to contaminated materials on site; 2) minimizing the movement of contamination away from the site; and 3) preventing use of groundwater which might pose a risk to human health. Cleanup levels for groundwater are set at levels that the EPA and VT DEC consider protective of human health and the environment.

After identifying the cleanup objectives, the EPA developed and evaluated potential cleanup alternatives to address site contamination. The FS describes the cleanup alternatives and the criteria the EPA used to narrow the list of four potential alternatives to control sources of contamination and address migration of contaminants off site.

The EPA's Proposed Alternative, Alternative 2, includes the following features:

- A multi-barrier (or “composite barrier”) cap over the Landfill Area.
- A cap over the soils in the Marshy Area;
- Hot spot remediation of the Former Lagoon Cells within the Landfill Area using soil-vapor extraction (SVE) and air sparging;
- Natural attenuation of contaminated groundwater beyond the area of influence of the SVE and air sparging system;
- The establishment of institutional controls to protect the capped areas and to prevent the use of groundwater potentially impacted by the Site, and to inform future purchasers of the groundwater restrictions associated with the property;
- Long-term monitoring of the groundwater, surface water, sediments, and soil gas to evaluate the overall effectiveness of the remedy;
- A review of the Site every five years after the initiation of the remedial action to assure that the remedial action continues to protect human health and the environment.

In the Feasibility Study Report, the estimated net present worth of the remedy is \$3,600,000. This alternative was selected because it achieved the best balance among the criteria with which EPA is required by law to evaluate clean-up options. The selected remedy provides an effective reduction in human health risk through a combination of source control (capping and SVE/air sparging) and management of contaminant migration (natural attenuation of groundwater) technologies. The remedy will attain Federal and State cleanup standards, reduce the toxicity of contaminated groundwater, and utilize permanent solutions to the extent possible.

The following other alternatives were evaluated in detail in the FS:

- **Alternative 1: No Action** - Under this alternative, no containment or treatment of the landfill or lagoon soils would occur and no effort would be made to control the migration of

contaminated groundwater.

- ***Alternative 3: Capping and Lagoon Treatment/Pump and Treat*** - Alternative 3 is similar to Alternative 2, with the exception of the approach to address contaminated groundwater. This Alternative includes the extraction of groundwater and construction of a water treatment facility to actively address groundwater contamination. The groundwater would be treated and discharged.

- ***Alternative 4 - Capping and Lagoon Treatment/Treatment Wall*** - Alternative 4 is also similar to Alternative 2, with the exception of the approach to address contaminated groundwater. This Alternative includes the construction of a subsurface treatment wall that would allow groundwater to flow through under natural flow conditions. The materials in the treatment wall would treat the contaminated groundwater.

All of the remedial alternatives considered for implementation at this site are described in the Record of Decision (ROD) Summary Document and in the Proposed Plan, and are discussed in detail in the FS.

II. BACKGROUND ON COMMUNITY INVOLVEMENT AND CONCERNS

Site Description / History

The Burgess Brothers Superfund Site (the "Site") is located in the towns of Woodford and Bennington, Bennington County, Vermont, between Burgess Road and the Walloomsac Brook. Access to the Site is through the Burgess Brothers Construction Company's facility on Burgess Road, approximately 1.1 miles southeast of the junction of Burgess Road and State Highway 9. The Green Mountain National Forest borders the Site to the north. The latitude of the Site is 42° 52'40" and the longitude is 73° 09'00". The Site consists of approximately three acres located in the northeastern section of a 60-acre parcel which is owned by Clyde Burgess, Jr.

The Site includes the following six areas:

- Landfill Area - which is the waste disposal area.
- Lagoon Area - former lagoon cells which are located within the Landfill Area. This area consists of two former waste disposal cells where solvent and reserve energizer battery waste were reportedly disposed.
- Soil Staging Area - located north of the Landfill Area.
- Area West of Landfill - includes the areas to the west of the Landfill Area, downslope of the landfill, and in the vicinity of a temporary access Landfill Road.
- Marshy Area - located south and southeast downslope of the landfill and consists of several small wetland areas.
- Hillside Area - includes areas upslope and to the east of the Marshy Area and Landfill Area on Harmon Hill.

As stated above, the Site consists of approximately three acres. The Landfill Area occupies approximately two acres which includes the two former Lagoon Cells. The Lagoon Cells occupy approximately 4,000 square feet (0.09 acres) of the landfill. The marshy area and area impacted by the contaminated groundwater plume occupy approximately one acre beyond the Landfill Area. Both the landfill and lagoon cells have been covered with clean soils from the Burgess Brothers property.

The primary land use in the vicinity of the site is undeveloped forest. Industrial, commercial, and residential properties are located along Burgess Road, approximately one mile southwest of the Site. Although Bennington, Vermont contains many historic structures, no cultural resources have been identified in the immediate vicinity of the Site.

Two municipal water supply systems, Ryder Spring and Morgan Spring, are located within one mile of the Site. These systems are operated by the Bennington Water Department. Two private drinking water wells have been identified within one mile of the Site.

A new housing development is being constructed just north of the Site. This construction is not expected to impact environmental conditions at the Site as the development will be connected to town water and sewerage (Publicly Owned Treatment Works (POTW)).

Activities at the Site began as sand and gravel mining operations in the 1940s. Beginning in the early 1950's the site was used as a metal salvage facility and as a disposal area for construction debris. Starting in the 1960's metals, sludges, and rejected small appliance batteries were also disposed at the Site. The two Lagoon Cells (unlined pits) received liquid wastes and sludge from approximately 1967 to 1976. These wastes consisted of lead sludges, lead contaminated wastewater, spent solvents (primarily PCE and TCE), and battery waste. Manganese dioxide cells (containing zinc and mercury) were also disposed. Approximately 2,371,100 gallons of liquid waste and 241,090 pounds of solid or semi-solid wastes were disposed of at the Site from 1971-1976. An unknown quantity of waste, primarily lead sludge, was also disposed of at the Site from the 1960's through 1971.

Numerous investigations have been performed at the Site to evaluate the environmental impact of the disposal operation which occurred in the Landfill Area and former Lagoon Cells. VTAEC inspected the Site several times during the late 1960's and 1970's to evaluate disposal practices and environmental impacts. In August 1976, VTAEC disallowed disposal operations at the Site.

From 1984 - 1989, preliminary investigations and periodic monitoring of soil, surface water, groundwater, and leachate were performed by the State, EPA, and Union Carbide Corporation.

VTDEC (then VTAEC) conducted a Preliminary Assessment in 1985 and EPA proposed the Site for listing on the NPL on June 24, 1988. On March 31, 1989 the Site was added to the National Priorities List.

On May 10, 1991, EPA notified five parties who either owned or operated the facility, generated wastes that were shipped to the facility, arranged for the disposal of wastes at the facility, or transported wastes to the facility, of their potential liability with respect to the Site. Negotiations commenced with these potentially responsible parties (PRPs) regarding the PRPs' performance of an RI/FS at the Site.

On August 13, 1991, EPA entered into an Administrative Order by Consent with three of the PRPs for the performance of a Remedial Investigation and Feasibility Study (RI/FS). These three PRPs agreed to conduct and pay for the RI and FS, and to reimburse EPA for the cost of overseeing the investigations. These PRPs also agreed to pay for a portion of past costs at the site. The EPA will continue to negotiate with all of the PRPs to fund the site cleanup.

The RI consisted of a series of field investigations to further evaluate the nature and extent of contamination related to the site. Consistent with the EPA's "presumptive remedy approach," EPA determined that the landfill would be covered with a cap to contain the waste materials; therefore, extensive sampling of the landfill was not necessary. The RI confirmed that the Landfill Area, Lagoon Area, and Marshy Area soils were contaminated with VOCs, semi-volatile organic compounds (SVOCs) and metals. The highest contaminant concentrations in soil were detected in the Lagoon Area. Groundwater samples from overburden monitoring wells also contained a variety of VOCs, SVOCs, and metals; many of these contaminants were detected at levels above Federal and State drinking water standards. Private wells located downgradient of the site and two public water supply sources, Ryder Spring and Morgan Spring, were sampled and determined to not be affected by site related contamination. The RI also indicated that surface water and sediments in the swales and unnamed stream that runs along the eastern side of the landfill contained concentrations of VOCs and metals.

Studies of the site hydrogeology indicated that contaminated groundwater beneath the landfill enters the soils in the Marshy Area and empties into the swales and unnamed stream. The zone of contamination, or plume, is gradually spreading to the south and west as the groundwater flows through the overburden. The area of contamination is slightly south of well cluster W-09.

The EPA conducted a risk assessment to evaluate potential risks to human health and the environment posed by the site if no action were taken to address contamination. The risk assessment indicated that there are no unacceptable health risks to people currently exposed to contamination at the landfill. However, the EPA has determined that if in the future, residential development were to occur closer to the landfill area and new drinking water wells were installed, unacceptable cancer and noncancer health effects would be associated with household use of the contaminated groundwater.

The ecological risk assessment indicated that levels of contaminants in leachate, soils, and sediments in the Marshy Area, swales, and unnamed stream pose an unacceptable risk to some types of wildlife.

History of Community Involvement

Throughout the Site's history, community concern and involvement has been fairly low. EPA has kept the community and other interested parties apprised of the Site activities through informational fact sheets, press releases, and public meetings. On June 10, 1998, EPA issued a Proposed Plan for the cleanup of the site.

On June 11, 1998, EPA published a notice and brief analysis of the Proposed Plan in the Bennington Banner. On June 15, 1998 EPA made the Proposed Plan and Administrative Record available to the public by placing a copy in the Bennington Free Library, Bennington, Vermont, and at EPA's office in Boston. On June 23, 1998, EPA held an informational meeting/public hearing at the Bennington Free Library to discuss the results of the Remedial Investigation and the cleanup alternatives presented in the Feasibility Study. During this meeting EPA presented the Proposed Plan and accepted oral comments. Approximately 12 people attended the meeting. The public comment period ran from June 15 through July 15, 1998.

Public Reaction to the EPA's Preferred Alternative

There was general support for EPA's Proposed Plan, although very few comments were received. Specific issues raised are discussed below.

III. SUMMARY OF PUBLIC COMMENTS AND AGENCY RESPONSES

This Responsiveness Summary addresses comments pertaining to the Proposed Plan and FS which were received by the EPA during the public comment period (June 15 to July 15, 1998). Approximately twelve individuals, including representatives of VT DEC, PRPs, a local

newspaper, EPA, and area residents attended the meeting. No oral comments were provided during the public hearing. Two sets of written comments were received by the EPA during the comment period. These comments are presented and addressed below:

Comment #1: A citizen raised a concern related to site access. He had seen children fishing in the streams very near the site and felt that this should not be allowed.

Response: Institutional controls proposed in the selected alternative will include restricting site access. This will include a chain link fence or similar device surrounding the perimeter of the site which should address this type of activity as well as other trespassers.

Comment #2: A citizen questioned how the contamination at the Site would be contained and remediated.

Response: The selected remedy will require capping the landfill area and marshy area soils which will adequately contain the contamination within the site boundary. Remediation will include soil vapor extraction and air sparging to remove VOCs from the lagoon area soils as well as natural attenuation of groundwater.

Comment #3: A citizen asked where the contamination from the site was to be transported.

Response: There will be no transportation of site contamination. All site contamination will be contained and treated on-site. Transportation of some material used in a treatment processes, such as spent organic carbon, may occur depending on the treatment method determined during design. Any transportation of these types of material is expected to be done by a truck and is expected to be minimal.

Comment #4: A citizen questioned the amount of additional traffic expected that would be related to construction activities. This concern also included whether the process would cause excess noise or odors as well as when the activities would be performed.

Response: Negligible additional traffic is expected. The construction activities will occur

during normal working hours which is consistent with the activities that are typical at the Burgess Brothers Construction Company. All activities will be performed on-site which is in a remote area. No adverse odor or noise impacts are expected to impact any nearby residences.

Comment #5: A citizen was concerned whether the presence of site contamination over the years had caused lasting damage to plant life and/or animal life.

Response: There have been impacts to both plant and animal life over the years. The presence of stressed vegetation has been documented and the soils in the marshy area are currently an unacceptable risk to some forms of wildlife. None of these impacts, however, are expected to be permanent. Once the capping of the landfill and marshy area and the treatment of lagoon soils is complete, the source of contamination will be greatly reduced. Further, natural attenuation of groundwater is expected to achieve drinking water standards at the compliance boundary within seven years. When the remediation activities are complete, there will be no further unacceptable risks associated with the site.

Comment #6: A citizen questioned whether it was possible that some contamination at the site could have been missed.

Response: Investigatory activities have included a comprehensive evaluation of all potential pathways of contamination including groundwater, soil, sediments, surface water, and air. There is a very high level of confidence that all site related contamination has been identified and thoroughly defined.

IV. CHANGES IN SELECTED REMEDY BASED ON PUBLIC CONCERNS

The comments received generally supported EPA's proposed alternative. There were no changes based on comments received.

ATTACHMENT A
LIST OF FORMAL COMMUNITY RELATIONS ACTIVITIES
CONDUCTED TO DATE AT THE BURGESS BROTHERS SUPERFUND SITE

September 16, 1992	Community interviews conducted by the EPA in Bennington and Woodford, Vermont.
February 1995	Community Relations Plan issued.
April 1998	Fact Sheet No. 1 issued describing the findings of the RI/FS, risk assessment and proposed FS alternatives.
June 10, 1998	EPA Proposed Plan released
June 11, 1998	Public notice published in the <u>Bennington Banner</u> announcing the availability of the Proposed Plan and Administrative Record and the upcoming public meeting.
June 15, 1998	Start of the public comment period.
June 23, 1998	Public meeting held by the EPA and VT DEC at the Bennington Free Library discuss the results of the RI, risk assessment, and EPA's proposed alternative.
September 1998	Responsiveness Summary issued as part of the Record of Decision on the EPA's preferred alternative for the Burgess Brothers Site.

ATTACHMENT B

TRANSCRIPT FROM JUNE 23, 1998 PUBLIC HEARING

FIA PROPOSED PLAN

BURGESS BROTHERS SUPERFUND SITE

WOODFORD & BENNINGTON, VERMONT

Information Session

and

Formal Comment Session

Tuesday, June 23, 1998
7:00 PM

Wills Room
Bennington Free Library
Bennington, Vermont

PRESENT:

RONALD JENNINGS
REMEDIAL PROJECT MANAGER
U.S. ENVIRONMENTAL PROTECTION AGENCY
JFK FEDERAL BUILDING, HBT
BOSTON, MA. 02203

MARY JANE S. O'DONNELL
SUPERVISORY ENVIRONMENTAL ENGINEER
JFK FEDERAL BUILDING
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GEOFFREY SEIBEL
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SARAH WHITE
COMMUNITY INVOLVEMENT COORDINATOR
OFFICE OF THE SUPERFUND COMMUNITY RELATIONS
US ENVIRONMENTAL PROTECTION AGENCY
JFK FEDERAL BUILDING (RAA)
BOSTON, MA. 02203

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MS. O'DONNELL: All right. The first part of the hearing has started. It will be transcribed. If you would like to make any comments on the post cleanup plan, now is your opportunity.

MRS. MacINTYRE: What's the timeframe for putting on the cover and completing the covering up process?

MS. O'DONNELL: Could you identify yourself just for the record?

MRS. MacINTYRE: Barbara MacIntyre. We did that doing the first? In other words, you're going to put a cover on, how long will it take to put the cover on, make sure the test wells are in place and be able to walk away and come back casually and come back?

MS. O'DONNELL: Do you have a sense of that?

MR. JENNINGS: We are not formally answering questions right now but the schedule needs to be put forward. However, we are talking about construction happening fairly soon. You folks over there are going to be moving forward on design, we are basically moving faster than what our schedule requirement is. Can you give me some idea of what your hope is?

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MR. JENNINGS: We're probably planning on an approximate anywhere
from 12 months to 24 months for the entire
construction total. And it's our intent to
design and build this remedy as quickly as possible
and construction may start as early as this year
but the bulk of the work will likely be next year.

MR. JENNINGS: That's fast for superfunds.

MRS. MacINTYRE: That is, that is.

MS. O'DONNELL: If you could combine your
comments to comments of the proposed plan that
would be great but we would be more than happy to
answer certification type questions after we close
the formal hearing.

Any other comments? Well, seeing there are
none, the formal hearing is now closed but
certainly when we will be more than that happy to
answer any questions you might have for as long as
you people want to stay.

(WHEREUPON THE HEARING WAS CONCLUDED, THIS
DATE.)

C E R T I F I C A T I O N

I, ERIN K. O'HEARN, a Shorthand
Reporter in and for the State of Vermont, hereby
certify that the foregoing record taken by me at
the time and place noted in the heading hereof is
true and accurate transcript of same, to the best
of my ability and belief.



ERIN K. O'HEARN
SHORTHAND REPORTER

Dated: June 29, 1998



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APPENDIX B

Remedial Design / Remedial Action Statement of Work Burgess Brothers Superfund Site

I. INTRODUCTION AND PURPOSE

This Remedial Design/Remedial Action (RD/RA) Statement of Work (SOW) defines the response activities and deliverables that the Settling Defendants shall perform/submit in order to implement the Work required under the Consent Decree (Docket No. _____) at the Burgess Brothers Superfund Site in the Towns of Woodford and Bennington, Vermont. The activities described in this SOW are based upon the United States Environmental Protection Agency's (EPA) Record of Decision (ROD) for the Site signed by the EPA Regional Administrator, Region I, on September 25, 1998.

The remedial action objectives for the Site are:

Landfill Remedial Action Objectives

- Prevent, to the extent practicable, the potential for water to contact or infiltrate through the debris mass and lagoon.
- Prevent, to the extent practicable, the generation of landfill seeps and the migration of landfill impacted surface water into the unnamed streams adjacent to the landfill (Marshy Area).
- Control landfill gas emissions so methane gas does not present an explosion hazard; prevent, to the extent practicable, the inhalation of landfill gas containing hazardous substances, pollutants, or contaminants; and meet state and federal air standards.
- Prevent, to the extent practicable, the migration of contaminated groundwater/leachate beyond the points of compliance by controlling the source of the contamination.
- Minimize the potential for slope failure of the debris mass associated with the landfill cap.
- Prevent, to the extent practicable, direct contact with and ingestion of soil/debris within the landfill and beneath the landfill.

- Control, to the extent practicable, surface water runoff to minimize erosion.
- Prevent, to the extent practicable, the migration of contamination from the lagoon area.
- Prevent, to the extent practicable, the saturation of the landfill debris mass from upgradient groundwater.

Groundwater Remedial Action Objectives

- Prevent, to the extent practicable, the ingestion of landfill impacted bedrock groundwater exceeding MCLs, Vermont Primary Ground Water Quality Standards, or in their absence, the more stringent of an excess cancer risk of 1×10^{-6} for each compound or a hazard quotient of unity for each noncarcinogenic compound by any individual who may use the bedrock groundwater or within an area that the groundwater could become impacted as a result of pumping activities.
- Restore the bedrock groundwater at the edge of the Waste Management Unit to: MCLs, Vermont Primary Ground Water Quality Standards, or in their absence, the more stringent of excess cancer risk of 1×10^{-6} for each compound or a hazard quotient of unity for each noncarcinogenic compound.

Surface Water Remedial Action Objectives

- Protect off-site surface water by preventing the occurrence of landfill impacted seeps.
- Prevent, to the extent practicable, ecological impacts from contaminants in the Marshy Area.
- Meet federal and state applicable or relevant and appropriate requirements (ARARs) for any surface water discharge.

Ecological Remedial Action Objectives

- Protect surface water, to the extent practicable, from exceedances of the Ambient Water Quality Criteria (AWQC) Acute and Chronic Standards.
- Protect sediments, to the extent practicable, from exceedances of the Aquatic Sediment Quality Guidelines of the Ontario Ministry of the Environment.

II. DEFINITIONS

The term "Site" shall be as defined in the Consent Decree. All other definitions provided in the Consent Decree are incorporated herein by reference. In addition, the following definitions shall apply to this SOW:

- A. "Design" shall mean an identification of the technology to be used for the Remedial Action and its performance and operational specifications, in accordance with all applicable federal, state, and local laws, including, but not limited to:
 - 1. All computations used to size units, determine the appropriateness of technologies, and the projected effectiveness of the remedy;
 - 2. Scale drawings of all system layouts including, but not limited to, excavation and well cross-sections.
 - 3. Quantitative analyses demonstrating the anticipated effectiveness of the Remedial Design to achieve the Performance Standards.
 - 4. Technical specifications which detail the following:
 - a. Size and type of each major component.
 - b. Required performance criteria of each major component.
 - 5. Specifications for ambient air monitoring including equipment, monitoring locations, and data handling procedures.
 - 6. Specifications on Institutional Controls (deed restrictions, access, land easements and/or other controls as required), to be supplied with the construction plans and specifications.
- B. "EPA Approval" or "EPA Review and Approval" shall mean the procedures specified in Section XI of the Consent Decree.

III. SELECTED REMEDY

Section X of the Record of Decision describes the remedial action for the Site. Listed below are components of the remedy to be performed by the Settling Defendants:

Remedial Action Components

- Construction and maintenance of a multi-barrier, low permeability cap with drainage controls, over the landfill area.
- Construction and maintenance of a cap over the Marshy Area.
- Installation of a landfill gas management system.
- Installation, operation and maintenance, and monitoring of an SVE/air sparging system in the area of the former lagoon cells, including treatment of off-gas from the system.
- Institutional controls, potentially including access restrictions, deed restrictions, land-use restrictions, easements, groundwater reclassification, and/or other controls, as necessary.
- Long term monitoring of groundwater, surface waters, and sediments.
- Modeling and evaluation of contaminant degradation rates and pathways to evaluate the effectiveness of natural attenuation.

IV. PERFORMANCE STANDARDS

The Settling Defendants shall design, construct, operate, monitor, and maintain the Remedial Action in compliance with all statutes and regulations identified in Section XI of the ROD, and all requirements of the Consent Decree and this SOW including the remedial action objectives as provided in Section I of this SOW. The Settling Defendants shall achieve the following Interim Cleanup Levels for contaminated groundwater and the following Performance Levels for contaminated surface waters and sediments. The Performance Standards for the Site are presented below:

A. Groundwater

Interim Cleanup Levels for groundwater contamination are specified by EPA in the ROD and in Table 1 of this SOW. While the levels in Table 1 are consistent with current ARARS, the levels are considered Interim Cleanup Levels because the cumulative risk posed by these contaminants, after attainment of the Interim Cleanup Levels, may still exceed EPA's risk management standard. The Settling Defendants are required to attain the Interim Cleanup Levels, any newly promulgated or modified ARARs, or any other Modified Cleanup Levels established by EPA, as described below.

The Settling Defendants shall remediate the groundwater at the Site until the concentration of each groundwater contaminant achieves compliance with the Interim Cleanup Level established by EPA for the contaminant. Compliance for each contaminant must be attained at all current and all additional wells that EPA requires to be installed as part of the compliance monitoring system. The Settling Defendants must

demonstrate that they have achieved compliance in all compliance monitoring wells according to the evaluation procedure defined in 40 C.F.R. Section 264.97. Using such procedures, the Settling Defendants shall demonstrate that the Interim Cleanup Levels and any newly promulgated or modified ARARs have not been exceeded in all compliance monitoring wells for a period of three consecutive years. The Settling Defendants shall submit the results to EPA and VTDEC in a Demonstration of Compliance Report. If EPA, after reasonable opportunity for review and comment by the Vermont Department of Environmental Conservation, approves the Demonstration on Compliance Report and agrees that the Interim Cleanup Levels and any newly promulgated or modified ARARs have been achieved in all compliance monitoring wells, a risk assessment shall be performed by EPA on the residual groundwater contamination.

As specified by EPA, the Settling Defendants shall collect, tabulate and submit all data necessary for EPA to conduct the risk assessment on groundwater. The risk assessment of the residual groundwater contamination will assess the cumulative risks for carcinogens and non-carcinogens posed by consumption of Site groundwater. If EPA determines, after reasonable opportunity for review and comment by the Vermont Department of Environmental Conservation, that the risks are within EPA's risk management standard for carcinogens and non-carcinogens, the Interim Cleanup Levels will be Final Performance Standards. If EPA determines, after reasonable opportunity for review and comment by the Vermont Department of Environmental Conservation, that the cumulative risks are not within EPA's risk management standard for carcinogens and non-carcinogens, then EPA will establish Modified Cleanup Levels, and the Settling Defendants shall continue the Remedial Action until the Modified Cleanup Levels, established by EPA, are achieved, or the remedy is otherwise deemed protective by EPA. These Modified Cleanup Levels shall constitute the final Cleanup Levels for the Site groundwater and shall be considered Performance Standards for any Remedial Action regarding site groundwater.

When the Settling Defendants can reasonably predict the time that the Modified Cleanup Levels are being or will be achieved, the Settling Defendants shall submit to EPA an Amended Demonstration of Compliance Plan for review. At the completion of the period necessary to demonstrate compliance with the Modified Cleanup Levels, the Settling Defendants shall submit to EPA for review and approval or modification, after reasonable opportunity for review and comment by the VTDEC, a Revised Demonstration of Compliance Report. If EPA determines that the Modified Cleanup Levels have been achieved, the Modified Cleanup Levels shall constitute the final Cleanup Levels for the Site groundwater and shall be considered Performance Standards for any Remedial Action regarding site groundwater.

Upon submission of the Demonstration of Compliance Report or the Revised Demonstration of Compliance Report, the Settling Defendants shall continue to monitor

the groundwater according to the Demonstration of Compliance Plan or the Amended Demonstration of Compliance Plan until receipt of EPA's Certification of Completion.

The points of compliance for groundwater shall be defined in the Demonstration of Compliance Plan and will include monitoring wells at the edge of the impermeable landfill cap and monitoring wells downgradient of the landfill. The impermeable landfill cap shall be at or slightly beyond the horizontal extent of the edge of fill. The greatest distance the impermeable landfill cap may extend beyond the edge of fill is on the southern portion of the landfill where it may extend up to 100 feet beyond the edge of fill. The placement of the monitoring wells downgradient of the landfill will define the contaminated groundwater plume originating from the Landfill Area. Monitoring wells shall be installed during remedial action activities.

B. Other Media

The point of compliance for surface waters and sediments, consistent with the NCP, shall be the point or points where the release enters the surface waters. Performance Levels for surface water and sediment contamination are specified by EPA in the ROD and in Tables 2 and 3, respectively, of this SOW. These Performance Levels have been established to evaluate the effectiveness of the source control and groundwater cleanup measures and will also be used to determine if further action, at a later time, may be necessary to address risk from surface water and sediments.

The Settling Defendants shall demonstrate that the Performance Levels for surface waters and sediments have been met and not exceeded for a period of three consecutive years. The Settling Defendants shall submit the results in a Demonstration of Compliance Report to EPA and VTDEC. If EPA, after reasonable opportunity for review and comment by the Vermont Department of Environmental Conservation, approves the Demonstration of Compliance Report and agrees that the Performance Levels have been achieved, a risk assessment shall be performed by EPA on the surface water and sediment contamination.

As specified by EPA, the Settling Defendants shall collect, tabulate and submit all data necessary for EPA to conduct the risk assessment. The risk assessment on the residual surface water and sediment contamination will assess the cumulative human health and ecological risks posed by consumption and exposure to the Site's surface water and sediments. If EPA determines, after reasonable opportunity for review and comment by the Vermont Department of Environmental Conservation, that the risks are within EPA's risk management standards for current and future human health and ecological receptors, the Performance Levels will be Final Performance Standards. If EPA determines, after reasonable opportunity for review and comment by the Vermont Department of Environmental Conservation, that the cumulative risks are not within EPA's risk

management standards, then EPA will establish Modified Performance Levels, and the Settling Defendants shall continue the Remedial Action until the Modified Performance Levels, established by EPA, are achieved, or the remedy is otherwise deemed protective by EPA. These Modified Performance Levels shall constitute the final Performance Levels for the Site surface waters and sediments and shall be considered Performance Standards for any Remedial Action regarding site surface water and sediments.

When the Settling Defendants can reasonably predict the time that the Modified Performance Levels are being or will be achieved, the Settling Defendants shall submit to EPA an Amended Demonstration of Compliance Plan for review. At the completion of the period necessary to demonstrate compliance with the Modified Performance Levels, the Settling Defendants shall submit to EPA for review and approval or modification, after reasonable opportunity for review and comment by the VTDEC, a Revised Demonstration of Compliance Report. If EPA determines that the Modified Performance Levels have been achieved, the Modified Performance Levels shall constitute the final Performance Levels for the Site surface water and sediments and shall be considered Performance Standards for any Remedial Action regarding site surface water and sediments.

Upon submission of the Demonstration of Compliance Report or the Revised Demonstration of Compliance Report, the Settling Defendants shall continue to monitor the surface water and sediments according to the Demonstration of Compliance Plan or the Amended Demonstration of Compliance Plan until receipt of EPA's Certification of Completion.

C. Other Standards

1. Multi-Barrier Cap Over the Landfill Area

Capping of the Landfill: The top slope of the Landfill Area will be graded at approximately three percent and the side slopes will be graded at three horizontal to one vertical (3:1) or flatter. No side slope will be graded more steeply than 3:1. Prior to any intrusive activity, erosion and sedimentation controls will be implemented to protect the swales, unnamed stream, and wetlands adjacent to and south of the Landfill Area. These controls will be inspected on a routine basis and maintained until soil stabilization is established.

Grading of the Landfill Area will take into account the adjacent swales, unnamed stream, and wetlands and minimize adverse effects to these areas. The adjacent swales will be re-routed through a conduit beneath or adjacent to the landfill and Marshy Area cap. The exact approach will be determined during remedial design.

A continuous multi-layer (or "composite barrier") cap will be constructed over the Landfill Area. The cap will be designed, constructed, operated, and maintained to meet the performance requirements of the Resource Conservation and Recovery Act ("RCRA") Subtitle C regulations. The cap shall also be designed to meet the requirements of the following EPA technical guidance documents: "Final Covers on Hazardous Waste Landfills and Surface Impoundments" (EPA/530-SW-89-047, July 1989); "Construction Quality Management for Remedial Action and Remedial Design Waste Containment Systems" (EPA/540/R-92/073, October 1992); "QA and QC for Waste Containment Facilities" (EPA/600/R-93/182, September 1993) and Alternative Cap Design Guidance for Unlined Hazardous Waste Landfills, EPA Region I, September 30, 1997. The multi-barrier cap, from bottom to top, will achieve the following minimum requirements:

- a. The base layer will be comprised of clean fill material. This material will be used to establish the base grade of the Landfill. Given the steep eastern slope of the Landfill, the base grade of this slope is expected to be a maximum of 3:1 (horizontal:vertical). This layer will be a minimum of six inches on the top slopes and a minimum of six inches on the 3:1 side slopes.
- b. The bottom low hydraulic conductivity layer will be installed to minimize potential leakage through the low hydraulic conductivity geomembrane into the Landfill. This layer will act as a safeguard to the geomembrane, and will consist of compacted clay or a reinforced geosynthetic clay liner (GCL). This layer will have a hydraulic conductivity no greater than 1×10^{-7} cm/sec. Because the interface frictional resistance between the GCL and the geomembrane can be very low, particularly when the GCL becomes hydrated, this layer will only be utilized on areas having slopes less than 6:1 to ensure cap slope stability. On slopes greater than 6:1, a silty sand or sandy silt layer will be placed beneath the geomembrane to enhance side slope stability. This soil is anticipated to be at least 12 inches in thickness and will have a hydraulic conductivity no greater than 1×10^{-4} cm/sec.
- e. The top low hydraulic conductivity layer will be a synthetic barrier. This will be the main barrier which prevents water infiltration from entering the Landfill. This synthetic barrier will be a type of flexible geomembrane, 60 mil linear low density polyethylene (LLDPE) or equivalent, selected to prevent infiltration. The geomembrane on the slopes greater than 6:1 must be textured to minimize the potential for sliding.
- d. A drainage layer will be installed above the synthetic barrier to prevent the ponding of water over the synthetic barrier. This layer will be composed

of either 12 inches of sand or gravel with a minimum hydraulic conductivity of 1×10^{-1} cm/sec, or a geocomposite drainage material with an equivalent transmissivity of at least 3×10^{-4} m²/sec.

- e. The filter layer will be composed of nonwoven geotextile filter fabric to minimize fill material from clogging the granular drainage layer. A filter layer may not be required if the drainage layer is a geocomposite.
- f. The top layer will be the vegetative cover. This layer will: (1) provide frost protection; (2) provide adequate water-holding capacity to attenuate rainfall infiltration to the drainage layer and to sustain vegetation through dry periods; and (3) provide sufficient thickness to allow for expected long-term erosion losses. The side slope will be terraced to minimize erosion of the multi-layer caps so that no more than 2 tons per acre per year of soil loss occurs. The thickness of the top layer is anticipated to be a minimum of 36 inches and will be based on local maximum frost depth penetrations. No deep-rooted plants will be allowed to become established on the capped area.

Air: A landfill gas management system will be implemented to insure that landfill gas does not build up beneath the caps or migrate laterally. In addition, a collection system may be needed to ensure that gases containing VOCs are properly treated prior to venting. The appropriate gas management system for the Landfill Area will be determined during design and will be based on the compliance criteria discussed below and federal and state ARARs.

The point of compliance for air, consistent with the NCP, shall be the point(s) of the maximum exposed individual, considering reasonable expected use of the Site and surrounding area. The maximum exposed individuals include: (1) adjacent residents; (2) operation and maintenance personnel; and (3) individuals working at the Burgess Brothers facility. The gas collection system shall prevent an unacceptable risk of exposure to the maximum exposed individuals by controlling the release of landfill gas and treating collected landfill gas, if necessary. Any gas collection and treatment system shall also comply with the federal and state air ARARs.

2. Cap Over the Soils in the Marshy Area

A cap over the marshy area soils shall comply with all remedial action objectives provided in Section 1 of this SOW. The cap will be constructed using either an impermeable or permeable barrier. The type of barrier will be based on factors

such as constructability, maintenance, and ability to achieve remedial action objectives. The specific type of cap will be determined during design.

The cap will have the following cross-section, at a minimum, from top to bottom:

- A top layer of 24 inches that includes a minimum of four inches of topsoil
- An impermeable or permeable barrier
- A geocomposite drainage material, if necessary
- Two feet of soil as a subbase, if necessary

The cap will cover the approximately one-half acre area, minimizing potential contact with and providing a barrier against burrowing animals into the Marshy Area soils. To stabilize the topsoil cover, the area will be completed with approximately 4 inches of topsoil and hydroseed. To promote positive drainage from the area, existing soils will be shaped to achieve a minimum 3% grade toward drainage swales that will be constructed as part of the multi-barrier cap over the Landfill Area.

Requirements for landfill gas generation, surface water drainage, and long-term maintenance will be the same as those requirements required for the capping of the Landfill Area.

3. SVE/Air Sparging in the Former Lagoon Area

An SVE system, in conjunction with an air sparging system, will be used to remediate soils in the Lagoon Area. The air sparging system will remediate saturated zone soils by forcing air into the groundwater beneath the lagoon area. This induced air flow will accelerate the volatilization of VOCs in the saturated zone, forcing them upwards into the soils in the unsaturated zone.

The SVE system will include air extraction wells to remove VOCs from the vadose zone soils. The VOCs will be removed by pulling air through the extraction wells producing a vacuum in the subsurface. VOCs contained within the vadose zone will migrate toward the air extraction wells, where they will be removed from the subsurface for treatment. Any condensate collected from system operation will be characterized and treated off-site, as appropriate.

Based on the results of a pilot study that was performed at the site, an SVE system consisting of six extraction wells and two vapor extraction units will be used to remediate the lagoon soils. The type of off-gas treatment for the SVE/air sparging system will be selected during pre-design. Installation and start-up of the system will be performed in such a way as to prevent, to the extent practicable,

mobilization of DNAPL if it is present. Specific actions to address potential DNAPL will be defined during design.

It is anticipated that it would be necessary to operate the SVE/air sparging system continuously for a period of six months to two years, then periodically over a period of perhaps several years to remove sufficient quantities of VOCs from the former Lagoon Cells. Once contaminant levels are adequately reduced, the system will be shut down for a period of time, then restarted to ensure contaminant levels do not increase. This shutting down and restarting process will be done several times over a period of time to ensure contaminant levels do not increase during periods of shut down. Over time, contaminant levels are expected to decrease to levels where the SVE/air sparging system can be discontinued. If DNAPL is determined to be present, however, the SVE/air sparging may not sufficiently remove the VOC source and an alternate treatment approach may be evaluated.

During system operation, which will be interrupted by interim shut down periods, the system's performance and landfill soil gas concentrations will be monitored on a regular basis. The SVE/air sparging system will be adjusted as warranted by the performance data and soil gas concentrations. The system's predicted effectiveness, which will be confirmed by measured soil gas VOC concentrations, will be included as a component of the in the Demonstration of Compliance Plan.

4. Surface Water / Wetlands

As determined by the final design, surface water drainage controls will be installed on the top and perimeter of the Landfill Area to minimize erosion and control runoff. The Landfill Area will also be revegetated and the vegetation maintained to prevent erosion. Stormwater runoff from the Landfill Area will be managed in accordance with Vermont Water Quality Standards.

In addition, as determined by the final design, surface water drainage controls will be installed and maintained to control erosion and to control runoff to the Landfill Area as well as into any adjacent swales on or bordering the perimeter of the Landfill Area. This will be accomplished by drainage controls to the north of the landfill and along the hillside east of the Marshy Area. Surface water in any runoff controls will be managed to minimize erosion and to meet the turbidity requirements in the Vermont Water Quality Standards.

All drainage controls constructed for the remedy must be capable of handling a 100 year, 24 hour storm event.

5. Institutional Controls

Institutional controls will be established to protect the capped areas, to prevent the use of groundwater potentially impacted by the Site, and to inform future purchasers of the groundwater restrictions associated with the property. These institutional controls will consist of deed restrictions and potential groundwater reclassification at the State level. Restrictions to protect the Landfill Area and Marshy Area caps will include controlling access to these areas and prohibiting excavation or other disturbances which may adversely affect the integrity of the caps.

The restrictions on use of groundwater will extend from the upgradient perimeter of the Landfill Area to all down gradient boundaries of the contaminant plume in both overburden and bedrock. The restrictions will also include a buffer zone around the contaminated area adequate to insure that new groundwater wells in the vicinity would not induce movement of the contaminants into uncontaminated areas or interfere with any remedial action at the Site. Groundwater use restrictions beyond the point of compliance will remain in effect until contaminant levels reach and maintain groundwater cleanup levels in both the downgradient bedrock and overburden aquifers. Groundwater use restrictions for the area upgradient of the point of compliance, including the Landfill Area, will remain in effect until contaminant levels reach and maintain groundwater cleanup levels in both the downgradient bedrock and overburden aquifers.

Groundwater reclassification at the State level is an institutional control to further restrict the current and future use of groundwater that may potentially be impacted by the Site. Any such reclassification shall serve as an interim control to be in effect while the selected remedy is proceeding and shall remain in effect until the cleanup and performance levels identified in this SOW are attained.

6. Long-Term Monitoring

An environmental monitoring program will be implemented and shall continue until the Settling Defendants receive a Certificate of Completion from EPA. The monitoring program will be designed to evaluate the overall effectiveness of the remedy and shall include semiannual monitoring of surface water and sediment. In addition, groundwater in overburden and bedrock monitoring wells immediately both upgradient and downgradient of the Landfill Area will be monitored quarterly to insure that the contaminant plume is not spreading into previously uncontaminated areas. This monitoring will focus on establishing long-term trends in each media and confirming the restoration of the media. An

Environmental Monitoring Plan will be developed and shall identify the groundwater wells that will be monitored and sampling frequency. A Demonstration of Compliance Plan will be developed and shall present a method for tracking the restoration of the groundwater to confirm the accuracy of the cleanup model. The Demonstration of Compliance Plan will also include goals to evaluate the effectiveness of the selected remedy.

7. Operation and Maintenance

The integrity of the landfill cap, the marshy area cap, the gas collection system, surface water controls, and controls to prevent wetland impacts will be monitored regularly and maintained to meet the remedial action objectives set forth in this SOW. These Operations and Maintenance activities shall continue regardless of any future changes to land or groundwater classification at the state or local level. Access to the capped areas will be controlled by the installation and maintenance of an industrial fence.

8. Contingency for Alternate Response Action

The Settling Defendants have predicted that interim ground water cleanup levels will be obtained within 7 years after initiation of the source control components. Modeling of the contaminant source and plume to confirm the effectiveness of the selected remedy and to refine the predicted time frame for achieving remedial action objectives will be done, at a minimum, two years after the initiation of the source control components and again prior to any five year review. If, at any time, EPA, after reasonable opportunity for review and comment by the VTDEC, determines that the selected remedy is not effective and that remedial action objectives will not be attained within an acceptable time frame, an alternate remedial action will be evaluated and implemented.

V. REMEDIAL DESIGN

The Settling Defendants shall provide a formal notification to EPA and VTDEC of the proposed Supervising Contractor to perform the remedial activities. The Settling Defendants have submitted a document titled "Draft Final - Remedial Design Report - Burgess Brothers Superfund Site," dated October 16, 1998 and a proposed schedule for RD/RA activities in a letter dated February 5, 1999. After EPA reviews these submittals and issues an authorization to proceed, the Settling Defendants shall develop a final design for the selected remedy as described in the ROD and this SOW that meets the Performance Standards specified in Section IV of this SOW.

A. DESIGN MEETING

Within 21 days of EPA's authorization to proceed, the Settling Defendants and their Contractor shall meet with EPA and VTDEC to present the proposed design and discuss issues associated with the development of design. At this meeting, the Settling Defendants shall present, at a minimum, the submitted Remedial Design document that incorporates:

1. the design basis for the composition and thickness of each layer of the landfill cap;
2. the design basis for the SVE/air sparging system;
3. draft plan view and cross-section drawings of the slope sections of the landfill cap and surface water controls and;
4. comments received by EPA and the VTDEC to date.

B. REMEDIAL DESIGN WORK PLAN

The document titled "Draft Final - Remedial Design Report - Burgess Brothers Superfund Site," dated October 16, 1998 and the February 5, 1999 letter containing a proposed schedule, both which have been submitted by the Settling Defendants, shall be reviewed by EPA as the deliverables that would be required under a Remedial Design Work Plan. The objective of the Remedial Design Work Plan, and therefore the objective of these deliverables, is to develop the design of the remedial action remedy to meet the remedial action objectives and the Performance Standards set forth in the ROD and this SOW.

The submitted October 16, 1998 Design Report and schedule shall be reviewed to ensure they include all plans and schedules for the implementation of all remedial design activities including, but not limited to, plans and schedules for the completion of the following: draft and final 100% Remedial Action Design Reports; draft and final Construction Quality Assurance Plans; draft and final Demonstration of Compliance Plans; draft and final Institutional Control Plan; and a Remedial Action Health and Safety Plan. The schedule will be reviewed to ensure that it also includes a schedule for completion of the Remedial Action Work Plan. All approvals shall be in accordance with Section XI of the Consent Decree.

1. Remedial Action Design (100%) Report

The October 16, 1998 Design Report and schedule submitted by the Settling Defendants to EPA for review and approval or modification, after reasonable opportunity for review and comment by the VTDEC, will be reviewed to ensure that it includes all of the

requirements of the Remedial Design Report as well as a requirement for the submittal of a final Remedial Action Design Report. The RA Design Report shall include, but not be limited to:

- a. final plans and specifications, including, but not limited to, the design basis for each component, design calculations, stability analysis and settlement analysis;
- b. drawings on reproducible mylar, or the equivalent;
- c. a correlation of all design plans and specifications,
- d. identification of substantial completion for all remedial action construction components and;
- e. a detailed statement of how ARARs are met.

2. Construction Quality Assurance Plan (CQAP)

The October 16, 1998 Design Report and schedule submitted by the Settling Defendants to EPA for review and approval or modification, after reasonable opportunity for review and comment by the VTDEC, will be reviewed to ensure that it includes all of the requirements of the Construction Quality Assurance Plans (CQAP) as well as a requirement for the submittal of a final CQAP. The CQAP shall include all of the construction quality assurance testing required to demonstrate that the landfill cap will be properly constructed. The CQAP shall include, at a minimum; (1) checklists for the performance of the required tests and inspections; (2) a standard operating procedures for all field and laboratory tests; (3) the quality assurance and quality control plan for all field and laboratory tests; and (4) erosion and sediment control plans. The construction quality assurance plan shall comply with the following guidance documents: Construction Quality Assurance for Hazardous Waste Land Disposal Facilities, (EPA 530-SW-86-031, October 1986); and "Technical Guidance Document Quality Assurance and Quality Control for Waste Containment Facilities" (EPA/540/R-93/182, September 1993).

3. Demonstration of Compliance Plan

The October 16, 1998 Design Report and schedule submitted by the Settling Defendants to EPA for review and approval or modification, after reasonable opportunity for review and comment by the VTDEC, will be reviewed to ensure that it includes all of the requirements of the Demonstration of Compliance Plan as well as a requirement to submit a final Demonstration of Compliance Plan. The Demonstration of Compliance

Plan shall provide all methodologies that will be utilized to make a future demonstration that the Performance Standards identified in Section IV of this SOW have been met. The Demonstration of Compliance Plan will utilize data obtained from the Environmental Monitoring Plan and the Construction Quality Assurance Plan and will address, at a minimum, ground water, surface water, sediments, soil gas, and landfill/marshy area cap construction.

This Demonstration of Compliance Plan shall present the methodology for tracking the restoration of groundwater to confirm the accuracy of the cleanup model and shall include goals to evaluate the effectiveness of the selected remedy. The plan shall include the model that will be used to confirm the effectiveness of the selected remedy and the approach that will be taken to refine the predicted time frame for achieving remedial action objectives. This modeling shall be done, at a minimum, two years after the initiation of the source control components and again prior to any five year review. The Demonstration of Compliance Plan shall be developed in accordance with the requirements of 40 C.F.R. 264.97 and shall include, at a minimum, appropriate statistical modeling or other data interpretation techniques and a proposal to demonstrate that cleanup levels will be sustained once remediation systems have been shut down.

Specifications on the SVE/air sparging system, monitoring frequency, and predicted soil gas VOC concentrations shall also be included in the Demonstration of Compliance Plan. The Demonstration of Compliance Plan shall include, at a minimum, appropriate statistical modeling or other data interpretation techniques and a proposal to demonstrate that soil gas VOC concentrations will be sustained once remediation systems have been shut down.

The Demonstration of Compliance Plan shall also include a detailed statement of how ARARs will be met, a statement of all assumptions, and all drawings and specifications necessary to support the analysis of compliance with ARARs.

4. Institutional Control Plan

The October 16, 1998 Design Report and schedule submitted by the Settling Defendants to EPA for review and approval or modification, after reasonable opportunity for review and comment by the VTDEC, will be reviewed to ensure that it includes all of the requirements of the Institutional Control Plan as well as a requirement to submit a final Institutional Control Plan. The Institutional Control Plan shall provide the details and schedule of all proposed activities associated with institutional controls at the site.

5. Health and Safety Plans

The October 16, 1998 Design Report and schedule submitted by the Settling Defendants to EPA will be reviewed to ensure that it includes Health and Safety Plans for Remedial Action fieldwork. The Health and Safety Plans shall conform to the applicable Occupational Safety and Health Administration and EPA requirements including, but not limited to 29 C.F.R. §1910.120. The Health and Safety Plans are to be developed in accordance with Attachment A.

VI. REMEDIAL ACTION

The Remedial Action activities required for the Site shall include, but are not limited to: (a) Remedial Action Work Plan and Project Operations Plan (POP); (b) pre-construction conference; (c) initiation of construction; (d) meetings during construction; (e) Operation and Maintenance Plan, Environmental Monitoring Plan, and revised POP; (f) Wetland Impacts Evaluation Report; (g) final construction inspection; (h) Final Construction Report; (i) operations and maintenance. The Settling Defendants shall submit to EPA and VTDEC the required deliverables as stated herein for each of these Remedial Action activities. Each deliverable shall be subject to review and approval or modification by EPA, after reasonable opportunity for review and comment by VTDEC, in accordance with Section XI of the Consent Decree, EPA Approval of Plans and other Submissions.

A. Remedial Action Work Plan and Project Operations Plan (POP)

Within 60 days after the date of the approval of the Final Remedial Action Design Report, the Settling Defendants shall submit to EPA for review and approval or modification, after reasonable opportunity for review and comment by VTDEC, a Remedial Action Work Plan and POP for implementing the Remedial Action and associated activities, consistent with the approved Remedial Design for the Site. The Remedial Action Work Plan and POP shall contain, at a minimum:

1. A description of all activities necessary to implement all components of the Remedial Action, in accordance with the Remedial Design, the SOW, the Consent Decree and the ROD, including but not limited to the following:
 - a. all agreements with off-site treatment and/or disposal facilities;
 - b. contractor mobilization/Site preparation, including construction of necessary utility hookups;
 - c. construction, shake-down, and start-up of the soil vapor extraction/air sparging system and;

- d. site demobilization activities.
2. A detailed schedule for the completion of all activities identified in Section VI.A.1. above, including the required deliverables, and an identification of milestone events in the performance of the Remedial Action. This schedule shall include, at a minimum, the following meetings, deliverables or actions:
- a. Pre-construction Conference
 - b. Initiation of Construction Meetings During Construction
 - c. Operation and Maintenance Plan and Environmental Monitoring Plan, and revised POP
 - d. Wetland Impacts Evaluation Report
 - e. Final Construction Inspection
 - f. Final Remedial Construction Report
 - g. Operation and Maintenance
3. A requirement for monthly progress reports during remedial action activities. On the 15th calendar day of each month, or more frequently as appropriate, during the implementation of the Remedial Action, and until EPA approval of the Final Remedial Construction Report, the Respondents shall submit Progress Reports to EPA and the VTDEC. The reports shall summarize all activities that have been conducted in the month preceding the Progress Report, and those planned for the next two months. The Progress Reports shall, at a minimum, also:
- a. describe the actions which have been taken toward achieving compliance with the CD and this SOW during the previous month,
 - b. include a summary of all results of sampling and tests and all other data received or generated by the Settling Defendants or their contractors or agents in the previous month,
 - c. identify all work plans, plans, and other required deliverables 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 two months and provide other information related 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 of 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 Defendants have proposed to 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 two months.
- 4. The methodology for the implementation of the approved Construction Quality Assurance Plan (CQAP).
- 5. A Project Operations Plan (POP) shall be prepared in support of all fieldwork to be conducted in accordance with the Remedial Action Work Plan. The POP shall include, but not be limited to, the following:
 - a. a Site Management Plan (SMP);
 - b. a Sampling and Analysis Plan (SAP) which includes:
 - i. a Quality Assurance Project Plan (QAPjP); and
 - ii. a Field Sampling Plan (FSP)
 - c. a site-specific Health and Safety Plan (HSP); and
 - d. a Community Relations Support Plan (CRSP), if requested by EPA.

The Settling Defendants shall prepare this POP in accordance with Attachment A.

B. Pre-construction Conference

Within 14 days of the date of EPA's approval or modification of the Remedial Action Work Plan and POP, the Settling Defendants shall hold a pre-construction conference. The participants shall include all parties involved in the Remedial Action, including but not limited to the Settling Defendants and their representatives, EPA, and the State.

C. Initiation of Construction

Within 30 days of the date of EPA's approval or modification of the Remedial Action Work Plan and POP, and after conducting the pre-construction meeting, the Settling Defendants shall initiate all the remedial action activities specified in the schedule contained therein.

D. Meetings During Construction

During the construction period, the Settling Defendants and their construction contractor(s) shall meet at least monthly with EPA and VTDEC regarding the progress and details of construction. If, during the construction of the Remedial Action for the Site, conditions warrant modifications of the design, construction, and/or schedules, the Settling Defendants may propose such design or construction or schedule modifications. Following review and approval or modification by EPA, after reasonable opportunity for review and comment by VTDEC, the Settling Defendants shall implement the design or construction or schedule modifications required.

E. Operation and Maintenance Plan and Environmental Monitoring Plan, and revised POP

Within 30 days of the substantial completion date, the Settling Defendants shall submit to EPA for review and approval or modification, after reasonable opportunity for review and comment by the VTDEC, 1) an Operation and Maintenance Plan to ensure the long-term, continued effectiveness of each component of the Remedial Action, 2) an Environmental Monitoring Plan to measure conformance with all Performance Standards, and a revised POP. These plans shall include, at a minimum, the following:

1. Operation and Maintenance Plan
 - a. a description of normal operations and maintenance, including maintenance of access controls;
 - b. a description of potential operational problems;
 - c. a description of routine process monitoring and analysis;
 - d. a description of contingency operation and monitoring;
 - e. an operational safety plan;
 - f. a description of equipment;
 - g. annual operation and maintenance budget;
 - h. record keeping and reporting requirements;

- i. a well maintenance program including, at a minimum, the following:
 - 1) provision for prompt and proper abandonment, as appropriate, of wells used during the remedial investigation which are currently unusable or which become unusable during the Remedial Action activities;
 - 2) provision for inspection, continued maintenance and repair, if necessary, of all wells used during the remedial investigation and not abandoned;
 - 3) provision for maintenance or abandonment of wells installed during the Remedial Design, Remedial Action, and/or Operation and Maintenance phases.
- j. site closure and post-closure monitoring:
 - 1) a cost estimate for post-closure care consistent with 40 C.F.R. Part 264;
 - 2) establishment of a financial assurance mechanism for post-closure care consistent with 40 C.F.R. Part 264; and
 - 3) post-closure inspection schedule and provisions for implementing such activities consistent with 40 C.F.R. Part 264;
- k. Notification requirements to EPA and VTDEC for system problems/failures.

2. Environmental Monitoring Plan

The Environmental Monitoring Plan shall detail all planned environmental monitoring to measure progress towards compliance with the Performance Standards. At a minimum, this plan shall detail all monitoring activities for ground water, surface water, sediments, and soil gas. This plan shall be developed in accordance with the requirements of 40 C.F.R. 264.97 and shall include at a minimum, the following:

- a. sampling locations for all media,

- b. proposed locations for the installation of additional monitoring wells and,
- c. sampling frequency.

3. Revised POP

A Revised POP shall be prepared in support of all fieldwork to be conducted according to the Environmental Monitoring Plan. This revised POP shall be prepared in accordance with Section VI.A.5. above.

F. Wetland Impacts Evaluation Report

Within 45 days after the Settling Defendants conclude that construction has been fully (100% complete) performed, the Settling Defendants shall submit to EPA for review and approval or modification, after reasonable opportunity for review and comment by the VTDEC, a Wetlands Impacts Evaluation Report. This report shall include, at a minimum, the results of any additional wetland investigations or evaluations completed during the remedial design and remedial action, an evaluation and survey of all wetlands that were present before remedial activities began and after construction is complete, the identification of the acreage of any wetlands that were impacted or destroyed as a result of remedial actions, and the identification of all actions that were taken to prevent, to the extent practicable, further impacts to all remaining wetlands after remedial actions are completed.

G. Final Construction Inspection

Within 60 days after Settling Defendants conclude that the construction has been fully (100% complete) performed, the Settling Defendants shall schedule and conduct a Final Construction Inspection. This inspection shall include participants from all parties involved in the Remedial Action, including but not limited to the Settling Defendants and their contractors, EPA, and VTDEC.

H. Final Remedial Construction Report

Upon completion of construction of the Remedial Action as determined by EPA, after reasonable opportunity for review and comment by the VTDEC, the Settling Defendants shall develop Final Remedial Construction Reports for all remedial action construction activities (entitled "Close-Out Reports"). These Close Out Reports shall be submitted to

EPA for approval or modification, after reasonable opportunity for review and comment by VTDEC. These Close-Out Reports shall include, at a minimum, the following documentation:

1. a summary, in chronological order, of all procedures actually used during construction activities, including, but not limited to, landfill and marshy area regrading and capping, SVE system installation, and all new well installations.
2. tabulation of all analytical data and field notes prepared during the course of the Remedial Design and Remedial Action activities including, but not limited to horizontal and vertical perimeter locations to confirm the containment of all contaminated soil/sediment materials, startup and operational data from the SVE treatment system confirming the effectiveness of the treatment process, air monitoring data and types of monitoring devices used to confirm that air quality standards were maintained during all on-site construction activities, and any other analytical data collected during remedial activities. Full copies of all results and notes shall be available and produced for EPA and VTDEC upon request including, but not limited to:
 - a. QA/QC documentation of these results and;
 - b. presentation of these results in appropriate figures.
3. a description, with appropriate photographs, maps and tables of the disposition of the Site including areas and volumes of soil placement and disturbance;
4. final, detailed cost breakdowns for all treatment process components;
5. conclusions regarding conformance of treatment processes with the Performance Standards; and
6. descriptions of actions taken and a schedule of any potential future actions to be taken. These actions include, but are not limited to maintaining grade at the Site in order to maintain stable, erosion resistant slopes; eliminating pooling of standing water; and providing additional loam to maintain appropriate vegetation.

G. Operation and Maintenance

Within 30 days of the date of EPA's approval or modification of the Settling Defendants' Final Remedial Construction Report for the Remedial Action, the Settling Defendants shall implement all operation and maintenance activities in accordance with the terms and schedules set forth in the Operation and Maintenance (O&M) Plan approved by EPA,

after reasonable opportunity for review and comment by the VTDEC. These Operations and Maintenance activities shall continue regardless of any future changes to land or groundwater classification at the state or local level.

Operations and Maintenance Progress Reports shall be submitted quarterly for the first two years following approval of the O&M Plan. Thereafter, the O&M reports shall be submitted annually. Progress Reports shall contain, at a minimum:

1. A list of all O&M activities that were performed since submittal of the previous O&M Progress Report;
2. A list of those O&M activities that will be performed in the time period until the next O&M Progress Report;
3. A description of any operational problems encountered and measures taken to address those problems;
4. A discussion of the condition of the components of the remedy, including the landfill cap, the Marshy Area cap, and the SVE/air sparging system; and
5. The results of any analyses or evaluation of system performance, including all data.

VII. CONTINGENCY FOR ALTERNATE RESPONSE ACTION

It has been estimated that interim groundwater cleanup levels and performance levels for surface water and sediments will be obtained within 7 years after initiation of the source control components. Modeling of the contaminant source and plume to confirm the effectiveness of the selected remedy and to refine the predicted time frame for achieving remedial action objectives shall be done, at a minimum, two years after the initiation of the source control components and again prior to any five year review. The Settling Defendants shall submit the results of this modeling to EPA and VTDEC for review and approval or modification, after reasonable opportunity for review and comment by the VTDEC. If, at any time, EPA determines that the selected remedy is not effective and that remedial action objectives will not be attained within an acceptable time frame, an alternate remedial action will be evaluated and implemented.

VIII. SUBMISSIONS REQUIRING AGENCY APPROVAL

- A. All plans, deliverables and reports identified in this SOW for submittal to EPA and VTDEC shall be delivered to EPA and VTDEC in accordance with the Consent Decree and this SOW.
- B. Any plan, deliverable, or report submitted to EPA and VTDEC for approval shall be printed using two-sided printing and marked "Draft" on each page and shall

include, in a prominent location in the document, the following disclaimer:
"Disclaimer: This document is a DRAFT document prepared by the Settling Defendants under a government Consent Decree. This document has not undergone formal review by the EPA and VTDEC. The opinions, findings, and conclusions, expressed are those of the author and not those of the U.S. Environmental Protection Agency and VTDEC."

- C. Approval of a plan, deliverable or report does not constitute approval of any model or assumption used by the Settling Defendants in such plan, deliverable or report.

TABLE 1: INTERIM GROUNDWATER CLEANUP LEVELS**Carcinogenic Contaminants**

Carcinogenic Contaminants of Concern (Class)	Interim Cleanup Level (µg/l)	Basis
1,1-Dichloroethene (C)	7	MCLG
1,2-Dichloroethane (B2)	5	MCL
Benzene (A)	5	MCL
Chloroform (B2)	6	MCL
Methylene Chloride (B2)	5	MCL
Tetrachloroethene (B2-C)	5	MCL
Trichloroethene (B2-C)	5	MCL
Vinyl Chloride (A)	2	MCL
1,4-Dichlorobenzene (C)	75	MCLG
Bis(2-Ethylhexyl)Phthalate (B2)	6	MCL
Arsenic (A)	50	MCL
Lead (B2)	15	NIPDWR* ¹

TABLE 1: INTERIM GROUNDWATER CLEANUP LEVELS - Continued**Noncarcinogenic Contaminants**

Noncarcinogenic Contaminants of Concern (Class)	Interim Cleanup Level (µg/l)	Basis
1,1-Dichloroethene (C)	7	MCL
1,2-Dichloroethane (B2)	5	MCL
1,2-Dichloroethene - cis (D)	70	MCLG
1,2-Dichloroethene - trans (D)	100	MCLG
Benzene (A)	5	MCL
Chlorobenzene (D)	100	VPQS ^{*2}
Chloroform (B2)	6	VPQS ^{*2}
Methylene Chloride (B2)	5	MCL
Tetrachloroethene (B2-C)	5	MCL
Trichloroethene (B2-C)	5	MCL
Vinyl Chloride (A)	2	MCL
1,4-Dichlorobenzene (C)	75	MCL
Bis(2-Ethylhexyl)Phthalate (B2)	6	MCL
Arsenic (A)	50	MCL
Lead (B2)	15	NIPDWR ^{*1}
Manganese (D)	840	Hazard Potential
Thallium (D)	2	MCL

TABLE 1 FOOTNOTES:

^{*1} National Interim Primary Drinking Water Regulation (NIPDWR)

^{*2} Vermont Primary Groundwater Quality Standard - Enforcement Standard, Vermont Groundwater Protection Rule and Strategy, Subchapter 7, 12-702

TABLE 2: SURFACE WATER PERFORMANCE LEVELS

Contaminant of Concern	Performance Level (ppb)	Basis
1,1-Dichloroethene	0.057	AWQC* ¹
Dichlorobromomethane	0.27	AWQC* ¹
Tetrachloroethene	0.8	AWQC* ¹
Trichloroethene	2.7	AWQC* ¹
Vinyl Chloride	2	AWQC* ¹
Aluminum	87	AWQC* ¹
Antimony	14	AWQC* ¹
Arsenic	0.018	AWQC* ¹
Cobalt	10	Risk Based* ³
Copper	8	VTWQS* ²
Cyanide	5.2	AWQC* ¹
Iron	1000	VTWQS* ²
Lead	1.5	VTWQS* ²
Manganese	4100	Risk Based* ³
Mercury	0.012	AWQC* ¹
Nickel	108	VTWQS* ²
Selenium	5	AWQC* ¹
Silver	1.2	AWQC* ¹
Thallium	1.7	AWQC* ¹
Zinc	58.9	VTWQS* ²

FOOTNOTES FOR TABLE 2:

- *¹ Federal Clean Water Act - Ambient Water Quality Criteria (AWQC)
 *² State of Vermont Water Quality Standards (VTWQS), effective April 21, 1997
 *³ Biesinger & Christensen, 1972

TABLE 3: SEDIMENTS PERFORMANCE LEVELS

Contaminant of Concern	Performance Level (ppm)	Basis^{*1}
Arsenic	6	MOE
Cadmium	0.6	MOE
Chromium	26	MOE
Copper	16	MOE
Iron	20000	MOE
Lead	31	MOE
Manganese	460	MOE
Mercury	0.2	MOE
Nickel	16	MOE
Zinc	120	MOE

FOOTNOTES FOR TABLE 3:

^{*1} Ontario Ministry of the Environment (MOE) Sediment Quality Guidelines

ATTACHMENT A

PROJECT OPERATIONS PLAN

Before any field activities commence on the Site, Settling Defendants shall submit several site-specific plans to establish procedures to be followed by the Settling Defendants in performing field, laboratory and analysis work, and community and agency liaison activities. These site-specific plans include the:

- A. Site Management Plan (SMP),
- B. Sampling and Analysis Plan (SAP),
- C. Health and Safety Plan (HSP), and
- D. Community Relations Support Plan (CRSP).

These plans shall be combined to form the Site Project Operations Plan (POP). The four components of the POP are described in A through D herein.

The format and scope of each Plan shall be modified as needed to describe the sampling, analyses, and other activities that are clarified as the RD/RA progresses. EPA, after reasonable opportunity for review and comment by VTDEC, may modify the scopes of these activities at any time during the RD/RA at the discretion of EPA in response to the evaluation of RD/RA results, changes in RD/RA requirements, and other developments or circumstances.

A. Site Management Plan (SMP)

The Site Management Plan (SMP) shall describe how the Settling Defendants will manage the project to complete the Work required at the Site. As part of the plan the Settling Defendants shall perform the following tasks:

1. Provide a comprehensive map of the Site in relative scale identifying all benchmarks and other features of the Site.
2. Clearly indicate the exclusion zone, contamination reduction zone, and clean area for on-site activities.
3. Provide for the security of government and private property on the Site.
4. Prevent unauthorized entry to the Site which might result in exposure of persons to potentially hazardous conditions.
5. Establish the location of a field office for on-site activities.

6. Provide contingency and notification plans for potentially dangerous activities associated with the RD/RA.
7. Monitor airborne contaminants released by Site activities which may affect the local populations.

The overall objective of the Site Management Plan is to provide EPA and the VTDEC with a written understanding and commitment of how various project aspects such as access, security, contingency procedures, management responsibilities, waste disposal, budgeting, and data handling are being managed by the Settling Defendants. Specific objectives and provisions of the Site Management Plan shall include, but are not limited to the following:

1. Communicate to EPA, VTDEC, and the public the organization and management of the RD/RA, including key personnel and their responsibilities.
2. Provide a list of contractors and subcontractors of the Settling Defendants in the RD/RA and description of their activities and roles.
3. Provide for the proper disposal of materials used and wastes generated during the RD/RA (e.g., drill cutting, extracted ground water, protective clothing, disposable equipment). These provisions shall be consistent with the off-site disposal requirements of SARA, RCRA, and applicable state laws. The Settling Defendants, or their authorized representative, or another party acceptable to EPA and VTDEC shall be identified as the generator of wastes for the purpose of regulatory or policy compliance.
4. Provide plans and procedures for organizing, manipulating, and presenting the data generated and for verifying its quality before and during the RD/RA.

The last item shall include a description of the computer data base management systems that are compatible with hardware available to EPA Region I personnel for handling media-specific sampling results obtained before and during the RD/RA. The description shall include data input fields, examples of data base management output from the coding of all RD/RA sample data, appropriate quality assurance/quality control to ensure accuracy, and capabilities of data manipulation. To the degree possible, the data base management parameters shall be compatible with the EPA Region I data storage and analysis system.

B. Sampling and Analysis Plan (SAP)

The SAP shall be consistent with Section VIII of the Consent Decree, Quality Assurance, Sampling, and Data Analysis. The SAP consists of both (1) a Quality Assurance Project Plan (QAPjP) that describes the policy, organization, functional activities, and the quality assurance and quality control protocols necessary to achieve the data quality objectives dictated by the intended use of the data; and (2) the Field Sampling Plan (FSP) that provides guidance for all fieldwork by defining in detail the sampling and data-gathering methods to be used on a project. Components required by these two plans are described below. Additional guidance on the topics covered in each of these plans and the integration of the QAPjP and the FSP into the SAP can be found in the Guidance for Conducting Remedial Investigations and Feasibility Studies Under CERCLA, (EPA/540/G-89/004, OSWER Directive 9355.3-01, October, 1988) and the references contained in that document. In addition, the FSP and QAPjP should be submitted as a single document (although they may be bound separately to facilitate use of the FSP in the field.)

The overall objectives of the Sampling and Analysis Plan are as follows:

1. to document specific objectives, procedures, and rationales for fieldwork and sample analytical work;
2. to provide a mechanism for planning and approving Site and laboratory activities;
3. to ensure that sampling and analysis activities are necessary and sufficient; and
4. to provide a common point of reference for all parties to ensure the comparability and compatibility of all objectives and the sampling and analysis activities.

To achieve this last objective, the SAP shall document all field and sampling and analysis objectives as noted above, as well as all data quality objectives and specific procedures/protocols for field sampling and analysis set forth by the Site Management Plan.

The following critical elements of the SAP shall be described for each sample medium (e.g., ground water, surface water, soil, sediment, air, and soil gas) and for each sampling event:

1. sampling objectives;
2. data quality objectives, including data uses and the rationale for the selection of analytical levels and detection limits (see Data Quality Objectives Development Guidance for Uncontrolled Hazardous Waste Site Remedial Response Activities;

OSWER Directive 9355.07, March 1987; and Guidance for Data Useability in Risk Assessment; EPA/540/G-90-008, October 1990.

3. site background update, including an evaluation of the validity, sufficiency, and sensitivity of existing data;
4. sampling locations and rationale;
5. sampling procedures and rationale and references;
6. numbers of samples and justification;
7. numbers of field blanks, trip blanks, and duplicates;
8. sample media (e.g., ground water, surface water, sediment, air, and soil gas);
9. sample equipment, containers, minimum sample quantities, sample preservation techniques, and maximum holding times;
10. instrumentation and procedures for the calibration and use of portable air, soil gas, or water-monitoring equipment to be used in the field;
11. chemical and physical parameters in the analysis of each sample;
12. chain-of-custody procedures must be clearly stated (see EPA NEIC Policies and Procedures Manual, EPA 330/9-78 001-R) May 1978, revised May 1986;
13. procedures to eliminate cross-contamination of samples (such as dedicated equipment);
14. sample types, including collection methods and if field and laboratory analyses will be conducted;
15. laboratory analytical procedures, equipment, and detection limits;
16. equipment decontamination procedures;
17. consistency with the other parts of the Work Plan(s) by having identical objectives, procedures, and justification, or by cross-reference;
18. analysis from each medium for all Hazardous Substance List (HSL) inorganic and organic analytes and;

19. for any limited field investigation (field screening technique), provisions for the collection and laboratory analysis of parallel samples and for the quantitative correlation analysis in which screening results are compared with laboratory results.

The SAP must be the framework of all anticipated field activities (e.g., sampling objectives, evaluation of existing data, standard operating procedures) and contain specific information on each round of field sampling and analysis work (e.g., sampling locations and rationale, sample numbers and rationale, analyses of samples). During the RD/RA, the SAP shall be revised as necessary to cover each round of field or laboratory activities. Revisions or a statement regarding the need for revisions shall be included in each deliverable describing all new field work.

The SAP shall allow for notifying EPA and VTDEC, at a minimum, **four weeks** before field sampling or monitoring activities commence. The SAP shall also allow split, replicate, or duplicate samples to be taken by EPA (or their contractor personnel), VTDEC, and by other parties approved by EPA. At the request of EPA or VTDEC, the Settling Defendants shall provide these samples in appropriately pre-cleaned containers to the government representatives. Identical procedures shall be used to collect the Settling Defendants and the parallel samples unless otherwise specified by EPA or VTDEC. Several references shall be used to develop the SAP, for example:

1. Guidance for Conducting Remedial Investigations and Feasibility Studies Under CERCLA (OSWER Directive 9355.3-01, EPA/540/G-89/004, October 1988);
2. Data Quality Objectives for Remedial Response Activities Development Process, EPA/540/G-87/003, (OSWER Directive 9355.0-7B, March 1987);
3. Data Quality Objectives for Remedial Response Activities, example scenario: RI/FS Activities at a site with contaminated Soil and Ground Water (OSWER Directive 9355.0-7B, EPA/540/G-87/002, March 1987);
4. Test Methods for Evaluating Solid Waste, Physical/Chemical Method (EPA Pub. SW-846, Third Edition);
5. Analytical methods as specified in CFR 40 CFR Parts 136, 141.23, 141.24 and 141.25 and Agency manuals documenting these methods; and
6. Statement of Works for Inorganic and Organic Analyses, EPA Contract Laboratory Program.
7. Guidance for Data Useability in Risk Assessment, EPA/540/G-90-008, October 1990.

13. preventive maintenance procedures and schedules;
14. specific routine procedures to be used to assess the precision, accuracy, and completeness of data and to assess specific measurement parameters involved;
15. corrective action; and
16. quality assurance reports to management.

As indicated in EPA/QAMS-005/80, the above list of essential elements must be considered in the QAPjP for the RD/RA. If a particular element is not relevant to the project, the reasons must be provided.

Information in a plan other than the QAPjP may be cross-referenced clearly in the QAPjP provided that all objectives, procedures, and rationales in the documents are consistent, and the reference material fulfills the requirements of EPA/QAMS-005/80. Examples of how this cross-reference might be accomplished can be found in the Data Quality Objectives for Remedial Response Activities, Development Process, EPA/540/6-87/003 (OSWER Directive 9355.0-7B), March 1987 and the Data Quality Objectives for Remedial Response Activities, Example Scenario, EPA/540/G-87/004 (OSWER Directive 9355.0-7B), March 1987. EPA-approved analytical methods or alternative methods approved by EPA shall be used, and their corresponding EPA-approved guidelines shall be applied when they are available and applicable.

The QA/QC for any laboratory used during the RD/RA shall be included in the QAPjP. When this work is performed by a contractor to the private party, each laboratory performing chemical analyses shall meet the following requirements:

1. be approved by the State Laboratory Evaluation Program, if available;
2. have successful performance in one of EPA's National Proficiency Sample Programs (i.e., Water Supply or Water Pollution Studies or the State's proficiency sampling program);
3. be familiar with the requirements of 48 CFR Part 1546 contract requirements for quality assurance; and
4. have a QAPjP for the laboratory including all relevant analysis. This plan shall be referenced as part of the contractor's QAPjP.

The Settling Defendants are required to certify that all data have been validated by an independent person according to Region I's Laboratory Data Validation Functional

Guidelines for Evaluating Organic and Inorganic Analyses (amended as necessary to account for the differences between the approved analytical methods for the project and the Contract Laboratory Procedures (CLP) procedures). These approved methods shall be contained in the QAPjP. The independent person shall not be the laboratory conducting the analyses and should be a person familiar with EPA Region I data validating procedures. The independent person performing the validation shall insure that the data packages are complete and, all discrepancies have been resolved if possible, and the appropriate data qualifiers have been applied. The Settling Defendants shall keep the complete data package and make it available to EPA and VTDEC on request. The complete data package must include the following:

- o Narrative stating method used and explanation of any problems
- o Tabulated summary forms for samples, standards and QC
- o Raw data for samples, standards and QC
- o Sample preparation logs and notebook pages
- o Sample analysis logs and/or notebook pages
- o Chain of custody sample tags
- o An example calculation for every method per matrix.

B.2 Field Sampling Plan (FSP)

The objective of the Field Sampling Plan is to provide EPA and all parties involved with the collection and use of field data with a common written understanding of all field work. The FSP should be written so that a field sampling team unfamiliar with the Site would be able to gather the samples and field information required. Guidance for the selection of field methods, sampling procedures, and custody can be acquired from the Compendium of Superfund Field Operations Methods (OSWER Directive 9355.0-14, EPA/540/P-87/001), December 1987, which is a compilation of demonstrated field techniques that have been used during remedial response activities at hazardous waste sites. The FSP shall be site-specific and shall include the following elements:

Site Background. If the analysis of the existing Site details is not included in the Work Plan or in the QAPjP, it must be included in the FSP. This analysis shall include a description of the Site and surrounding areas and a discussion of known and suspected contaminant sources, probable transport pathways, and other information about the Site. The analysis shall also include descriptions of specific data gaps and ways in which sampling is designed to fill those gaps. Including this discussion in the FSP will help orient the sampling team in the field.

Sampling Objectives. Specific objectives of sampling effort that describe the intended uses of data must be clearly and succinctly stated.

Sampling Location and Frequency. This section of the FSP identifies each matrix to be collected and the constituents to be analyzed. Tables shall be used to clearly identify the number of samples, the type of sample (water, soil, etc.), and the number of quality control samples (duplicates, trip blanks, equipment blanks, etc.). Figures shall be included to show the locations of existing or proposed sample points.

Sample Designation. A sample numbering system shall be established for the project. The sample designation should include the sample or well number, the sample round, the sample matrix (e.g., surface soil, ground water, soil boring), and the name of the Site.

Sampling Equipment and Procedures. Sampling procedures must be clearly written. Step-by-step instructions for each type of sampling that are necessary to enable the field team to gather data that will meet the Data Quality Objectives (DQOs). A list should include the equipment to be used and the material composition (e.g., Teflon, stainless steel) of equipment along with decontamination procedures.

Sampling Handling and Analysis. A table shall be included that identifies sample preservation methods, types of sampling jars, shipping requirements, and holding times. Examples of paperwork such as traffic reports, chain-of-custody forms, packing slips, and sample tags filled out for each sample as well as instructions for filling out the paperwork must be included. Field documentation methods including field notebooks and photographs shall be described.

C. Health and Safety Plan (HSP)

The objective of the site-specific Health and Safety Plan is to establish the procedures, personnel responsibilities and training necessary to protect the health and safety of all on-site personnel during the RD/RA. The plan shall provide for routine but hazardous field activities and for unexpected Site emergencies.

The site-specific health and safety requirements and procedures in the HSP shall be updated based on an ongoing assessment of Site conditions, including the most current information on each medium. For each field task during the RD/RA, the HSP shall identify:

1. possible problems and hazards and their solutions;
2. environmental surveillance measures;
3. specifications for protective clothing;

4. the appropriate level of respiratory protection;
5. the rationale for selecting that level; and
6. criteria, procedures, and mechanisms for upgrading the level of protection and for suspending activity, if necessary.

The HSP shall also include the delineation of exclusion areas on a map and in the field. The HSP shall describe the on-site person responsible for implementing the HSP for the Settling Defendants representatives at the Site, protective equipment personnel decontamination procedures, and medical surveillance. The HSP shall comply with the following documents, as appropriate:

1. Interim Standard Operations Safety Guides (Hazardous Response Support Division, Office of Emergency and Remedial Response EPA, Wash. D.C. 1982);
2. Superfund Public Health Evaluation Manual (OSWER Directive 9285.41, EPA/540/1-861060, EPA 1986);
3. Hazardous Waste Operations and Emergency Response (Department of Labor, Occupational Safety and Health Administration, (OSHA) 29 CFR Part 1910); and
4. Occupational Safety and Health Guidance Manual for Hazardous Waste Site Activities: Appendix B (NIOSH/OSHA/EPA 1986).

OSHA regulations at 40 CFR 1910 and Chapter 9 of the Interim Standard Operating Safety Guide, which describes the routine emergency provisions of a site-specific health and safety plan, shall be the primary reference used by the Settling Defendants in developing and implementing the Health and Safety Plan.

The measures in the HSP shall be developed and implemented to ensure compliance with all applicable state and Federal occupational health and safety regulations. The HSP shall be updated at the request of EPA during the course of the RD/RA and as necessary.

D. Community Relations Support Plan (CRSP)

EPA may develop a revised Community Relations Support Plan (CRP) to describe public information and public involvement activities anticipated during the RD/RA and delisting. The Settling Defendants may be required to also develop a CRSP, whose objective is to ensure and specify adequate support from the Settling Defendants for the community relations efforts of EPA. This support shall be at the request of EPA and may include:

1. participation in public informational or technical meetings, including the provision of presentations, logistical support, visual aids and equipment;
2. publication and copying of fact sheets or updates;
3. assistance in preparing a responsiveness summary after the public RD/RA comment period, and;
4. assistance in placing EPA public notices in print.

2.0 SITE CHARACTERIZATION

2.1 SITE DESCRIPTION

2.1.1 Site Location

The site is located in Woodford and Bennington, Vermont, between Burgess Road and the Walloomsac Brook. Access to the site is through the Burgess Brothers facility on Burgess Road, approximately 1.1 miles southeast of the junction of Burgess Road and State Highway 9. The Green Mountain National Forest borders the site to the north. The latitude of the site is 42°52'40" and the longitude is 73°09'00".

2.1.2 General Site Description

The site consists of an approximately three acres area located in the northeastern section of a 60-acre parcel which is owned by Clyde Burgess, Jr. The site location is shown in Figure 1 and the site topography is provided in Figure 2A.

The FS includes references to the following six areas, as shown on Figure 2A and 2B:

Landfill Area - which is the waste disposal area

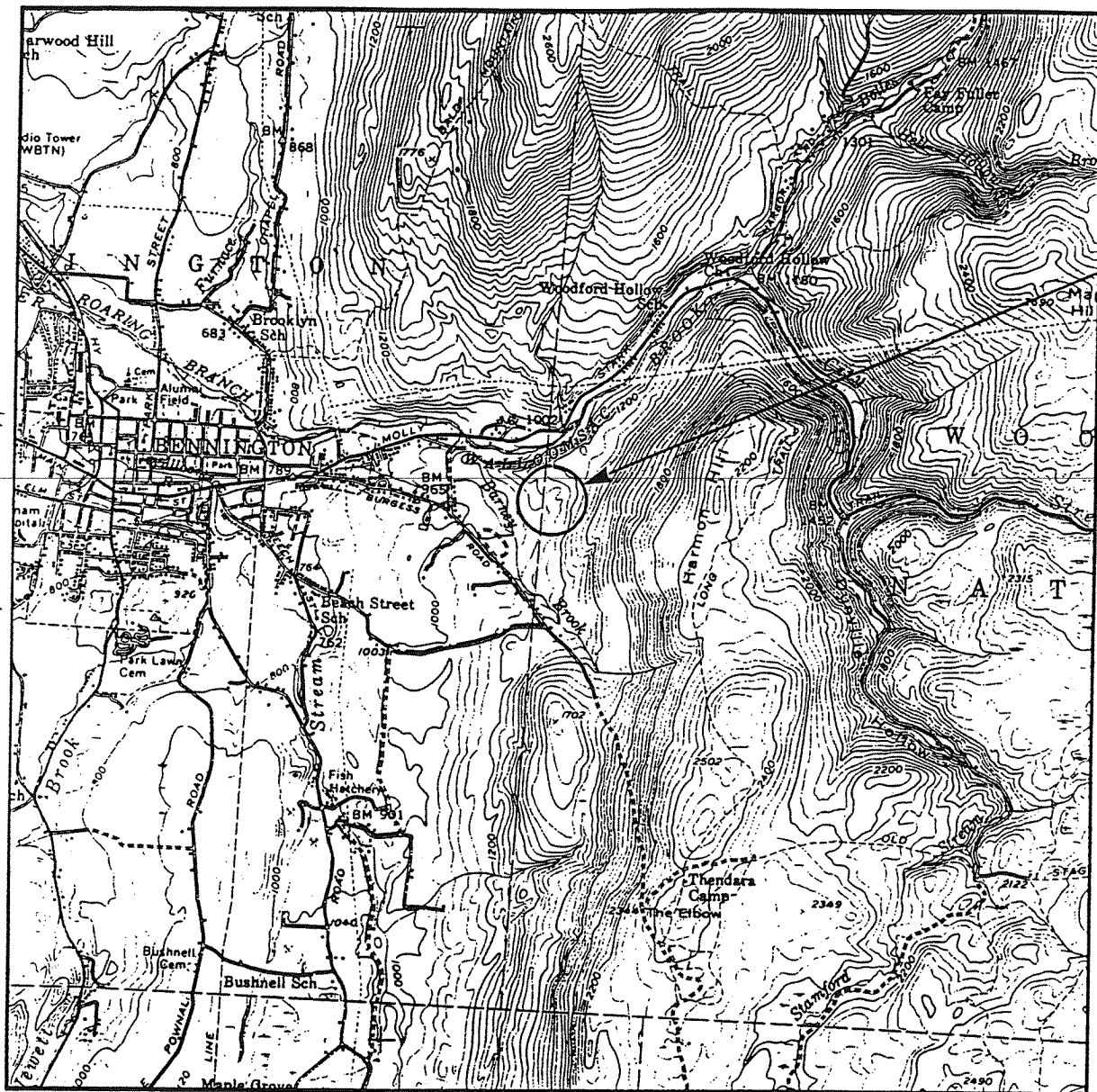
Lagoon Cells -are located within the Landfill Area and consist of two former waste disposal cells where solvent and reserve energizer battery wastes were reportedly disposed

Area West of Landfill - includes the areas to the west of the Landfill Area, downslope of the landfill and in the vicinity of the Landfill Road

Marshy Area - is located downslope of the landfill and consists of a wetland area with hillslope drainage swales

Hillside Area - includes areas upslope and to the east of the Marshy Area and Landfill Area on Harmon Hill

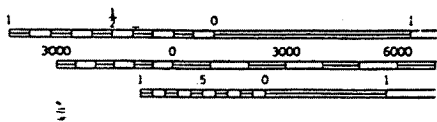
The landfill occupies approximately two acres and the two former Lagoon Cells, within the Landfill Area, occupy approximately 4,000-square feet. Both the lagoon and landfill have been covered with clean soils from the property.



SITE

SCALE 1:62,500

CONTOUR INTERVAL 40 FEET



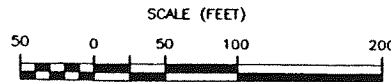
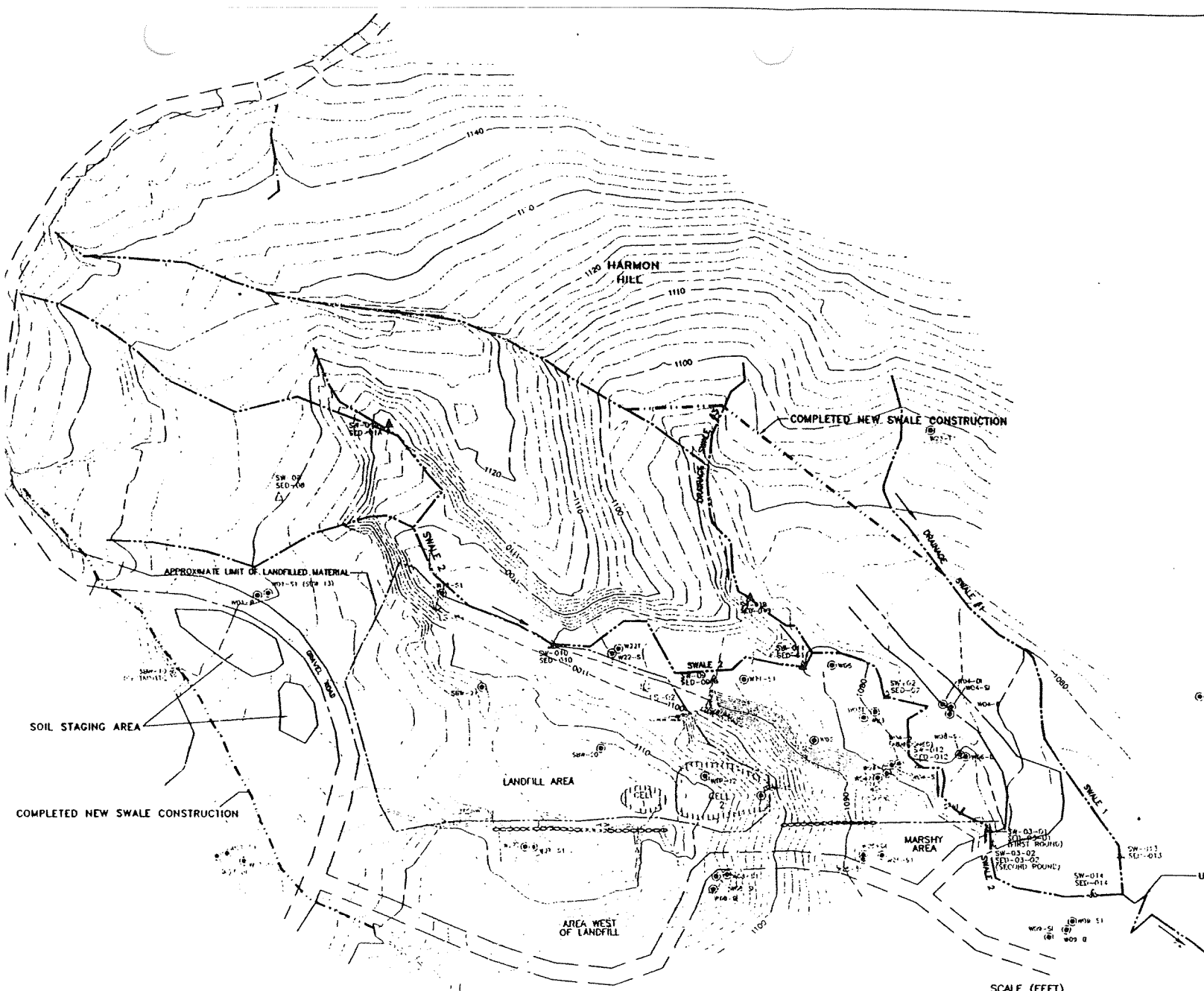
ERM-New England, Inc.		
205 PORTLAND STREET - BOSTON, MA 02114 (617) 742-8228		
CLIENT NAME: Burgess Brothers	DRAWN BY: KCW	DATE: 02/14/97
FILE NAME: 397_10\Fig_1.dwg	SCALE: 1:62,500	PROJ: 397_10
Burgess Brothers Superfund Site Woodford & Bennington, Vermont		
Site Location Map		FIGURE NO. 1
PROJECT MGR: MW	TOM REV: GAD	

SOURCE: BENNINGTON, VERMONT USGS Quad

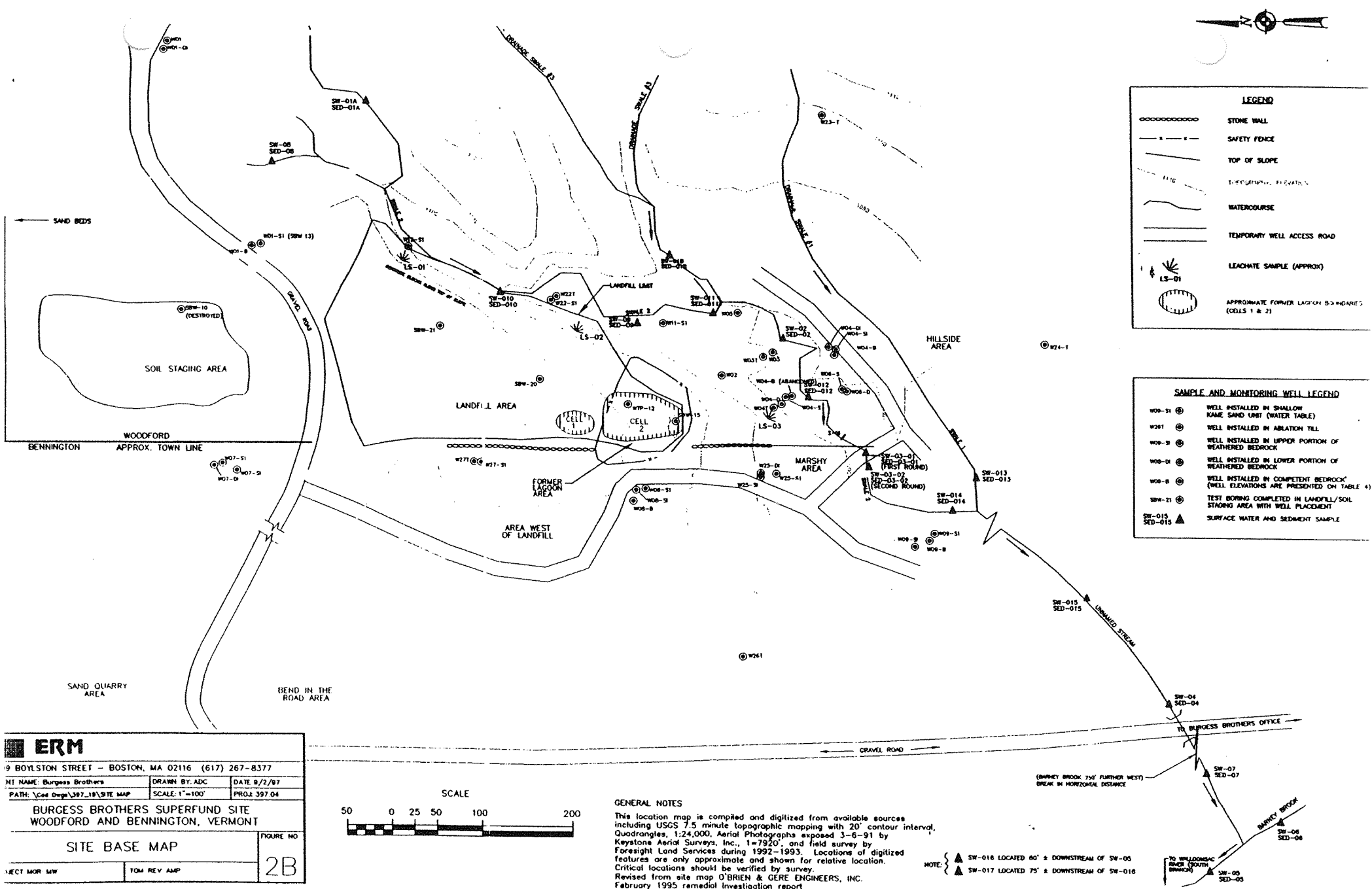
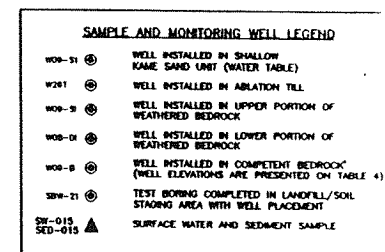
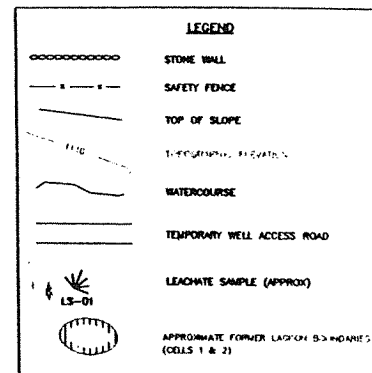


LEGEND

- EXISTING TOPOGRAPHIC CONTOURS
- EXISTING DRAINAGE SWALE
- MONITORING WELLS
- SURFACE WATER - SEDIMENT SAMPLES



ERM		
399 BOYLSTON STREET - BOSTON, MA 02116 (617) 267-8377		
CLIENT NAME: Burgess Brothers	DRAWN BY: ADC	DATE: 8/2/9
FILE PATH: \\Fees.Study\Cad Depts\387_10\fig_2	SCALE: 1"=100'	PROJ: 387 10
Burgess Brothers Superfund Site Woodford & Bennington, Vermont		
Site Base Map		
PROJECT MGR: MW	TOW REV: GAD	



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APPENDIX D

The following Parties constitute the Non-Owner Settling Defendants: Burgess Brothers, Inc., and Eveready Battery Company, Inc.

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APPENDIX E

The following Party is the Owner Settling Defendant: Clyde Burgess, Jr.

APPENDIX F

GRANT OF ENVIRONMENTAL PROTECTION EASEMENT AND DECLARATION OF RESTRICTIVE COVENANTS

1. This Grant of Environmental Protection Easement and Declaration of Restrictive Covenants ("Grant") is made this _____ day of _____, 1999, by and between CLYDE BURGESS, JR., an individual owning property in the Towns of Bennington and Woodford, County of Bennington, State of Vermont (hereinafter, including his heirs, successors, and assigns, "Grantor"), and the SECRETARY OF THE AGENCY OF NATURAL RESOURCES OF THE STATE OF VERMONT (hereinafter, including its successors and assigns, "Grantee"), with a place of business in Waterbury, in the County of Washington and State of Vermont.

WITNESSETH:

2. WHEREAS, Grantor is the legal title holder in fee simple of a parcel of land located in the Towns of Bennington and Woodford, County of Bennington, State of Vermont, more particularly described in Exhibit A attached hereto and made a part hereof (the "Property"); and

3. WHEREAS, the Property contains the Burgess Brothers Superfund Site (defined below), which the United States Environmental Protection Agency ("EPA"), pursuant to Section 105 of the Comprehensive Environmental Response, Compensation and Liability Act ("CERCLA"), 42 U.S.C. § 9605, placed on the National Priorities List ("NPL"), set forth at 40 C.F.R. Part 300, Appendix B, by publication in the Federal Register on March 31, 1989; and

4. WHEREAS, in a Record of Decision dated September 25, 1998 (the "ROD"), the Director of the Office of Site Remediation and Restoration, EPA Region 1, selected a remedial action for the Site that provides for the following actions (the "Remedial Action"):

- a. A multi-barrier cap over the former landfill area (as described in the ROD).
- b. A cap over the soils in the marshy area (as described in the ROD) located southeast of the landfill area.

- c. Hot spot treatment of the former lagoon cells within the landfill area using a soil-vapor extraction ("SVE") and air sparging system.
- d. Natural attenuation of contaminated groundwater beyond the area of influence of the SVE and air sparging system.
- e. Institutional controls to prevent the use of contaminated groundwater, to protect the capped areas, and to inform future purchasers of the Property of the institutional controls;
- f. Long-term monitoring of site groundwater, surface water, and sediments to evaluate the overall effectiveness of the remedy; and
- g. A review of the Site every five years to ensure that the remedy continues to protect human health and the environment; and

5. WHEREAS, under the terms of a Consent Decree, dated XXXXXX, 1999, entered into, by and between Grantor, Burgess Brothers, Inc., Eveready Battery Company, the Grantee, and the United States, Civil Action No. XXXXXX (the "Consent Decree"), Grantor, together with the other settling defendants named in the Consent Decree, agreed to perform the Remedial Action identified in the ROD in order to protect public health and welfare and the environment from the actual or threatened release of hazardous substances at or from the Site.

6. WHEREAS, pursuant to the terms of the Consent Decree, the Grantor agreed (i) to grant a permanent right of access over the Property to the Grantee for purposes of implementing, facilitating and monitoring the Remedial Action; and (ii) to impose on the Property use restrictions as covenants that will run with the land for the purpose of protecting human health and the environment; and

7. WHEREAS, the following terms as used herein shall be defined as follows:

- a. The "Environmental Restriction Area" shall mean that portion of the Property as described in Exhibit B and as shown on the "Plan of Environmental Restriction Area" to be recorded herewith.

- b. The "Site" shall mean the Burgess Brothers Superfund Site, encompassing approximately three acres, located at RR #3 between Burgess Road and the Walloomsac Brook on property owned by members of the Burgess family located in the Towns of Woodford and Bennington, Vermont, and described generally on the map attached as Appendix C.
- c. The "Landfill Cap Area" shall mean that portion of the Property as described in Exhibit B and as shown on the "Plan of Environmental Restriction Area" to be recorded herewith.

8. WHEREAS, Grantor agrees to grant the following easements, rights, obligations, and restrictions, as more particularly set forth below, to the Grantee;

NOW, THEREFORE:

9. Grant: Grantor, on his behalf, and on behalf of his heirs, successors, and assigns, in consideration of the terms of the Consent Decree, does hereby subject the Property to the restrictions on use set forth below, and does remise, release and forever quit claim to the Grantee, and its successors and assigns, (i) the perpetual right to enforce said use restrictions, and (ii) an environmental protection easement of the nature and character, and for the purposes hereinafter set forth, with respect to the Property.

10. Purpose: The purpose of this instrument is to give the Grantee the right to limit certain uses of the Property to reduce the risk that contaminants on the Property may pose to human health and the environment and to give Grantee a right of access to the Property for the purposes described below.

11. Declaration of Restrictive Covenants: The following covenants, conditions, and restrictions apply to the use of the Environmental Restriction Area, run with the land, and are binding on the Grantor and all other persons. Grantor shall neither perform, nor suffer, allow or cause any other person to perform, any of the following activities or uses in, on, upon, through, over or under the Environmental Restriction Area:

- a. No use shall be made that disturbs the integrity or performance of any of the layers of the cap, any surface water diversion systems or swales, the landfill gas collection system, the SVE and air sparging system, or any other structure or system for maintaining the

effectiveness of the Remedial Action, whether in place now or in the future. No use shall be made that disturbs the function of any monitoring well or other system for monitoring any response action.

- b. Groundwater shall not be used in any manner, including, but not limited to, use as a drinking water supply, and no water supply or other groundwater well shall be installed, except for groundwater monitoring wells installed pursuant to plans approved in writing in advance by Grantee and the EPA.
- c. No excavation, digging, drilling, or other intrusive activity into or disturbance of the soil.
- d. No use shall be made that in any manner would interfere with or adversely affect the integrity or protectiveness of the Remedial Action.
- e. The Environmental Restriction Area shall be used solely for industrial and commercial purposes, unless other uses are approved in writing in advance by Grantee and the EPA.

12. Permitted Uses: Grantor may perform, suffer, allow or cause any person to perform the following activities and uses in, on, upon, through, over or under the Property:

a. Notwithstanding the provisions of Paragraph 11.c, in the portion of the Property outside boundaries of the "Landfill Cap Area," Grantor is expressly permitted to (i) store or stage materials, including without limitation, soil, and (ii) to construct buildings on the surface grade that do not contain subsurface basements, provided such activities shall not violate any other restriction established hereunder or interfere with or adversely affect the integrity or protectiveness of the Remedial Action. Grantor shall give Grantee and EPA at least thirty (30) days advance written notice of the construction of any building in the Environmental Restriction Area.

b. Notwithstanding the provisions of Paragraph 11.c., Grantor is expressly allowed to conduct soil and groundwater sampling and monitoring, provided that such sampling and monitoring has been approved in advance by the EPA, with reasonable opportunity for review and comment by the Vermont Department of Environmental Conservation.

13. Emergency Excavation: If it becomes necessary to excavate a portion of the Environmental Restriction Area in response to an emergency such as fire or flood, the Restrictive Covenants of Paragraph 11 above, which would otherwise restrict excavation, shall be suspended with respect to such emergency excavation for the duration of such emergency, provided that Grantor:

- a. Orally notifies the Grantees' Project Coordinator and EPA's Project Coordinator, or, in his or her absence, EPA's Alternate Project Coordinator (as such coordinators are described in the Consent Decree), or if both of EPA's designated representatives are unavailable, the Director of the Office of Site Remediation and Restoration, EPA Region I, of such emergency, as soon as possible, but no more than two hours after having learned thereof, to be followed with a written notice to the Grantee and the EPA; and
- b. Limits the actual disturbance involved in such excavation to the minimum reasonable necessary to adequately respond to the emergency.

This provision shall not waive liability for releases of hazardous substances, nor shall this provision excuse compliance with CERCLA or any other applicable federal or state laws and regulations.

14. Environmental Protection Easement: Grantor hereby grants to the Grantee an irrevocable, permanent, and continuing right of access at all reasonable times to the Property for the purpose of:

- a. Implementing, monitoring, and/or maintaining the Remedial Action;
- b. Verifying any data or information submitted to the United States or the Grantee;
- c. Conducting investigations relating to contamination at or near the Site;
- d. Obtaining samples;
- e. Assessing the need for, planning, monitoring, or implementing response actions other than the Remedial Action at or near the Site;

- f. Conducting periodic reviews of the activities performed pursuant to the Consent Decree including, but not limited to, reviews required by CERCLA and the National Contingency Plan ("NCP").
- g. Assessing compliance with this Grant, the Consent Decree, or any state or federal environmental laws or regulations; and
- h. Determining whether the Site or other property is being used in a manner that is prohibited or restricted, or that may need to be prohibited or restricted, by or pursuant to this Grant or the Consent Decree.

Grantee and EPA shall give reasonable notice to Grantor prior to accessing the Property, except in the case of emergencies.

15. Reserved Rights of Grantor: Grantor hereby reserves unto himself, and his heirs, successors, and assigns, all rights and privileges in and to the use of the Property which are not incompatible with the restrictions, rights and easements granted herein.

16. Nothing in this document shall limit or otherwise affect the EPA's or the Grantee's rights of entry and access or to issue orders or take response actions to the extent provided by law or regulation or in the Consent Decree.

17. No Public Access and Use: No right of access or use by the general public to any portion of the Property is conveyed by this instrument.

18. Amendment, Modification, and Release: This Grant may be amended, modified, or released only by written agreement between Grantor and the Grantee, after a reasonable opportunity for review and comment by EPA, in accordance with CERCLA and the NCP, to the extent applicable. Grantor may submit to EPA and the Grantee a proposal for modifying or withdrawing the Restrictive Covenants or any portion thereof. Said proposal shall demonstrate that the Restrictive Covenants contained herein may be modified or withdrawn in whole or in part consistent with the public interest and the public purposes of protecting human health and the environment. The Restrictive Covenants may be modified, or terminated in whole or in part, in writing by written agreement between Grantor and the Grantee, but only with written concurrence of the EPA.

The Grantee shall issue a written decision with an explanation of the reasons for the approval, modification, or denial of such petition. If requested by the Grantor, such writing shall be executed by Grantee in recordable form. Grantor shall pay any and all recording fees, land transfer taxes and other such transactional costs associated with any such amendment, modification, or release.

19. Notice Requirement: Grantor agrees to include in any instrument conveying any interest in any portion of the Property, including but not limited to deeds, leases and mortgages, a notice which is in the following form:

**NOTICE: THE INTEREST CONVEYED HEREBY IS
SUBJECT TO AN ENVIRONMENTAL PROTECTION
EASEMENT AND DECLARATION OF RESTRICTIVE
COVENANTS, DATED _____, 19____, RECORDED IN
THE LAND RECORDS OF THE TOWNS OF BENNINGTON
AND WOODFORD ON _____, 19____, IN BOOK
_____, PAGE _____, AND IN BOOK _____,
PAGE _____, RESPECTIVELY, IN FAVOR OF, AND
ENFORCEABLE BY, THE STATE OF VERMONT.**

Within thirty (30) days of the date any such instrument of conveyance is executed, Grantor must provide Grantee with a certified true copy of said instrument and, if it has been recorded in the public land records, its recording reference.

20. Enforcement: The Grantee shall be entitled to seek any relief available at law or equity in enforcing this instrument including, without limitation, damages and specific performance. Any injunctive relief obtained could include, without limitation, the issuance of an order to modify or remove any improvements constructed in violation of the restrictions set forth in this instrument. All reasonable costs and expenses of the Grantee, including, but not limited to, attorneys' fees, incurred in any action to enforce the terms of this instrument shall be borne by the Grantor or its successors in interest to the Property. All remedies available hereunder shall be in addition to any and all other remedies at law or in equity, including, without limitation, CERCLA, which remedies the Grantee fully reserves. Enforcement of the terms of this instrument shall be at the discretion of the Grantee, and any forbearance, delay or omission to exercise its rights under this instrument in the event of a breach of any term of this instrument shall not be deemed to be a waiver by the Grantee of such term or of any subsequent breach of the same or any other term, or of any of the rights of the Grantee under this instrument.

21. Damages: Grantee shall be entitled to recover damages for violations of the terms of this instrument, or for any injury to the Remedial Action, to the public or to the environment protected by this instrument.

22. Waiver of Certain Defenses: Grantor hereby waives any defense of laches, estoppel, or prescription.

23. Covenants: Grantor hereby covenants to and with the Grantee that the Grantor is lawfully seized in fee simple of the Property, that the Grantor has a good and lawful right and power to sell and convey it or any interest therein, that the Property is free and clear of encumbrances, and that the Grantor will forever warrant and defend the title thereto and the quiet possession thereof.

24. Notices: Any notice, demand, request, consent, approval, or communication that either party desires or is required to give to the other shall be in writing and shall either be served personally or sent by overnight mail or certified mail, return receipt requested, postage prepaid, addressed as follows:

To Grantor:

Clyde Burgess, Jr.
c/o Burgess Brothers, Inc.
RR # 3, Box 1130
Bennington, VT 05201

To Grantee:

Commissioner
Vermont Department of Environmental
Conservation
103 South Main Street
Waterbury, VT 05671-0404
Attn: Burgess Brothers Superfund Site

To EPA:

Ronald Jennings
EPA Project Coordinator
U.S. Environmental Protection Agency
Suite 1100 - Mail Code HBT
One Congress Street
Boston, MA 02114

Re: Burgess Brothers Superfund Site

25. General Provisions:

a. Controlling Law: The interpretation and performance of this instrument shall be governed by the laws of the State of Vermont.

b. Liberal Construction: Any general rule of construction to the contrary notwithstanding, this instrument shall be liberally construed in favor of the grant to effect the purpose of this instrument and the policy and purpose of CERCLA. If any provision of this instrument is found to be ambiguous, an interpretation consistent with the purpose of this instrument that would render the provision valid shall be favored over any interpretation that would render it invalid.

c. Severability: If any provision of this instrument, or the application of it to any person or circumstance, is found to be invalid, the remainder of the provisions of this instrument, or the application of such provisions to persons or circumstances other than those to which it is found to be invalid, as the case may be, shall not be affected thereby.

d. No Forfeiture: Nothing contained herein shall result in a forfeiture or reversion of Grantor's title in any respect.

e. Successors: The covenants, terms, conditions, and restrictions of this instrument shall be binding upon, and inure to the benefit of, the parties hereto and their respective successors and assigns and shall continue as a servitude running in perpetuity with the Property. The term "Grantor," wherever used herein, and any pronouns used in place thereof, shall include the person named at the beginning of this document, identified as "Grantor" and his heirs, successors, successors-in-title, and assigns. The term "Grantee," wherever used herein, and any pronouns used in place thereof, shall include the Secretary of the Agency of Natural Resources of the State of Vermont and its successors and assigns. The rights of the Grantee and Grantor under this instrument are freely assignable, subject to the notice provisions hereof.

f. Termination of Rights and Obligations: A party's rights and obligations under this instrument terminate upon transfer of the party's interest in the Easement or Property,

except that liability for acts or omissions of a party occurring during its ownership shall survive transfer.

g. Captions: The captions in this instrument have been inserted solely for convenience of reference and are not a part of this instrument and shall have no effect upon construction or interpretation.

TO HAVE AND TO HOLD unto the Grantee and its assigns forever.

IN WITNESS WHEREOF, CLYDE BURGESS, JR., has executed this instrument the day and year first above written.

CLYDE BURGESS, JR.

In the presence of:

Witness

STATE OF VERMONT)
COUNTY OF BENNINGTON) ss

On this ___ day of ____, 19__, personally appeared Clyde Burgess, Jr., signer and sealer of the foregoing written conveyance and acknowledged the same to be his free act and deed.

Before me,

Notary Public

My Commission Expires: _____.

Attachments: Exhibit A - Legal Description of the Property
 Exhibit B - Description of the Environmental
 Restriction Area
 Exhibit C - Description of the Site

Exhibit A

Legal Description of the Property

[TO BE ADDED]

Exhibit B

**Legal Metes and Bounds Description of the Environmental
Restriction Area and the Landfill Cap Area and Surveyed Plan of
Environmental Restriction Area**

[TO BE ADDED]

Exhibit C

Description of the Site

[TO BE ADDED]